



Sustainability and Transportation Committee Report

Date: November 2, 2017
To: Sustainability and Transportation Committee
Through: Karolyn Kent, Assistant City Manager
From: RJ Zeder, Transportation Director
Sabine Ellis, City Traffic Engineer
Subject: Pedestrian Hybrid Beacon Warrant Policy

Purpose and Recommendation

To provide uniform application throughout the City, staff recommends the adoption of a formal warrant policy for the evaluation of locations where the installation of a pedestrian hybrid beacon (PHB) has been requested. The proposed policy is provided in Attachment 1.

Background

The PHB (also known as the High Intensity Activated crossWalk or HAWK) is a pedestrian-activated warning device that is used to assist pedestrians in crossing a roadway. It is typically located at mid-block locations or unsignalized intersections.

The 2009 Manual on Uniform Traffic Control Devices (MUTCD) as well as NCHRP Report 562 (Improving Pedestrian Safety at Unsignalized Crossings) provide guidelines for when a PHB should be considered based on various factors such as the speed limit of the roadway, the crosswalk length, and pedestrian activity and vehicular volumes. The Arizona Department of Transportation (ADOT) as well as the Cities of Phoenix and Tucson use a point system to determine whether a PHB is warranted. In addition to the MUTCD and NCHRP Report 562 criteria, it includes accidents and the proximity of other enhanced crossings or pedestrian activity generators (e.g., school, shopping center) in the evaluation. The intent of the warrants is to ensure that PHBs are used only where truly needed and appropriate. The proposed policy was developed using the aforementioned guidelines and modified to meet Mesa's specific needs.

Discussion

The PHB is an engineering solution for mid-block locations or locations where a full traffic signal is not warranted due to lack of pedestrian and traffic volumes, not feasible due to geometric constraints, or cost prohibitive. Furthermore, a PHB allows vehicles to proceed once the pedestrian has cleared their side of the travel lane when the red lights are flashing, thus being less disruptive to vehicle traffic flow and reducing delay for drivers than a signal. There are currently seven existing and one proposed PHB within Mesa City limits. See Attachment 2 for a map of City of Mesa PHBs.

The proposed policy will provide staff with steps they can follow when a request for a PHB is received. It includes a points system similar to ADOT's and the Cities' of Phoenix and Tucson and it was tailored to Mesa's distinctive nature. The points are comprised of pedestrian/bicyclist activity, proximity to nearest signalized or stop controlled intersection or enhanced crossing, posted speed limit, vehicular traffic volume, number of vehicle travel lanes, and proximity to a pedestrian activity generator.

A minimum of 60 points is recommended to warrant the installation of a PHB. To determine an appropriate weighting, all eight PHB locations in Mesa have been evaluated against the proposed points system. See Attachment 3 for a completed warrant analysis using the proposed evaluation.

Crash history, while part of the policy, is not included in the points system since it is often difficult to determine whether a PHB would have prevented the crash if it had been installed at the time of the incident. Crashes will be evaluated as part of every PHB study and can be used to prioritize a location once it met the required points.

The proposed policy will aid staff in gathering crucial data and allow for an objective evaluation of potential locations for PHBs. This will help those requesting a PHB better understand the reasons for approving or denying their request. In addition, the adoption of the policy will make it a mandatory document and amendments as well as deviations can only be authorized by the City Manager or his/her designee. This will ensure compliance and consistent application within the City. With that, staff is seeking a recommendation to approve the adoption of this policy.

Alternatives

If the Sustainability and Transportation Committee chooses not to approve this policy, staff will continue to evaluate requested PHB locations based on existing guidelines, best practices, and engineering judgement. However, a uniform application may be more difficult due to the lack of enforceability and potential for subjective interpretation of the currently available guidelines.

Fiscal Impact

There is no fiscal impact to adopting this policy; however, costs associated with the design and construction of a pedestrian hybrid beacon would have a financial impact that would vary by location and project scope.