

# Research in Progress

## Evaluation of Transit Signal Display Options

### Research Need

There is a need to assess the operational and safety impacts of alternative transit signal displays and inform recommendations to be incorporated in state and national transit signal design guidelines.

### Goals/Objectives

1. Understand the current state of practice on the implementation of transit signal displays through a thorough review of the literature and outreach to transit agencies and other relevant stakeholders.
2. Explore transit operator preferences regarding positioning and display of transit signals through a survey to transit operators.
3. Investigate correlations between crashes and transit signal displays, through crash report analyses.
4. Understand driver behavior when encountering transit signals through field observations, static evaluation surveys, and driving simulation.
5. Develop recommendations for consideration in the next version of MUTCD regarding positioning and display design of transit signals.

### Project Information

This project is being conducted as part of the Massachusetts Department of Transportation (MassDOT) Research Program with funding from Federal Highway Administration (FHWA) State Planning and Research (SPR) funds.

#### Principal Investigators

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#### Performing Organization

UMass Amherst, Oregon State University, and Consultant Peter Koonce

#### Project Champion

Jay Jackson

#### Project Start Date

April 2026

#### Expected Project Completion Date

February 2028

### Methodology

- Task 1: Review of the State of Practice a) Publications, b) Transit Agency Outreach  
Task 2: Technical Scan of Transit Signal Display Applications  
Task 3: Agency Outreach Survey  
Task 4: Transit Operator Survey  
Task 5: Crash Analysis  
Task 6: Phase 1 Review  
Task 7: Empirical Observations of Driver and Transit Operator Behavior  
Task 8: Human Factors Testing of Transit Signal Design Images  
Task 9: Conceptual Development of Transit Signal Alternatives  
Task 10: Driving Simulation of Transit Signal Display  
Task 11: Proposed Changes to MUTCD  
Task 12: Final Report

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