State of New Jersey **Complete Streets Design Guide**

Outline

- » Overview of Guide
- » Bicycle Facility Selection Guidelines
- » Success Stories
  - Local
  - County
  - Regional

What is it?

NJ Complete Streets Design Guide

This guide provides planning and design guidelines to support policy advancement and implementation of Complete Streets in New Jersey.

What is it?

Continuation of NJDOT Complete Streets Resources

- Making Complete Streets a Reality: A Guide to Policy Development
- A Guide to Creating a Complete Streets Implementation Plan
- New Jersey Complete Streets Design Guide

Who is it for?

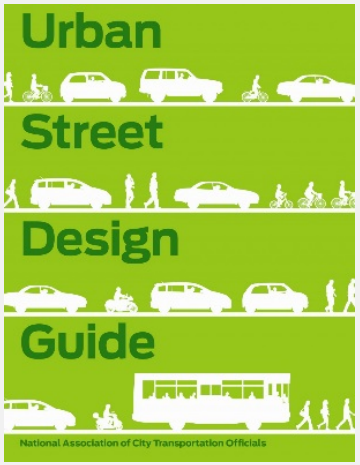
NJDOT Staff

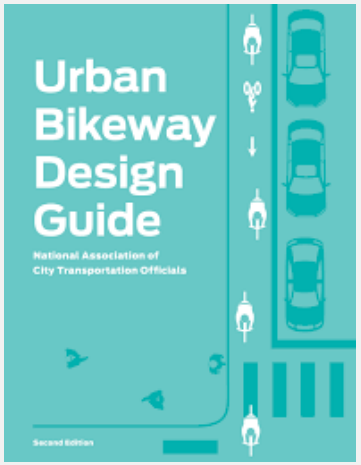
Local Planners, Engineers, Developers, Design Professionals

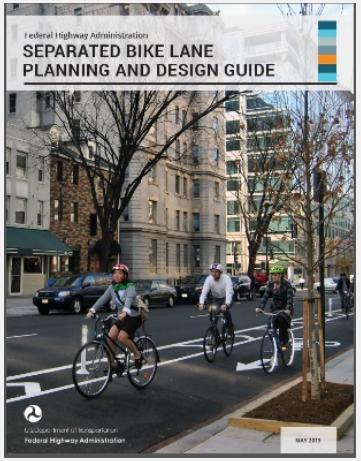
Community Groups

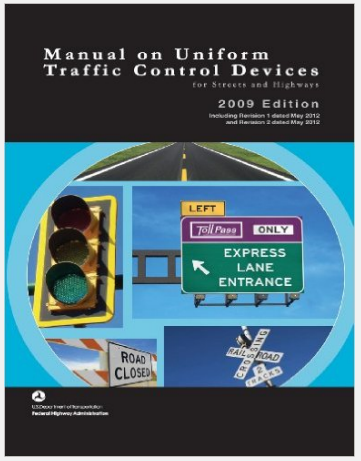
Compilation of common best practices

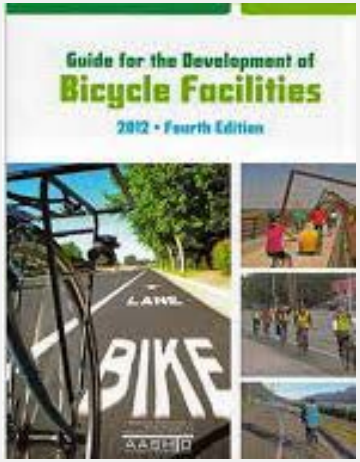
- NACTO
- FHWA
- AASHTO
- ITE
- MUTCD
- Other States and Cities











Navigating the Guide

Information Box

Supplemental information relating to the primary topic

Design Guidance

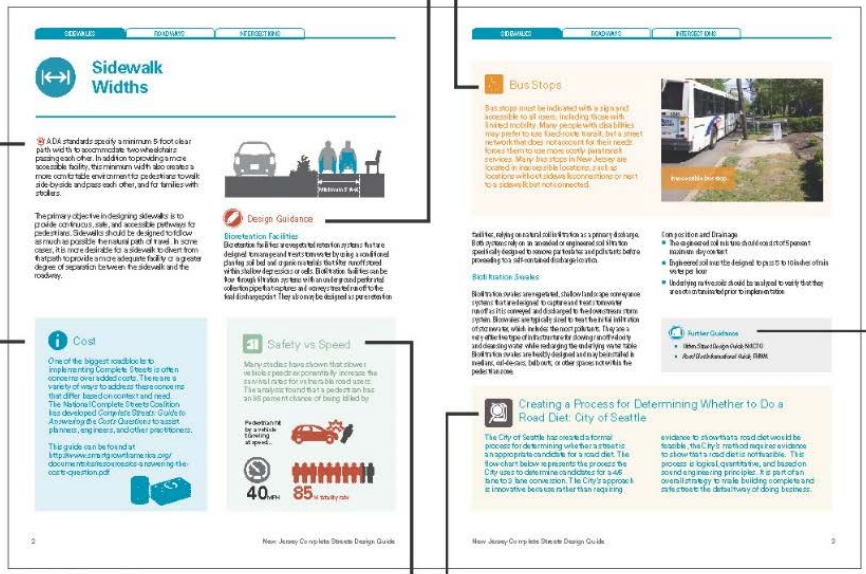
Quantitative and qualitative guidance for Complete Streets designs

