April 2026 MCDITE Annual Meeting

America's Original Highway

Does the future include pedestrians, bicyclists, and other users?

A discussion on feasibility utilizing MDOT's Safety Programs as a safety-focus case studies along US 40 in Maryland

Presented by

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What we will talk about today

Where we came from

History of US 40

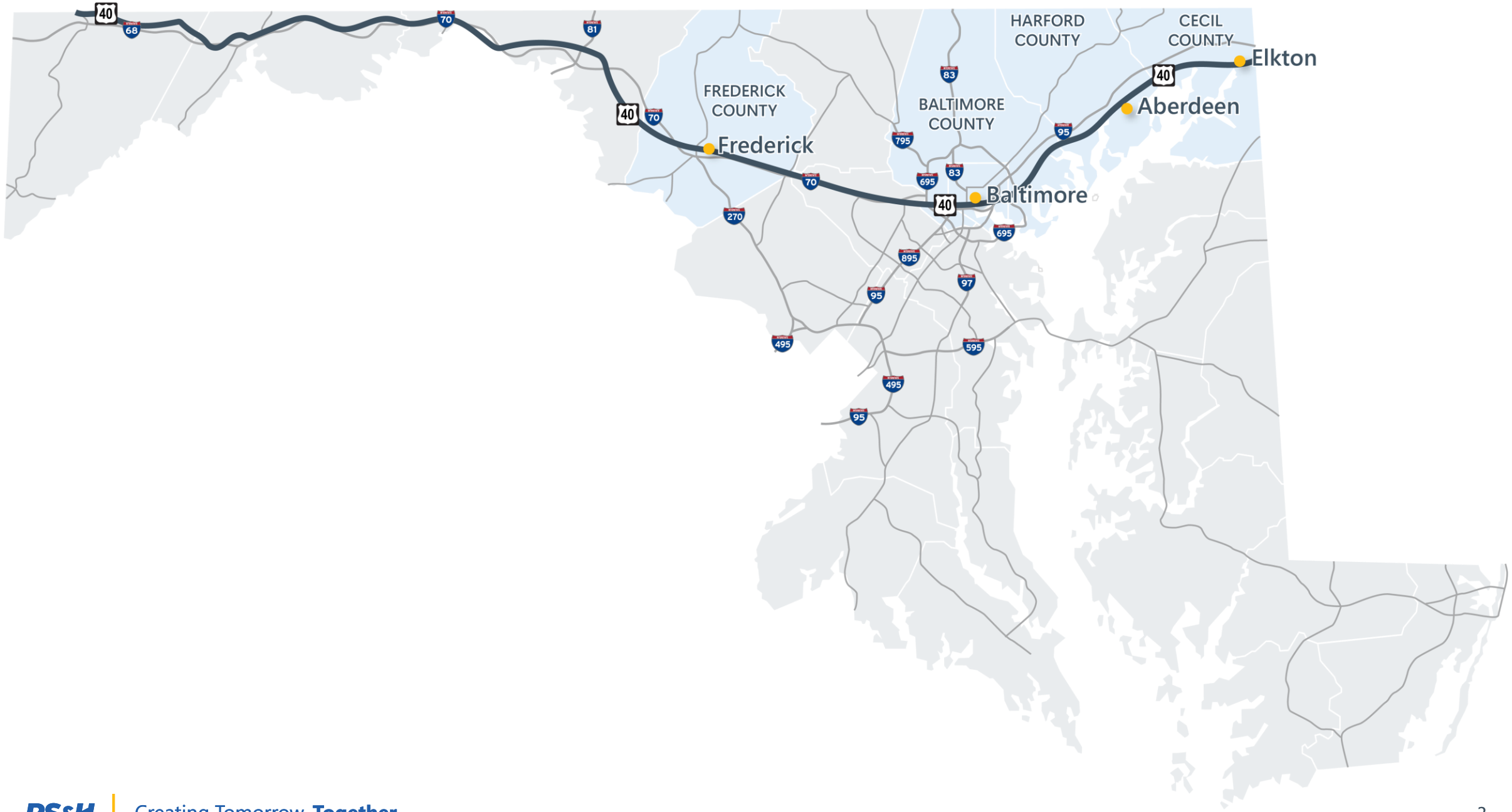
Where we are now

MDOT's Safety Programs

Compare & Contrast Ped-Bike Safety Focused Case Studies

Where we are going

As practitioners, what we can learn from these case studies


HARFORD COUNTY
CECIL COUNTY
Elkton
Aberdeen
FREDERICK COUNTY
BALTIMORE COUNTY
Frederick
Baltimore
40
68
70
81
83
795
695
95
270
895
97
495
595

US 40 from Martin Boulevard

Baltimore County

May 1953

MDOT SHA Bicycle & Pedestrian Safety Initiatives

SERIOUS ABOUT SAFETY

MDOT MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Pedestrian Safety Action Plan

Pedestrian Safety Action Plan Program

What PSAP Projects are:

Data Driven:
An equitable & quantitative programming process

Safety-Focused:
Reduce severe crashes & tragic outcomes

Minimal Impacts to Right of Way & Utilities:
Will not require cumbersome permitting or acquisition process

Focused Scope:
Effective to respond to urgent needs & within limited funding

Near-Term Improvements:
Designed to have an immediate safety impact

Impactful:
Helps Marylanders get home safely

What PSAP Projects are NOT:

