



Presence of Exclusive Left Turn (Transit-serviced Locations)

An exclusive left-turn lane reduces crashes by separating turning vehicles from through traffic, minimizing conflict and improving safety at intersections with high left-turn volumes.

Implementation Strategy

How and Where to Apply

- Use exclusive left-turn lanes at intersections with heavy left-turn traffic, frequent crashes, or delays. They benefit all drivers and can also improve bus reliability on transit routes.
- They can be added by widening or reconfiguring lanes, with proper markings, signs, and signals per MUTCD and AASHTO standards.
- Best suited for intersections with significant transit operations and left-turn volumes; avoid where right-of-way is constrained or where added lanes may increase pedestrian exposure without mitigation.

Use in a Safe System Approach

Exclusive left-turn lanes at transit-served intersections support the Safe Roads element by accommodating human mistakes and vulnerabilities in turning and merging. Added separation creates redundancy and upholds that death and serious injuries are unacceptable

Key Stakeholders

State DOTs, MPOs, transit agencies, engineering consultants, community associations.

Proactive Implementation

Proactive implementation of exclusive left-turn lanes involves identifying intersections with growing left-turn volumes, transit operations, or patterns of turning-related crashes. Traffic studies and signal timing analyses can help determine where separation of turning vehicles would prevent future conflicts. Installing these lanes early improves safety, reduces delays, and supports efficient transit and general traffic flow.

Countermeasure Overview

Objective: Reduce the frequency and severity of intersection conflicts through geometric design improvements.

Strategy: Provide left-turn lanes at intersections.

Selected Related Countermeasures

- CM1 Protected left-turn signal phases
- CM2 Offset left-turn lanes
- CM3 Raised medians with directional openings

Cost: \$\$ (Moderate)
Service Life: 20 years
Benefit-Cost Ratio: 1.5:1

Targeted Solution



CONTRIBUTING FACTORS

- Improper turn
- Failure to yield



TARGET CRASH TYPE

- Left turn



ROAD FACILITY TYPE

- N/A



AREA TYPE

- Urban

Safety Linkage



NCHRP 500 Series

Signalized Intersection



AASHTO'S TOWARD ZERO DEATHS

Safer Infrastructure



SAFE SYSTEM APPROACH

Safe Roads

SAFE SYSTEM ROADWAY DESIGN

TIER 1

TIER 2

TIER 3

TIER 4

Tier 1

12%

Reduce all types crashes and severities on urban roads (CMF ID: 2090)



Resources

- FHWA Safety Research (2016)
- Safety Effectiveness of Intersection Left- and Right-Turn Lanes, Hardwood et al. (2002), FHWA-RD-02-089

Exclusive Left Turn. Source: VHB.