Design Standard

In-text call-out for quantitative design standard

ADA Accessibility

Guidance on accessible design standards



Sample Spread

Further Guidance

References to relevent guidelines and design manuals

Data

Data supporting Complete Streets approach

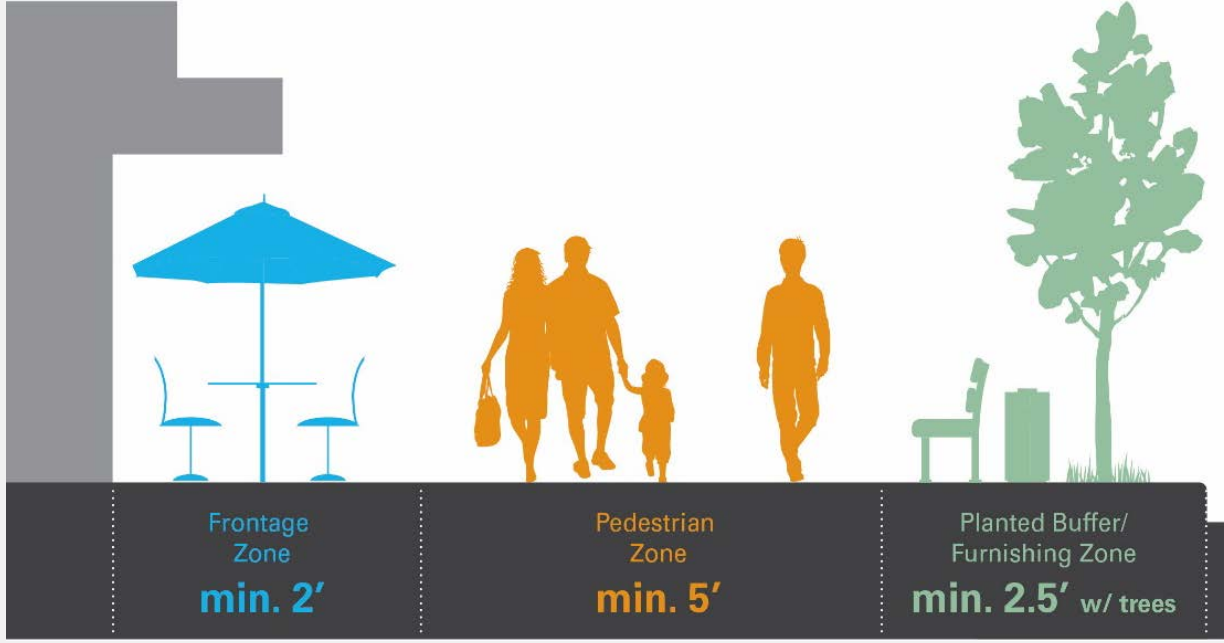
Case Study

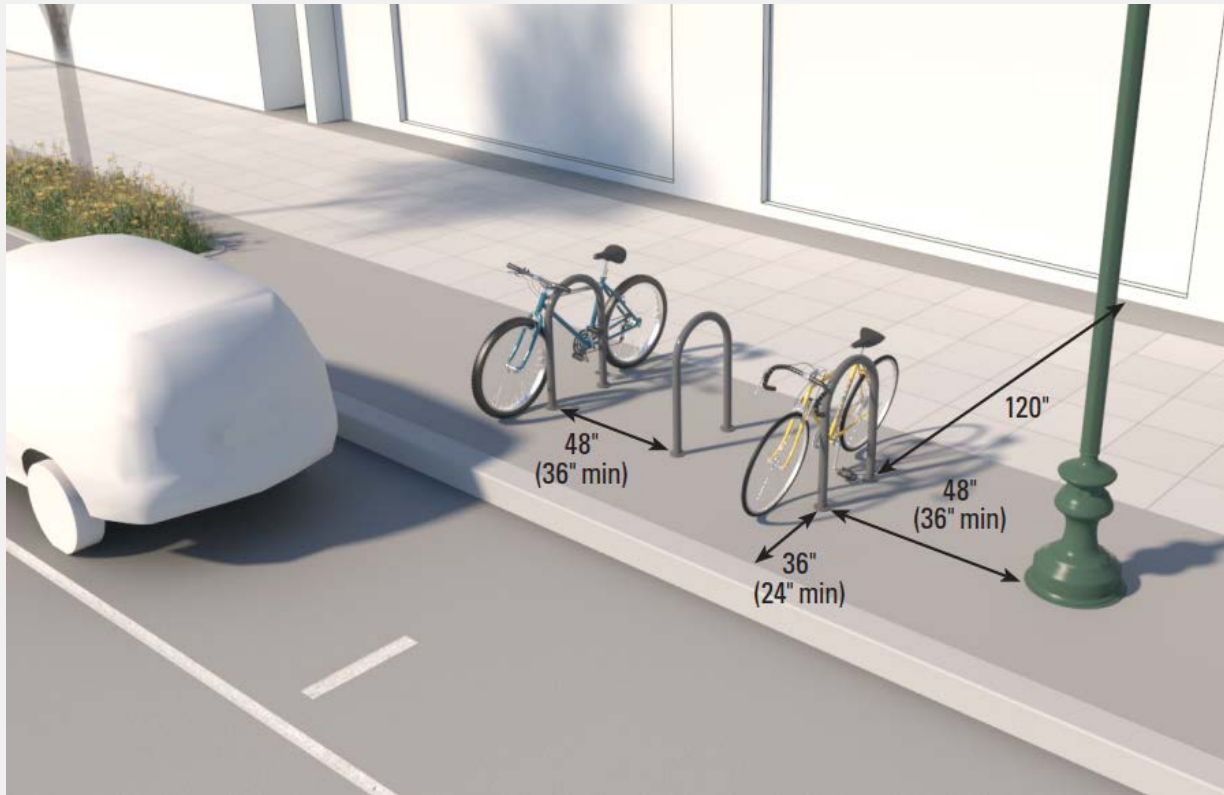
Example application of Complete Streets practice

