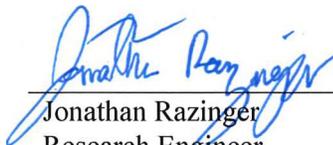


Prepared by:


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Research Engineer



Attendee(s):

Jonathan Razinger, Research Engineer

Emily Parkany, Research Manager

November 30, 2017

FINAL FIELD REPORT

U2017 - 08

Assessment of the Pedestrian Hybrid Beacon Crosswalk System (PHB) or High-Intensity Activated Crosswalk (HAWK) System

Overview:

The High-Intensity Activated Crosswalk (HAWK) System was installed near the entrance of what is now the University of Vermont (UVM) Medical Center - Fanny Allen Campus crossing VT Route 15 in 2012, as part of an improvement project. This crosswalk system was chosen over others because it allows both vehicles and pedestrians to move smoothly through the crossing area with minimal stopping time. The system allows pedestrians to cross the street and as soon as they have reached the other side, vehicles are permitted to proceed. This report summarizes the August 2017 field visit of this crosswalk system.

The purpose of this study was to examine and evaluate the overall effectiveness of a pedestrian hybrid beacon crosswalk system. By using the HAWK Crosswalk System, VTTrans expects added safety to this specific pedestrian crossing leading to the implementation of this system in other dangerous pedestrian crossings around the state.

HAWK Pedestrian Crossing Site Visit – VT 15 near Fanny Allen Hospital, Colchester VT

EA: Experimental Features – SPR 352

Work Plan: WP 2011 R-3

Date: Thursday, August 31st, 2017

Time: 3:00 PM to 3:30 PM

Weather: 69°F, Partly Cloudy

A site visit to the HAWK Crosswalk System in Colchester near the UVM Medical Center - Fanny Allen Campus was conducted as part of an investigative check. Observations and photos on the performance and appearance of the HAWK Crosswalk System after installation were collected and can be seen in figures and videos below.

Background on Site:

The HAWK System was installed at mile marker 0.8 along VT Route 15 near the entrance of the Fanny Allen Campus, as part of the Colchester TCSP TSCE (9) improvement project. This pedestrian crossing spans four travel lanes, two in each direction. This 2012 project included the installation of the HAWK Crosswalk System, traffic signs, pavement markings and any other related items. The average annual daily traffic (AADT) for this location was 26,900 prior to installation.

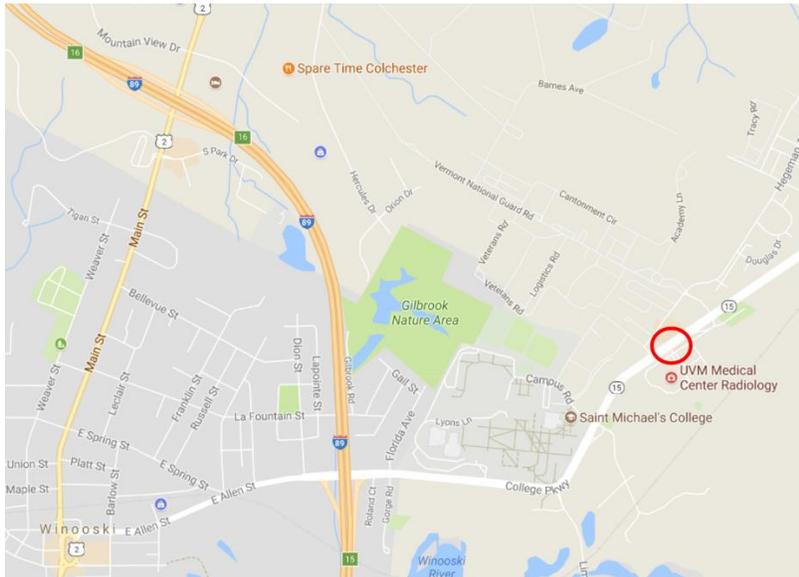
HAWK Crosswalk System Site Visit Photos & Notes:



View of the HAWK Crosswalk System on the eastbound lane of VT Route 15 across from the Fanny Allen Hospital.



View of the HAWK Crosswalk System on the westbound lane of VT Route 15 across from the Fanny Allen Hospital.



The location of the HAWK Crossing System is represented by the red circle on this map from Google Maps.

HAWK Crosswalk System Video & Notes:

The video ([link](#)) of the HAWK Crosswalk system shows the system in action on the eastbound lane and working as detailed by the manufacturer. The video shows that once the crossing button is pushed, the system is activated making the yellow lights start flashing and then after a few seconds they become steady yellow lights. The steady yellow lights then turn into steady red lights during the pedestrian walk interval. After approximately six seconds (programed for this particular crosswalk) the steady red lights turn into alternating red flashing lights, specifying the pedestrian clearance interval lasting approximately 16 seconds before the system goes dark again. The video shows the slight confusion/hesitation of the vehicles after the pedestrian has crossed the street while the red lights are still flashing. The first two cars, the silver Honda SUV and the maroon sedan, were next to each other stopped at the light and it took the Honda approximately three seconds to proceed, while it took the maroon sedan a few seconds longer. We conducted the crossing scenario several times and it was noted that in most instances the cars were hesitant for a few seconds, while the light was flashing red, before they proceeded through the crosswalk. It is good to see that the vehicle drivers are vigilant and careful at this dangerous crosswalk, but the hesitation does periodically build up traffic. Unfortunately during our field visit we did not see many pedestrians using the crosswalk and the one person we did see crossed the crosswalk without activating the HAWK system.

Summary:

The performance and effectiveness of the HAWK Crosswalk System is supported by the visual inspection and photographic evidence gathered during the recent site visit. This study has surpassed its initial (no less than 3 years) study duration detailed in the approved FHWA Work Plan. The field visit documentation suggests that the HAWK Crosswalk System performs as expected and detailed by the manufacturer. Observations from the field verified the initial concerns regarding confusion with the new traffic signal. The confusion was not due to the dark beacon display as initially thought, but after the pedestrian had crossed and the red lights were flashing. Vehicles were uncertain or hesitant to proceed even though signs on the light post dictate that they are allowed to proceed after the pedestrian has cleared the roadway. Results from this study will be given to the VTrans Traffic Safety Section for consideration on future crosswalk designs at particularly dangerous locations.