

# Maryland's Pedestrian Safety Action Plan



**MDOT** MARYLAND DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION

**Our** FRAMEWORK:

*Context*  
***Driven***

# Our FRAMEWORK

# Context Driven



**DEFINE** the context ..... ➔ **Context Driven Guide**

**IDENTIFY** our needs, **PLAN** our actions ..... ➔



**PROVIDE** the tools for change ..... ➔ **Context Driven Toolkit**

**SHOW** where these strategies have worked ..... ➔ **Case Studies**

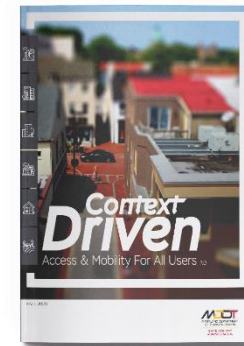
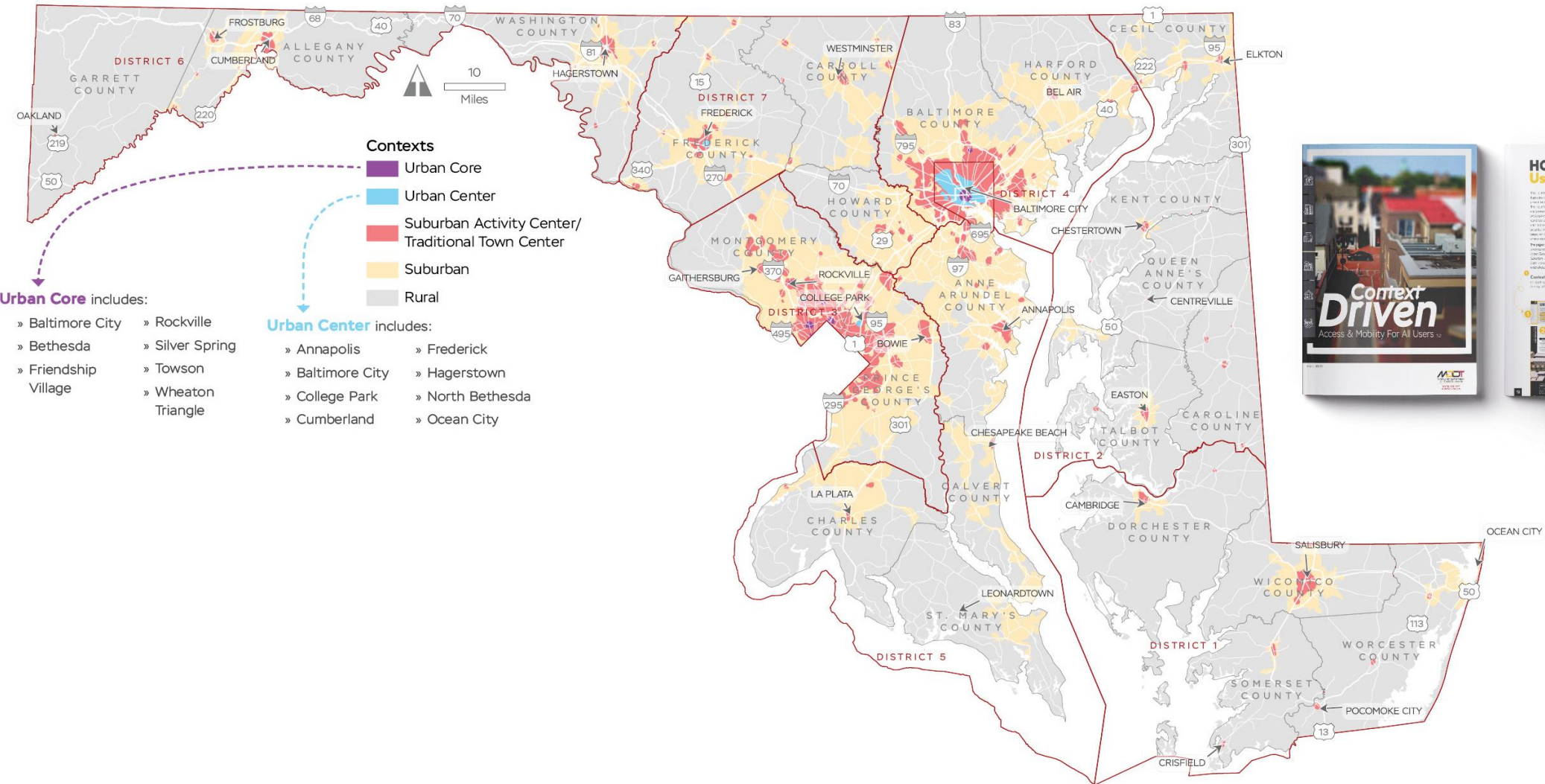
**INVEST** in people ..... ➔ **Training**

					
<b>MDOT SHA Context Zones</b> Urban Core	Urban Center	Traditional Town Center	Suburban Activity Center	Suburban	Rural
Federal Designations	Urban				Rural

**SHA's contexts recognize a more nuanced gradient of land uses that can better inform transportation projects in Maryland.**

# Guide

# Context Driven



a

## Context Zones

Which Context Zones the countermeasure applies to (darker shade = applicable).

b

## Definition and Description

An in-depth explanation of the countermeasure.

c

## Considerations

Special considerations to pay attention to when implementing.

d

## Examples

Photos of the countermeasure as applied.

e

## Complimentary Countermeasures

Other countermeasures that this countermeasure is often paired with to enhance safety outcomes.

f

## Applications

Where and how a countermeasure is typically applied to a street or road design.

g

## References

Lists state/national guidance and standards that were consulted in formulating the countermeasure.



PEDESTRIAN  
**SAFETY**  
ACTION PLAN

# SHA's PEDESTRIAN SAFETY ACTION PLAN

# What IS A PEDESTRIAN SAFETY ACTION PLAN



## PEDESTRIAN SAFETY ACTION PLAN

### EVERYONE IS A PEDESTRIAN!

Even if you drive for most of your trips, everyone is a pedestrian at some point, even if that is just walking from your parked car to your destination.

SHA decided to develop the PSAP to answer the question:

*“Where and how can we address vulnerable user needs across the SHA transportation system?”*





# What IS A PEDESTRIAN SAFETY ACTION PLAN



## PEDESTRIAN SAFETY ACTION PLAN

The PSAP also advances Maryland Strategic Highway Safety Plan goals:

The 4 E's: Enforcement, **Engineering**, Education, Emergency Medical Services.

