MUTCD Webinar #6: City Approaches to Bikeway Design

December 12, 2024 | 3:00 - 4:00 PM Eastern Time

Agenda

1. Welcome

2. City presentations
   Washington, DC
   San Jose, CA

3. Questions and
   Wrap up

1 Welcome

This meeting will be recorded

- A recording and copy of the slides will be shared with NACTO members and those registered for today's meeting
- If you don't want to be on the recording, please keep your camera off

Continued learning credits

Receive AICP credit for attending today's session

➔ https://www.planning.org/events/eventsingle/9302010/

NACTO is unable to provide specialized accreditation for specific licenses and degrees

➔ Email events@nacto.org for a certificate of participation

NACTO's MUTCD Webinar Series

- February 27 - MUTCD 11th Edition Overview
- April 24 - *City Limits* and Speed Limit Changes
- June 26 - City Approaches to Setting Speed Limits
- August 29 - Crosswalks
- October 30 - Part 9: Bikes & Bike Signals
- December 12 - City Approaches to Bikeway Design

Email josh@nacto.org or cary@nacto.org for more details on past webinars

After today you should:

- Have a clear understanding of how San Jose and DDOT are addressing, considering, or concerned about specific design standards within the context of bikeways and the 11th edition of the MUTCD
- Consider adapting and adopting bikeway design practices or standards shared by San Jose and DDOT for your own agency

2 City presentations

Washington, DC

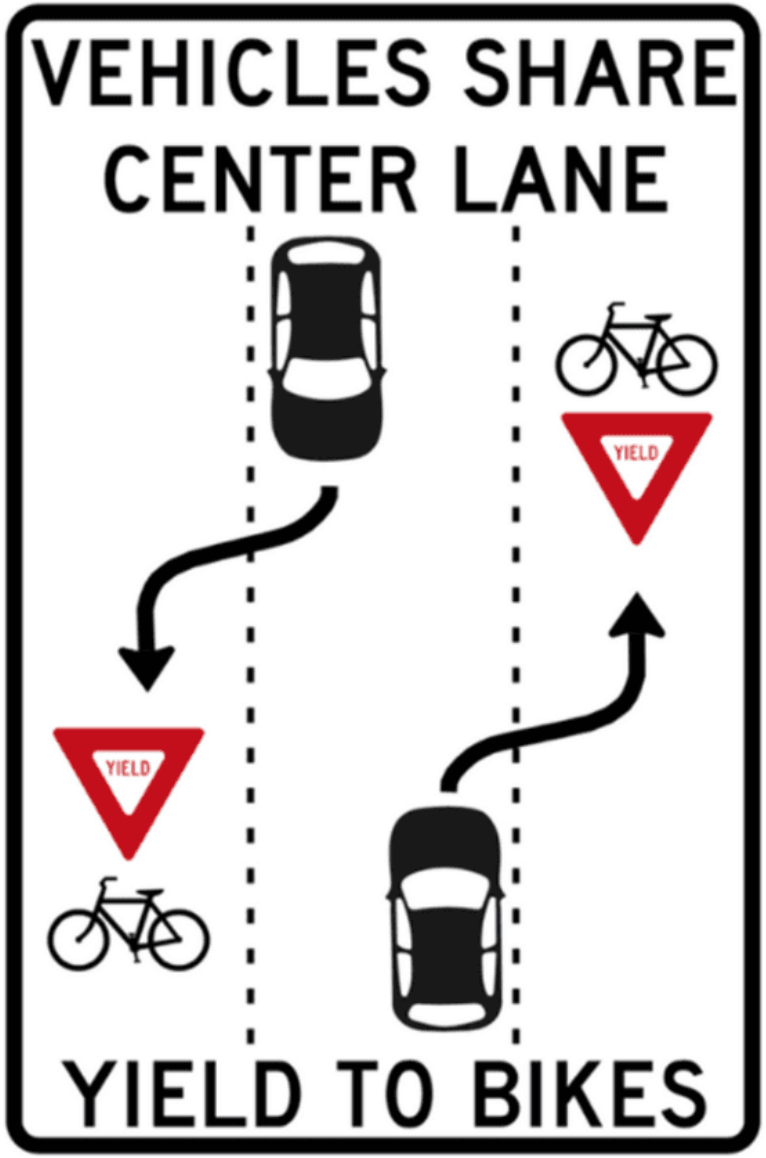
San Jose, CA

DISTRICT DEPARTMENT OF TRANSPORTATION

Advisory Bike Lane Trial & Results

Key Concepts of Advisory Bike Lanes (ABL)

- Drivers placed in direct opposition with oncoming vehicles
- Drivers move into bike lane and yield as they approach a cyclist with an oncoming vehicle
- Driver must use center lane to pass a cyclist



Advisory Bike Lane Signage
Kalamazoo, MI

What Gave DDOT the Confidence to Expect this would work?

- Roads where sharing space and narrowness already shows drivers and cyclists know how to coexist in narrow space: “Yield” Streets
- Common character of rural & suburban U.S. roads with negotiated passing

Water St SE:

- 16’ wide, no sidewalk, no markings
- Part of Anacostia River Trail
- A multi-use trail
- Used by runners, bicyclists, drivers

What Gave DDOT the Confidence to Expect this would work?

- Dutch practice / CROW Manual
- History of safe use abroad
- Growing interest among peers

Dutch Urban Road

Dutch Country Road

What Gave DDOT the Confidence to Expect this would work?

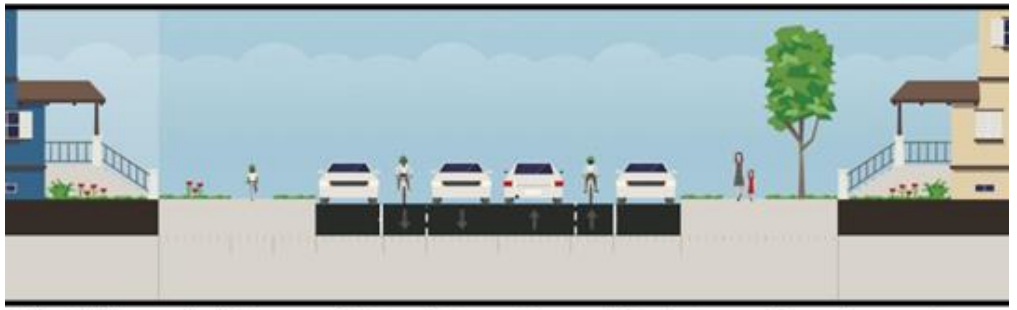
- Suburban streets already function as “yield” streets

Sun Valley Dr. - Annapolis, MD

Regional Examples & Other Trials

- Potomac Greens Dr. - Alexandria, VA (2015)

Potomac Greens Drive Complete Streets Project



What's Happening? A new project on Potomac Greens Drive between Massey Lane and Carpenter Road will be implemented Spring/Summer 2015 to provide traffic calming, bicycle facilities and additional pedestrian safety improvements. The project includes:

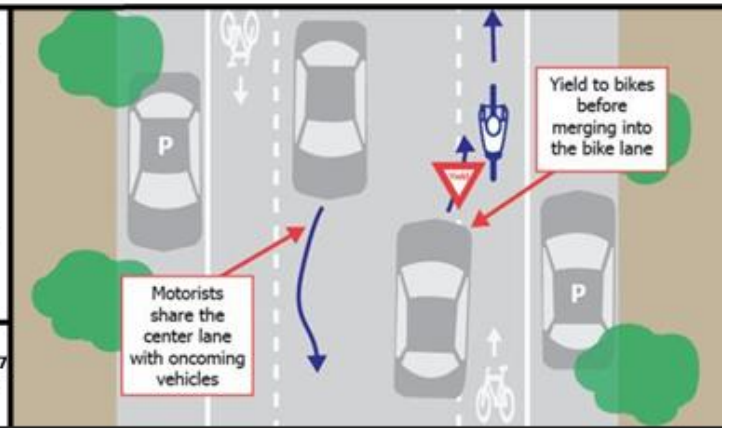
- A new crosswalk with a pedestrian actuated flashing sign near Fitzhugh Way will provide a safer crossing to the park across the street
- Advisory Bicycle Lanes on Potomac Greens Drive will provide both traffic calming as well as dedicated space for cyclists

What are Advisory Bike Lanes? They are bike lanes that create a space on the roadway for cyclists while visually narrowing streets to slow drivers. These bike lanes have a dashed outside lane instead of a solid stripe. A vehicle is permitted to cross this line and merge into the bike lane if they need additional space in the roadway, but only when it is safe; they must first **yield to any cyclists** in the bike lane before entering.

