

Speaking Two Different Languages



Pop-up curb extension, Broadus MT



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Typical challenges working with DOT

- A unique and often unfamiliar language; e.g. LOS, ADT, RRFB, “Improvement”
- Public meetings: often technical; more information-sharing than collaborative decision-making or consensus building.
- Rules & design guidance that may be unclear, even counter-intuitive to others (e.g. AASHTO, MUTCD).
- Many silos: Planning; maintenance & operations; engineering & design; safety.
- Many layers in decision processes; many state/federal regulations & reporting requirements.

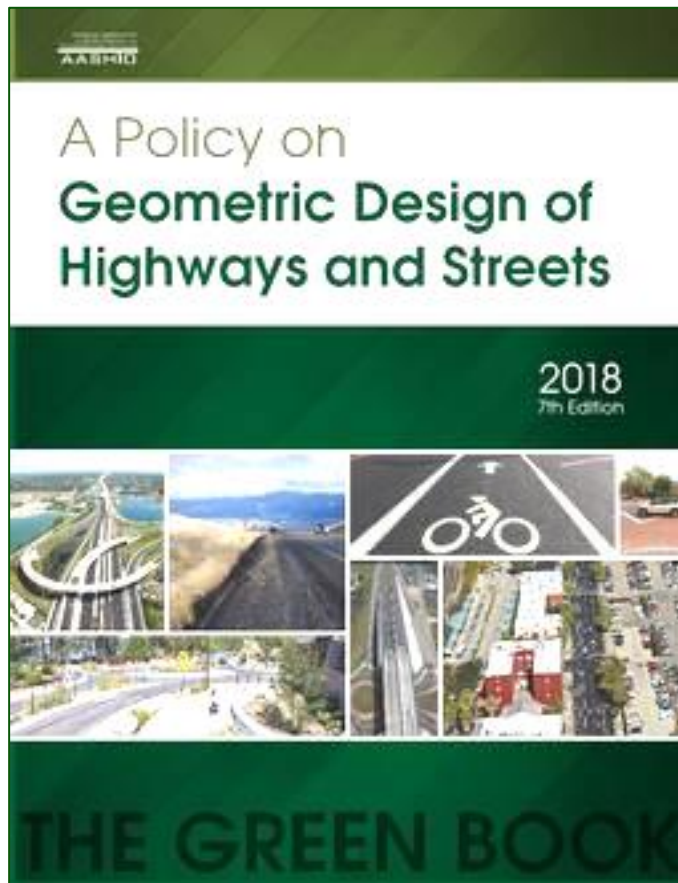


Thoughts:

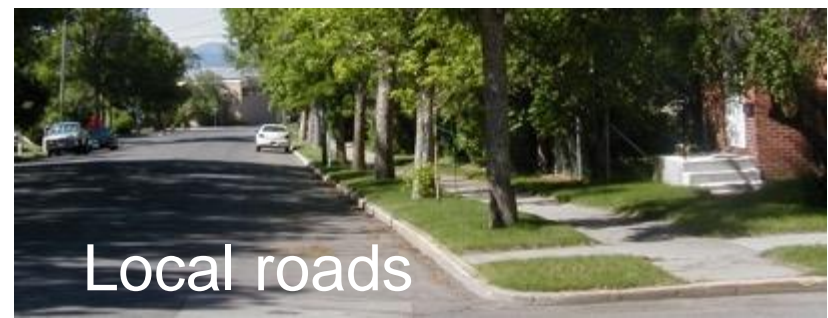
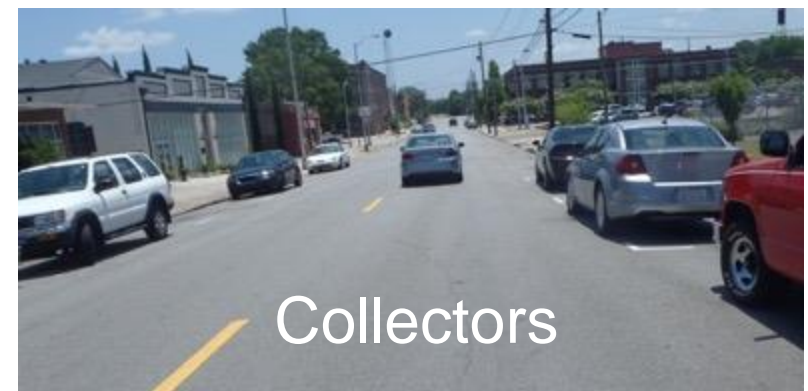
- DOT's are often big, complex bureaucracies.
- Just as in Departments of Health, not all groups and divisions talk or coordinate their work well.
- BUT we have shared goals:
 - Reducing crashes, injuries, & fatalities.
 - Reducing congestion and emissions.
 - Moving people, goods, services efficiently.



Two guides have driven how we build roads.



E.g. roadway classification



AASHTO Green Book
American Association of State
Highway & Transportation
Officials

LOS - Level of Service

Motor vehicle flow, delay, & freedom of movement.