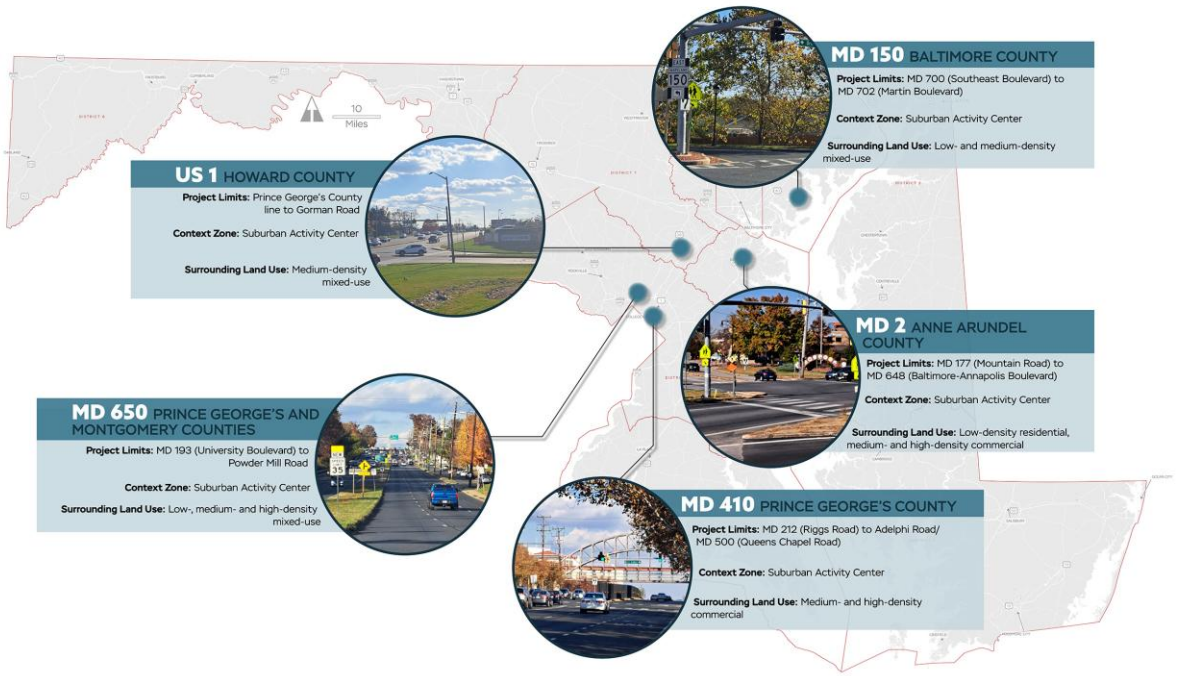
Streetscape Projects that will have Significant Impacts to Right of Way & Utilities

