





November 18, 2021

*Webinar for Virginia Walkability Action Institute*

**Road Safety Assessments 101**

# Webinar Agenda

1. PATHS – A Resource for Improving Walkability and Health Equity in Virginia
2. Intersections with Pedestrian Safety
3. Introduction to Pedestrian Road Safety Assessments (RSA)
4. First Steps toward leading a RSA

# What is PATHS?

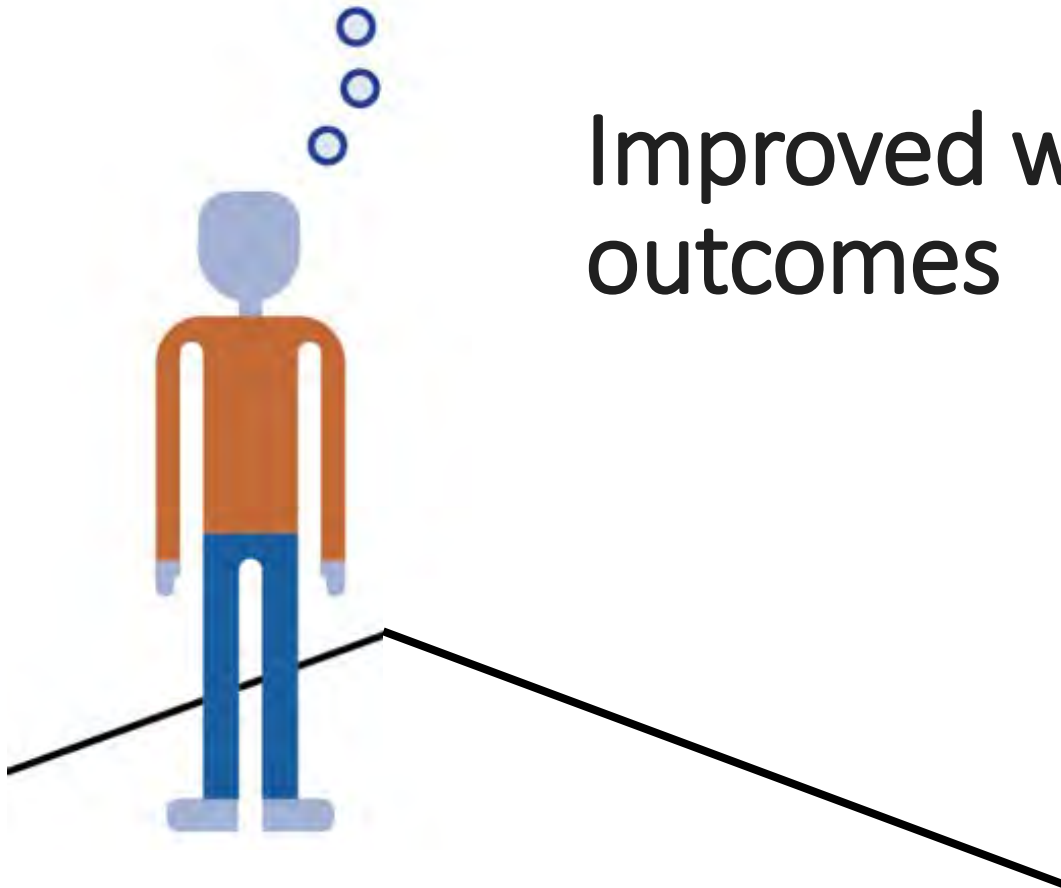
- PATHS (Prioritizing Active Transportation, Health and Safety) is the collaborative effort between the Virginia Department of Transportation and the Virginia Department of Health.
- The collaboration seeks to enhance walkability for improved safety and more equitable public health outcomes.

<https://virginiapaths.org/>



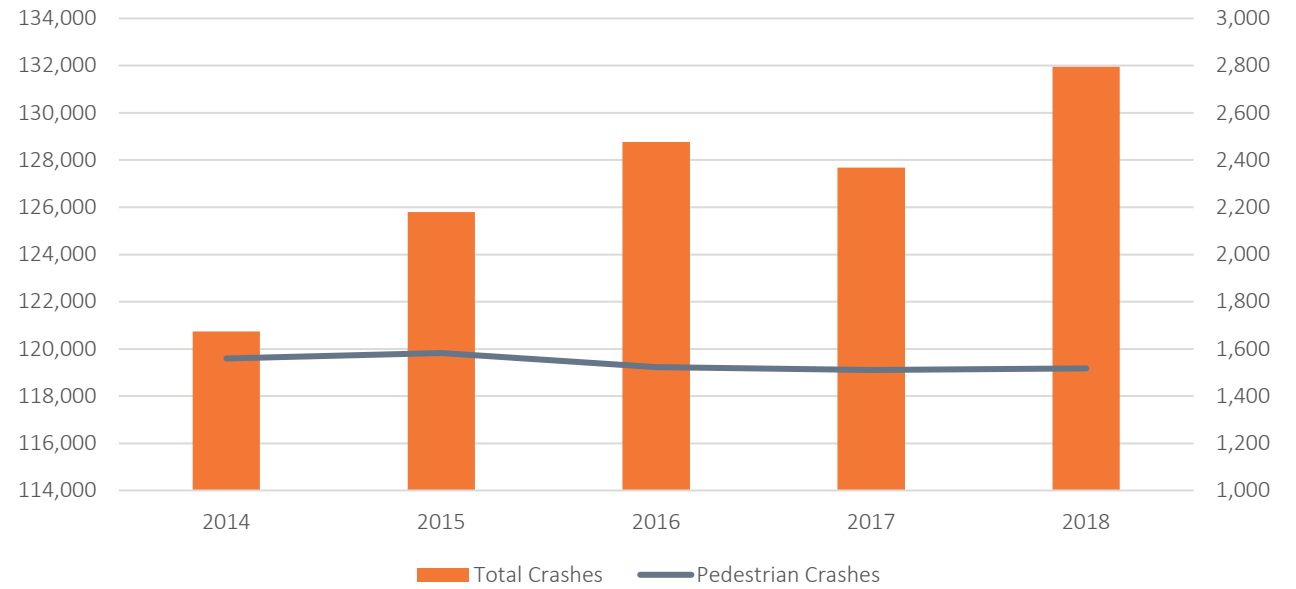
Active Transportation + Health Equity  
+ Transportation Safety =