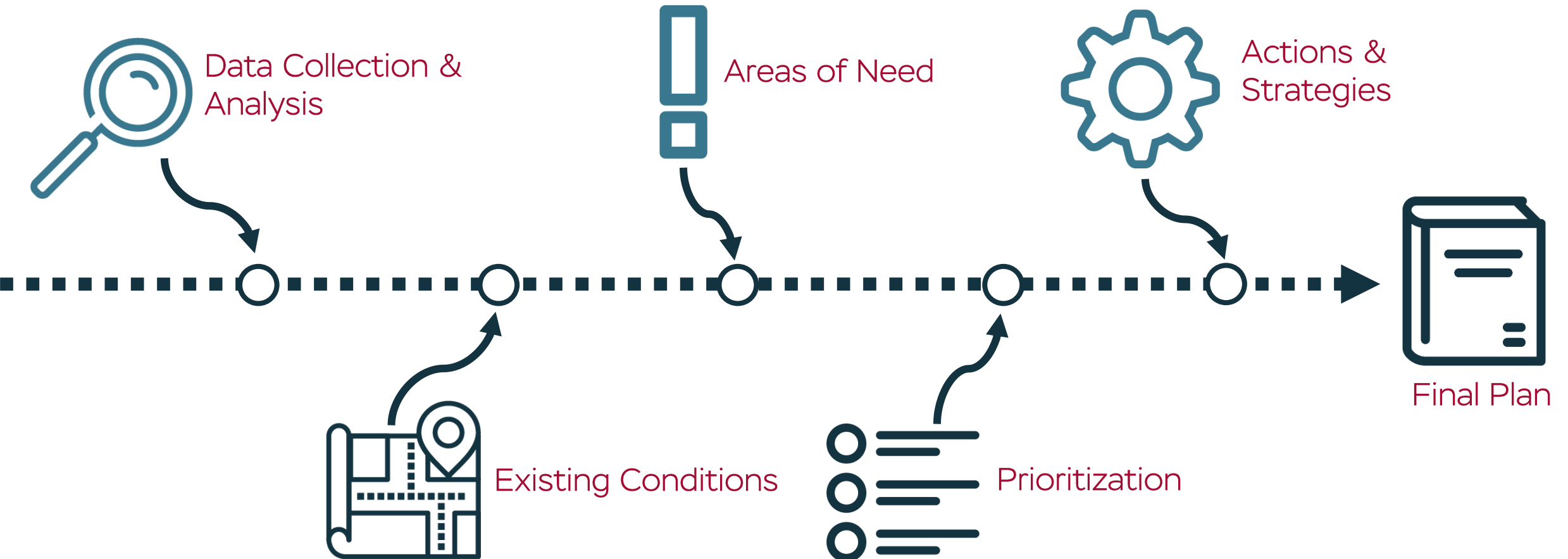
Consider **land use context** in the way we design roads.

Differentiate between **mobility and access**.

Prioritize roadway design projects that will enhance safety for all Marylanders (pedestrians, bicyclists, rollers, drivers, transit users).



# What ARE THE STEPS



# Existing CONDITIONS

# PEDESTRIAN SAFETY ACTION PLAN

## state of BICYCLE AND PEDESTRIAN SAFETY IN MD

### DISTRICT 3

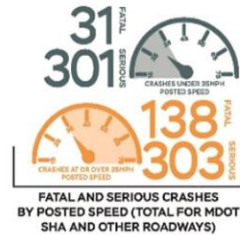
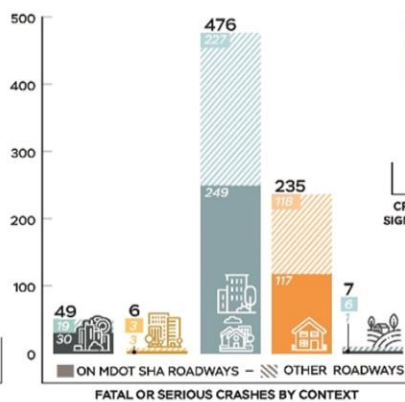
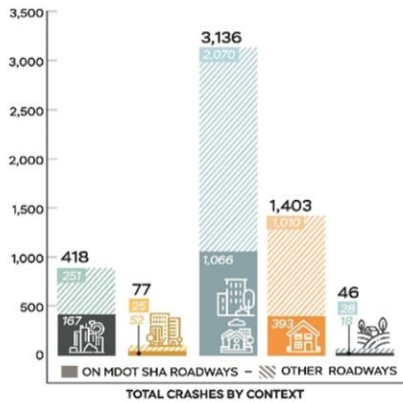
- 1 Montgomery County
- 2 Prince George's County



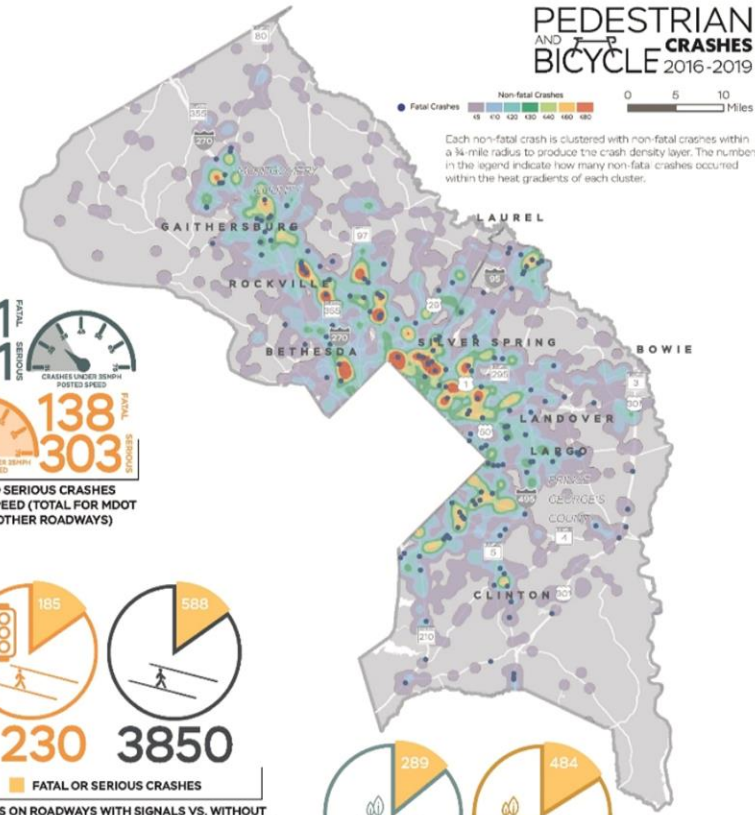
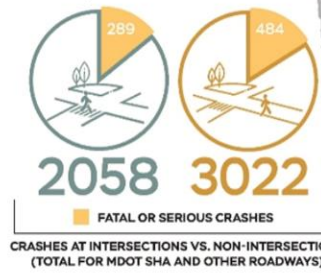
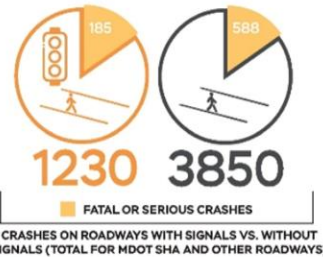
MDOT SHA District 3 is in the National Capital Region. With a total population of 1,960,015, it is Maryland's most populous MDOT SHA district and includes many areas with high levels of pedestrian traffic. There were 5,080 bicycle and pedestrian crashes in District 3 between 2016-2019, or about 2.6 crashes per 1,000 residents. Major roadways include I-95, I-270, and I-475; US 1, US 29, US 50, and US 301; and MD 4, MD 5, MD 97, MD 200 (Intercountry Connector/ICC), MD 201, and MD 355. Approximately 71% of the population is an active workforce member, and the average commute time is 36 minutes. District 3 contains lively urban areas with sprawling and densely populated suburbs. With a land area of 974 square miles, it is the smallest MDOT SHA district geographically and the most densely populated.

