State and Regional Safety Initiatives

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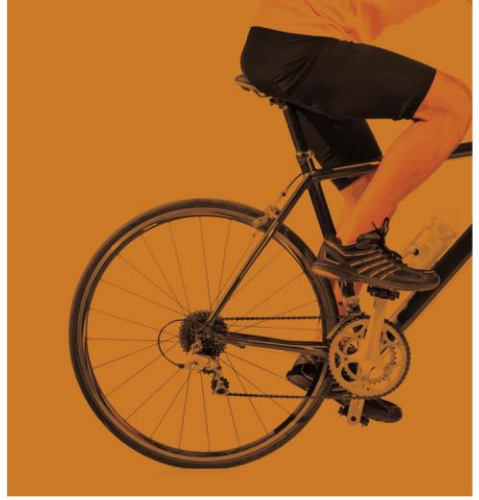
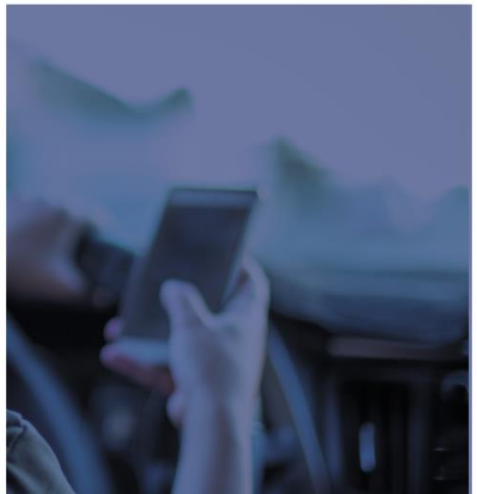
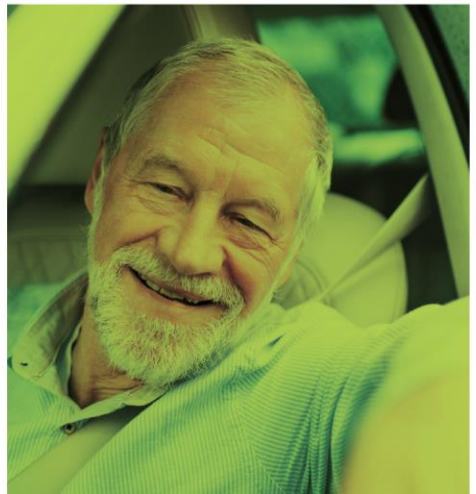
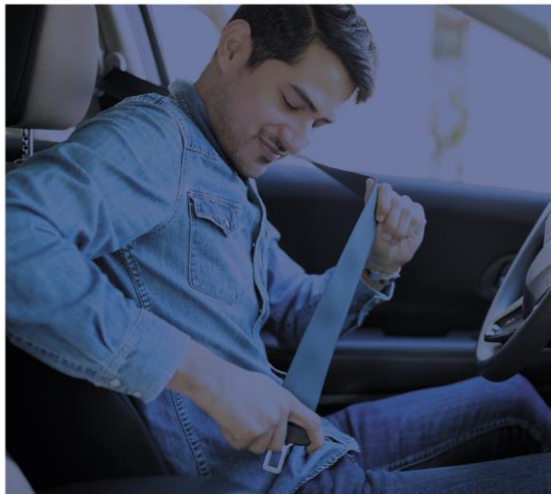


EVERY MOVE YOU MAKE
TOWARD ZERO DEATHS

Flexibility in Speed and Design

September 2024



SAFER STREETS PILOT (TARGET SPEEDS)

ODOT has launched a $25M pilot to redesign urban arterials with design features that will lower motorists' speeds.

The program will target existing corridors with 25 mph posted speeds or corridors with 35 mph posted speeds where the surrounding context indicates motorists' **speeds should be lower for the safety of the community.**

SAFER STREETS PILOT (TARGET SPEEDS)

The goal of the pilot is to promote treatments like:

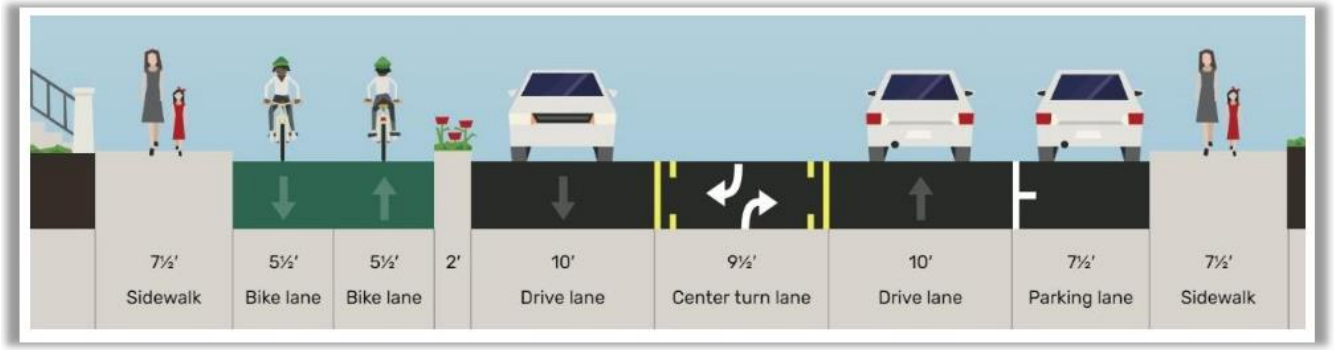
- Horizontal and vertical deflection
- Narrow lane widths and lane reductions
- Lane repurposing (sidewalks, bike lanes, etc.)
- Curb bump outs
- Midblock crossings and ped activated signals
- Median islands
- Hardened center lines