LOS	Description	Speed (mph)	Flow (veh./hour/lane)	Density (veh./mile)
A	Traffic flows at or above posted speed limit. Motorists have complete mobility between lanes.	Over 60	Under 700	Under 12
B	Slightly congested, with some impingement of maneuverability. Two motorists might be forced to drive side by side, limiting lane changes.	57-60	700-1,100	12-20
C	Ability to pass or change lanes is not assured. Most experienced drivers are comfortable and posted speed is maintained but roads are close to capacity. This is the target LOS for most urban highways.	54-57	1,100-1,550	20-30
D	Typical of an urban highway during commuting hours. Speeds are somewhat reduced, motorists are hemmed in by other cars and trucks.	46-54	1,550-1,850	30-42
E	Flow becomes irregular and speed varies rapidly, but rarely reaches the posted limit. On highways this is consistent with a road over its designed capacity.	30-46	1,850-2,000	42-67
F	Flow is forced, with frequent drops in speed to nearly zero mph. Travel time is unpredictable.	Under 30	Unstable	67- Maximum

This table summarizes highway Level of Service (LOS) rating, an indicator of congestion intensity.

ADT - Average Daily Traffic

(AADT - Annual Average Daily Traffic)

100-1000; neighborhood streets



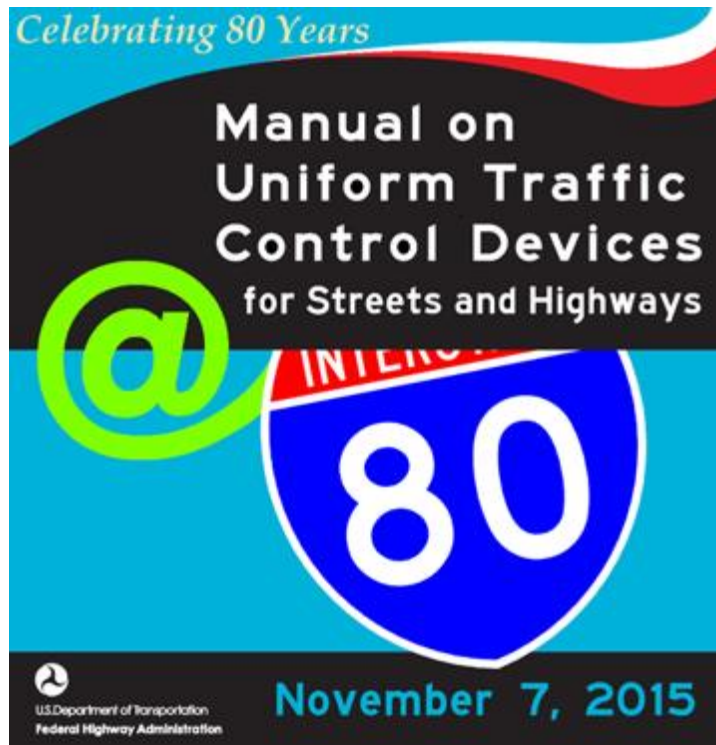
1,000-10,000; business districts, Main Streets



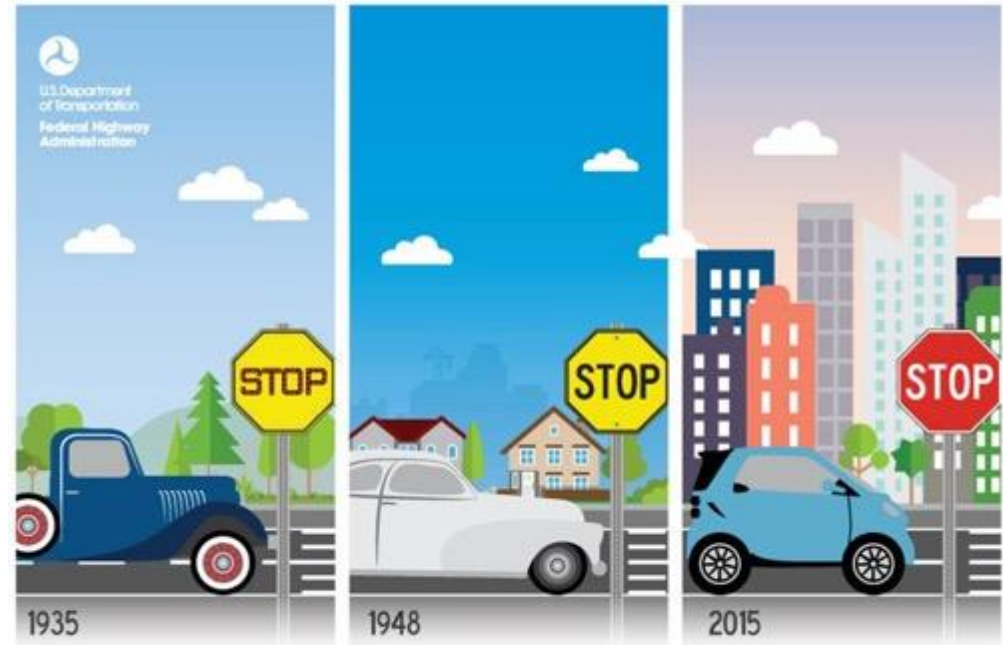
10,000-30,000;
commercial corridors,
by-pass routes.



