

# MWCOG-RPTS Bus Stop Design Forum

Discussion Roundtable



# Overview of Today's Session

Current State of  
Bus Stop Design

Roundtable on  
Island Stops

Roundtable on  
Shared Stops

Roundtable on Stop  
Infrastructure



# Current State of Bus Stop Design



# Designing for Multi-Modal Uses in Limited Space

*Municipalities are moving toward more multi-modal roadways and corridors*

- When designing for bike lanes (typically) the safest and most effective location is the space next to the sidewalk curb; coincidentally, this is also where bus infrastructure is placed (both stops and bus lanes).
- Limited space in many jurisdictions means that the ability to install bike lanes is limited by available road lanes, sidewalk widths, and/or external property owners (e.g., NPS in DC).
- Contrary to popular belief in both the public space and with elected officials, Bus Operators do not own or control the land under most bus stops in the region.
- Consistency of appearance and user experience for these installations is key but must be coordinated across multiple right-of-way owners.



# A Wide Range of Separate Goals

## Bus Operations

- *Improving travel speeds and dwell times*
- *Increased enforcement (Clear Lanes)*
- ? *How do operators know if customers are waiting at stop?*

## Bicycle Safety

- *Increase use of protected bikeways*
- *Reducing conflict with other modes*
- ? *Concerns over bumps or curves behind stops?*

## Pedestrian Access to Stops

- *Sufficient space at stops for amenities*
- *Supporting all-door boarding efforts*
- ? *Confusion over where to wait?*

## Accessibility for Disabled Riders

- *Buses fully meet the curb*
- *Easier boarding/ramp deployment*
- ? *How to navigate from sidewalk to stop?*
- ? *Awareness of other modes (bike and bus)*

# What Guidelines Exist?

- WMATA has developed updates to its “Guidelines for Design and Placement of Transit Stops” document (pending board adoption)
  - *However, the update does not YET include guidelines specific to shared/island stops.*
- Local jurisdictions may have complementary documents for stop design (e.g. Arlington Co.)
- The Americans with Disabilities Act (ADA), Public Right-of-Way Accessibility Guidelines (PROWAG), and the Manual on Uniform Traffic Control Devices (MUTCD) provide regulatory guidance, but they may not account for every element of these stop designs.

## Guidelines for the Design and Placement of Transit Stops

December 2009

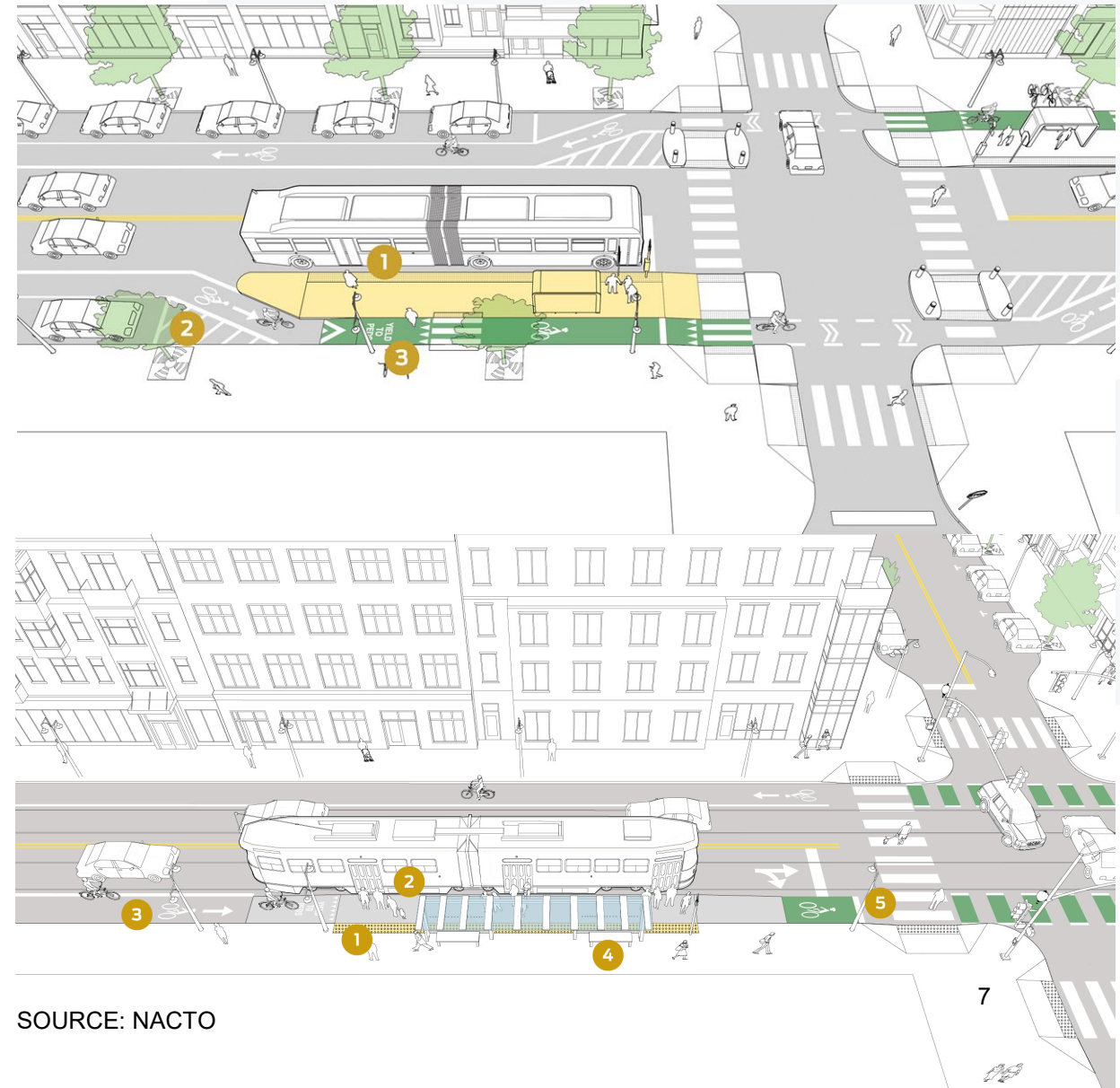


Washington Metropolitan Area Transit Authority



# Small Steps Toward Standards

- NACTO Transit Street Design Guide
  - *Provides some guidelines for prototypical stops (photos right; island stop above, shared stop below)*
  - *Does not explicitly provide standards for stop length, width, design materials, etc.*
  - *Does not fully account for installations at different intersection types (near side vs far side; mid-block; etc.)*
  - ***Not great, but the closest to a national consensus so far.***
- Initial progress toward regional consensus through local jurisdiction pilot programs (e.g. Montgomery County)





# Bus Boarding Island (1<sup>st</sup> Generation)

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- In 2017, the County built its first bus boarding islands, with 4 on Spring/Cedar.
  - *Found that the 8' min platform isn't wide enough.*
  - *Channelized bike lanes present navigation challenges for wheelchair users.*
  - *All 4 are being rebuilt soon to upgrade them to our best-practices.*



## Bus Boarding Island (2<sup>nd</sup> Generation)

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- In 2017, took a group of blind and low-vision pedestrians to visit the floating bus stops along Spring Street.
  - *Suggestions were used to improve the next generation.*
- In 2019, we built 3 second-generation bus boarding islands.
  - *Heard significant concerns on certain design elements.*





# Designing Streets for People with Vision Disabilities

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- Based on the feedback from people with vision disabilities, MCDOT applied to MWCOG for a TLC grant to study how to better design streets for people who have a vision disability.
- The study was completed in September 2021, and has been posted to our website.
- Recommendations for sidewalks, crossings, bus stops, lighting, public engagement, and staff training.
- The study also included a pilot design for an intersection in Silver Spring.