Improved walkability and public health  
outcomes

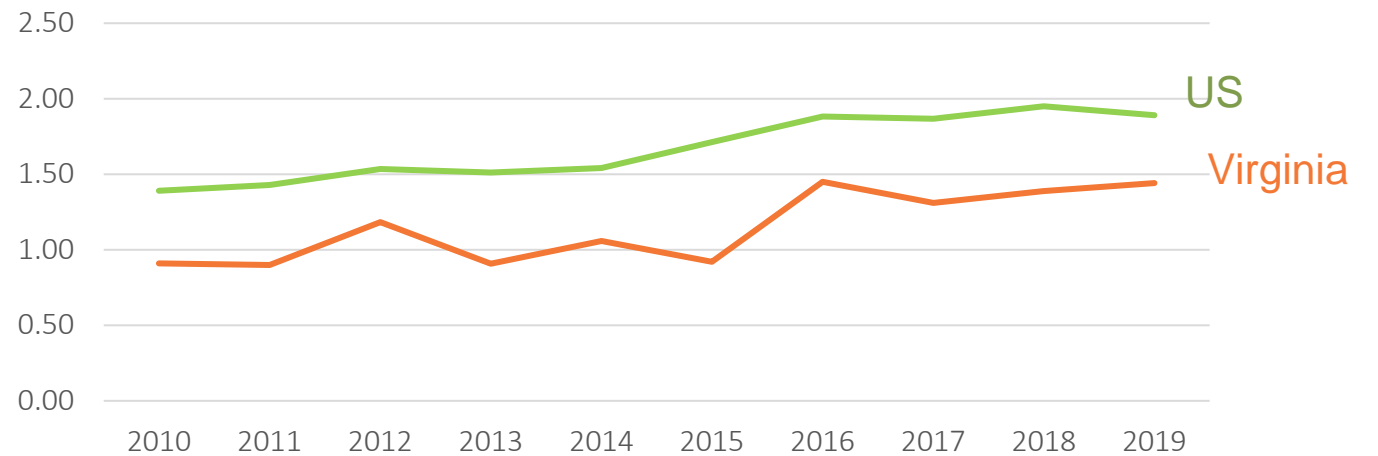


Why is safety a key focus for improving walkability in Virginia?

Total Statewide Crashes Compared to Pedestrian Crashes, 2014-2018



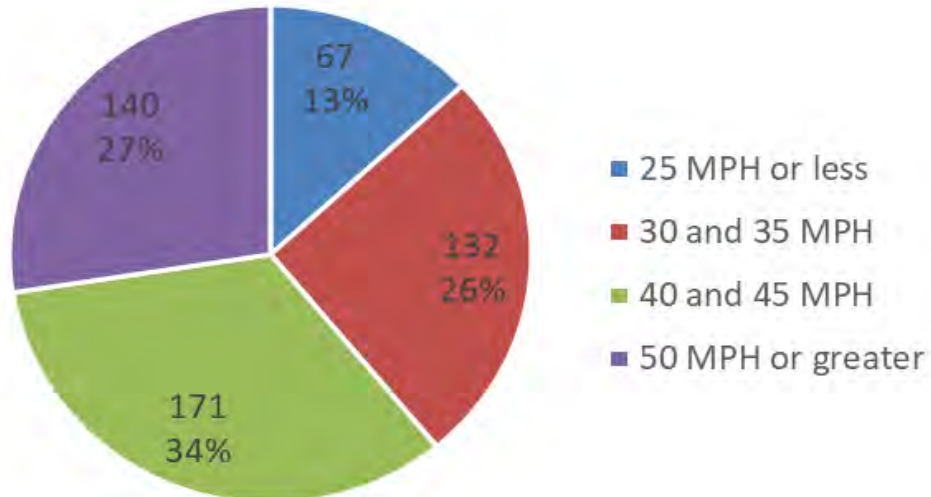
Pedestrian Fatality Rates per 100,000 Population



# Key Findings

- Over **60% of fatal** pedestrian crashes occurred at posted speeds of 40 miles per hour (MPH) or higher
- Overall, however, just **32% of all** pedestrian crashes (injury or fatal) took place at locations with a speed limit of 40 MPH or higher.