MUTCD - Manual on Uniform Traffic Control Devices



Federal Highway
Administration (**FHWA**)



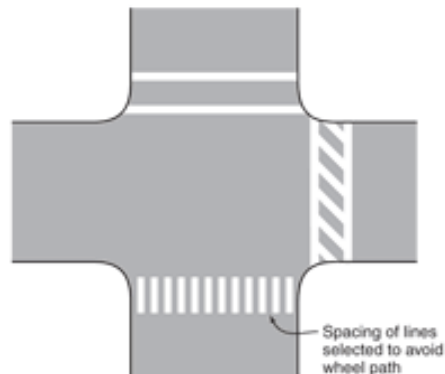
When is a crosswalk "warranted" at an uncontrolled location?

Typically depends on

- Number of lanes.
- Vehicle speeds.
- Traffic volume (ADT).
- Number of pedestrian crossings/hour.
- Visibility, sight lines.



Figure 3B-19. Examples of Crosswalk Markings



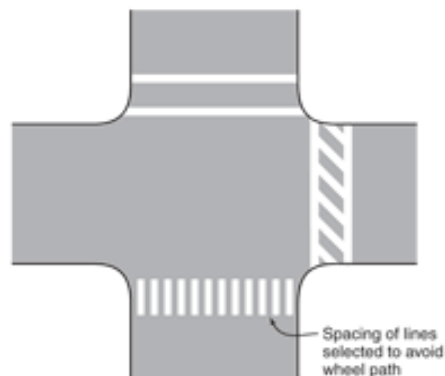
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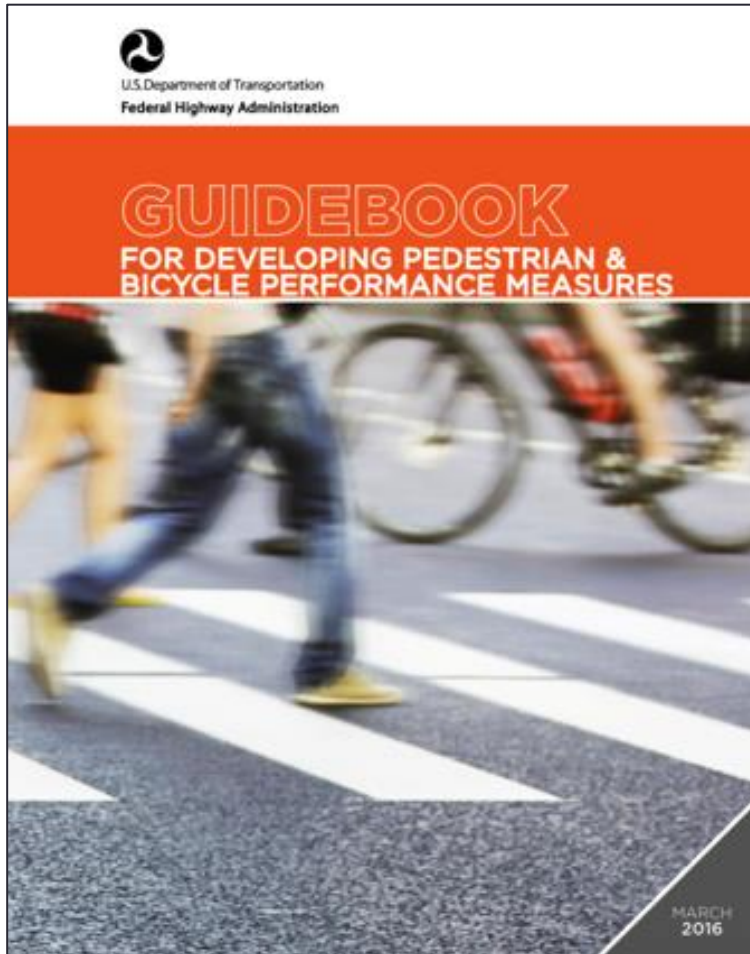
- Number of lanes.
- Vehicle speeds.
- Traffic volume (ADT).
- *Potential pedestrian crossings/hour.*
- Visibility, sight lines.
- *Adjoining land uses.*



Figure 3B-19. Examples of Crosswalk Markings



Planning & design



Valid performance measures.

- Reducing *vehicle miles traveled*
- Increasing walking & bicycling
- Health outcomes
- Access for underserved pops.
- Job & retail access & activity
- Property value
- Environmental impacts.

[fhwa.dot.gov/environment/bicycle_pedestrian/publications/performance_measures_guidebook/pm_guidebook.pdf](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/performance_measures_guidebook/pm_guidebook.pdf)


Design principles

- Focus on *flexibility*.
- Engineering judgement.
- Distinguishes recommendations from requirements.



ACHIEVING MULTIMODAL NETWORKS

APPLYING DESIGN FLEXIBILITY
& REDUCING CONFLICTS



U.S. Department of Transportation
Federal Highway Administration

AUGUST 2016

[fhwa.dot.gov/environment/bicycle_pedestrian/
publications/multimodal_networks/](https://fhwa.dot.gov/environment/bicycle_pedestrian/publications/multimodal_networks/)

Examples . . .