SAFER STREETS PILOT (TARGET SPEEDS)

Existing speed limit of 25 mph:

Existing speed limit of 30-35 mph:

DAYTON WEST THIRD



Many of the treatments involve:

- Providing a separated bicycle facility to separate users in space
- Reducing the number of travel lanes
- Bringing the travel lanes away from the curb
- **On-street parking** and **physical delineation** to narrow the travel lane and reduce speed

LORAIN SR 57

Typical Section A

28th Street to 26th Street

Many of the treatments involve:

- Providing a separated bicycle facility to separate users in space
- Reducing the number of travel lanes
- Bringing the travel lanes away from the curb
- **Center median** to visually narrow travel lane and slow speeds.

SAFER STREETS PILOT (TARGET SPEEDS)

CORRIDOR IMPROVEMENTS

- **The city completed $10 million in infrastructure safety upgrades on Sullivant Avenue from I-70 to Hague Avenue.** Improvements included rehabilitating the roadway, repairing sidewalks, upgrading traffic signals and street lights, and constructing sidewalk bump-outs, transit curb extensions, and median islands.

Data collection soon after construction indicated **driver speeds reduced by as much as 8 mph**. The incidence of drivers traveling in excess of 50 mph on the 35 mph corridor was reduced by as much as 92%, and all **crashes were reduced by 50%**.

CONTEXT CLASSIFICATION REVIEW

PURPOSE OF WORKING GROUP

- Tasked by Executive Leadership to identify potential impacts and form recommendations

- New national guidance – AASHTO Greenbook 8th edition – will be context-based
  - AASHTO Greenbook is the basis of our Location and Design Manual, the primary reference for design guidance in state/federally funded projects

OBJECTIVES OF WORKING GROUP

- Identify what programs, policies, processes, guidance documents, etc. would benefit from a more context-sensitive approach
- Draft summaries of potential impacts
- Recommend a timeline of edits to respective programs, policies, processes, guidance documents, etc.

WHAT IS CONTEXT CLASSIFICATION

OVERVIEW OF CONCEPT

- Context classification defines a place

C1- Natural | C2- Rural | C2T- Rural Town | C3R- Suburban Residential | C3C- Suburban Commercial | C4- Urban General | C5- Urban Center | C6- Urban Core

Ohio Department of Transportation

OVERVIEW OF CONCEPT

- Historically urban and rural (and sometimes suburban) were the only options. We know our built environment is more than that.

C1- Natural | C2- Rural | C2T- Rural Town | C3R- Suburban Residential | C3C- Suburban Commercial | C4- Urban General | C5- Urban Center | C6- Urban Core

Department of Transportation

WORK COMPLETED TO DATE

- Benchmarking of other State DOTs, primarily FDOT
- Draft model and methodology for Ohio
  - Includes context classification assignment to census block groups and LRS segmentation

OC0 - Bodies of water: Features such as rivers, lakes, and reservoirs.

OC1 - Natural: Undeveloped lands containing wilderness or natural features. Can include metro and state parks.

OC2 - Rural: Sparsely populated areas that may contain mostly agricultural land uses (crop, pasture, or grasslands).

OC2A - Rural-Town: Small areas of development otherwise surrounded by rural/natural classifications. Rural-Towns should be incorporated areas that fall outside of urbanized areas.

OC3A - Suburban-Residential: Primarily residential use with sparse or disconnected road networks. Lower to medium population densities. Typically exemplified by single family housing as primary structure type.

OC3B - Suburban-Commercial: Primarily commercial use, with high concentrations of commercial employment. Has sparse or disconnected roadways; typically containing large parking structures and large building footprints.

OC4 - Urban Generic: Residential dominance, set within small blocks with well-connected roadway networks. May contain some industrial or commercial employment centers, often mixed use.

OC6 - Urban Core: Highest densities and building heights, typically with mixed uses, small to no setbacks, within a well-connected network, and are often destination locations. Typically found in large, urbanized areas. May contain large amounts of employment centers.

