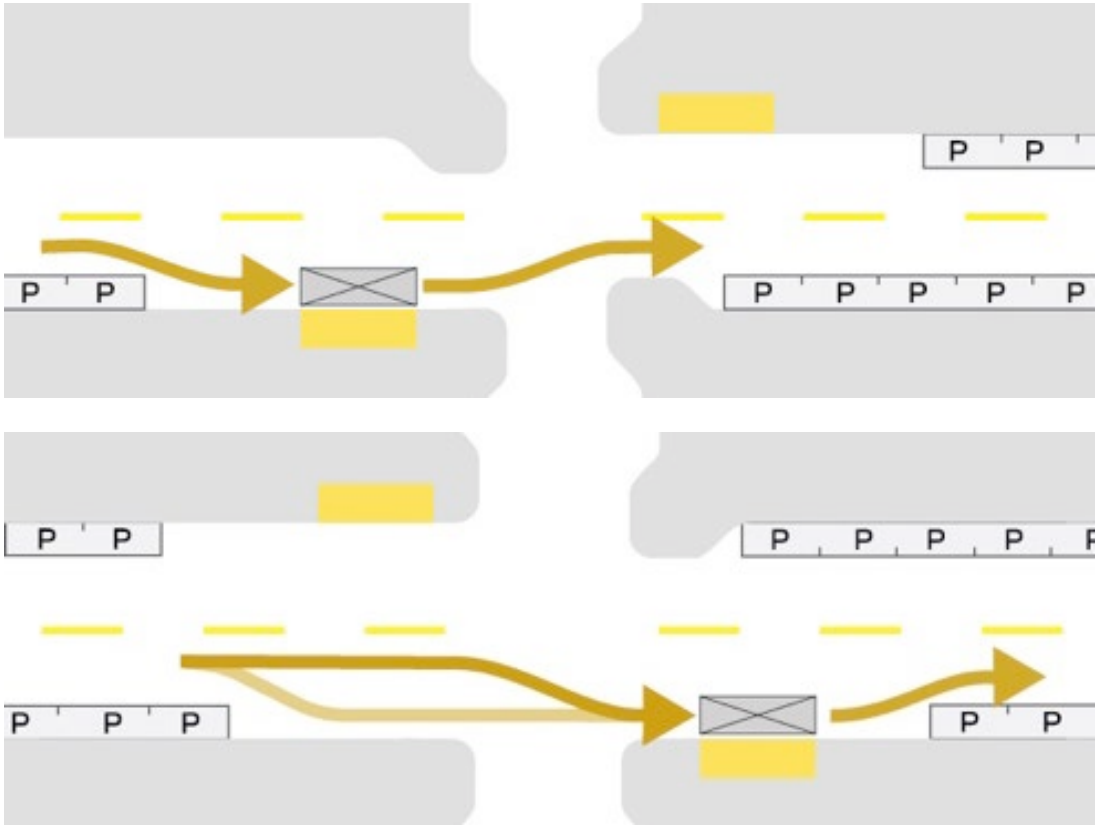
Stations & Stops

Stop Location & Design
Stop Typologies
Stop Elements

Block Location



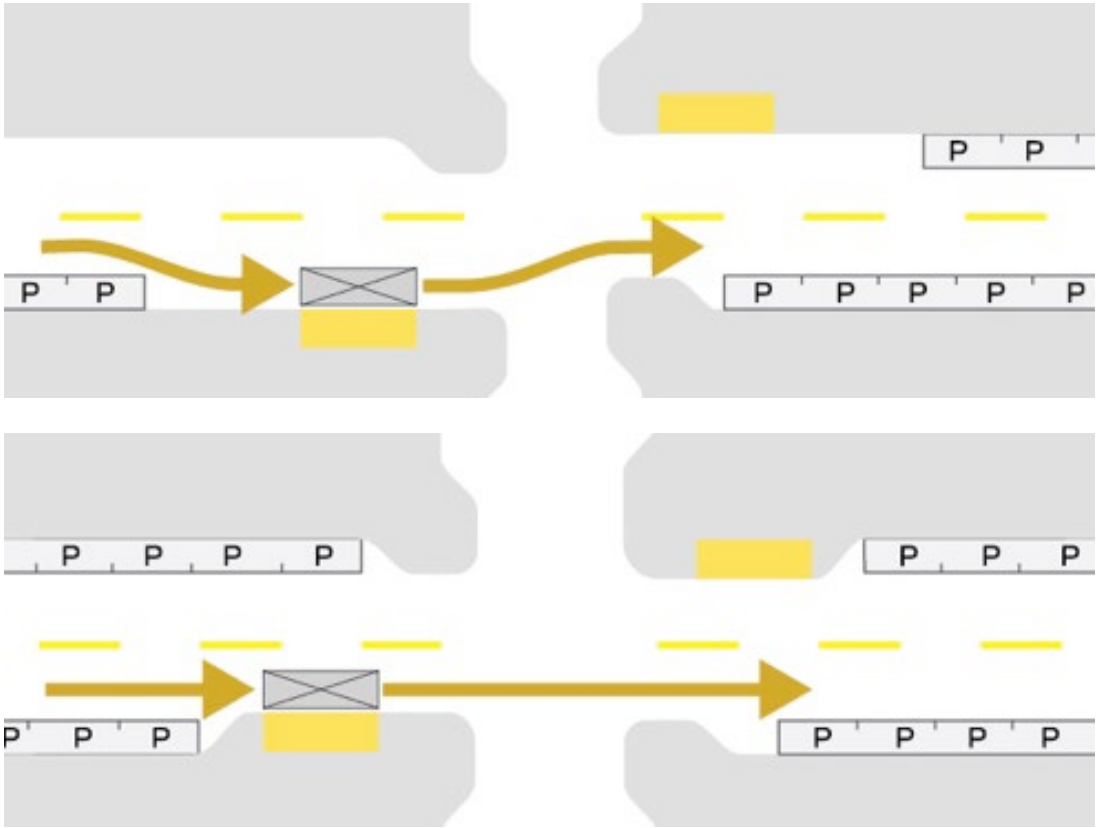
Near-Side

- No transit priority (except at Stop)
- Crossing in front

Far-Side

- Transit priority, esp at Signal control
- Rear storage

Lane Configuration



Pull-Out

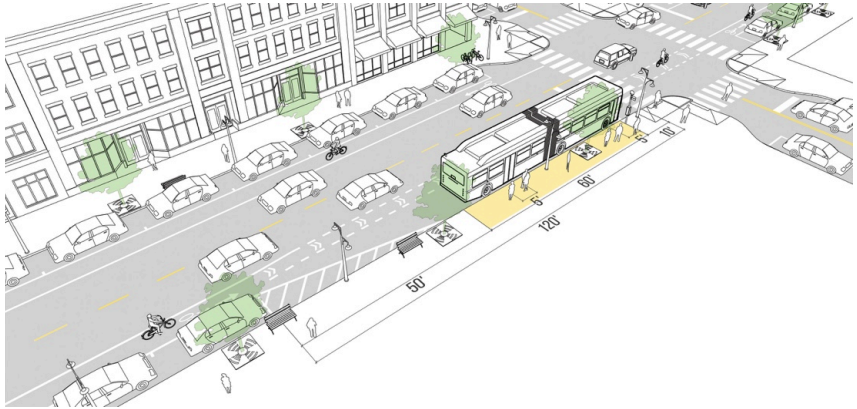
- No transit priority (except at Queue Jump
- Crossing in front