*Posted Speed Limit (MPH) at Pedestrian Fatal Crash Locations*

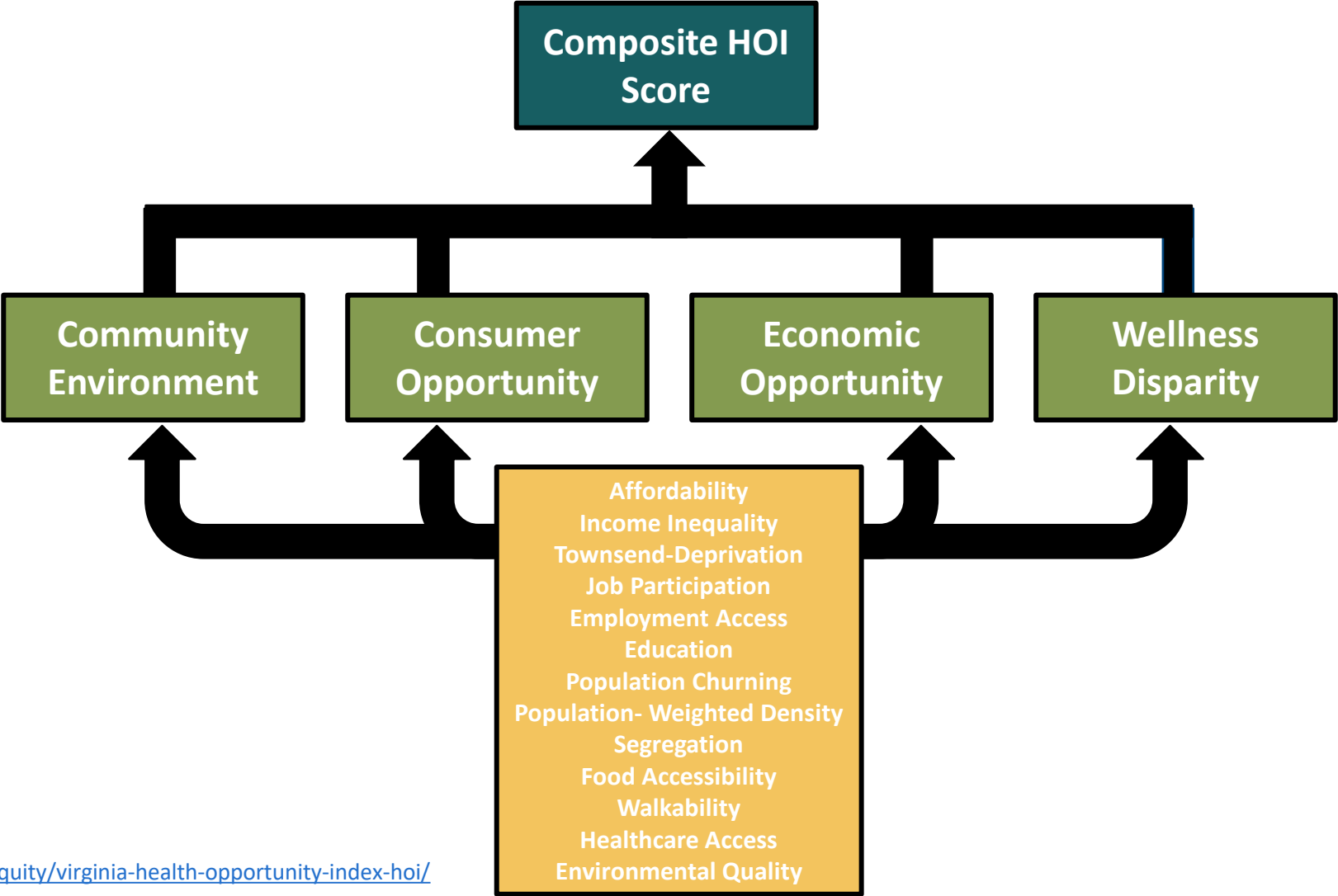


*Crash Severity by Posted Speed Limit*





# Virginia Department of Health - Health Opportunity Index

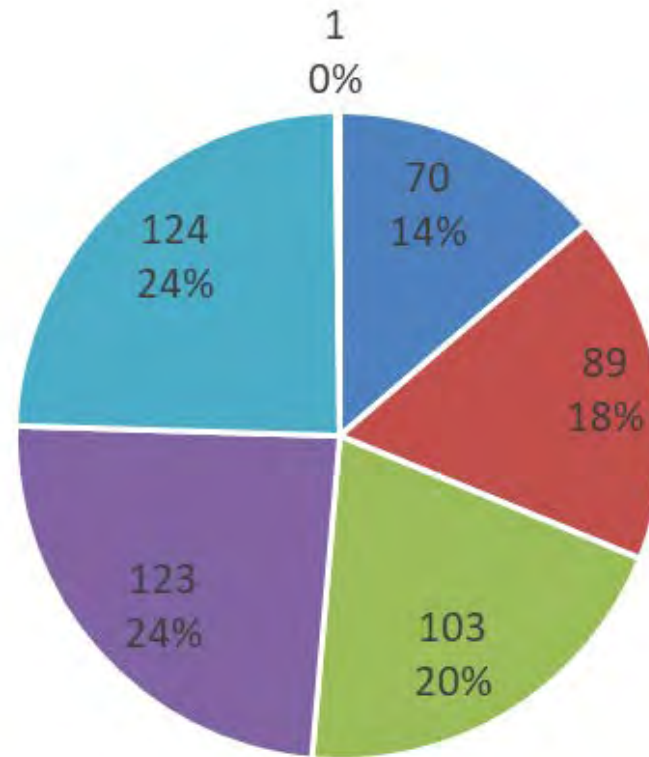




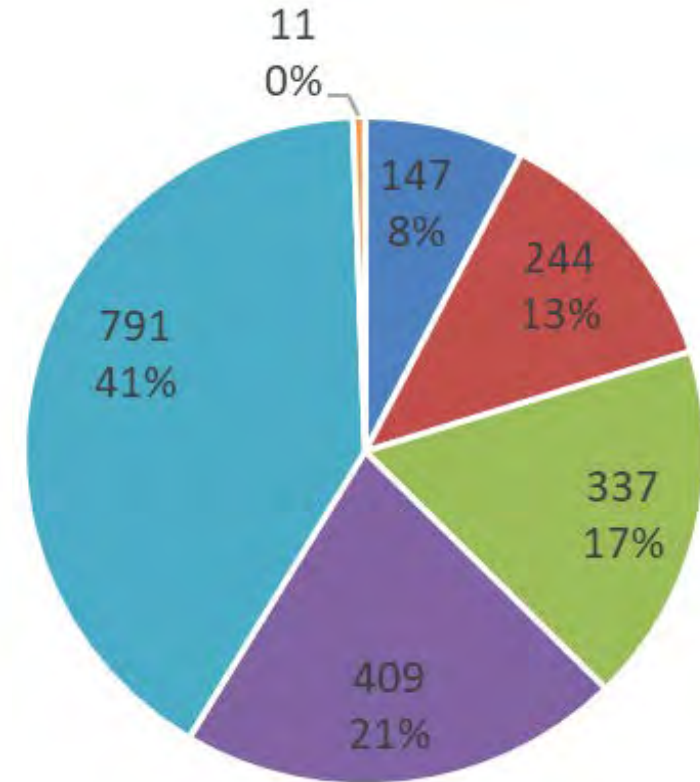
# Key Findings

- Nearly half (48%) of fatal crashes took place in communities with low or very low health opportunities.
- Among pedestrian injury crashes, 62% of crashes occurred in communities with a very low or low health opportunities.

