



Better Bike Lane Barriers

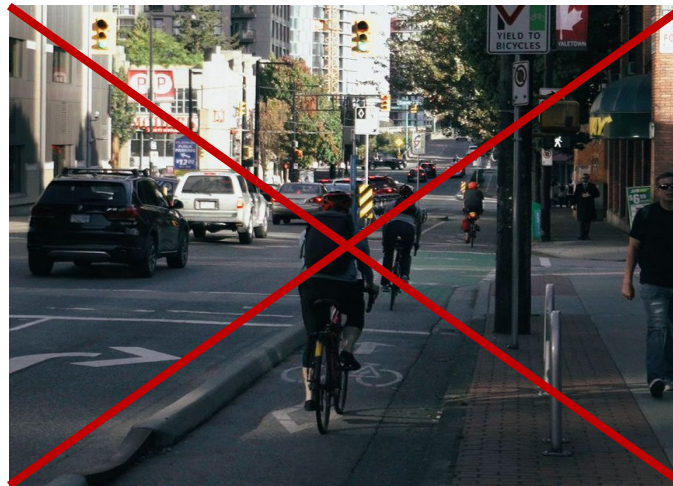
Background

- Cities across the country looking to upgrade early PBLs
- Most PBLs built using flexible delineators
 - Not durable
 - Several maintenance challenges
 - Not great for protection
- Some facilities in Seattle are being upgraded with concrete barriers



Materials

- Concrete
 - Precast Barrier
 - Large Precast Parking Stop
 - Extruded Curb (withdrawn)
- Manufactured Polymer barriers
 - Armadillo



Locations focused on Southeast Seattle

Budget Action Description:

This Council Budget Action would impose a proviso on the Seattle Department of Transportation (SDOT) that restricts \$1.0 million Transportation Fund in the Bike Master Plan - Protected Bike Lanes (MC-TR-C062) CIP project so that it may only be used to replace plastic bollards with concrete barriers on current protected bike lanes in Council District Two.

Above budget proviso passed in late 2022

Redirects \$1M BMP-PBL budget to upgrading existing protected bike lanes in District 2



Installed Locations



S Columbian Way

- Installed November 2023
- No recorded issues or collisions



NE 40th St

- Installed July 2022
- Damage to closest barrier to curve
- No recorded issues or collisions