**Context Zones:** Predominantly Suburban, Suburban Activity Center, and Traditional Town Center. Two Urban Center context zones are present at the University of Maryland-College Park and the White Flint Metro Station. Several Urban Core context zones are in Silver Spring, Bethesda, Rockville, and the Wheaton and Friendship Heights Metro Stations.

- Urban Core
- Urban Center
- Traditional Town Center
- Suburban Activity Center
- Suburban
- Rural



FATAL AND SERIOUS CRASHES BY POSTED SPEED (TOTAL FOR MDOT SHA AND OTHER ROADWAYS)



Updated: Spring 2021 | Demographic and population data source: United States Census Bureau, July 2019

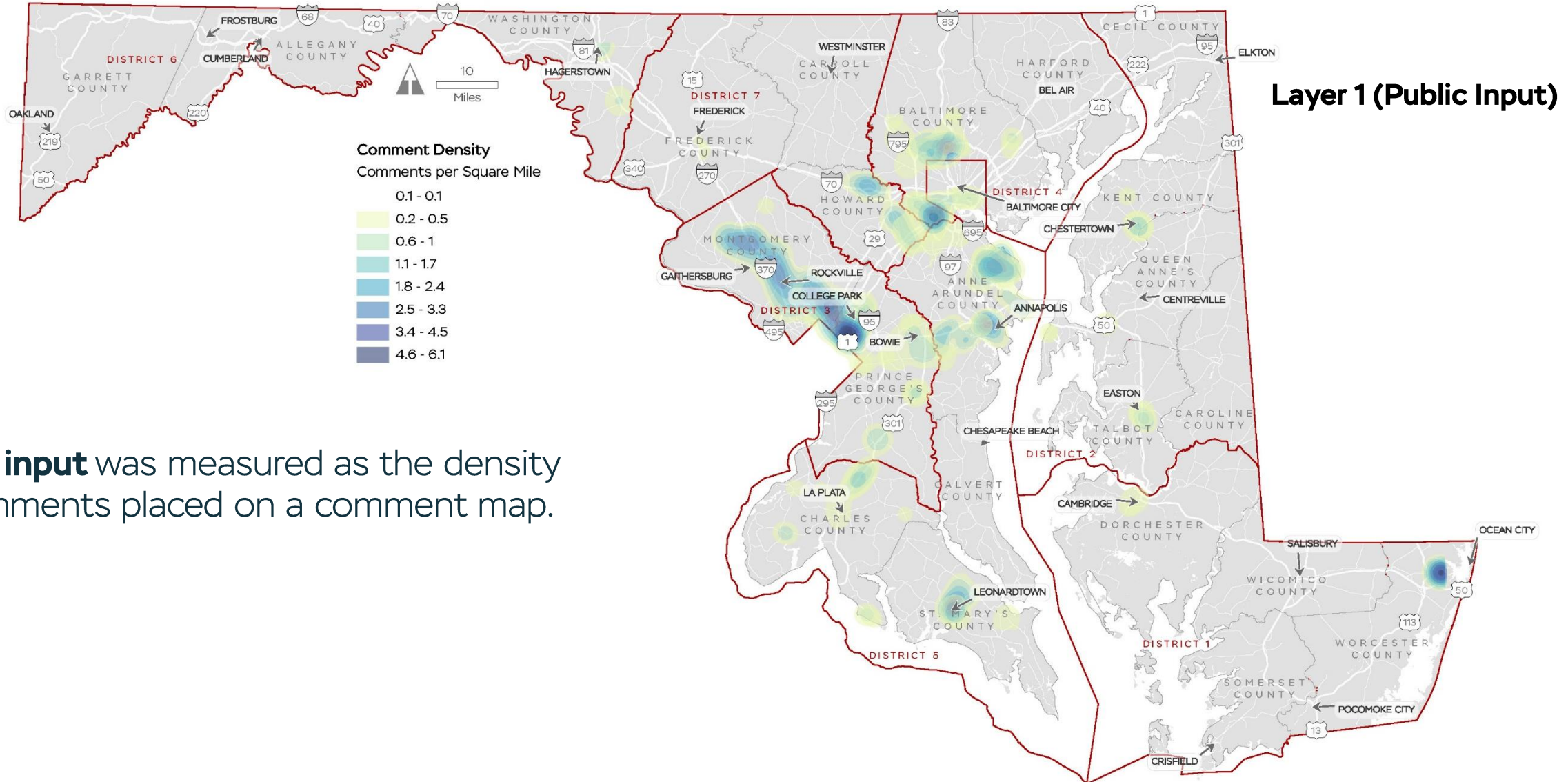
**Areas of Need** are broad geographic areas that have the highest need for non-motorized safety improvements based on:

- Public input
- Equity
- Non-fatal pedestrian and bicycle crash density
- Fatal and serious pedestrian and bicycle crash density
- Short Trip Opportunity Areas

Within the identified areas of need, specific roadways were identified as candidates for safety improvements through the **Prioritization** process.