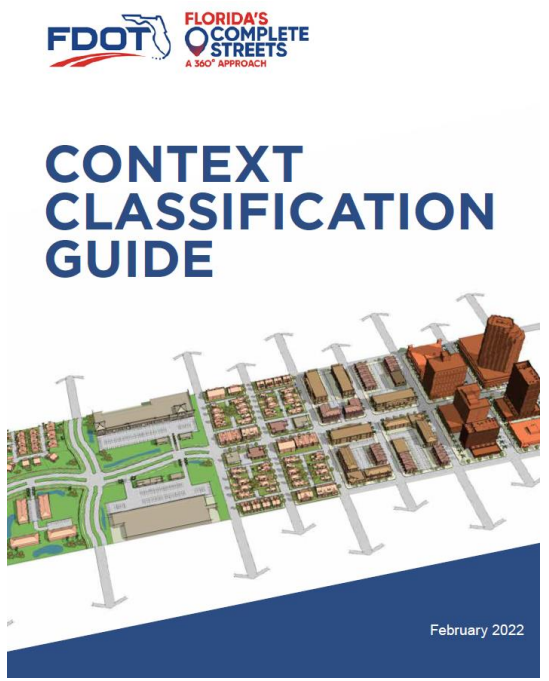
OC7 - Special Zone: Special non-conforming areas - manually assigned. These can be things such as ports, airports, universities, etc. These places have particularly unique sets of characteristics that distinguish them from any other zone.

OVERVIEW

- At least nine states are using context classification for things like:
  - Target and design speed determinations
  - Geometric design guidance
  - Countermeasure selection
  - Data analysis
  - Project development considerations (like modal considerations)

FLORIDA DOT

- Standalone context classification guide
- Context integrated into other FDOT documents:
  - Traffic Engineering Manual
  - Access Guidebook
  - Project Development and Environmental Manual
  - FDOT Lane Repurposing Guidebook
  - Speed Zoning Manual (for target speed)



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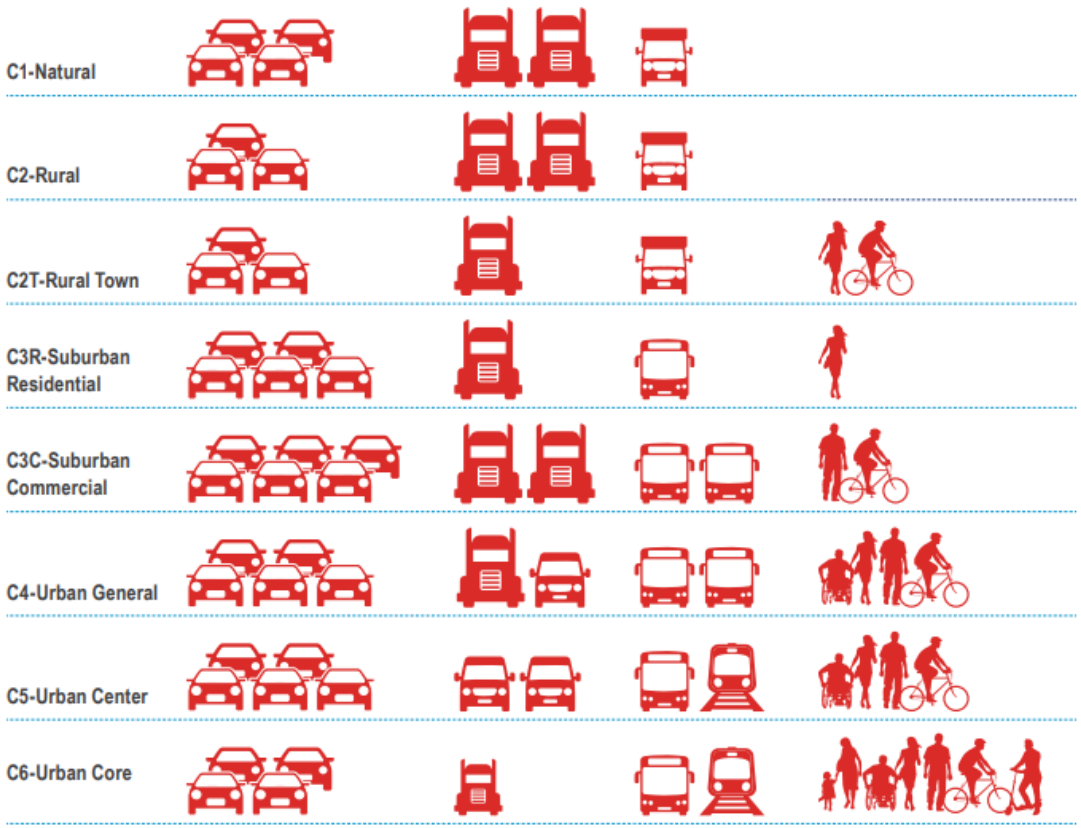
- Examples from Context Classification Guide

TABLE 8 FDOT CONTEXT-BASED DESIGN SPEEDS FOR ARTERIALS AND COLLECTORS

CONTEXT CLASSIFICATION	ALLOWABLE DESIGN SPEED RANGE (MPH)	SIS MINIMUM (MPH)
C1 Natural	55-70	65
C2 Rural	55-70	65
C2T Rural Town	25-45	40
C3 Suburban	35-55	50
C4 Urban General	25-45	45
C5 Urban Center	25-35	35
C6 Urban Core	25-30	30