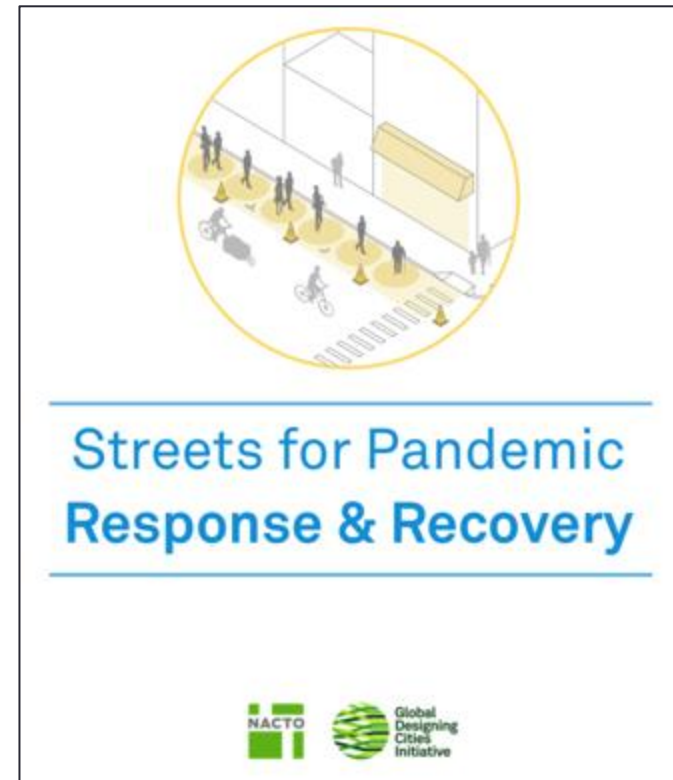
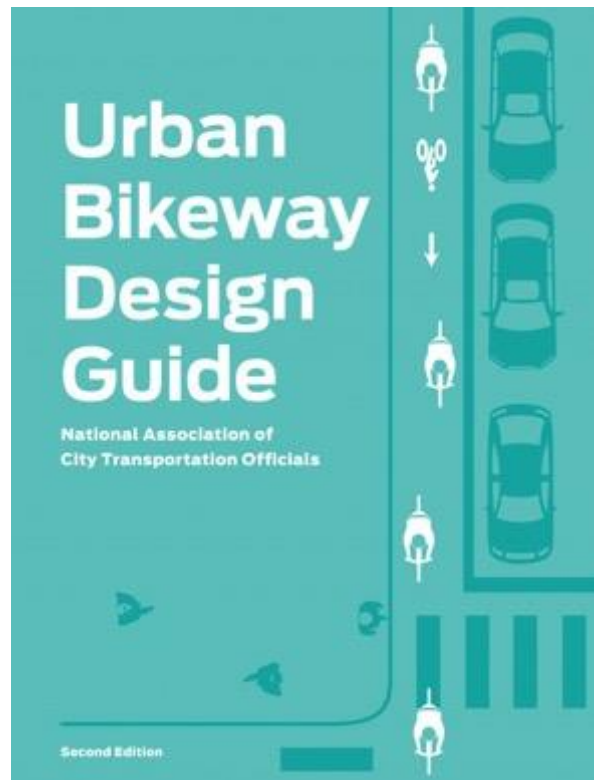
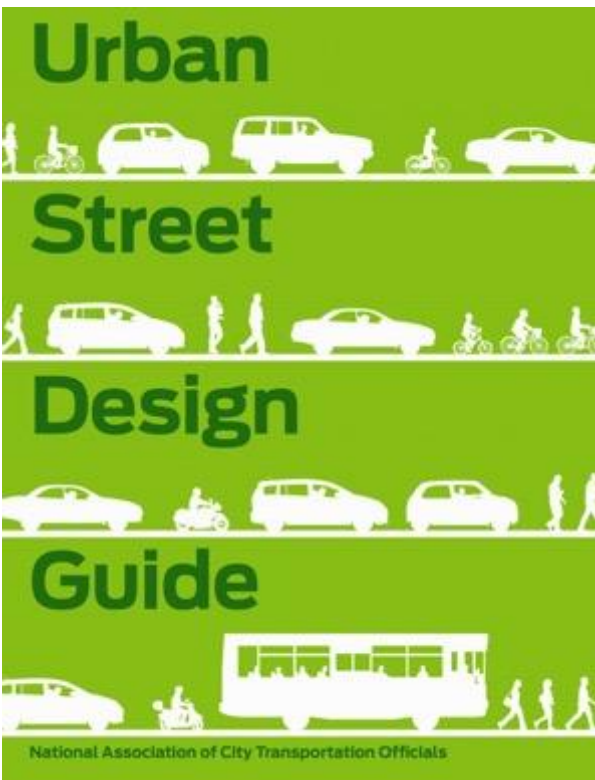


Buffered Bike Lane



Leading Pedestrian Interval (LPI)

