

STEP

Safe Transportation for
Every Pedestrian



Safe Pedestrian Crossings at Transit

Thursday, April 19, 2018



U.S. Department of Transportation
Federal Highway Administration

Webinar Details

- This webinar is being recorded and will be archived on the NADTC website, www.NADTC.org
- Today's PowerPoint was emailed to participants (on Wednesday)
- Closed captioning is available two ways:
 - Clicking the CC icon
 - Pressing Ctrl F8 on your keyboard
- When using the phone, mute your computer speakers to eliminate feedback. *NOTE: All attendees will be muted.*

Webinar Instructions

- If you're having technical difficulties connecting to the webinar or hearing, contact us at this email address for assistance:
contact@nadtc.org
- You may submit questions and comments throughout the session today by:
 - entering your question or comment into the chat section
 - emailing your question or comment to: contact@nadtc.org

Quick Poll

How many are attending?



How many people are attending and viewing with you (**be sure to count yourself**)?

Insert screenshots of polling for viewers

Meet Your Presenters

Rachel Beyerle

Communications Director

National Aging and Disability Transportation Center

Carol Kachadoorian

Associate | Senior Planner

Toole Design Group

Purpose

Share information on safe crossing countermeasures for transit access

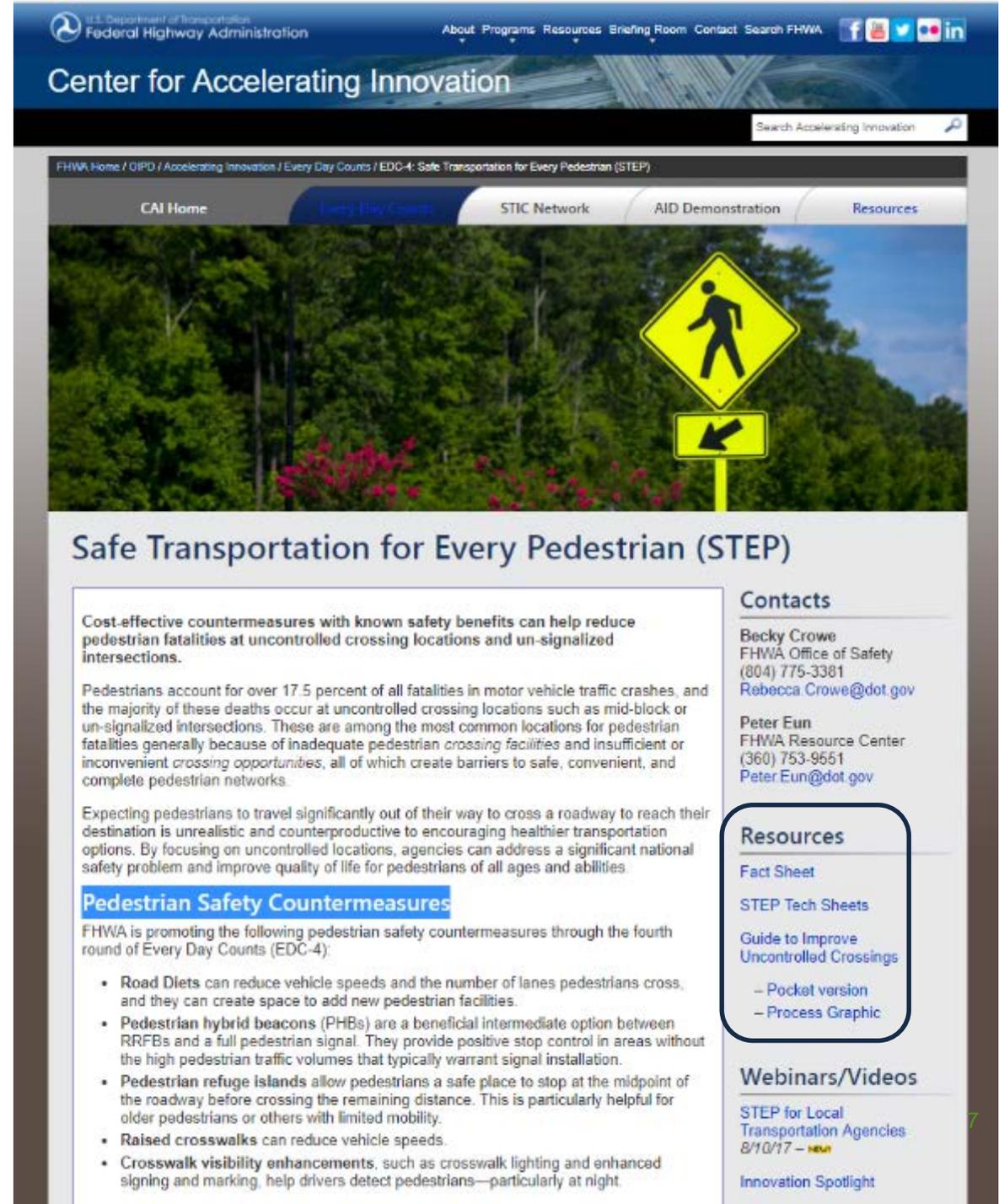
- Focus on uncontrolled crossings
- Transit agency experience

Share the work of the National Aging and Disability Transportation Center (NADTC)

Purpose

Share information about the STEP program and available resources

Improve pedestrian safety and access to transit



The screenshot shows the website for the Center for Accelerating Innovation (CAI) under the Federal Highway Administration (FHWA). The page is titled "Safe Transportation for Every Pedestrian (STEP)". It features a navigation menu with "CAI Home", "Every Day Counts", "STIC Network", "AID Demonstration", and "Resources". A large image of a yellow pedestrian crossing sign with a black arrow pointing left is displayed. The main content area includes a "Contacts" section with information for Becky Crowe and Peter Eun, and a "Resources" section with links to a "Fact Sheet", "STEP Tech Sheets", and a "Guide to Improve Uncontrolled Crossings" (with sub-links for "Pocket version" and "Process Graphic"). A "Webinars/Videos" section lists a "STEP for Local Transportation Agencies" webinar from 8/10/17. The page also includes a search bar and social media icons in the header.

U.S. Department of Transportation
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About Programs Resources Briefing Room Contact Search FHWA

Center for Accelerating Innovation

Search Accelerating Innovation

FHWA Home / OIPD / Accelerating Innovation / Every Day Counts / EDC-4: Safe Transportation for Every Pedestrian (STEP)

CAI Home Every Day Counts STIC Network AID Demonstration Resources



Safe Transportation for Every Pedestrian (STEP)

Cost-effective countermeasures with known safety benefits can help reduce pedestrian fatalities at uncontrolled crossing locations and un-signalized intersections.

Pedestrians account for over 17.5 percent of all fatalities in motor vehicle traffic crashes, and the majority of these deaths occur at uncontrolled crossing locations such as mid-block or un-signalized intersections. These are among the most common locations for pedestrian fatalities generally because of inadequate pedestrian crossing facilities and insufficient or inconvenient crossing opportunities, all of which create barriers to safe, convenient, and complete pedestrian networks.

Expecting pedestrians to travel significantly out of their way to cross a roadway to reach their destination is unrealistic and counterproductive to encouraging healthier transportation options. By focusing on uncontrolled locations, agencies can address a significant national safety problem and improve quality of life for pedestrians of all ages and abilities.

Pedestrian Safety Countermeasures

FHWA is promoting the following pedestrian safety countermeasures through the fourth round of Every Day Counts (EDC-4):

- **Road Diets** can reduce vehicle speeds and the number of lanes pedestrians cross, and they can create space to add new pedestrian facilities.
- **Pedestrian hybrid beacons (PHBs)** are a beneficial intermediate option between RRFBs and a full pedestrian signal. They provide positive stop control in areas without the high pedestrian traffic volumes that typically warrant signal installation.
- **Pedestrian refuge islands** allow pedestrians a safe place to stop at the midpoint of the roadway before crossing the remaining distance. This is particularly helpful for older pedestrians or others with limited mobility.
- **Raised crosswalks** can reduce vehicle speeds.
- **Crosswalk visibility enhancements**, such as crosswalk lighting and enhanced signing and marking, help drivers detect pedestrians—particularly at night.