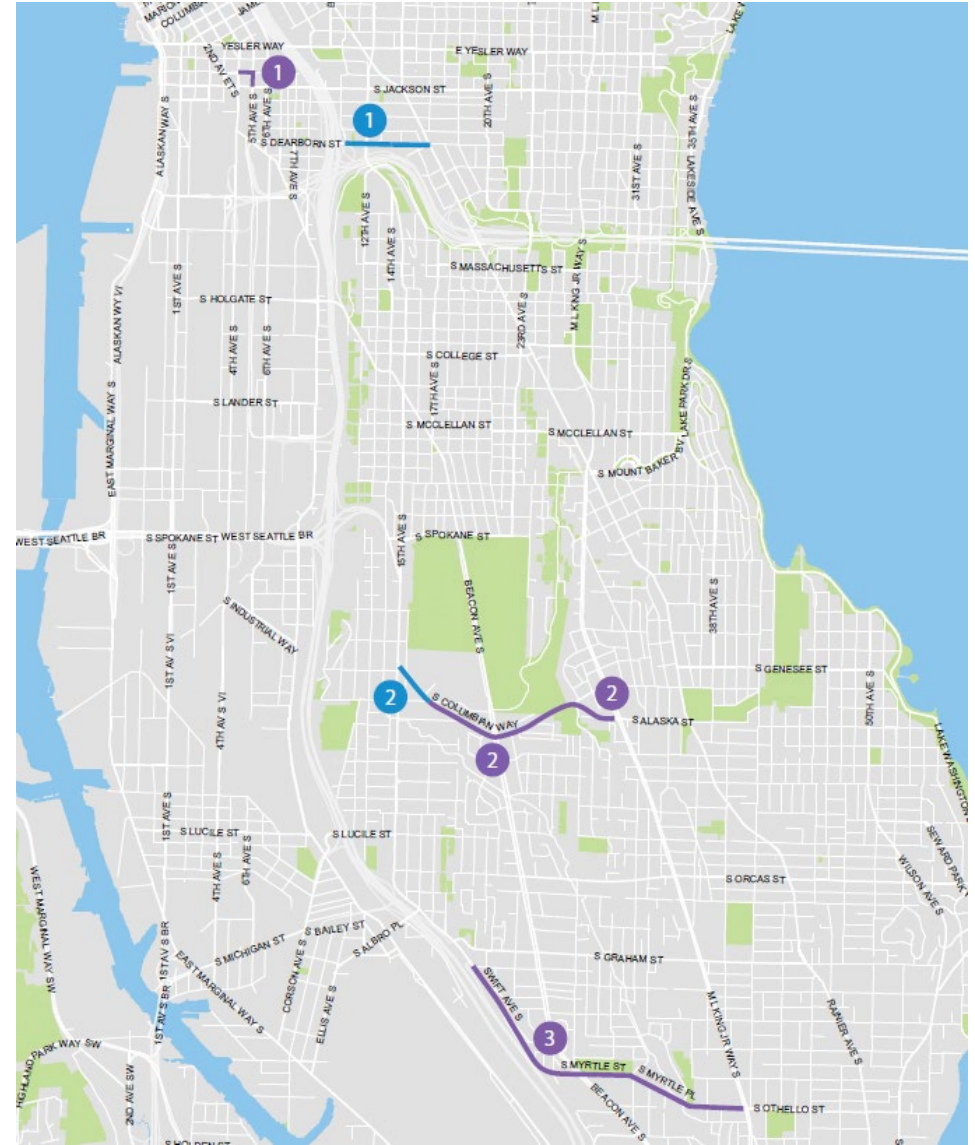
Evaluation and Lessons Learned

- Evaluate Seattle's installations:
 - Record and compare labor and material costs
 - Monitor bike lane blocking during peak times
 - Monitor aging and wear and tear of materials
 - Track nearby collisions and communications from users
- Lessons learned so far:
 - Up-front investments in equipment are difficult to justify with a pilot but can increase efficiency
 - Strong US Dollar allows for affordable barrier imports from BC, but need a local supplier for future projects
 - Need to identify storage and staging space