# Areas OF NEED

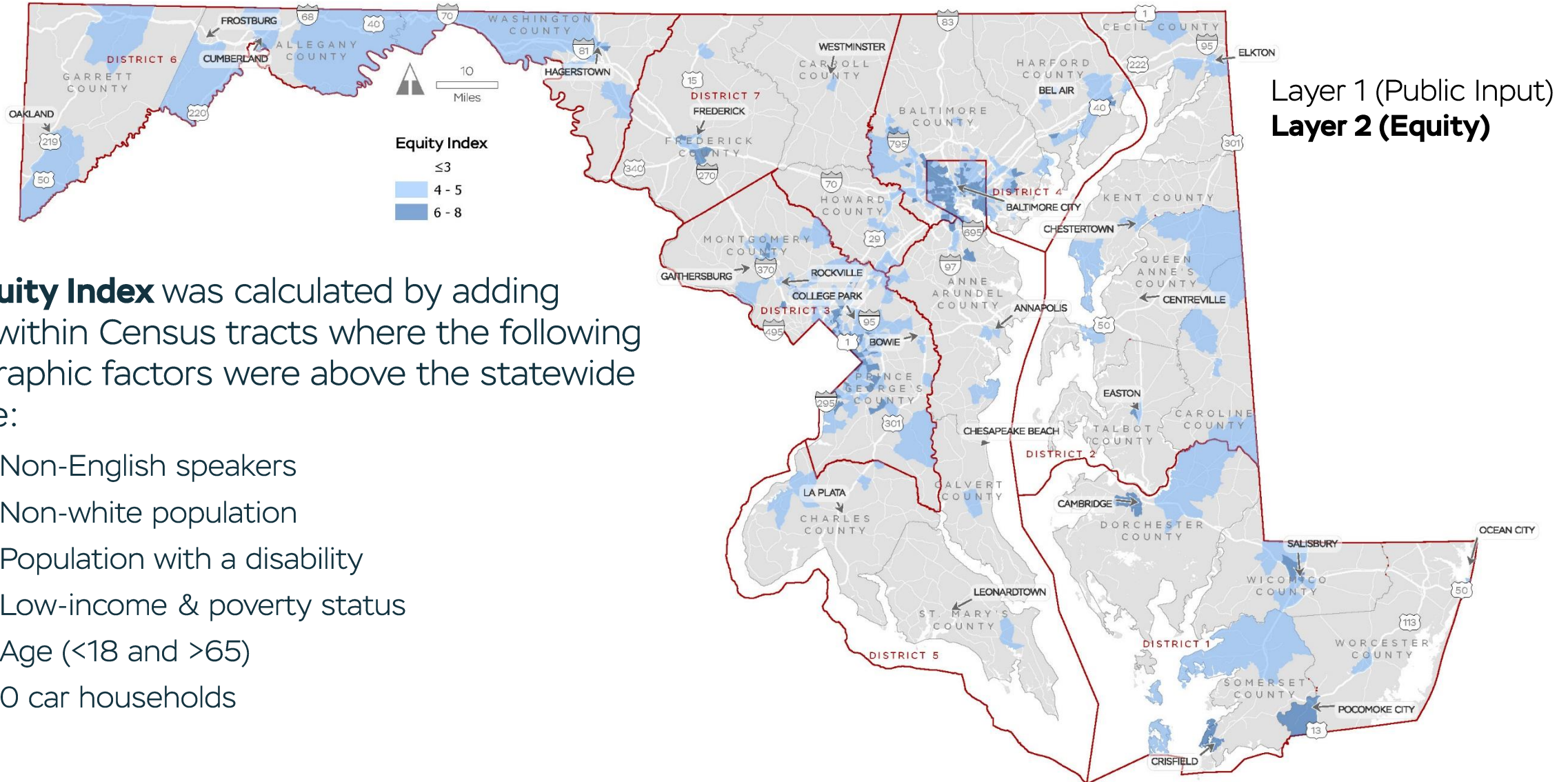
# PEDESTRIAN SAFETY ACTION PLAN



**Public input** was measured as the density of comments placed on a comment map.

# Areas OF NEED

# PEDESTRIAN SAFETY ACTION PLAN

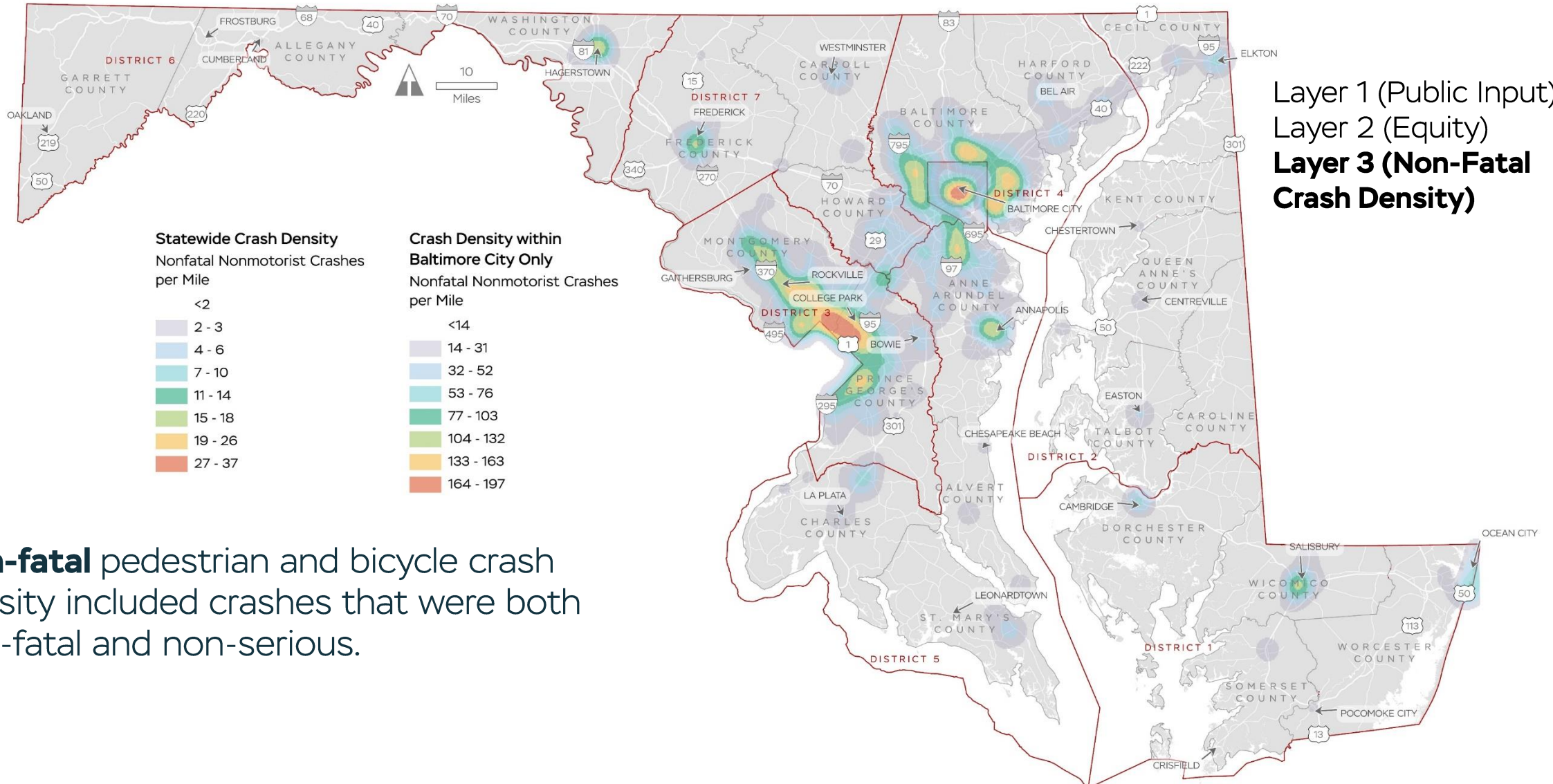


The **Equity Index** was calculated by adding points within Census tracts where the following demographic factors were above the statewide average:

- Non-English speakers
- Non-white population
- Population with a disability
- Low-income & poverty status
- Age (<18 and >65)
- 0 car households

# Areas OF NEED

# PEDESTRIAN SAFETY ACTION PLAN

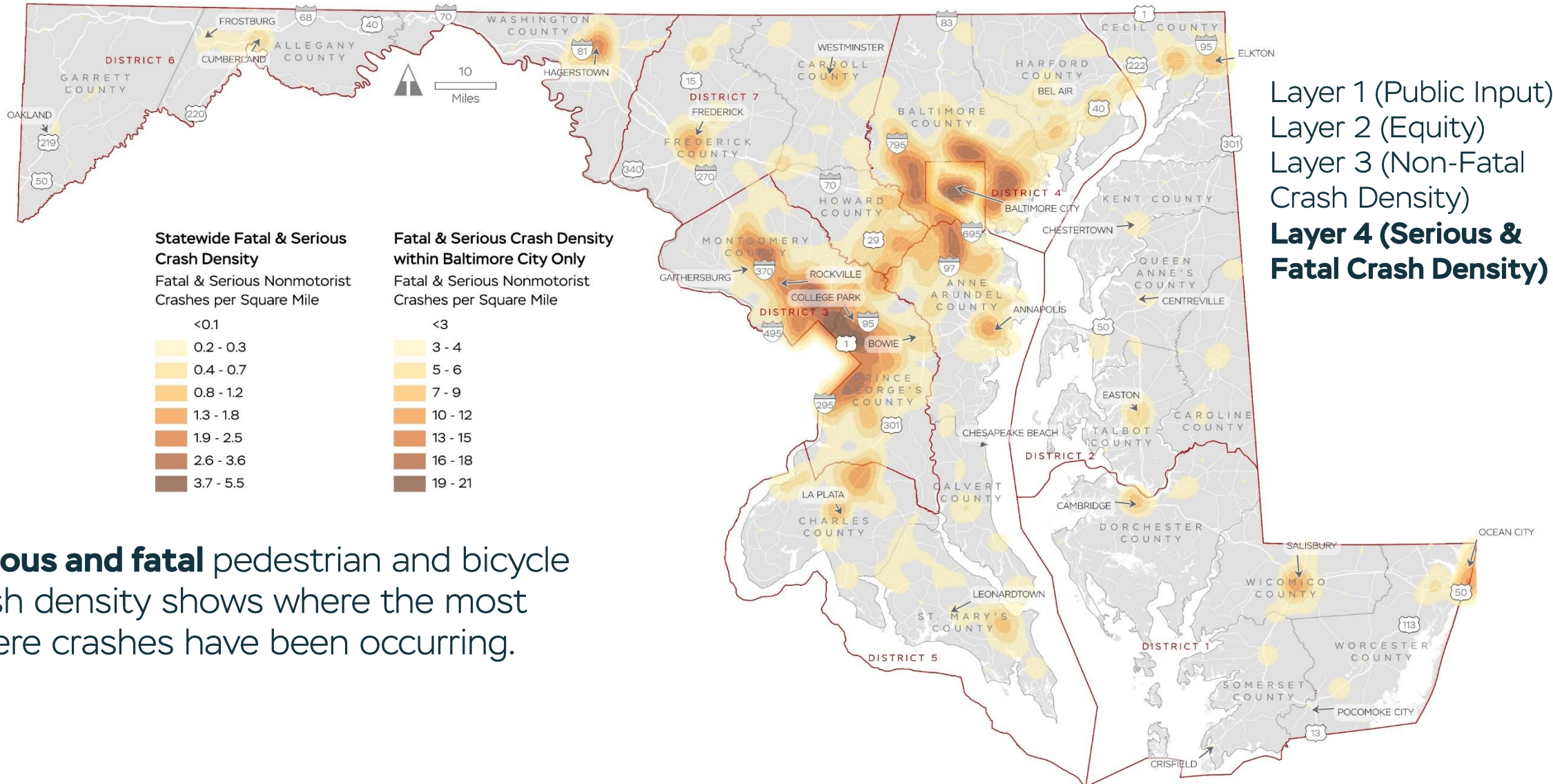


Layer 1 (Public Input)  
Layer 2 (Equity)  
**Layer 3 (Non-Fatal Crash Density)**

