

Install Bicycle Lanes



Bicycle lanes are designated portions of the roadway, marked by pavement striping and signs, that provide space for bicyclists to travel separately from motor vehicles.

Implementation Strategy

How and Where to Apply

- Bicycle lanes can be installed on arterial or collector roads with sufficient width or through road diet conversions.
- They are most effective in urban or suburban areas with moderate to high bicycle activity and crash risk.
- Best suited for moderate traffic corridors with dedicated space but should not be installed on high-speed roads without adequate separation or address right-of-way, drainage, or slope stability constraints.

Use in a Safe System Approach

Installing bicycle lanes supports the Safe Roads and Safe Road Users elements of the Safe System Approach by acknowledging human mistakes and vulnerabilities. By providing dedicated space and separation, redundancy is built in, responsibility is shared, and the principle that death and serious injuries are unacceptable is reinforced.

Key Stakeholders

State DOTs, MPOs, bicycle advocacy groups, community associations, safety advocacy groups, active road users, engineering consultants.

Proactive Implementation

Bicycle lanes can be implemented proactively in corridors identified through bicycle crash analysis or multimodal gap studies. They can be part of complete streets policies, Safe Routes to School programs, or bike network expansions. Agencies can target roads with high cyclist volumes or known safety concerns, especially near schools, parks, and transit hubs.

Countermeasure Overview

Objective: Reduce bicycle crashes along roadways.

Strategy: Provide safe roadway facilities for parallel travel.

Cost: \$\$ (Moderate)

Service Life: 20 years

Benefit-Cost Ratio: 5.9:1 to 16.6:1

Targeted Solution



CONTRIBUTING FACTORS

- Lack of dedicated space for bicyclists



TARGET CRASH TYPE

- Bicyclist
- Crossing-related



ROAD FACILITY TYPE

- All



AREA TYPE

- Urban

Safety Linkage



NCHRP 500 Series

Pedestrian and 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

Selected Related Countermeasures

- CM1 Buffered or protected bicycle lanes
- CM2 Bicycle boxes at intersections
- CM3 Reduced speed limits on shared roadways

67%

Reduces all types of crashes and severity levels K, A, B, and C on roads of all area types (CMF ID: 11548)

59%

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Resources

- [Bicycle Lanes](#)
- [FHWA Bicycle-Lane](#)

Bicycle Lanes. Source: VHB.

