# 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 rightof-way is constrained or where added lanes may increase pedestrian exposure without mitigation.

#### Use in a Safe System Approach

Exclusive left-turn lanes at transitserved 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.

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

# Targeted Solution

FACTORS

- Improper turn
- Failure to yield



RASH =

Left turn



N/A



Urban

## Safety Linkage



Signalized Intersection



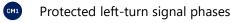
Safer Infrastructure SAFE SYSTEM APPROACH
Safe Roads

SAFE SYSTEM ROADWAY DESIGN

TIER 1
TIER 2
TIER 3
TIER 4

Tier 1

#### **Selected Related Countermeasures**



Offset left-turn lanes

Raised medians with directional openings

Exclusive Left Turn. Source: VHB.



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



#### Resources

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

