

Pedestrian Mobility and Safety Audit **Pittsburgh, PA, USA**

Executive Summary

AARP and the Institute of Transportation Engineers (ITE) joined together in a pilot project to evaluate the accessibility and safety of three intersections in Pittsburgh, PA, USA. The audit, which took place on August 8, 2007, brought together traffic engineers, AARP staff and four AARP members, who live in Pittsburgh and routinely use the city's streets to get to where they need to go.

The primary goal of the AARP/ITE pedestrian mobility and safety audit focuses on elevating the importance of incorporating older driver and pedestrian safety needs into traffic operations and transportation planning work. It also stresses the mobility and safety needs of seniors in their communities. The joint relationship hopes to synergize and elevate specific goals within the respective organizations by:

1. Increasing the level of awareness for transportation planning/engineering professionals in addressing older persons' mobility issues and challenges.
2. Assisting AARP members in making their case to local transportation professionals and policy-makers when identifying their transportation needs through involvement and advocacy.
3. Establishing relationships between AARP volunteers and ITE professionals who can provide technical information needed to make community pedestrian and transportation improvements.

DEMOGRAPHY OF THE UNITED STATES SENIOR POPULATION

In 2005, 12 percent of the U.S. population was 65 or older. The U.S. Census estimates that by 2025 the number of seniors will increase by 79 percent and an estimated 18 percent of the population (62 million people) will be 65 or older. Many of those over age 65 will be very advanced in age—over age 80–85. In 26 states, more than 20 percent—one in five residents—will be over the age of 65. By 2030, one in eight of those over 65 will also be over 85 (NHSTA 2005). The population 65 and over will increase from 35 million in 2000 to 71.5 million in 2030 (an increase to approximately 20 percent of the population) (Administration on Aging 2005).

In total, people aged 65 and older will account for 25 percent of U.S. drivers (AAA Foundation for Traffic Safety, 2008). Older pedestrians also face high risks when navigating streets primarily designed for cars. In 2005, older adults accounted for 15 percent of all traffic fatalities, 14 percent of all vehicle occupant fatalities and 20 percent of all pedestrian fatalities (Traffic Safety Facts 2003, 2004). Because older persons make up approximately 12 percent of the U.S. population, there is a proportional overrepresentation of older adult traffic, vehicle occupant and pedestrian fatalities.

Having few opportunities to walk on a daily basis can make it more difficult for older adults to remain active, and having to give up driving puts a great strain on their ability to live independently. Consequently, walking safely in a neighborhood and on a local street network is critical to maintaining mobility, livability and independent living.

The goal of this audit was to test a number of factors, including pedestrian and vehicle traffic, crosswalk signage and the overall condition of sidewalks and streets, and to identify positive aspects and recommended improvements at each sample intersection. The transportation audit was initially conceived for older adults; however, the results demonstrate that safe sidewalks and intersections are critical for all community residents.

CITY OF PITTSBURGH POPULATION AND AGE DEMOGRAPHICS

The population of Pittsburgh is approximately 297,000, with 15 percent of the population over age 65 (compared to the U.S. population over 65, which is 12.4 percent.) This indicates that the City of Pittsburgh's older adult population is proportionally greater than the older adult population of the United States as a whole.

	Pittsburgh, PA 2006 (percentage)	United States 2006 (percentage)
Total Population	297,061 (100)	299,498,385 (100)
AGE 65+	45,747 (15.4)	37,137,799 (12.4)
AGE 75+	25,250 (8.5)	18,269,401 (6.1)

INTERSECTION SELECTION

The following summary outlines the intersections that were chosen, as well as short- and long-term recommendations for improved mobility and safety at each location.

The AARP/ITE planning team identified three neighborhoods with significant populations of older adults, based on the year 2000 Census for the City of Pittsburgh. From there, site visits to several intersections within these neighborhoods were conducted and three locations were chosen based on the following criteria:

- Evidence of pedestrians aged 50 and older in the area (where there may be adult/retirement housing);
- Walkability areas perhaps between governmental complexes and parking lots/structures, restaurants, grocery stores and entertainment venues;
- Multimodal transportation (e.g. transit stops and buses, bicycles, pedestrians of all ages);
- Traffic signals, sidewalks, or other aspects of the intersection that might be in need of repair or improvement;
- Diversity of land uses in the area surrounding the intersection (e.g. residential, commercial/industrial, institutional); and
- Accessibility and connectivity to pharmacies and grocery stores, doctor offices and hospitals and other medical facilities, banks and other destinations that an older adult might walk to from their home.

