BACKGROUND

Many children suffer head injuries from bicycle accidents every year. Head injuries that result from bicycle related accidents are one of the major causes of mortality and morbidity for children. In 2008, 91% of all bicycle-related fatalities involved cyclists not wearing a helmet (IIHS 2008). Bicycle helmets have been shown to be a highly significant way to reduce head injuries and deaths that may result from this type of injury (Thomson et al., 1989).

A population that practices safe bicycling habits, such as wearing a helmet, demonstrates to children the importance of such behaviors. The impact of role-modeling is significant and supported by the fact that children riding with adults who are wearing helmets are more likely to wear helmets themselves (Bernstein et al., 2003).

RESEARCH OBJECTIVES

The purpose of our study is to capture bicycle helmet usage during the time periods when children are most likely to be out and engaged in their community. Data collected from our counts will reflect a better picture of the actual bicycle helmet use rates around an elementary school, compared to the counts collected by the Portland Department of Transportation. The information we gather from our study can help educate parents and schools on the frequency of bicycle helmet use near schools and during the time periods that will be the most influential to children.

FINDINGS

Our observational counts show that there is a correlation between route and time of day and observed percentage of riders with helmets. Approximately thirty percent fewer riders wear helmets during off-peak hours as opposed to the commuter hour (63% and 91% respectively) and twenty percent fewer on Bike Boulevards as opposed to high traffic streets (53% and 76% respectively).

CONCLUSIONS

Our study addresses the fact that bicycle helmet usage varies greatly depending on location and time of day observed. Children maintain different schedules than adults and can be highly influenced by their environment. The prevalence of bicycle helmet use, in our study, on “Safe Routes to School” approved routes demonstrates the effectiveness and success of the “Safe Routes to School” program. These routes provide beneficial cues to children for acceptable safe bicycling habits. We recommend that parents and educators encourage their children to make frequent use of these approved routes, and to not deviate from them. If adults can be made more aware of the influences that may be presented to children, it can lead to safer behaviors being passed down and unsafe behaviors being avoided.