**Association for Education and Rehabilitation of the Blind**

**and Visually Impaired (AER) Position Paper:**

**Teaching Street Crossing at Streets and Lanes**

**Where There Is No Traffic Control**

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Approved 2022 by AER Division 9, Orientation and Mobility

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 At crosswalks in streets or lanes where vehicles are not controlled by a signal or stop sign (i.e., no traffic control), pedestrians can cross either by relying on drivers to yield or by crossing when there is a gap in traffic long enough to allow them time to cross. Being able to determine when there is a crossable gap in traffic requires the ability to detect approaching vehicles with enough warning (Barlow et al., 2010; Fazzi & Barlow, 2017; Long & LaGrow, 2011; Rosen, 2021; Scheffers & Myers, 2012).

 Orientation and mobility (O&M) specialists must prepare learners who are blind or visually impaired to cross at these crosswalks by ensuring that they have the information, strategies, and skills necessary to assess these situations and allow informed decisions concerning the crossing to be made based on information and knowledge about warning times of approaching vehicles, driver behavior and yielding likelihood, elements of risk, and individual visual and auditory abilities (Barlow et al., 2010; Fazzi & Barlow, 2017; Rosen 2021).

A goal of O&M instruction is that learners will have information about crossings with no traffic control, including an understanding of the following:

* the fact that in some situations it is possible for them to hear or see vehicles with enough warning to be confident as to whether there is a gap in traffic long enough for them to cross, and in other situations it is not possible to do so, even when it is quiet and no approaching traffic is visible/audible (Barlow et al., 2010; Fazzi & Barlow, 2017; Long & LaGrow, 2011; Rosen 2021; Sauerburger, 1989, 1995, 1999, 2006; Scheffers & Myers, 2012; Snook-Hill & Sauerburger, 1996; Wall Emerson & Sauerburger, 2008; Wall Emerson et al, 2011)
* the time they need to cross streets of various widths, taking into consideration their walking pace (Barlow et al., 2010; Fazzi & Barlow, 2017; Rosen 2021; Scheffers & Myers, 2012)
* the effects of acoustic variables (such as masking sounds and the sound level of quiet) or various lighting/visual conditions on their ability to hear or see approaching traffic (Barlow et al., 2010; Fazzi & Barlow, 2017; Rosen 2021; Scheffers & Myers, 2012; Wall Emerson & Sauerburger, 2008)
* the pedestrian and white cane laws regarding right-of-way
* alternatives to crossing streets independently (Barlow et al., 2010; Fazzi & Barlow, 2017; Rosen 2021; Scheffers & Myers, 2012)
* environmental and community factors, such as line of sight and speed of the vehicle, which have been shown to affect the likelihood that drivers will yield in any given situation
* strategies for advocating for features of accessibility and pedestrian safety as needed, such as traffic calming features, traffic control, bulbouts, and refuge islands to narrow the crosswalk, or other intersection and environmental modifications (Barlow et al, 2010; Fazzi & Barlow, 2017)
* strategies to raise awareness about pedestrians who are visually impaired with traffic engineers and planners, policy makers, pedestrian advocates, etc.

In addition, among the goals of O&M instruction are that consumers will have the skills or abilities to:

* maximize their detection of approaching vehicles by audition and/or vision, including an awareness of when it is appropriate to use which strategy
* assess their ability to detect vehicles including being able to
* analyze the width of the street and determine the time needed for crossing, taking into consideration their walking pace (Barlow et al., 2010; Fazzi & Barlow, 2017; Rosen 2021; Scheffers & Myers 2012)
* recognize situations where they cannot hear or see approaching vehicles with enough warning to reliably predict crossing gaps in traffic (“situations of uncertainty”) (Barlow et al., 2010; Fazzi & Barlow, 2017; Rosen 2021; Scheffers & Myers, 2012)
* In situations where they can hear or see approaching vehicles with enough warning, be able to determine gaps in traffic that are long enough to cross (Cheong et al, 2008)
* determine the level of risk for crossing (including the likelihood that a vehicle that was undetected at the beginning of the crossing could reach them before the crossing is finished and the likelihood that these drivers will fail to yield to them and cause serious injury) (Barlow et al., 2010; Fazzi & Barlow, 2017; Rosen, 2021)
* determine their ability to recognize yields at the crossing point
* for those with sufficient functional vision, be able to
* scan/glance efficiently in both or all directions to reliably determine if there are approaching vehicles (Barlow et al., 2010; Fazzi & Barlow, 2017; Hassan et al., 2005; Scheffers & Myers, 2012)
* determine if approaching vehicles will allow enough time to complete a crossing
* determine any alternatives that may exist for crossing streets independently, and implement them (Barlow et al, 2010; Fazzi & Barlow, 2017; Rosen 2021; Scheffers & Myers, 2012)
* implement strategies to directly influence drivers’ behaviors to increase the likelihood of yielding, such as the use of cane color and movements, and body movements (Bourquin et al, 2011, Bourquin et al, 2014, 2017, 2018; Geruschat & Hassan, 2005).