FIGURE 6 EXPECTED USER TYPES IN DIFFERENT CONTEXT CLASSIFICATIONS



Source: [fdot-context-classification.pdf (fdotwww.blob.core.windows.net)]

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FLORIDA DOT

- Examples from FDOT Design Manual

Table 210.2.1 Minimum Travel and Auxiliary Lane Widths

Context Classification		Travel (feet) Design Speed (mph)			Auxiliary (feet) Design Speed (mph)			Two-Way Left Turn (feet) Design Speed (mph)	
		25-35	40-45	≥ 50	25-35	40-45	≥ 50	25-35	40
C1	Natural	11	11	12	11	11	12	N/A	
C2	Rural	11	11	12	11	11	12		
C2T	Rural Town	11	11	12	11	11	12	12	12
C3	Suburban	10	11	12	10	11	12	11	12
C4	Urban General	10	11	12	10	11	12	11	12
C5	Urban Center	10	11	12	10	11	12	11	12
C6	Urban Core	10	11	12	10	11	12	11	12

Table 202.3.1 Strategies to Achieve Desired Operating Speed

Context Classification	Target Speed (mph)	Strategies																	
		Lane Repurposing	Roundabouts	On-Street Parking	Chicanes	Lane Narrowing	Horizontal Deflections	Street Trees	Short Blocks	Speed Tables	Raised Intersections	Raised Crosswalks	Speed Feedback Sign	Pedestrian Refuge Islands	Bulb-Outs	RRFBs	PHBs	Terminated Vistas	Islands in Curved Sections
C2T	40-45		X			X	X						X				X		
	35	X	X	X		X	X	X	X				X	X	X	X	X	X	
	30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
C3R, C3C	40-45		X			X	X						X				X		
	35	X	X			X	X						X	X	X	X	X	X	
C4	40-45		X			X	X						X				X		
	35	X	X	X		X	X	X	X				X	X	X	X	X	X	
	30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
C5	35	X	X	X		X	X	X	X				X	X	X	X	X	X	
	30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
C6	30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Notes:
1. For C1 and C2 (55-70 mph): Speed Management Strategies are not used on high-speed roadways. See ***FDM 202.4*** for information on transitions from high-speed to low-speed facilities.
2. For C3R and C3C (50-55 mph): Project-specific; see ***FDM 202.4***.

Source: FDOT Design Manual (fdotwww.blob.core.windows.net)

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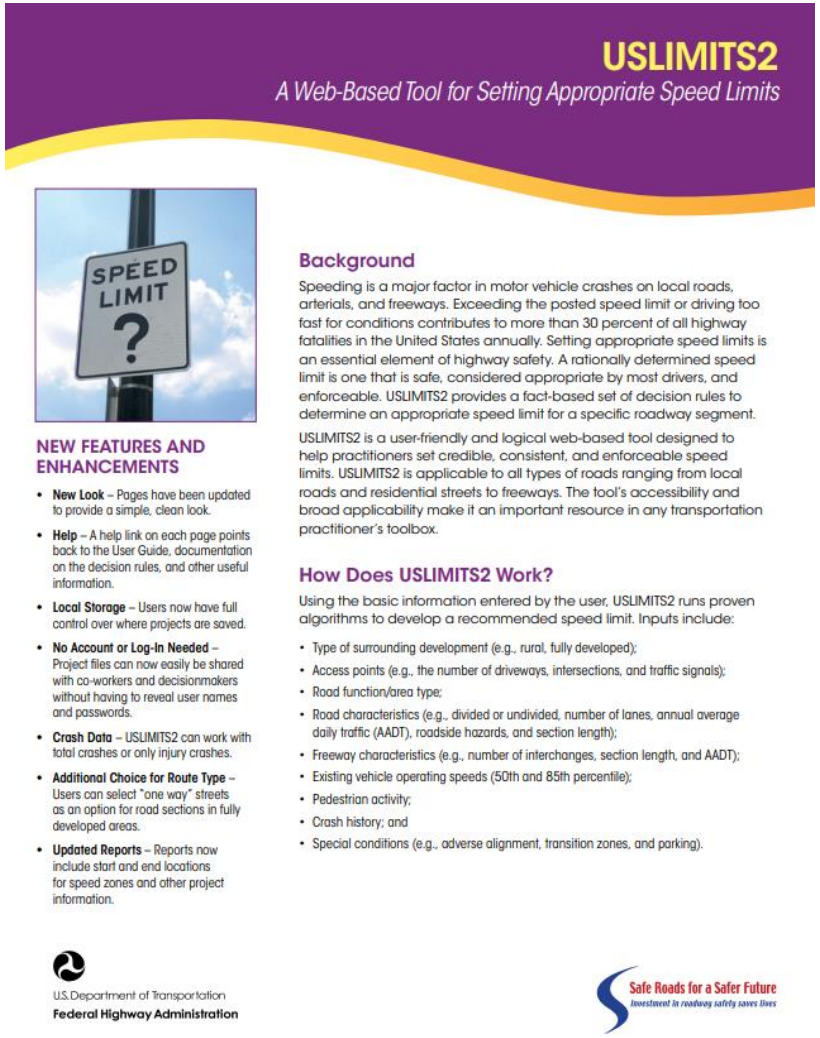
SPEED SETTING