Long-Term Construction Projects

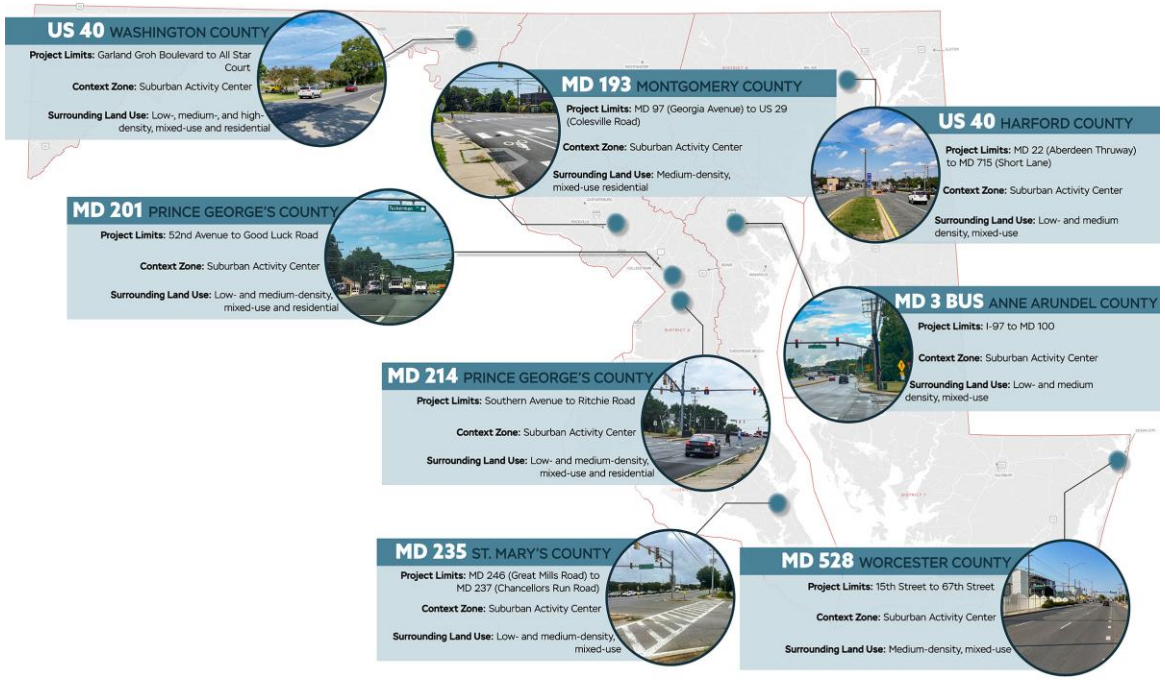
Traffic-Focused

Pedestrian Safety Action Plan Program

PSAP Corridors LEADING THE WAY

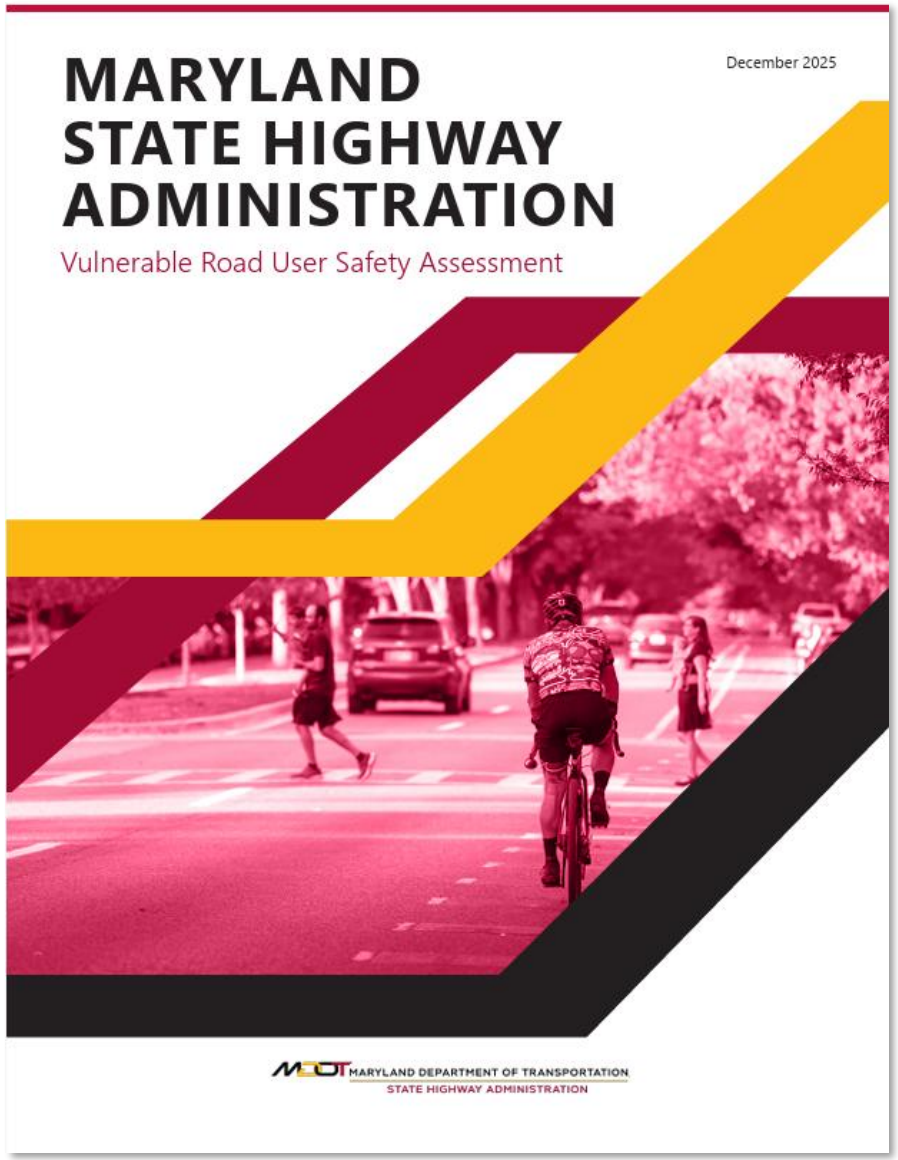


PSAP Projects ROUND 2



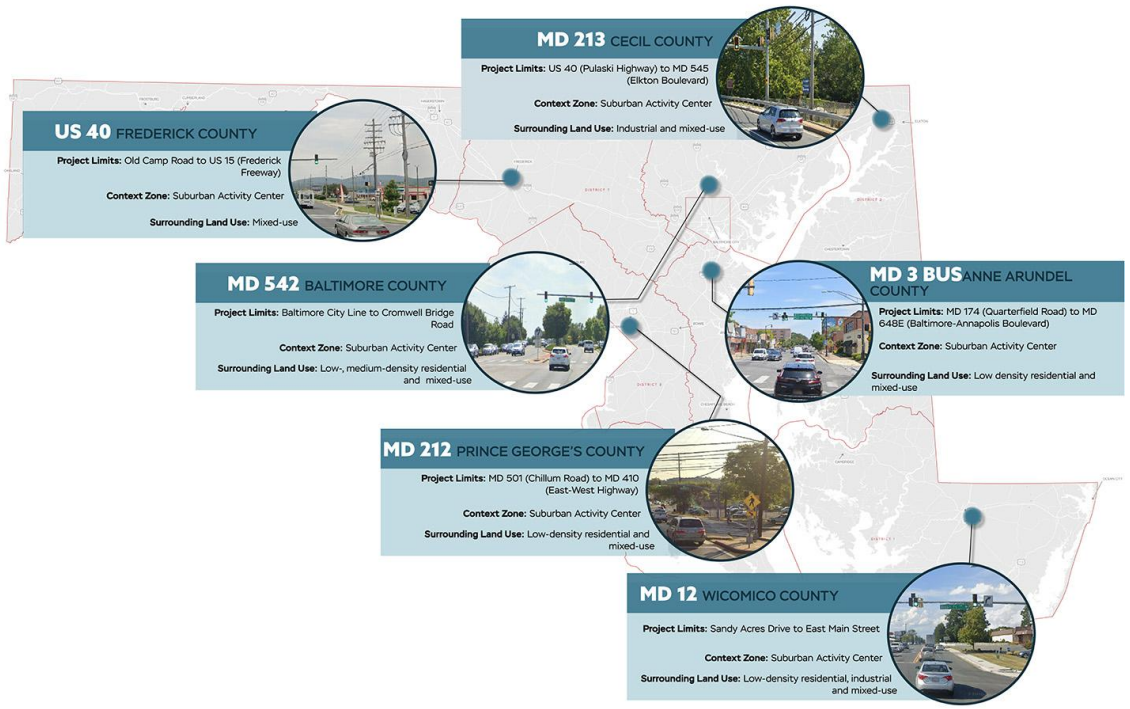
Vulnerable Road User Projects

- **The Vulnerable Road User (VRU) Safety Assessment** is a comprehensive statewide examination aimed at understanding the transportation safety challenges faced by VRUs.
- SHA completed the first assessment in 2023, and an updated assessment will be published with the 2026-2030 Maryland Strategic Highway Safety Plan.
- VRU Projects are developed from the list of VRU high risk corridors identified in the assessment.
- The VRU Project program identifies opportunities for enhancements that can be implemented within a 1-to-2-year timeframe to improve VRU safety and mobility