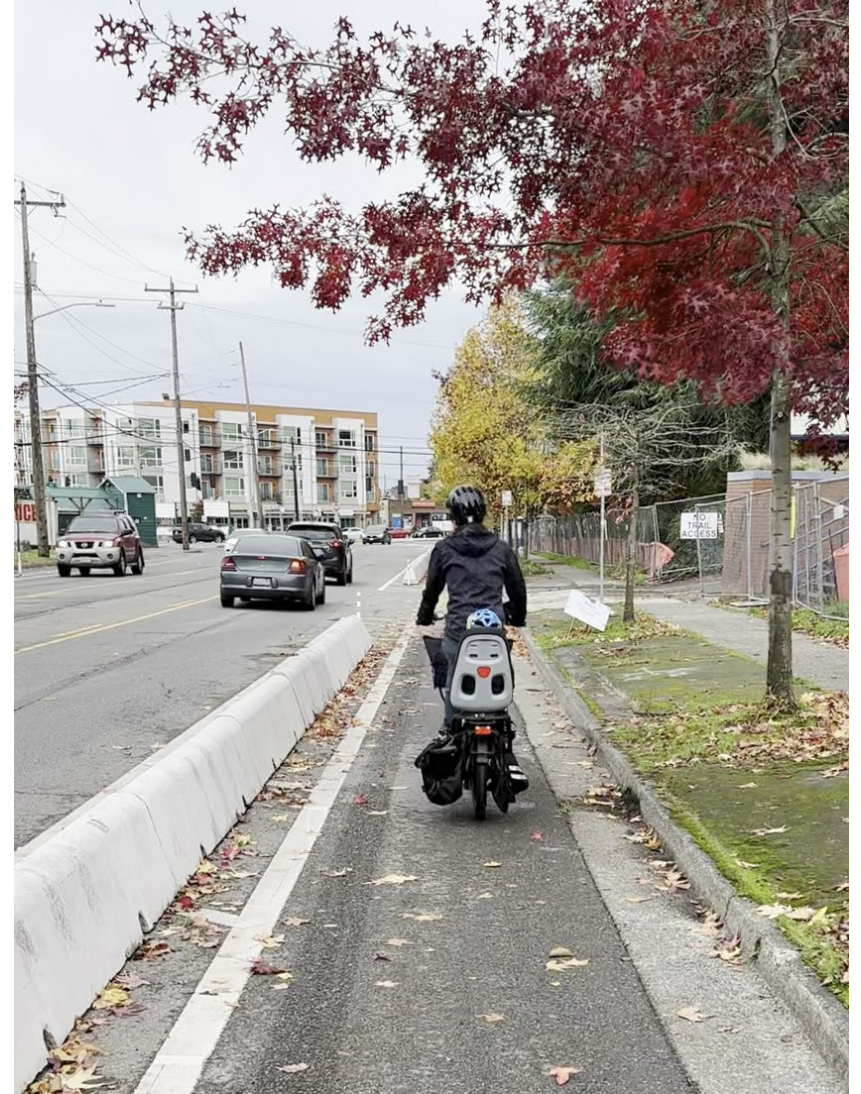
2024 / 2025 plans

- S Dearborn St east of I-5
- Continue Columbian Way beyond pilot extents
- Swift/Myrtle/Othello corridor
- 5th and Main (South End Connection)



Future

- Improvements
 - Partner with local artists to incorporate art into larger barrier types
 - Identify storage/staging space
 - Sign contracts with local producers
 - Purchase equipment to improve efficiency
- Potential to programmatically update bike lanes as ongoing work
 - Supported in Seattle Transportation Plan
 - Scalable to funding and resources
 - Good “winter work” when most paving and pavement markings aren’t feasible



Questions?

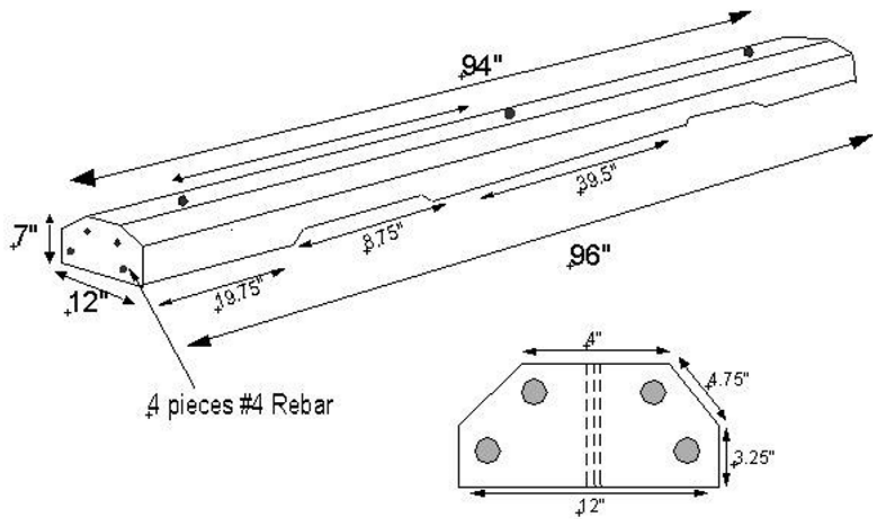
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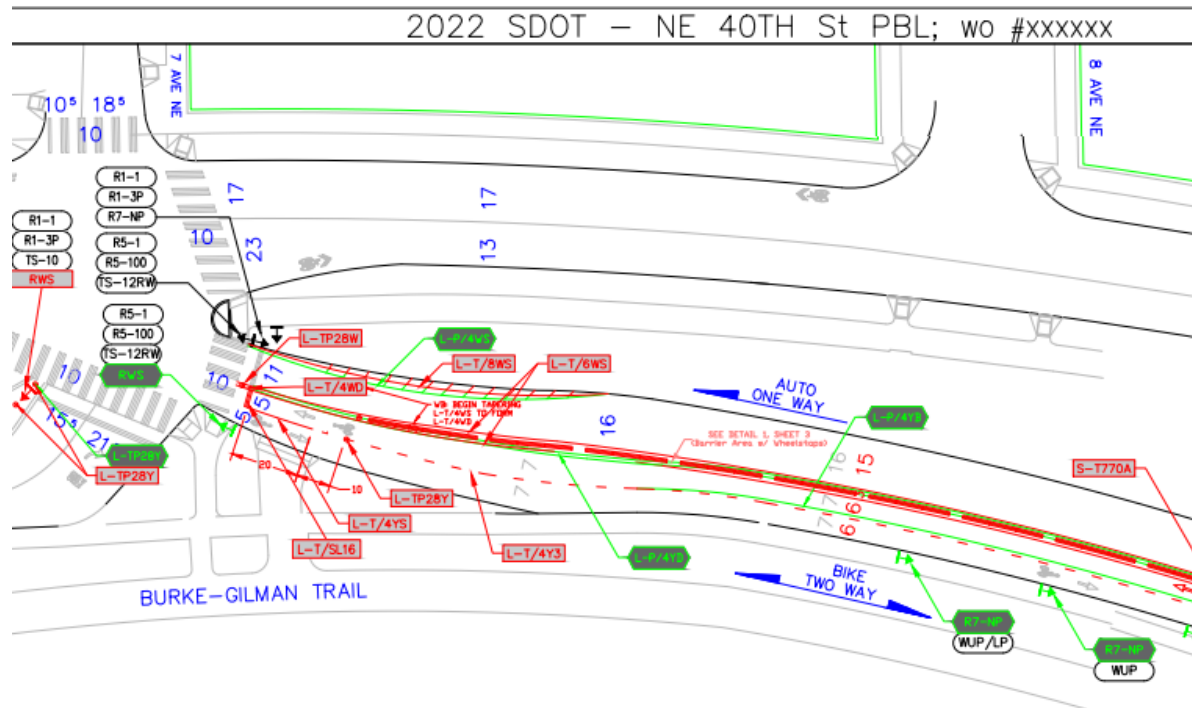