## Accessible Design Testing and Training Facility

An accessible design testing and training facility would enable people with vision disabilities to experience and provide feedback on nonconventional street and outdoor public space design concepts and technologies. The facility could be used by Orientation and Mobility specialists to update their knowledge and train people with vision disabilities, and would enable planners and engineers to test designs before deploying them. The facility could also be used to better understand the impacts of nonconventional designs and specialized surfaces, such as [guidance strips](#), on people who use various assistive mobility devices, such as wheelchairs and walkers.



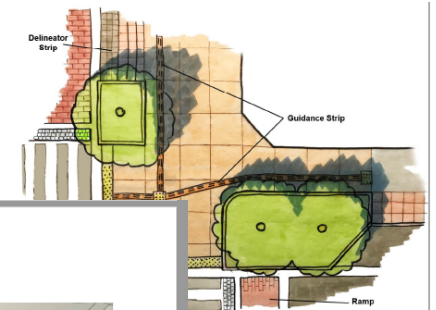
Figure 4: The City of Portland built a mock-up of a "shared platform" bus stop in a parking lot, so that staff from different City agencies and representatives of several advocacy groups, including the Oregon Commission of the Blind and Oregon Walks, could experience the design and provide feedback on how it operated before the City moved forward with constructing a shared platform stop.

## Concerns About Existing Approaches

- There is currently no place locally or regionally where pedestrians with vision disabilities can test and provide feedback on nonconventional street and outdoor public space design concepts and technologies before they are implemented.
- There is currently no place locally or regionally where Orientation and Mobility Specialists can train pedestrians with vision disabilities on nonconventional street design concepts and technologies without exposing them to these concepts and technologies in real-world street conditions.

## Recommended Guidance

- An accessible design testing and training facility should be established in Montgomery County or at another location in the Metropolitan Washington region that is accessible to Montgomery County residents.



Delineator strips and other tactile cues can be used to help the pedestrian access route and find crossings in a shared space a flush street, but the arrangement of tactile cues shown here

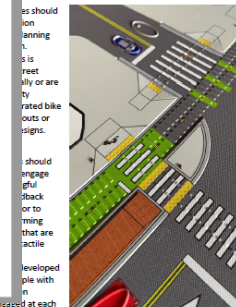


Figure 2: Tactile graphic developed for this project showing a preliminary concept for the intersection of Fenton Street and Ellsworth Drive in downtown Silver Spring.

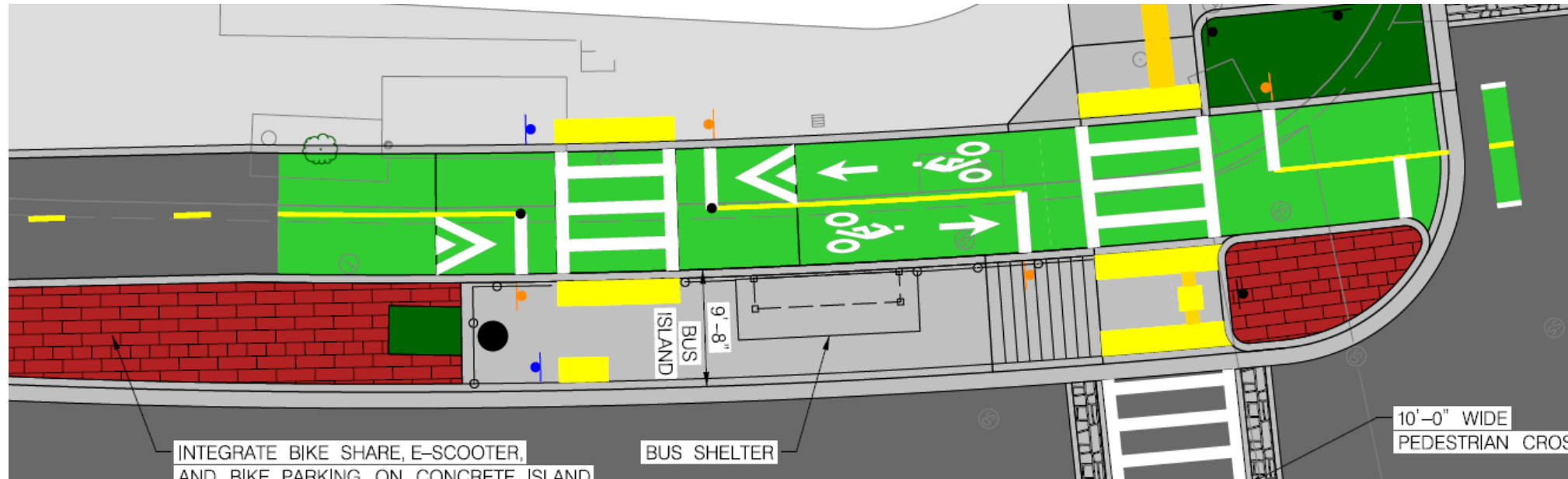
- People with vision disabilities should have an active role as project stakeholders, e.g., by establishing a project stakeholder committee that includes people with vision disabilities or representatives of organizations that represent them, such as the National Federation of the Blind, American Council of the Blind, AARP, or the local Center for Independent Living. Orientation and mobility specialists can also provide valuable insights on accessibility needs for people with vision disabilities. To identify additional contacts in other local groups, it may be helpful to reach out to the local government ADA Compliance Manager.
- People should be asked ahead of project meetings if they require any special accommodations and if so who to notify with their needs.
- Any project meetings or materials that are intended for the public must be accessible to people with vision disabilities. Best practices for meetings and meeting materials that are accessible to people with vision disabilities are outlined in Appendix C: Proposed Guidance for Temporary Pedestrian Paths During Routine Maintenance and Construction



