NCHRP 17-113 COUNTERMEASURES

Convert Traditional or Flush Buffered Bike Lane to SBL with Flexi-posts

PEDESTRIANS AND BICYCLISTS

Converting a buffered bike lane into a separated bike lane involves adding flexible posts or vertical elements that physically separate bicycles from motor vehicle traffic.

Implementation Strategy

How and Where to Apply

- This is recommended for urban corridors with high bicycle volumes, documented conflicts between vehicles and cyclists, or where enhanced comfort and safety are needed.
- It can be implemented during resurfacing, corridor upgrades, or retrofits.
- According to **FHWA** guidance, flexible posts should be installed where space allows, ensuring continuous protection while maintaining vehicle flow.

Use in a Safe System Approach

This supports Safer Road Users and Safer Roads by physically separating cyclists from motor vehicles, reducing the severity of potential conflicts. The vertical separation helps drivers stay aware of bicyclists and encourages better yielding behavior.

Key Stakeholders

City transportation and traffic agencies, Bicycle advocacy organizations

Proactive Implementation

Agencies can proactively retrofit buffered bike lanes to separated bike lanes using crash data, stress-level maps, and community feedback. Corridors near schools, parks, and transit hubs are prime candidates. Conversions can also be integrated with routine maintenance or capital improvement programs to maximize cost-effectiveness.

Countermeasure Overview

Objective: Reduce bicycle crashes along roadways

Strategy: Provide safe roadway facilities for parallel travel

Selected Related Countermeasures

- CM1 Dedicated bicycle signals
- CM2 Green-colored pavement at conflict zones
- CM3 Intersection crossing markings for bikes

Cost: $ (Moderate)

Service Life: 20 years

Targeted Solution

CONTRIBUTING FACTORS	▪ Lack of dedicated space for bicyclists
TARGET CRASH TYPE	▪ Bicyclist ▪ Crossing-related
ROAD FACILITY TYPE	▪ Not specified
AREA TYPE	▪ Urban

Safety Linkage

NCHRP 500 Series

Pedestrian
Bicyclist

AASHTO'S TOWARD ZERO DEATHS

Safer Vulnerable Users

SAFE SYSTEM APPROACH

Safe Road Users

SAFE SYSTEM ROADWAY DESIGN

TIER 1
TIER 2
TIER 3
TIER 4

Tier 2

Traditional Bike Lane. Source: Bike Lane

Safety Benefits

53% Reduce vehicle/bicycle crashes in urban areas[1]

[1] CMF ID: 11296

Resources

- FHWA Bicycle Lanes
- FHWA CMF for Bike Lanes