

# Research in Progress

## Impacts of Flashing Yellow Permissive Left-Turn Indications in Massachusetts

### Research Need

A MassDOT retrofit project sought to convert over 350 traditional protected-permissive left-turn (PPLT) traffic signals to include the FYA permissive indication. However, with the completion of the retrofit project in sight, a need exists to investigate the safety impacts of these traffic control devices.

### Goals/Objectives

Conduct an in-depth crash analysis of the pre- and post-implementation periods of the flashing yellow arrow (FYA) signal indication for permissive left-turns, while also investigating the potential impacts of their respective signal sequencing.

2. Complete a safety assessment to provide MassDOT with recommendations towards developing a dedicated safety performance function (SPF) for the FYA in Massachusetts.
3. Provide MassDOT with a prioritization plan moving forward in FYA retrofitting procedures, taking into consideration the previously mentioned safety assessment.
4. Conduct a cost/benefit analysis for the implementation of the FYA for statewide protected/permissive left-turn 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:

Dr. Cole Fitzpatrick

#### Performing Organization:

University of Massachusetts Amherst

#### Project Champion:

Jim Danila, MassDOT

#### Project Start Date:

January 2020

#### Expected Project Completion Date:

December 2020

### Methodology

This collaborative project involves industry partners, academia, and MassDOT personnel.

Task 1: Develop a refined inventory database of FYA locations - Survey municipalities to build comprehensive FYA database and verify locations of MassDOT retrofits.

Task 2: Conduct a review of crash history at retrofit locations prior to installation of FYA.

Task 3: Investigate the crash history since FYA permissive indications were implemented. Conduct a before and after crash analysis at FYA locations.

Task 4: Conduct a cost-benefit analysis of statewide FYA implementation.

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