Introducing the NACTO Urban Design Guidelines
What Is NACTO?

• Founded 1996

• Peer Network of Large Central Cities (32)

• Advancing Sustainable Transportation and Street Design

• Focus on Local Innovation and Expertise

• City Counterpart to AASHTO
<table>
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<tr>
<th>Date</th>
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<tr>
<td>MAY 13</td>
<td>Training for local policymakers and elected officials</td>
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<td>MAY 14</td>
<td>Training for Public Works and Engineering</td>
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<td>MAY 20</td>
<td>On-site street design charrette at Middlefield Road</td>
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May 13 Agenda Overview

9:00 – 9:15  Opening Remarks

9:15 – 10:30  *Presentations: Design Policies & Assumptions*

10:30 - 10:40  Break

10:40 – 11:30  *Presentations: Streets & Measurement*

11:30 – 12:45  Interactive Design Exercise & Lunch

12:45 – 2:00  *Presentations & Discussion: Bikeway Design & Safe Intersection Design*
May 7, 2014: Tacoma vows to prosecute rogue crosswalk painters
“City Crosswalks must comply with federal guidelines...We look at sight distance, we look at traffic volumes, we look at street width...”

-Kurtis Kingsolver, City of Tacoma Director of Public Works
FOR SAFETY’S SAKE
— CROSS —
This way — not here — not this way
QUIT JAY WALKING

OBEY!

Obedience may save a life
Prepared by the
AMERICAN AUTOMOBILE ASSOCIATION
THE MALL — KALAMAZOO, MICHIGAN
Prevailing design guidelines define every street as a highway.
Fixed-object hazards vs. community assets
The Need for Speed

“The objective in design of any engineered facility used by public is to satisfy the public’s demand for service in an economical manner with efficient traffic operations and with low crash frequency and severity. The facility should, therefore, accommodate nearly all demands with reasonable adequacy and also should not fail under severe or extreme traffic demands. Therefore, highways should be designed to operate at a speed that satisfies nearly all drivers.”

A Policy on Geometric Design of Highways and Streets, AASHTO (2-53 (2.3.6))
We must align our Policy Goals With our Engineering Specs
What do we expect of our streets?

THEN

Speed
Mobility
Safety

NOW

Multi-Modal Options
Public Health/Safety
Economic Development
Environmental Quality
Community Building/Livability
Equity

Credit: Tom Maguire, NYC DOT
People are Driving Less, Biking and Walking More
Barriers, while needed in tight spaces, can narrow both roadway and path and create hazards.

Stopped motor vehicles on side streets or driveways may block the path.

At path's end, bicyclists going against traffic may continue riding the wrong way.

To get to a path entrance, bicyclists may ride against traffic or make unanticipated crossings.

Some bicyclists may find the road cleaner, safer, and more convenient, frustrating some motorists.

Right turning Driver A is looking for traffic on the left; Left turning driver B is looking for traffic ahead; in both cases, a wrong-way bicyclist is not in the drivers' main field of vision.
The height of the island should be curb level, 6 inches high. When used as an exclusive bicycle facility it may be desirable to keep the refuge area at street level. The height of the island should be curb level, 6 inches high. An angled cut-through (45 degrees) should be provided to position bicyclists to face oncoming traffic. If the cut-through is to be shared with pedestrians, the 45-degree angle of the curb should transition back to being perpendicular to the street to provide proper directional cues for the blind.

The refuge area should be wide enough to accommodate two-way bicycle traffic.

Optional Features

11. "Advanced Stop" signs and markings for motorists may be included.

12. Landscaping may be provided in the median, but it should not compromise visibility.

13. Lighting may be installed for improving visibility of the facility at night.

14. At signalized intersections, push buttons or other detection methods may be provided to actuate the signal head.

15. The median refuge can be carried across the entire cross street approach to act as a diverter to prevent cut-through traffic on a bicycle route.
Cycle Tracks
2009
Pre-NACTO Guide

*NACTO Members only
Cycle Tracks
2014
Post-NACTO Guide

*NACTO Members only
The Urban Street Design Guide
Downtown 1-Way Street
Downtown 2-Way Street
Downtown Thoroughfare
Neighborhood Main Street
Neighborhood Street
Yield Street
Boulevard

Residential Boulevard
Transit Corridor
Green Alley
Commercial Alley
Residential Shared Street
Commercial Shared Street
STREET DESIGN ELEMENTS

Lane Width
Sidewalks
Curb Extensions
  Gateway
  Pinchpoint
  Chicane
  Bus Bulbs

Vertical Speed
Control Elements
  Speed Hump
  Speed Table
  Speed Cushion

Transit Streets
  Dedicated Curbside/Offset Bus Lanes
  Dedicated Median Bus Lanes
  Contra-Flow Bus Lanes
  Bus Stops