Industrial Curb

Industrial Curb 8 ft. PC8011



- Wheel stops
 - Already in Seattle use for low-cost walkways
 - Industrial wheel stops installed along NE 40th St
 - 12" wide and 7" tall
 - Commonly available, including different dimensions



Low Wall Concrete Barrier



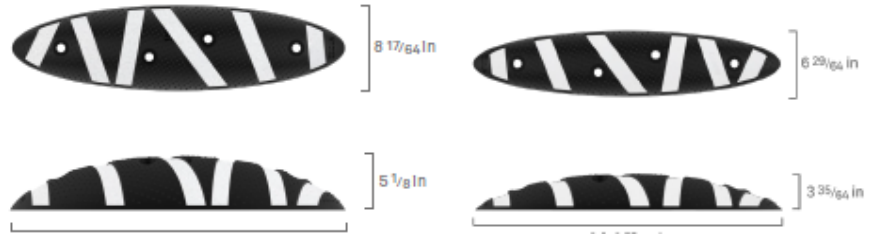
- Low Wall Concrete Barrier
 - Toronto has used this material to harden their PBL network since 2018, now spreading to other Canadian cities
 - Proprietary design, but very similar to Canadian standard plan.
 - Vendor in BC can produce a pilot-sized order for SDOT
 - Would seek a custom mold from a local manufacturer if this scales up
 - ~18 in wide (45 cm), ~18 in tall (45 cm)
 - Not pinned to road to improve vehicle crash dynamics, but interlocked
 - Installed with forklift

Extruded Concrete Curb



- Used for PBLs in Vancouver and other British Columbia cities
- Specialized equipment rapidly extrudes curbing
 - Can custom fit curves, bump outs etc.
 - Multiple options for shape and dimensions
 - Attached to pavement with exoxy and pins
- Caution for use on high volume/speed roadways

The Armadillo by Cyclehoop Zebra by Zicla



- Direct flex post replacement
- Extensive international use, but with US availability
- 8 or 14 lbs, no lift required
- 6 ½ or 8 ¼ wide, 3 ½” or 5 ½” tall
- Shorter than flex posts, usually countered with more frequent spacing
- Built-in retroreflectivity

Example upgrade: NE 40th St beneath the University Bridge

- Separate existing unprotected bike lane
- Connector between major bike facilities
- Precast parking stops
- Installation in Q3 2022, approx. 840 LF
- Tracked as part of the pilot



DETAIL 1: BARRIER AREA (NOT TO SCALE)

