Research in Progress

Risk Factors for Older Pedestrian Injuries and Fatalities in Massachusetts

Research Need

The purposes of this study are to investigate population health and/or built environment factors associated with older pedestrian injuries and fatalities, identify communities with hotspots of crashes, and spur community action in increasing pedestrian safety.

Goals/Objectives

This project addresses five objectives:

1. To understand where, when, how, and to what subsets of older adults, do these crashes disproportionately impact and to visualize pedestrian crashes across MA.
2. To describe the extent to which FHWA recommendations exist in hotspots.
3. To investigate the extent to which community rates for age-related medical conditions are associated with pedestrian crash rates and injury severity. To explore if community efforts to become dementia- and age-friendly mitigate the association.
4. To investigate if community population health and/or built environment factors are associated with pedestrian crash rates and injury severity.
5. To recommend countermeasures suggested by the results of analyses.

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.

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Performing Organization:
University of Massachusetts Boston

Project Champion:
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Project Start Date:
July 2018

Expected Project Completion Date:
May 2019

Methodology

This study uses two main data sources: Ten years of MA crash data and the 2018 Massachusetts Healthy Aging Data Report (HADR). By merging these two data sources we are able to extend our investigation of pedestrian crash risks to include 170+ community factors. The characteristics of older pedestrian injuries and fatalities are described. GIS maps are created to show the distribution of injuries, fatalities, and potential hotspots. Indicators from the HADR are examined to more fully describe the characteristics of hotspots once they are identified. Finally, multivariate spatial analyses are employed to understand population health and environmental factors that are associated with older pedestrian crash rates in MA and to try to identify effective countermeasures.