National Assoc. of City Transportation Officials

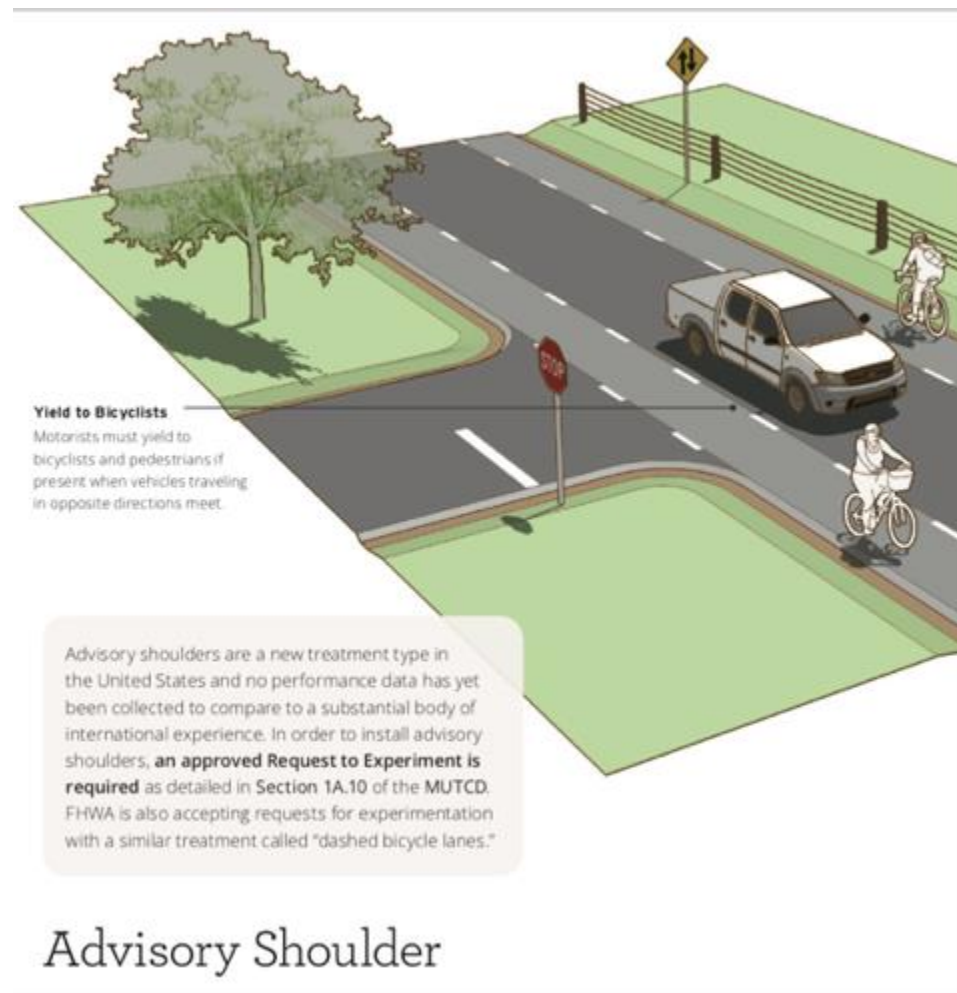
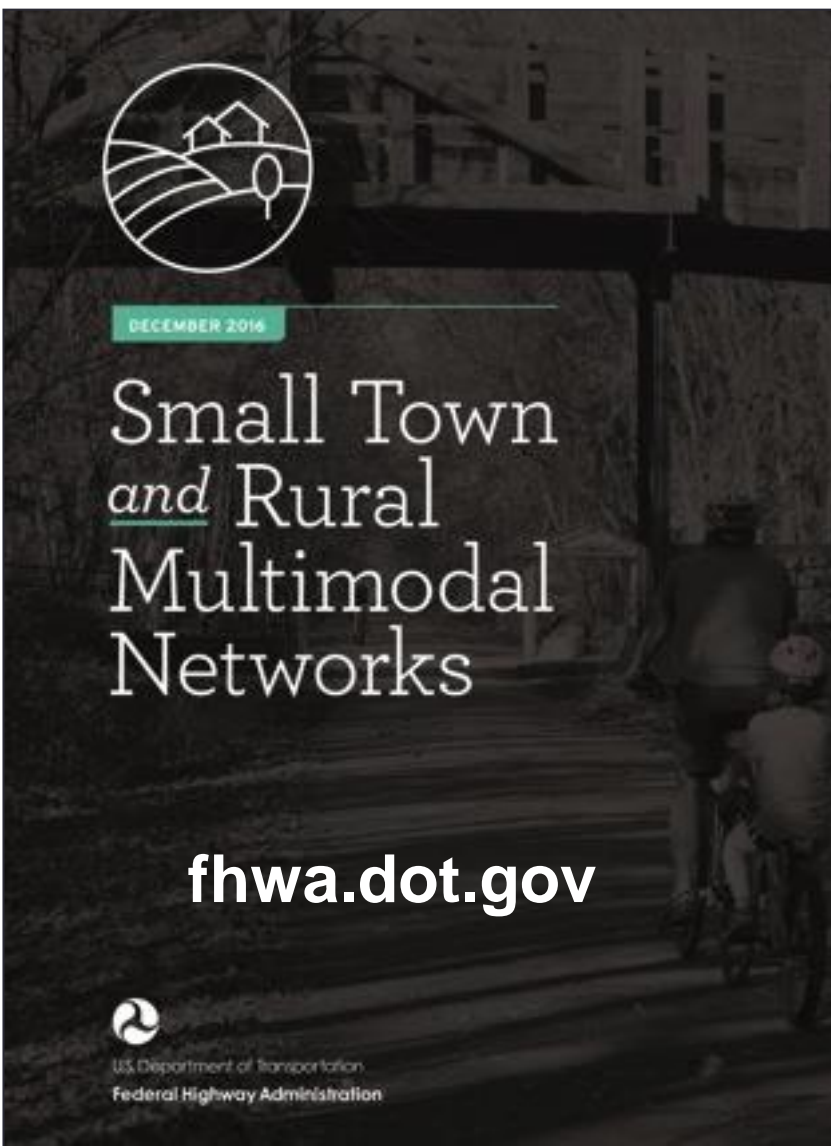