Community Engagement

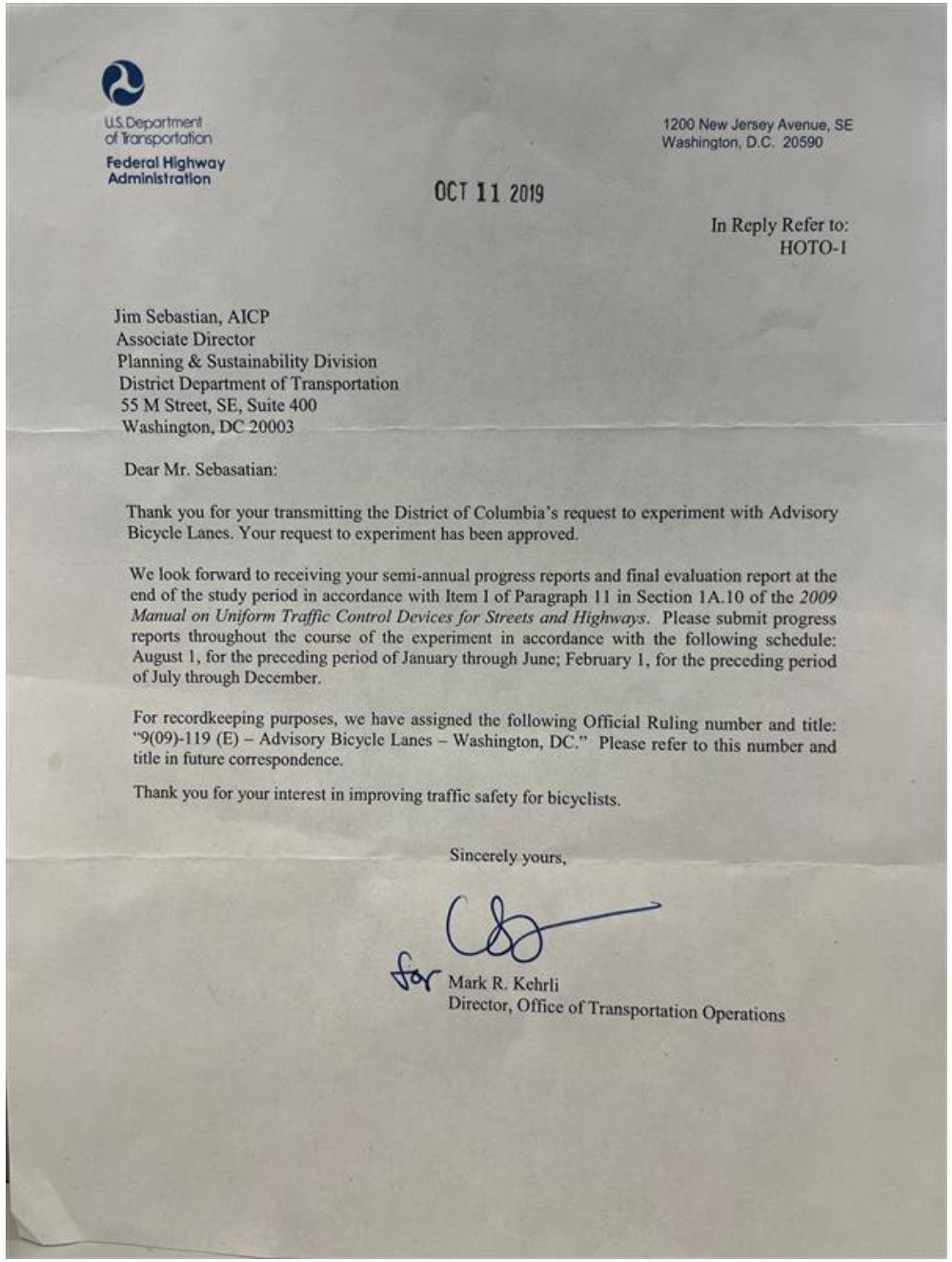
- A joint homeowners' association meeting was held on 9/16/2014
- A Public hearing at the Alexandria Traffic & Parking Board was held on 2/23/2015

Project Website:
http://www.alexandriava.gov/84177
Contact: Hillary Poole-703.746.4017
Hillary.Poole@AlexandriaVA.gov



Experimentation Process

DDOT	FHWA
Develop Concept	Reviews Application
Community Outreach	Comment on Application
Apply to FHWA for permission	Approval
Revise	
Implement	
Progress Reports	
Final Report	



U.S. Department of Transportation
Federal Highway Administration

1200 New Jersey Avenue, SE
Washington, D.C. 20590

OCT 11 2019

In Reply Refer to:
HOTO-1

Jim Sebastian, AICP
Associate Director
Planning & Sustainability Division
District Department of Transportation
55 M Street, SE, Suite 400
Washington, DC 20003

Dear Mr. Sebasatian:

Thank you for your transmitting the District of Columbia's request to experiment with Advisory Bicycle Lanes. Your request to experiment has been approved.

We look forward to receiving your semi-annual progress reports and final evaluation report at the end of the study period in accordance with Item 1 of Paragraph 11 in Section 1A.10 of the *2009 Manual on Uniform Traffic Control Devices for Streets and Highways*. Please submit progress reports throughout the course of the experiment in accordance with the following schedule: August 1, for the preceding period of January through June; February 1, for the preceding period of July through December.

For recordkeeping purposes, we have assigned the following Official Ruling number and title: "9(09)-119 (E) – Advisory Bicycle Lanes – Washington, DC." Please refer to this number and title in future correspondence.

Thank you for your interest in improving traffic safety for bicyclists.