In-Lane

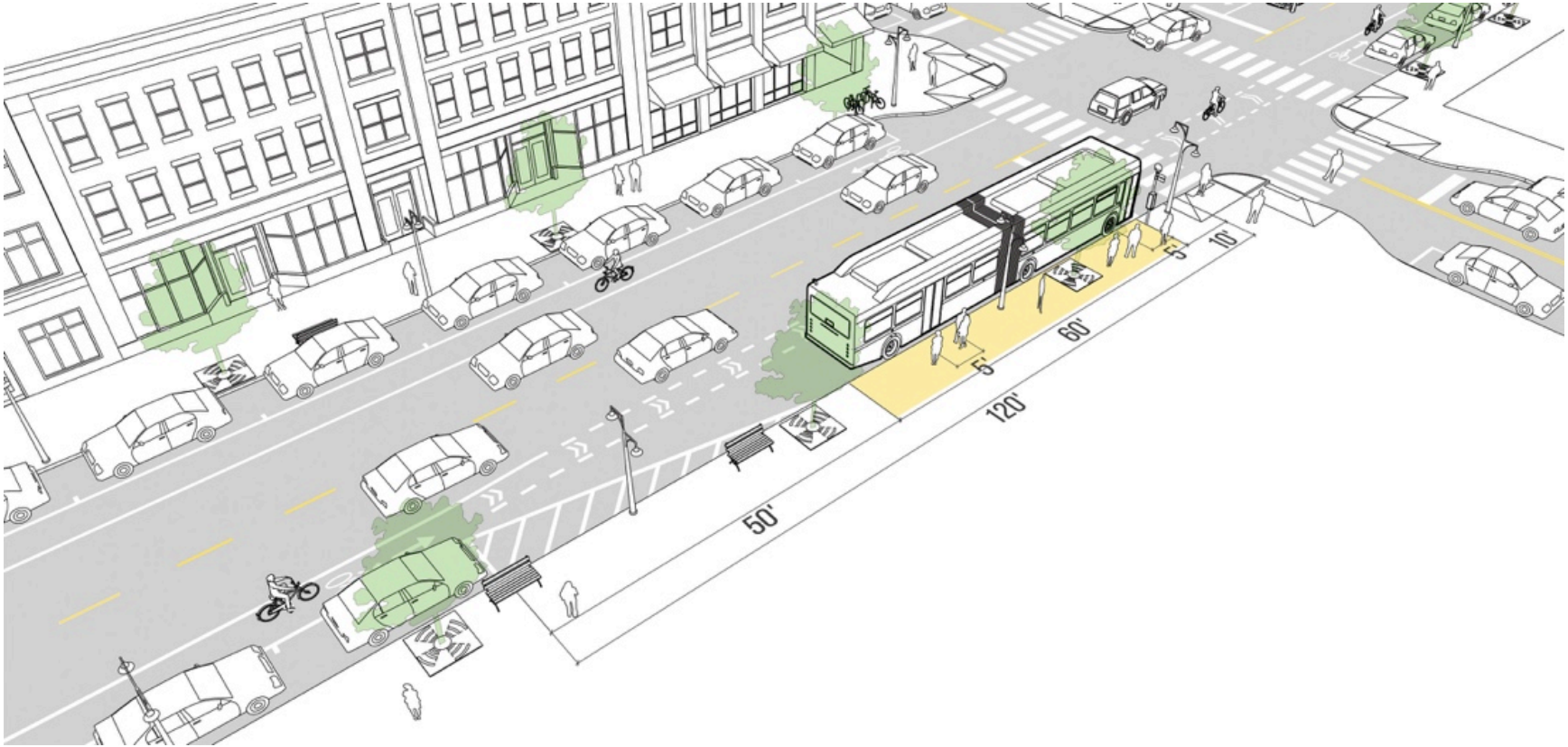
- Transit priority
- Rear storage at far-side

In-Lane vs Pull-Out Stops

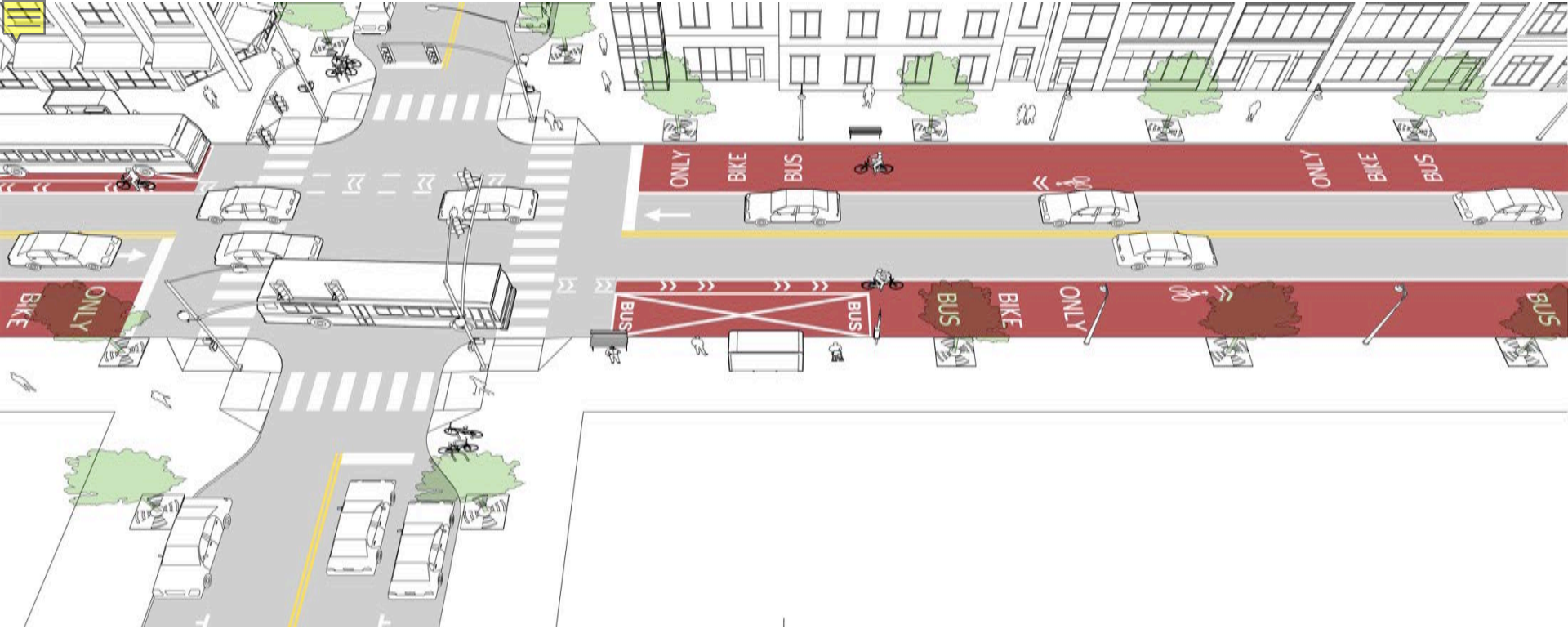
- Transit delay from transition and remerge
- Pedestrian & rider comfort
- Curbside length consumption
- General traffic delay
- Decreased vehicle/road wear-and-tear



In-Lane vs Pull-Out Stops

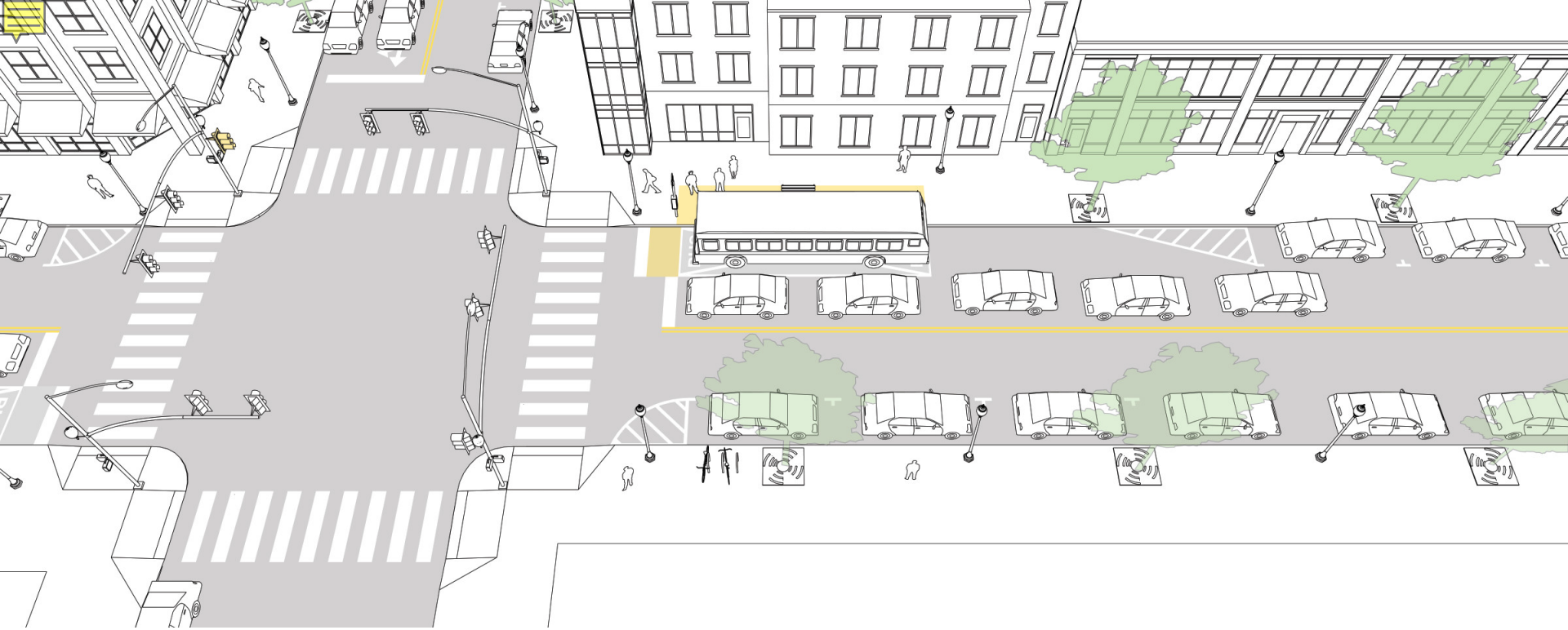


Stop Typologies



Curbside Stop

- Curbside transit lanes
- Queue jumps and bypasses
- Existing/unimproved conditions



