The FHWA provides this information to practitioners about acceptable methods of enhancing pedestrian safety that can be implemented at uncontrolled marked crosswalks. The FHWA continues to be committed to helping practitioners reduce the number of pedestrian injuries and fatalities that occur at uncontrolled marked crosswalks each year.

There are numerous treatments that comply with the current edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD, see https://mutcd.fhwa.dot.gov/) that can be employed either individually or in varying combinations to enhance safety at uncontrolled marked crosswalks. These treatments range from various types of crosswalk markings to enhancing the edge of a standard Pedestrian Crossing warning sign with light-emitting diodes that can be activated by pedestrians. In addition to traffic control devices, roadway treatments, such as lighting or roadway narrowing, can enhance the safety of pedestrians using the crosswalk. The most appropriate treatment, or combination of treatments, will depend on the specific conditions of each site. Conducting a Road Safety Audit (see https://safety.fhwa.dot.gov/rsa/) is one way to identify potential treatments based on the roadway and user characteristics. Additional information to help in the selection of treatments for varying site conditions can be found in the following FHWA resources:

- Pedestrian & Bicycle Safety Web site (http://safety.fhwa.dot.gov/ped_bike/)
- PEDSAFE Web site (http://www.pedbikesafe.org/PEDSAFE/)
- Safe Transportation for Every Pedestrian (STEP), an Every Day Counts initiative (https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/step.cfm)

The following traffic control devices comply with the provisions of the 2009 Edition of the MUTCD and can be implemented for a particular crossing if their use would be appropriate based on the specific conditions at the site, such as roadway geometrics and traffic volumes and speeds:

**Pedestrian-activated Flashing LEDs in the Border of a Warning Sign** – Section 2A.07 describes the use of flashing white or yellow LEDs in the border of a pedestrian crossing warning sign. The flashing LEDs may be pedestrian activated to increase their effectiveness in making the crossing sign more conspicuous when a pedestrian desires to cross the roadway.

**Enhanced Conspicuity of Pedestrian Crossing Signs** – Section 2A.15 describes numerous methods that may be used to improve the conspicuity of regulatory or warning signs that are associated with pedestrian crossings.
additional information on crosswalk markings

- high-visibility crosswalk markings

Roadway:
If a pedestrian is waiting to cross or is in the process of crossing the roadway, and it is their legal obligation to stop, they are expected to do so and inform the vehicles of their presence, especially from a greater distance, to make it easier for drivers to notice them. A crosswalk sign may be mounted over the roadway to make it easier for drivers to notice them. A crosswalk sign may be mounted over the roadway to make it easier for drivers to notice them.

Section 2B.12 describes pedestrian crossing signs that may be mounted over the roadway to make it easier for drivers to notice them.
**Midblock Pedestrian Signals** – Sections 4C.05 and 4C.06 describe warrant criteria that can be used in a signal needs study of a marked crosswalk location to determine if the installation of a midblock pedestrian signal is justified to assist pedestrians or schoolchildren in safely crossing the major street.

**Pedestrian Hybrid Beacons** – Section 4F.01 describes warrant criteria that can be used to determine if the installation of a pedestrian hybrid beacon is justified to assist pedestrians in safely crossing the major street.

**Pedestrian-activated Warning Beacons** – Section 4L.03 describes the use of a flashing yellow warning beacon to supplement a pedestrian crossing warning sign. The warning beacon may be pedestrian activated to increase its effectiveness in making the crossing sign more conspicuous when a pedestrian desires to cross the roadway.

**In-roadway Warning Lights** – Section 4N.02 describes pedestrian-activated yellow lights that may be installed in the roadway surface at an uncontrolled marked crosswalk location to warn drivers that a pedestrian is waiting to cross or in the process of crossing the roadway.
During nighttime conditions, the essential visibility to the approaching driver can be crossed by the pedestrians waiting at the crosswalk, warning the pedestrians by improving pedestrian safety. This feature—crosswalk lighting—improves pedestrian safety.

