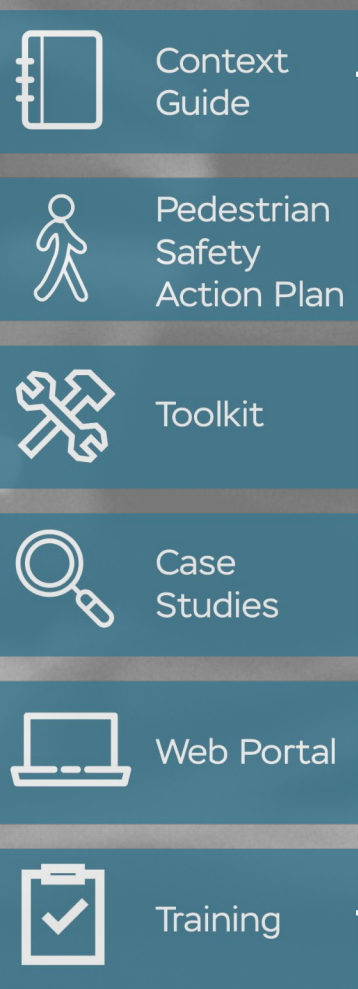




Context Driven



Spring 2021 Update

Context Driven



Context
Guide

DEFINE the context.



Pedestrian
Safety
Action Plan

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



Toolkit

PROVIDE the tools for change.



Case
Studies

SHOW where these strategies have worked.



Web Portal

COMPILE information.



Training

INVEST in people.

6 components, **1** effort





Context
Guide



Pedestrian
Safety
Action Plan



Toolkit



Case
Studies



Web Portal



Training

Context Guide

Context Guide



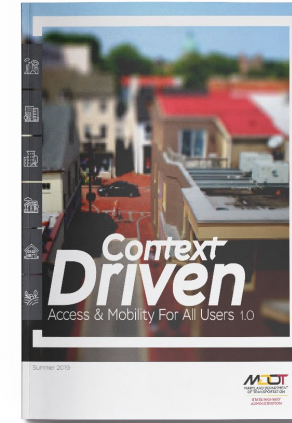
Completed



Describes six contexts in Maryland that influence **how** roadways will be designed.

Context will influence types of safety improvements.

Each context strikes a different balance between **mobility and access**.



