Hull Rd Yield Study Preliminary Report

Prepared by the UF Institute of Transportation Engineers, Student Chapter

Summary

The purpose of this project is to measure the driver's yield-to-pedestrian response to new regulatory signs placed at the South West Recreation Center crosswalk on Hull Road. This report addresses the base crosswalk yielding conditions before the future placement of improved traffic control devices. These measurements consist of a series of yield counts conducted from February 22 to March 3, 2011 during peak pedestrian activity (3:30 to 6:45pm).

Location

The area of study is a 150 ft segment of Hull Road, a road inside the University of Florida at Gainesville campus. The two-lane road connects the University to SW 34th Street and the midblock crosswalk connects part of the University's recreation centers with a multilevel commuter parking and a surface lot. Two bus stops are also located at each direction. Hull Road is governed by a campus-wide 20 MPH speed limit and reported an ADT of 2,200 vph during the study period. On a typical day, the recreational facilities may receive 20,000 visitors, most of which arrive by car and park at either the adjacent small lot or the multilevel garage across.

Figure 1: Crosswalk location at Hull Rd

Data-Collection

Student technicians observed pedestrians attempting to cross Hull Rd, and noted whether motorists yielded the right of way to them. Pedestrians who manifested a clear desire to cross the roadway–by stepping off the sidewalk and into the crosswalk–were counted as pedestrian crossers. Vehicles that could reasonably be expected to yield, given adequate sight and slowing distances, were counted. Distance measurements were always taken after all pedestrians fully cleared the lane. According to Florida statutes, pedestrians gain the right of way once they step into the crosswalk, which can be interpreted as being in the street itself. Therefore, by complying with a strict interpretation of the law, this study does not consider pedestrians that waited inside the sidewalk or pedestrians that crossed outside of the crosswalk.

Three main measurements are reported: stopping compliance, yielding compliance, and no compliance. Stopping compliance is met when the vehicle stopped in front of the crosswalk and remained stopped until the last pedestrian cleared the lane. Yielding compliance resulted when a vehicle partially stopped or slowed down to allow the pedestrians to cross the lane. Noncompliance includes: (a) when any vehicle stopped inside the crosswalk, (b) a vehicle continued its way while a pedestrian was still in the lane or about to enter the lane, or (c) when a pedestrian (inside) of the crosswalk waited more than three seconds for a vehicle to yield the way. If in compliance, vehicle stopping distance (or closest yielding distance) from crosswalk was also recorded.

Current Conditions Results

During the study period, 473 valid observations were recorded from 3:30PM to 6:45PM on typical weekdays. This period was selected due to the correlation between the recreational facilities operation and the number of pedestrians utilizing the crosswalk. Counts show that 84% of the pedestrians utilized the marked crosswalk to cross Hull Road. From the valid events, 172 occurred in the eastbound direction (entering the University) and 301 on the westbound direction. Overall, it can be observed that 33% of the vehicles fully complied with the “vehicles must stop for pedestrians” sign, while 49% partially complied by yielding the right of way but not

stopping, and 18% did not yield the right of way to pedestrians. These results are summarized in Figure 2.

Regarding vehicle distance, the observations in Figure 3 clearly show a difference between vehicles that fully stopped and those who slowed down or yielded. Notably that most vehicles stopped at less than 10 ft. from the crosswalk, a distance deemed inadequate by law enforcement agents.

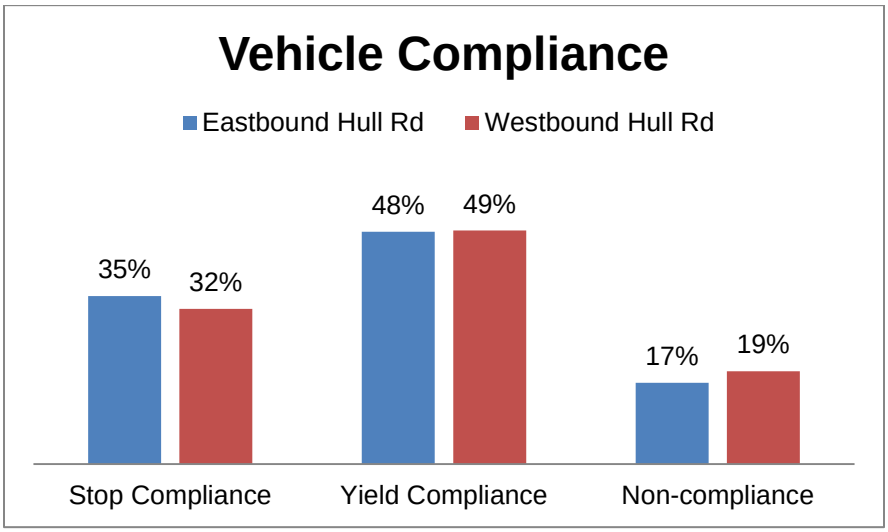

Figure 2: Vehicle Compliance by direction

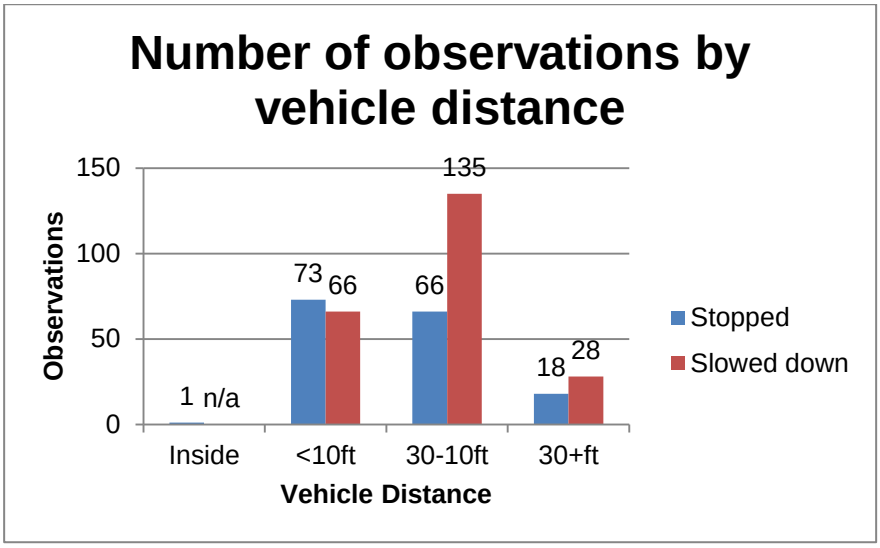

Figure 3: Number of observations by vehicle distance

Conclusions

The South West Recreation Center crosswalk could benefit from improved strategies that warn or encourage drivers to stop for pedestrians at a safe distance. While most drivers fully (33%) or partially (49%) complied with the traffic control devices, 18% did not yield the right of way even when distance to do so was adequate. However, due to the strict compliance definition, the number of vehicles that did not yield may be higher because some pedestrians choose to wait for a safe gap at the sidewalk. In addition, this study did not consider the driver's response to the other 16% of pedestrians that cross outside of the crosswalk zone, although similar results should be expected. After the future placement of new devices, a similar after study should be carried to determine the effect on vehicle compliance.