# Bus Boarding Island (3<sup>rd</sup> generation)

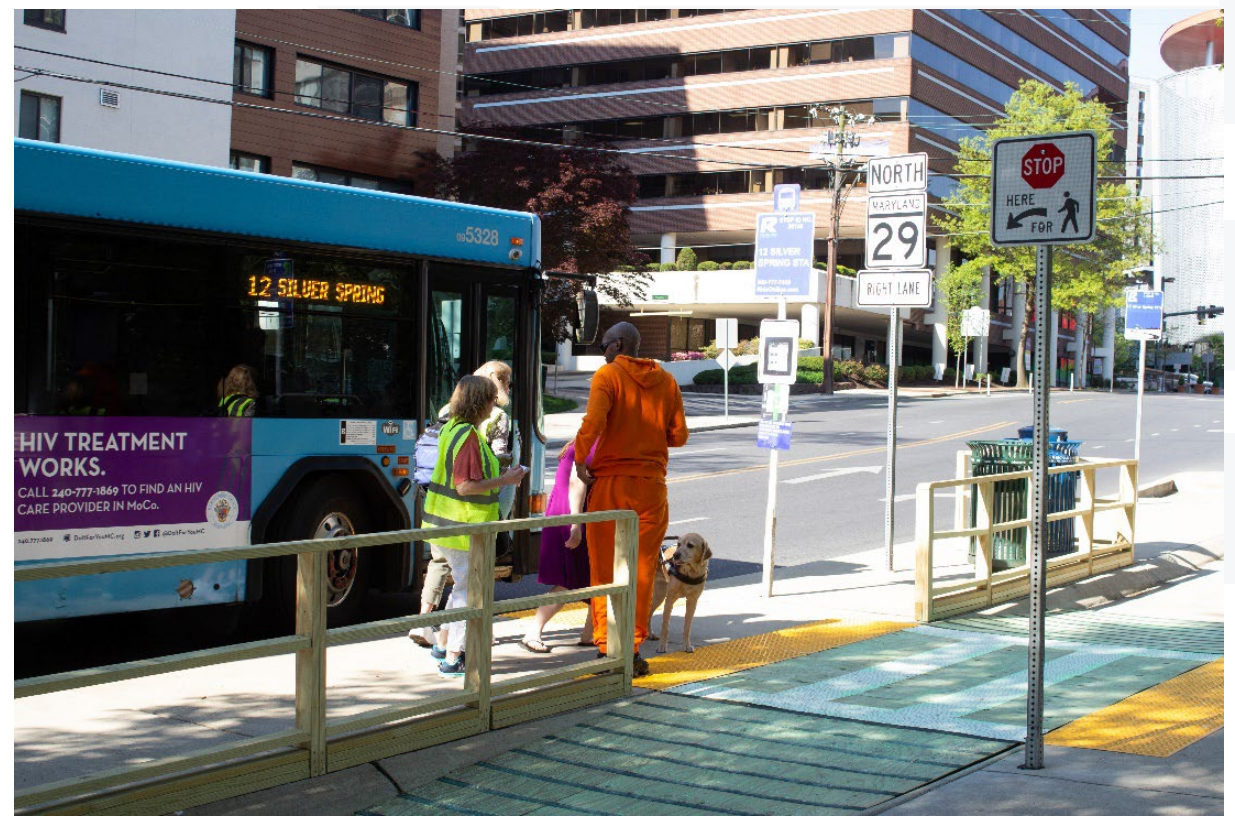
11

- Co-locate with signal
- Raised speed table at one end
- Sign on sidewalk in addition to on platform
- Tactile Walking Surface Indicators



# Bus Boarding Island Pilot

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# Roundtable Discussion Topics

Discuss Island Stops  
*(issues and proposals)*

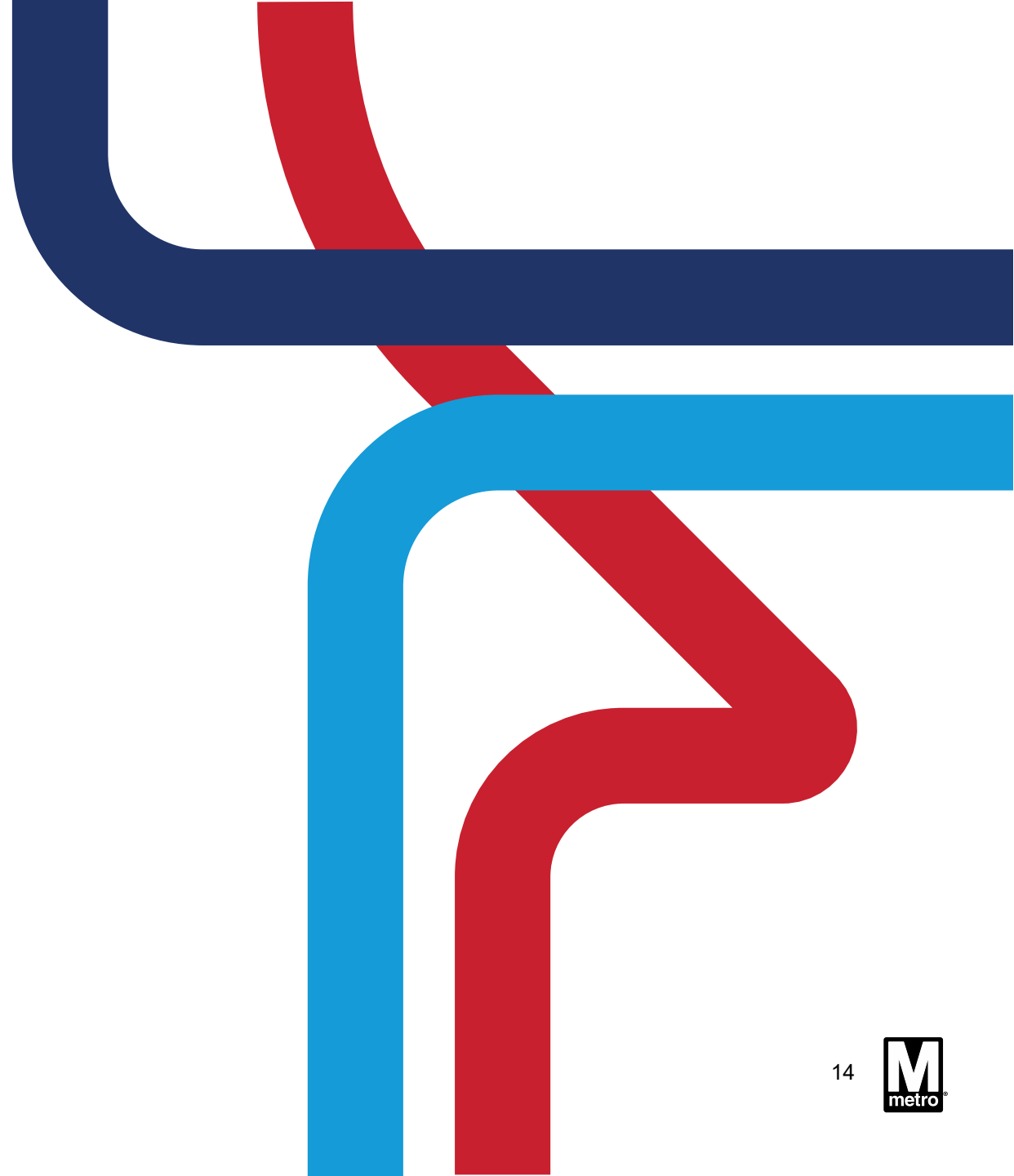
Discuss Shared Stops  
*(issues and proposals)*

Discuss Stop Infrastructure  
and Amenities



We know we will not solve all these questions today!