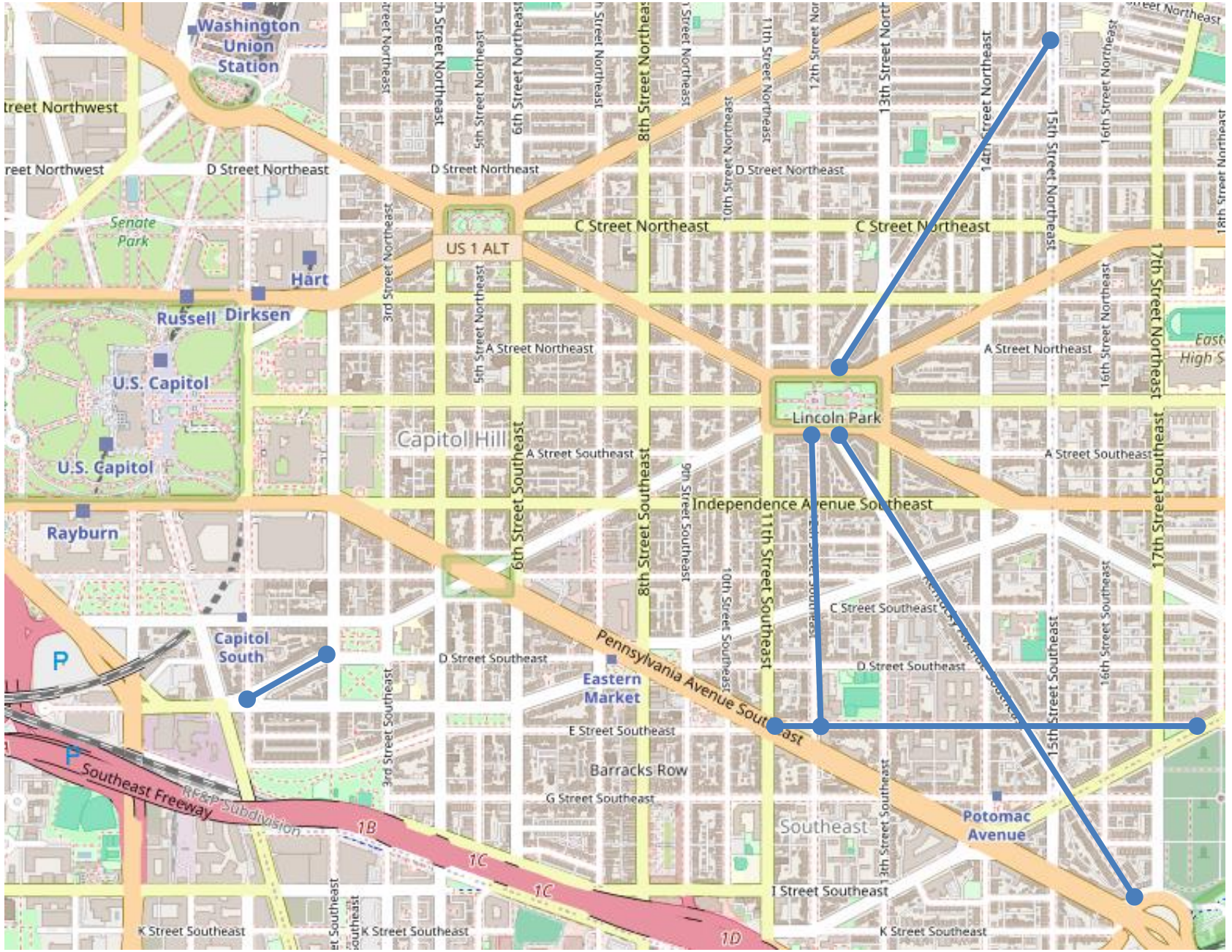
Sincerely yours,

for Mark R. Kehrli
Director, Office of Transportation Operations

ABL Trial Area

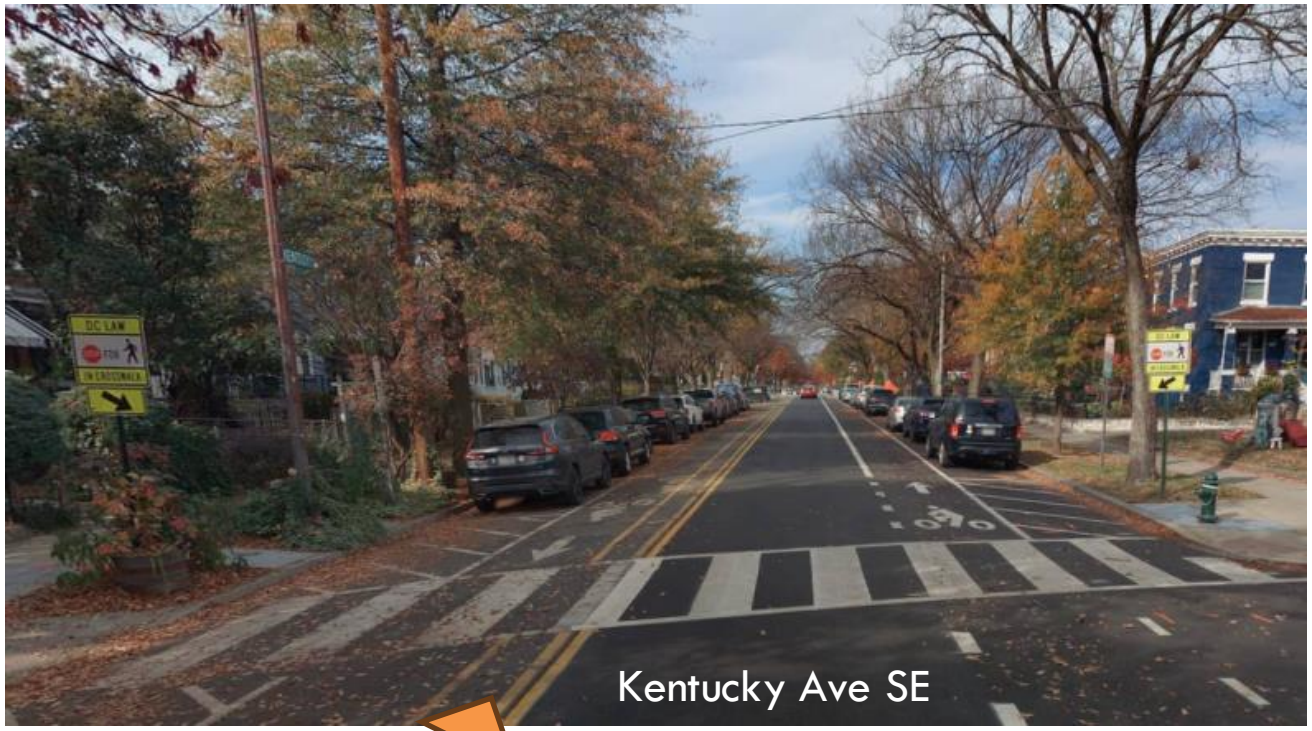
Capitol Hill

- Tennessee Ave NE
- Kentucky Ave SE
- E St SE
- 12th St SE
- North Carolina Ave SE