Contents

Sidewalks

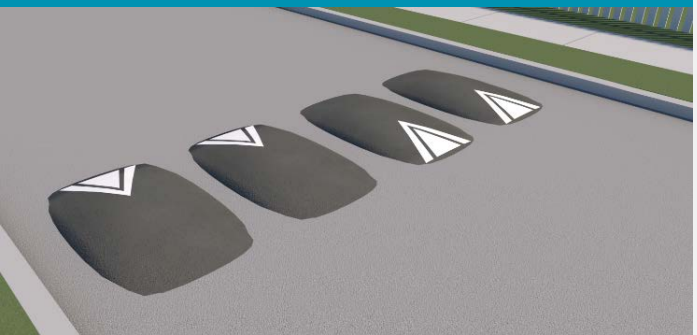
- *Sidewalk widths*
- *Sidewalk zones*
- Driveways
- Street trees
- *Street furniture*
- Bus shelters
- Street lights
- Stormwater management
- *Parklets*

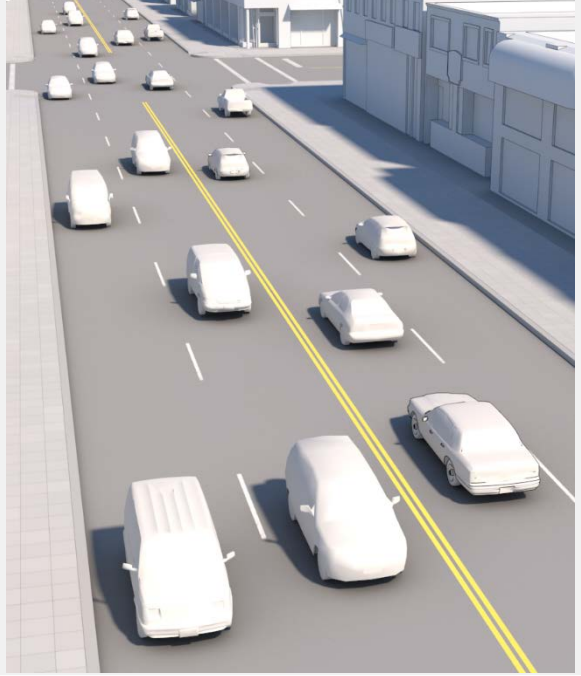


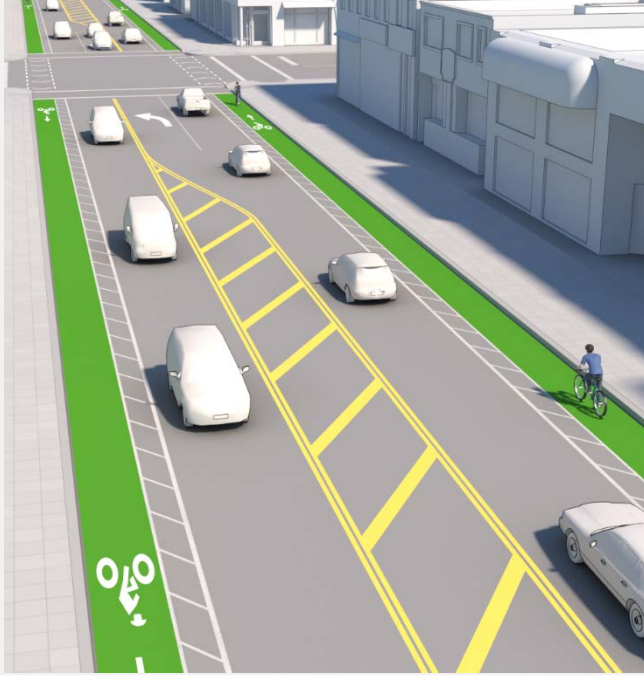


Roadways

- Design speed
- *Traffic calming features*
- Travel lanes
- *Allocating use of space*
- On-street parking
- Design vehicle
- Design hour
- Design year
- Transit
- Quality of transit service
- *Bicycle facilities*
- Wayfinding

