



# Install a Left-Turn Acceleration Lane

An auxiliary lane that allows left-turning vehicles from the minor road to accelerate along the major road before merging into the through lane.



The photos above show two vantages of the same T-intersection; the top photo shows the major road left-turn lane and channelization, while the bottom photo shows the major road left-turn acceleration lane.

## Targeted Crash Types

- Right-angle
- Rear-end (major road)
- Sideswipe, same direction

## Problems Addressed

- Poor operational performance
- Misjudgment of gaps

## Conditions Addressed

- Crash history or observed conflicts on major road due to speed differential between entering vehicle and through vehicles.
- High left-turn volume onto high-speed or high-volume major road.
- Crash history or observed conflicts from high volume of trucks or recreational vehicles turning left onto a higher-speed roadway.
- Significant delay for left-turning minor road traffic waiting for a suitable gap on the major road.
- Promotes a two-stage left turn onto the major road.

## Considerations

- Acceleration lanes that are poorly marked or too long may confuse drivers along the major road and appear as an additional through lane.
- If left-turn acceleration lanes are considered a new treatment for a community, a public meeting or information campaign may be needed to introduce citizens to this treatment.
- If narrower lanes are typically used, consider increasing the width of the acceleration lane to 14 feet to better accommodate the motorists turning from the side street.
- Because the addition of a lane will increase the distance for crossing pedestrians, consider a refuge island where appropriate.
- May not be practical if there are driveways and intersections spaced within the acceleration lane that would conflict with left-turn movements into those access points.

## Other Resources

[NCHRP Report 650: Median Intersection Design for Rural High-Speed Divided Highways](#)  
[Innovative Operational Safety Improvements at Unsignalized Intersections, Florida DOT](#)  
[NCHRP 500 Volume 5: A Guide for Addressing Unsignalized Intersections](#)  
[Chapter 5: At-Grade Intersections, Road Design Manual, Minnesota DOT](#)

## Industry Standard

MUTCD  
[Section 3B.04 White Lane Line Pavement Markings and Warrants](#)  
[Section 3B.20 Pavement Word, Symbol, and Arrow Markings](#)  
AASHTO Green Book  
Section 9.7: Auxiliary Lanes

## Select Examples

[61st Ave. & Happy Valley Rd., Phoenix, AZ](#)  
[Periwinkle Way & Donax St., Sanibel, FL](#)  
[Cabrillo Hwy. & Santa Lucia Canyon Rd., Lompoc, CA](#)  
[Arendel St. & Tom Mann Rd., Newport, NC](#)