# Island Stops (aka 'Floating')





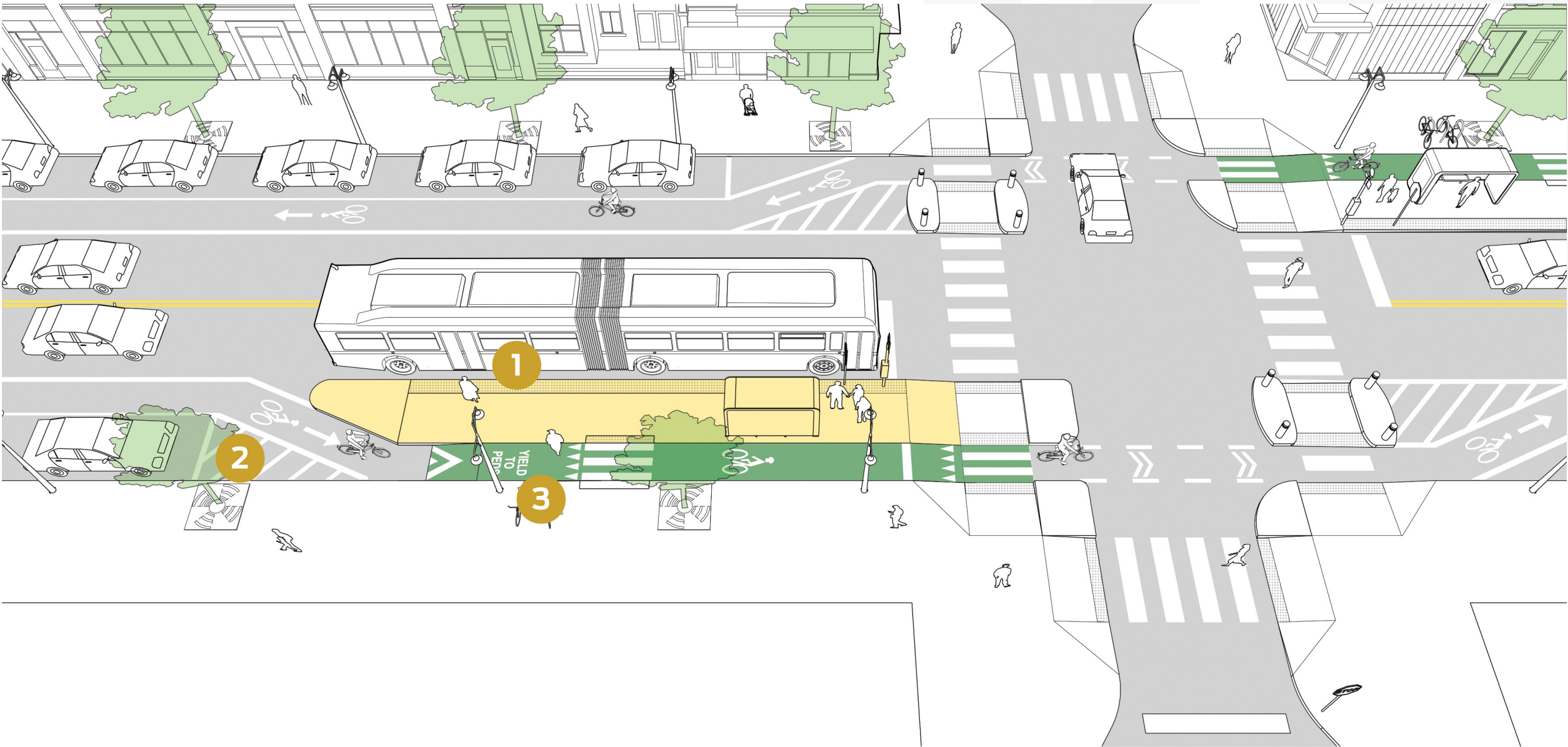
# Island Stops

- Sometimes called “floating” bus stops, these installations route the bike lane behind a wide (6+ ft.) bus platform.
- Typical in areas with a wider street; less common in dense urban cores (though they do exist!)
- Provides a separate ‘waiting’ area for bus riders but introduces a new crossing over the bike lane to get to the island.
- For bus riders with a disability, how should access to the island be addressed?
- How can we highlight for bicyclists the areas where riders will cross?
- How to ensure consistency across the region?