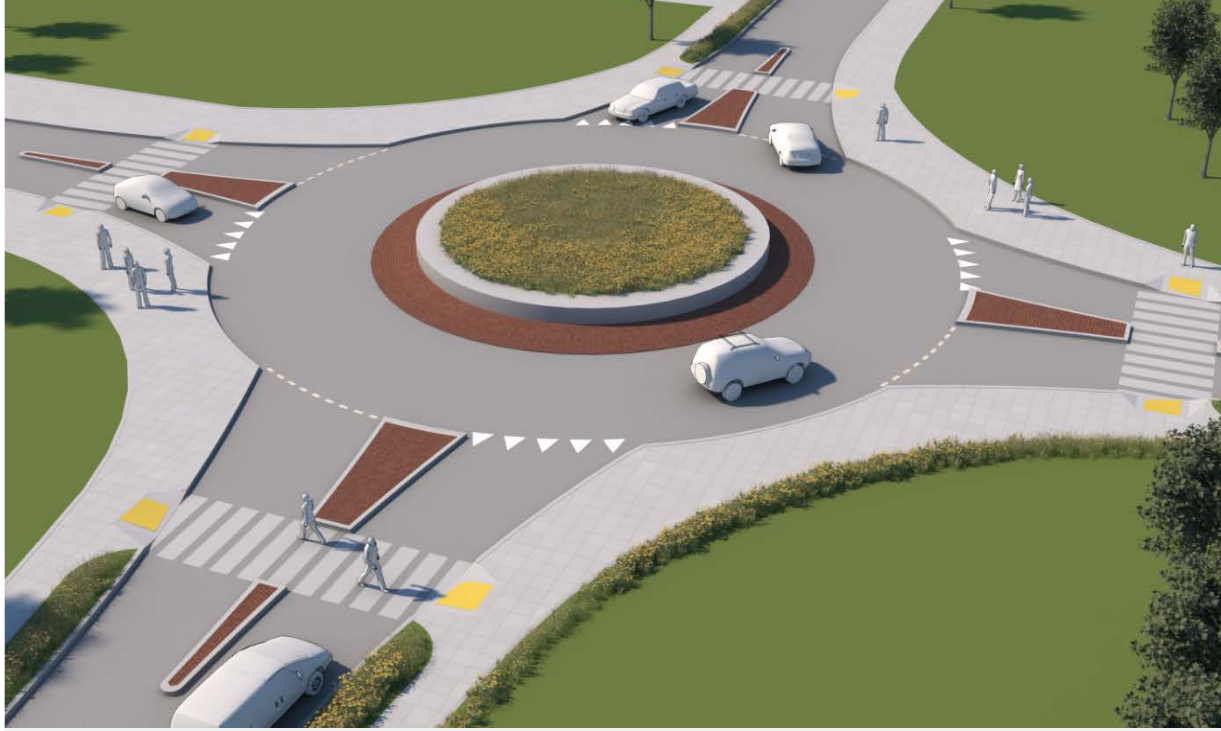






Intersections

- Placemaking at intersections
- Gateways
- Corners and curb radii
- Curb ramps
- Curb extensions
- *Crossing islands*
- Splitter islands
- Raised crossings
- *Roundabouts*
- Channelized right-turn lane
- Diverters
- Crosswalk design
- Signalized intersections
- Bicycle facilities
- RRFBs
- Pedestrian hybrid beacons
- Metrics



