CHARACTERISTICS OF PEDESTRIAN CRASH: A CASE STUDY IN LOUISIANA

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ABSTRACT

Pedestrians are the most vulnerable users of the transportation system. While encouraging “Green Transportation”, a sad fact emerges in the United States: Pedestrian deaths are climbing faster than motorist fatalities, reaching nearly 6,000 in 2016 -- the highest in more than two decades. In state of Louisiana, pedestrian fatalities reached 110, 14.6% of total traffic fatalities in 2015. In the same year Louisiana pedestrian fatality rate (pedestrian fatalities per 100k population) is 2.18, much higher than the U.S. average 1.67. To investigate why, what, and how pedestrian crashes occurred in order to effectively reduce the pedestrian crashes, this paper investigates the pedestrian crash problem in Louisiana through the pedestrian crash analysis. It is shocking to know that the 47.5% of pedestrian fatalities occurred on the state rural roadways while the rural population is only 26.8%, which yields a fatal pedestrian crash rate of 4.4 for the rural areas and 1.5 for the urban areas. To achieve the state Destination Zero Deaths, the state must take actions to reduce rural pedestrian fatalities. While working to reduce pedestrian crashes, it is very important to know the difference in pedestrian crash characteristics. For example, while 30% of the total pedestrian fatalities involved pedestrian alcohol or drugs usage, it is 34% in rural and 24% in urban areas. Pedestrian volume is significant in urban pedestrian crashes but not an influential factor for rural pedestrian crashes. In terms of crash locations, only 18.4% rural pedestrian fatalities occurred at intersection while in urban it is 37.8%, which clearly directs where and what type of actions should be taken for pedestrian fatality reduction. The data analysis also show that generally the older pedestrians (50+ in age) have the highest crash risk, almost twice higher than that of younger pedestrians (younger than 30). Similar to all fatal crashes, the “peak hour” for fatal pedestrian crashes is at night when both vehicular and pedestrian volume is the lowest. Few suggestions are made at the end of the paper regarding the selection of potential crash countermeasures for pedestrian crashes at different locations.