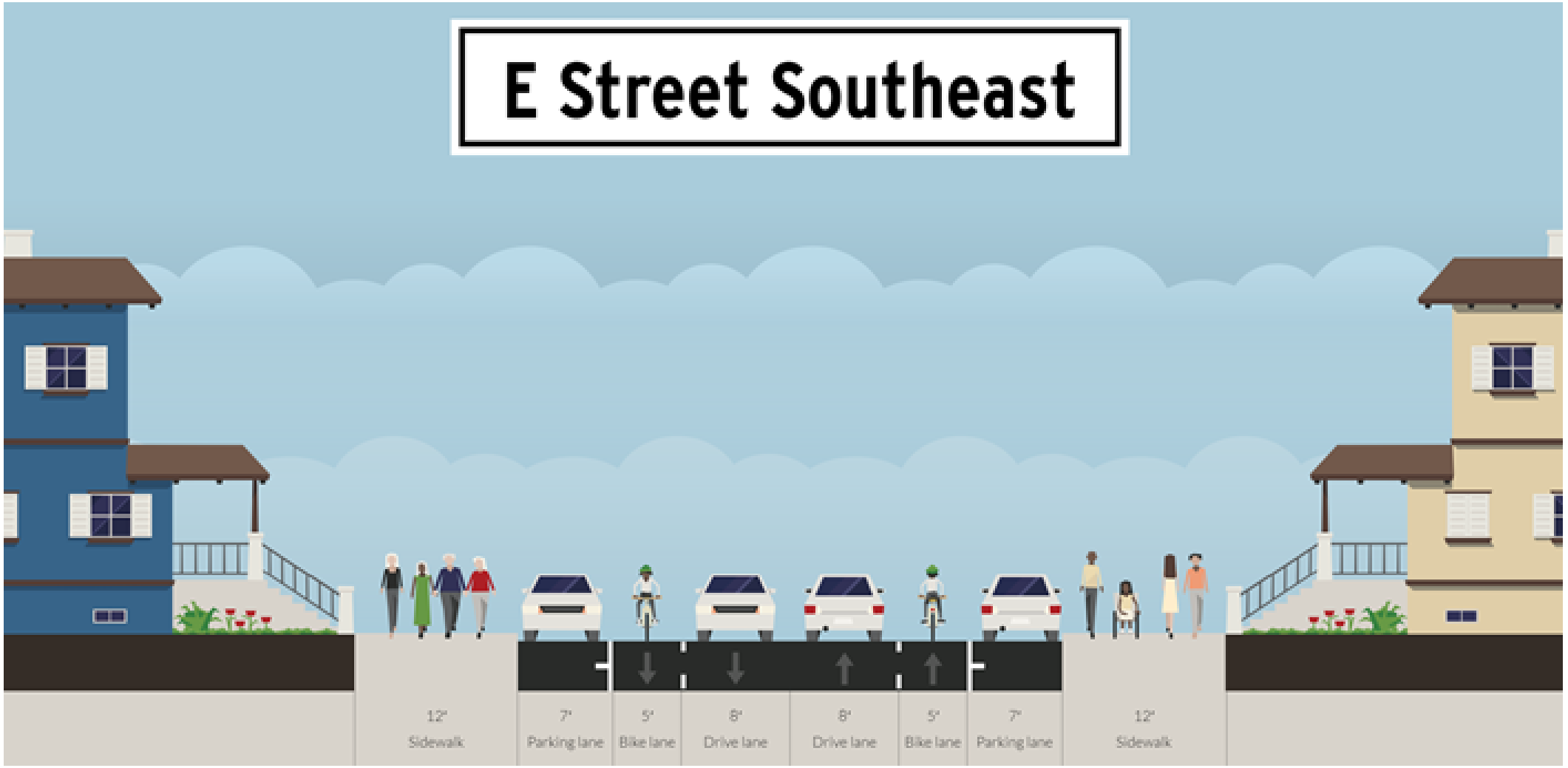
Design Principles

- ABL treatment must be intuitive
- No explanatory signs
- Assume drivers are attentive
- Don't change interactions at intersections
- Sharing space between drivers and cyclists is OK
- Treatment predictable to all users
- Choose low speed, medium volume streets for trial
- Integrate other bike lane treatments into the corridors (contraflow lanes, PBL elements)



Buffered Contraflow Lane

DDOT's 1st Advisory Bike Lane: E Street SE

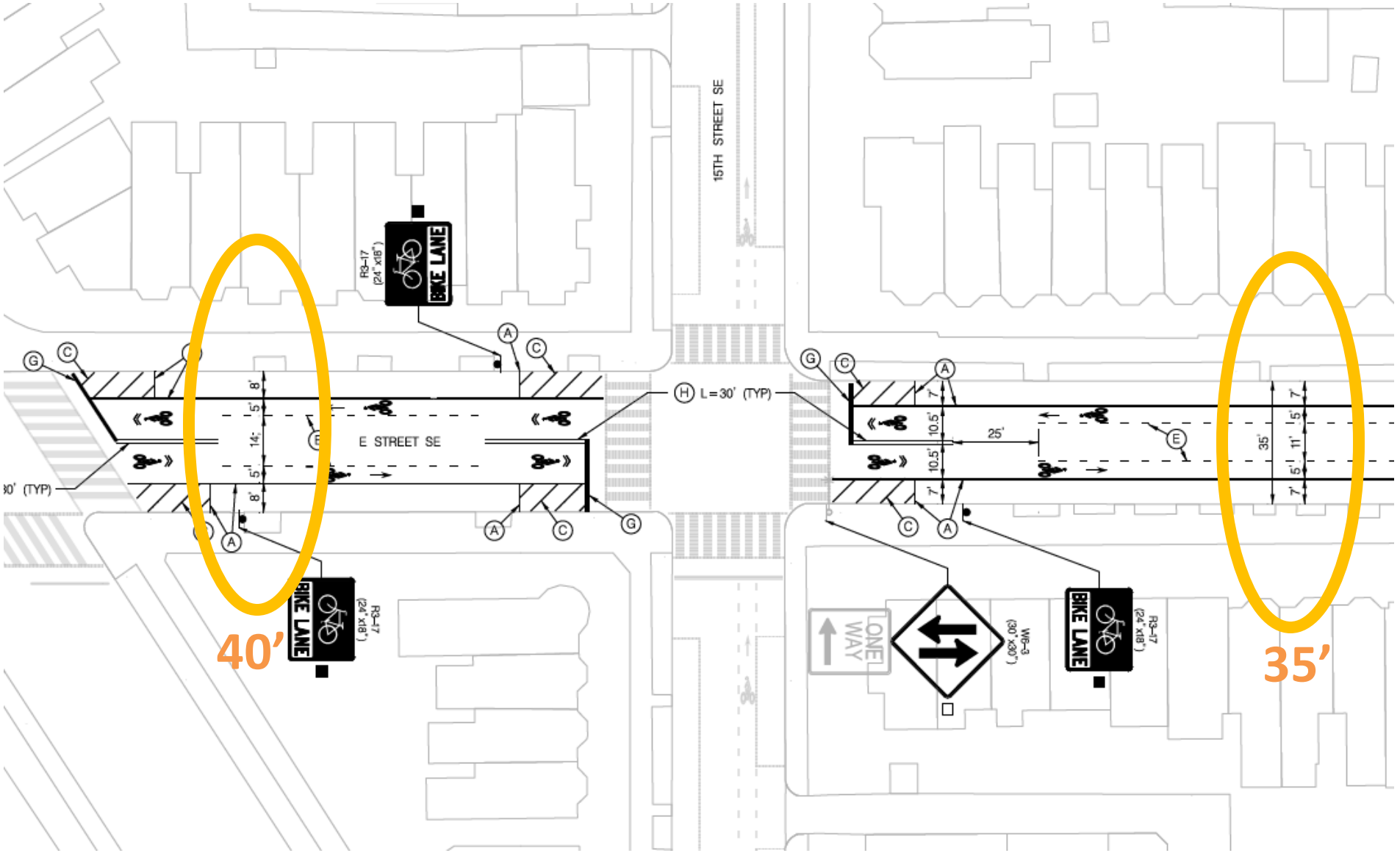


E Street SE

- Community request for bike lanes
- 40’ cross section
- Schools & mixed use
- No existing centerline

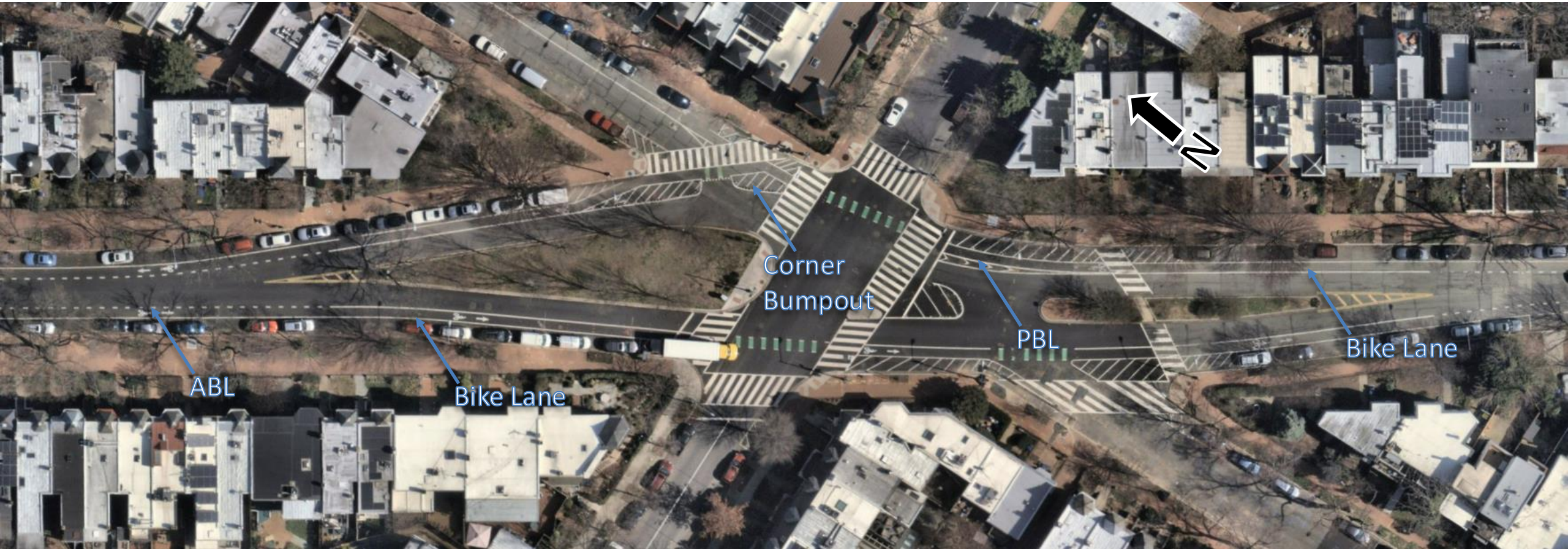
How Narrow Can We Go?