# Side Boarding Island Stop (NACTO)

Bus Stop Design Forum





# Example Island Stop (DDOT)

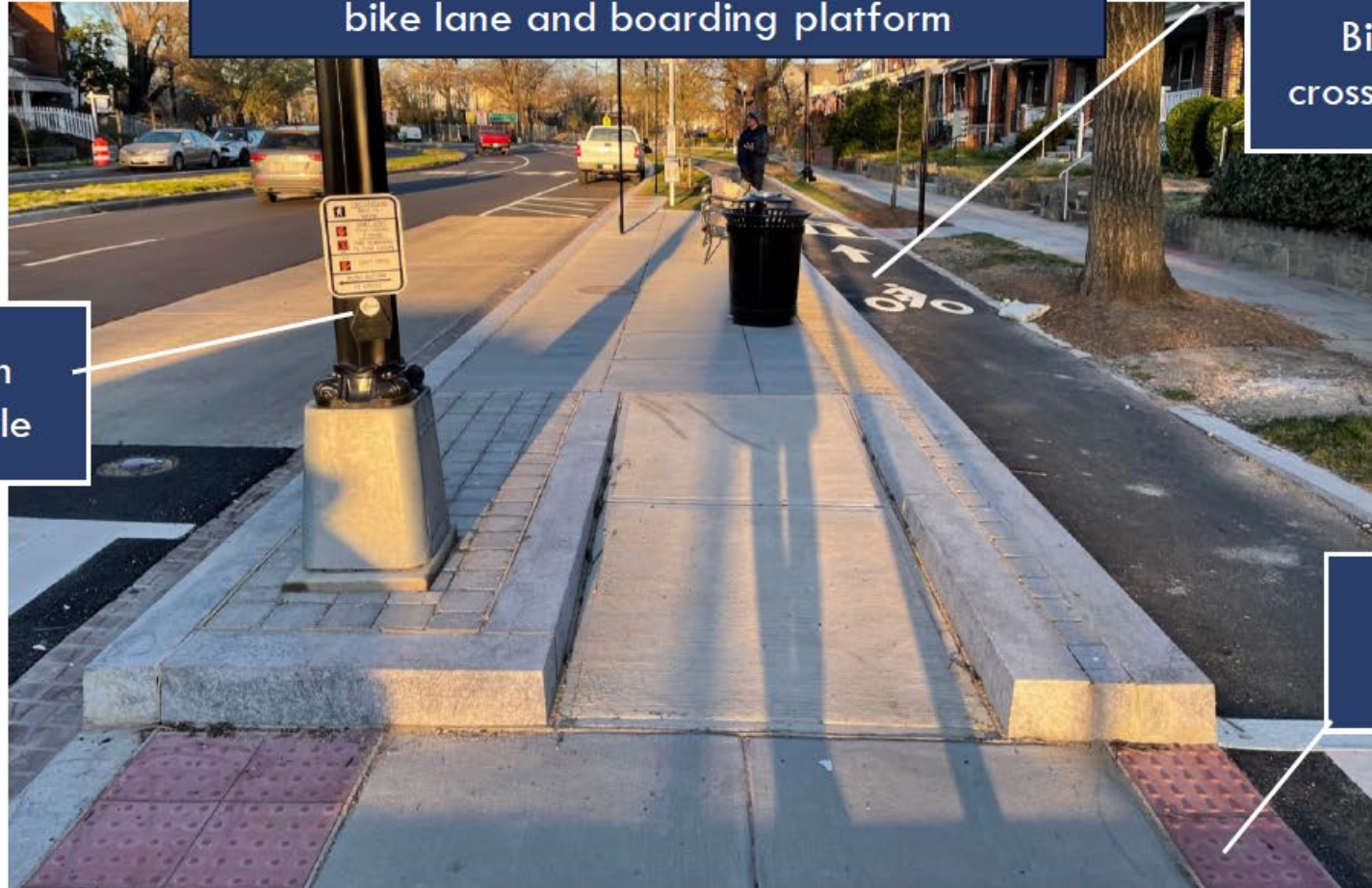
## Type A: Island Stop

Wide right-of-way allows for full separation of bike lane and boarding platform

Bike lane ramps up at crosswalk to boarding point

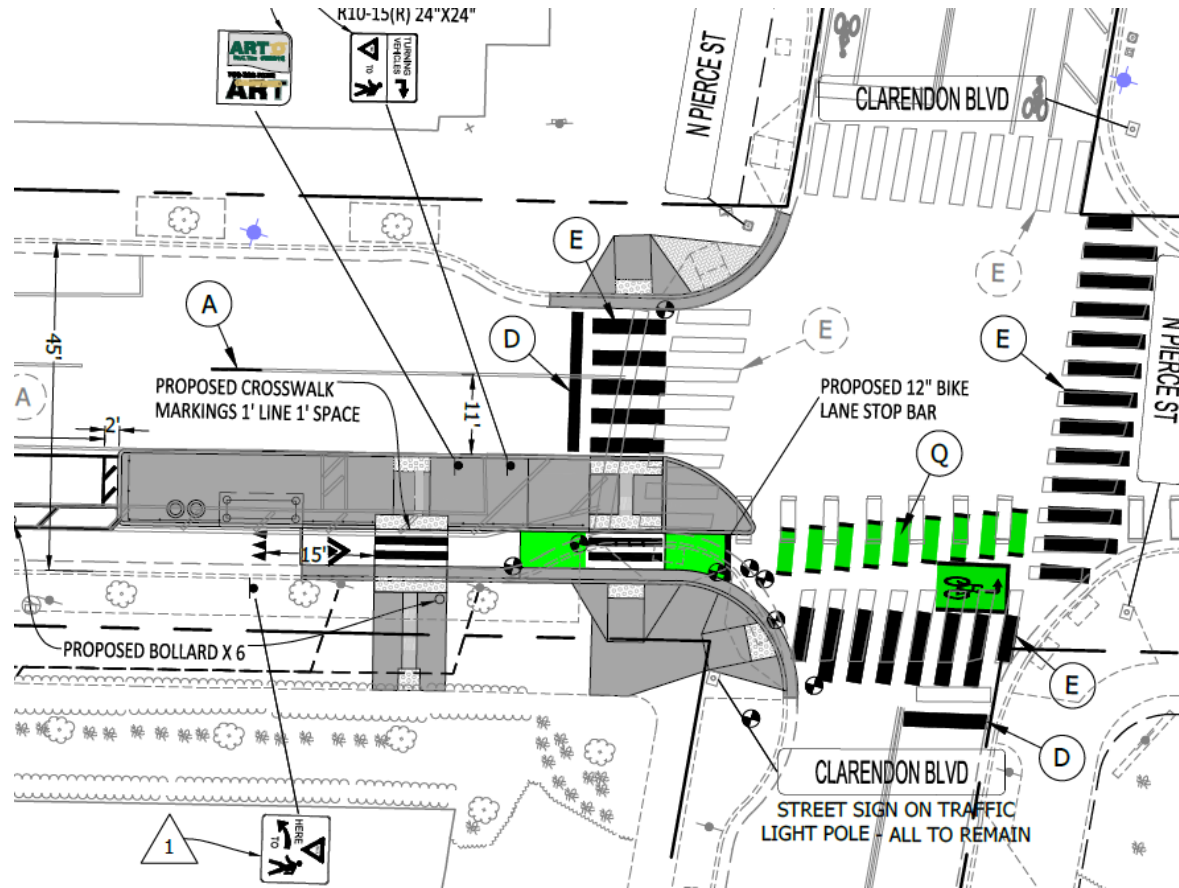
Audible pedestrian signal where feasible