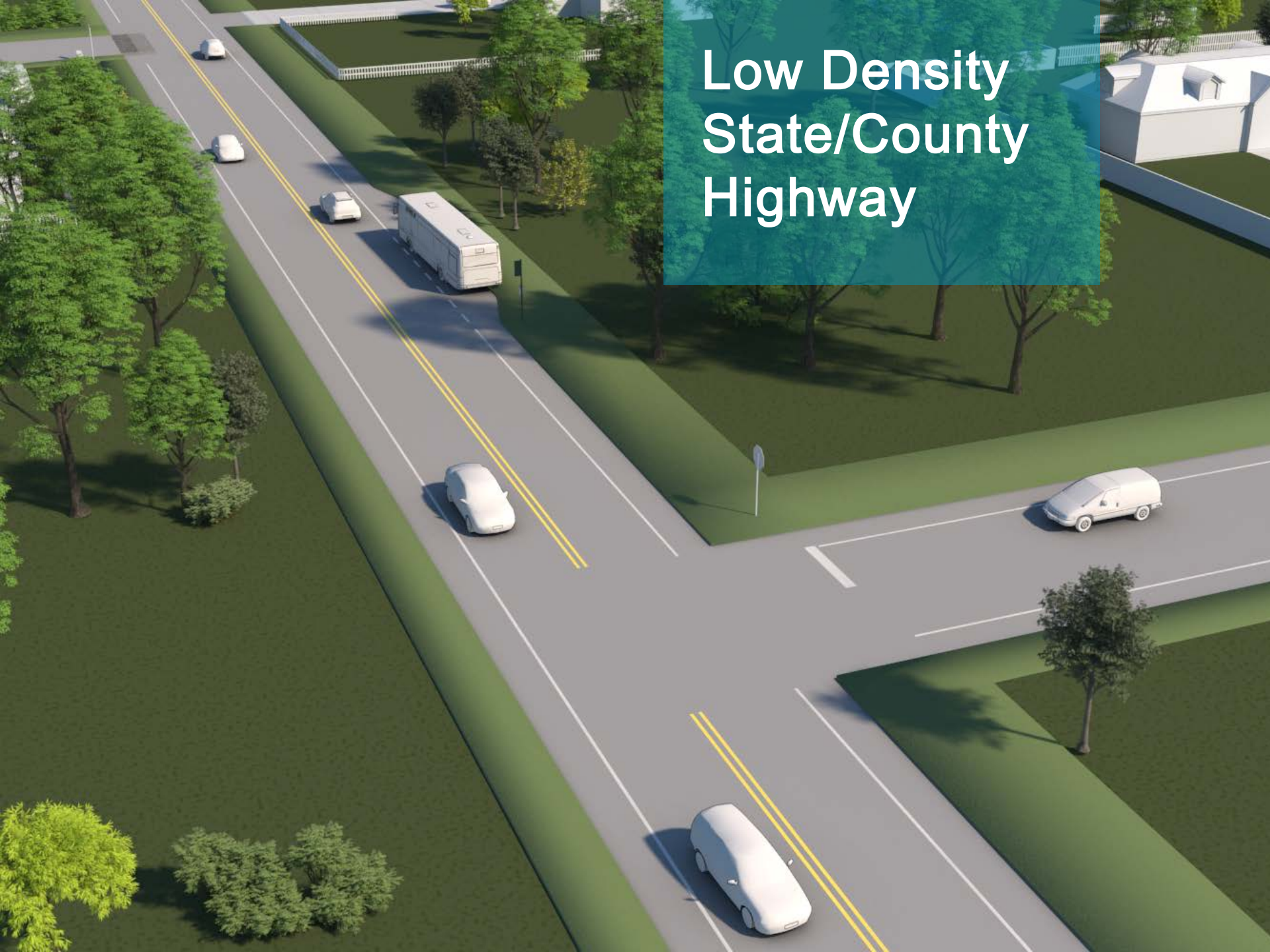
Street Typologies

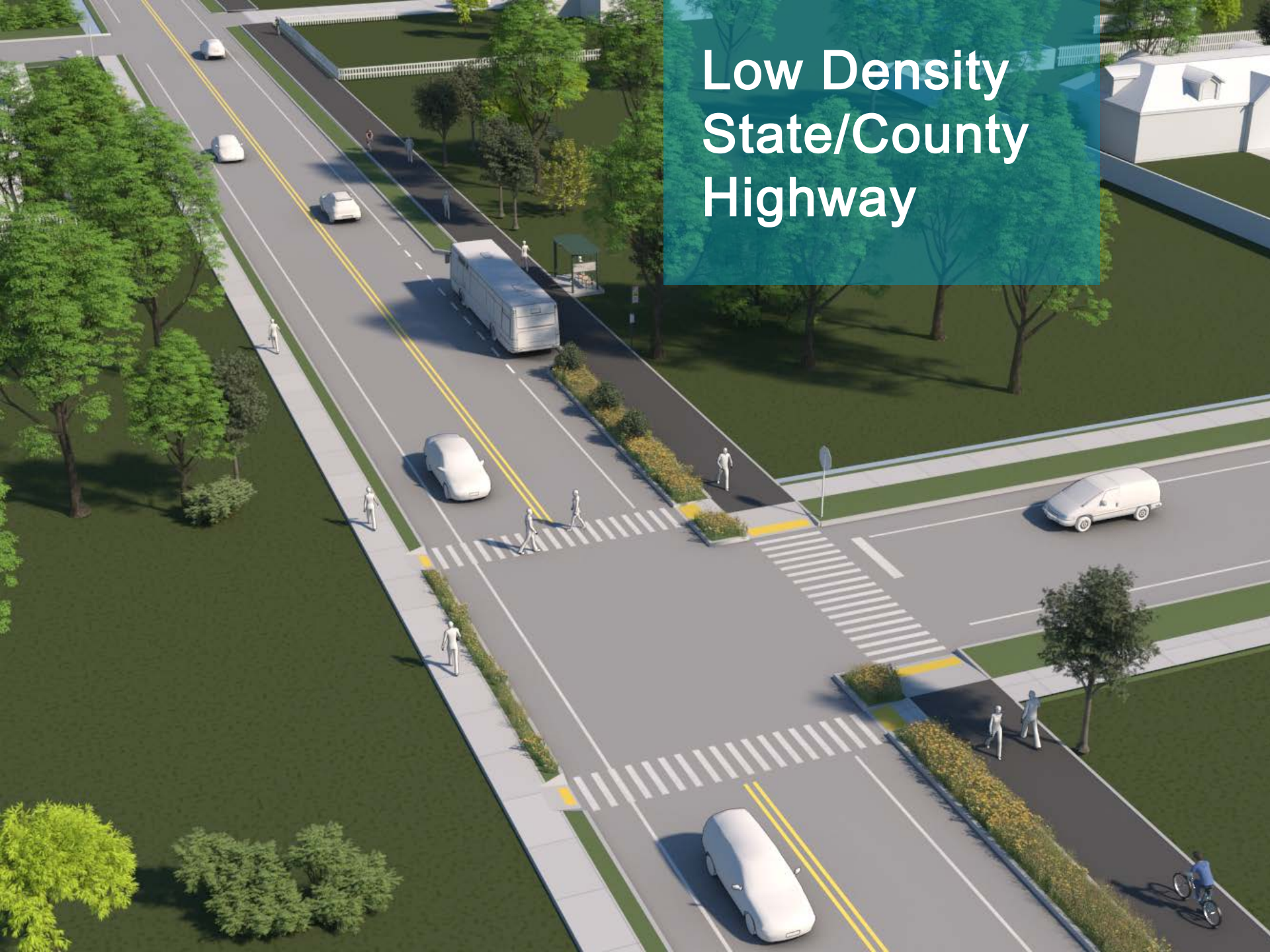
Illustrative examples of applying the toolbox elements based on local context

- Downtown Urban Core
- Main Street
- Commercial Strip Corridor
- Low Density State/County Highway
- Urban Residential
- Suburban/Rural Residential (high volumes)
- Suburban/Rural Residential (low volumes)
- Office/Light Industrial Center


Main Street


Main Street


Low Density
State/County
Highway


Low Density
State/County
Highway

Bicycle Facility Selection Guidance

B

Bicycle Compatibility

Compatible for whom?

AADT: 55,000
Speed: 50 mph
Lane Width: 12 ft
Number of Lanes: 4
Shoulder Width: 10 ft

Compatible for whom?

Condition 3: AADT 10,000+

	Urban (w/ parking)	Urban (w/o parking)	Rural
≤ 30 MPH	SL – 14ft	SL – 14ft	SL – 14ft
31 – 40 MPH	SL – 14ft	SH – 4ft	SH – 4ft
41 – 50 MPH	SL – 15ft	SH – 6ft	SH – 6ft
≥ 50 MPH	N/A	SH – 6ft	SH – 6ft