When traversing the crosswalk location, which is visible while searching for a gap in the other direction of traffic, pedestrians who are crossing the street, and when stopping on a median island or crossing on a multi-lane roadway, allow pedestrians to cross a two-way street in two stages by finding a gap in one direction. This feature improves pedestrian refuge islands (median islands), which is particularly beneficial.

The crossing distance and allows the pedestrian crossing to be more visible to the approaching driver. The physical construction of the road can be accomplished on an intersecting road using markings or a curb extension. The curb extension, which is particularly beneficial in urban settings, is in closer proximity to the intersection than other pedestrian facilities or diagonal crossing.

The following roadside features, which are considered to be traffic control devices, can be implemented for a particular crossing if they use would be appropriate based on the specific conditions at the site, such as roadway geometrics and traffic volumes:

- Uncontrolled Marked Crosswalks
- Informational Brief: Requirements for
2018 Tell the TPO Survey

DRAFT REVISIONS TO 2016 SURVEY
The River to Sea Transportation Planning Organization (TPO) wants your input as we plan transportation improvements for Volusia County and parts of Flagler County. Please complete our survey online at www.TelltheTPO.com or mail back this copy. All responses received by **5/31/2016** will be eligible to enter a drawing for a free iPad Mini 2 night getaway for 2!

1a. Home Zip ______ If applicable: Work/School Zip (if applicable) ______
1b. Have you taken a River to Sea TPO “Tell the TPO” survey in the past? (Check one)
   ______ 2011 ________ 2016 ______ Yes ______ No

24. What forms of transportation do you use regularly (34 or more times per week)? Select all that apply.
   • Walk
   • Bicycle
   • Drive Alone
   • Carpool
   • Bus
   • SunRail

35. If you do not walk or bicycle now, what prevents you from doing so? Select all that apply.
   • Lack of pedestrian or bicycle facilities (sidewalks, marked crosswalks, paths, bike lanes, etc.)
   • Safety concerns (too much traffic, roads too busy, vehicles too fast, sidewalks too close to roadway, etc.)
   • Distance too far or takes too long to walk or bicycle
   • I am not comfortable with my bicycle riding/walking ability
   • I will not walk or ride a bicycle, even if pedestrian and bicycle facilities are improved
     No matter how many sidewalks or bicycle lanes are improved, I do not care to walk or bicycle

46. If you do not regularly use public transit buses, what improvements might make them a more attractive option for you? Select all that apply.
   • More convenient bus stops or route locations
   • Faster or more direct bus service
   • More frequent and/or expanded hours for bus service
   • Cleaner buses
   • Lower fares
   • I do not know enough about public bus service to make that choice
   • I will not ride the bus, even with public transportation improvements
2a. As we prioritize spending on transportation projects, do you think we should invest more, the same, or less than we are spending now on the following?

- Interstate highways (traffic maintenance conditions, etc.)
- Major street streets (traffic maintenance conditions, etc.)
- Local neighborhood streets (traffic maintenance conditions, etc.)
- Public transit service (accessibility, routes connecting destinations, etc.)
- Bridge areas (accessibility, bridge maintenance, commuter conditions, etc.)
- Rail system (rail conditions, logical connections, etc.)
- Sidewalks and crosswalks (visibility, accessibility, maintenance conditions, etc.)
- Bike trails (visibility, accessibility, trail conditions, connectivity satisfaction)

2b. What is your overall level of satisfaction with the current transportation facilities in your area?