Stormwater Management
  Bioswales
  Flow-Through Planters
  Pervious Strips
  Pervious Pavement
Moving the curb
Parklets
Temporary Street Closures
Interim Public Plazas
INTERSECTIONS

Principles
Major Intersections
Intersections of Major and Minor Streets

Raised Intersections
Mini Roundabout
Complex Intersections
Intersection Design Elements

Crosswalks and Crossings
- Crosswalks
- Conventional Crosswalks
- Midblock Crosswalks
- Pedestrian Safety Islands
- Corner Radii
- Visibility/Sight Distance

Traffic Signals
- Signalization Principles
- Leading Pedestrian Interval
- Split-Phasing
- Signal Cycle Lengths
- Fixed vs. Actuated Signalization
- Coordinated Signal Timing
Design Controls

Design Speed
Design Vehicle
Design Hour
Design Year
Performance Measures
Functional Classification
Raised Intersections

Raised intersections create a safe, slow-speed crossing and public space at minor intersections. Similar to speed humps and other vertical speed control elements, they reinforce slow speeds and encourage motorists to yield to pedestrians at the crosswalk.

RECOMMENDATIONS

1. Raised intersections are flush with the sidewalk and ensure that drivers traverse the crossing slowly. Crosswalks do not need to be marked unless they are not at grade with the sidewalk. ADA-compliant ramps and

2. Raised intersections (and mini roundabouts) with yield control are preferred to signals on low-speed (<20 mph) and low-volume (<3,000 ADT) streets, as well as some moderate-volume streets in 30 mph zones. STOP signs should be used instead of YIELD signs if there are concerns that drivers might ignore the pedestrian's

4. Where two 1-way streets intersect, there will be two corners around which no drivers turn. This can be designed with the smallest constructible radius (approximately 2 feet) as long as a 40-foot fire truck can make the turn without encroaching upon the sidewalk.
NACTO.ORG/USDG

Urban Street Design Guide

Urban Street Design Guide

Streets

Intersections

Street Design Elements

Intersection Design Elements

Interim Design Strategies

Design Controls
A commercial shared street environment should be considered in places where pedestrian activity is high and vehicle volumes are either low or discouraged.

EXISTING

The downtown street in the rendering above is a common sight in many older cities where downtown commercial streets may predate wider grid streets. In newer cities, a retail district with heavy parking utilization and narrow, congested sidewalks may have similar conditions or opportunities.

1. Sidewalk congestion creates unsafe conditions, as crowding forces some pedestrians to walk in the street to avoid crowds.

   Vehicles in search of on-street parking create traffic congestion.

2. Loading and unloading trucks obstruct pedestrian and vehicle traffic. Truck drivers park on the sidewalk to preserve vehicle flow while unloading, forcing pedestrians to mix with motorists.

RECOMMENDATIONS

3. Textured or pervious pavements that are flush with the curb reinforce the pedestrian-priority operation of the street and delineate a non-linear path of travel or narrow carriageway. Special pavements, especially

4. Commercial shared streets should be accessible by single-unit trucks making deliveries. Where commercial alleys are non-existent, it may be advantageous to design a shared street to accommodate large trucks.

Provide tactile warning strips at the entrance to all shared spaces. Warning strips should span the entire intersection crossing.

Prior to the application of a shared street
Existing
Reconstruction
Street Design in Context
Street Design in Context
Street Design in Context
Using the Guide: The Next Steps
## State DOT Methods of Adoption

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<tr>
<td>Complete Streets Policy</td>
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Endorsement Campaign: Ending May 31, 2014

December 16, 2013

Mr. Ed Reiskin, President
NACTO
55 Water Street, 9th Floor
New York, NY 10041

Dear Mr. Reiskin;

Washington State Department of Transportation (WSDOT) would like to be the first State DOT to officially endorse the National Association of City Transportation Officials’ (NACTO) Urban Street Design Guide, and are working toward adopting this guide into our policies and procedures. It provides a vision for a new generation of city street design that is consistent with the vision and mission I am developing for the Department. It will also continue to support WSDOT’s strategic planning and practical design emphasis and move us toward Governor Inslee’s visionary state goals; Results Washington.

We believe that the low-cost innovations, interim solutions, and improvements outlined in the Guide can bring many significant benefits to communities across Washington in a short period of time. This is true in even challenging locations where sections of state highway run through cities and must serve as both thoroughfares and local access, maintaining traffic flow and ensuring community livability and safety.
Publications such as the National Association of City Transportation Officials (NACTO) “Urban Street Design Guide” and “Urban Bikeway Design Guide,” and the Institute of Transportation Engineers (ITE) “Designing Urban Walkable Thoroughfares,” are resources that Caltrans and local entities can reference when making planning and design decisions on the State highway system and local streets and roads. Caltrans believes that such guidance, coupled with thorough documentation of engineering judgments made in the process, can be of assistance to communities, particularly in urban areas, to support the planning and design of safe and convenient facilities that they own and operate.
“Good news—I hear the paradigm is shifting.”