USLIMITS2

A Web-Based Tool for Setting Appropriate Speed Limits

NEW FEATURES AND ENHANCEMENTS

- **New Look** – Pages have been updated to provide a simple, clean look.
- **Help** – A help link on each page points back to the User Guide, documentation on the decision rules, and other useful information.
- **Local Storage** – Users now have full control over where projects are saved.
- **No Account or Log-In Needed** – Project files can now easily be shared with co-workers and decisionmakers without having to reveal user names and passwords.
- **Crash Data** – USLIMITS2 can work with total crashes or only injury crashes.
- **Additional Choice for Route Type** – Users can select "one way" streets as an option for road sections in fully developed areas.
- **Updated Reports** – Reports now include start and end locations for speed zones and other project information.

Background

Speeding is a major factor in motor vehicle crashes on local roads, arterials, and freeways. Exceeding the posted speed limit or driving too fast for conditions contributes to more than 30 percent of all highway fatalities in the United States annually. Setting appropriate speed limits is an essential element of highway safety. A rationally determined speed limit is one that is safe, considered appropriate by most drivers, and enforceable. USLIMITS2 provides a fact-based set of decision rules to determine an appropriate speed limit for a specific roadway segment.

USLIMITS2 is a user-friendly and logical web-based tool designed to help practitioners set credible, consistent, and enforceable speed limits. USLIMITS2 is applicable to all types of roads ranging from local roads and residential streets to freeways. The tool's accessibility and broad applicability make it an important resource in any transportation practitioner's toolbox.

How Does USLIMITS2 Work?

Using the basic information entered by the user, USLIMITS2 runs proven algorithms to develop a recommended speed limit. Inputs include:

- Type of surrounding development (e.g., rural, fully developed);
- Access points (e.g., the number of driveways, intersections, and traffic signals);
- Road function/area type;
- Road characteristics (e.g., divided or undivided, number of lanes, annual average daily traffic (AADT), roadside hazards, and section length);
- Freeway characteristics (e.g., number of interchanges, section length, and AADT);
- Existing vehicle operating speeds (50th and 85th percentile);
- Pedestrian activity;
- Crash history; and
- Special conditions (e.g., adverse alignment, transition zones, and parking).

U.S. Department of Transportation
Federal Highway Administration

Safe Roads for a Safer Future
Investment in roadway safety saves lives

TEM 1203-1 thru 5: SPEED ZONES

- Updated the Speed Zone Study requirements to shift to FHWA's USLIMITS2 for all speed studies
- Incorporates more context-based decisions.