Real world best-practice guidance.

nacto.org/publications/design-guides/

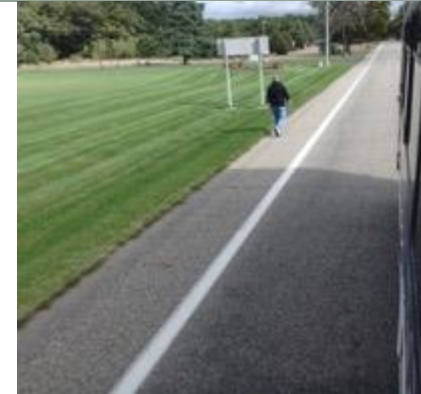


Print, bind, & share this design guide!



ruraldesignguide.com

Routine accommodation



**Incorporating
On-Road Bicycle Networks
into Resurfacing Projects**





RETHINKING STREETS

An Evidence-Based Guide to 25 Complete Street Transformations



Marc Schlossberg, PhD
John Rowell, AIA
Dave Amos
Kelly Sanford

rethinkingstreets.com



Main Street (US 62)

Hamburg, NY
Metro Population: 1,120,500 | City Population: 6,898



BEFORE MAIN STREET

This small village revived its city center by working with the State Department of Transportation on its downtown streets.

- Pedestrian improvements included mid-block pedestrian crossings, landscaping and sidewalk extensions.
- Traffic calming strategies were employed, including narrowed lanes and roundabouts.

Main Street

STREET CLASSIFICATION
Urban Minor Arterial

RIGHT OF WAY
66 ft

LENGTH
1.9 miles

SPEED
SPEED LIMIT 30 BEFORE | SPEED LIMIT 30 AFTER

AVERAGE DAILY TRAFFIC
12,100 BEFORE | 15,000 AFTER

PROCESS
4 years Construction

KEY OUTCOMES

Fewer, Less Severe Accidents
Car Accidents dropped by 64% and injuries dropped by 60% two years after the changes were implemented in 2009.

Local Business Blossomed
The Village Business Advisory Council (VBAC) made a concerted effort to promote local businesses during construction. No businesses were lost during construction, and more businesses were attracted to the area after the improvements. The number of building permits rose from 15 in 2009 to 96 in 2011.

New Investment Downtown
\$7 million dollars were spent on 13 building projects in the four years since the design was implemented. The New York Main Street Grant Program contributed \$200,000 in grants which sparked \$1.2 million in private investment.

Boost to Property Values
Locals report that people are returning to Hamburg, and average property sales increased 189% from 2005 to 2011.

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TRUCK ACCESS MAINTAINED

Buffalo Street is a designated truck route, and the new roundabouts were carefully designed to provide enough room for large turning vehicles.

ROUNDABOUTS REPLACE INTERSECTIONS

This roundabout transformed an ordinary intersection into a landmark.

INCREASE IN BUILDING PERMITS PER YEAR

Increased investment on the street began in 2005, at the beginning of construction, and jumped again after construction was completed in 2009.

REVITALIZED STOREFRONTS

This exterior renovation received a \$7,500 grant to help cover expenses.