**References**

Barlow, J. M., Bentzen, B. L., Sauerburger, D., & Franck, L. (2010). Teaching travel at complex intersections. In W. R. Wiener, R. L. Welsh, & B. B. Blasch (Eds.), *Foundations of orientation and mobility* (2nd ed., Vol. II). AFB Press

Bourquin, E., Wall Emerson, R., & Sauerburger, D. (2011). Conditions that influence drivers’ yielding behavior for uncontrolled intersections. *Journal of Visual Impairment & Blindness, 105*(12), 760-769. https://doi.org/10.1177/0145482X1410800302

Bourquin, E., Wall Emerson, R., Sauerburger, D., & Barlow, J. (2014). Conditions that Influence drivers’ yielding behavior in turning vehicles at intersections with traffic signal controls. *Journal of Visual Impairment & Blindness,108*(3),173-186. https://doi.org/10.1177/0145482X1410800302

Bourquin, E., Wall Emerson, R., Sauerburger, D., & Barlow, J. (2017). The effect of the color of a long cane used by individuals who are visually impaired on the yielding behavior of drivers. *Journal of Visual Impairment & Blindness, 111*(5), 401-409. https://doi.org/10.1177/0145482X1711100502

Bourquin, E., Wall Emerson, R., Sauerburger, D., & Barlow, J. (2018). Conditions that influence drivers’ behavior at a roundabout: Increasing yielding for pedestrians who are visually impaired. *Journal of Visual Impairment & Blindness, 112*(1), 61+. https://link.gale.com/apps/doc/A632977130/HRCA?u=anon~d33ffc1e&sid=googleScholar&xid=17ca8c8f

Cheong, A.M., Geruschat, D.R., & Congdon, N. (2008). Traffic gap judgment in people with significant peripheral field loss. *Optometry and Vision Science, 85*(1), 26-36.

Fazzi, D. L & Barlow, J. M. (2017). *Orientation and mobility techniques: A guide for the practitioner* (2nd ed.)*.* AFB Press.

Geruschat, D. R., & Hassan, S. E. (2005). Driver behavior in yielding to sighted and blind pedestrians at roundabouts. *Journal of Visual Impairment & Blindness, 99*(5), 286-302.

Hassan, S. E., Geruschat, D. R., & Turano, K. T. (2005). Head movements while crossing streets: Effect of vision impairment. *Optometry and Vision Science, 82*(1), 18-26.

Long, R. & LaGrow, S. J. (2011). *Orientation and mobility: Techniques for independence* (2nd ed.). Dunmore Press.

Rosen, S. (2021). *Step-by-Step* (2nd ed.). American Printing House for the Blind.

Sauerburger, D. (1989). To cross or not to cross: Objective timing methods of assessing street crossings without traffic controls. *RE:view, 21*, 153-161.

Sauerburger, D. (1995). Safety awareness for crossing streets with no traffic control. *Journal of Visual Impairment & Blindness, 89(*5), 423-431. https://doi.org/10.1177/0145482X9508900507

Sauerburger, D. (1999). Developing criteria and judgment of safety for crossing streets with gaps in traffic. *Journal of Visual Impairment & Blindness, 93*(7), 447-450. https://doi.org/10.1177/0145482X9909300711

Sauerburger, D. (2006). Instructional strategies for teaching judgment in detecting gaps for crossing streets with no traffic controls. *RE:view, 37*(4), 177-188.

Scheffers, W., & Myers, L. (2012). *An orientation & mobility curriculum for students with visual impairments. Part 4 Supplement: Street crossings for travelers who are visually impaired. TAPS 3rd edition,* Texas School for the Blind and Visually Impaired. https://www.tsbvi.edu/curriculum-a-publications/3/1042-taps-teaching-age-appropriate-purposeful-skills

Snook-Hill, M. & Sauerburger, D. (1996). *Teaching students to assess safety for crossing streets which have no traffic control.* Proceedings of International Mobility Conference VIII, Tambartun National Resource Centre, Melhus, Norway, 535-540.

Wall Emerson, R., Kim, D. S., Naghshineh, K., Pliskow, J., & Myers, K. (2011). Examining the impact of “quiet” vehicles on the performance of orientation and mobility tasks by pedestrians who are blind. *Journal of Visual Impairment & Blindness, 105*(12), 745-759.

Wall Emerson, R. & Sauerburger, D. (2008). Detecting approaching vehicles at streets with no traffic control. *Journal of Visual Impairment & Blindness, 102*(12), 747-760. https://doi.org/10.1177/0145482X0810201203