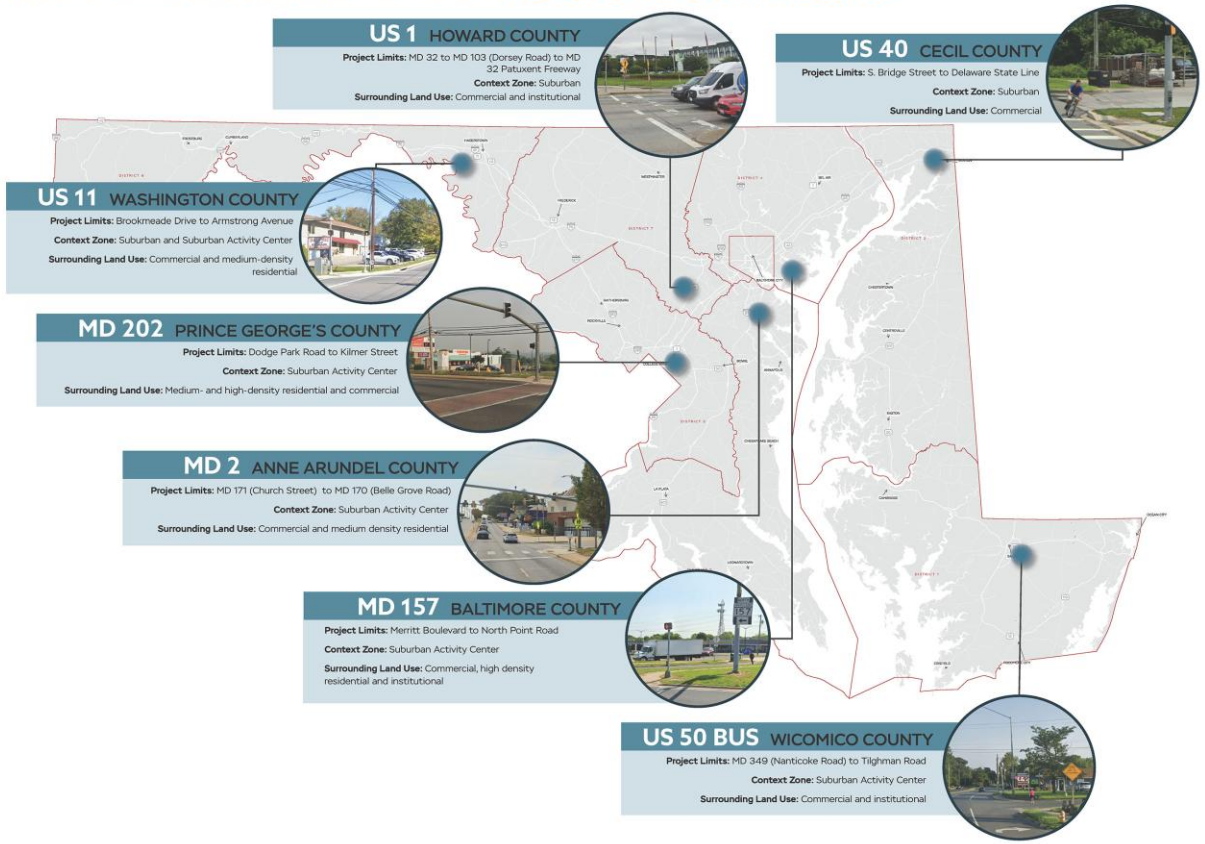


Vulnerable Road User Projects

Vulnerable Road User CORRIDORS



Vulnerable Road User ROUND 2 CORRIDORS



MDOT Contexts

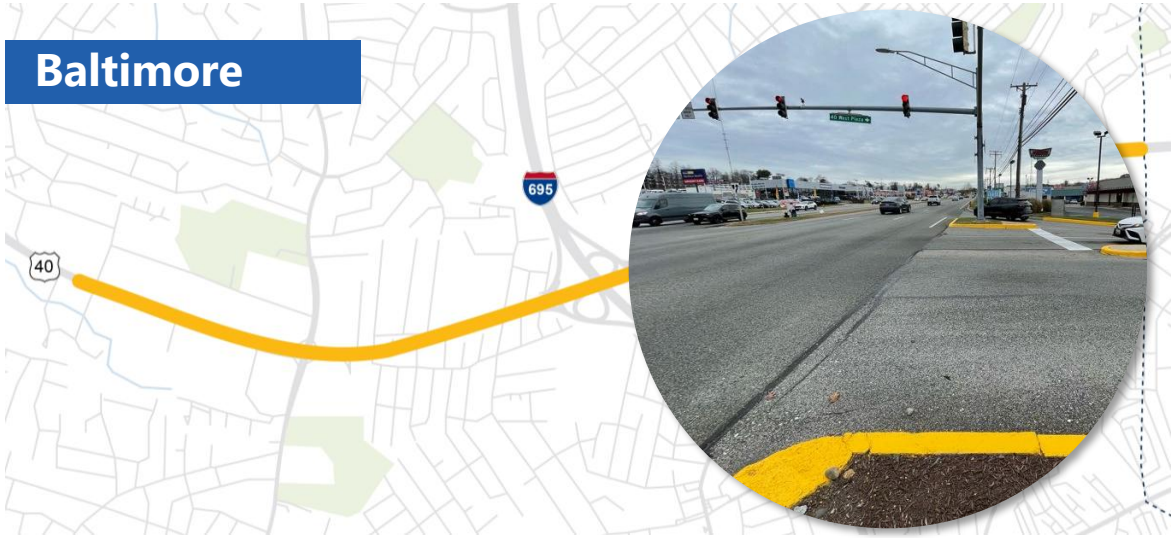





MDOT SHA Contexts	Urban Core	Urban Center	Traditional Town Center	Suburban Activity Center	Suburban	Rural
Federal Designations	Urban					Rural
ITE	Urban Core	Urban Center	General Urban		Suburban	Rural / Natural
AASHTO Green Book, 7th Edition	Urban Core	Urban	Rural Town	Urban	Rural Town	Rural
Florida DOT	Urban Core	Urban Center	Rural Town	Urban General	Suburban Commercial / Suburban Residential	Rural / Natural

Frederick

Baltimore



Harford

Cecil

Compare & Contrast

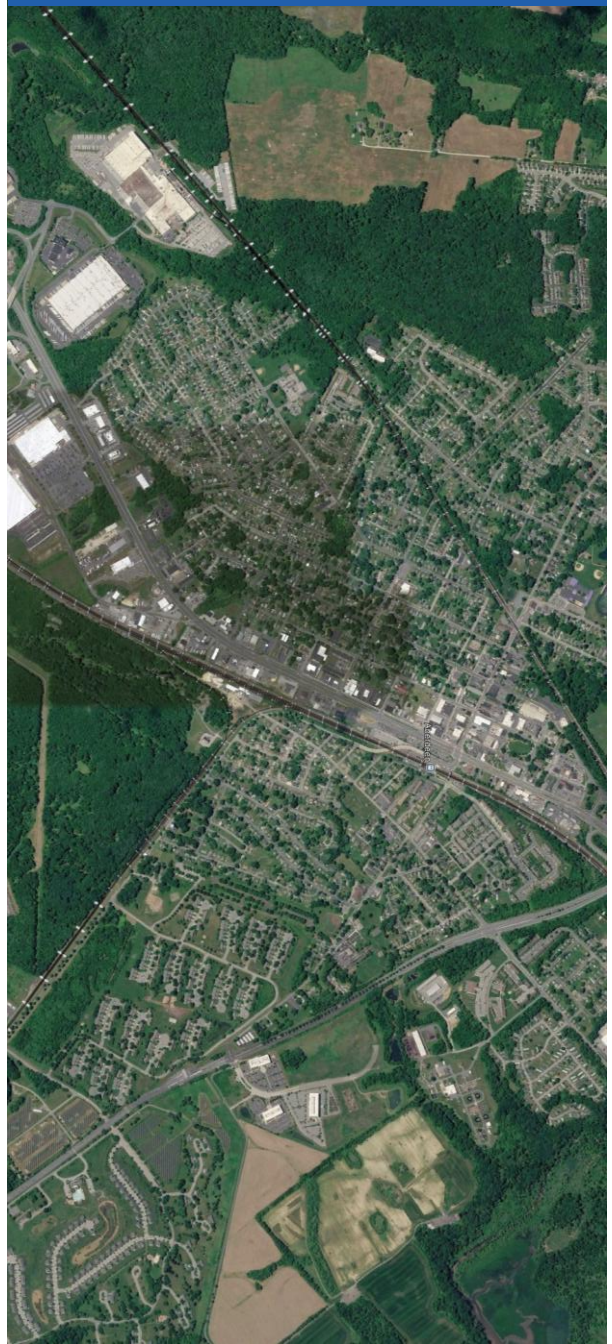
Local Context

	Frederick	Baltimore	Harford	Cecil
MDOT's Context Zone	Suburban Activity Center	Suburban Activity Center	Suburban Activity Center & Traditional Town Center	Suburban
Local Connections	City of Frederick's "Golden Mile" US 15 Built Out	Catonsville/ Baltimore City Baltimore Beltway Built Out	Aberdeen Adjacent to I-95	Elkton State Line
Transit Served	Local Transit	MTA	MTA & Amtrak Rail	Local Transit