Curbside Stop

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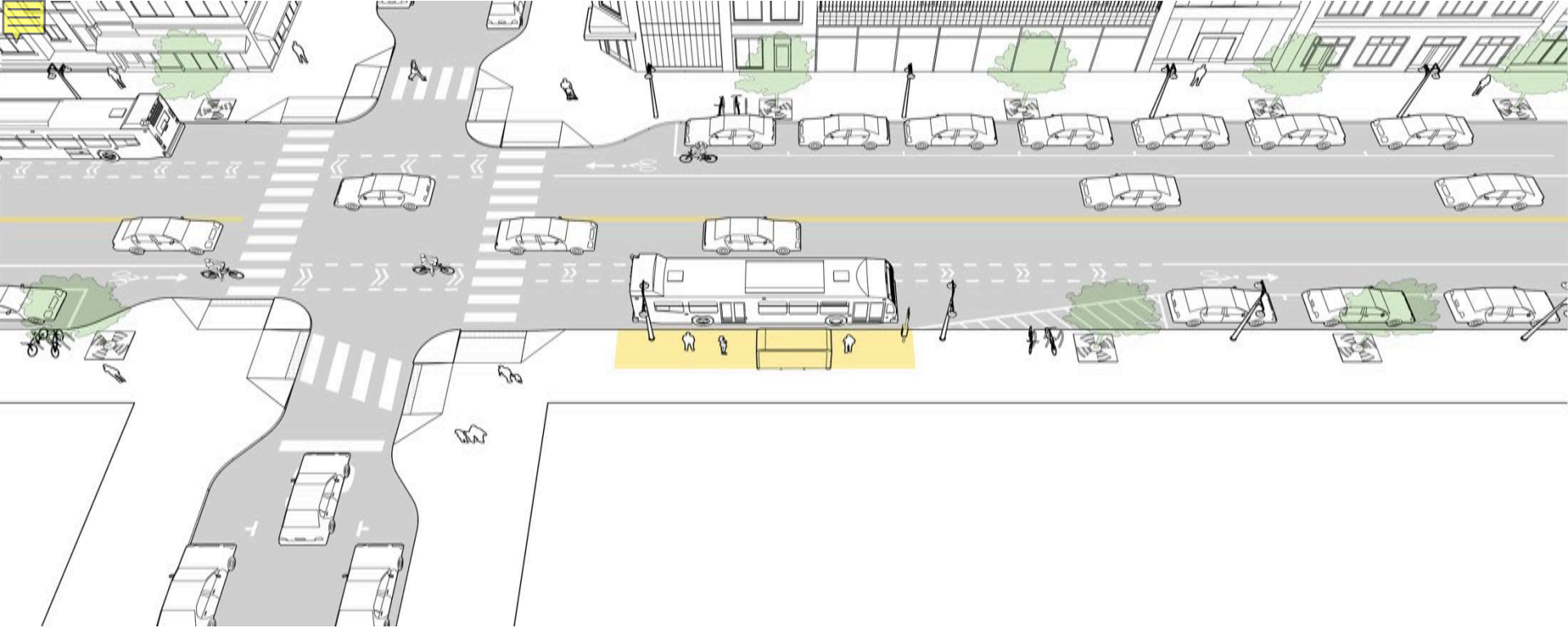


Curbside Stop

- Curbside transit lanes
- Queue jumps and bypasses
- Existing/unimproved conditions

Curbside Stop

Required

- 5’ wide x 8’ deep accessible boarding pad on sidewalk
- Shelters placed clear of accessible paths
- 25–30’ transition distance at entry and exit

Recommended

- Guide bikes left and transit right using markings
- Do not place pavement seams in bike lanes
- Transit movements should be coordinated with concurrent bike and ped movements; consider LPI/LBI

Optional

- Queue jumps—either an AVL/APC system or loop detector, and may be coincident with stops

Boarding Bulb

- Enables in-lane stops
- Reduces sidewalk congestion
- Increases accessible boarding area

Boarding Bulb

Required

- 5’ wide x 8’ deep accessible boarding pad
- Shelters placed clear of accessible paths
- Bulb length must allow 10’ clear distance from either front or back of transit vehicle to crosswalk

Recommended

- Bulb length should meet expected capacity, though extending at least to all transit vehicle doors
- Provide shelters and stop amenities on the bulb
- Extend bulb width to within 2’ of travel lane edge to minimize lateral movement

Optional

- Include green features like bioswales or plantings
- At far-side stops, extend bulb length for rear car storage while bus is dwelling
- Combine with periodic pull-out stops where applied with only one travel lane

Boarding Bulbs

Tiered Stop

- Enables concurrent stops and simple transfers between local and rapid service
- S-shaped bus pads elongate stop life
- Design transition radii with maintenance/sweeping in mind

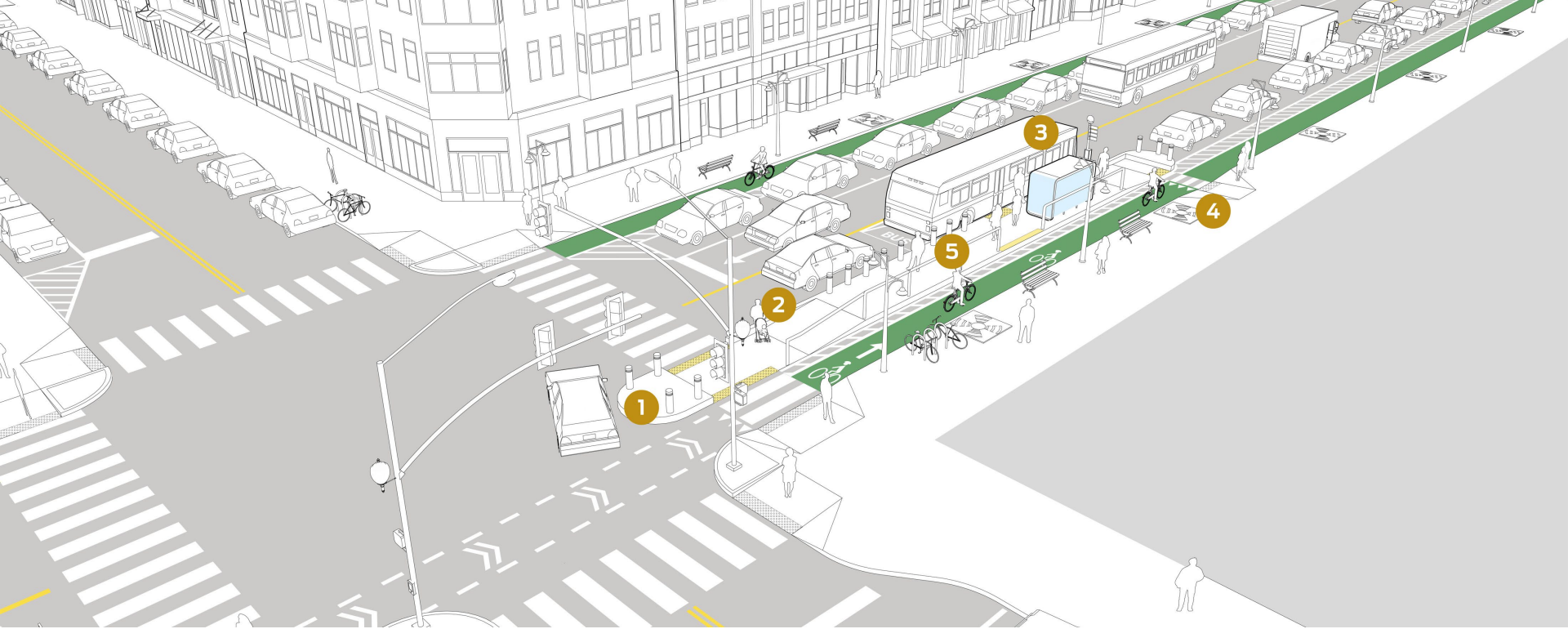
Streetcar bulb

- Boarding bulb may extend further into the travel lane (closing lane width to as little as 9')
- Tapered curb profile enables buses and streetcars to use the same platform
- Provide accessible ramp at the crosswalk end; steps are acceptable for other entrances.


