Context Driven
Access & Mobility for All Users
August 26, 2019

As Administrator, one of my greatest concerns is pedestrian safety and reducing the number of pedestrian fatalities that occur on our roadway network each year. In 2018, pedestrian fatalities on MDOT SHA facilities increased over the previous year, continuing nationwide trends that date back to 2016. One death is too many, and I am personally affected by every incident that occurs on the roadways we manage. While we cannot discount the roles of education and enforcement, there is always more that we can do as transportation practitioners. Nowadays, this is true in our urban cores. Urban cores are one of MDOT SHA’s six identified context areas, and they are areas that often serve the dual functions of accommodating both regional vehicle traffic and high volumes of pedestrian activity. This combination means that our state’s urban cores account for a disproportionate number of pedestrian crashes.

The issue of pedestrian safety requires bold action. The status quo is no longer acceptable. I have empowered our MDOT SHA team to not only use nationwide best practices but to innovate and produce new solutions that ensure we are leaders in the industry. The data-driven approach outlined in this document represents an organizational shift to better respond to this context-based need. This new approach will ensure that our customers can make it to school, commute to work, and, most importantly, arrive safely at home each day.

Sincerely,
[Signature]
Gregory J. Slater
Administrator
Maryland State Highway Administration
Baltimore, MD 21202

Our Commitment to Maryland
Roadmap

- People **Driven**
- Data **Driven**
- Context **Driven**
- Exploring Your Context
- Next Steps
People Driven

Our Commitment to a Safer Maryland Means Thinking Differently
People Going Places
DataDriven

Defining Maryland’s Context Zones
Where and How Are People Moving?

MD Roadways
Where and How Are People Moving?

MD Roadways

+ Congestion

Severe Congestion
Moderate Congestion
Low Congestion
Where and How Are People Moving?

MD Roadways
+ Congestion
+ Pedestrian Crashes

- Severe Congestion
- Moderate Congestion
- Low Congestion
- Pedestrian Crashes
Where and How Are People Moving?

STOA’s – Short Trip Opportunity Assessment

60% of Pedestrian Crashes in 4% of Land Area
A traditional design approach relies on the Federal designation of urban vs. rural as the primary context for proposed solutions.

This binary approach does not account for the unique characteristics of different areas that ultimately affect the roadway design and resulting safety.
Context Driven

Defining Context in Maryland
The Way People Move Is Driven by the Context They Are In
Maryland Context Zones

MDOT SHA Context Zones

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

Federal Designations

Urban
Rural

Creating Guidance for today's Transportation Challenges
Balancing Access & Mobility

MDOT SHA Context Zones

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

How many places can you get to?

How far can you go?
The transportation challenges we are facing cannot be addressed with the current classification system and corresponding toolkit.

We need new techniques and solutions to achieve safety, accessibility, and mobility goals framed by the surrounding land-use.
ContextDriven
Exploring the Context Guide
An Evolving Resource

• Guide with Context Profiles
• Toolbox of Treatments
• Library of Case Studies
URBAN CORE

Considered the typical downtown or central business district area, the Urban Core zone is defined by a high diversity of uses, including multi-family residential, office, retail, entertainment, civic, and cultural facilities, as well as a high density of development. Development includes high-rise structures with minimal setbacks, high street wall frontage, and minimal building gaps. On-street parking is typically included. Because of its development density and diversity of uses, this land-use pattern generates a high prevalence of non-motorized trips, including walking, transit, and bicycling. While the need for mobility through these areas does exist, it is far exceeded by the need for internal circulation within the zone. The Urban Core represents less than one tenth of one percent of the land area in the State.

DATA-DRIVEN TRANSFORMATIONS

The six lane undivided section with a center turn lane resulted in both a high vehicle and pedestrian crash rate. Community members didn’t feel comfortable crossing the street on foot or traveling to the metro station by bicycle. The roadway was reconstructed to reduce crashes by 30%, provide a bicycle level of traffic stress (LTS) of one and limit pedestrian route directness (PRD) to 1:5 between major generators.