ABL Preferred Width:
35’ – 46’ curb to curb

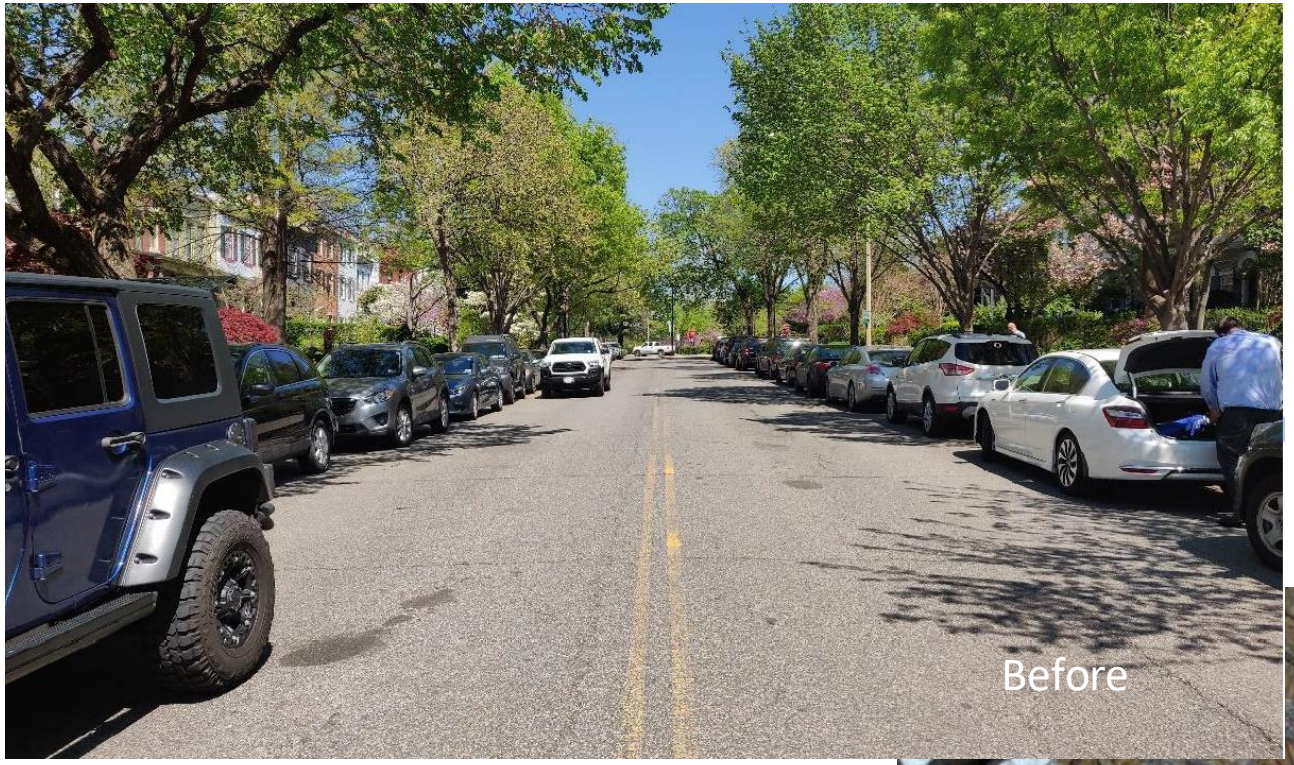


Maintaining typical intersection patterns

Blending facility types seamlessly for users



ABLs transition to dedicated bike lanes to protected bike lanes for complex intersection



100 blk North Carolina Ave SE

- Community complaints of speeding
- Previous configuration had centerline and 13’ travel lanes

A Positive Reception

Former commissioner Nick Burger wrote, "As a resident of this street, I'm glad we're giving this a shot. This is one of a set of coordinated measures that came out of discussions between ANC6B and DDOT, which could really transform the transportation landscape on these blocks if we lean in."

What are advisory bike lanes? Basically, an alternatives to sharrows on roads too narrow for traditional bike lanes. They also serve to visually narrow lanes that are too wide for the current use. Potomac Greens Dr in Alexandria provides a local examplehttps://t.co/DqfmNTqwXc pic.twitter.com/M6sbqZcDjk

— Corey Holman (@coreyholman) March 10, 2020

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Experimental "advisory" bike lanes will give cyclists greater weight on Capitol Hill

BICYCLING By David Alpert (Founder) March 11, 2020 21

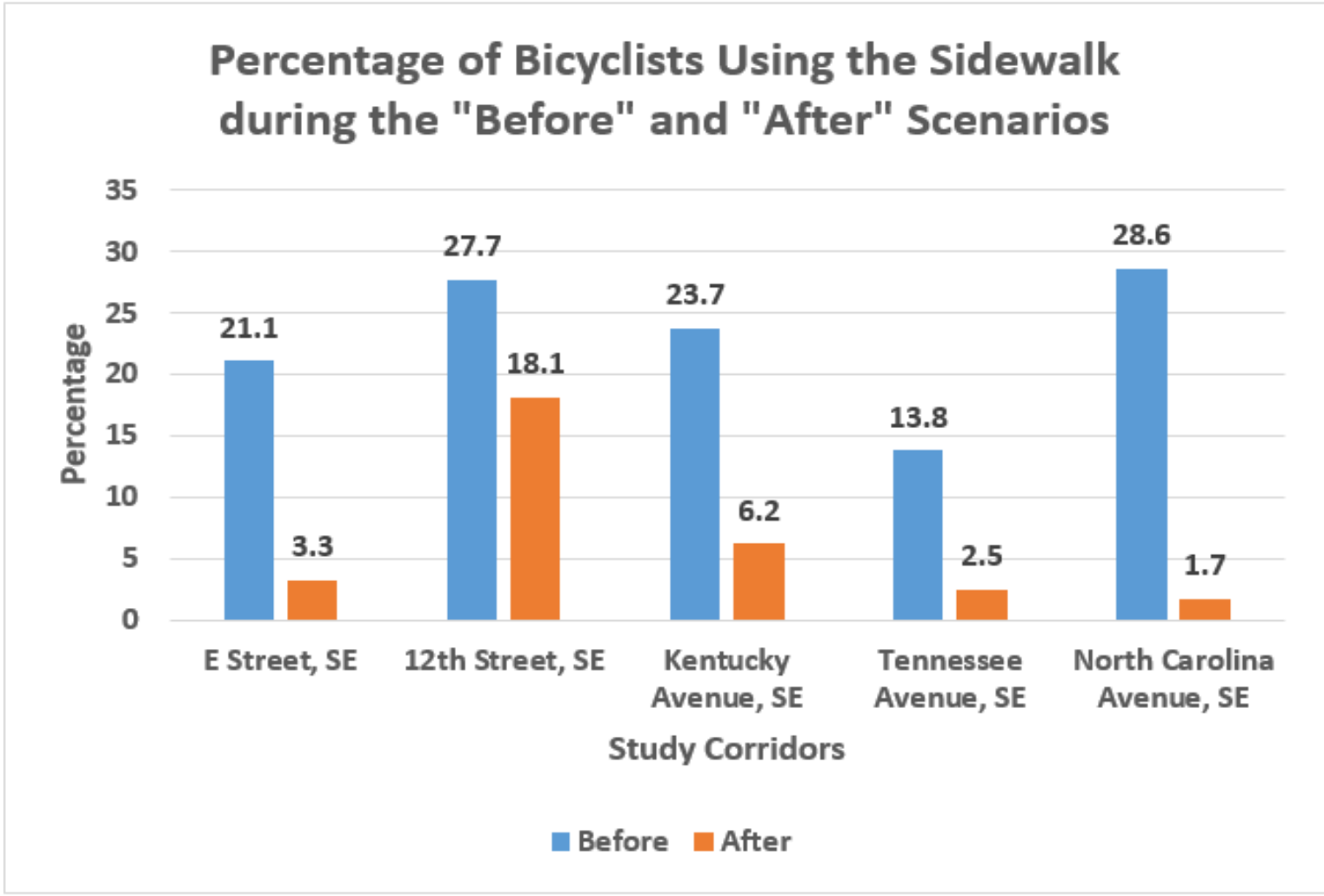
SHARE

Advisory Bike Lanes in Ottawa, Ontario by Justin Swan.

