ABSTRACT

Evaluation of Pedestrian and Driver’s Actions at HAWK Signal

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The focus of this presentation will be on an evaluation of pedestrian and drivers’ actions at sites with High intensity Activated cross WalK (HAWK) signals. Data (traffic counts, average traffic speed, pedestrian and driver yielding behavior, the number of pedestrians trapped in the middle of the road and pedestrian-vehicle conflicts) collected during morning (AM) and evening (PM) peak hours at study sites in the City of Charlotte, North Carolina were used for evaluation.

Descriptive and statistical analyses (one-tail two sample T-test and two proportion Z-test) were conducted 1) to analyze and compare the data collected before and after the installation of HAWK signals, and, 2) to analyze and compare the data collected at sites with HAWK signals with the data collected at control sites (with no countermeasures) and sites with other pedestrian safety countermeasures (traffic signal for pedestrians and in-pavement lighting system). Further, analysis was also conducted to analyze change in pedestrian and drivers’ actions over time (before installation; one-month, three-months, six-months and twelve-months after installation).

Results showed an increase in average traffic speed at one of the HAWK signal sites while no specific trends were observed at the other two HAWK signal sites. The installation of HAWK signals did not have a negative effect on pedestrian actions at two out of the three HAWK signal sites. A decrease in the numbers or proportions of drivers not yielding to pedestrians, pedestrians trapped in the middle of the street and pedestrian-vehicle conflicts was observed at all the three HAWK signal sites. However, these improvements were statistically significant at a 95 percent confidence level at only one of HAWK signal site. The numbers or proportions of drivers not yielding to pedestrians, pedestrians trapped in the middle of the street and pedestrian-vehicle conflicts at HAWK signal sites was observed to be lower than those observed at control sites and sites with other pedestrian safety countermeasures.

Keywords: HAWK, pedestrian, driver, yielding, speed, trapped, safety

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