Boarding Bulb
15 TO GATEWAY TC
SE GRAND & TAYLOR
BigBelly SOLAR
GO BY STREETCAR
Pitch in!
Portland, OR

Shared Cycle Track Stop

Toronto, ON



Side-Boarding Islands

- Enables in-lane stops
- Balances safe bike and transit movements
- Generally does not require drainage modifications

Side-Boarding Islands

Required

- 5' wide x 8' deep accessible boarding pad is needed at any accessible door
- Accessible ramp and path to sidewalk must be provided
- All shelters, railings, and design elements must be clear of accessible paths
- Where bikes are required to yield, yield teeth must be marked prior to the crosswalk

Recommended

- Near-level boarding can be achieved with 9–12" height; level boarding is typically 14"
- Accessible ramp should be configured to access the nearest intersection
- Provide shelters, seating, and passenger amenities to improve comfort
- Install all elements to promote visibility between bikes and pedestrians

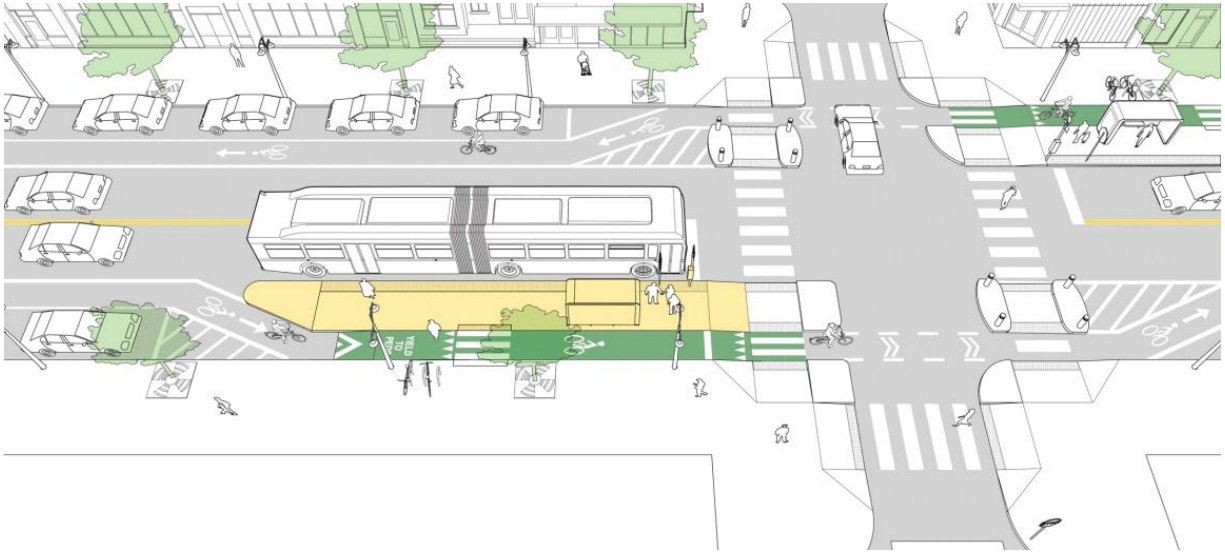
Optional

- Leaning rails may channelize pedestrians entering and exiting
- Boarding islands may include curbside amenities, like bike parking, seating, or plantings

Side-Boarding Islands

Near-side, sidewalk-level channel

- Boarding platform must at minimum span front door to back door
- Bike lane may be narrowed slightly to slow bikes, with a 5' minimum
- Mark pedestrian crossings with yield warnings to bikes



Side-Boarding Islands

Far-side, at-grade channel

- Include rear storage length where turn volumes are higher
- Pair accessible ramps with crosswalks
- Consider channelizing pedestrian movements off the island with railings or design elements
- Raised crosswalks over the bike lane may provide a flush path to sidewalk

Side-Boarding Islands

Austin, TX

Side-Boarding Islands

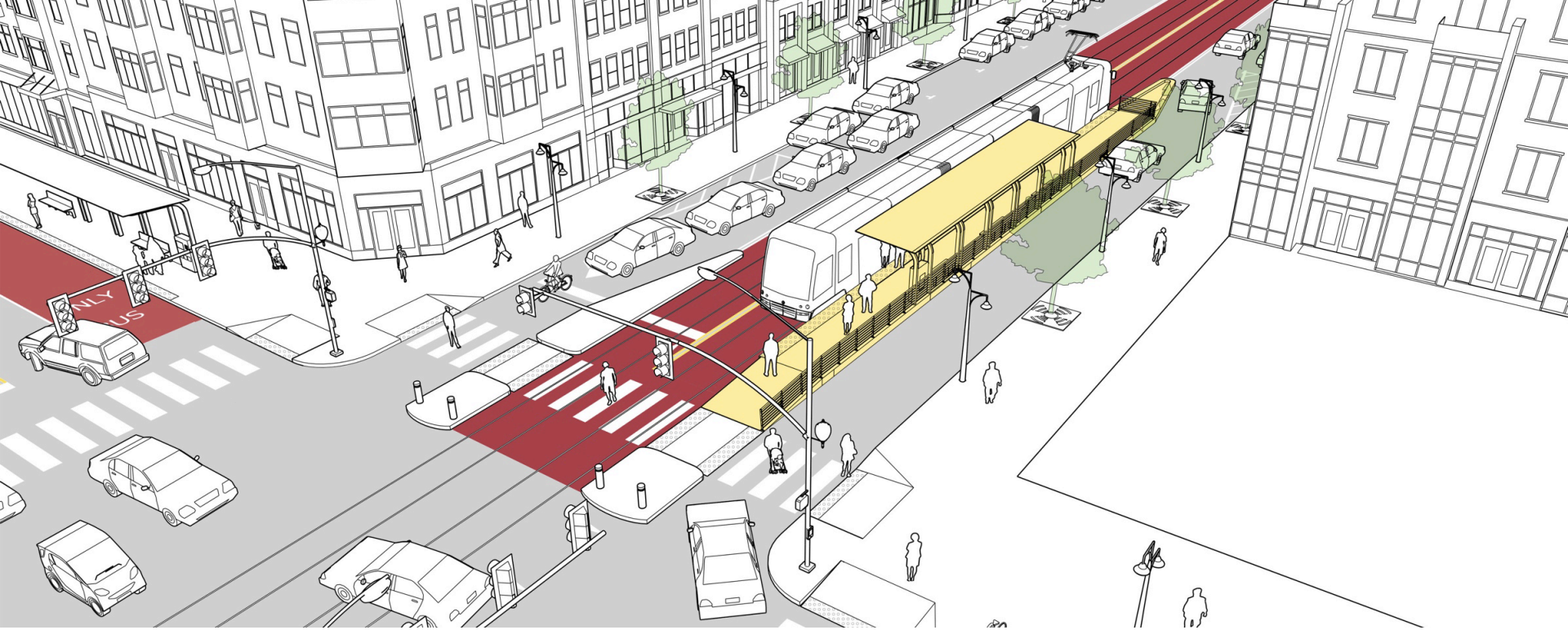
Seattle, WA

Side-Boarding Islands

San Francisco, CA

Side-Boarding Islands

Seattle, WA



In-Street
Boarding Island

In-Street Boarding Island

Required

- 24" wide detectable warning strips along boarding plaform
- Ramps feed to controlled crossings
- Refuge areas must be adequately wide for pedestrian volumes
- Reflective signs or raised elements at leading corner of the island

Recommended

- Railings along the right edge guide passengers to crosswalk
- Provide near-level boarding height for bus or dual-mode platforms (9–12"), level boarding height for rail specific platforms