DC will pilot new "advisory bike lanes" on E Street SE in Capitol Hill. At first it sounds like this might be an April Fool's joke — I could envision writing a joke headline like "DC will make all bike lanes optional, let drivers park in them anytime they want to." But these aren't a joke, but a real kind of bike infrastructure

Advisory Bike Lane Experiment Results

- Average Vehicle Speed down slightly
- Average Driver follows the speed limit
- Riding on the sidewalk decreased substantially
- Riding in the ABLs became the norm for cyclists
- Treatment is safe and effective based on DDOT's trial of 5 segments



Practical Questions

- Should there be speed and volume thresholds?
- Do we need special signage?
- What is the best intersection treatment?
- What is the ideal width for the center lane?
- Do ABLs decrease sideswipe crashes & minor body damage (side mirrors, scrapes)?
- Will FHWA / NCUTCD endorse this treatment?

Intersection of North Carolina, E St, 1st St, New Jersey SE

Philosophical Questions

- What effect do centerlines have on speed and crashes?
- Does placing drivers in conflict with each other cause them to drive more conservatively?
- Does establishing a treatment that intentionally moves cars into bike lane space reduce overall driver "respect" for the bike lanes.
- Can this treatment be applied to suburban & rural roads, and if so, what is the expected safety benefit?

Suburban ABL in Holland

Contact Information

Please reach out with
any comments or questions:

Will Handsfield, AICP
DDOT Transportation Specialist
Will.Handsfield@dc.gov

District Department of Transportation

250 M St SE | Washington, DC 20003 | 202.673.6813

Bikeway Implementation in San Jose, CA

Patrick Lee, P.E., T.E.

December 12, 2024

San Jose, California

- Named as the “Capital of Silicon Valley”
- 180 square miles with a population of 970,000
- Northern California’s largest city
- 12th largest city in the nation

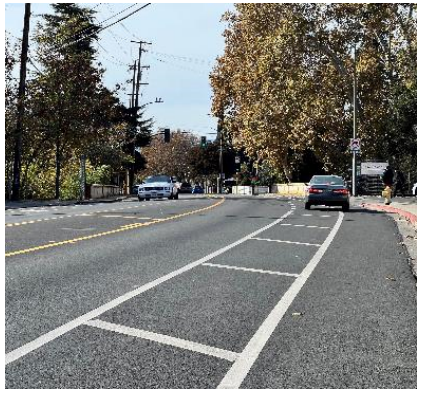
Where we are today

38 miles

Protected Bikeways

365 miles

Standard (193 mi) & Enhanced (172 mi) Bike Lanes



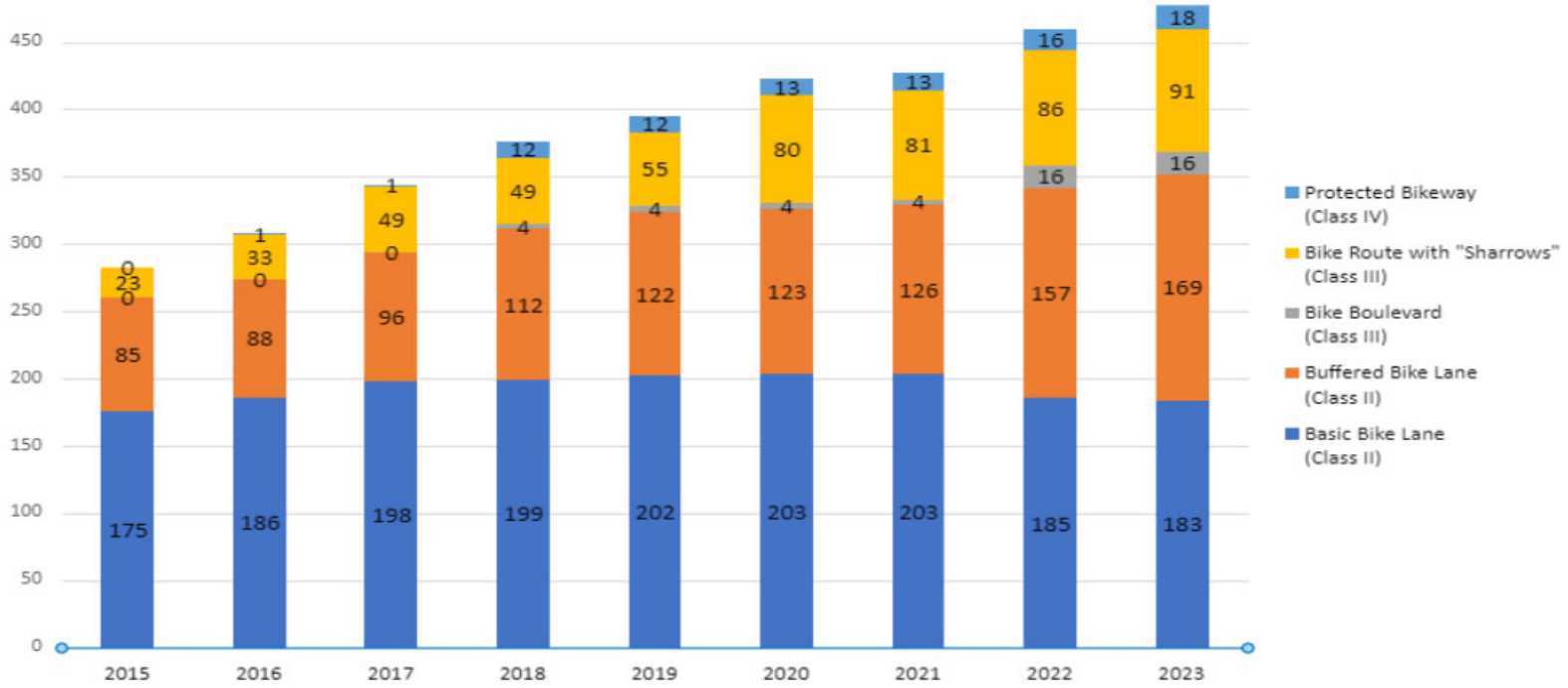
16 miles

Bike Boulevards

91 miles

Sharrow Streets

Pedaling Forward



Avenues of Implementation

Pavement Maintenance

- Roadway resurfacing or slurry seal
- **Quick-Build materials** (paint & plastic)

CIP Projects

- Grant funded projects (i.e. ATP, OBAG, SS4A)
- Minor civil delivery projects
- Primarily **hardscape improvements**

Development Projects

- Public improvements by developments
- Scope can vary depending on size of development

2024 Implementation Highlights

Winfield Blvd Parking Protected

En Movimiento Bike Blvds

Almaden Blvd Parking Protected

Julian-Mckee Class IV

Key Changes in the 11th Edition

- Interim approvals under the 10th Edition that are now incorporated into the 11th Edition
  - Green pavement enhancement (GPE)
  - Bike boxes
  - Two stage bicycle turn boxes
  - Bicycle signal faces
- Additional figures depicting bicycle markings