Contacts

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Resources

[Fact Sheet](#)

[STEP Tech Sheets](#)

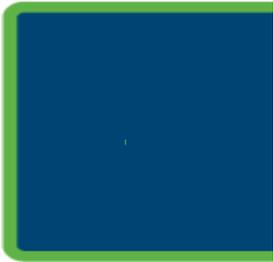
[Guide to Improve Uncontrolled Crossings](#)

- Pocket version
- Process Graphic

Webinars/Videos

[STEP for Local Transportation Agencies](#)
8/10/17 – [View](#)

[Innovation Spotlight](#)



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NATIONAL AGING AND DISABILITY
TRANSPORTATION CENTER

Rachel Beyerle
Communications Director

Pedestrian Accessibility Overview



advocacy | action | answers on aging

National Aging and Disability Transportation Center (NADTC)

A Technical Assistance Center of the Federal Transit Administration hosted by Easterseals and the National Association of Area Agencies on Aging (n4a) established in October 2015.

Offering resources, training and Information & referral to:

- Older adults
- People with disabilities
- Caregivers
- Professionals serving older adults and people with disabilities



Pedestrian Resources

- Guides, Reports and Twitter Chat
 - Accessible Pathways
 - Access to Transit Assessment
 - Driver and Pedestrian Guide
 - #SafeWalking Twitter Chat
 - Snow Removal
 - Wayfinding

All are available at nadtc.org!



Keys to Pedestrian Accessibility

- Crossing, Pathways, and Transit Facilities
 - Designing for ADA Requirements
 - Curb ramps
 - Detectable warning surfaces
 - Intersections
 - Pedestrian signals
 - Sidewalks
 - Visual and audible pedestrian signals
 - Mid-block crossing treatments
 - Pedestrian Refuges
 - Removing barriers
 - Driver awareness



Audits and Community Engagement

- Beyond the Crosswalk: It Starts with Community
 - Local policies that prioritize pedestrian access and removal of barriers
 - Engaging older adults, students & people with disabilities in pedestrian audits
 - Public participation that's inclusive



Pedestrian Safety: A National Conversation

Twitter Chats and Peer Networks



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NATIONAL AGING AND DISABILITY
TRANSPORTATION CENTER



April 12, 2017
2 p.m. Eastern/11 a.m. Pacific



NADTC #Safewalking Twitter Chat

Use hashtag **#Safewalking** to join the conversation about improving pedestrian safety for older adults & people with disabilities.

Follow NADTC on Twitter **@NADTCmobility**.
Visit **www.nadtc.org**.



advisory | action | awareness on aging

NADTC is a program of the Federal Transit Administration administered with guidance from the Administration for Community Living by Easterseals and the National Association of Area Agencies on Aging (n4a).



Welcome to the
NADTC
#SafeWalking
Twitter Chat!



National Aging and Disability Transportation Center
www.nadtc.org

“Transit users are pedestrians, either on foot or via wheelchair or other assistive device, on at least one end of their journey.”



Source: Cervero, 2001, Federal Transit Administration Manual on Pedestrian and Bicycle Connections to Transit, August 2017



Rachel Beyerle, Communications Director

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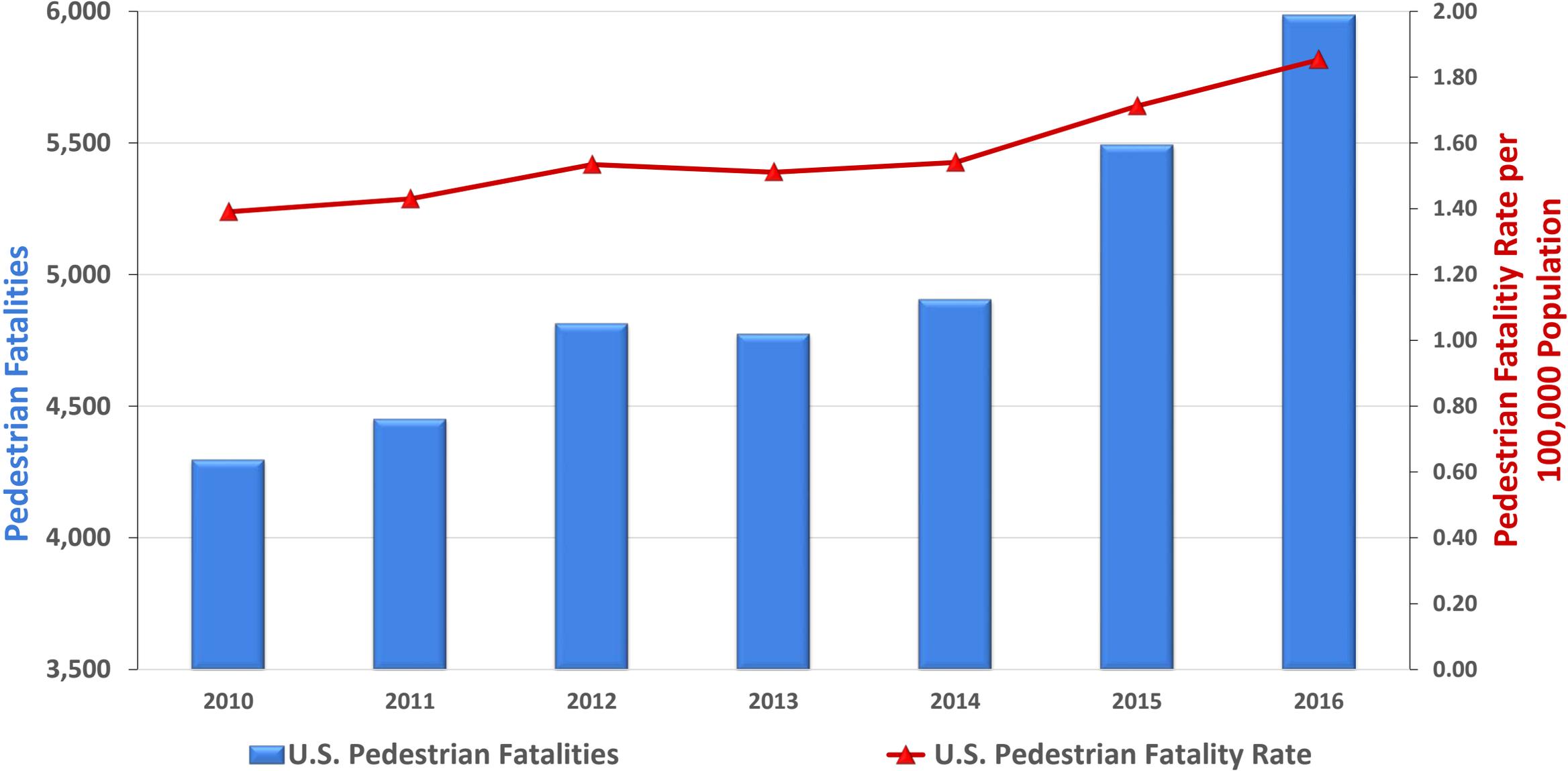
Web: www.nadtc.org

Twitter: [@nadtcmobility](https://twitter.com/nadtcmobility)

Join us on Facebook, LinkedIn and YouTube!