Optional

- Install green infrastructure

In-Street Boarding Island

Washington, DC

In-Street Boarding Island

Seattle, WA

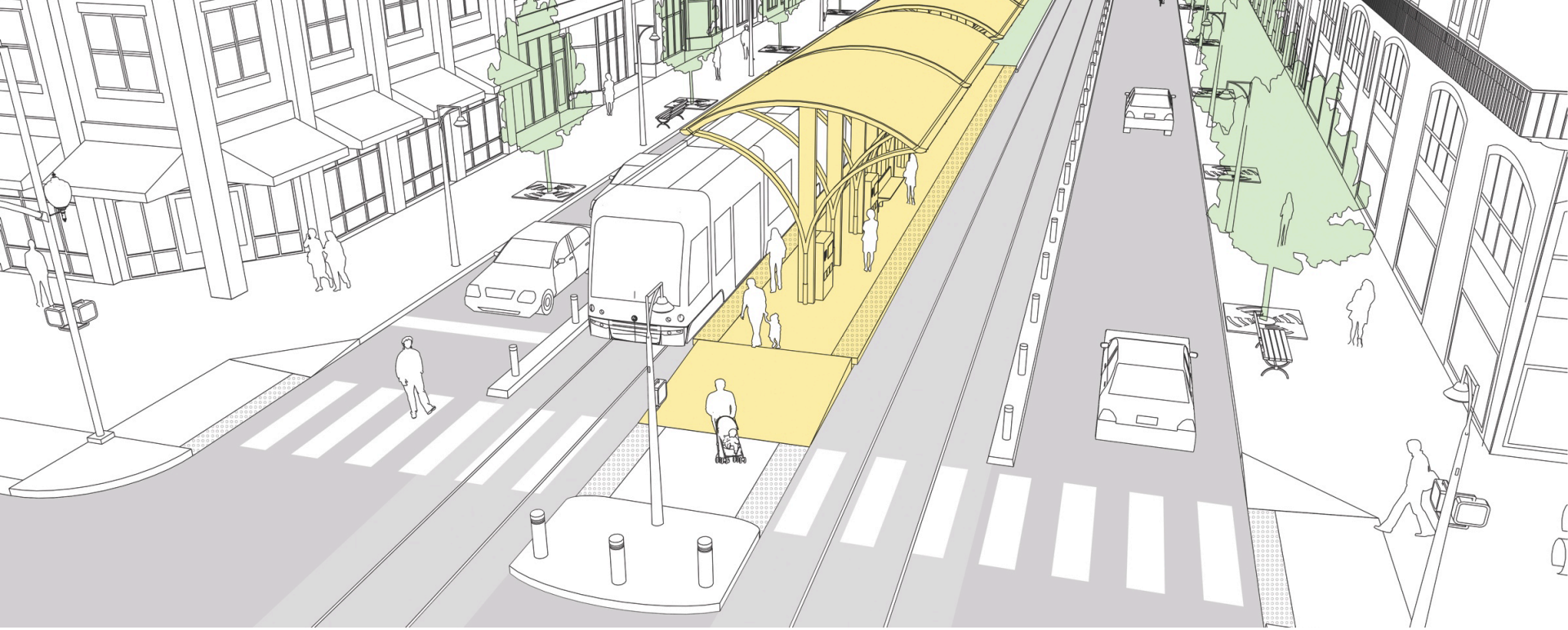
Median Stop, Right-Side Boarding

Median Stop, Right-Side Boarding

Arlington, VA

Median Stop, Right-Side Boarding

Eugene, OR



Median Stop,
Left-Side Boarding

Median Stop, Left-Side Boarding

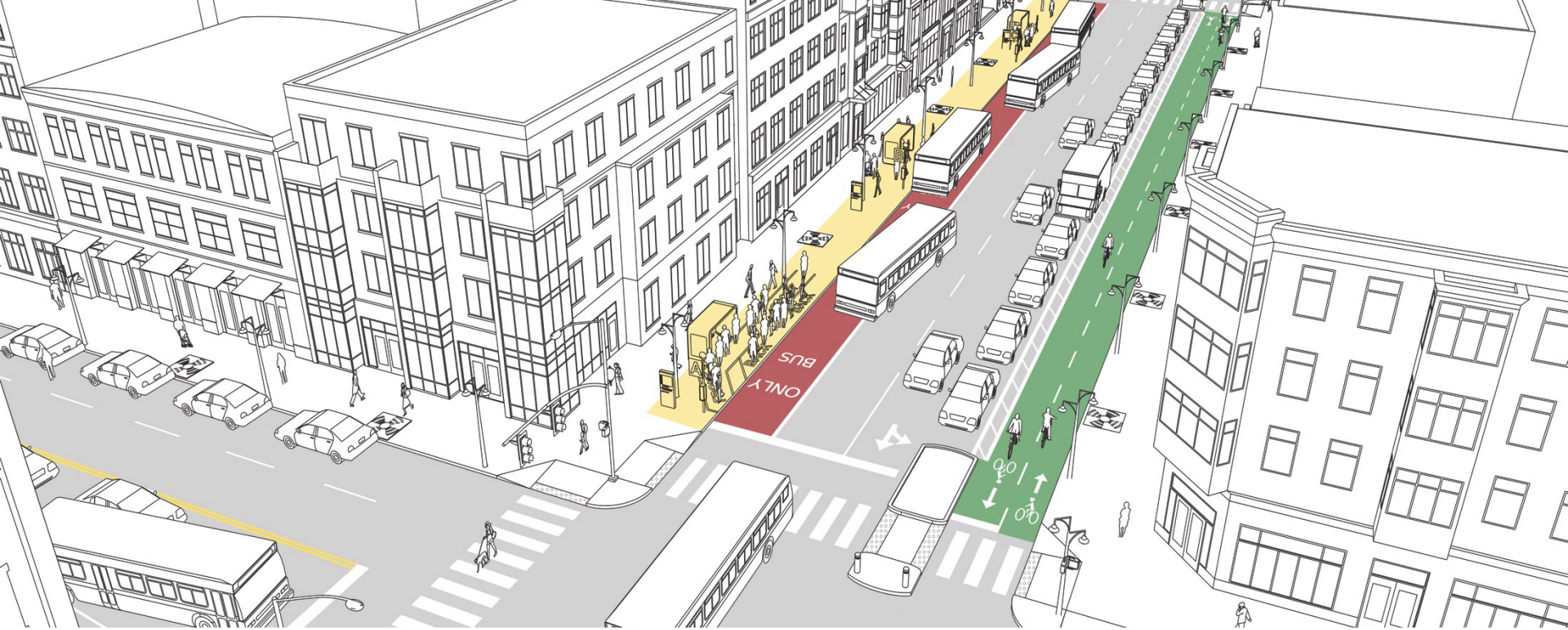
Cleveland, OH

Median Stop, Left-Side Boarding

San Bernardino, CA

Median Stop, Left-Side Boarding

Houston, TX



On-Street Terminal

On-Street Terminal

Required

- Signs clearly communicate which routes are served at which locations
- Must operate in curbside lane
- Must provide transition tapers

Recommended

- Consistent stopping patterns aid rider recognition
- Strip maps, system maps, and wayfinding elements
- Real-time arrival boards

Optional

- Managed passenger queues at high-volume stops speed boarding

On-Street Terminal

Portland, OR

On-Street Terminal

Minneapolis, MN

Stop Elements

Shelters

Seating

Information & Wayfinding

Passenger Queue Management

Transit Curbs

Bus Pads

Green Infrastructure

Bike Parking

Curbs

Clearances

Coordination!