Locations in Maryland
- Baltimore City
- Beltsville
- Bethesda
- Friendship Village
- Rockville
- Silver Spring
- Towson
- Wheaton Triangle

Zone Name & Icon
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Typical Characteristics

Guide Components

Locations in Maryland
- Baltimore
- Takoma Park
- Annapolis
- Silver Spring
- Arundel
- Wheaton Triangle

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The six-lane undivided section with a center turning lane resulted in both a high-vehicle and pedestrian crash rate. Community members didn’t feel comfortable crossing the street on foot or traveling to the metro station by bicycle. The roadway was reconstructed to reduce conflicts by 30%, provide a bicycle level of traffic stress (LTS) of one and limit pedestrian route directness (PDR) to 1.5 between major generators.

Locations in Maryland
- Downtown Baltimore
- Annapolis
- New Castle
- Silver Spring
- Towson
- Wheaton Triangle

Guide Components

Representative Communities
URBAN CORE

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PROTECTED INTERSECTION

Provides a higher degree of comfort and safety for bicyclists by keeping bicycles physically separated from motor vehicles at the intersection.

LEADING PEDESTRIAN INTERVAL

Confers the highest priority to transit operations at most signalized intersections.

CONTESTED CROWD STRIPING

(For all crosswalks in this context)
Promotes the highest driver compliance and is the most visible of all crosswalk markings.

FLOATING BUS STOP

Confers the highest priority to transit operations at most signalized intersections.

RIGHT-ON-RED RESTRICTIONS

Reduces right-turn injury crashes by 39%.

15-MPH SPEED LIMIT

Decreases speed limits to 15 mph significantly reduces the possibility of a pedestrian fatality.

PROTECTED BICYCLE LANE

Has the lowest injury risk of all urban bicycle facilities.

DATA-DRIVEN TRANSFORMATIONS

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Locations in Maryland

- Baltimore
- Bethesda
- Annapolis
- Rockville
- Silver Spring
- Frederick
- Wheaton Triangle

Guide Components

Proven Treatments
URBAN CORE

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DATA-DRIVEN TRANSFORMATIONS

The six-lane undivided section with a center-turn lane resulted in both a high vehicular and pedestrian crash rate. Community members didn’t feel comfortable crossing the street on foot or traveling to the metro station by bicycle. The roadway was reconstructed to reduce crashes, by 30%, provide a bicycle level of traffic stress (LTS) of one and limit pedestrian route directness (PRD) to 15 between major generators.

Locations in Maryland
- Baltimore
- Bethesda
- Annapolis
- Rockville
- Silver Spring
- Towson
- Wheaton Triangle


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Locations in Maryland
- Baltimore
- Bowie
- Ferndale
- Upperco
- Rockville
- Silver Spring
- Towson
- Wheaton Triangle

Guide Components

Context Access & Mobility Diagram

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URBAN CORE

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PROTECTED INTERSECTION
Provides a higher degree of comfort and safety for bicyclists by keeping bicyclists physically separated from motor vehicles at the intersection.

LEADING PEDESTRIAN INTERVAL
Reduces pedestrian crashes by 62% and can also provide prioritization to bicyclists.

25-MPH SPEED LIMIT
Decreasing speed limits to 25 mph significantly reduces the possibility of a pedestrian fatality.

PROTECTED BICYCLE LANE
Has the lowest injury risk of all urban bicycle facilities.

FLOATING BUS STOP
Confers the highest priority to transit operators at most signalized intersections.

CONTINENTAL CROSSWALK STRIPING
(for all crosswalks in this context)
Promotes the highest driver compliance and is the most visible of all crosswalk markings.

RIGHT-ON-RED RESTRICTIONS
Reduces right-turn injury crashes by 89%.

Locations in Maryland
- Baltimore
- Bel Air
- Annapolis
- Rockville
- Silver Spring
- Takoma
- Wheaton Triangle

7 Areas of Need
A New Approach

- Flexible
- Encourages Innovation
- Continuously Updated
Next Steps

Continually Supporting Innovative Solutions
Updated Best Practices

Case Studies

Implementation of Lessons Learned

Stakeholder Feedback

“Living” Context Guide

- Up-to-date tools based on current community feedback
- Proven solutions rooted in the surrounding context
- Flexibility to encourage innovation and community-specific solutions
Our Commitment

Creating a...

✅ SAFE  ✅ HIGH QUALITY  ✅ EFFICIENT

...system for all Marylanders.
THANK YOU!