Outdated Approach

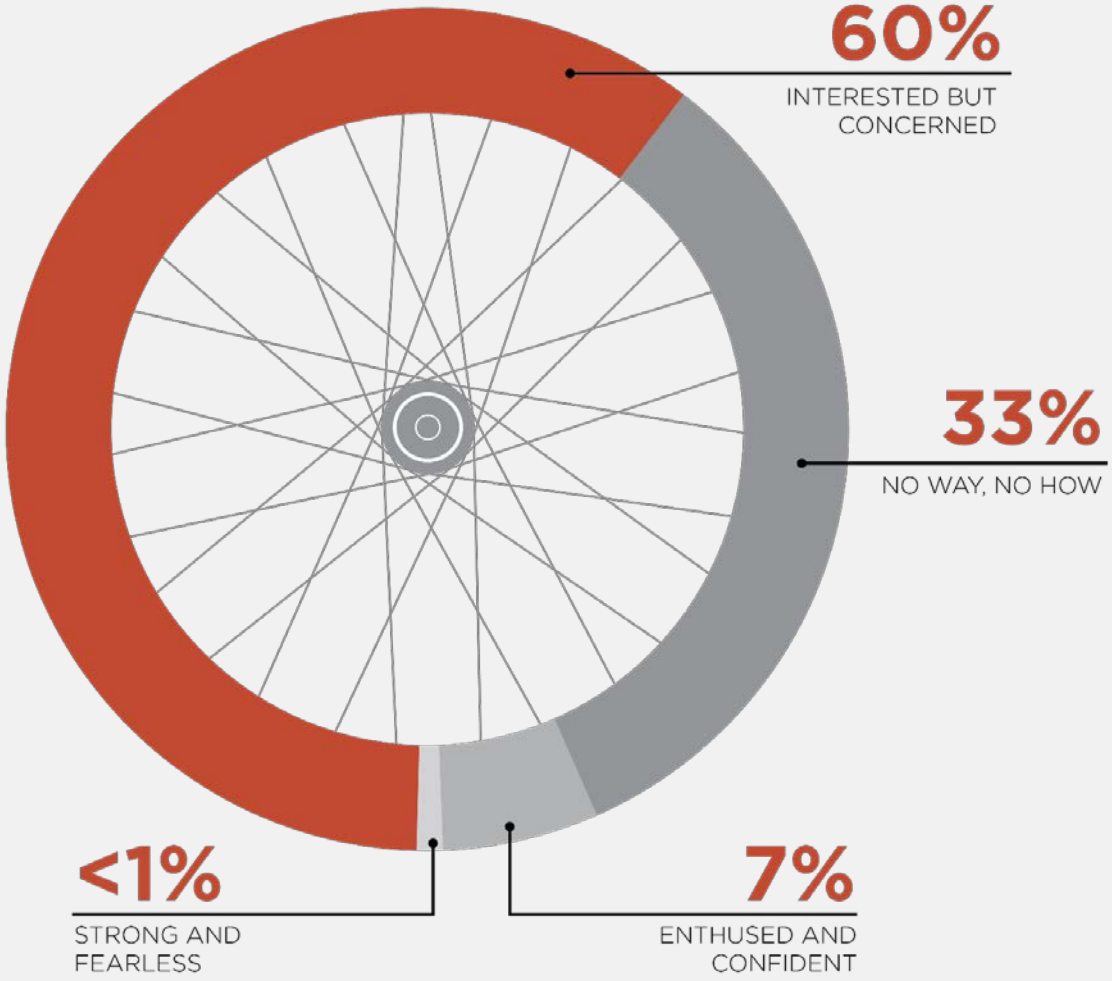
Not reflective of different types of cyclists

DEPARTMENT OF TRANSPORTATION
Complete Streets
THE STATE OF NEW JERSEY

"...all ages and abilities"

Outdated Approach

Who are we designing for?