Urban Core



Urban Center



Traditional Town Center



Suburban Activity Center

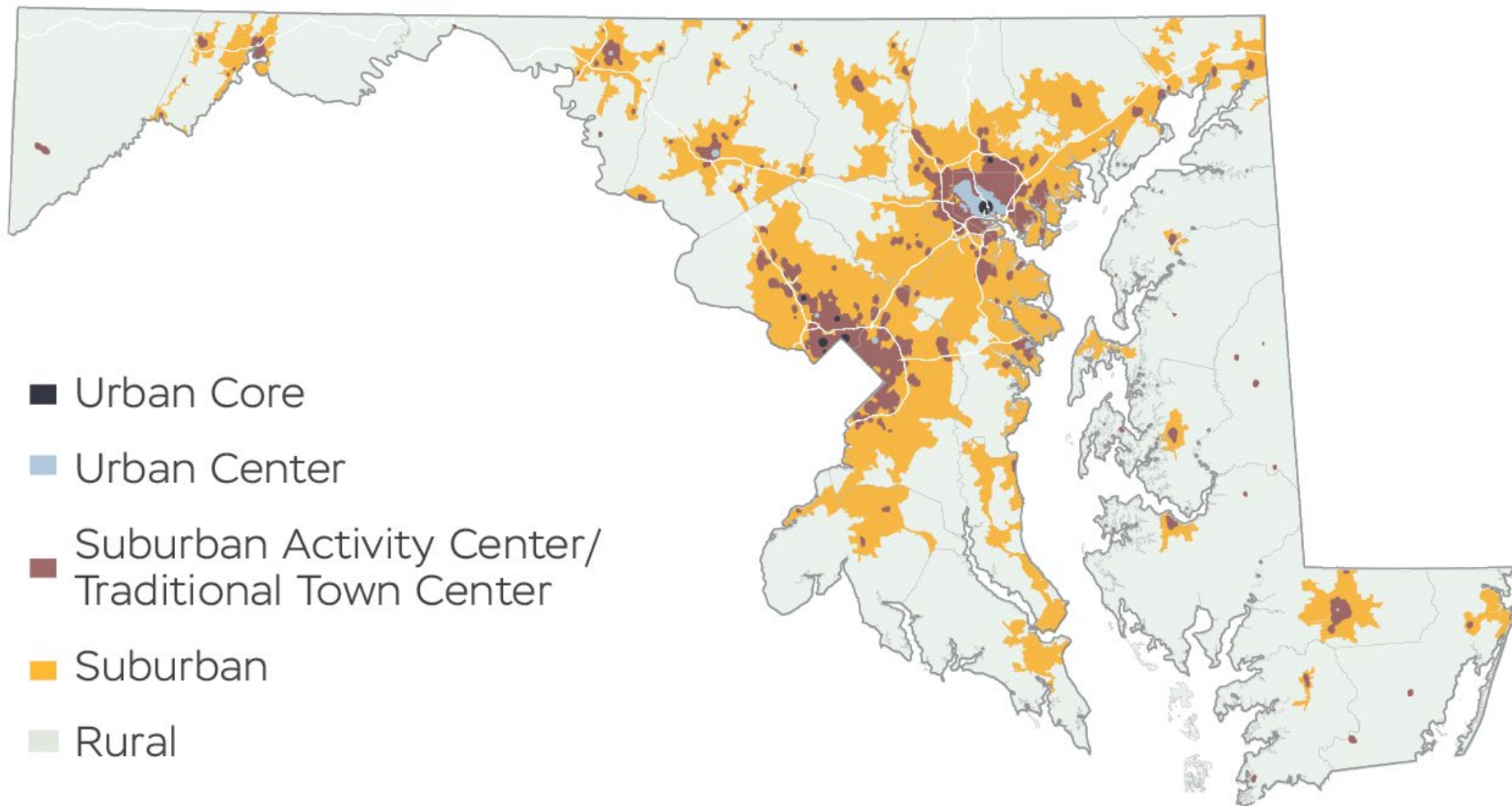


Suburban



Rural

Context Guide



Context Guide

Context Guide

Pedestrian Safety Action Plan

Toolkit

Case Studies

Web Portal

Training

URBAN CENTER

Similar to Urban Core, the **Urban Center** context is characterized by a high diversity of uses, including multi-family residential, office, retail, entertainment, civic, and cultural facilities, while having a moderately high-density of development. Urban Center areas are typically characterized by mid-rise structures, minimal setbacks, a variety of street wall frontages, and off-street parking. Urban Centers may be either large commercial business districts in historic towns or newer transit-oriented developments centered around a metro station. Because of its development density and diversity of uses, this land-use pattern generates a moderate to high volume of non-motorized trips. While the need for mobility through these areas does exist, it is exceeded by the need for internal circulation within this context. These areas represent less than 0.1% of the land area in the State.

Urban Center

Destinations in the Urban Center, like those in the Urban Core, are abundant and should be easily accessed. There are many points of interest that are typically accessible by multiple means of travel.

Example Locations in Maryland

- Annapolis
- Hagerstown
- Frederick
- Salisbury

SAMPLE SCENARIO COUNTERMEASURES

CONTINENTAL CROSSWALK STRIPING

(For all crosswalks in this context)
Promotes the highest driver compliance and is the most visible of all crosswalk markings⁹

RIGHT-ON-RED RESTRICTION

Reduces right-turn injury crashes by 38%¹⁰

30-MPH SPEED LIMIT

(Maximum speed within this context)
Decreasing speed from 40 mph to 30 mph reduces possibility of a severe injury or fatality by 25%⁴

ON-STREET BIKE LANE

Maryland crash data demonstrates a reduction in on-street bicycle crashes by 77%

RAISED CROSSWALK

Reduces pedestrian crashes by 46%¹³

PEDESTRIAN HYBRID BEACON

Reduces pedestrian crashes by 69%¹²

CURB EXTENSION

Narrows the roadway both visually and physically to shorten the crossing distance for pedestrians and improve visibility

