Pedestrian Hybrid Beacon

The *pedestrian hybrid beacon* (also known as the **H**igh intensity **A**ctivated cross**W**al**K** (or HAWK)) is a pedestrian-activated warning device located on the roadside or on mast arms over midblock pedestrian crossings. The beacon head consists of two red lenses above a single yellow lens. The beacon head is "dark" until the pedestrian desires to cross the street. At this point, the pedestrian will push an easy to reach button that activates the beacon. After displaying brief flashing and steady yellow intervals, the device displays a steady red indication to drivers and a "WALK" indication to pedestrians, allowing them to cross a major roadway while traffic is stopped. After the pedestrian phase ends, the "WALK" indication changes to a flashing orange hand to notify pedestrians that their clearance time is ending. The hybrid beacon displays alternating flashing red lights to drivers while pedestrians finish their crossings before once again going dark at the conclusion of the cycle.

Background

Midblock locations account for more than 70 percent of pedestrian fatalities. Vehicle travel speeds are usually higher at midblock locations, contributing to the higher injury and fatality rates at these locations. More than 80 percent of pedestrians die when hit by vehicles traveling at 40 mph or faster while less than 10percent die when hit at 20 mph.

The pedestrian hybrid beacon is a great intermediate option between the operational requirements and effects of a rectangular rapid flash beacon and a full pedestrian signal because it provides a positive stop control in areas without the high pedestrian traffic volumes that typically warrant the installation of a signal. In addition, the alternating red signal heads allows vehicles to proceed once the pedestrian has cleared their side of the travel lane, thus improving vehicle traffic flow.

Installation of the pedestrian hybrid beacon has been shown to provide the following safety benefits:

- Up to a 69 percent reduction in pedestrian crashes; and
- Up to a 29 percent reduction in total roadway crashes.

Guidance

Pedestrian hybrid beacons should only be used in conjunction with a marked crosswalk. In general, they should be used if gaps in traffic are not adequate to permit pedestrians to cross, if vehicle speeds on the major street are too high to permit pedestrians to cross, or if pedestrian delay is excessive. Transit and school locations may be good places to consider using the pedestrian hybrid beacon. Chapter 4F of the Manual on Traffic Control Devices (MUTCD) contains a chapter on the pedestrian hybrid beacon and when and where it should be installed. Practitioners should follow the MUTCD guidelines, which are referenced below. Since the pedestrian hybrid beacon is a traffic control device many people are not yet familiar with, effort should be made to perform outreach to the public before implementation so there is no confusion about how the beacon operates and what drivers and pedestrians should do when encountering it.

Key Resources

A Review of Pedestrian Safety Research in the United States and Abroad
http://www.walkinginfo.org/library/details.cfm?id=13
Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations
http://www.walkinginfo.org/library/details.cfm?id=54
Guide for the Planning, Design, and Operation of Pedestrian Facilities, American Association of State Highway and Transportation Officials, 2004 [Available for purchase from AASHTO]
https://bookstore.transportation.org/item_details.aspx?id=119
Pedestrian Road Safety Audits and Prompt List
http://www.walkinginfo.org/library/details.cfm?id=3955
FHWA Office of Safety Bicycle and Pedestrian Safety
http://safety.fhwa.dot.gov/ped_bike/
Crossing Solutions at Roundabouts and Channelized Turn Lanes for Pedestrians with Vision Disabilities (NCHRP Report 674)
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_674.pdf
Manual on Uniform Traffic Control Devices, Chapter 4F. Pedestrian Hybrid Beacons
http://mutcd.fhwa.dot.gov/htm/2009/part4/part4f.htm
Safety Effectiveness of the HAWK Pedestrian Crossing Treatment
http://www.fhwa.dot.gov/publications/research/safety/10042/10042.pdf
Crash Modification Factors (CMF) Clearinghouse [*quick search* "HAWK"]
http://www.cmfclearinghouse.org

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FHWA Website: http://safety.fhwa.dot.gov/ped_bike/