Pedestrian Fatalities





72% of pedestrian fatalities occur at non-intersection locations



Source: FHWA



Source: Bike Walk Central Florida



Source: FHWA

The Fabulous Five: STEP Countermeasures



Crosswalk Visibility Enhancements



Raised Crosswalk



Pedestrian Refuge Island



Pedestrian Hybrid Beacon (PHB)



Road Diet

Note: FHWA is updating STEP resources to include the Rectangular Rapid Flash Beacon (RRFB)

Crosswalk Visibility Enhancements

Reduce crashes by 23%-48%



W-11-2, W16-7P



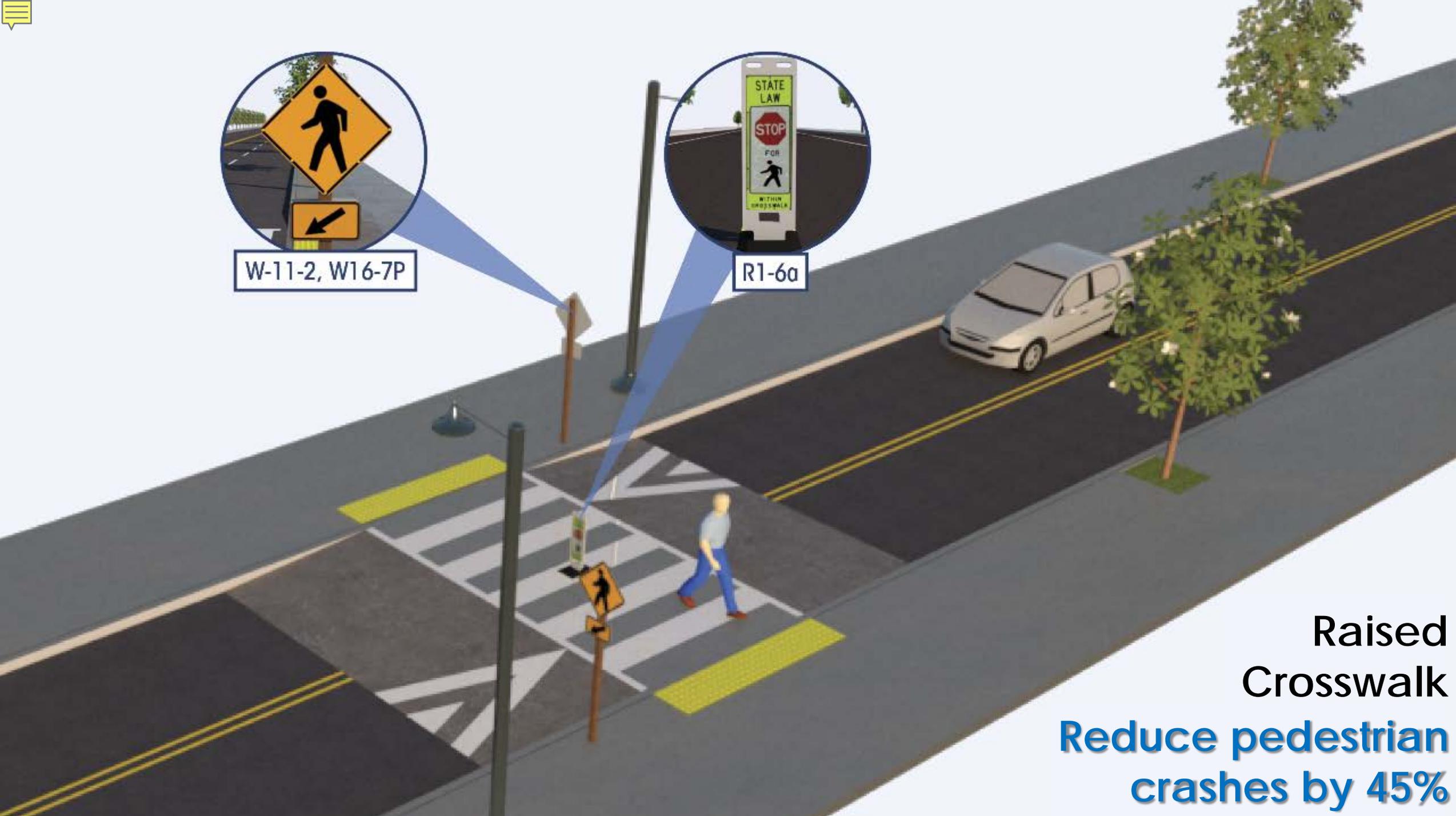
R1-6a



W-11-2, W16-7P



R1-6a



**Raised
Crosswalk
Reduce pedestrian
crashes by 45%**



R1-6a



W-11-2, W16-7P



Refuge Island
Reduce pedestrian
crashes by 32%



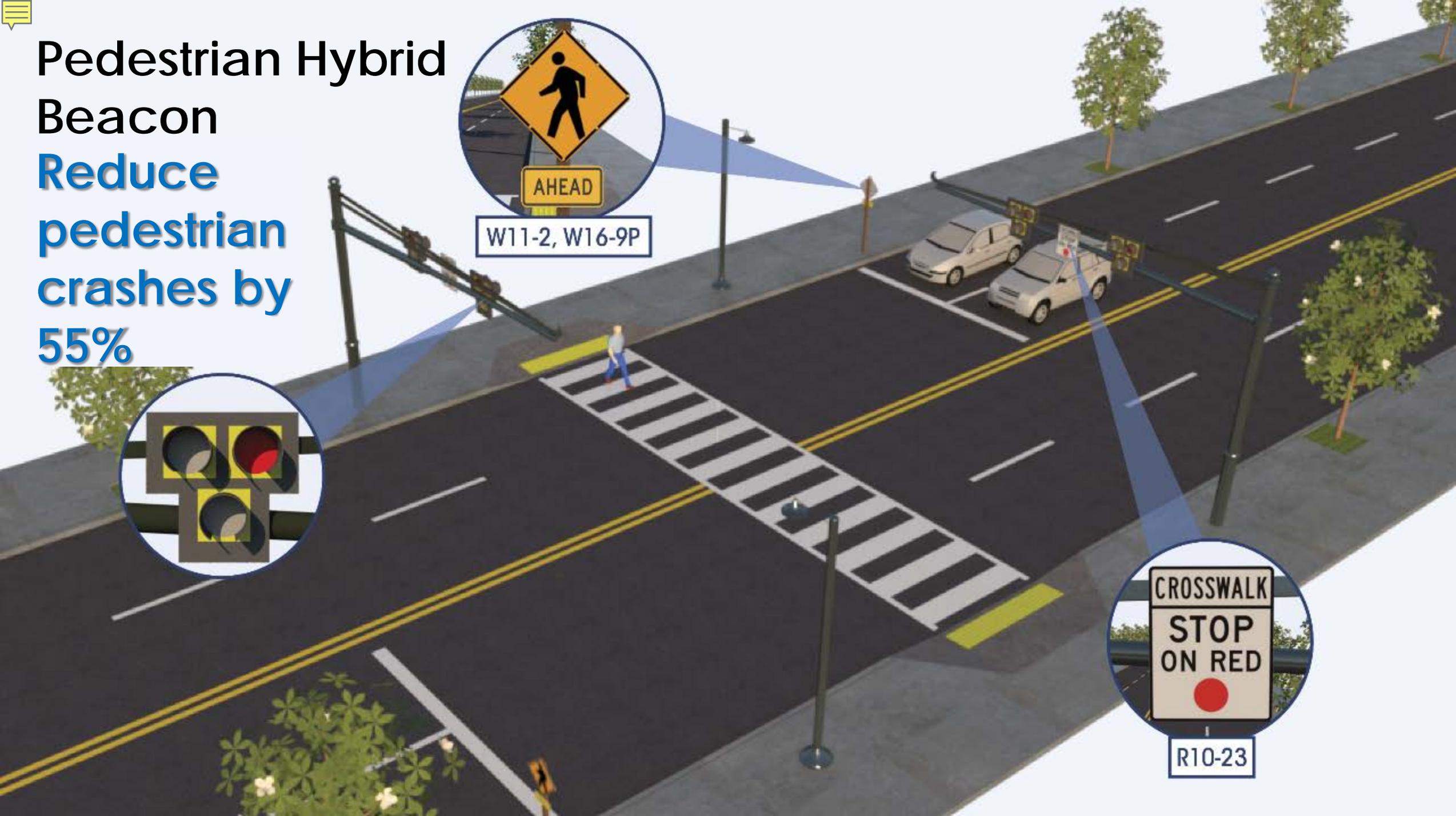
Pedestrian Hybrid
Beacon
Reduce
pedestrian
crashes by
55%