LEADING PEDESTRIAN INTERVAL

Reduces pedestrian crashes by 60%¹¹ and can also provide prioritization to bicycles

MOUNTABLE CURB

Slows turning passenger vehicles while accommodating the turning movements of larger trucks

SAMPLE SCENARIO SAFETY AND OPERATIONAL CHALLENGES

Pockets of density in the Urban Center necessitate ample pedestrian accommodations mixed with safe multimodal circulation for those who may be passing through the space.

PROJECT AREAS of need

- TRAFFIC OPERATIONS
- SAFETY
- ACCESSIBILITY
- CONNECTIVITY
- STATE OF GOOD REPAIR
- QUALITY OF SERVICE

SAMPLE SCENARIO COUNTERMEASURES AND BENEFITS

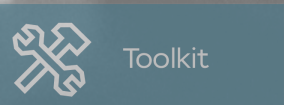
The original five-lane typical section with a two-way left-turn lane was designed primarily for vehicular mobility. Despite being on a major bicycle route, bicycle facilities were limited to share the road, and a major, mid-block pedestrian generator led to safety issues due to uncontrolled crossings. The roadway was re-purposed to reduce pedestrian crashes, improve bicycle comfort, and create more direct pedestrian routes between major trip generators.



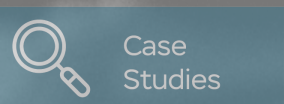
Context
Guide



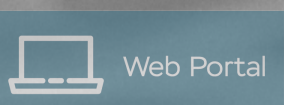
Pedestrian
Safety
Action Plan



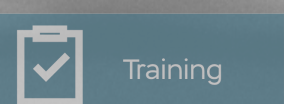
Toolkit



Case
Studies



Web Portal



Training

Pedestrian Safety Action Plan

Pedestrian Safety Action Plan

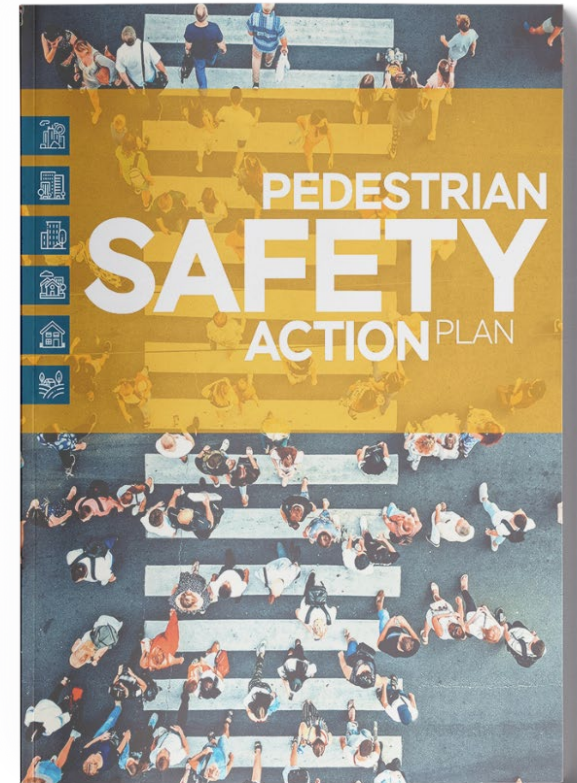


In progress ●●○○○

Identifies areas of need for future pedestrian safety improvements by examining crash data, existing conditions, and public input.

Improvements will be **prioritized** within each area of need.

