INTERSECTIONS

Provide a Right-Turn Lane

Adding right-turn lanes on one or both major-road approaches improves traffic operations by separating turning and through movements, helping to enhance roadway capacity and reduce crash risk.

Implementation Strategy

How and Where to Apply

- Apply on one or both major-road approaches with high right-turn volumes or crash history, reducing delays and collisions by separating turning traffic.
- Ensure pedestrian and bicyclist safety with proper markings, signals, and protected crossings in the turn lane design.
- Not recommended on low-volume roads or intersections where right-turn demand is minimal, or where adding a turn lane would create pedestrian and bicyclist safety risks without clear operational benefits.

Use in a Safe System Approach

Providing a right-turn lane separates movements, reduces conflicts, and protects vulnerable users, supporting shared responsibility, proactive safety, and redundancy while addressing human mistakes and preventing severe crashes in the Safe System framework.

Key Stakeholders

State DOTs, MPOs, engineering consultants, transit agencies, active road users.

Proactive Implementation

Proactively implement dedicated right-turn lanes at intersections showing rising turn volumes or minor crash trends. Use traffic studies to guide placement and ensure designs include pedestrian and bicyclist safety features.

Countermeasure Overview

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

Strategy: Provide right-turn lanes at intersections.

Selected Related Countermeasures

- C41 Right-turn lanes on one or both major-road approaches
- C42 Channelized right turn lane
- C43 Roundabout conversion

Cost: $$ (Moderate)
Service Life: 20 years
Benefit-Cost Ratio: 4.9:1 to 16.9:1

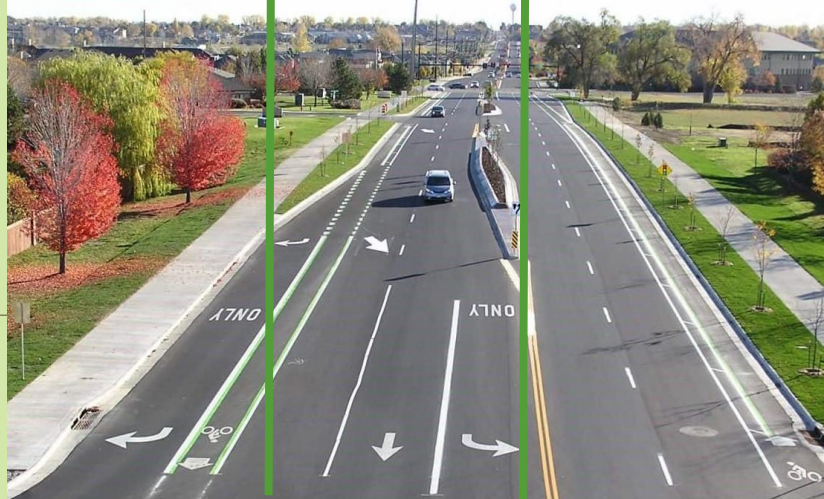
Targeted Solution

CONTRIBUTING FACTORS	Stopped vehicle in through lane Slower Reaction Time
TARGET CRASH TYPE	Angle Right-turn
ROAD FACILITY TYPE (ARTERIAL, COLLECTOR, LOCAL)	Principal Arterial Minor Arterial
AREA TYPE	All

Safety Linkage

NCHRP 500 Series	SAFE SYSTEM APPROACH
Signalized Intersection	Safe Roads
AASHTO'S TOWARD ZERO DEATHS	SAFE SYSTEM ROADWAY DESIGN
Safer Infrastructure	TIER 1 TIER 2 TIER 3 TIER 4
	Tier 1

Right-turn Lane on Major-road Approach. Source: FHWA.



Safety Benefits

23% Right turn at one major-road approaches reduces crashes for all types and K, A, B, C severities on all types of area (CMF ID: 287)

26% Right turn at both major-road approaches reduces all types of crashes and severities on all types of roads (CMF ID: 289)

Resources

- FHWA proven-safety-countermeasures/dedicated-left-and-right-turn-lanes-intersections
- Chanellization_tech_brief.pdf?