The following three intersections were selected for the audit:

- 2nd Avenue and Glen Caladh Street
- Murray Avenue and Bartlett Street
- Liberty Avenue and South Mathilda Street

INTERSECTION ASSESSMENTS

2nd Avenue and Glen Caladh Street

In the short-term, the following recommendations should be considered to improve the safety and usability of the

intersection:

- **Enforce** the “YIELD TO PEDESTRIANS” crossing sign by working with the City’s Police Department to periodically monitor the crossing and issue citations to offenders.
- **Examine** the signal timing at the adjacent intersections to see if it is possible to create larger gaps in traffic.
- **Enhance** the visibility of the crosswalk by using a different pattern (zebra striping); adding roadside flashers that can be activated by pedestrians; and installing in-pavement lighting and/or upgrading the signs (larger, more reflective) to make the crosswalk more visible to drivers.
- **Install** larger street name signs with an easier-to-read font.
- **Restripe** the section of 2nd Avenue between the two signalized intersections to make it clear to drivers that there is only one lane in each direction.



Vehicle not yielding to pedestrians.

Longer-term solutions may include the following:

- **Construct** curb extensions (they have the effect of narrowing the distances pedestrians must walk. They can include barriers, bollards, painted road markings, or other traffic calming measures) to reduce the crossing distance for all pedestrians.
- **Reconstruct** the sidewalk ramps to comply with current Americans with Disabilities Act (ADA) guidelines.
- **Improve** the aesthetic appeal of the intersection (trees, planters) when other improvements are implemented.

Murray Avenue and Bartlett Street

In the short-term, the following recommendations should be considered to improve the safety of the intersection:

- **Confirm** that the amount of time given to pedestrians to cross the street meets established guidelines. The operation of the pedestrian push buttons should also be checked to make sure they are operating correctly.
- **Install** ADA compatible push buttons on all corners and pedestrian countdown timers to provide information to pedestrians as to how much time they have to cross the street.
- **Modify** the pole-mounted cabinet (an enclosure or box that houses traffic signal components and electrical equipment. Sometimes these are placed on street corners and have traffic



Motorized wheelchair user navigating the crosswalk.

signals mounted on attached poles) by installing a simple connection from the bottom corner of the cabinet to the sidewalk. This could be detected by a visually-impaired pedestrian using a cane.

- **Enhance** the visibility of the traffic signals by installing backplates (or frames) around the indications.

Longer-term solutions may include:

- **Reconstruct** the sidewalk ramps to meet current ADA guidelines.
- **Move** the traffic control cabinet to a more suitable location away from the intersection corners.

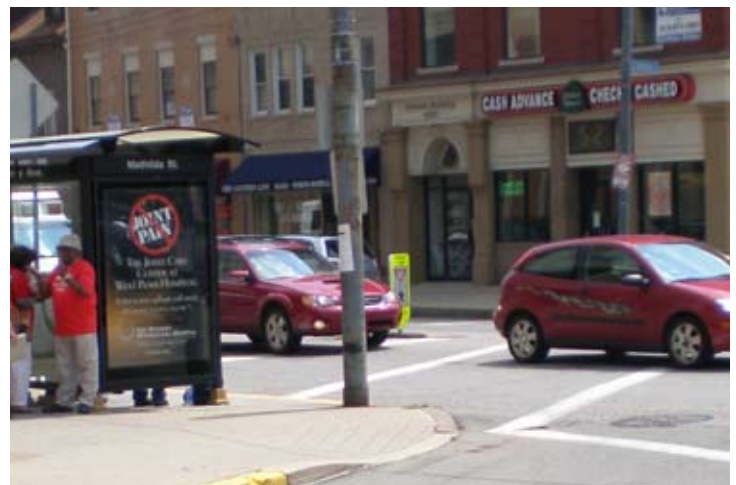
Liberty Avenue and South Mathilda Street

In the short-term, the following recommendations should be considered to improve the safety of the intersection:

- **Enhance** the visibility of the crosswalks by using a different pattern (zebra striping), adding roadside flashers that are activated by pedestrians, installing in-pavement lighting and improving the signing.
- **Improve** the intersection sight distance for drivers on Mathilda by working with the transit agency to identify a better location for the bus shelter that will not block the view of traffic on Liberty.

Longer-term solutions may include:

- **Reconstruct** the sidewalk ramps to meet current ADA guidelines.
- **Modify** the traffic control or alter the access to the intersection if safety data indicate a problem with crashes at this location.



Bus shelter blocks drivers' view of crosswalk and pedestrians

CONCLUSION

Throughout the audit, many people passing by inquired about the project. Everyone was encouraged to hear that the effort focused on improving the conditions of the city's intersections. Pedestrian safety is critical to the well-being of Pittsburgh residents, many of whom use the pedestrian network every day. In 2006 alone, 24 fatalities and four incapacitating injuries occurred in Pittsburgh, due to traffic-related accidents. These audit findings demonstrate the need for cost-effective measures, such as the recommendations listed above, in order to ensure a safer and more accessible city for residents of all ages and abilities.

In conclusion, the goals set forth for the pedestrian safety and mobility audit for the City of Pittsburgh have been realized. The ITE professionals and AARP volunteers were able to forge relationships that did not previously exist. The ITE transportation professionals learned that many older volunteers were highly educated retirees, who have lived in their respective communities for many years. Each individual participated in the pedestrian audits as a way to have a greater voice in making their community, neighborhood and local streets more livable and safe for all users of the roadway.