Information and results from the Toolkit and the Context Guide will **inform recommendations.**



Pedestrian Safety Action Plan



Coordinate

Support agency partner and peer pedestrian and bicycle safety programs



Invest

Direct investment and implement countermeasures where there are known pedestrian and bicycle safety challenges



Deliver

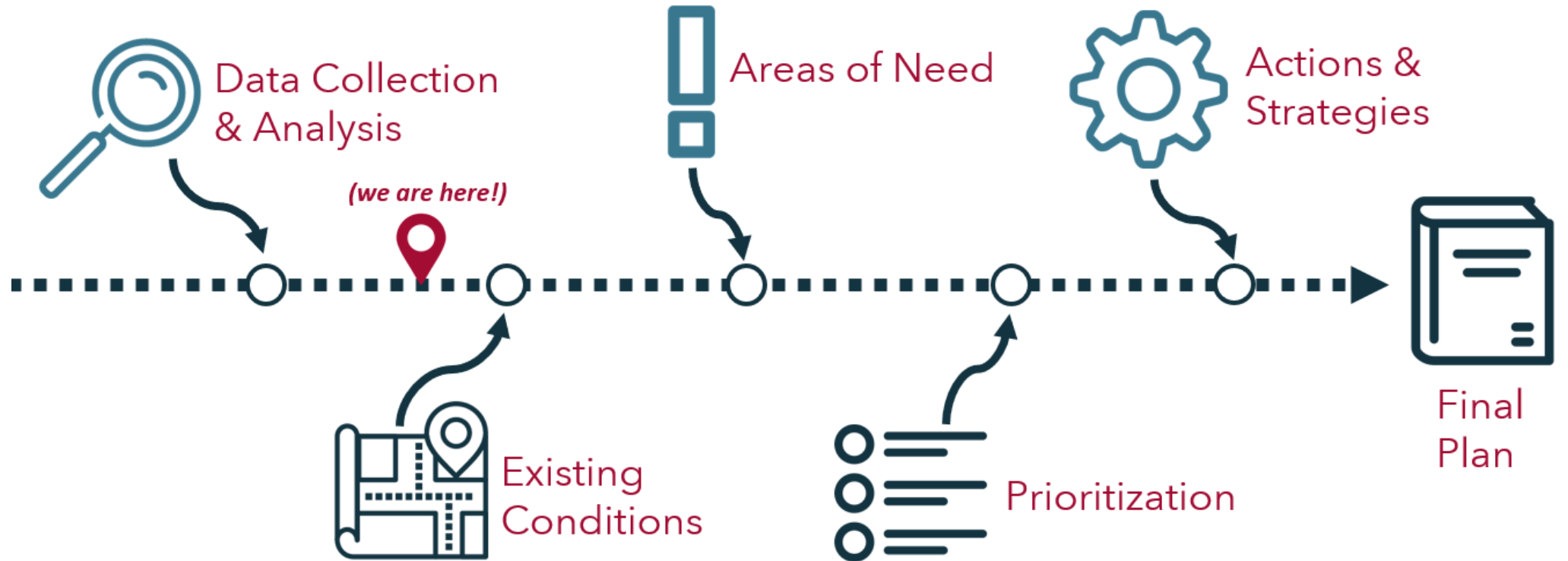
Ensure road improvements deliver context driven objectives