Frederick

Baltimore

Harford



Cecil

Frederick

1.8 miles

17,000 – 48,000 AADT

6 Lanes + Median

160-foot cross section

35 MPH

Rolling

Baltimore

2.9 miles

32,000-53,000 AADT

6 Lanes + Median

120-foot cross section

45 MPH

Rolling

Harford

2.3 miles

26,000 – 34,000 AADT

4 Lanes + Median + Shoulders

100-foot cross section

55-40-30-55 MPH

Level

Cecil

2.4 miles

33,000 AADT

4 Lanes + Median +Shoulders

120-foot cross section

45-55 MPH

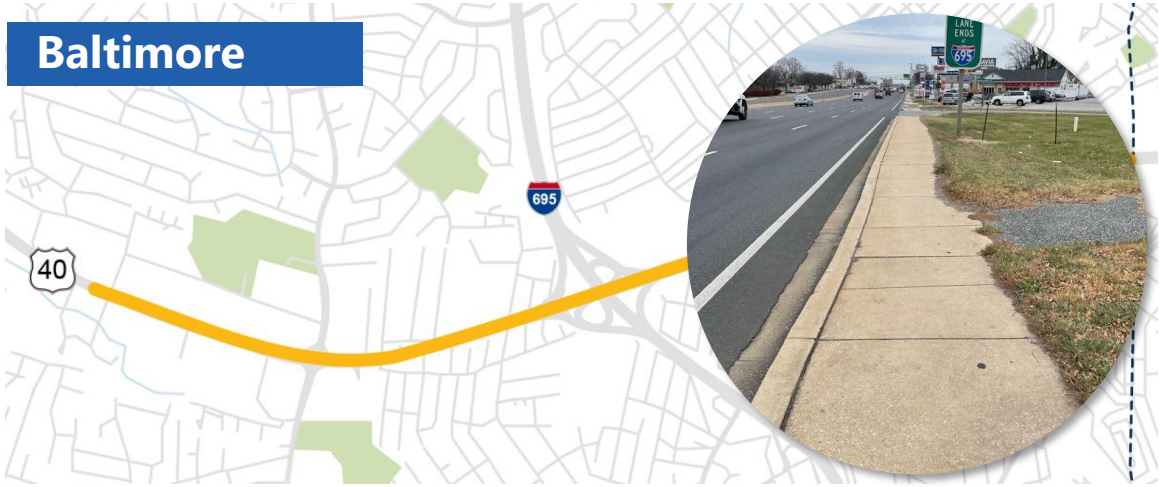
Level

Compare & Contrast

Vulnerable Road User Safey & Infrastructure

Frederick

Baltimore



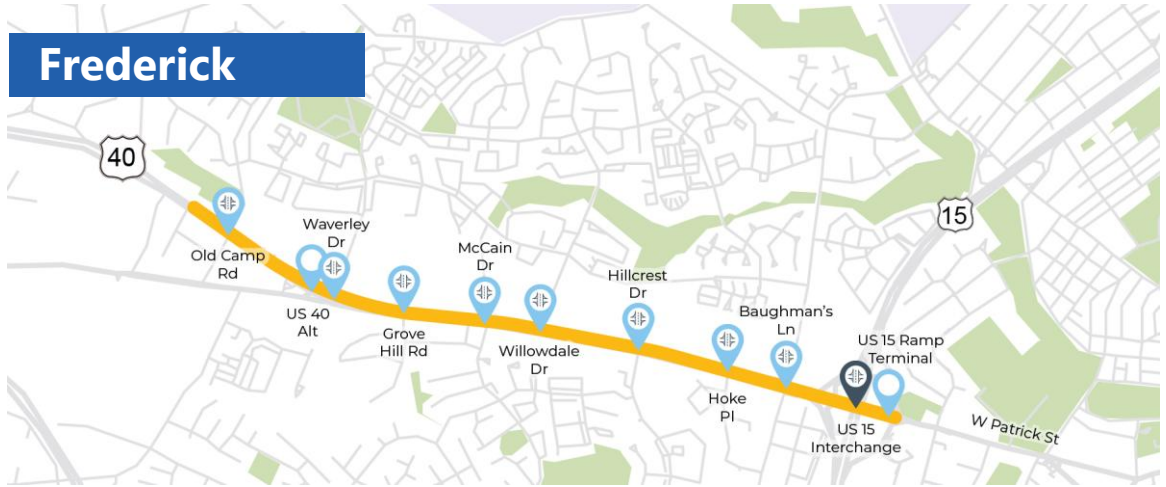
Harford

Cecil

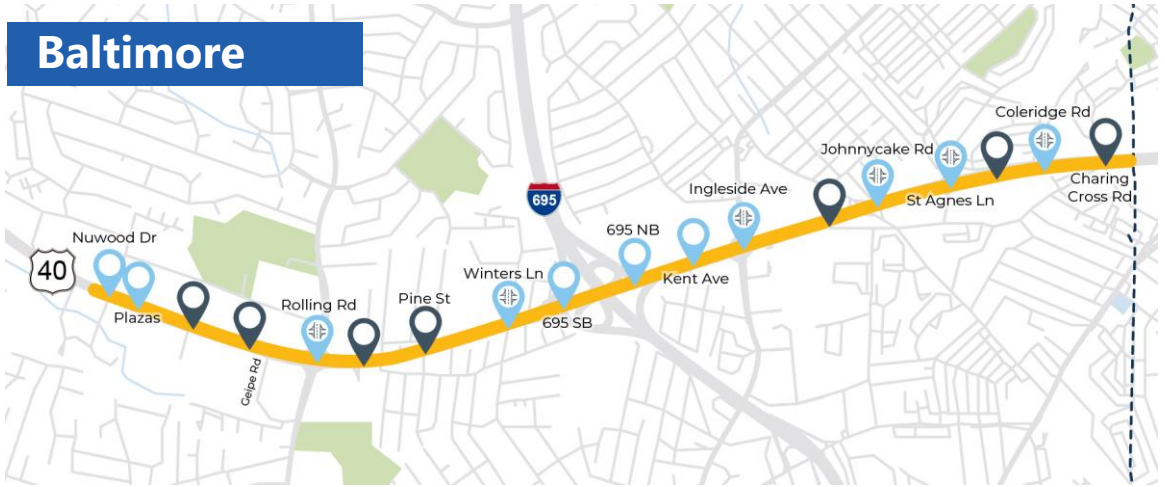
Compare & Contrast