*Pedestrian Fatal Crashes*



*Pedestrian Injury Crashes*

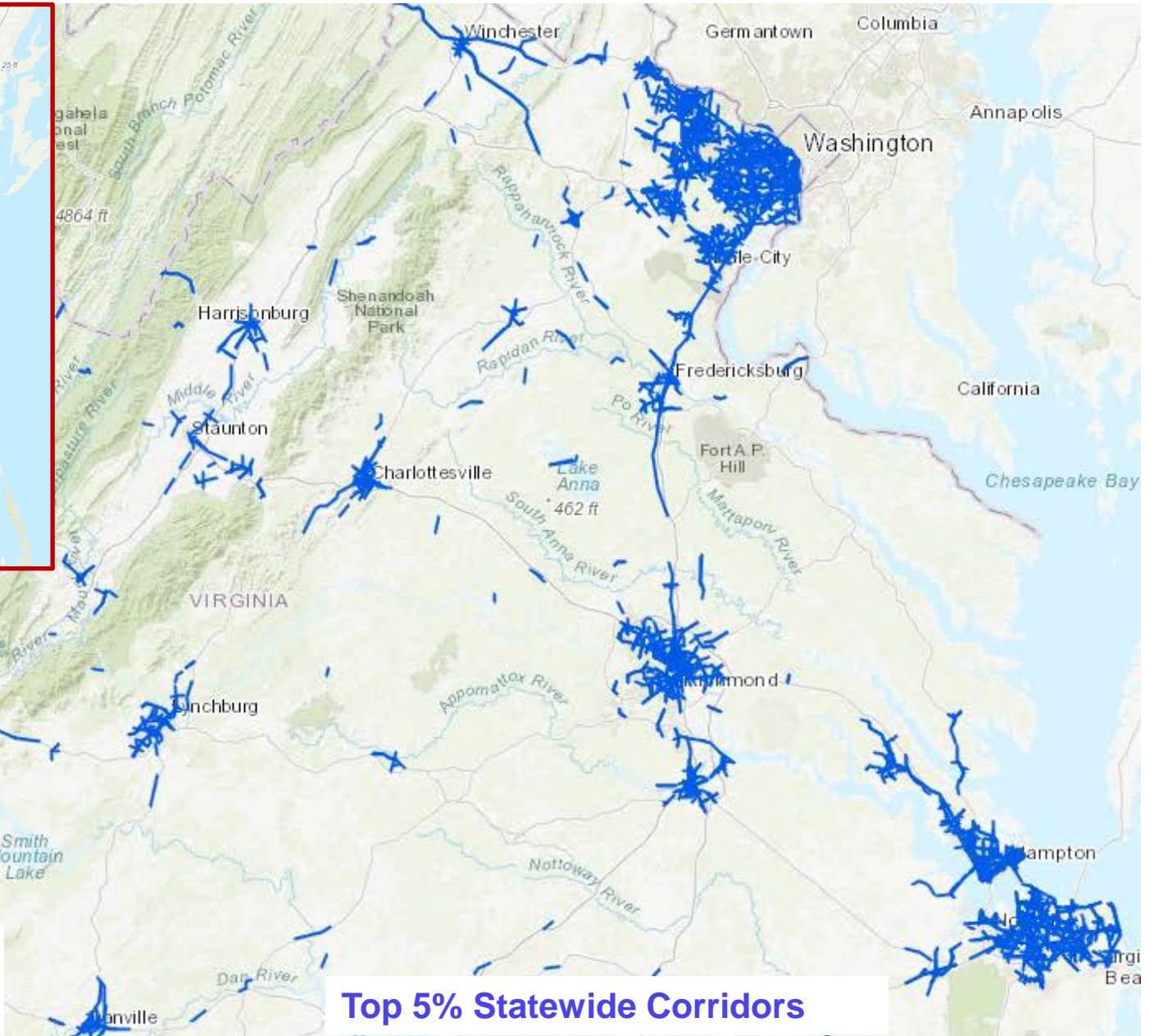
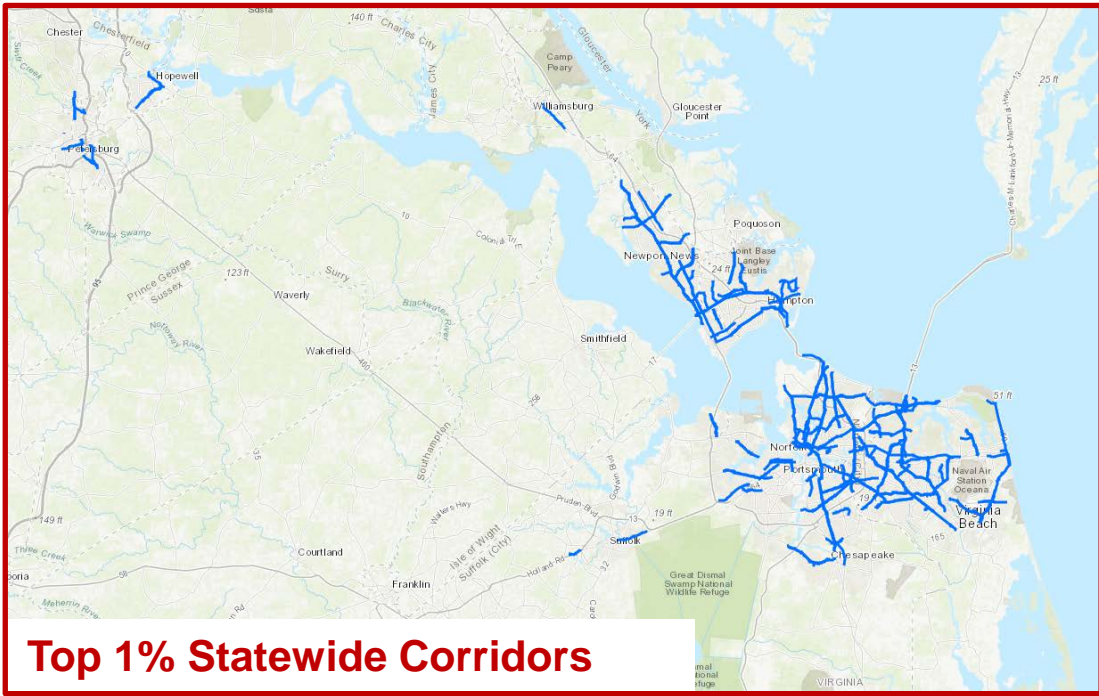


- Very High Health Opportunity ■ High Health Opportunity
- Moderate Health Opportunity ■ Low Health Opportunity
- Very Low Health Opportunity ■ Not Provided