Innovate

Leverage innovation and technology to improve pedestrian safety

Pedestrian Safety Action Plan





Context
Guide



Pedestrian
Safety
Action Plan



Toolkit



Case
Studies



Web Portal



Training



Toolkit

Toolkit

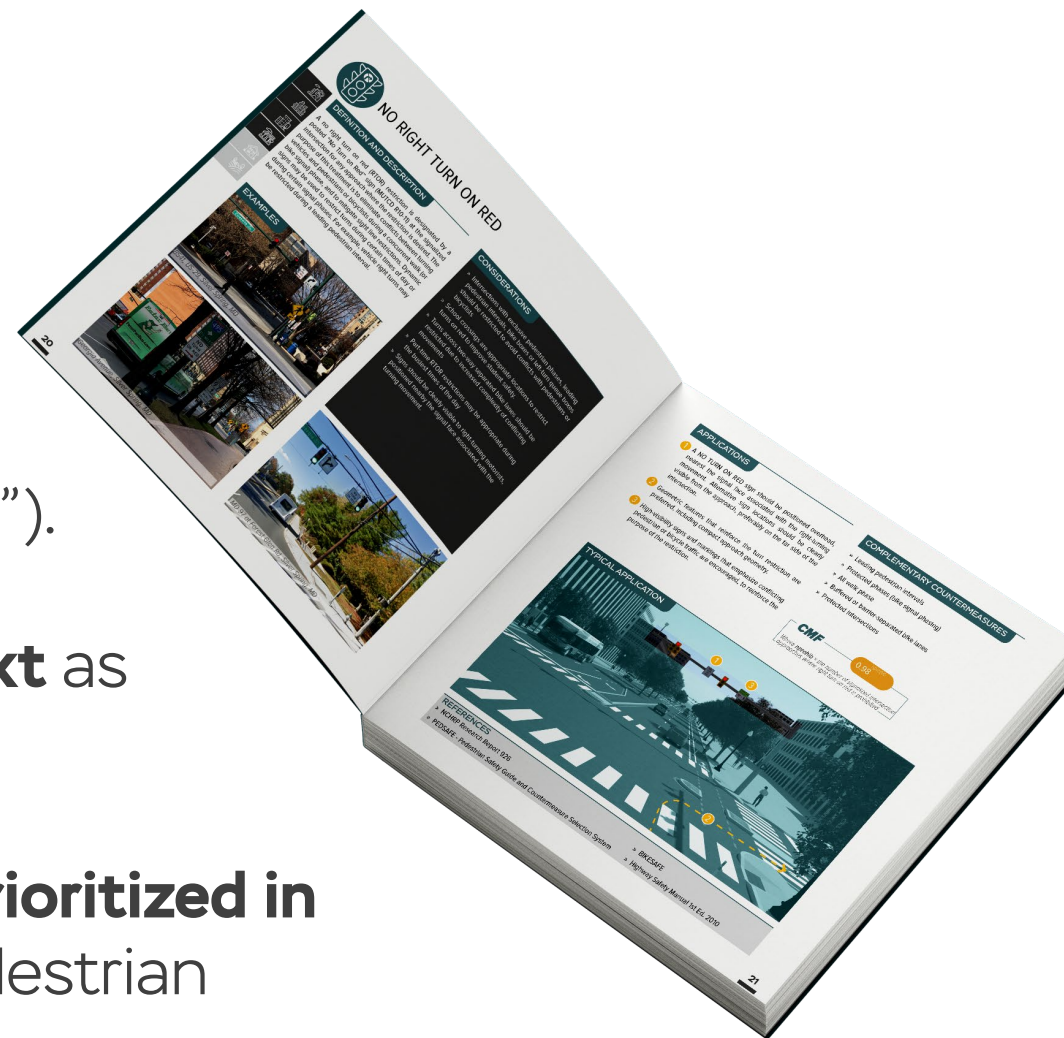


In progress ●●○○○

Provides specifications for safety improvements (“countermeasures”).

Connects improvements to context as outlined in the Context Guide.

Toolkit countermeasures will be **prioritized in areas of need** identified in the Pedestrian Safety Action Plan.



Toolkit



Context
Guide



Pedestrian
Safety
Action Plan



Toolkit



Case
Studies



Web Portal



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NO RIGHT TURN ON RED

DEFINITION AND DESCRIPTION

A no right turn on red (RTOR) restriction is designated by a posted "No Turn on Red" sign (MUTCD R10-11) at the signalized intersection for any approach where the restriction is desired. The purpose of this treatment is to eliminate conflicts between turning vehicles and pedestrians or bicyclists during a concurrent walk (or bike signal) phase, and to mitigate sight line restrictions. Dynamic signs may be used to restrict turns during certain times of day or during certain signal phases. For example, vehicle right turns may be restricted during a leading pedestrian interval.

EXAMPLES



18541, US-29, Silver Spring, MD



Georgia Avenue, Silver Spring, MD

CONSIDERATIONS

- » Intersections with exclusive pedestrian phases, leading pedestrian intervals, bike boxes or left-turn queue boxes should be restricted to avoid conflicts with pedestrians or bicyclists
- » School crossings are appropriate locations to restrict turns on red to improve student safety.
- » Turns across two-way separated bike lanes should be restricted due to increased complexity of conflicting movements
- » Part-time RTOR restrictions may be appropriate during the busiest times of the day
- » Signs should be clearly visible to right-turning motorists, positioned nearby the signal face associated with the turning movement.