Vulnerable Road User Safey & Infrastructure

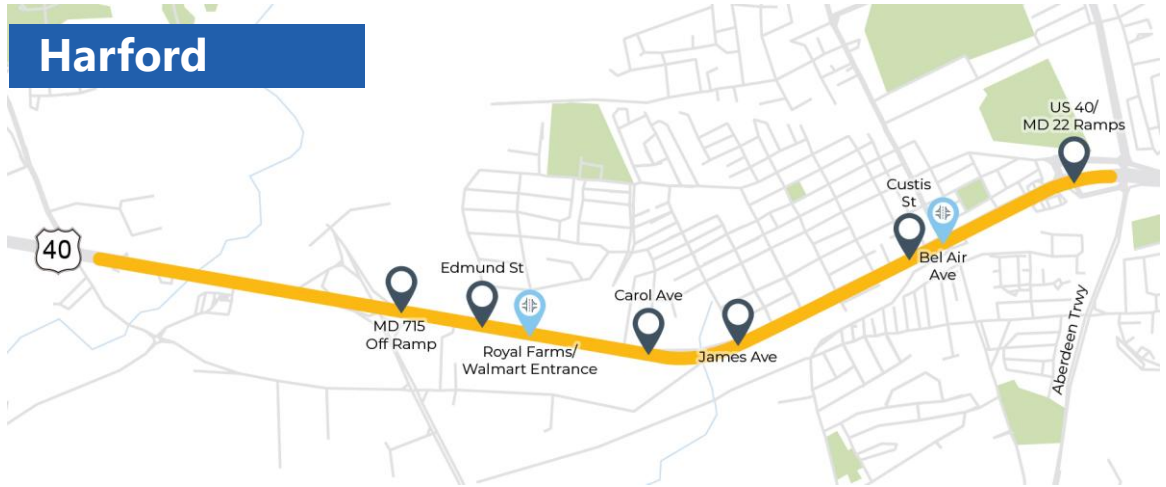
Frederick



Baltimore



Harford



Cecil

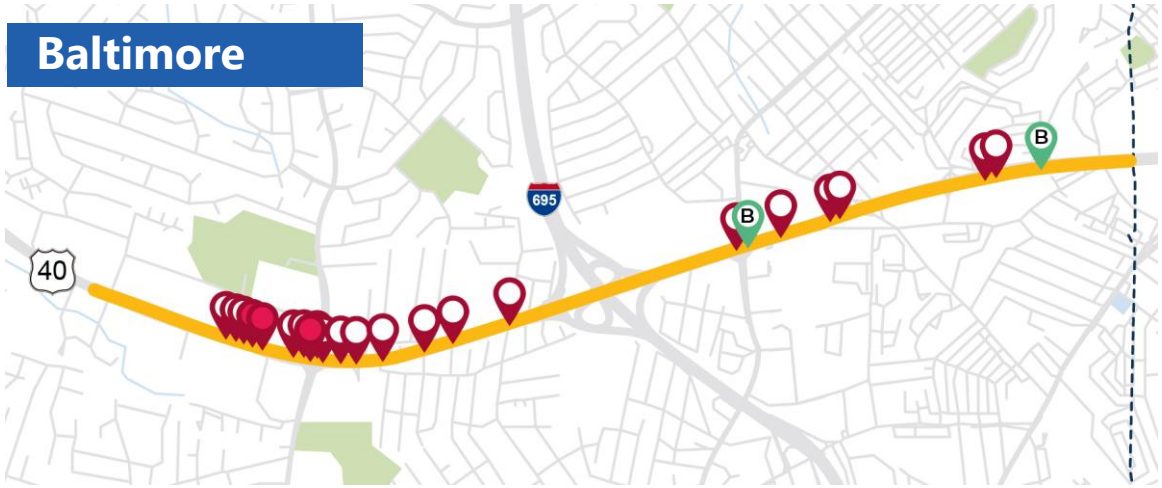
Study Intersections

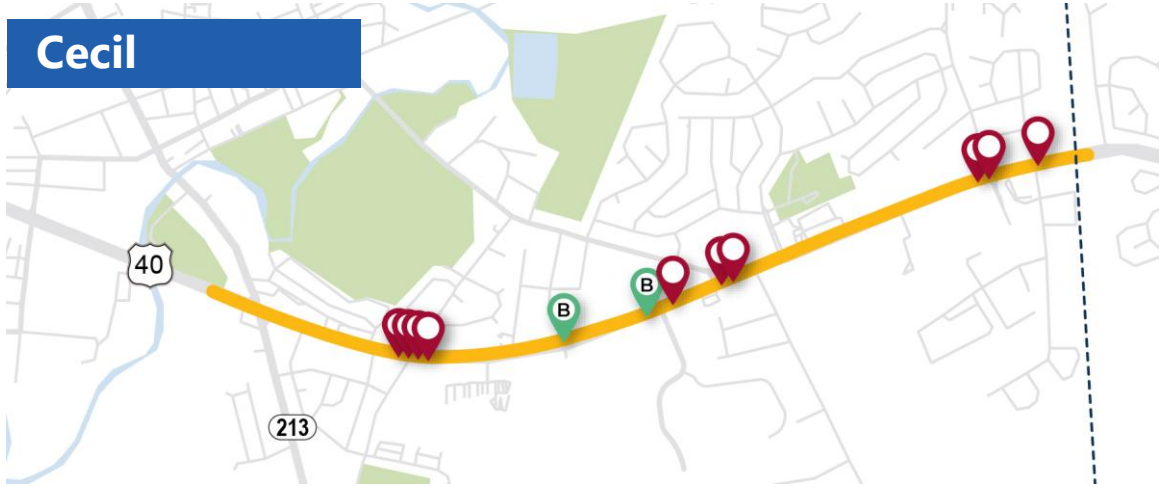
Marked & Controlled US 40 Crossing

Signal

Compare & Contrast

Vulnerable Road User Safey & Infrastructure





Compare & Contrast

Vulnerable Road User Safey & Infrastructure

	Frederick	Baltimore	Harford	Cecil
Pedestrian	**10** 3 Fatal	**22** 3 Fatal	**12** 2 Fatal	**5**
Bicyclist	**4**	**2**	**7** 1 Fatal	**3**

Challenge
Crossings

Frederick

- 8 marked & controlled
- 1,000 – 1,500 ft spacing
- Ped volume & crashes concentrated a four adjacent intersections
- Existing median barrier