Ohio Department of Transportation

ODOT's Multimodal Design Guide

Helping Ohio

- Safer roads for everyone
- Context Sensitive
- Consistent designs

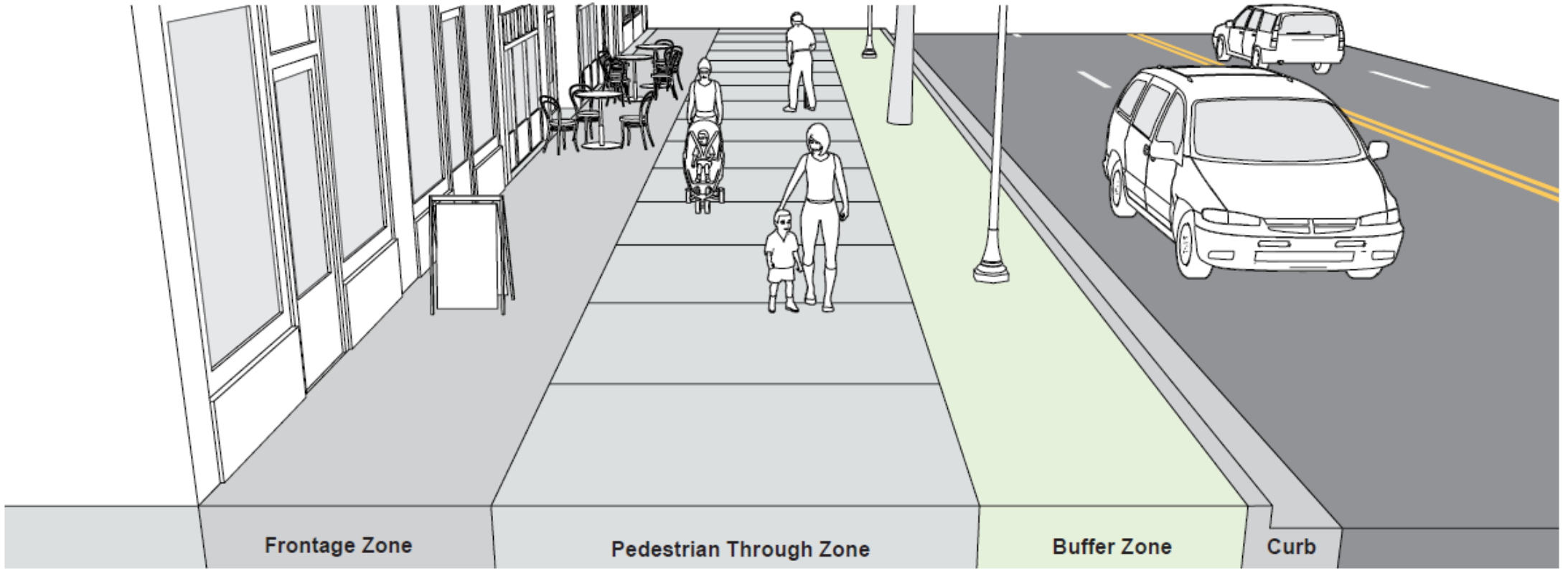
Helping Ohio

- Consolidated resource

OHIO DEPARTMENT OF TRANSPORTATION

How will the MDG be used?

How to use this guide:



Relationship to other Standards & Guides

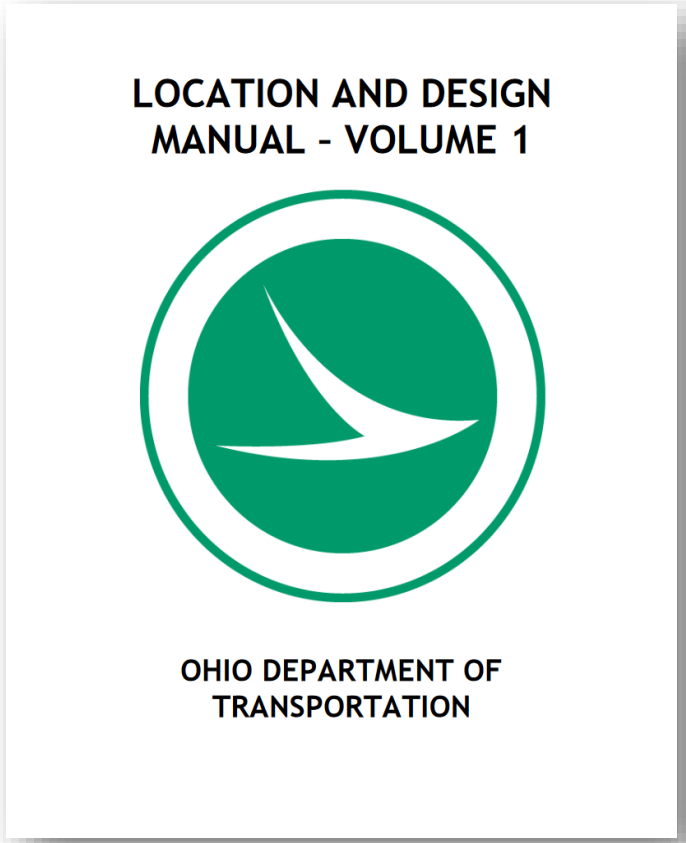
L&D Vol. I

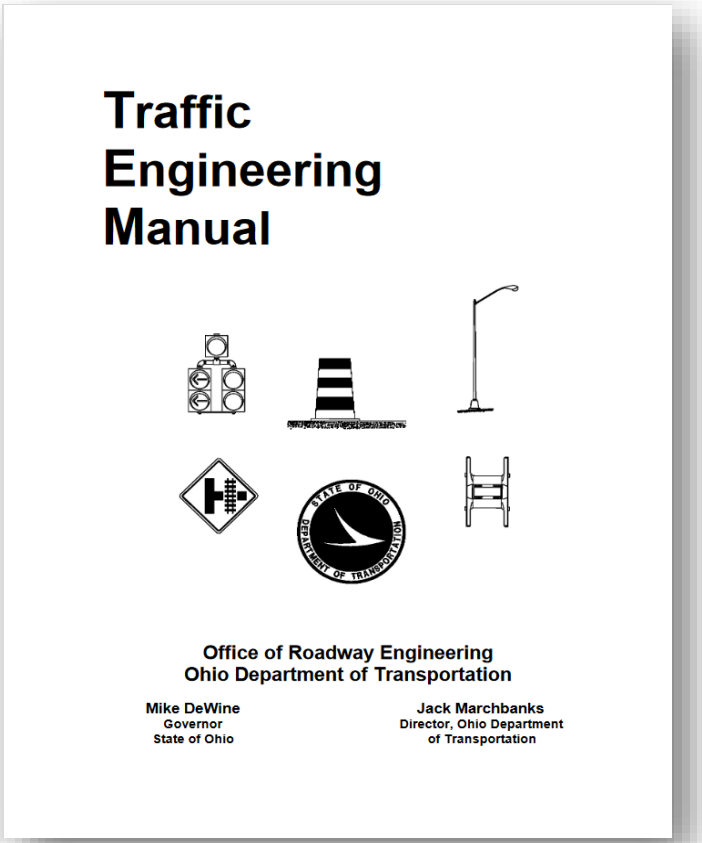
- 306 Pedestrian Facilities
- 702 Shared Use Paths
- 308 On Road Bicycle Facilities

