



# Bicycle Box

A bicycle box is a marked area at the front of a signalized intersection between the vehicle stop line and the crosswalk.

## Implementation Strategy

### How and Where to Apply

- Deploy speed feedback signs on roads with persistent speeding, especially near schools, playgrounds, or busy crossings, to alert drivers and promote safer speeds.
- Install automated speed enforcement cameras at high-crash or high-speed locations
- Apply roadway narrowing or lane reductions on streets with high speeds or crash rates, particularly in residential or pedestrian-heavy areas, to calm traffic and enhance safety.

### Use in a Safe System Approach

Bicycle boxes support the SSA by improving road design (Safe Roads) and providing a designated space for cyclists at signalized intersections, increasing their visibility to drivers and reducing conflict risks. This measure enhances safety for vulnerable road users (Safe Road Users) by making intersections safer and more predictable for both cyclists and motorists.

### Key Stakeholders

City transportation departments, bicycle advocacy organizations, traffic engineers.

### Proactive Implementation

Proactive implementation involves installing bicycle boxes at intersections with high volumes of bicycle and vehicle traffic or a history of cyclist-involved crashes. Agencies should use crash data and user feedback to identify priority locations and coordinate installation with signal timing and pavement marking upgrades.

## Countermeasure Overview

**Objective:** Reduce bicycle crashes at intersections.

**Strategy:** Improve pavement markings at intersections.

## Selected Related Countermeasures

- CM1 Leading Bicycle Intervals (LBI)
- CM2 Dedicated Bicycle Signals
- CM3 Protected Intersections

**Cost:** Low

**Service Life:** 3 year

## Targeted Solution



### CONTRIBUTING FACTORS

- Reduced visibility,
- Confusion about right of way



### TARGET CRASH TYPE

- Failure to yield



### ROAD FACILITY TYPE

- N/A



### AREA TYPE

- Urban

## Safety Linkage



### NCHRP 500 Series

Pedestrians and Bicyclists



### 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 3

Bicycle Box. Source: [Sudbury](#)

## Safety Benefits



Gives cyclists a head start at signals, reducing turning conflicts.

## Resources

- [Two-Stage Left-Turn and Bike Box \(advanced stop bar\), City of Orlando \(2025\)](#)
- [Part 9: Traffic Control for Bicycle Facilities, MUTCD 11th Edition \(2023\)](#)