MD 97 at Forest Glen Rd, Silver Spring, MD

APPLICATIONS

- 1 A NO TURN ON RED sign should be positioned overhead, nearest the signal face associated with the right-turning movement. Alternative sign locations should be clearly visible from the approach, preferably on the far side of the intersection.
- 2 Geometric features that reinforce the turn restriction are preferred, including compact approach geometry.
- 3 High-visibility signs and markings that emphasize conflicting pedestrian or bicycle traffic are encouraged, to reinforce the purpose of the restriction.

COMPLEMENTARY COUNTERMEASURES

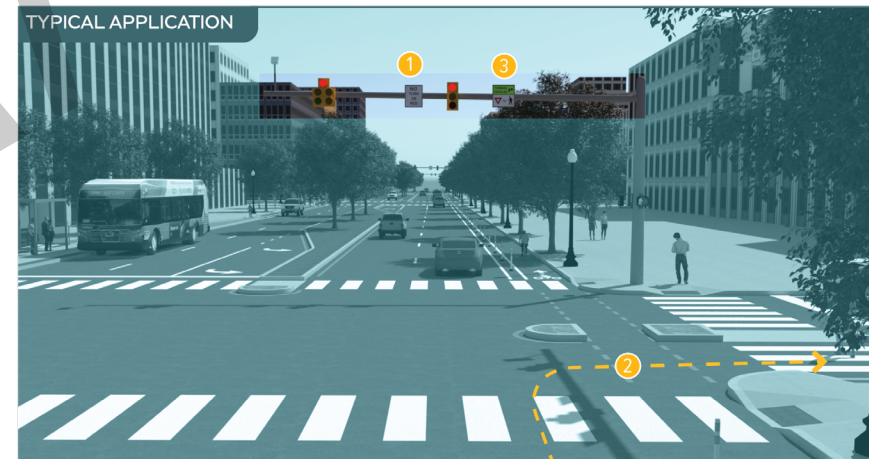
- » Leading pedestrian intervals
- » Protected phases (bike signal phasing)
- » All walk phase
- » Buffered or barrier-separated bike lanes
- » Protected intersections

CMF

0.98

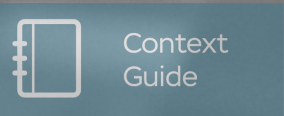
Where n_{prohib} = the number of signalized intersection approaches where right turn on red is prohibited

TYPICAL APPLICATION

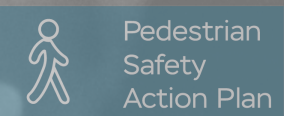


REFERENCES

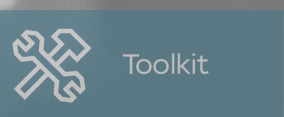
- » NCHRP Research Report 926
- » PEDSAFE - Pedestrian Safety Guide and Countermeasure Selection System
- » BIKESAFE
- » Highway Safety Manual 1st Ed. 2010



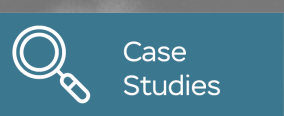
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Pedestrian
Safety
Action Plan



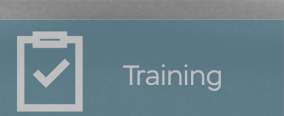
Toolkit



Case
Studies



Web Portal



Training

Case Studies

Case Studies



Pending ●○○○○

Context Driven Case Studies will **showcase best practices** in support of Toolkit countermeasures.