Multimodal Design Guide Outline:

1. Introduction
2. Multimodal Planning & Design Scoping Process
3. Elements of Design
4. Pedestrian Facilities
5. Shared Use Paths
6. On-Road Bicycle Facilities
7. Motor Vehicle Facilities Supporting Multimodal Accommodation
8. Signals, Beacons, and Signs
9. Multimodal Accommodations at Interchanges & Intersections
10. Transit Facilities
11. Rail Crossings
12. Maintaining Pedestrian and Bicycle Facilities

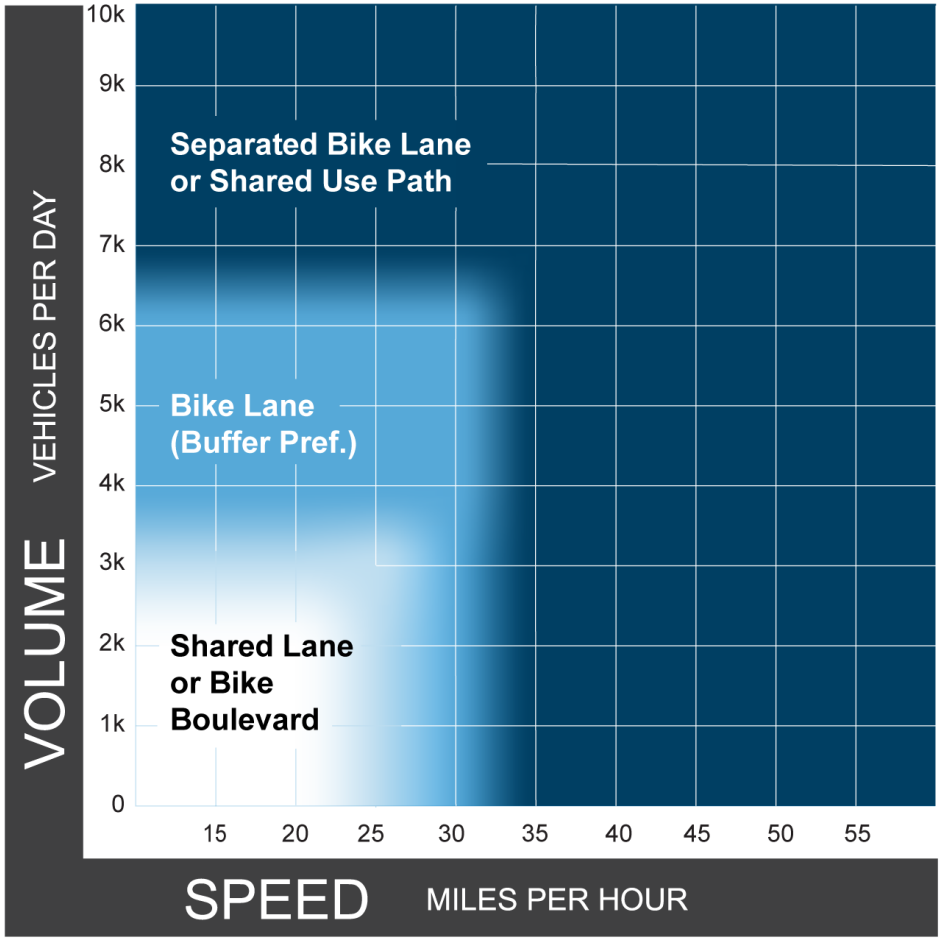
Relationship to other Standards & Guides