- I will not use public transportation improvements more effectively, even with public transportation improvements
- More effective, better service
- More parking at stations
- Lower fares
- Expand commuter service beyond the station
- More regular service for commuter service
- More frequent service for commuter service

2c. If you do not regularly use commuter rail, what improvements might make it more attractive for you?
Bus service
- SunRail
- Improving conditions on existing roadways
- New roadways

810. New transportation technology is most important for which of the following? (Rank Score each option from 1 to 5, with 1 being the most important and 5 being the least important. Scores may be used multiple times.) (Rank from 1 to 5 where 1 is most important and 5 is least important)

1 2 3 4 5
- Improving the flow of vehicle traffic
- Helping transit vehicles arrive on time or have shorter travel times
- Reducing freight shipping travel times
- Providing real-time information to drivers / transit riders / pedestrians (e.g. via mobile devices, variable message signs on roadways, etc.)
- Decreasing roadway crashes

3. In order to improve driving in our area, do you think we should invest more, the same, or less in the following? (Select one for each):

Less  The Same  More
- Improving roadway operations (better traffic signal timings, adding or extending turn lanes, etc.)
- Implementing technology to improve safety and efficiency of traffic operations (e.g., variable message signs on highways, coordinated traffic signals, real-time mobile traffic information, etc.)
- Building new roadways
- Adding lanes to existing roadways
- Encouraging carpooling
- Improving walking conditions
- Improving bicycling conditions
- Improving transit

8. Local funding is required to pay for additional public transit (SunRail and buses). What funding sources would you support to expand transit service? Check one.

- Increased Ad valorem taxes (property taxes)
- A transit impact fee for new development
- An overlay tax district for urban areas to support mass transit
- A general sales tax of one cent per dollar
- A general sales tax of ½ cent per dollar
- Yes, I support additional funding sources for transit, but would need more information to suggest a preferred method of funding
- No, I do not support consideration of a dedicated funding source for transit
2018 CANDIDATE QUESTIONS – NEW QUESTIONS

CANDIDATE QUESTION A
How impactful is sea-level rise on our community’s current transportation system (e.g. loss of roadway use due to flooding/erosion, interruptions to evacuation routes, degrading of transportation infrastructure, loss of access to/use of facilities, storm and drain flooding)?

Very impactful – Somewhat Impactful – No Opinion – Minimally Impactful – Not at all impactful

CANDIDATE QUESTION B
Please indicate below whether you agree or disagree with the following statement:

When considering transportation improvements in our local community, those that directly benefit tourism should be a priority (e.g. beautification in key tourism areas, increasing visitor safety, easing event-related congestion, better wayfinding/signage).

Strongly Agree – Agree – No Opinion – Disagree – Strongly Disagree

CANDIDATE QUESTION C1
Please select what you feel are the three best features of our current transportation system:

- Traffic flow
- Roadway conditions
- Traffic signal timing
- Bicycle lanes/facilities
- Sidewalks/crosswalks
- Bus service
- SunRail service
- Roadway lighting/landscaping
- Other __________________________

CANDIDATE QUESTION C2
Please select one frustration you have with our current transportation system:

- Traffic flow
- Roadway conditions
- Traffic signal timing
- Bicycle lanes/facilities
- Sidewalks/crosswalks
- Bus service
- SunRail service
- Roadway lighting/landscaping
- Other __________________________
Does the local community provide adequate transportation options for:

- Disabled travelers
- Commuters
- Students
- Tourism workers
- Low-income travelers
- Seniors

**Candidate Question**

- Build new streets and roadways
- Street appearance (lighting and landscaping)
- Maintain existing facilities
- Improve road safety
- Pedestrian/bicycle connectivity
- Construct new bike lanes and trails/greenways
- Upgrade existing roadways
- Improved transit service (bus and commuter)

If you had $100 to fund transportation, how would you spend it? (You may choose more than one and allocate portions of the $100 in the column to the right of the checkbox.)
2016 Tell the TPO...
A Community Transportation Survey

The River to Sea Transportation Planning Organization (TPO) wants your continued input as we plan transportation improvements for Volusia County and parts of Flagler County. Please complete our survey online at www.TelltheTPO.com or mail back this copy. All responses with contact information received by 5/31/2016 will be eligible to enter a drawing for a free iPad Mini!