Classifies case studies by context so practitioners can locate examples that are **applicable to their communities.**

Context
Driven

PROJECT NAME

Project Location:

Project Date:

Overview

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Traffic Operations

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Safety

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Accessibility

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Connectivity

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State of Good Repair

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Quality of Service

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Other

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Other

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The Challenge

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The Solution

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Results

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Insert Photo Here

Before

Insert Photo Here

After

Context Zones

Urban Core

Urban Center

Traditional Town Center

Suburban Activity Center

Suburban

Rural

Lessons Learned

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Maryland Department of Transportation

STATE HIGHWAY ADMINISTRATION



Context
Guide



Pedestrian
Safety
Action Plan



Toolkit



Case
Studies



Web Portal



Training



Web Portal

Web Portal



In Progress ●●○○○

A single Context Driven Web Portal is being developed for content for all six components.

A new section of the web portal will be added for each component, and **online public involvement will be centralized on this web portal.**

The Context Driven Web Portal will be a one-stop-shop for practitioners and the public.

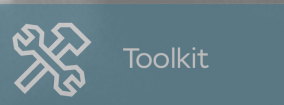




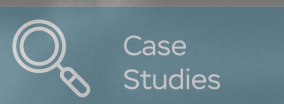
Context
Guide



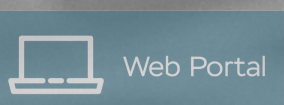
Pedestrian
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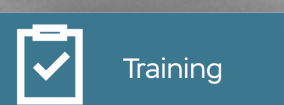
Toolkit



Case
Studies



Web Portal



Training



Training

Training



In Progress ●●●○

Context Driven is a complex effort. **Training on how to implement the guidance and recommendations of Context Driven** will be provided to the public, MDOT staff, local governments, elected officials, industry/advocacy/interest groups.



Investing in training and communications will be essential to increasing awareness and facilitating change.





Context
Guide



Pedestrian
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Toolkit



Case
Studies



Web Portal



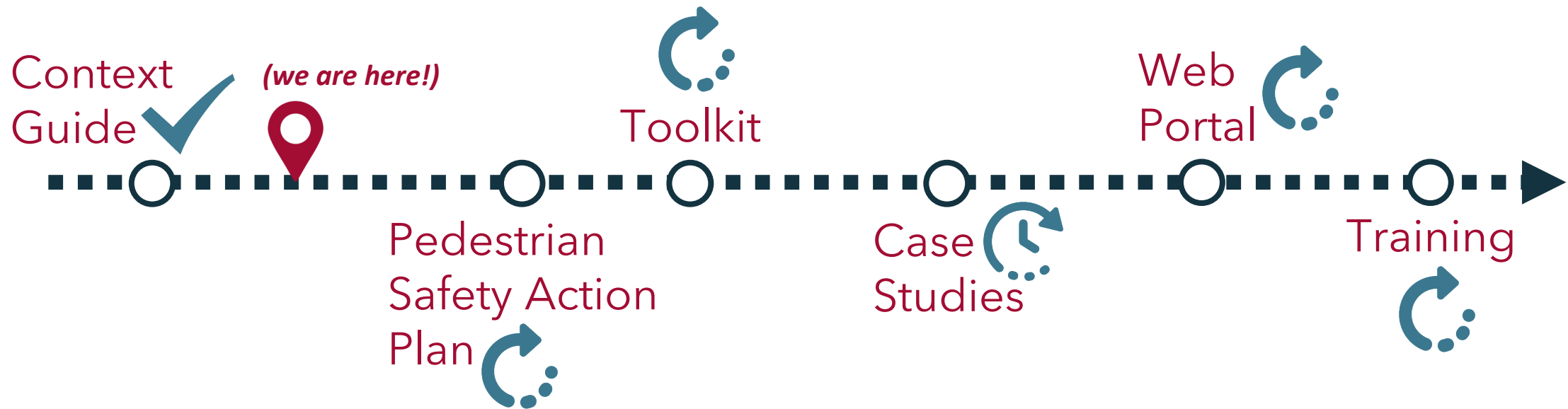
Training

Recap

Recap

Context Driven

-  Context Guide
-  Pedestrian Safety Action Plan
-  Toolkit
-  Case Studies
-  Web Portal
-  Training





Context
Guide



Pedestrian
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Action Plan



Toolkit



Case
Studies



Web Portal



Training

Contact

Contact



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roads.maryland.gov/contextdriven