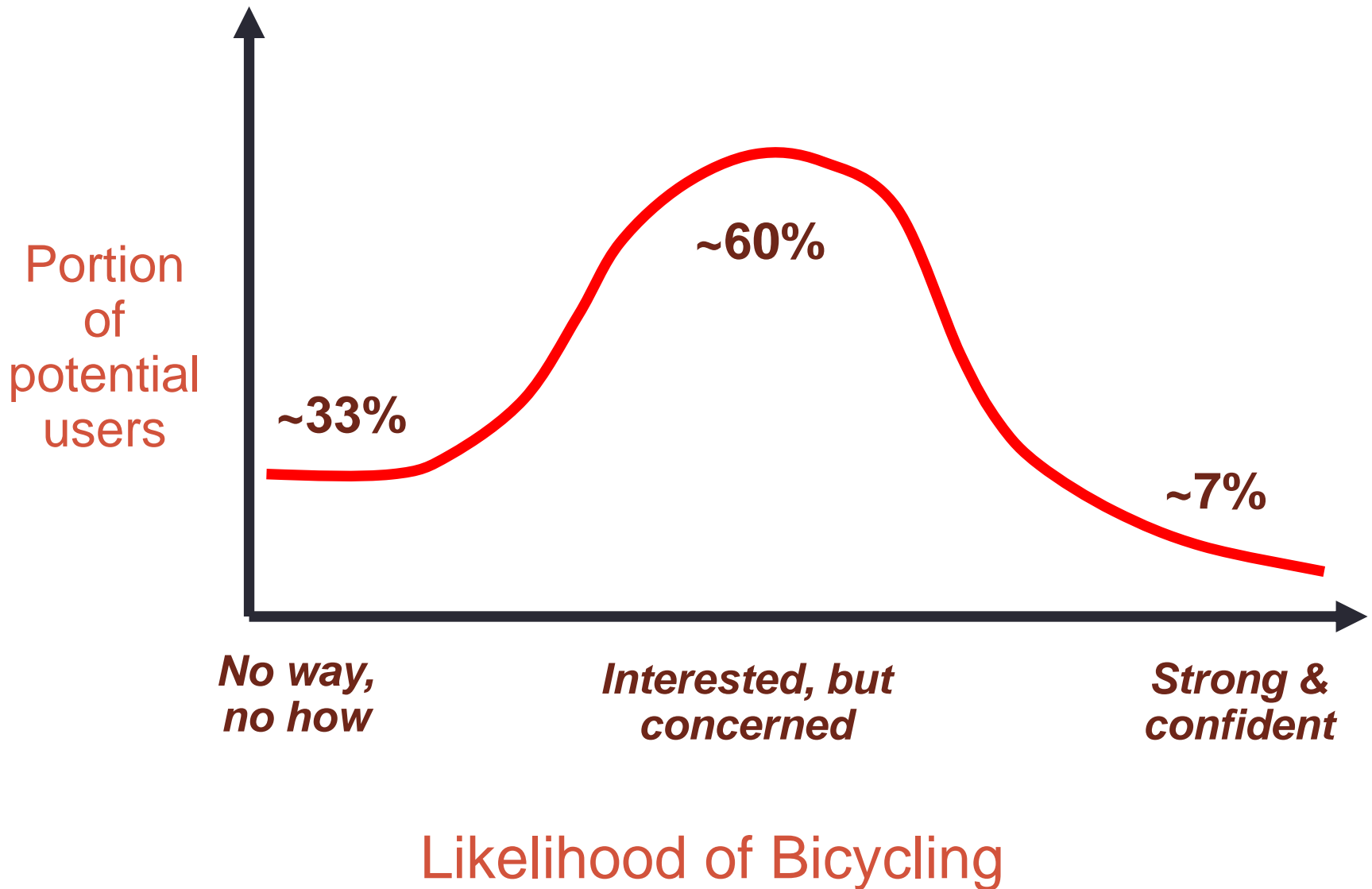
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Bicycle network tools:



Potential Cyclists

(Dill & McNeil, "Four Types of Cyclists?"
Trans. Research Record, 2013, Vol. 2387.)



Bike Boulevard



Comfortable pedestrians? Drivers?

(How far back?)



Preferred sidewalk setback:



Even a bike lane
adds buffer

1.0 Fenton minimum

An impressive 2.2 Fenton setback in Apple Valley, MN.



Video Demonstrations

Veterans Middle School
Rio Grande City, TX

<https://www.youtube.com/watch?v=TO3wJLi8jcw>

AARP & Better Block demonstration
Bethel VT

<https://www.youtube.com/watch?v=5KE5UGY6uso>

America Walks

EXAMPLES OF PAST FUNDED PROJECTS

Previous America Walks' Community Change Grantees



AMERICA WALKS ANNUAL GRANT SERIES

APPLY NOW FOR A \$1,500 COMMUNITY CHANGE GRANT

APPS OPEN OCT 5TH - NOV 9TH 2020

EXAMPLES OF FUNDED COMMUNITY CHANGE GRANTS

From photos top to bottom, left to right:

1. Shinnecock Indian Nation Church Street Crosswalk Project
2. Verde's Latina Led Community Foot Patrol/Walking Group
3. Mathews Cultural Arts District Crosswalk Mural
4. Shoals Walk Across Alabama 10-Week Walking Challenge
5. Walking Program in the Jackson Medical Mall
6. Camden Salvation Army Kroc Center Walking School Bus After-School Program
7. Cupertino Safe Routes Student Led Walk/Bike Pop-Up
8. Camden Salvation Army Kroc Center Walking School Bus Cleanup Program

americawalks.org/community-change-grants/

AARP Livable Communities



www.aarp.org/livable-communities/
www.aarp.org/livable-communities/community-challenge/