Detectable warning surfaces at crossings

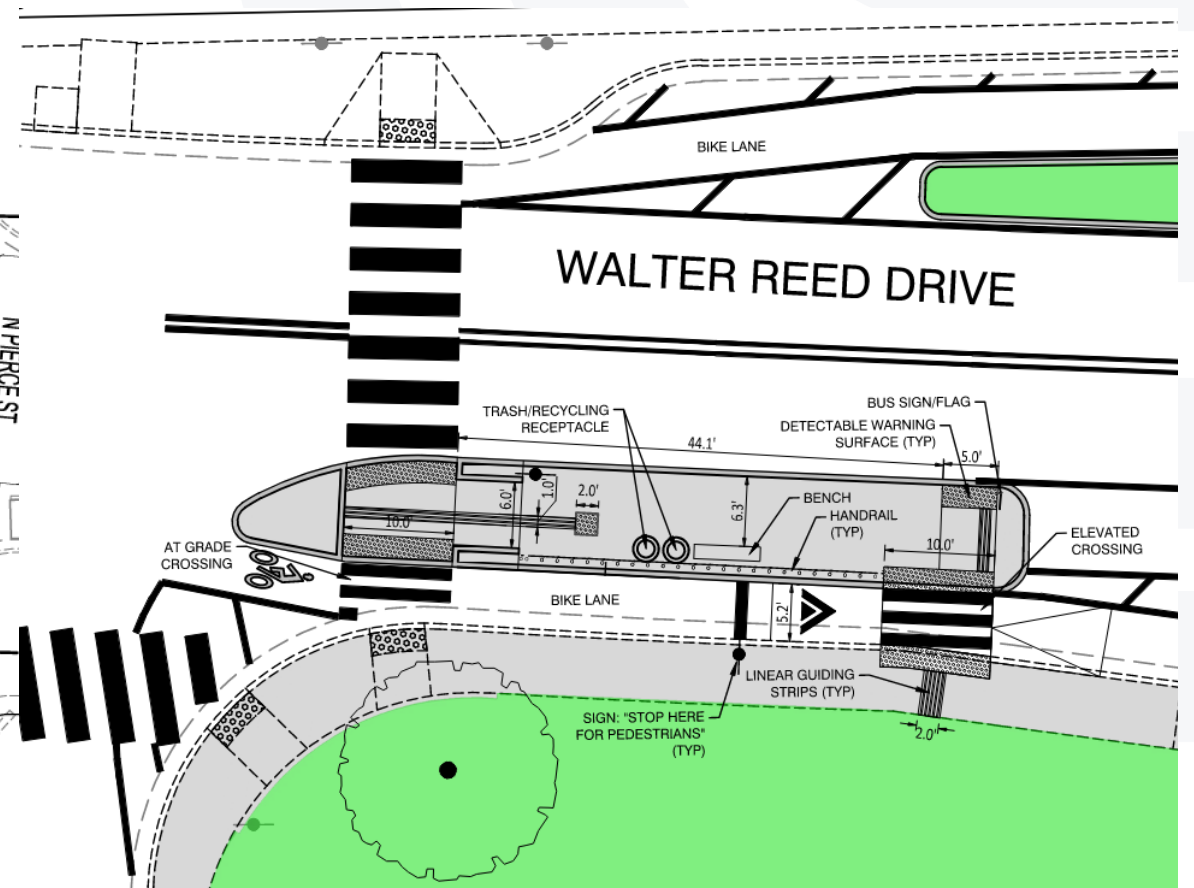


C St NE

# Near Side Island Stop Design (Arl. Co.)



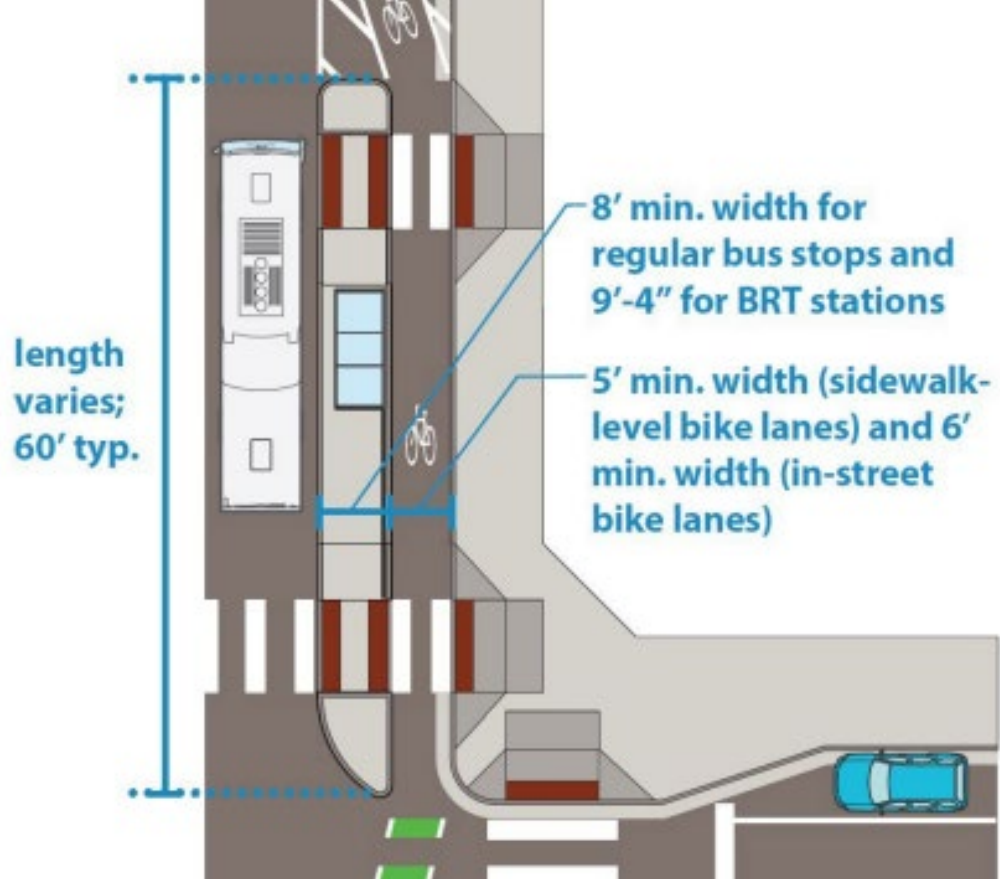
Near-side Island Stop



Far-Side (Unsignalized) Island Stop



# Outside the Washington Region



*Minneapolis Street Design Guide – Island Bus Stop*



*Church Street (SFMTA)*



# Outside the Washington Region



*Inman Square - Cambridge, Massachusetts*



*12th Avenue South – Nashville Tennessee*



# Outside the Washington Region (International)



47 Broadway, London UK

Mestre, Venice Italy

# Shared Stops (bulb-outs)



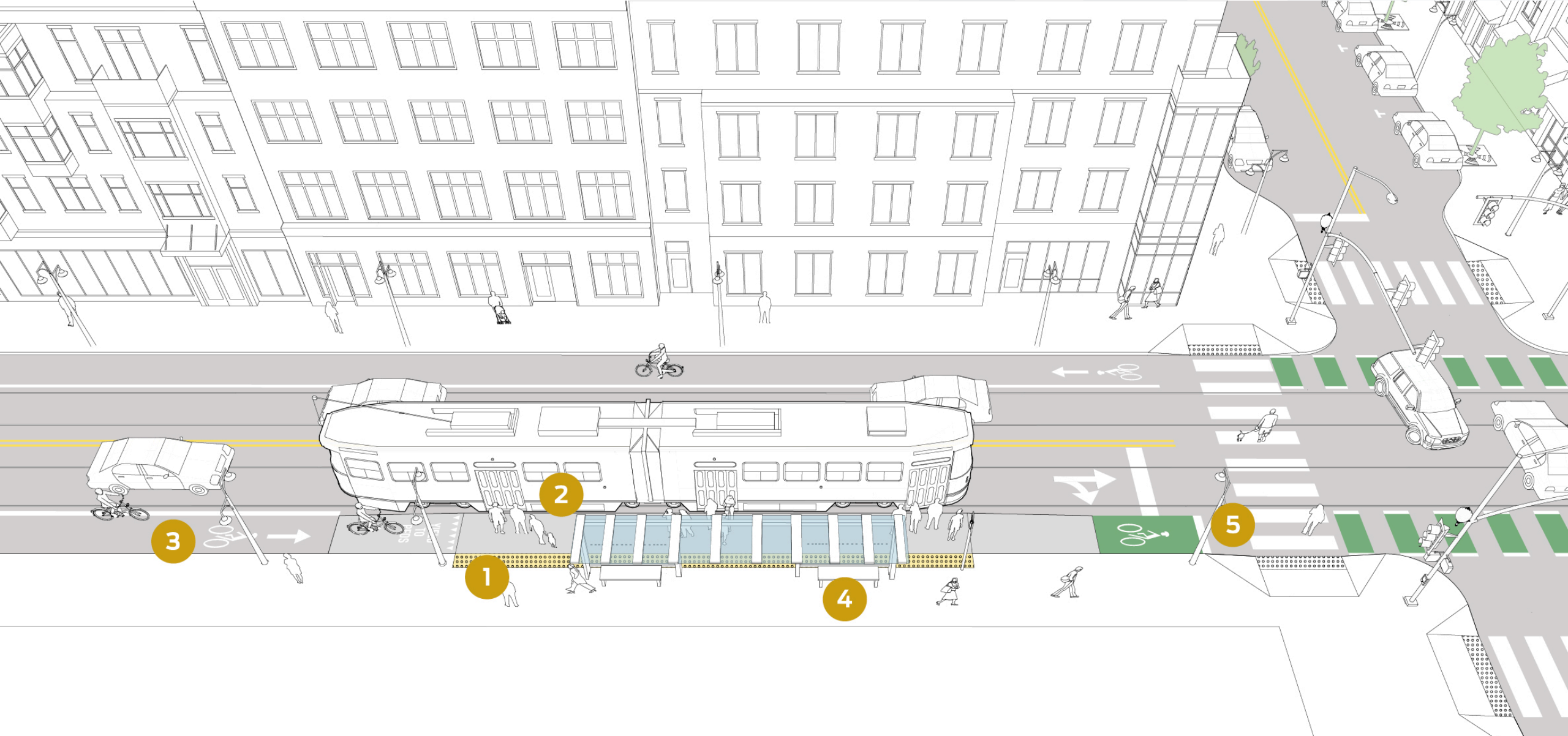


# Shared Stops

- Also called “bulb outs”, these installations extend the sidewalk out to meet the travel lane, allowing buses to stop without moving over to the curb.
- More common in denser urban areas.
- Can be constructed to match the existing sidewalk, (photo right) or can be installed more tactically using prefabricated segments
- How do we communicate to bus riders where they should wait for the bus (i.e. not in the green bike space)?
- How do we communicate to bicyclists that they need to slow down as they approach and traverse the stop?
- How to ensure consistency across the region?



# Shared Cycle Track Stop (NACTO)





# Example Shared Stop (DDOT)

## Type B: Shared Stop

Where islands are not feasible, the boarding platform is integrated with the bike lane

Green paint highlights the conflict zone for all road users

Detectable warning surfaces at crossings

Vertical signs reinforce narrowing and alert people riding bikes that they should anticipate and stop for people boarding/alighting