# 2021 PSAP Analysis Risk Factors

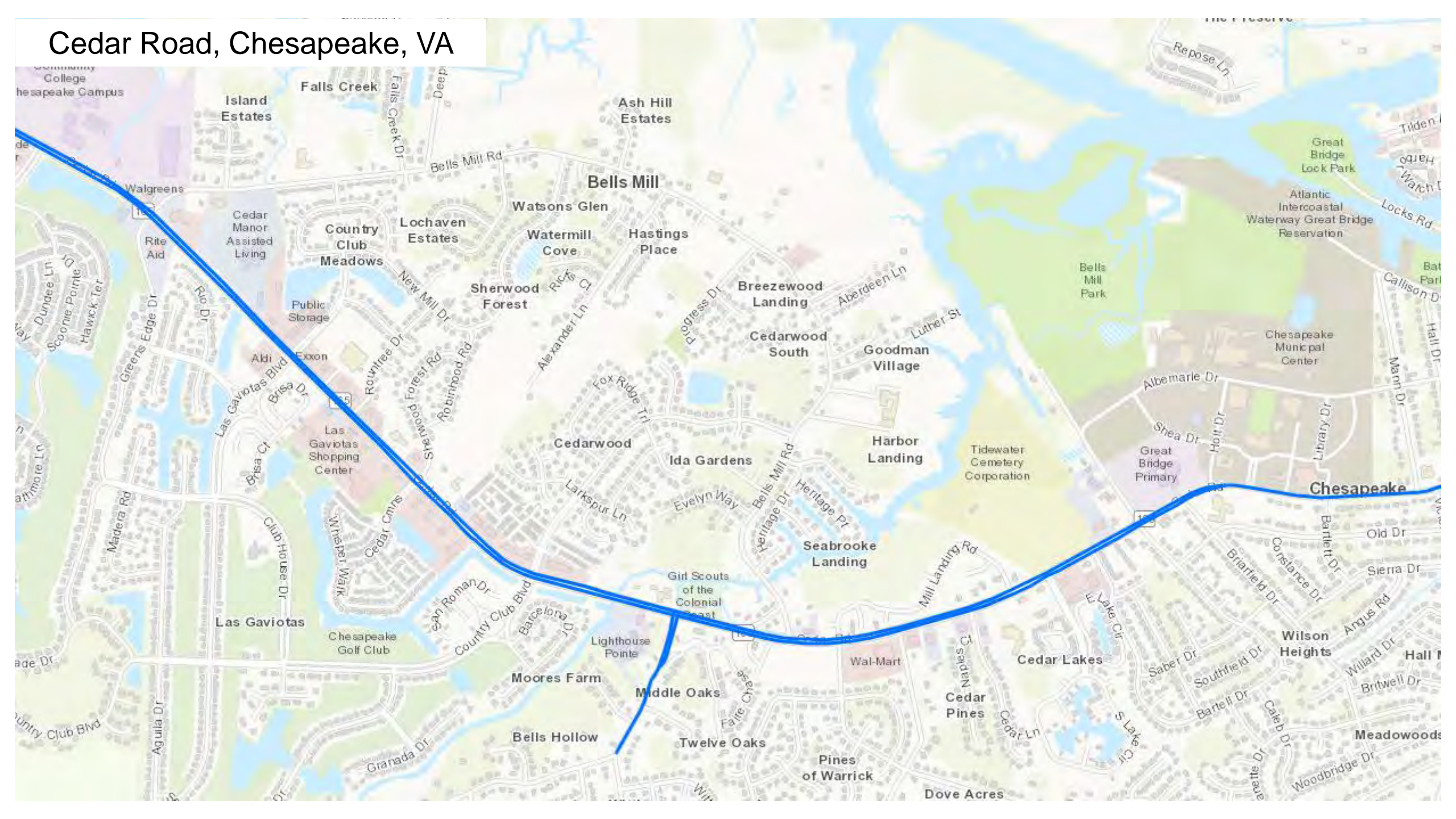
High	Medium	Low
<ul style="list-style-type: none"><li>• Annual average daily traffic (AADT)</li><li>• Zero-vehicle households</li><li>• Transit access</li><li>• Health Opportunity Index (HOI)</li></ul>	<ul style="list-style-type: none"><li>• Roadway geometry</li><li>• Employment density</li><li>• Proximity to a school</li><li>• Posted speed limit</li></ul>	<ul style="list-style-type: none"><li>• Pedestrian crash history</li><li>• Proximity to a park</li><li>• Population density</li><li>• Urban/rural context</li></ul>





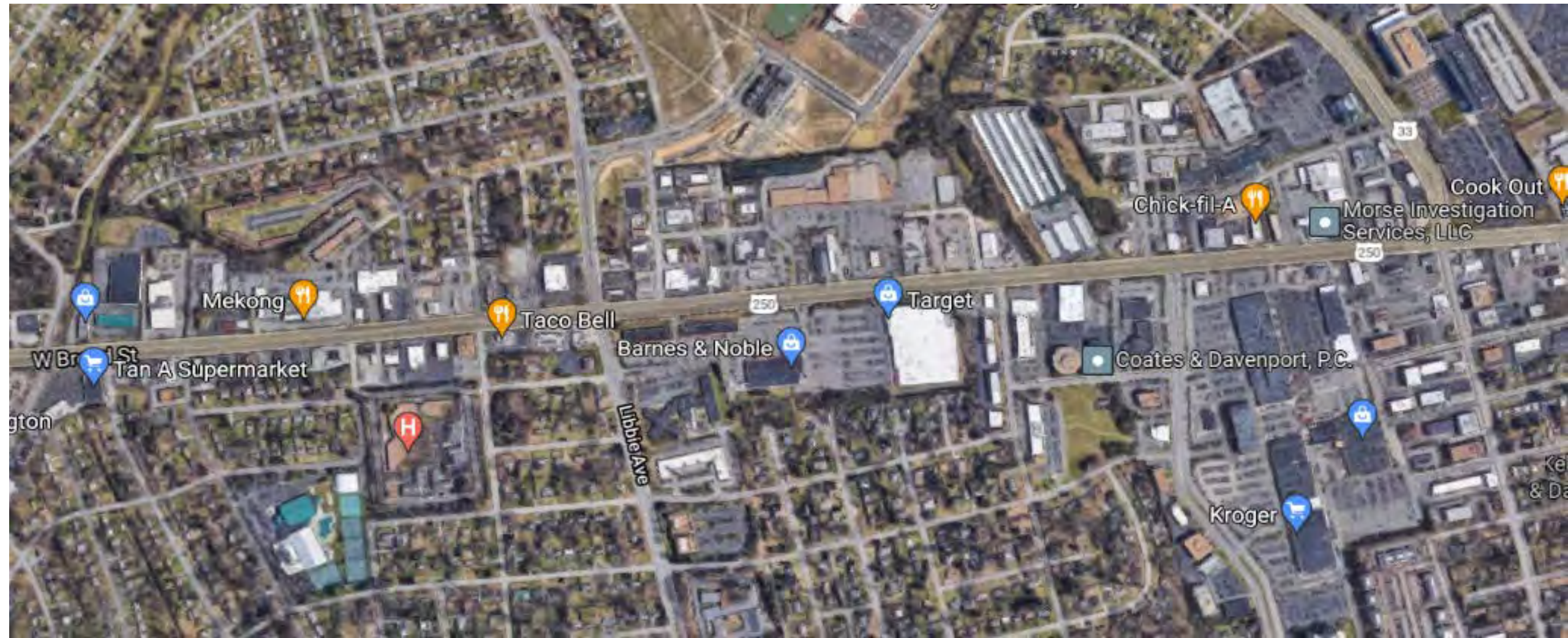


# Cedar Road, Chesapeake, VA





# Typical Conditions along a PSAP Corridor





# Typical Conditions



# Pedestrian Road Safety Assessments (RSA)



**Proven Process:** Used by transportation professionals for identifying safety problems

[https://safety.fhwa.dot.gov/provencountermeasures/road\\_safety\\_audit.cfm](https://safety.fhwa.dot.gov/provencountermeasures/road_safety_audit.cfm)