W11-2, W16-9P



R10-23



Reduce all crashes by 19%-47%



Road
Diet

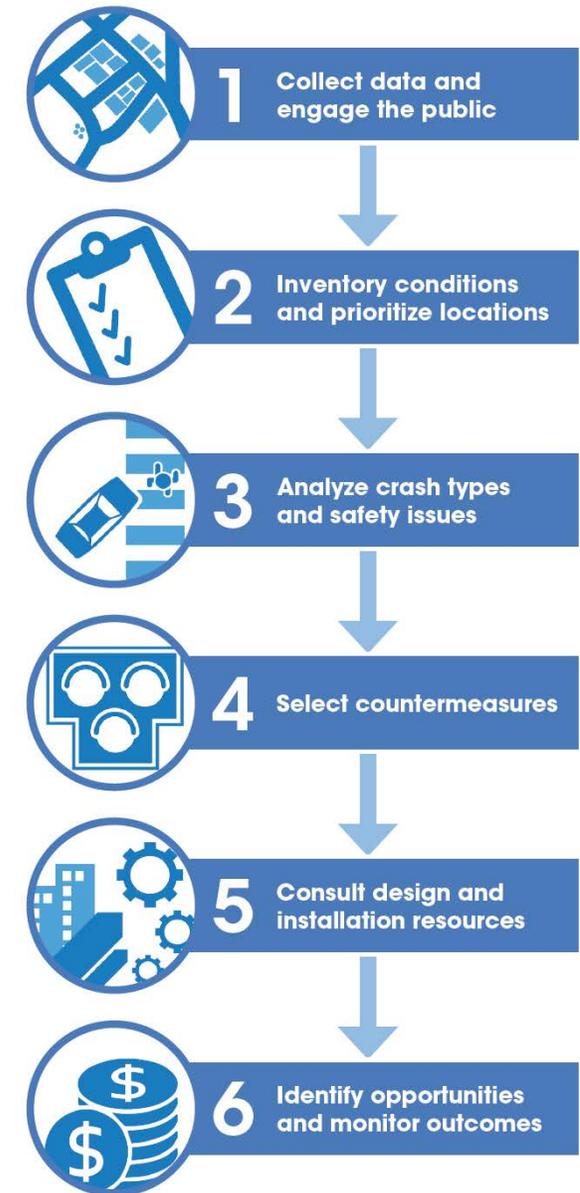
Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations

January 2018

Follows a 6-step process

Guides the selection of countermeasures to improve pedestrian safety

Supported by a "Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations"





Working with the Transportation Department

Is it a local or State-owned roadway?

- Contact the local or State traffic safety engineer
- Contact the local or State pedestrian coordinator

Is there a history of pedestrian crashes or risk for crashes?

- Research crash data or maps
- Review placement of transit stops with pedestrian crossings
- Consider traffic speed, volume, crossing distance, and land uses

Create a plan or conduct a field review

- Pedestrian Safety Action Plan
- Transit Road Safety Audit (RSA)
- Walkability Audit
- Access to Transit Plan

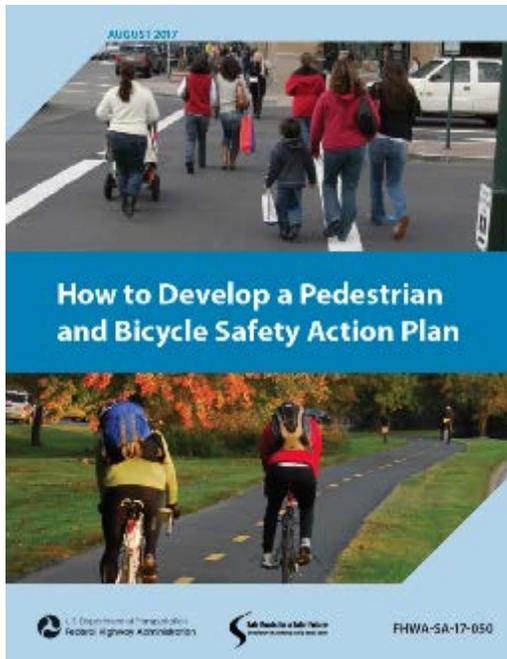
Additional Resources

State Bicycle and Pedestrian Coordinators

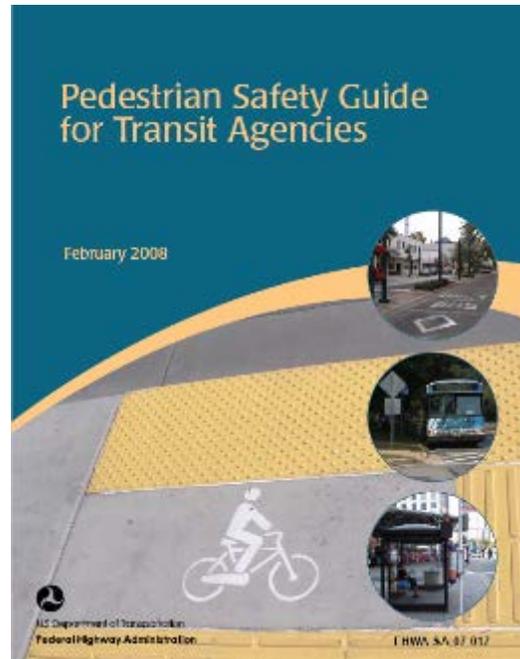
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/state_contacts.cfm

FHWA Field Offices (Safety Lead)

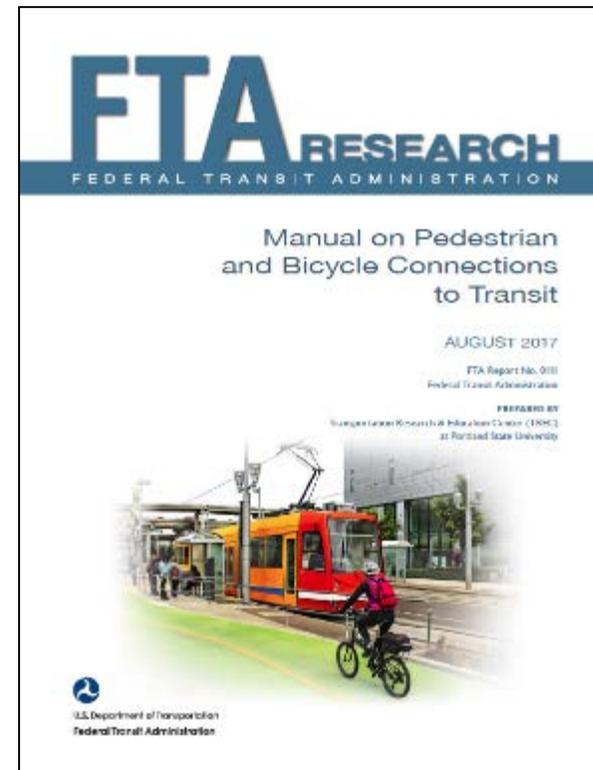
<https://www.fhwa.dot.gov/about/field.cfm>



