

Research Need for Operations and Maintenance Technical Advisory Group

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1. Issue Identified:

Implementation of Flashing Yellow Arrows for Right-Turn Movements

2. Summary of Problem:

Implementation of flashing yellow arrows for right-turn movements is now required by the *Manual on Uniform Traffic Control Devices* at T-intersections where the side-street speed limit exceeds 35 mph and a pedestrian crossing is present. As agencies update existing infrastructure to meet this requirement, many intersections will transition from traditional green-ball signal indications to FYA for right turns. Some intersections, both T-intersections and other configurations, operate with dual right-turn lanes to accommodate higher turning volumes. It remains unclear whether applying FYA at intersections with dual right-turn lanes and pedestrian crossings produces measurable reductions in vehicle-pedestrian crashes.

Flashing yellow arrows for right-turn movements are increasingly used to facilitate permissive right turns while improving signal clarity. However, limited research exists on the safety impacts of FYA when applied at intersections with dual right-turn lanes, where driver decision-making is more complex and pedestrian exposure is higher. Limited data are available to demonstrate whether FYA use in these configurations reduces vehicle-pedestrian conflicts or crash rates.

3. Desired Results/Outcome:

The anticipated outcome is a data-driven determination of whether implementing FYA for right turns—particularly in dual right-turn lane configurations—results in measurable safety improvements. Desired results include identification of any statistically significant reduction in vehicle-pedestrian incidents, improvements in driver yielding behavior and reductions in overall crashes. Ultimately, the study aims to provide justification and guidance for expanding or limiting the use of FYA for dual right-turn lanes based on quantified safety performance.