



## Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections



Example of countermeasures on the stop approach.

Source: South Carolina DOT

### SAFETY BENEFITS:

# 10%

Reduction in injury and  
fatal crashes

# 15%

Reduction in  
nighttime crashes

This systemic approach to intersection safety involves deploying a group of multiple low-cost countermeasures, such as enhanced signing and pavement markings, at a large number of stop-controlled intersections within a jurisdiction. It is designed to increase driver awareness and recognition of the intersections and potential conflicts.

The systemic approach to safety has three components: (1) analyze systemwide data to identify a problem, (2) look for similar risk factors present in severe crashes, and (3) deploy on a large scale low-cost countermeasures that address the risk factors contributing to crashes.

The low-cost countermeasures for stop-controlled intersections generally consist of the following treatments:

### On the Through Approach

- Doubled up (left and right), oversized advance intersection warning signs, with street name sign plaques.
- Enhanced pavement markings that delineate through lane edge lines.

### On the Stop Approach

- Doubled up (left and right), oversized advance “Stop Ahead” intersection warning signs.
- Doubled up (left and right), oversized Stop signs.
- Retroreflective sheeting on sign posts.
- Properly placed stop bar.
- Removal of any vegetation, parking, or obstruction that limits sight distance.
- Double arrow warning sign at stem of T-intersections.



Example of countermeasures on the through approach.

Source: South Carolina DOT

## Average Benefit-Cost Ratio

# 12:1

Source: T. Le et al, “Safety Effects of Low-Cost Systemic Safety Improvements at Signalized and Stop-Controlled Intersections,” 96th Annual Meeting of the Transportation Research Board, Paper Number 17-05379, January 2017.

→ For more information on this and other FHWA Proven Safety Countermeasures, please visit <https://safety.fhwa.dot.gov/provencountermeasures>.