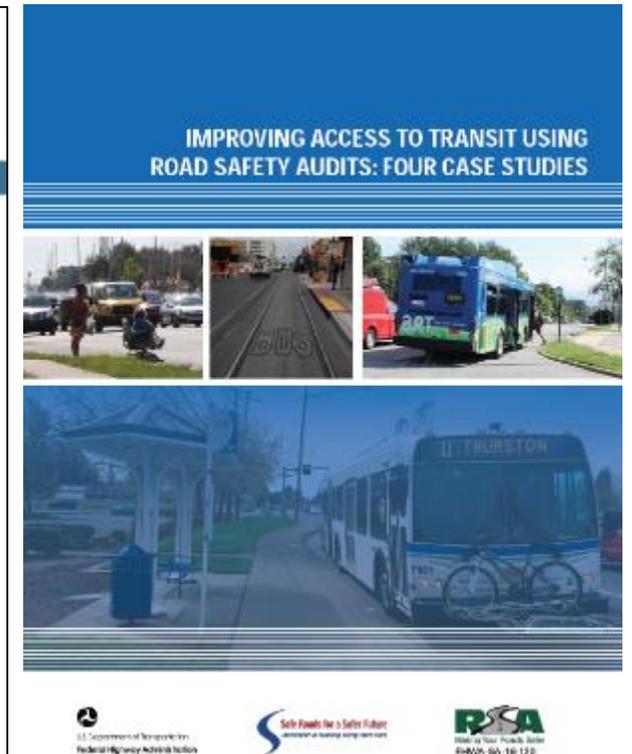
<https://safety.fhwa.dot.gov>



https://safety.fhwa.dot.gov/ped_bike/ped_transit/



<https://www.transit.dot.gov/research-innovation/manual-pedestrian-and-bicycle-connections-transit>



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



U.S. Department of Transportation
Federal Highway Administration



FHWA EVERY DAY COUNTS 4 / STEP

For Additional Information Contact:

https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/step.cfm

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Today's presenters

Valley Metro, Phoenix

Sarath Joshua, PE, Senior Program Manager for IT and Safety,
Maricopa Association of Governments

Jay Yenerich, PE, Manager of Capital Development Valley Metro

Metrobus, Washington, DC

Aaron Overman, PE, Office of Bus Planning, Scheduling and
Customer Facilities

Pulse, GRTC Richmond

Ashley Mason, Marketing & Public Relations Specialist BRT Project



Safe Pedestrian Access to Transit in the Phoenix Metropolitan Region

Sarath Joshua, Maricopa Association of Governments (MAG)

Jay Yenerich, Valley Metro

Pedestrian Safety Issues in the Region

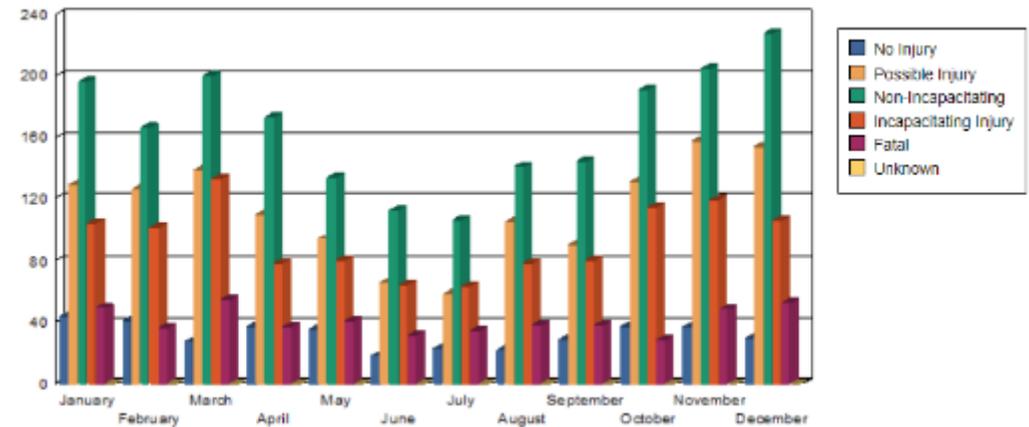
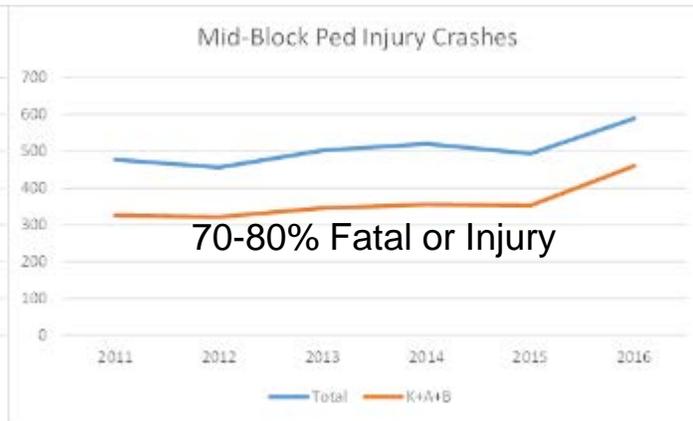
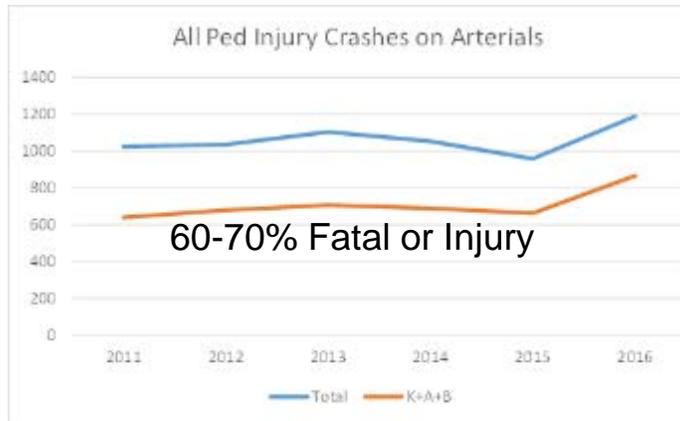
Arterial Grid Network

Straight Roads – invites speeding

Wide arterials – makes mid-block unprotected crossings risky

Higher vehicle speeds – 50mph or higher (Posted 45mph)

Perfect walking weather (except June – Aug!)



Pedestrian Safety Features – HAWK signals



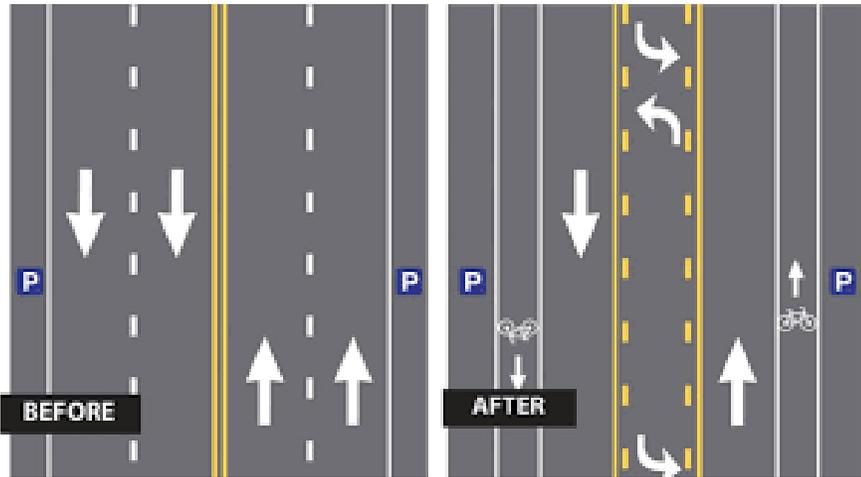
At Raul H Castro Middle School
N 79th Avenue & W Cartwright Avenue



At Phoenix Indian Medical Center
4212 N 16th Street

Ped Safety Features – Road Diets

Phoenix



Kenilworth Elementary School – 5th Avenue

Ped Safety Features – Road Diets



Ped Safety Features – Crosswalk Visibility

Lighted Crosswalk in Chandler AZ



Rectangular Rapid Flashing Beacons (RRFBs)



At North 6th St & E Fillmore Street

Pedestrian Scramble at Signalized Intersection



Allows all pedestrian movements to proceed simultaneously.