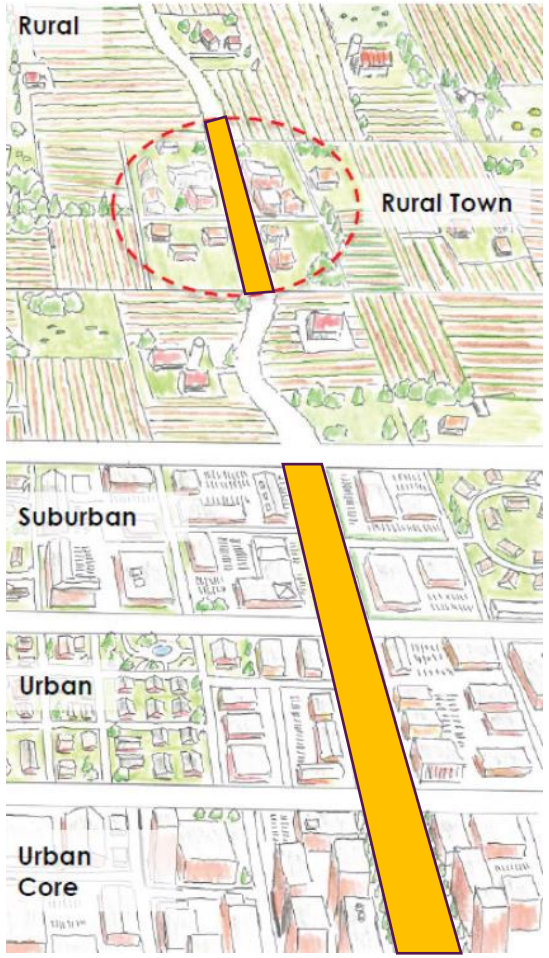




Preferred Bikeway Type

Urban, Urban Core, Suburban, and Rural Town Contexts





Design User Assumption:
Interested But Concerned Bicyclist

Analysis: Bicycle Level of Traffic Stress (LTS)

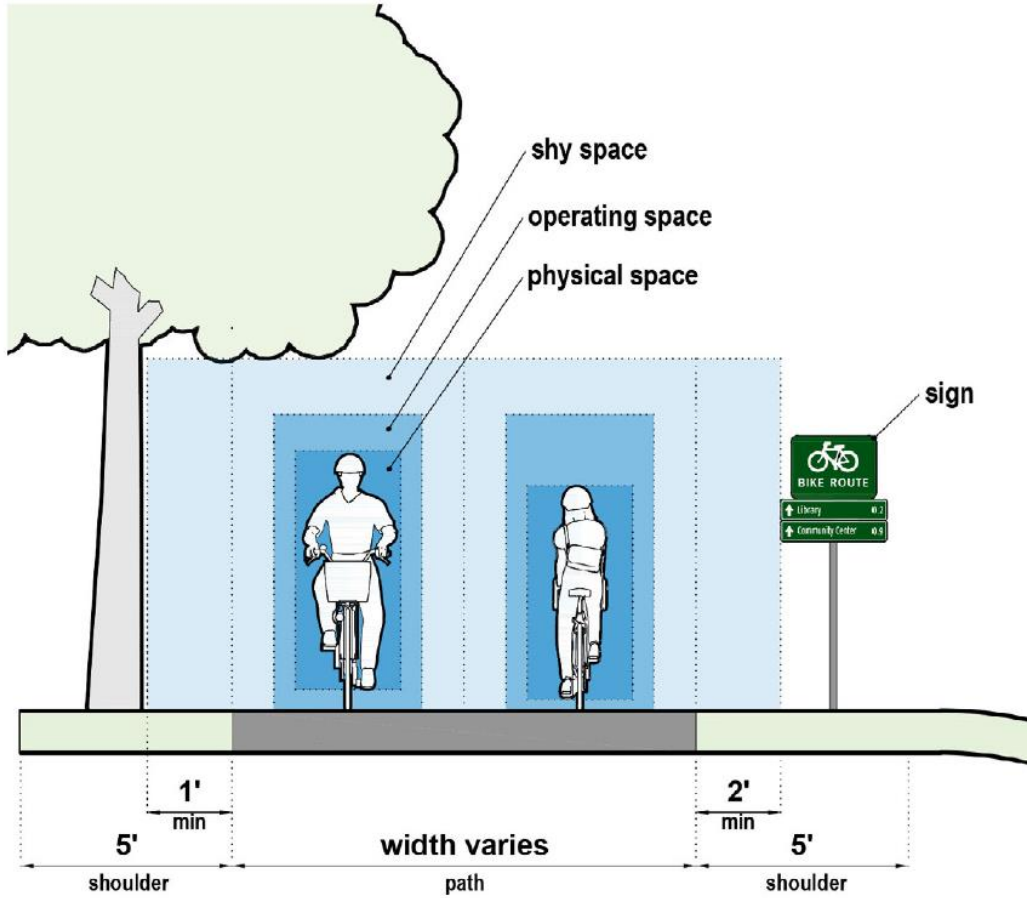
Notes

1. *Chart assumes operating speeds are similar to posted speeds. If they differ, use operating speed rather than posted speed.*
2. *See Section 2.8.1 for a discussion of alternatives if the preferred bikeway type is not feasible.*

Width & Clearances

Table 5-1: Shared Use Path Widths for Anticipated Peak Hour Volumes

Shared Use Path Operating Widths			
Minimum (ft)	SUPLOS "C" Peak Hour Volumes at Preferable Width	Constrained (ft)	SUPLOS "D" Peak Hour Volumes at Minimum Width
10 – 12	150 - 300	8	50
12 – 15	300 - 500	11	400
16 – ≥20	500 - ≥600	15	600



DESIGN GUIDE FLEXIBILITY

Location & Design, Volume 1
105.4 Local Projects

On non-NHS roadways, local jurisdictions may use roadway design guides recognized by FHWA and adopted by the local jurisdiction.

DESIGN EXCEPTIONS

- More flexibility to reduce lane widths on the national network
- Document exceptions based on context and other factors

RESEARCH: RE-EXAMINE LOS

- Initiated a research contract to document best practices for balancing LOS with safety and other considerations.

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