**Non-fatal** pedestrian and bicycle crash density included crashes that were both non-fatal and non-serious.

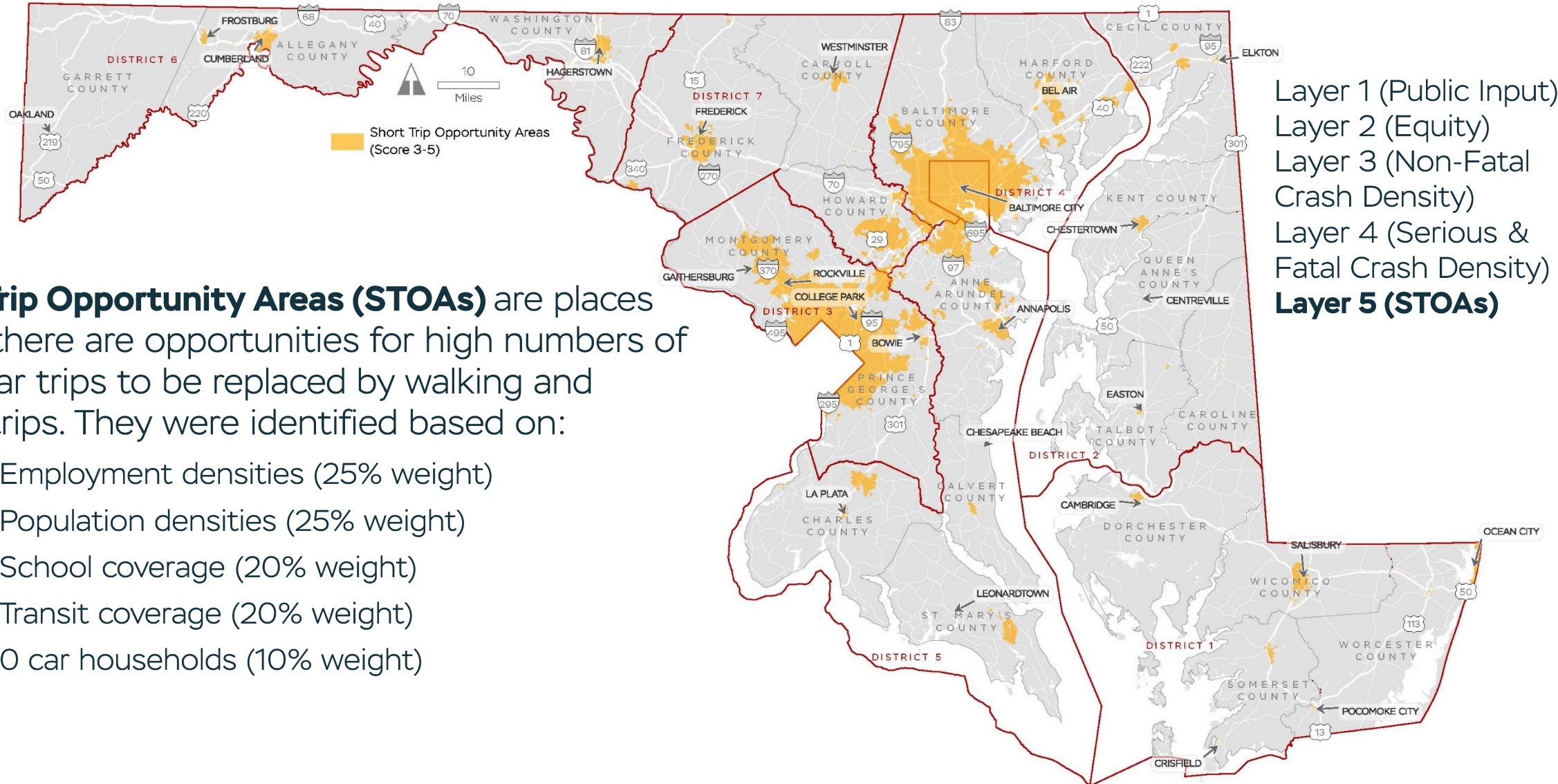
# Areas OF NEED

# PEDESTRIAN SAFETY ACTION PLAN



**Serious and fatal** pedestrian and bicycle crash density shows where the most severe crashes have been occurring.



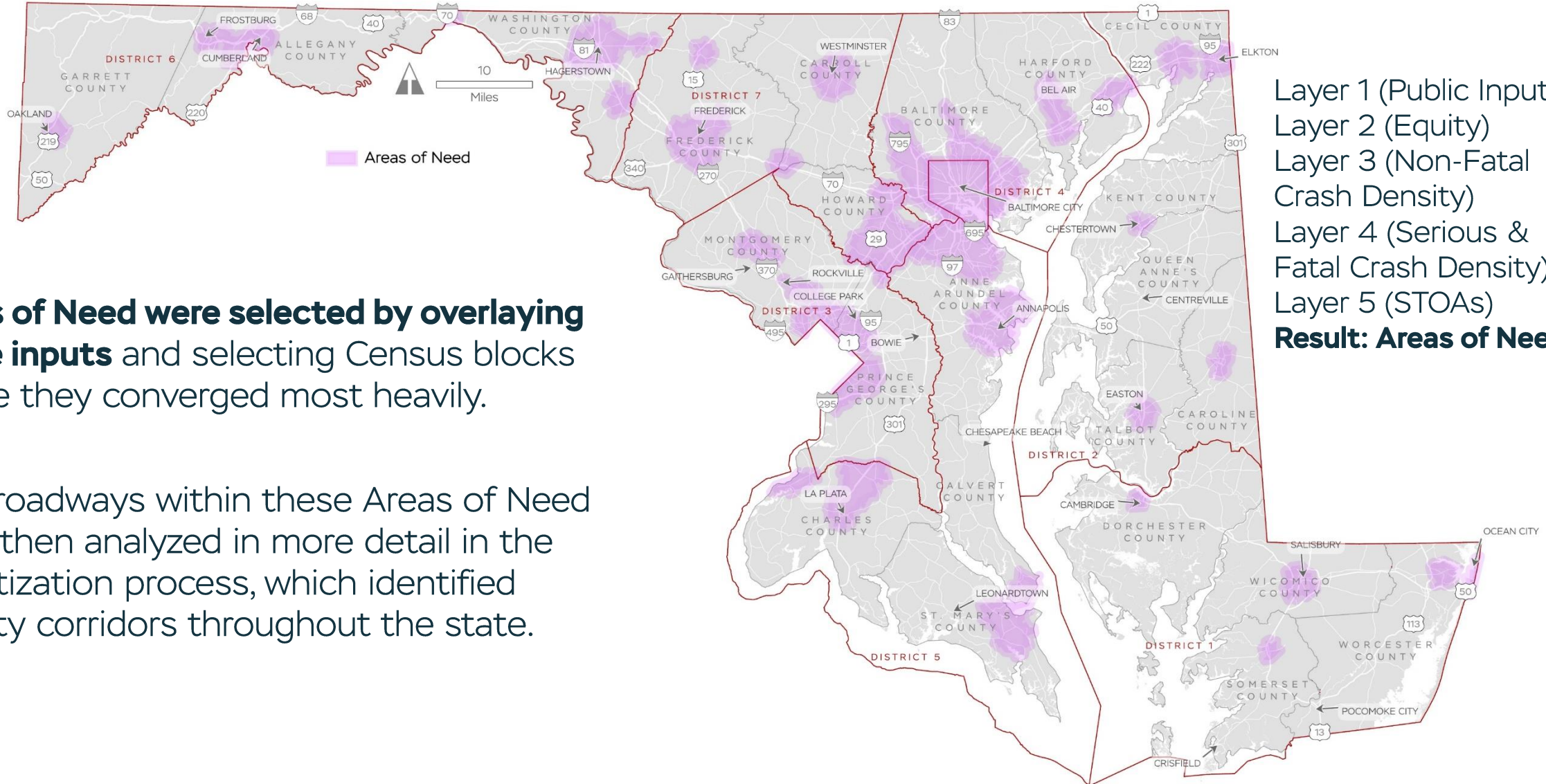


**Short Trip Opportunity Areas (STOAs)** are places where there are opportunities for high numbers of short car trips to be replaced by walking and biking trips. They were identified based on:

- Employment densities (25% weight)
- Population densities (25% weight)
- School coverage (20% weight)
- Transit coverage (20% weight)
- 0 car households (10% weight)

# Areas OF NEED

# PEDESTRIAN SAFETY ACTION PLAN



**Areas of Need were selected by overlaying these inputs** and selecting Census blocks where they converged most heavily.