Transit Road Safety Assessments (RSAs)

Observations/Recommendations:

Long pedestrian wait times

Increase pedestrian WALK times

Pedestrian countdown timers

Audible pedestrian buttons

Risky pedestrian behavior



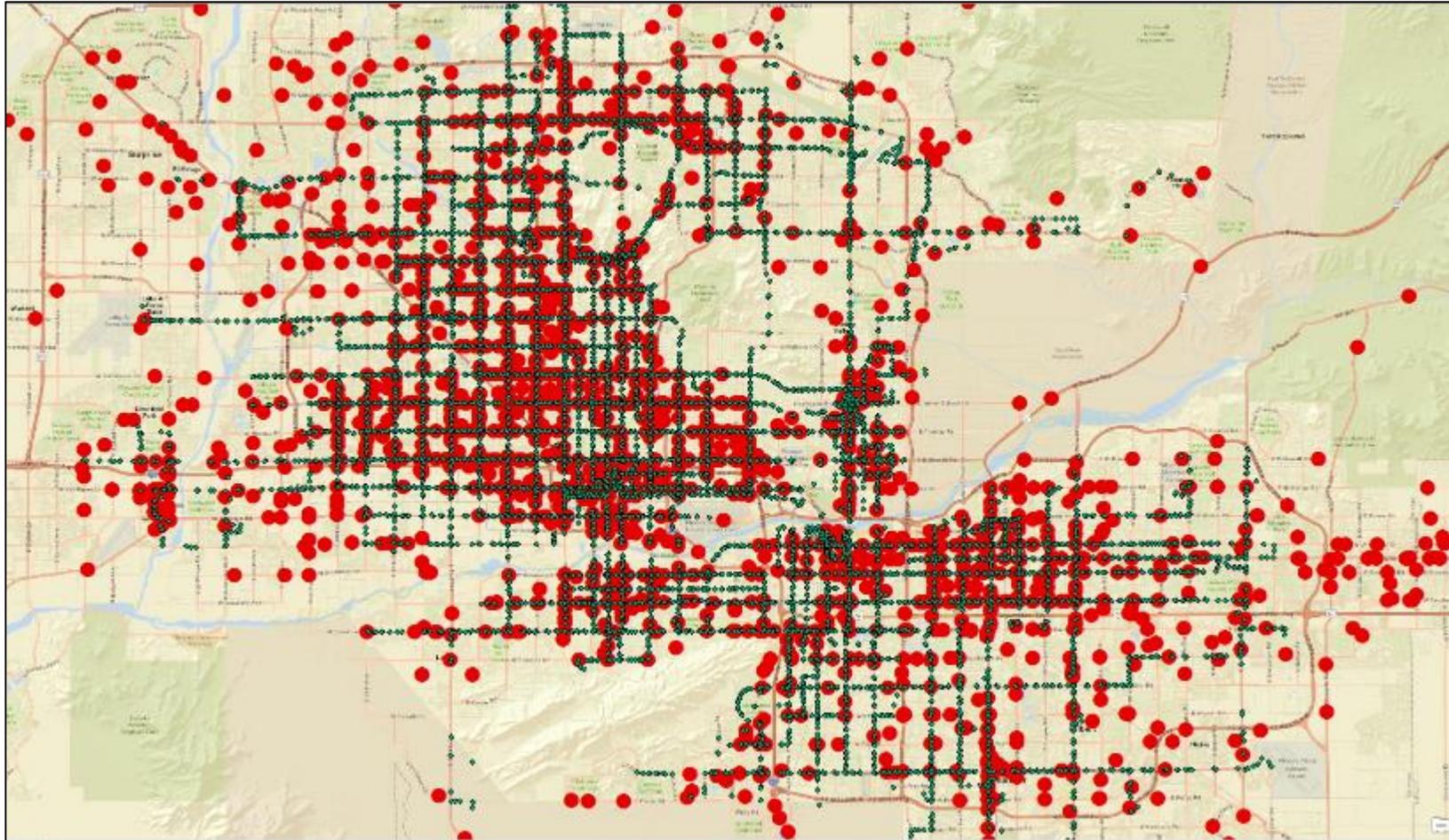
Transit RSA Findings



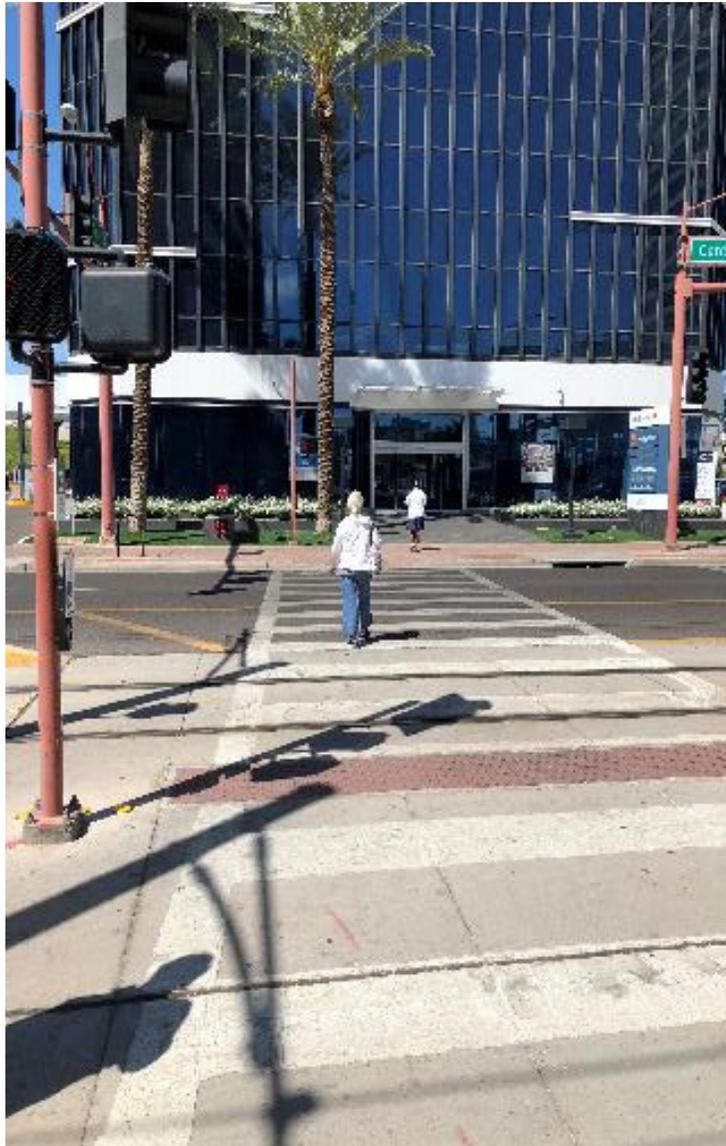
Mid-Block Crossings by Pedestrians

Proposed HSIP Project for Safe Access to Transit Stops

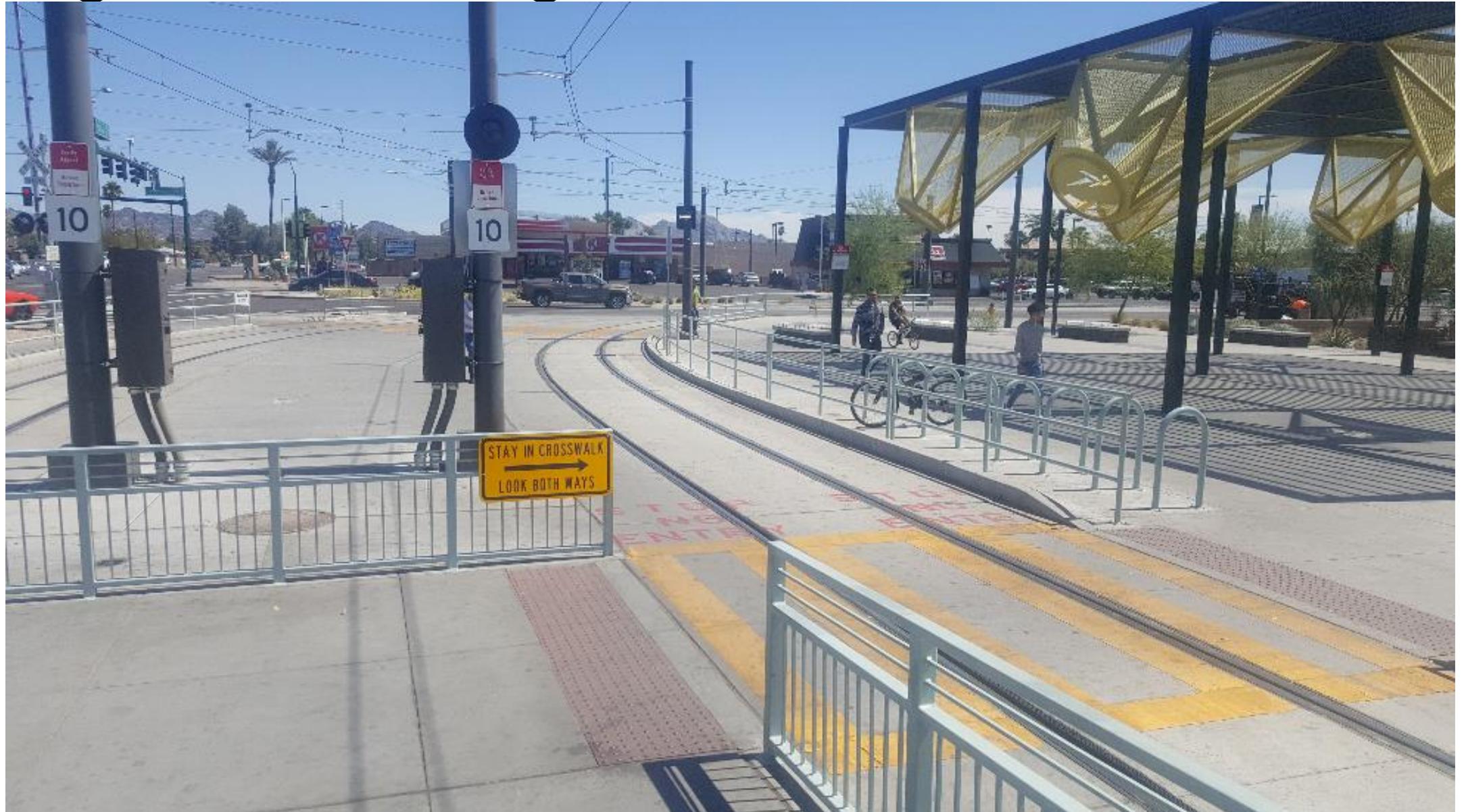
Sites selected based on fatal/serious injury crash density and bus stop density



Signalized Crossings



Unsignalized Crossing



Vehicle Features for Pedestrian Safety



Special Events





Roundabout



Roundabout



Thank You!

Sarath Joshua, PE, PhD
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WMATA's role in bus stop safety: a case study