National Association of Realtors

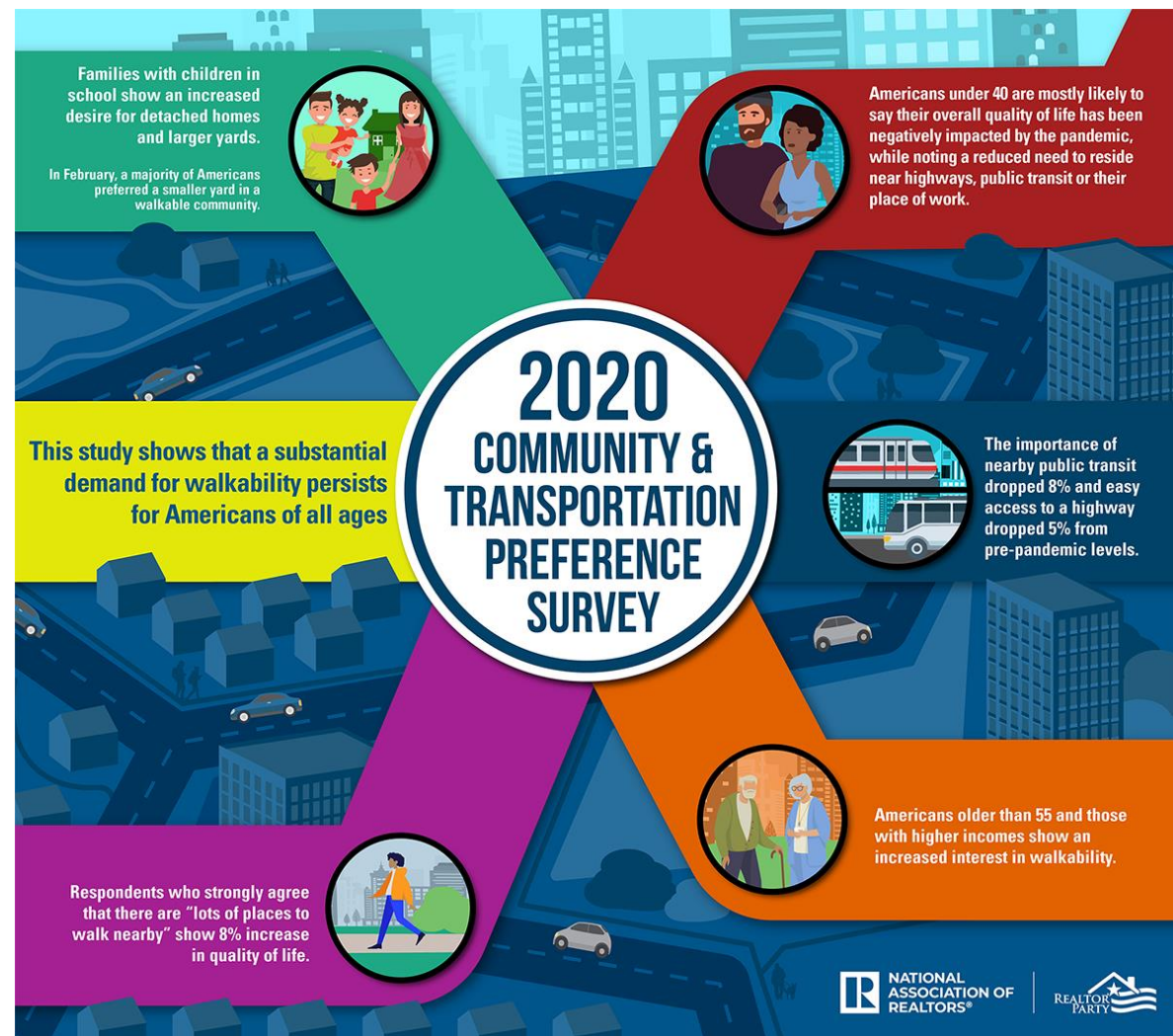


NATIONAL
ASSOCIATION of
REALTORS®



Annual community surveys to explore home-buyers' preferences show a growing desire for walkable, livable communities.

National Association of Realtors Smart Growth Grants are designed to support local community change efforts.



realtorparty.realtor/community-outreach/smart-growth

Resources

- *Quick Build Guide: How to Build Safer Streets Quickly and Affordably*. Practical guide to low-cost ‘quick-build’ techniques to increase pedestrian and bicycle safety and accommodation. Alta Planning and the California Bike Coalition; 2020.
- <https://altago.com/wp-content/uploads/Quick-Build-Guide-White-Paper-2020-1.pdf>
- *Slow Your Streets: A How-To Guide for Pop-Up Traffic Calming*. A terrific and practical guide from St. Louis-based Trailnet, to temporarily calming traffic on streets to gain community and stakeholder input, determine effectiveness, and plan permanent improvements.
- <http://www.onestl.org/resources/reports/bicycle-and-pedestrian-planning/445-slow-street>

Resources

- *Tactical Urbanist's Guide to Materials and Design*, an outstanding practical resource from the Streets Plan Collaborative (2016).
- <http://tacticalurbanismguide.com>
- AARP's Pop-up and demonstration introductory information and tool kit:
- <https://www.aarp.org/livable-communities/tool-kits-resources/info-2019/what-is-a-pop-up-demonstration.html>
- <https://www.aarp.org/livable-communities/tool-kits-resources/info-2019/pop-up-tool-kit.html>

Resources

- *Demonstration Project Implementation Guide*, Minnesota Dept. of Transportation, offers guidance on executing short- and medium-term demonstration projects that support complete streets and traffic calming, Nov. 2019.
<http://www.dot.state.mn.us/saferoutes/demonstration-projects.html>
- *Demonstration Projects in State Highway Right of Way*, Vermont Agency of Transportation guidance document, is an excellent overview of pop-ups and demonstrations, with information relevant to smaller and more rural communities, Oct. 2020.
<https://vtrans.vermont.gov/sites/aot/files/planning/documents/p/ermittingservices/AOT%20Demonstration%20Project%20Guidance.pdf>



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