**Opportunity for Immediate Action:** Focus on near-term safety needs and low-cost improvements

**People-Centered and Data-Driven:** Leverages insights about people and roadway conditions



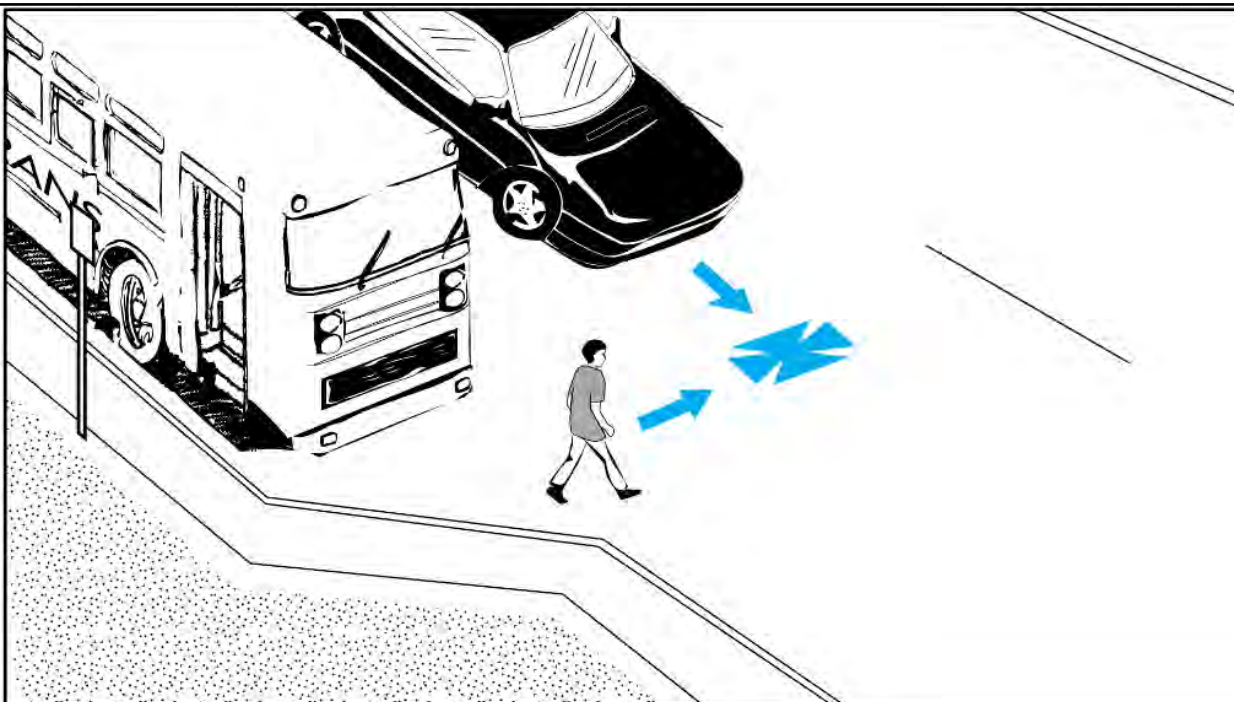
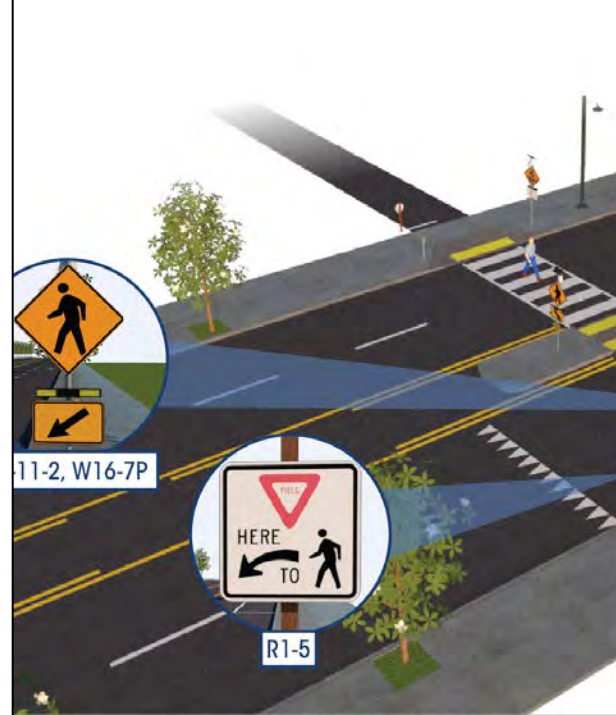
# What is an RSA?

- Road Safety Assessments (RSA) are defined by the Federal Highway Administration (FHWA) as a formal examination of the safety performance of an existing or planned road or intersection
- Short term assessment looking for low-cost safety countermeasures that will provide strong safety benefit
- Conducted by an independent audit team of interdisciplinary, roadway safety experts