1. Home Zip [ ] If applicable, Work/School Zip [ ]

2. What is your overall level of satisfaction with the current transportation facilities in Volusia/Flagler Counties? (Rank: 1 = completely dissatisfied, 2 = somewhat dissatisfied, 3 = neutral, 4 = somewhat satisfied, 5 = completely satisfied):
   a. Sidewalks and crosswalks (availability, maintenance conditions, etc.) [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   b. Trail system (availability, trail conditions, logical connections, etc.) [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   c. Bicycle lanes (accessibility, bike lane markings, pavement conditions, etc.) [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   d. Public transit service (accessibility, routes connecting destinations, etc.) [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   e. Public transit shelters/benches (availability, conditions) [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   f. Local neighborhood streets (traffic, maintenance conditions, etc.) [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   g. Major streets (traffic, maintenance conditions, etc.) [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]
   h. Interstate highways (traffic, maintenance conditions, etc.) [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

3. In order to improve driving in our area, do you think we should invest more, the same or less in the following? (Select one for each):
   a. Improving roadway operations (better traffic signal timings, adding or extending turn lanes, etc.) More The same Less
   b. Implementing technology to improve safety and efficiency of traffic operations (e.g., variable message signs on highways, coordinated traffic signals, real-time mobile traffic information, etc.) More The same Less
   c. Building new roadways More The same Less
   d. Adding lanes to existing roadways More The same Less
   e. Encouraging carpooling More The same Less
   f. Improving walking conditions More The same Less
   g. Improving bicycling conditions More The same Less
   h. Improving transit More The same Less

4. What forms of transportation do you use regularly (4 or more times per week)? (Check all that apply):
   [ ] Walk [ ] Bicycle [ ] Drive alone [ ] Carpool [ ] Bus [ ] SunRail

5. If you do not walk or bicycle now, what prevents you from doing so? (Check all that apply):
   [ ] Lack of pedestrian or bicycle facilities (sidewalks, marked crosswalks, paths, bike lanes, etc.)
   [ ] Safety concerns (too much traffic, roads too busy, vehicles too fast, sidewalks too close to roadway, etc.)
   [ ] Distance too far or takes too long to walk or bicycle
   [ ] No matter how many sidewalks or bicycle lanes are improved, I do not care to walk or bicycle

6. If you do not regularly use public transit buses, what improvements might make them a more attractive option for you? (Check all that apply):
   [ ] More convenient bus stops or route locations
   [ ] Faster or more direct bus service
   [ ] More frequent and/or expanded hours for bus service
   [ ] Cleaner buses
   [ ] Lower fares
   [ ] I will not ride the bus even with public transportation improvements

7. If you do not regularly use SunRail, what improvements might make it a more attractive option for you? (Check all that apply):
   [ ] More frequent and/or expanded hours for SunRail service
   [ ] Expand SunRail service to DeLand station
   [ ] Expand SunRail service beyond DeLand station
   [ ] Lower fares
   [ ] I will not ride SunRail even with public transportation improvements
   [ ] More parking at stations
   [ ] More effective feeder bus service

Continue Survey »

To complete this survey online visit www.TelltheTPO.com
As we plan transportation improvements in Yolo and Tribal Counties, do you have any additional concerns, suggestions, questions or recommendations for us?

- Yes
- No

If Yes, please provide additional comment(s):

- Restaurant (Food service, beverage, etc.)
- Retail Store (Stores, shops, etc.)
- Future Transportation Planning (infrastructure, roads, etc.)
- Other

If you have an email, please provide:

Name
Email

Thank you for your feedback. We will be in touch with you to discuss these ideas further.

RIVER TO SEA TPO
BOYS & GIRLS CLUBS OF THE LIVELIER, CA

11. Optional Questions

- Do you have any questions about the transportation plans for the future?
- What are your concerns or suggestions for improvements?
- How do you envision the transportation system in the future?