Source: City of Portland, 2005

Other Guides, Metrics, Research

NACTO

» *Urban Bikeway Design Guide*

FHWA

» *Small Town and Rural Multimodal Networks*

Bicycle Level of Traffic Stress Methodology

Existing User Survey Data

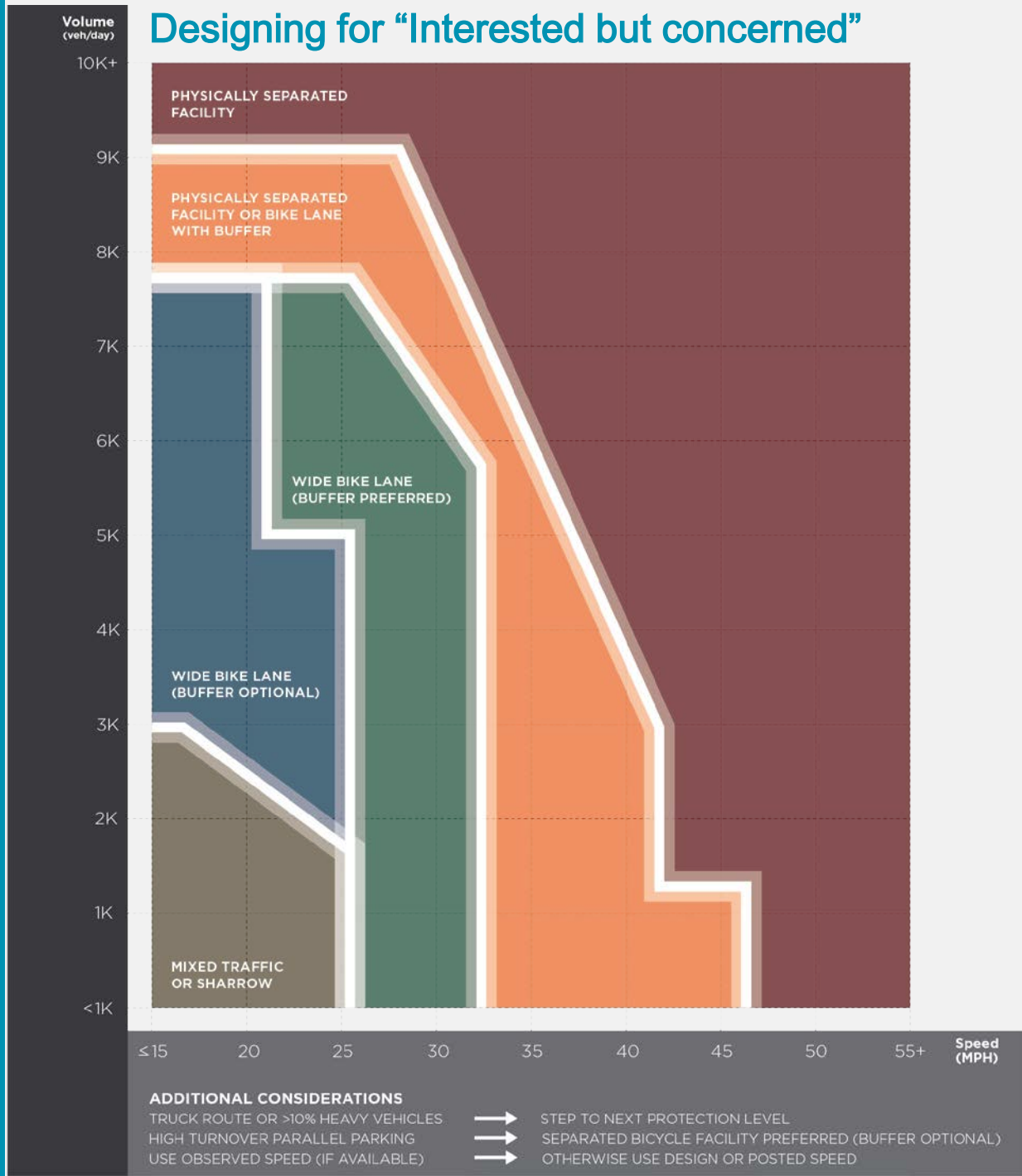
» *NJ State Bike/Ped Plan*

» *National data*

Other Jurisdictions

Example

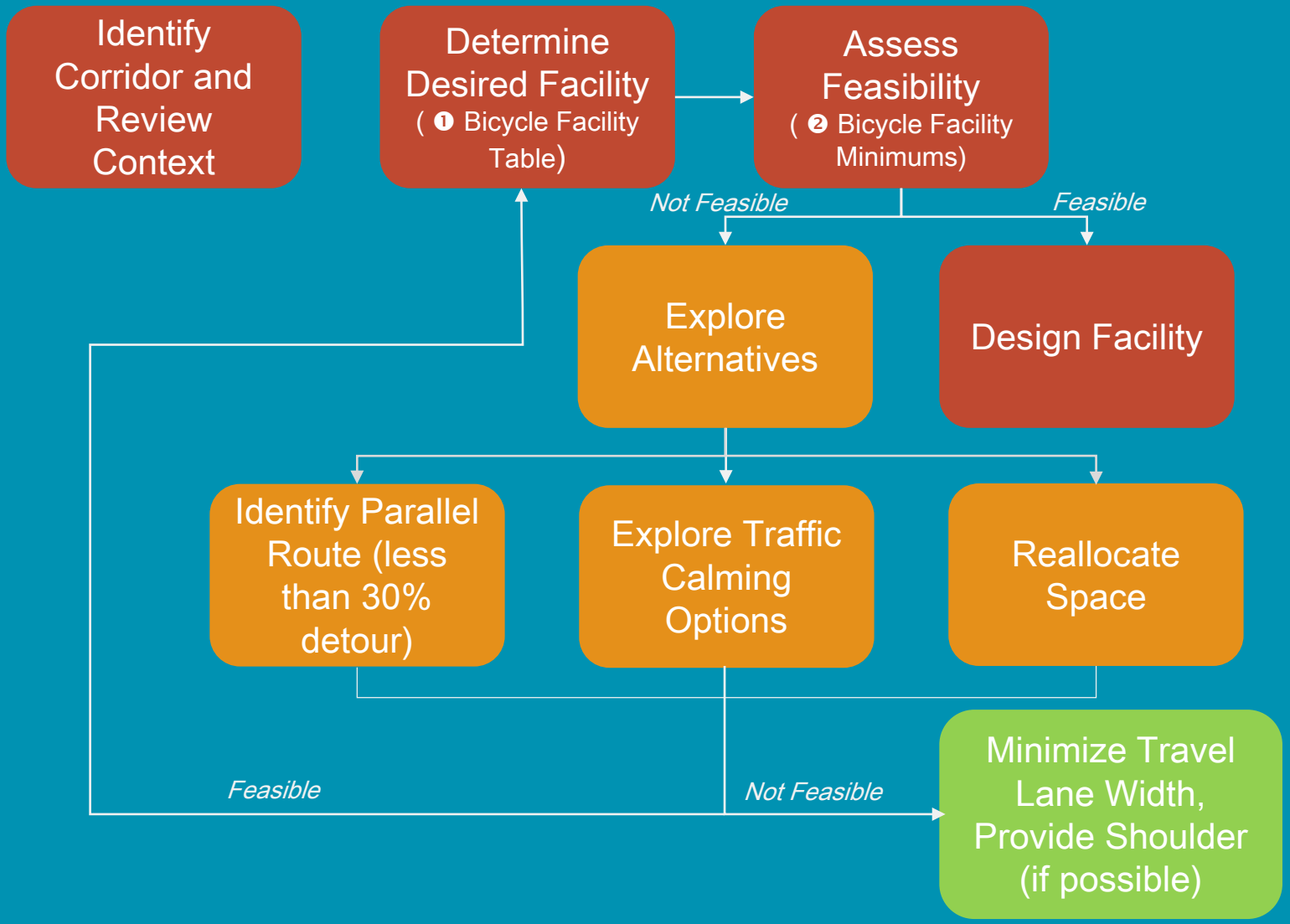
Montgomery County, MD Bicycle Planning Guidance



User Needs

- Comfort – shift towards “all abilities” networks
- Traffic speed
- Separation

Revised Approach to Bicycle Facility Planning



Revised Approach to Bicycle Facility Planning

❶ Bicycle Facilities Table

ADT	85TH PERCENTILE SPEED*						
	≤ 20	25	30	35	40	45	≥50
≤ 2,500	ABCDEF	ABCDEF	CDEF	CDEF	CDEF	DEF	F
2,500-5,000	BCDEF	BCDEF	CDEF	CDEF	DEF	DEF	F
5,000-10,000	B[1]CDEF	B[1]CDEF	CDEF	DEF	DEF	EF	F
10,000-15,000	DEF	DEF	DEF	DEF	EF	EF	F
≥15,000	DEF	DEF	DEF	EF	EF	F	F