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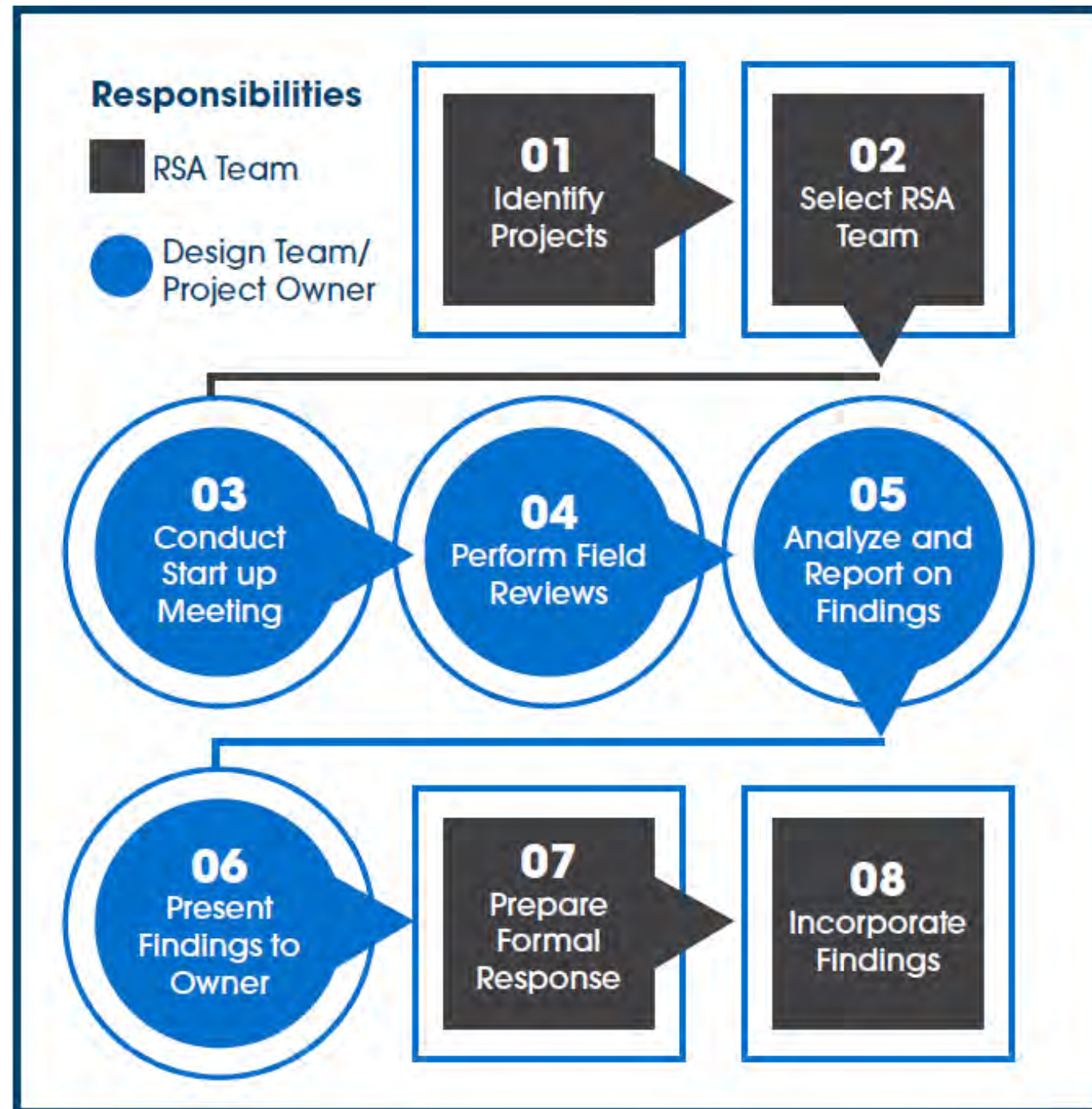
# RSA Objectives

- Enhance understanding about crash risk and unique vulnerabilities of pedestrians.
- Engage with a variety of stakeholders to expand perspectives on pedestrian safety needs.
- Identify and prioritize specific locations along a set of select roadways in the area where crash risk may be highest for pedestrians.
- Determine potential countermeasures and safety improvements for priority locations.
- Increase capacity for future road safety assessments, specifically focused on pedestrian safety.



# RSA Process

- Technical and comprehensive review
- Independent and unbiased
- Not a public engagement effort



# Pedestrian RSA Prompt Lists – Field Review

The following prompt list is used for typical pedestrian RSAs by the team in the field:

- Presence of accommodations (bike, ped, and transit)
- Quality of facilities (bike, ped, and transit)
- Obstructions/continuity across network
- Overhead lighting
- Visibility of the crossing, pedestrians, and cyclists
- Driveways and conflicts
- Signs
- Pavement markings
- Signals (ped/bike accommodations)
- Traffic: speeds, gaps, turning movements



# Pedestrian RSA Common Safety Issues

Though conditions varied site-by-site, several common pedestrian safety issues persist in most RSAs. These include:



Low pedestrian visibility (from low or no lighting, obstructions, and vegetation).



Lack of marked and enhanced crossing locations.



Incomplete sidewalk networks and gaps.



High vehicle speeds where pedestrians are present.



Turning vehicle conflicts at all intersections and low yielding rates to pedestrians.

# Typical Countermeasures





# Where are people walking and crossing?



## Spectrum of Abilities in Pedestrian Design Users

Speed, perception, judgement, and mobility are factors that affect everyone's willingness and ability to navigate streets comfortably and safely as a pedestrian. For nearly 30% of the population who are young, old, or disabled at any given time, these factors may be diminished, leading to increased vulnerability when interacting with motorists. We were all young once, will all grow old, and have all had temporary or permanent impairments at some point in our lives.



The Spectrum of Abilities

# Health Equity in the RSA Process - Additional Prompts

- Transit frequency and stop location
- Demographic and socioeconomic information
  - Older pedestrians
  - Younger pedestrians
  - Cognitive disabilities
- Low-income housing
- Grocery and department stores
- Schools and parks
- Directness of network routes to destinations
- Social services and community centers
- Personal safety and security
- Condition of public amenities and roadside
- Populations with vision/hearing loss or mobility disabilities

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# First Steps

1. Identify a location
2. Convene a RSA team
3. Collect relevant data
4. Ask stakeholders to share perspective
5. Observe conditions



# Pedestrian Crashes

- Where are crashes occurring?
- Where are the severe injury or fatal crashes occurring?
- What are the typical crash types?
- When are the crashes occurring?