WMATA and Local Jurisdictions

- Bus stop placement and access
- Coordinating and reviewing all major road construction and reconstruction plans
- Working with developers through jurisdictional permitting processes

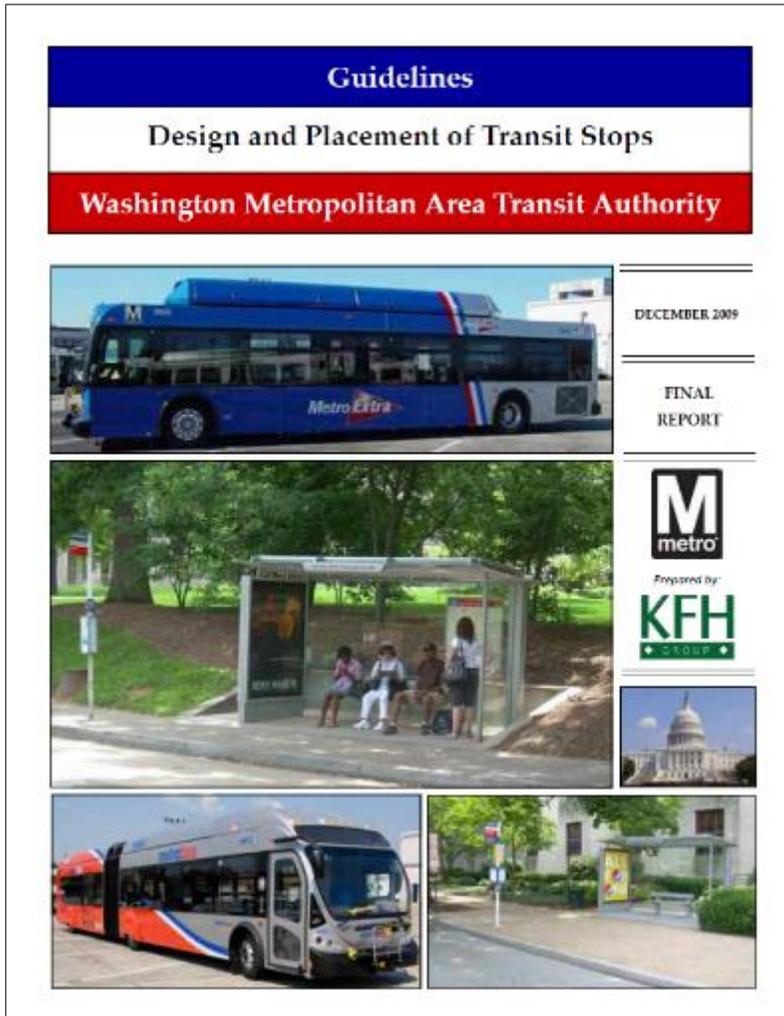


WMATA Metrobus Stop Placement and Access

- Over 11,000 bus stops, most not in our ROW
- Furnish pole, flag, customer information
- Depend on ROW owners to construct improvements and comply with ADA (in most cases)
- \$100+ million to make all stops in region compliant



WMATA's Bus Stop Guidelines



- ADA says:
 - Firm landing surface
 - At least 5 feet wide and 8 feet long
 - Connects to the curb
- WMATA added in 2014:
 - A curb cut at the corner nearest the bus stop with a matching curb cut at (at least) one adjacent corner