Curb / Platform Height

Curb Level

Curb Level Boarding

San Francisco

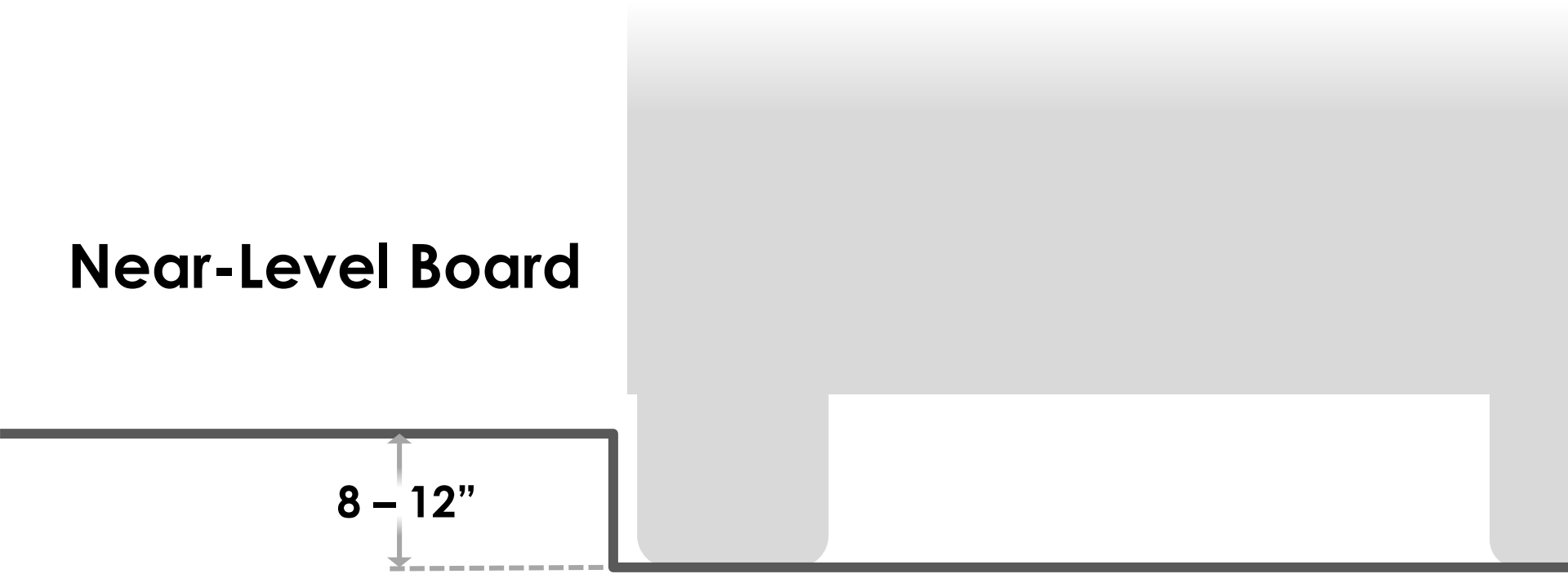
Curb / Platform Height

Level Board

Level Boarding

Curb / Platform Height

Near-Level Board



Near-Level Boarding

Eugene, OR

San Bernardino, CA

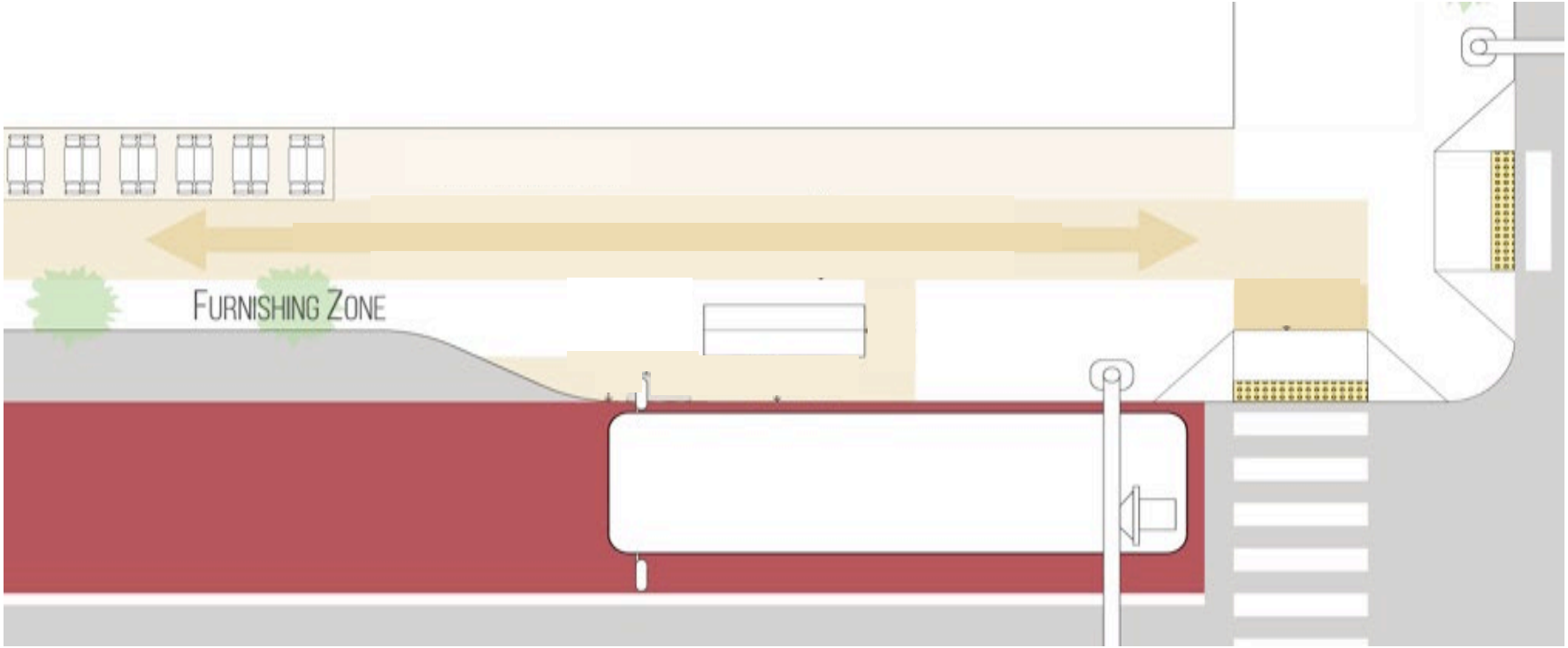
Transit Curbs

- Enable buses to “dock” within 2” of platforms
- Concave or bumpered for buses

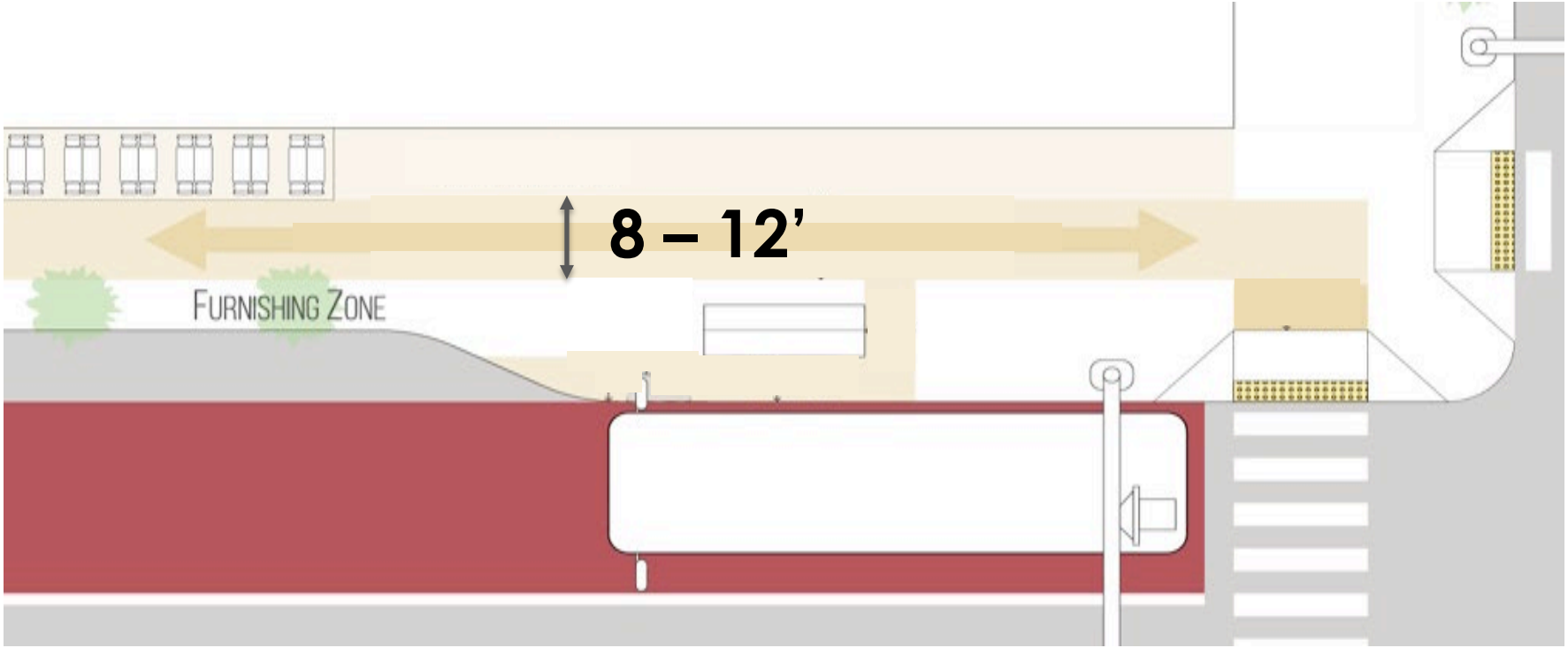
Transit Curbs

Seattle, WA

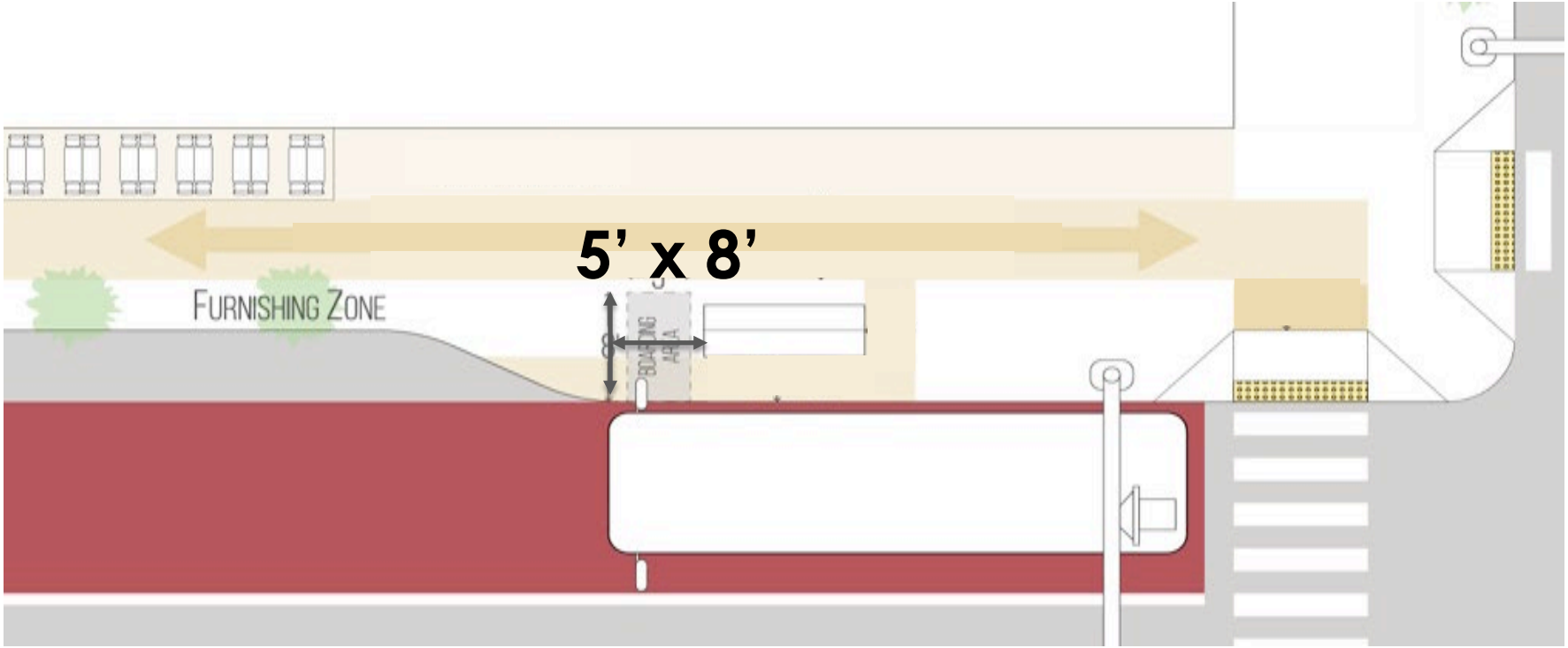
Accessibility & Universal Design



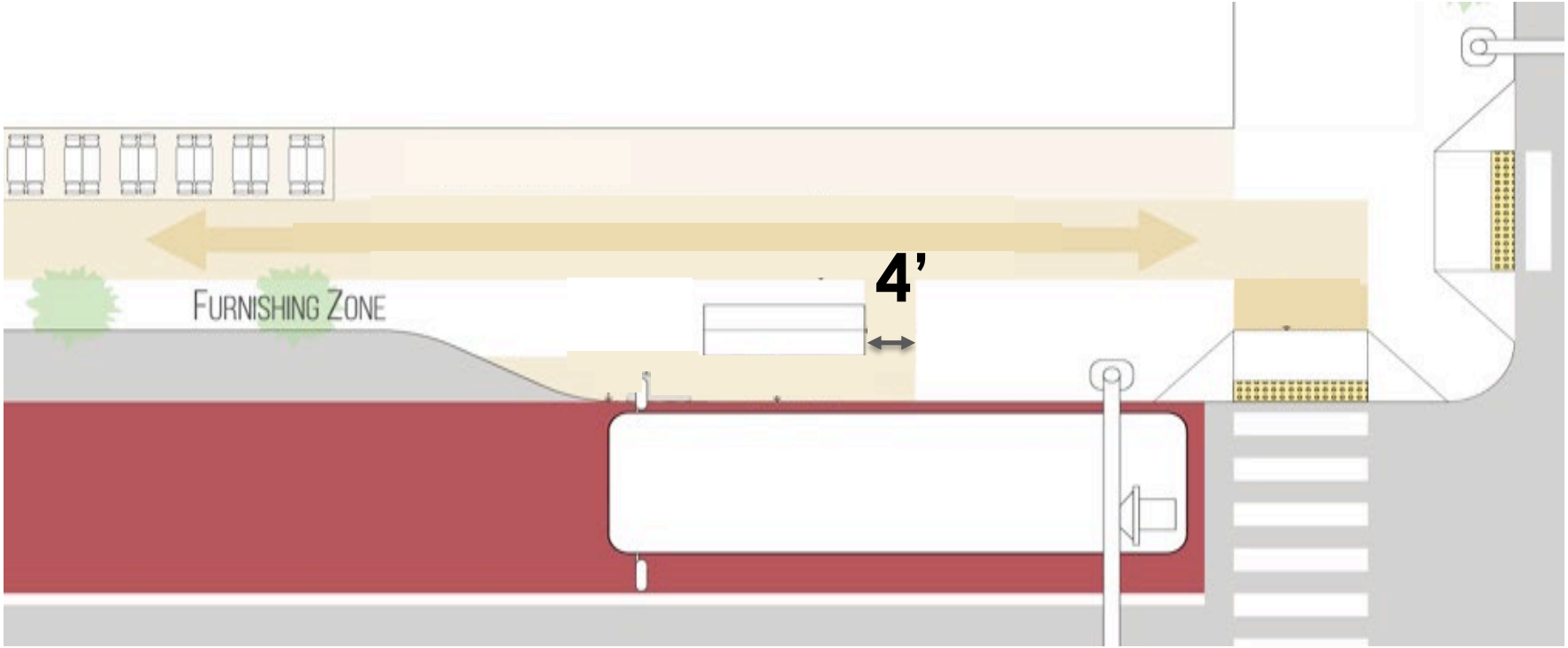
Accessibility & Universal Design



Accessibility & Universal Design

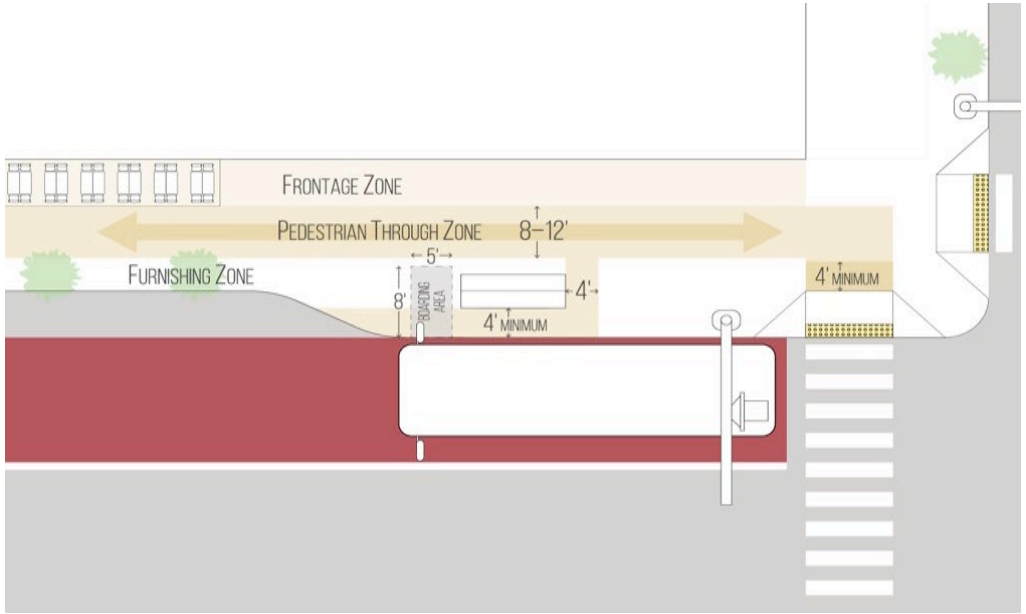


Accessibility & Universal Design

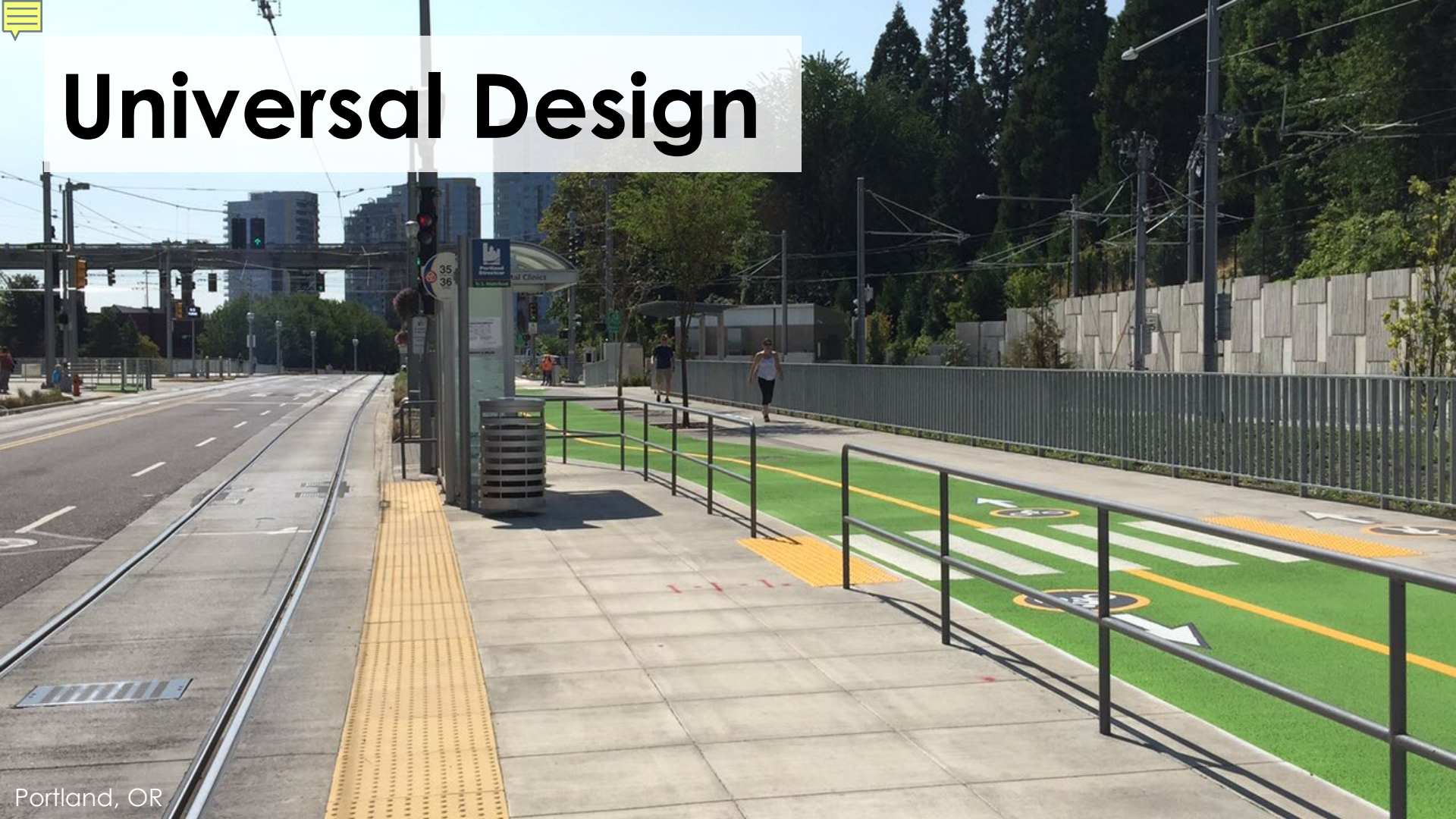


Accessibility & Universal Design

- Boarding area: 5’ x 8’
- 4’ paths around all elements
