

[Home](#) > [ETDS](#) > [DISSERTATIONS](#) > [AAI3325264](#)

Off-campus UMass Amherst users: To download dissertations, please use the following link to [log into our proxy server](#) with your UMass Amherst user name and password.

Non-UMass Amherst users, please click the view more button below to purchase a copy of this dissertation from Proquest.

(Some titles may also be available free of charge in our [Open Access Dissertation Collection](#), so please check there first.)

---

## Drivers performance in response to sight-limited and multi-threat crash scenarios at mid-block crosswalks: An evaluation of advance yield markings and sign prompts

[View More](#)

[SHARE](#)

---

[Lisandra Garay-Vega, University of Massachusetts - Amherst](#)

---

### Abstract

Mid-block crosswalks present a challenging detection task when drivers are not familiar with the area, crosswalks are at locations with high traffic volume, or the visibility of the approaching crosswalk is obstructed. A major contributor to crashes at uncontrolled marked mid-block crosswalks on multilane roads is the presence of a motorist who is yielding to a pedestrian in the crosswalk, creating an additional threat from a motorist in the adjacent lane who may not see the pedestrian. Advance yield markings and sign prompts have been shown to be effective when there is no obstruction in either travel lane. The purpose of this research is to evaluate drivers' performance in response to multi-threat (obstruction in travel lane) and sight-limited (obstruction in parking lane) scenarios with and without advance yield markings and sign prompts. No direct evaluations of the effectiveness of this countermeasure in these scenarios have been undertaken. The methods used to evaluate drivers' performance include observations of drivers navigating virtual crosswalks on a driving simulator, field observations of drivers responding to staged pedestrian crossings, and observations of drivers in an actual vehicle on the open roadway navigating marked mid-block crosswalks. Dependent variables include yielding behavior and eye-fixations. It is hypothesized that at multi-threat and sight-limited scenarios drivers approaching a crosswalk are more likely to look for pedestrians, to yield and to yield

Enter search terms:

in this repository

[Notify me via email or RSS](#)

---

### Browse

[Collections](#)

[Disciplines](#)

[Authors](#)

---

### Author Corner

[For Authors](#)

[Author FAQ](#)

---

### Links

[UMass Amherst Libraries](#)

[UMass Amherst](#)

[Contact Us](#)

sooner when advance yield markings and prompt sign are used than when the traditional markings are used. The extent of these benefits is highly dependent on visibility improvements at the site, providing real benefit only when sight distance is adequate. This comprehensive evaluation, limited to low speed approaches in an urban environment, provides data from sight-limited and multi-threat scenarios where the probability of seeing the pedestrian is low. This information can help traffic engineers make informed decisions when implementing pedestrian safety countermeasures. It also provides data from locations in the United States to add to the studies completed in Canada which served as the basis for inclusion of the advance yield markings and related sign as guidance in the Manual on Uniform Traffic Control Devices. ^

## Subject Area

Engineering, Civil|Engineering, Industrial|Transportation

## Recommended Citation

Lisandra Garay-Vega, "Drivers performance in response to sight-limited and multi-threat crash scenarios at mid-block crosswalks: An evaluation of advance yield markings and sign prompts" (January 1, 2008). *Doctoral Dissertations Available from Proquest*. Paper AAI3325264.  
<http://scholarworks.umass.edu/dissertations/AAI3325264>

This page is sponsored by the [University Libraries](#).

© 2009 [University of Massachusetts Amherst](#) • [Site Policies](#)