Baltimore

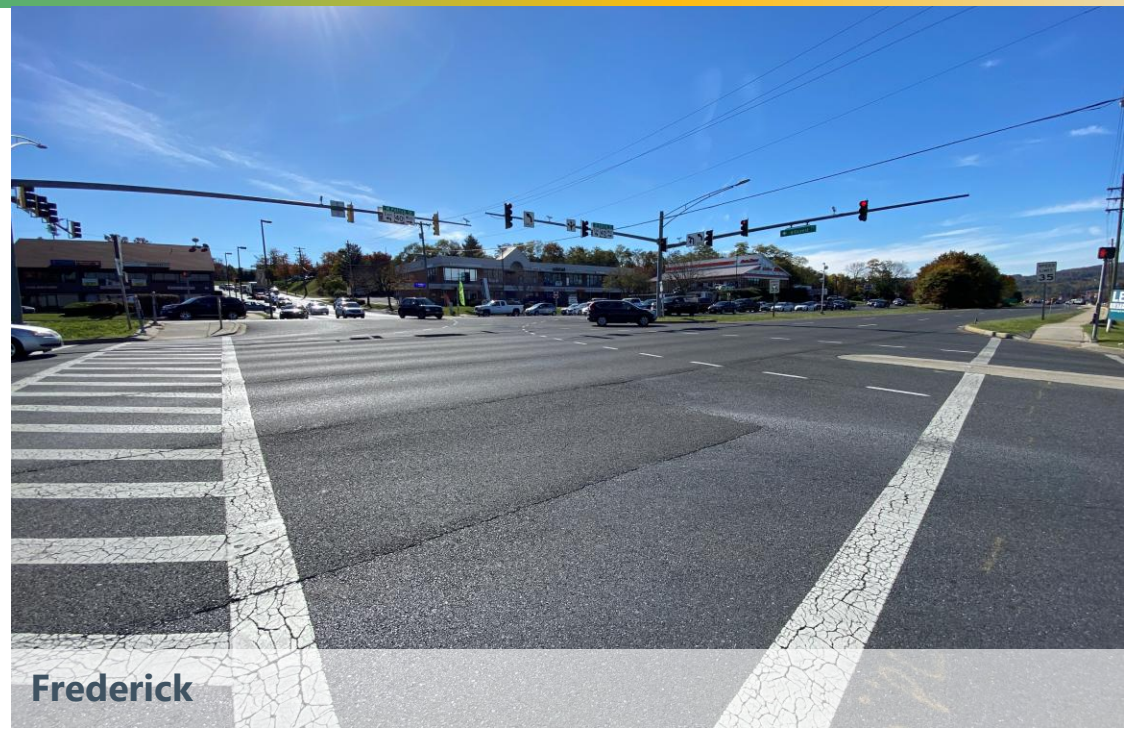
- Observed mid-block crossings matches crash patterns
- Distance between marked/controlled crossings

Harford

- 2.3-mile corridor with 2 signals yield a spacing of 1.1 miles between marked and controlled crossings

Cecil

- Western segment lacks crossings but signals present
- Eastern segment has three controlled crossings with limited connecting sidewalks


Frederick


Harford

Challenge
Crossings

Frederick

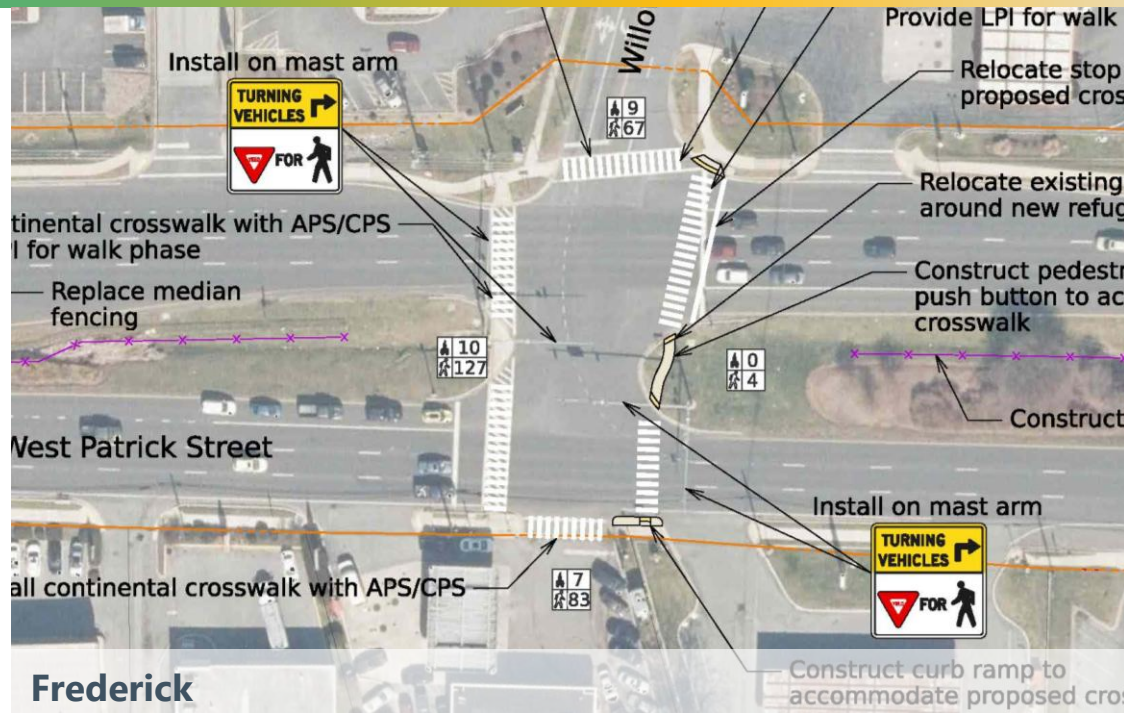
- Mark All Legs
- Implement LPI
- Lane Narrowing
  - *Long Term*
  - *Speed Control*