California State Standards

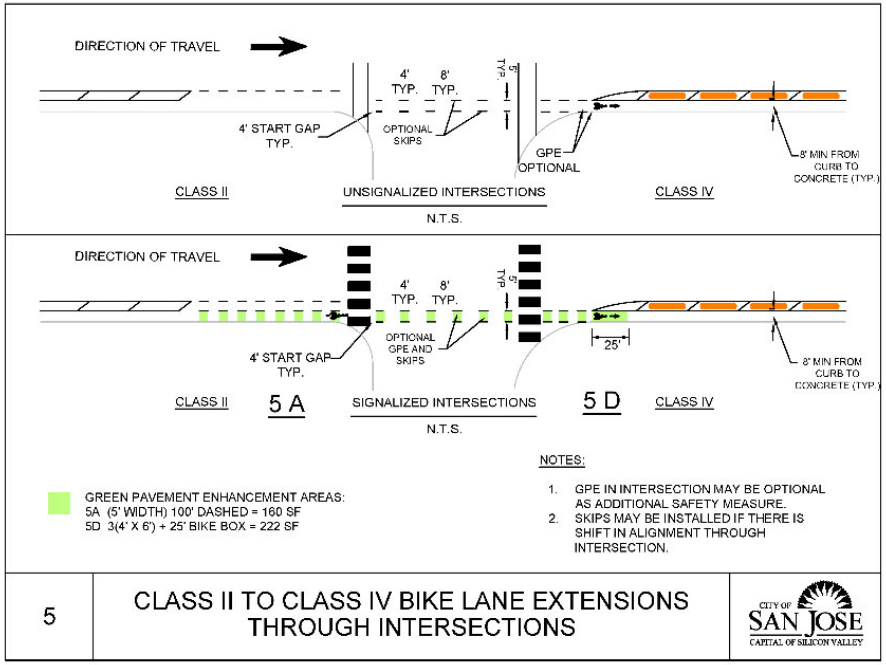
- 11th Edition of the MUTCD has not been adopted by California
- Rev 8 to the CA MUTCD based on the 10th Edition incorporates some language and figures from the 11th Edition
- CA MUTCD has been updated over the years to incorporate some of the newer bike standards

Bicycle Marking Standards

- Flexibility in the use of pavement markings and green pavement enhancement given by the MUTCD
- City-wide bicycle marking standards adopted
  - Uniform implementation across all projects
  - Prioritizing treatments (i.e. GPE) for conflict zones

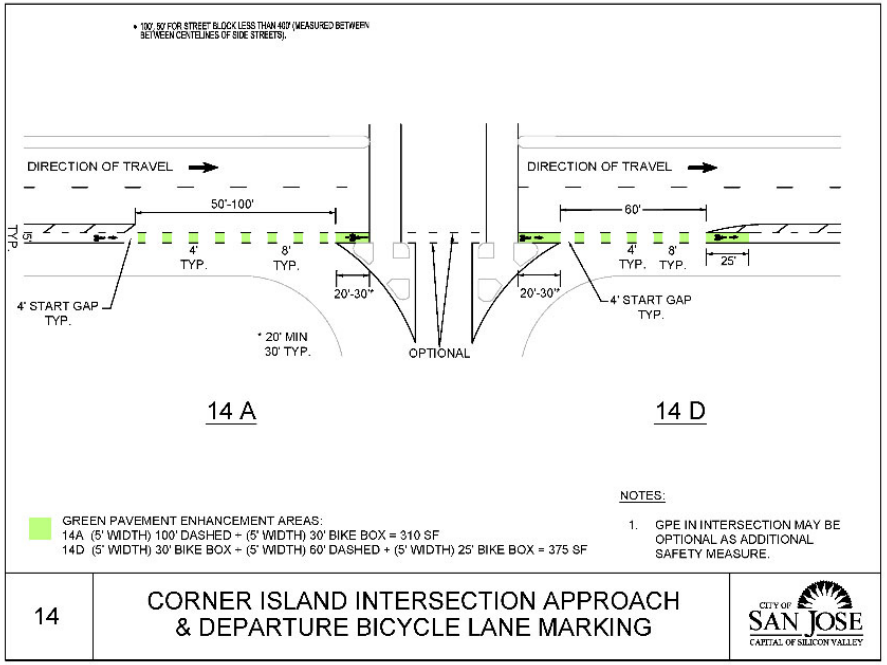
Standard Details Examples

Protected Bikeway Intersection Treatment



5 | CLASS II TO CLASS IV BIKE LANE EXTENSIONS THROUGH INTERSECTIONS | CITY OF SAN JOSE CAPITAL OF SILICON VALLEY

Corner Island Bike Lane Transition



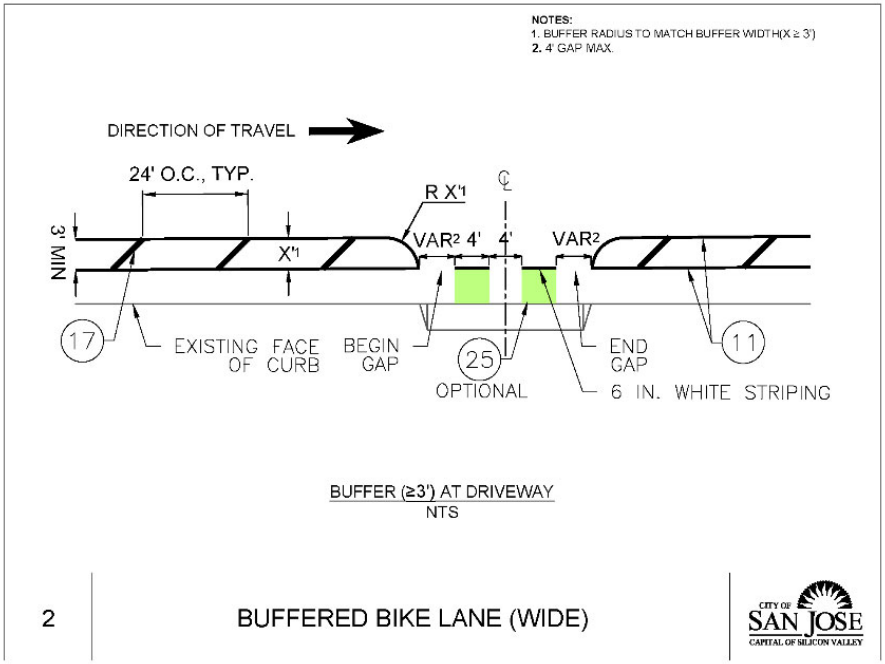
14 | CORNER ISLAND INTERSECTION APPROACH & DEPARTURE BICYCLE LANE MARKING | CITY OF SAN JOSE CAPITAL OF SILICON VALLEY

Iterative Process

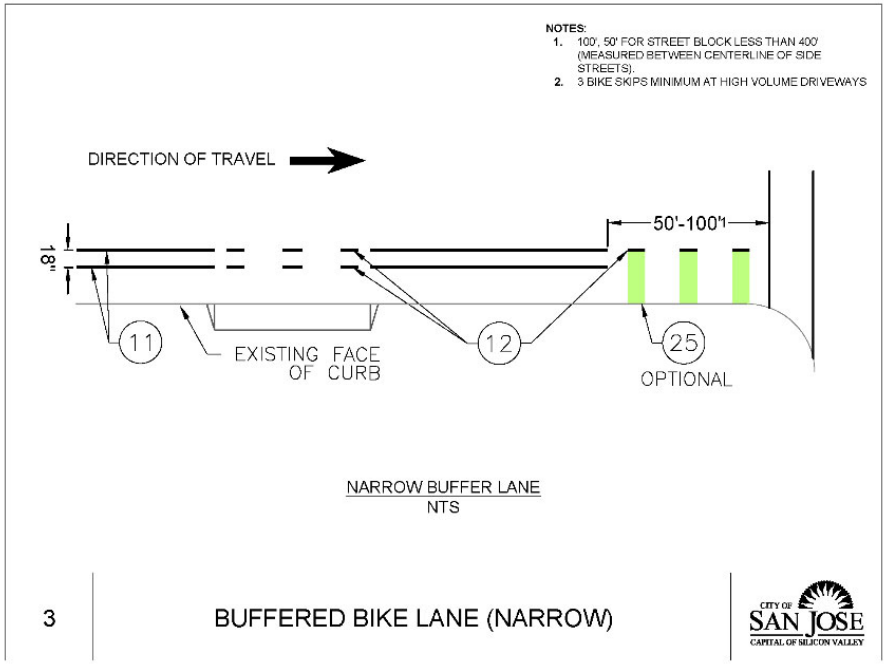
- CSJ Bicycle Markings details are living documents
- Guidance and best practices are always being updated
- Lessons learned from trying out different treatments
  - Installation considerations
  - Effectiveness
  - Legibility