SHA roadways within these Areas of Need were then analyzed in more detail in the Prioritization process, which identified priority corridors throughout the state.

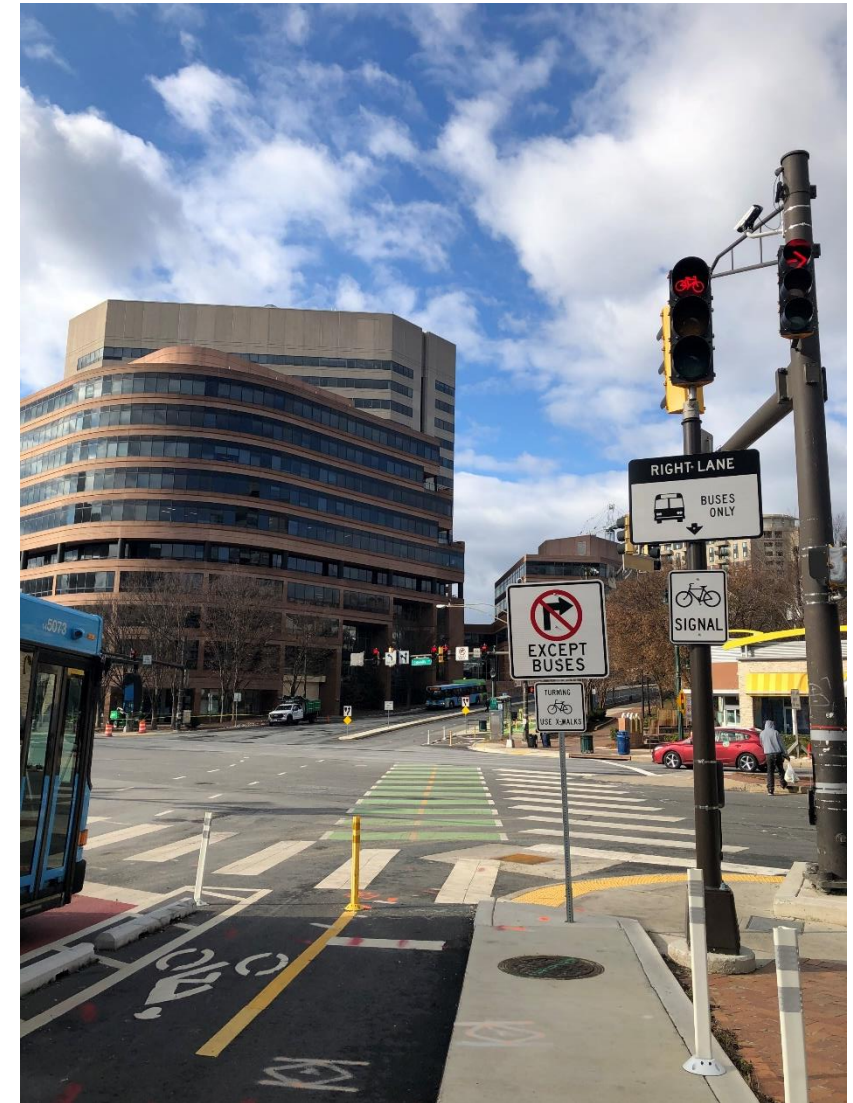
- Layer 1 (Public Input)
  - Layer 2 (Equity)
  - Layer 3 (Non-Fatal Crash Density)
  - Layer 4 (Serious & Fatal Crash Density)
  - Layer 5 (STOAs)
- Result: Areas of Need**

# Priority CORRIDORS

# PEDESTRIAN SAFETY ACTION PLAN

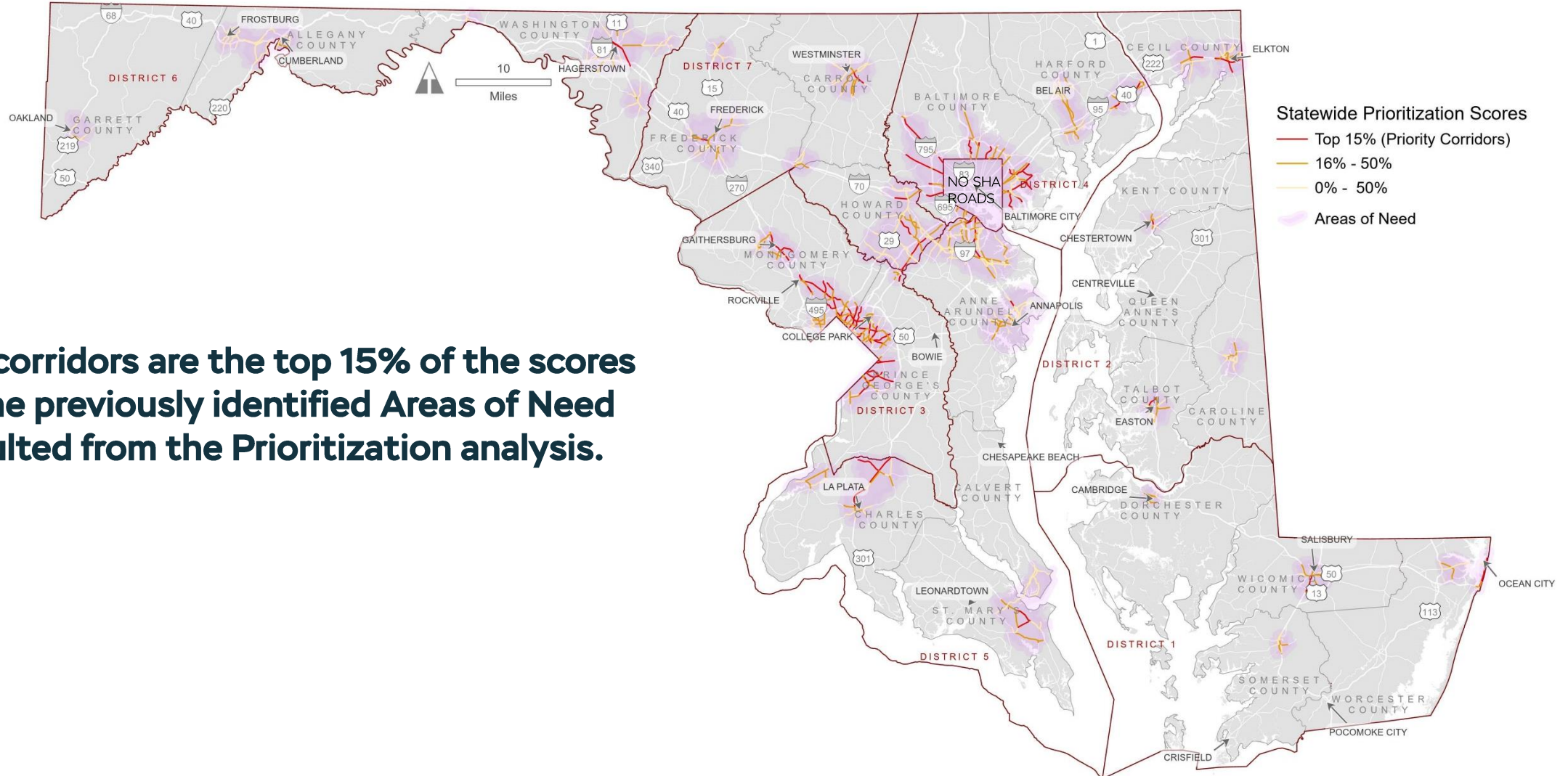
**Priority corridors** were selected within the Areas of Need through the **prioritization analysis**. This involved weighted scoring of each SHA roadway within each Area of Need using the following factors:

- Fatal non-motorized crashes per mile (above average)
- Serious non-motorized crashes per mile (above average)
- Other non-motorized crashes per mile (above average)
- Equity Index score
- Short Trip Opportunity Areas
- Highway Safety Improvement Program (HSIP) data
- ½ mile rail transit walksheds
- Bus stop density (above average)
- SHA Bike Spine
- Schools



# Priority CORRIDORS

# PEDESTRIAN SAFETY ACTION PLAN



**Priority corridors are the top 15% of the scores within the previously identified Areas of Need that resulted from the Prioritization analysis.**

**PSAP** IN ACTION

## COORDINATE

with local agencies and jurisdictions

## INVEST

in communities

## MEASURE

outcomes to evaluate effectiveness  
of countermeasures

## RESEARCH and MONITOR

new and evolving tools, standards, and technologies

## UPDATE and REVIEW

data methodologies and tools

## TRAIN

MDOT SHA and other staff

## INNOVATE

to stay at the forefront of industry  
best practices and technology

## MAINTAIN

infrastructure investments

## REVIEW

projects and policies for pedestrian safety

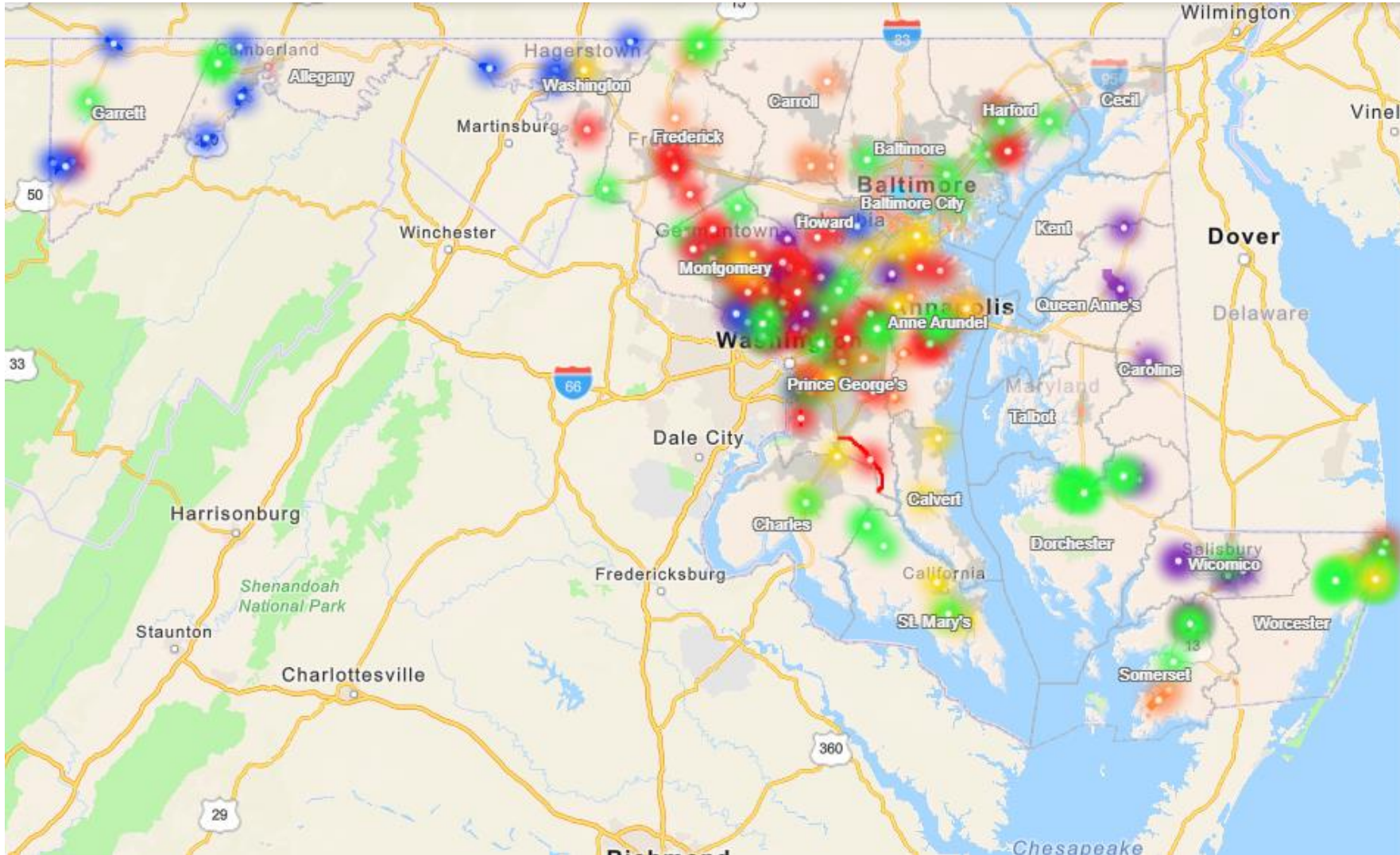
## EDUCATE

the public

**Over 350 context-driven bicycle and pedestrian safety projects** throughout the State have been completed during the PSAP development process, beginning in 2019.

The PSAP will continue to help SHA district offices identify where the need for pedestrian and bicycle/rolling safety is greatest and provide them with the guidance to develop projects.





### Legend

**Context Driven Improvements**

- Continental Crosswalk
- Signals, Signage and Lighting
- Lane Width Reduction
- Other Bicycle and Pedestrian Improvements
- Bicycle Lanes
- Speed Limit Reduction

**Context Driven Improvements (Linear Extents)**

- Continental Crosswalk
- Signals, Signage and Lighting
- Lane Width Reduction
- Other Bicycle and Pedestrian Improvements
- Bicycle Lanes
- Speed Limit Reduction



- **SHA** has programmed nearly **\$100 million** for pedestrian safety improvements to deliver PSAP projects.



# Thank you!

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