Local plans review in all Metrobus corridors

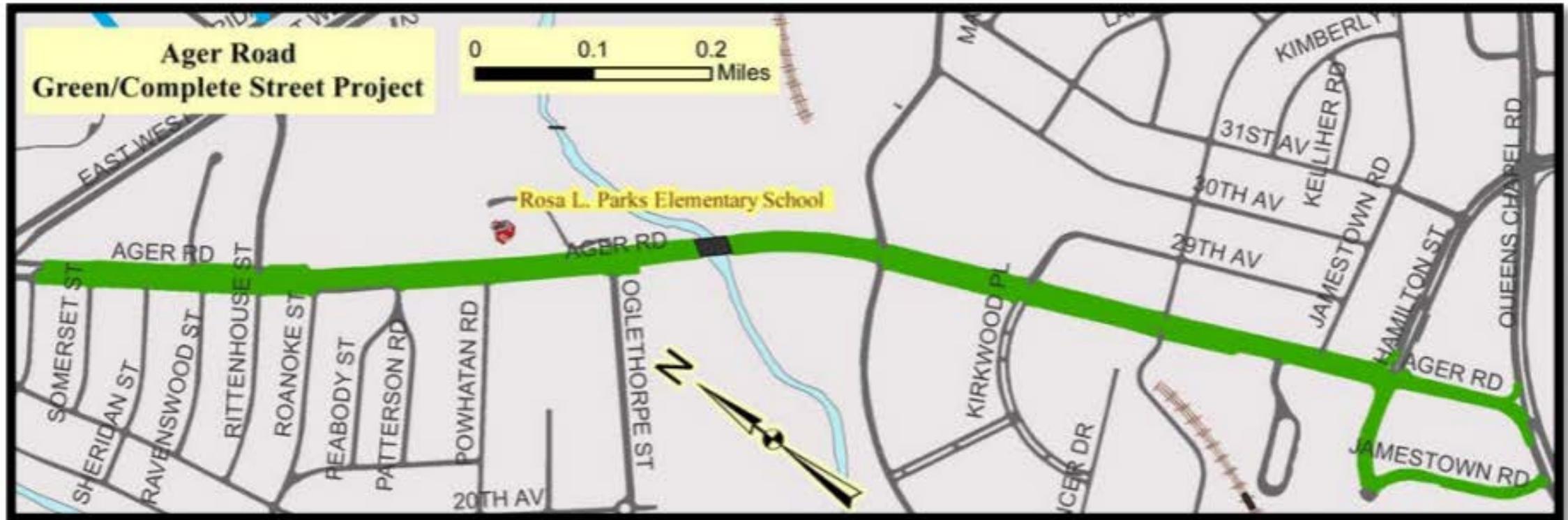
- All roadway plans affecting Metrobus stops are reviewed
- No new stops are allowed without compliance
- Developers sometimes construct adjacent improvements



Case Study: Ager Road

ANTICIPATED PROJECT SCHEDULE

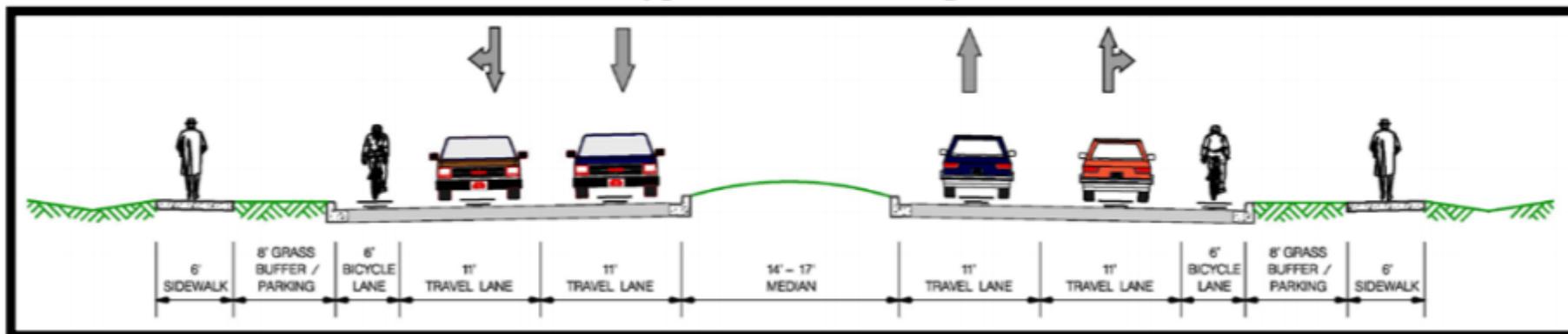
- Complete Design – Late 2017
- Advertise Project – Late 2017
- Start Construction – Mid 2018
- Complete Construction – Late 2020



Pedestrian safety and bus stop access

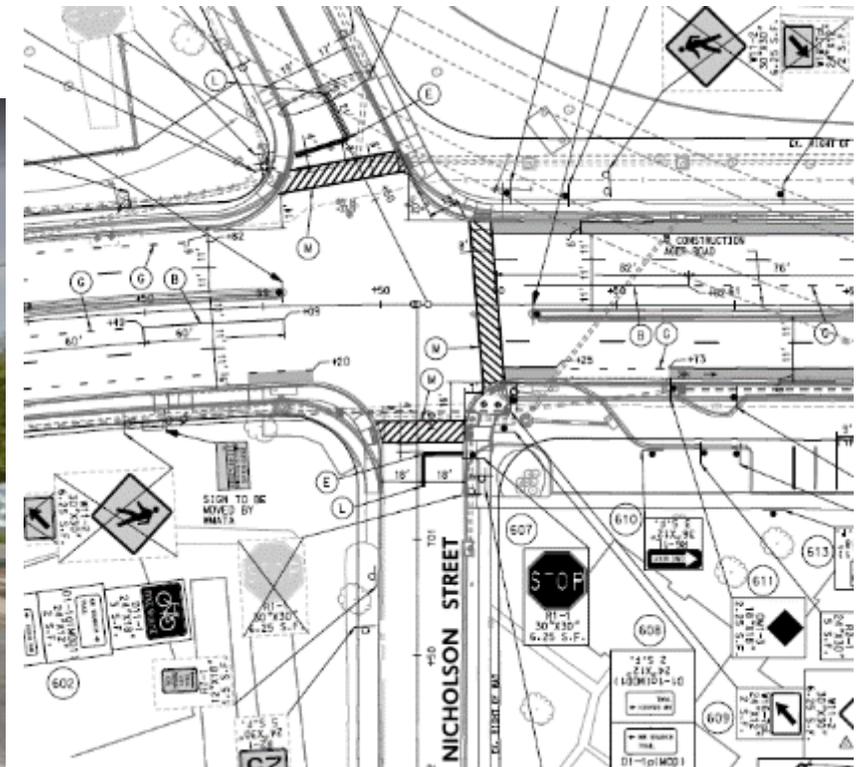
- Stop consolidation; focus on existing controlled intersections
- Enhance pedestrian crossings
 - Crosswalks
 - Lights
 - Rectangular Rapid Flash Beacon
 - Shorter pedestrian crossing distances from fewer and skinnier travel lanes

Typical Section of Ager Road



Specific measures

- Ager Road at Nicholson Street
 - Eliminate access road (shorten crossing distance)
 - Rebuild ramps and restripe crossings
 - Illuminated crosswalk blinker sign warning system with pushbuttons



Thank you

Aaron W. Overman, PE
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Bus Rapid Transit & Pedestrian Safety in Richmond

Presented by:
Ashley Mason
Greater Richmond Transit Company
Marketing & Public Relations Specialist BRT Project





GRTC PULSE PROJECT

Modern, high quality, high capacity bus rapid transit system connecting riders to destinations in the City of Richmond and Henrico County.



GRTC PULSE PROJECT

- Off-board fare collection
- Frequent service: 10-15 minute headways
- 3.2 miles of dedicated bus-only lanes
- Transit-signal priority
- 14 station locations: 5 median, 9 curbside





GRTC PULSE DESIGN PRINCIPLES

Created in collaboration with the Policy Advisory Committee (PAC) and the Technical Advisory Committee (TAC):

- Safety and use for all
- North-South connectivity and access (including for pedestrians and bikes)
- Adequate median and lane widths

GRTC PULSE PROJECT

Curb Station – Government Center West & East Riverfront East



GRTC PULSE PROJECT

Median Station – Allison St. East



GRTC PULSE PROJECT

Former Pedestrian
Crosswalks



GRTC PULSE PROJECT

Crosswalk Visibility Enhancements (Median Stations)



GRTC PULSE PROJECT

Pedestrian Refuge – 6 ft. Median



GRTC PULSE PROJECT

Pedestrian Refuge – 6 ft. Median



GRTC PULSE PROJECT

New Pedestrian Push Buttons (Median Stations)



GRTC PULSE PROJECT

Landscaped Medians



GRTC PULSE PROJECT

New Pedestrian Crosswalks



GRTC PULSE PROJECT

New Pedestrian Crosswalks



Thank you

Ashley A. Mason

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GRTC Transit System

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Questions



Session Evaluation