- “Three-sense principle”
- **Don’t design to minimums!**
  - Provide adequate capacity
- Color & tactile cues delineate modal edges
- Consistent application

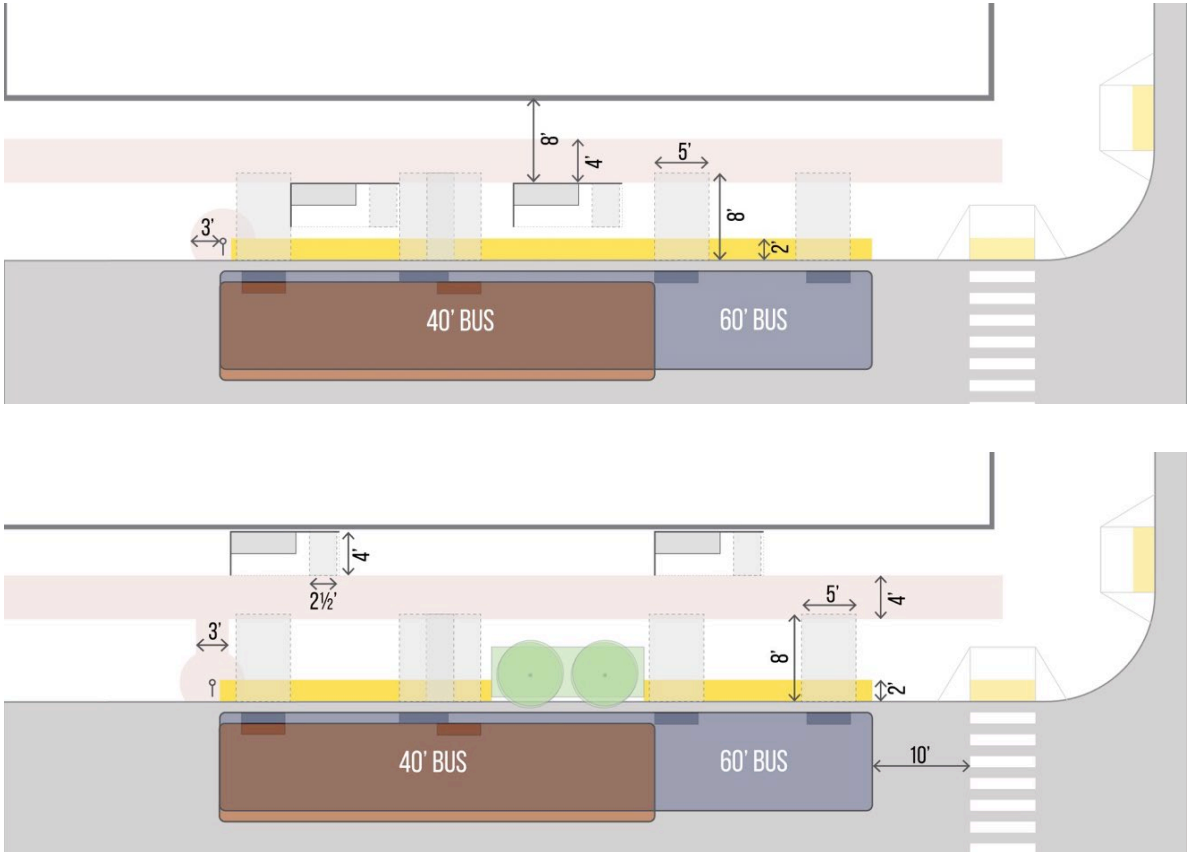


Universal Design



Portland, OR

Shelters



- Place with appropriate clear paths
- Typically 4’ deep (2’ in constrained conditions)
- May face or back up against the road bed
- Enhances comfort and place

Small Transit Shelter

Cambridge, MA

Small Transit Shelter

San Francisco, CA

Small Transit Shelter

Seattle, WA

Small Transit Shelter

Minneapolis, MN

Small Transit Shelter

Baltimore, MD

Large Transit Shelter

Chicago, IL

Large Transit Shelter

Cleveland, OH

Large Transit Shelter

Seattle, WA

Seating

Seattle, WA

Seating

New York, NY

Seating

Information & Wayfinding

- Clarity & simplicity
- Progressive intervals
- Multiple senses

Real-Time Arrivals

Chicago, IL

Audible Information

Washington, DC

Progressive Wayfinding

Richmond Hill, ON

Queue Management

- At high volume stops, queue management speeds all-door boarding

Bus Pads

- Concrete bus pads increase lifecycle of the stop

Green Infrastructure

- Plantings, trees, and bioswales improve ecological performance and rider satisfaction

Green Infrastructure

Phoenix, AZ

Green Infrastructure

Salt Lake City, UT

Green Infrastructure

Portland, OR

Green Infrastructure

Portland, OR

Bike Parking

- Expand “transit shed”
- Organize bike locking behaviors at stops
- Short- and long-term parking

Bike Parking, Short-Term

Portland, OR

Organize Dockless Mobility

Santa Monica, CA


Organize
Dockless
Mobility
Austin, TX

Organize Dockless Mobility

Bike Parking, Long-Term

Washington, DC


Bike Parking, Long-Term
Boulder, CO

Portland, OR

Bike Parking, On Transit