



Project Summary

Texas Department of Transportation

0-5237: Development of Guidelines for Handling Pedestrians in Temporary Traffic Control Areas

Background

The task of accommodating pedestrians in temporary traffic control situations can be challenging since conditions within these areas are constantly changing and there is no single set of traffic control devices that can satisfy all conditions. Additionally, the concerns of accommodating pedestrians with disabilities, such as vision and mobility impairments, must be factored in to these decisions.

What the Researchers Did

Researchers approached this project from two different angles to accomplish their objectives. The first approach was establishing the current state-of-the-practice with regard to accommodating pedestrians in temporary traffic control areas. The second approach for this project was conducting several human factors studies that addressed public perception of pedestrians in or near work areas. Within the human factors studies, researchers focused on the needs of visually impaired pedestrians.

What They Found

Within the state-of-the-practice review, interviews with state and local agency officials indicated that while accommodation of pedestrians is not a common issue at this time, officials do believe that it will be a growing concern in future years. Also, they indicated a desire for guidelines to aid with the handling of pedestrians in situations where there are not formalized policies regarding this accommodation. In addressing these concerns, researchers created a Guidelines Checklist that will be available on-line.

The human factors studies resulted in greatly improved understanding of pedestrian perception regarding work areas near or in their path. The key findings leading to the recommendations for pedestrian signing are:

- the use of orange background for signs increased compliance of pedestrians with regard to the actions they would take;
- shape had little to no impact on the interpretation of pedestrian signs;
- “use other side” was found to be intuitively understood by pedestrians as to what action they should take; and
- distance references (e.g., “1 block ahead”) should be used on signing.

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The *Manual on Uniform Traffic Control Devices* (MUTCD) suggests the use of audio speech messages for the assistance of visually impaired pedestrians; however, no guidelines currently exist regarding the design or information content for these messages. Through this project, researchers identified the following design points that should be considered in creating messages.

- It is critical that an alternate route message clearly state where the path is directing the pedestrian.
- The use of blocks or landmarks as identifiers of distance was better received by visually impaired pedestrians than feet or mile measurements.
- Critical message elements for navigation of an alternate path were (a) the initial turning or crossing instruction and (b) the distance that a pedestrian would need to travel on that path.
- When providing warning messages regarding details of path features (e.g., “uneven pavement ahead”) in an area where the sidewalk is not closed to pedestrians, it is critical to clearly state that the path is open.

What This Means

Two major recommendations were developed as a result of this study:

- Pedestrian signing recommendations from this project are shown below. Researchers believe the change in color and text from what is currently standard for pedestrian signing will improve understanding and compliance with temporary traffic control devices.



Advance Warning Sign



At Closure Near a Crosswalk



At Mid-block Closure

- Researchers also noted that visually impaired pedestrians strongly desire accurate and credible guidance information when they experience unexpected path conditions. The use of audio speech messages as addressed in this project is a step towards providing this information.

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