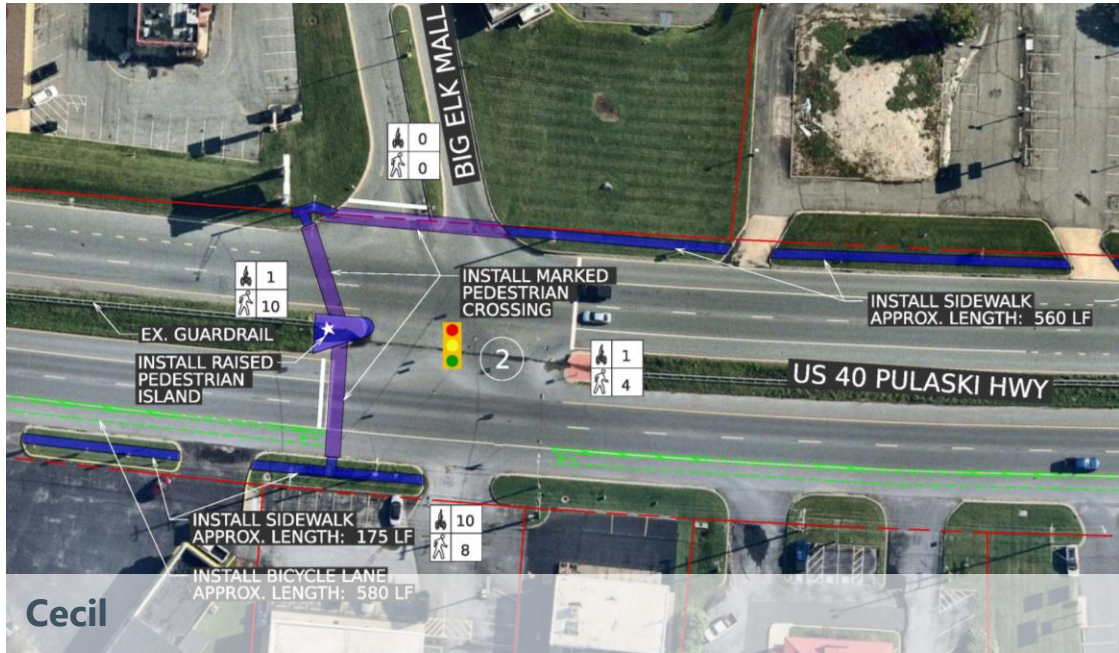
Cecil

- Install marked & controlled crossings
- No midblock

Harford

- Signalization
- PHB at location with highest observed daily mid-block crossings





Challenge

Bike Accommodations

Frederick

- Bike lane present for one block
- Ride in outside travel lane
- Ride in opposite direction

Baltimore

- No bike facilities
- Ride on sidewalk & roadway

Harford

- Utilize existing shoulder
- Bike route signage
- Minimal pavement markings

Cecil

- Utilize existing shoulder
- Some bike route signage
- Ride in opposite direction
- Observations corresponds with crash patterns

Frederick


Cecil

Challenge

Bike Accommodations

Frederick

- SUP
  - *Pipeline Project*

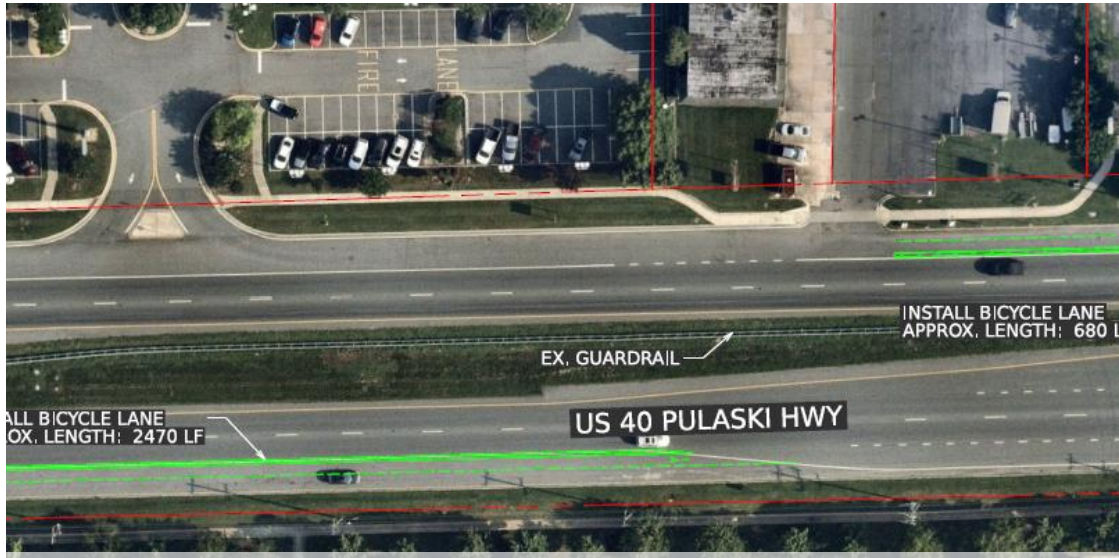
Harford

- Barrier-separated bike lanes with green pavement markings in conflict areas
- Consider SUP
  - *Connect with Adjacent Projects*

Cecil

- Utilize shoulder for marked & sign facility
- Install buffer & pocket lanes at intersections
  - *Long Term*

Harford



Cecil

Discussion

What conclusions have you reached on US 40 and peds & bike?

Are there alternative treatments?

What is the right long-term solution?

RS&H

MDOT MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Thank You

Elisa & Molly

Compare & Contrast

Highway & Traffic Engineering

	Frederick	Baltimore	Harford	Cecil
Length	**1.8 mi**	**2.9 mi**	**2.3 mi**	**2.4 mi**
AADT	17,000 – 48,000	32,000-53,000	26,000 – 34,000	33,000
Lanes	6 Lanes + Median	6 Lanes + Median	4 Lanes + Median + Shoulders	4 Lanes + Median +Shoulders
Speed	35	45	55-40-30-55	45-55
Terrian	Rolling	Rolling	Level	Level

Barrier Separated Bike Lanes

Continental Crosswalks

Green Pavement for Bike Lanes

Hardened Centerlines

In-Lane Floating Bus Stops

Lane Width Reduction

Leading Pedestrian Intervals

Midblock Crosswalks

No Turn on Red

Pedestrian Hybrid Beacons

Posted Speed Limit Reduction

Protected Intersections

Rectangular Rapid Flashing Beacons

Crossing Island

Turning Vehicles Yield to Pedestrians

Exclusive Pedestrian Phase (All-Walk Phase)

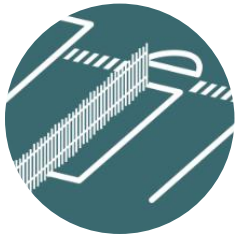
Reduced Curb Radii

Curb Extensions (Bulb-Outs)

Bicycle Lane Extensions

Bicycle Signals

Bicycle Boxes



Non-Traversable Barrier

Continuous Lighting

Parking Restrictions at Uncontrolled Pedestrian Crossings

Contraflow Bicycle Lanes

Advanced Stop/Yield Markings and Signage

Roadway Reconfiguration

Raised Crosswalk

In-Street Pedestrian Crossing Signs

Two-Stage Bicycle Turn Box