A: Shared-Street / Bike Boulevard
B: Shared-Lane Markings
C: Bike Lane
D: Buffered Bike Lane
E: Separated Bike Lane
F: Off-Road Path

**use speed limit if unavailable*

[1] Shared-lane markings not preferred treatment with truck percentages >10%

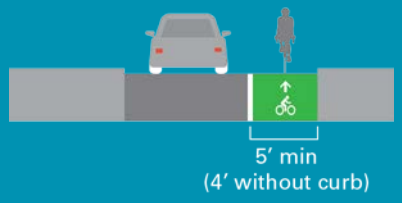
Revised Approach to Bicycle Facility Planning

❷ Bicycle Facility Minimums

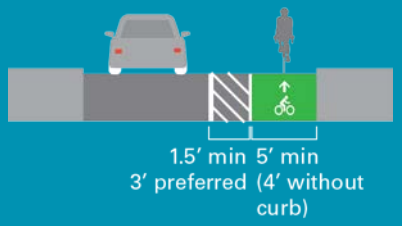
Key Considerations:

- General purpose travel lanes for motor vehicles in most contexts should be 10-11' wide
- Shared-streets have no minimum width requirements
- Shared-lane markings are not appropriate on multi-lane streets

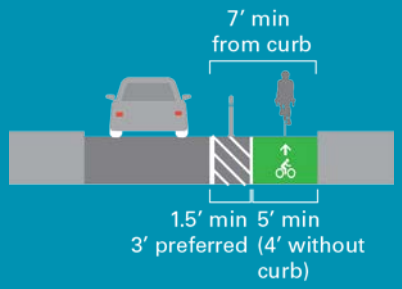
Standard Bike Lane



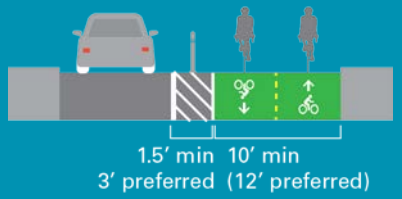
Buffered Bike Lane



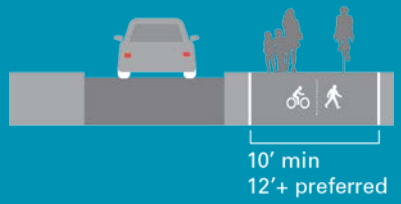
Separated Bike Lane



Two-Way Separated Bike Lane



Off-Road Path



Example 1

Urban Residential Street

Context

Identify Corridor and Review Context

- Ironbound neighborhood, Newark, NJ
- Urban residential
- 25mph
  ~6,000 AADT
  <5% trucks
  one-way

Determine Facility

Determine Desired Facility (❶ Bicycle Facility Table)

❶ Bicycle Facilities Table

ADT	85TH PERCENTILE SPEED*						
	≤ 20	25	30	35	40	45	≥50
≤ 2,500	ABCDEF	ABCDEF	CDEF	CDEF	CDEF	DEF	F
2,500-5,000	BCDEF	BCDEF	CDEF	CDEF	DEF	DEF	F
5,000-10,000	B[1]CDEF	B[1]CDEF	CDEF	DEF	DEF	EF	F
10,000-15,000	DEF	DEF	DEF	DEF	EF	EF	F
≥15,000	DEF	DEF	DEF	EF	EF	F	F

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**use speed limit if unavailable*

[1] Shared-lane markings not preferred treatment with truck percentages >10%

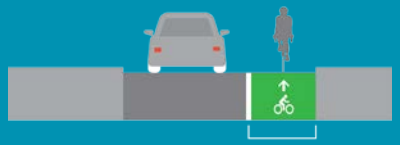
Assess Feasibility

Determine Desired Facility (❶ Bicycle Facility Table)

- 35’ cartway
- 1 travel lane, on-street parking
- 35’ – 10’ – 2*8’ = ~9’ available

Shared Lane

Standard Bike Lane



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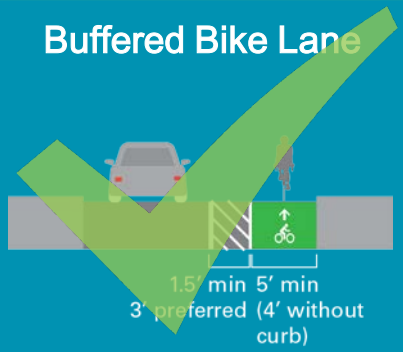
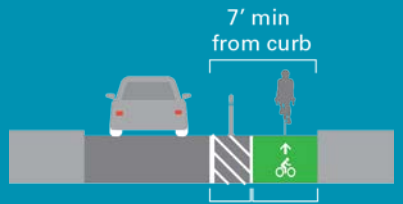


Separated Bike Lane



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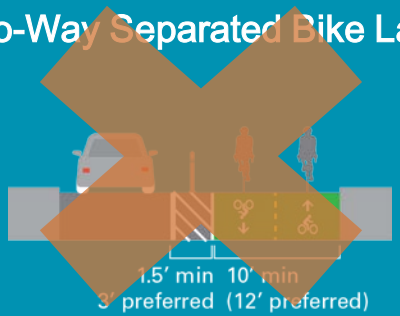

Off-Road Path

Result

Buffered bicycle lane

Design Facility

Result

Buffered bicycle lane

Design Facility

Thank you!

Peter Kremer

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