AAA Foundation for Traffic Safety
607 14th Street, NW, Washington, DC 20005
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Pedestrian Signal Safety for Older Persons

Report Fact Sheet

The Problem

- As of 2007, approximately one in eight Americans is aged 65 or older.
    - The U.S. Census Bureau estimates that in 2030, one in five Americans will be 65 or older.
    - As our population ages, we need to lower the risks for all road users, including older pedestrians and drivers, and make our transportation system safer and more accessible.

Purpose of Current Study

- To assess the walking speeds of older and younger pedestrians at signalized intersections in several communities.
- To study pedestrian behavior at traditional pedestrian signals and at pedestrian countdown signals.
- To investigate pedestrian understanding of and preferences for different types of pedestrian signals, including traditional pedestrian signals and pedestrian countdown signals.
- To determine whether or not the timing of existing pedestrian signals allowed enough time for older pedestrians to cross streets safely.
- To explore whether the timing of pedestrian signals could be modified to allow more time for older pedestrians to cross the street without compromising the flow of vehicles through intersections, and if so, to identify traffic conditions under which this could be done.

Findings

- In the jurisdictions studied, pedestrian signals timed to accommodate walking speeds of 4 feet per second (the speed recommended for signal timing purposes in the current edition of the *Manual on Uniform Traffic Control Devices*) would accommodate the majority of younger pedestrians, and would accommodate an average speed, but would not accommodate an older pedestrian walking at the 15th percentile speed for older pedestrians.

- A walking speed of 3.5 feet per second would generally accommodate the 15th percentile older pedestrian. Older persons generally walk between 0.5 to 0.8 feet per second slower than younger pedestrians. Older pedestrians in this study have been defined as individuals age 65 or above; younger pedestrians have been defined as individuals below age 65.

- Traffic simulations showed that modifying pedestrian signal timing to accommodate a 7-second WALK interval and a pedestrian clearance interval based on a walking speed of 3.5 feet per second should be feasible under unsaturated intersection conditions without causing substantial increases in vehicle delay.

- In some cases, the signal cycle length would need to be changed if a signal were to be modified to accommodate an older pedestrian walking at the 15th percentile speed for older pedestrians.

- More research is needed to determine what impacts this would have on pedestrians and on vehicles, and to determine what impacts this would have on a system of coordinated traffic signals.

Next Steps

The next revision to the *MUTCD* is anticipated to occur in 2009. The AAA Foundation will provide this study to the U.S. Department of Transportation for consideration in revisions to the recommended walking speeds for engineers to use in the timing of pedestrian signals