Bike lane narrows to signal slow zone for bikes

Bike lane ramps up to sidewalk level, signaling to people riding bikes to slow



Penn Ave SE



# Outside the Washington Region

## Sidewalk Level Bike Lane in San Francisco



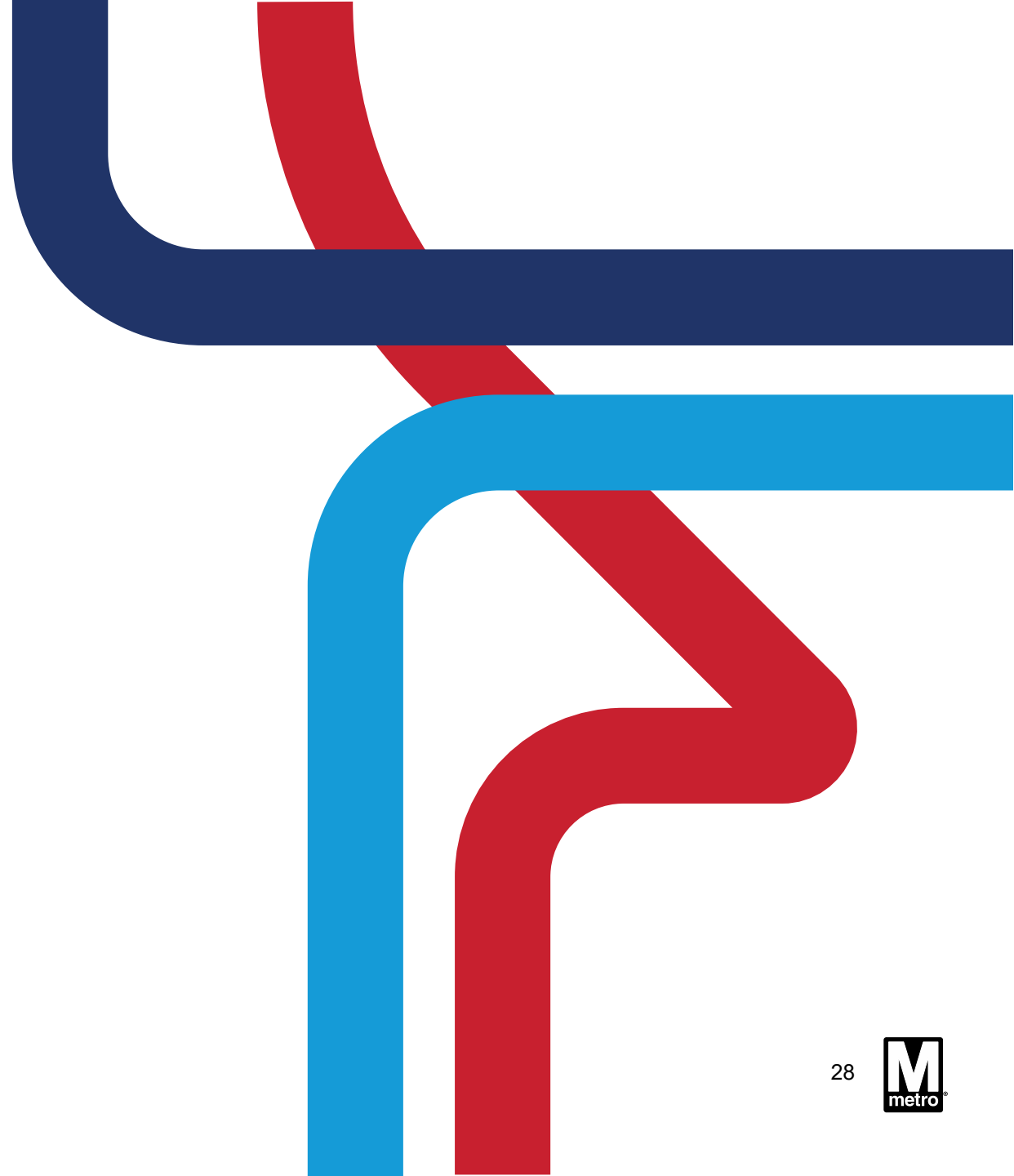
# Outside the Washington Region

## Sidewalk Level Bike Lane in San Francisco





# Signage/Stop Flags & Amenities



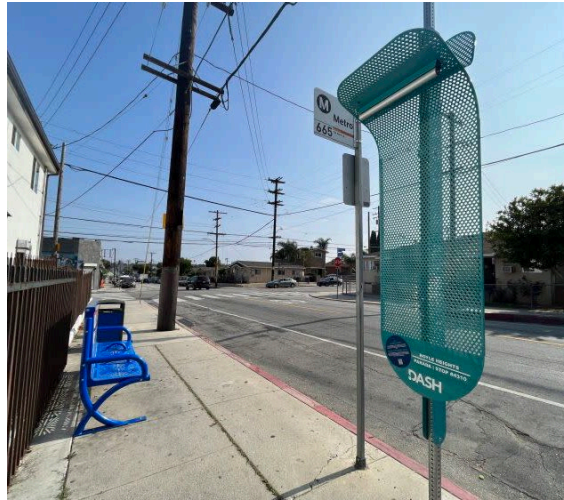


# Consistency in Bus Stop Elements

- Aside from regional consistency in the design of shared bus-bike stops, increased coherence in how bus stops appear around the region can help riders feel more at ease as they move across the Washington Metropolitan Area.
- Elements such as bus stop flags, seating, lighting, messaging devices, real-time arrival screens, and others can help riders navigate consistently regardless of where their trips go.





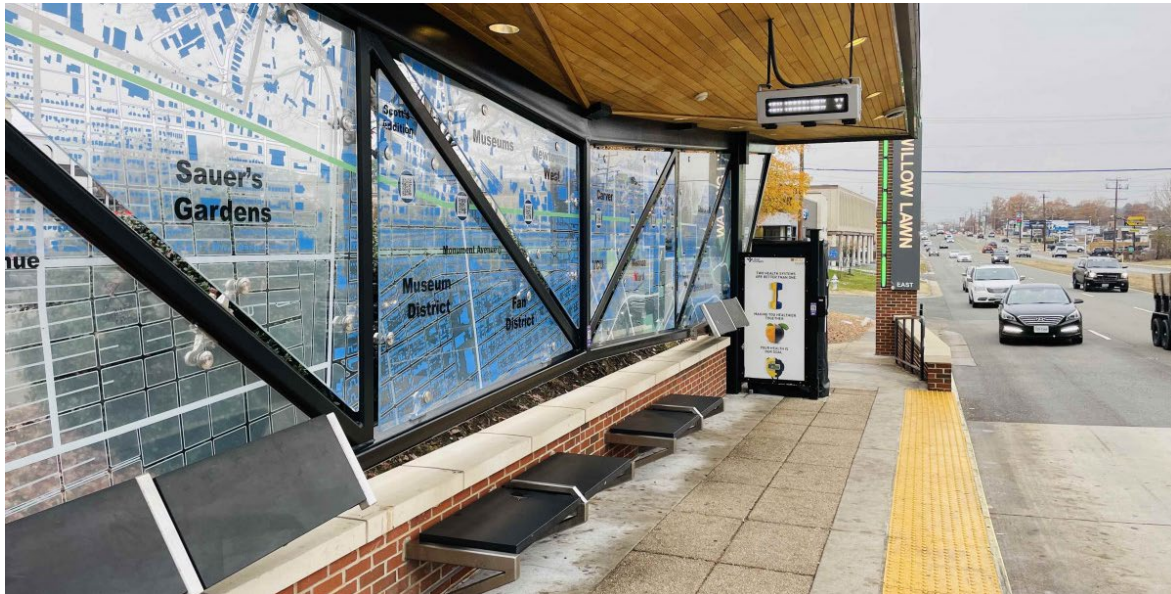


*Bus Stop Pylon with Amenities  
(ConnectPoint SmartStop – Santa Clara)*

*La Sombrita*



*Updated WMATA Shelter (at rail station)*



*Enhanced Bus Shelter (Richmond PULSE BRT)*



*Real Time Arrival Screen (E-Paper)*



*Tactical Seating Installation  
(Simme-Seat)*

# Next Steps



# Next Steps

## Bring This Info Back To Your Organizations

- Use the resources presented today to help others on your teams learn about the issues present in these stops.
- Reach out to WMATA staff to suggest elements to include in future updates of the Bus Stop Design Criteria

## Continue The Conversation!

- Have a meeting about bus stops or bike lanes? Consider inviting some of the people you met today!
- Bring this discussion up to your elected officials, disability advocacy groups, etc.

## Reconvene?

- As the discussions continue across the region, let MWCOG staff know if it would be helpful to have another session on this (or related!) topic.
- Other groups such as the National Capital Region Bus Leaders Subcommittee on Bus Stops and Amenities may also have opportunities for a regional meeting.

# Thank you!

Washington Metropolitan  
Area Transit Authority

# Links for Reference

- [AASHTO – Guide for the Development of Bicycle Facilities \(2012 Edition\)](#)
- [DDOT – Bus Priority Toolkit – Bus/Bike Stops](#)
- [FHA - Separated Bike Lane Planning and Design Guide](#)
- [Maryland.gov – In-lane Floating Bus Stops](#)
- [Minneapolis Street Design Guide - Bus Stops and Bikeways](#)
- [Montgomery County MD – Bicycle Facility Design Toolkit \(page 59\)](#)
- [SEPTA – Bicycle-Bus Conflict Area Study](#)
- [TriCounty Link \(SC\) – Transit and Bus Stop Guidelines \(pg 3-9\)](#)
- [TRIMET \(Portland\) – Island Bus Stop Demonstration Video](#)
- [Video of Cycling Around Dutch \(Netherlands\) Bus Stop](#)
- [Video of WMATA Metrobus Using Island Stop on 14<sup>th</sup> Street](#)