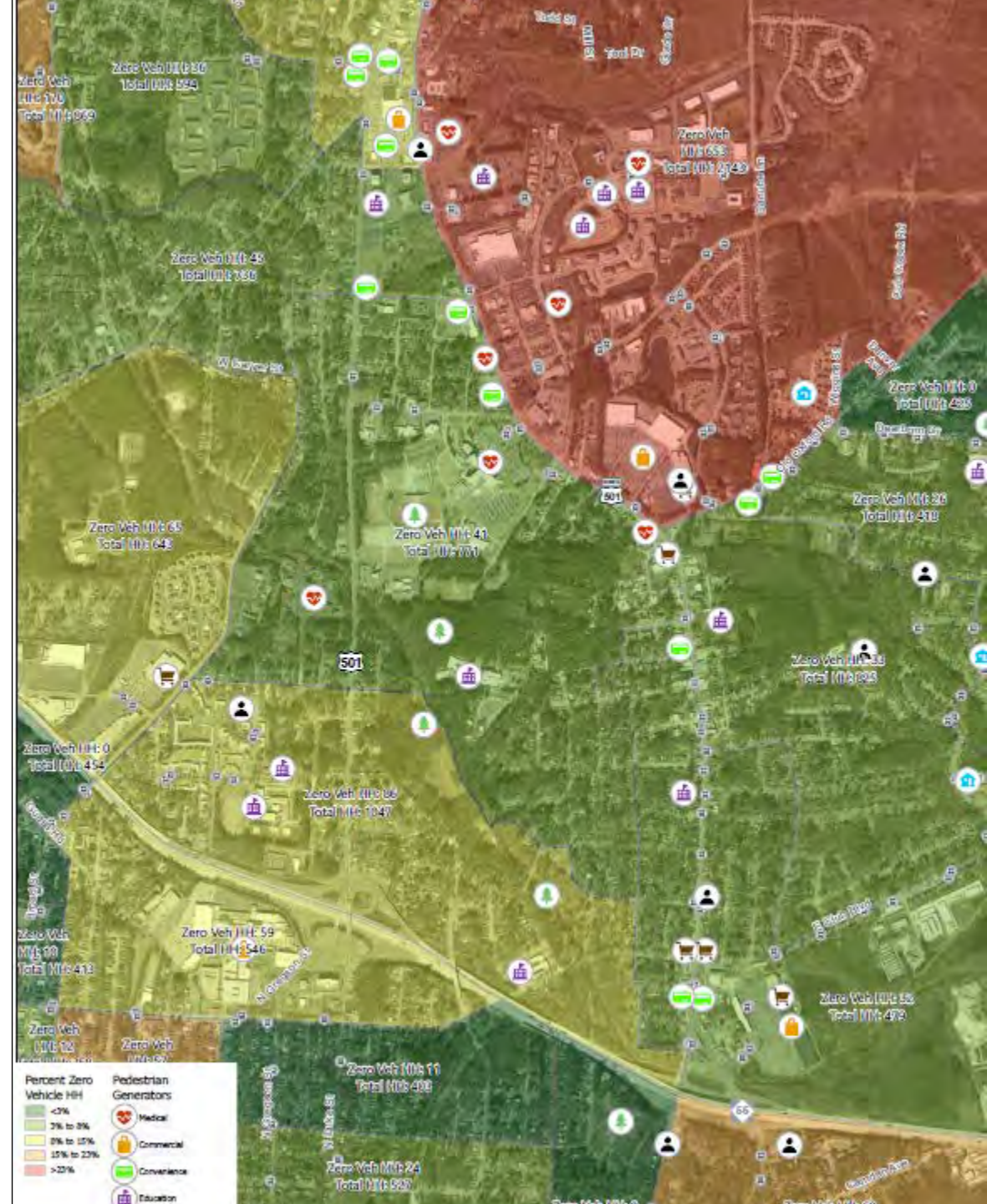






# Community Assessment

- Where are people walking to access goods, jobs and services?
- Where are people crossing roads, regardless of risk?
- What are the key indicators of low health opportunity in the area?
- Where do people live who have the least access to transportation, jobs, and healthy food?
- Where are discount stores, social service centers, high demand transit stops, and affordable housing located within a walkable distance of the corridor?



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## Online RSA Report Example:

<https://storymaps.arcgis.com/stories/778bf26bccaa4e6ab39e35741e2a0fcf>

# Foxcroft Avenue Pedestrian Road Safety Assessment

December 3-4, 2019





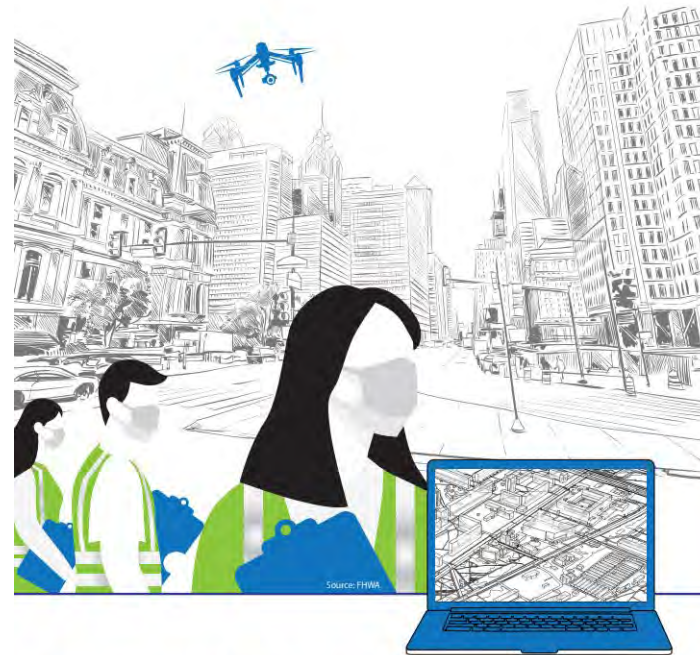
# Additional Pedestrian RSA Resources

[safety.fhwa.dot.gov/ped\\_bike/tools\\_solve/docs/fhwasa20042.pdf](https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa20042.pdf)

[safety.fhwa.dot.gov/rsa/resources/docs/FHWA-SA-21-025\\_RSA\\_FHWA\\_STEP\\_preparation\\_packet\\_v4.pdf](https://safety.fhwa.dot.gov/rsa/resources/docs/FHWA-SA-21-025_RSA_FHWA_STEP_preparation_packet_v4.pdf)

[www.virginiadot.org/business/road\\_safety\\_assessments.asp](https://www.virginiadot.org/business/road_safety_assessments.asp)

## PEDESTRIAN AND BICYCLIST ROAD SAFETY AUDIT (RSA) GUIDE AND PROMPT LIST



## Preparing for a Virtual Road Safety Audit (RSA)

### ▶ Road Safety Assessments (RSA)

Several procedural guidelines and tools have been developed to aid highway safety practitioners in Virginia through the Roadway Safety Assessment (RSA) review and countermeasure development process. Further, the implementation of safety improvements using VDOT's HSIP funds is presented.

VDOT's Road Safety Assessment Resources:

1. [VDOT RSA Guidelines](#) (PDF, 69 KB)  
The RSA guidelines present the method to use nine steps from location identification, to detailed crash analysis and field review and finally implementation of prioritized safety countermeasures using HSIP and other sources.
2. [VDOT Crash Analysis Procedures for RSA](#) (PDF, 329 KB)  
Complete and practical review of a site for safety countermeasure development requires detailed crash analysis to determine the substantive safety from the user's perspective. The analysis procedures for overall crash trends to location and movement specific trends are presented.
3. [Field Review Assessment Tool \(FRAT\)](#) (Excel, 676 KB)  
To add in the RSA field review and countermeasure development, members of the RSA team should have a checklist and data recorder to ensure consistency and completeness. The Field Review Assessment Tool provides a depository for data and information collected before and during the field review and the checklist for site attributes and conditions to review and guide the proposal of safety countermeasures.
4. [VDOT RSA Report Annotated Outline](#) (PDF, 19 KB)  
A summary report of the RSA process, analysis, and proposed safety improvements should document the purpose and need to implement countermeasures. Using the RSA report outline will provide the needed information to support an application for HSIP funding and requests for funds from other sources.
5. [VDOT RSA Implementation Presentation](#) (PDF, 4 MB)  
An overview of the nine step RSA process through to the application for HSIP funding is provided in presentation format.

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# Contact Info

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