

## MEMORANDUM

**DATE:** September 9, 2013

**TO:** Steve Powers, City Administrator

**FROM:** Nick Hutchinson, P.E., City Engineer  
Public Services Area – Project Management Services Unit

**RE:** Status of Pedestrian Crossing Analysis

### **Introduction**

A group of city staff from Public Services, Safety Services and Communications have recently begun meeting to review several concerns from the public about the safety of pedestrians using mid-block crossings marked with Rectangular Rapid Flashing Beacons (RRFB's). This group is currently exploring the need for physical improvements, policy alterations, strengthened outreach and increased enforcement. This group will build on the work currently underway to make the crossings as safe as possible and communicate to motorists, pedestrians, and bicyclists their shared responsibility towards safety.

This Memo provides background information on pedestrian crossings, and an update on the status of this group's efforts to date.

### **Previous Outreach Efforts**

The City currently facilitates the Ann Arbor Safe Streets and Sidewalks (A2S3) Outreach and Communications Committee. Principally led by Systems Planning and Communications staff, the group develops and executes an annual outreach and communications plan, which guides the expenditure of the \$10,000 per year that has been budgeted for this purpose. This committee has developed ideas, produced materials, and distributed information promoting vehicular and non-motorized safety. Specific activities have included:

- AATA bus advertisements
- Walk. Bike. Drive website ([a2gov.org/walkbikedrive](http://a2gov.org/walkbikedrive))
- Advertisements in paid publications and City produced newsletters.
- Media alerts and press releases
- Social media promotion via Facebook and Twitter
- Vehicle stickers/window clings
- Public events
- Snap bracelets
- Key Chains
- Radio Public Service Announcements (PSA's)
- Street and lamp banners
- Yard signs
- Brouchers, flyers, bookmarks and other printed materials given out to UofM and local public school students.

## Laws and Codes

The National Uniform Traffic Code (NUTC) is developed by a national non-profit consortium, which the State of Michigan is a member. This is the basis for the majority of the traffic laws among States, providing for uniformity across the country to state traffic laws. However, it is not universal: there is no pedestrian crossing law, and it varies by State on exact language (i.e. stop versus yield).

The Michigan Vehicle Code (MVC) is the section of Michigan Compiled Laws (MCL) dealing with traffic and vehicle regulations (it is essentially Chapter 257 of the MCL).

The *Uniform Traffic Code for Cities, Townships and Villages* (UTC) is a set of administrative rules promulgated by the Michigan State Police and available for adoption by name for local communities. This serves as local ordinances and can be coupled with the MVC for complete set. Additional local ordinances can be adopted as well; however they should not conflict with MVC.

In Michigan, local governments establish their own traffic laws. Prior to 1999, local governments established local law based on the Michigan Vehicle Code (PA 253-260), but in their own code. Typically, communities used the UTC as the framework for their ordinances.

Due to the frequent changes to Michigan law, in 1999 the mechanism was put in place to adopt the MVC provisions by name. However, the MVC does not encompass all the rules in the UTC that may be applicable to cities. One of the rules which the MVC does not address is the pedestrian crossing at uncontrolled locations.

The 2002 UTC filled in the gaps between the former UTC and the MVC. It was suggested that local agencies adopt both documents. The language of the UTC for pedestrian crossings was added as a part of the City's ordinances in 2008 (and subsequently revised in 2011 and 2012). The City of Ann Arbor adopted the MVC by name, but did not adopt the UTC until 2011.

The following preface to the UTC sums this up as well:

### Preface to the UTC

The 2002 edition of the Uniform Traffic Code for Cities, Townships, and Villages (UTC) is a fundamentally different document than previous versions of the code. In 1999, Public Acts 253-260 were passed into law, allowing municipalities the ability to adopt The Michigan Vehicle Code (MVC), in addition to other state law, as local ordinance by reference. Because of the passage of these acts, and the substantial and time consuming process necessary to keep the UTC current with the frequently changing vehicle statutes, a decision was made to eliminate the language in the UTC that was redundant with the MVC. The result is a much smaller document that will require less frequent amendment. In November, 2003, two minor typographical errors were found and corrected. R 28.1105 was corrected to reference section 252d of the act, and a capitalization error was corrected in R 28.1454. Municipalities adopting previous versions of the UTC should adopt both the MVC and current UTC by reference, in addition to rescinding their ordinance adopting the previous version of the UTC.

## **City of Ann Arbor Ordinance versus UTC Pedestrian Language**

On the books, The City of Ann Arbor has its own code; and the adoption of the MVC and UTC as well. Since the local code is different, the local code supersedes the UTC. Following is the current form of the City's pedestrian crossing ordinance (left column) versus the UTC language (right column).

### **10:148. - Pedestrians crossing streets.**

(a) When traffic-control signals are not in place or are not in operation, the driver of a vehicle shall stop before entering a crosswalk and yield the right-of-way to any pedestrian stopped at the curb, curb line or ramp leading to a crosswalk and to every pedestrian within a crosswalk when the pedestrian is on the half of the roadway on which the vehicle is traveling or when the pedestrian is approaching so closely from the opposite half of the roadway as to be in danger.

(b) A pedestrian shall not suddenly leave a curb or other place of safety and walk or run into a path of a vehicle that is so close that it is impossible for the driver to yield.

(c) Every pedestrian crossing a roadway at any point other than within a marked crosswalk or within an unmarked crosswalk at an intersection shall yield the right-of-way to all vehicles upon the roadway.