Context Sensitive Design

Wide Bike Buffer



Narrow Bike Buffer



Bicycle Signals

- 11th Edition formalizes and expands upon the requirements when using bicycle signals
- No conflicts with simultaneous vehicle movements (i.e. right turning vehicles) – no right on red
- Can present traffic operations issues on higher volume streets if used as a blanket treatment

California Bike Omnibus Bill

- (2) Existing law requires a vehicle at an intersection controlled by a traffic control signal, or traffic light, to stop or proceed as directed by the signal. Existing law makes these provisions applicable to pedestrians and bicycles, as specified. Under existing law, a pedestrian facing a solid red traffic control signal may enter the intersection if directed to do so by a pedestrian control signal displaying “WALK” or an approved “walking person” symbol.
- This bill would, commencing January 1, 2024, extend this authorization to cross the intersection to a bicycle, unless otherwise directed by a bicycle control signal.

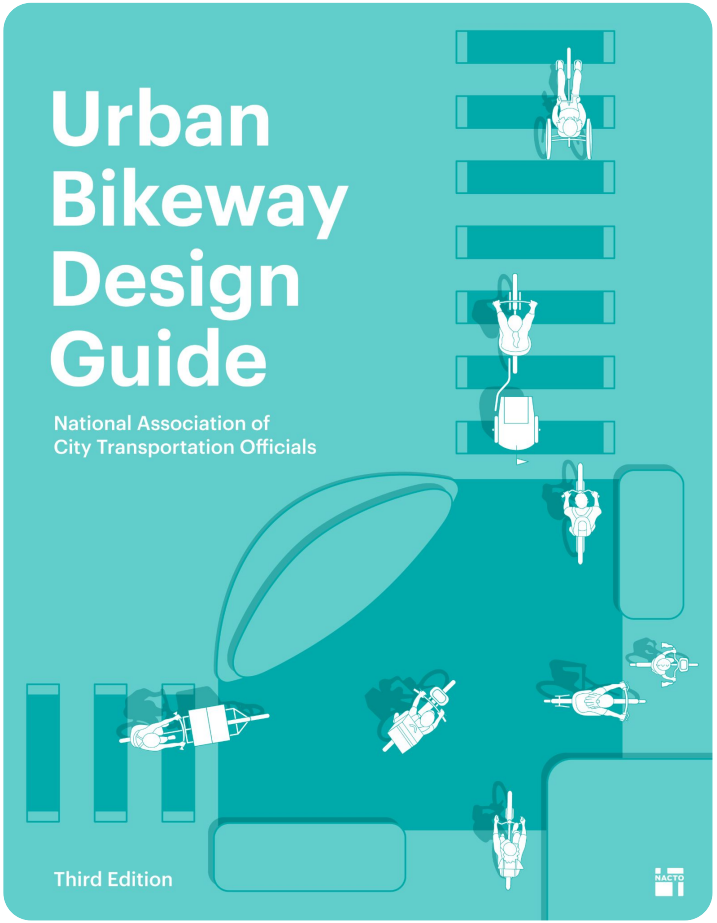
Bicycle Signals Use Cases

- Preferred approach is to have bikes use the pedestrian signal to cross the intersection
- Bicycle signals have very specific use cases
  - Complex geometry
  - Two-way cycle tracks
  - Contraflow bikeways
  - High right turn volumes/right turn only lanes

Questions?

Patrick Lee
patrick.lee@sanjoseca.gov

3 Closing



NACTO's *Urban Bikeway Design Guide*, Third Edition

Release Date: January 14, 2025

Developed for cities, by cities, the new edition of the *Urban Bikeway Design Guide* sets a new standard for designing streets for bikes.

Preorder it today!

nacto.org/bike-guide

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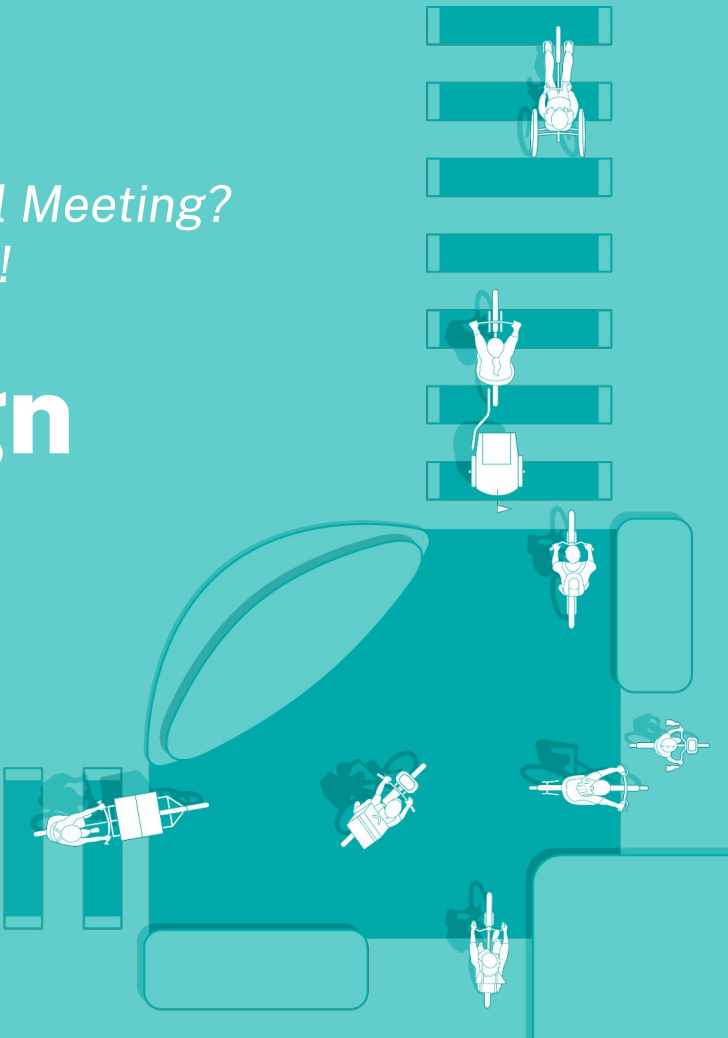
Urban Bikeway Design Guide,
Third Edition

Will you be in Washington, D.C. for the TRB Annual Meeting?
Celebrate with NACTO, Barco Products, and TYLin!

Urban Bikeway Design Guide Book Launch

Tuesday, January 7, 2025 | 6 p.m. to 8:30 p.m.
Hook Hall, Washington, D.C.

RSVP: *https://events.bizzabo.com/UBDGLaunch*



Designing Cities 2025: Washington, DC

May 28-31, 2025

- Registration for members opens on January 22, 2025
- Every member agency has the opportunity to present about a project or two at Meet the Cities
- Each member agency receives 1 complimentary ticket as an annual benefit– this is sent to our primary contacts on January 22

Join the conversation!

Sign up for NACTO's community platform, Forj, where you can join peer networks and discussion groups with your peers across the NACTO network.

To join: community.nacto.org/network-groups
To explore: community.nacto.org