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

Data
Data supporting Complete Streets approach

Further Guidance
References to relevant guidelines and design manuals

Case Study
Example application of Complete Streets practice

Sample Spread
Contents

1 | Complete Streets in NJ
   » What are Complete Streets?
   » Why Complete Streets?

2 | Integrating Complete Streets into the Planning and Design Process
   » Implementing at the State Level
   » Implementing at the Local Level

3 | Complete Streets Toolbox
   » Sidewalks
   » Roadways
   » Intersections

4 | Street Typologies
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
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
Low Density State/County Highway
Bicycle Facility Selection Guidance
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+**

<table>
<thead>
<tr>
<th>Speed Range</th>
<th>Urban (w/ parking)</th>
<th>Urban (w/o parking)</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 30 MPH</td>
<td>SL – 14ft</td>
<td>SL – 14ft</td>
<td>SL – 14ft</td>
</tr>
<tr>
<td>31 – 40 MPH</td>
<td>SL – 14ft</td>
<td>SH – 4ft</td>
<td>SH – 4ft</td>
</tr>
<tr>
<td>41 – 50 MPH</td>
<td>SL – 15ft</td>
<td><strong>SH – 6ft</strong></td>
<td>SH – 6ft</td>
</tr>
<tr>
<td>≥ 50 MPH</td>
<td>N/A</td>
<td>SH – 6ft</td>
<td>SH – 6ft</td>
</tr>
</tbody>
</table>
Outdated Approach

Not reflective of different types of cyclists

“...all ages and abilities”
Outdated Approach

Method Encourages Wider Roads

Wider Roads Encourage Higher Speeds

Higher Speeds = Higher Stress
Who are we designing for?

- 60% Interested but Concerned
- 33% No Way, No How
- <1% Strong and Fearless
- 7% Enthusied and Confident

Source: City of Portland, 2005
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

1. Identify Corridor and Review Context
2. Determine Desired Facility (Bicycle Facility Table)
   - Assess Feasibility (Bicycle Facility Minimums)
     - Not Feasible
     - Feasible
6. Explore Alternatives
7. Design Facility
8. Explore Traffic Calming Options
9. Identify Parallel Route (less than 30% detour)
   - Feasible
   - Not Feasible
10. Reallocate Space
11. Minimize Travel Lane Width, Provide Shoulder (if possible)
Revised Approach to Bicycle Facility Planning

### 1 Bicycle Facilities Table

<table>
<thead>
<tr>
<th>ADT</th>
<th>85TH PERCENTILE SPEED*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≤ 20</td>
</tr>
<tr>
<td>≤ 2,500</td>
<td>ABCDEF</td>
</tr>
<tr>
<td>2,500-5,000</td>
<td>BCDEF</td>
</tr>
<tr>
<td>5,000-10,000</td>
<td>B¹CDEF</td>
</tr>
<tr>
<td>10,000-15,000</td>
<td>DEF</td>
</tr>
<tr>
<td>≥15,000</td>
<td>DEF</td>
</tr>
</tbody>
</table>

**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

2 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
Example 1

Urban Residential Street
Context

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

### Bicycle Facilities Table

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<td>A B C D E F</td>
</tr>
<tr>
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¹ Shared-lane markings not preferred treatment with truck percentages >10%
Assess Feasibility

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

Shared Lane

Standard Bike Lane

Buffered Bike Lane

Separate Bike Lane

Two-Way Separated Bike Lane

Off-Road Path
Result

Buffered bicycle lane
Result
Buffered bicycle lane
Thank you!

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