*(Ord. No. 30-59, 8-10-59; Ord. No. 62-76, 12-6-76; Ord. No. 2-87, § 1, 1-20-87; Ord. No. 08-15, § 1, 5-5-08; Ord. No. 10-01, § 14, 2-1-10; Ord. No. 10-28, § 1, 7-19-10; Ord. No. 11-22, § 1, 12-19-11)*

### **R 28.1702 Rule 702. Pedestrians; right-of-way in crosswalk; violation as civil infraction.**

(1) When traffic-control signals are not in place or are not in operation, the driver of a vehicle shall yield the right-of-way, slowing down or stopping if need be to so yield, to a pedestrian crossing the roadway within a crosswalk when the pedestrian is on the half of the roadway on which the vehicle is traveling or when the pedestrian is approaching so closely from the opposite half of the roadway as to be in danger, but a pedestrian shall not suddenly leave a curb or other place of safety and walk or run into a path of a vehicle that is so close that it is impossible for the driver to yield.

(2) A person who violates this rule is responsible for a civil infraction.

## **Recent Plymouth Road Incident**

While the Police investigation is ongoing, specific details of the recent incident on Plymouth Road are not available. Based on the available information, it appears to be a multiple threat crash; meaning one on a multi-lane roadway where one lane of traffic may stop for a pedestrian crossing and the adjacent lane does not, causing a collision.

The Rectangular Rapid Flashing Beacon (RRFB) was reported to be flashing at the time of the incident, was operating properly on the day of the incident, and is presently operational.

## **Background Information**

On October 24, 2011 a Council resolution was approved which directed staff to analyze and design appropriate tools to enhance the pedestrian crossings. In December of 2011 a memo and presentation were prepared for Council recommending the installation of RRFBs along Plymouth Road and at Washington and Seventh, and for a request to be made to the Michigan Department of Transportation (MDOT) for improvements on Washtenaw Avenue at Tappan Middle School.

The RRFBs along Plymouth Road were installed in March of 2012. Advance stop bars (perpendicular white stripes in the roadway where vehicles are required to stop at a signal) were added to the Plymouth Road crossings in July 2012.

The Washtenaw/Tappan Middle School crossing location was installed by MDOT this summer. In the near future, MDOT is planning to install advance stop bars and “Yield to Pedestrian” signs at this crossing.

The Plymouth Road location where the incident occurred experiences 200-300 RRFB activations per day. It does not have advance flashers as the overhead flasher is visible from an appropriate distance. Each device installed by the City has accessible pushbuttons with a locating tone and an audible message when activated. This message informs the pedestrian that the flasher is activated and to cross with caution as vehicles may not stop.

## **Performance of Existing Crosswalks**

Following the installation of the RRFBs on Plymouth Road staff observed each location and assessed the yielding behavior. Yielding rates increased dramatically from their previous levels. The sample was small and unscientific but it did show improvement to the pedestrian environment.

In the fall of 2012, Western Michigan University (WMU) performed a research project for MDOT and observed the RRFB location at Plymouth/Beal and the HAWK<sup>1</sup> location at Huron/Third/Chapin, as well as other locations throughout the State. The purpose of this study was to evaluate the performance of these devices in Michigan and the associated road signage.

The main conclusion of the study was that these devices do not reach the yielding rates seen in other parts of the United States. They concluded that the lack of education/outreach and enforcement are contributing factors to these rates. This is supported by the evaluation of a HAWK signal placement on Wayne State

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<sup>1</sup> HAWK signals consist of overhead signals that go from dark to yellow to solid red, as opposed to the flashing yellow beacons of the RRFB 's.

University's campus. It had an extensive outreach campaign and the yielding rates were about 10% higher than the Michigan average.

The study found the Michigan average for yielding at RRFBs to be 75%, and 76% yielding at HAWK (or Pedestrian Hybrid Beacon) signals. In Ann Arbor there was an 84% yielding rate at the Plymouth/Beal location (RRFB) and a 75% yielding rate at the Huron/Third/Chapin location (HAWK signal).

This data suggests that the yielding rates for the RRFBs and HAWK signals are very similar. In Michigan, the overall yielding rates are essentially the same and Ann Arbor is seeing slightly higher compliance with the RRFBs (based on the locations studied above).

### **Potential Physical Improvements**

From an engineering perspective, there is little in the way of physical improvements to be installed. The research does not support replacing RRFB installations with HAWK (PHB) signals. The multiple threat crash is typically mitigated by the use of advance stop bars and signage. Advance stop bars, in road "stop for pedestrian" signs, and the advance pedestrian warning signs are currently in place at the City's Plymouth Road RRFB installations.

One item which has been planned is plaques which match the voice message on the RRFB's. It has been requested to include multiple languages on the signs; however the methods of accomplishing this feature have not been determined.

Additional pavement markings could be added to the street in advance of the crossing. A text legend such as "Ped / Crossing" or "Stop / For / Peds" could be added. These markings would cost approximately \$900 per approach and would require frequent reapplication.

### **Recommendations from Staff**

Based on the results of the above analysis, the group of City staff meeting on this issue has been focusing on an increased outreach and enforcement campaign targeted at drivers and pedestrians alike. Within approximately the next month, this group will develop a more defined communications plan. This will include:

- An outline of methods for educating drivers and pedestrians on the rules of pedestrian crossings
- Focusing on outreach through various media outlets, including social media
- Exploring options for targeted enforcement by AAPD
- Seeking input from other organizations and committees such as Ann Arbor Safe Streets and Sidewalks (which includes a variety of transportation related organizations throughout the area), the University of Michigan, Ann Arbor Public Schools, and others
- Exploring options to partner with some of the groups listed above to better communicate with users
- Developing the budget needed and indentifying funding resources for enacting the outreach and enforcement campaign.
- Investigating potential outside funding sources for implementing the campaign.

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