Protected Bike Lanes
Introduction and Best Practices Primer
Defining Protected Bike Lanes

Sometimes goes by different names, but they are defined by 3 features:

1. Physical separation from mixed travel lanes
2. Exclusively for people on bikes
3. On or adjacent to the roadway
Who’s it for?

Four Types of Cyclists
By Proportion of Population

Interested But Concerned - 60%
No Way No How 33%

Strong & Fearless <1%
Enthused & Confident 7%
The Protected Bike Lane Spectrum
Almost all of the international “cyclepath” systems provide separated lanes exclusively reserved for bicycle and, sometimes, moped use. Painted lines or stripes to demark bicycle rights-of-way are generally not recommended owing to the ease of encroachment by motorized traffic. International “cyclepaths” for the most part separate bicycles from motorized traffic by barriers, hedges, physical separation or grade separation.

The predominant method of “separation” employed in the United States to date has amounted to symbolic separation. With several notable exceptions the majority of United States “bike routes” currently consist of little more than signs to guide bicyclists along a scenic route and and the same time warn motorists of their presence.

– California Department of Planning, 1972
Why You’re Hearing About It

In 2014 there were 192 PBLs

172 more planned or underway

2 sessions at Iowa Bike Summit
GREEN LANE PROJECT FOCUS CITIES (2014-2016)
BOSTON, MA
INDIANAPOLIS, IN
DENVER, CO

FOUNDING FOCUS CITIES (2012-2014)
PORTLAND, OR
SAN FRANCISCO, CA
AUSTIN, TX
MEMPHIS, TN
CHICAGO, IL
WASHINGTON, DC

WHO HAS PROTECTED BIKE LANES?
24 STATES
53 CITIES
20 CITIES WORKING ON THEIR FIRST PROTECTED BIKE LANE

OTHER CITIES WITH PROTECTED BIKE LANES
Documented Outcomes of Protected Bike Lanes

Ridership
- Up 21-171% (5 city study in 2014)
- 10% of riders switched from other modes
- More than 25% reported riding more in general

Community Response
- 75% of residents would support building more PBLs
- 91% of surveyed residents agreed with statement, “I support separating bikes from cars.”

Safety and Compliance
- Stoplight compliance increased from 31% to 81% (Chicago)
- Sidewalk riding decreased
- Speeding decreased
- 35–58% decrease in injuries to all street users (NYC)
Design Guidance

NACTO Urban Bikeway Design Guide
2013 Memorandum from FHWA supporting a flexible approach to bicycle and pedestrian design with a specific endorsement of NACTO Guide and ITE’s Separated Bikeways

US DOT to release Design Guide for PBL in 2015

AASHTO fast-tracking its revision for 2018 to include PBL
## Costs

### Delineator Posts
- **1.5 ft. additional width:** $15k-$30k per lane-mile
- **Protection Level:** ★★★★★
- **Installation Cost:** $$$$$
- **Durability:** ★★★★★
- **Aesthetics:** ★★★★★

### Parking Stops
- **6 in. additional width:** $20k-$40k per lane-mile
- **Protection Level:** ★★★★★
- **Installation Cost:** $$$$$
- **Durability:** ★★★★★
- **Aesthetics:** ★★★★★

### Parked Cars
- **11 ft. for parking + buffer:** $8k-$16k per lane-mile
- **Protection Level:** ★★★★★
- **Installation Cost:** $$$$$
- **Durability:** ★★★★★
- **Aesthetics:** ★★★★★

### Planters
- **3 ft. additional width:** $80k-$400k per lane-mile
- **Protection Level:** ★★★★★
- **Installation Cost:** $$$$$
- **Durability:** ★★★★★
- **Aesthetics:** ★★★★★

### Cast in Place Curb
- **12 in. additional width:** $25k-$90k per lane-mile
- **Protection Level:** ★★★★★
- **Installation Cost:** $$$$$
- **Durability:** ★★★★★
- **Aesthetics:** ★★★★★

### 12” Precast Curb
- **1.5 ft. additional width:** $400k-$600k per lane-mile
- **Protection Level:** ★★★★★
- **Installation Cost:** $$$$$
- **Durability:** ★★★★★
- **Aesthetics:** ★★★★★
Maintenance

Design dependent

If there are size constraints, may require separate vehicle

Can contract out or share vehicles across jurisdictions

2014 Alta Review of Best Practices
Intersection Treatments
Summary

Protected bike lanes take many forms

Rapidly increasing use

Growing support from top and bottom

One tool in the toolkit