

Effects of Unsafe Transportation Conditions

The transportation system generates negative externalities that have consequences on our health. This memorandum focuses on traffic safety and how certain populations are more vulnerable to health risks than other populations. This memorandum also discusses how traffic safety can be addressed to lower concerns about traffic safety risks. By better addressing traffic safety concerns, the number of traffic injuries and deaths will optimistically decrease.

Addressing Injury Prevention

Henry Hale Bliss was the first recorded person killed by a motor vehicle in the United States.¹ He was killed by an electric taxicab. The taxicab driver was arrested for manslaughter, but then later acquitted because the death was unintentional. Assuming that most car crashes are unintentional, the fact is that all vehicle crashes are preventable. When studying for the drivers license test, we learn that the main cause of crashes are human error. While the license manual used the term “human error” to describe driver behavior, I also see it as errors people have made while creating transportation practices and policies.

When motorized vehicle travel was still considered a novelty in the 1900’s, traffic injuries and deaths were usually considered uncontrollable. Traffic crashes were ignored as a main contributor of premature death and disabilities. Overtime, people became more aware of the importance of traffic safety and implemented injury prevention policies like seat belts, infant car seats, helmets, and drunk driving laws. The current main policy goals that support traffic injury are the following: improve physical infrastructure to promote safe transport of all travelers, reduce vehicle miles traveled by promoting alternative modes of transportation, and protect drivers and passengers through road safety and occupant protection.² Based on these goals, one of the main tasks to decrease injuries is to reduce the number of motorized travel and encourage people to practice active transportation. Although one of the main goals is to promote alternative modes of transportation, the injury prevention policies that stand out the most seem to be related to vehicles. This can be because safety of public transit and non-motorized travel received relatively less federal support compared to the safety of motorized vehicles.

Consequences from these policies may have led to less people traveling through alternative modes and encouraged people to drive as they notice that focus is being put on making policies for drivers. This can be an issue, because getting more people to use alternative modes of transportation will likely increase their safety. Applying the universal law of learning and law of rare events to this situation, more people need to use alternative modes of travel in order to

¹ Cohen, Larry. *Healthy, Equitable Transportation Policy Recommendations and Research*. pp. 133.

² Cohen, Larry. *Healthy, Equitable Transportation Policy Recommendations and Research*. pp. 133-134.

increase safety. According to the universal law of learning, people are better able to detect and control a traffic hazard the more they travel and experience different situations of driving. According to the law of rare events, risks are increased as a rare factor is put into the situation.³ Circling back to the fact that less people are taking alternative modes of transportation and more people are driving, although people are becoming more familiar with the roadways while driving, modes like bicycling and walking may become less popular and drivers will not get the experience to understand typical behavior of other road users.

Safety Measures

Safety mitigation programs have addressed the fact that cyclists and pedestrians are vulnerable road users by acknowledging the lack of infrastructure to support non-motorized travel alongside motorized travel. Bicyclists and pedestrians are vulnerable to injuries and deaths from vehicle crashes because they do not have a buffer protecting them from motorized vehicles.⁴ While this may seem obvious, installing a buffer is not as easy as it sounds. Not only will existing roads need to be changed to create space for buffers, but the lack of federal support stunts the growth of safety improvements for alternative modes of transportation. In order to receive more federal support, more people need to show that they are willing to travel through alternative modes.

Equity Concerns

Pedestrian safety is especially important for populations who rely more on walking for transportation. For people who do not have access to cars, being a pedestrian is not an alternative mode of travel, it is their only mode of travel. Unfortunately, transportation safety concerns and risks are not distributed equally among populations. Disparities exist between different races and income populations. In a study done in 1999, Latinos were 28% of the Orange County population. However, they were also 40% of the pedestrian injuries and 43% of the pedestrian deaths.⁵ The fact that people with low-income are more vulnerable to traffic injuries and deaths than people of higher income is related to the economic disparity. The biggest equity concern related to safety is that certain populations have less access to resources and pedestrian facilities that enhance safety. Residing in a low-income area often means they will have less access to safer vehicles, sidewalks, crosswalks, lighting, and traffic enforcement.⁶ This is a difficult issue, because areas with more resources typically have better facilities, because they are able to pay

³ Elvik, Rune. "Laws of Accident Causation." *Accident Analysis & Prevention*, vol. 38, no. 4, 2006, pp. 742–747., doi:10.1016/j.aap.2006.01.005.

⁴ Cohen, Larry. *Healthy, Equitable Transportation Policy Recommendations and Research*. pp. 137.

⁵ Cohen, Larry. *Healthy, Equitable Transportation Policy Recommendations and Research*. pp. 138.

⁶ Cohen, Larry. *Healthy, Equitable Transportation Policy Recommendations and Research*. pp. 138.

for it. After multiple discussions with people who worked for the government, I was able to learn about equity issues in the city. While installation of traffic safety devices require going through a procedure to see if the area meets certain requirements, some groups were able to override the process when they paid for the installations and maintenance themselves. Is this fair? While engineers can get a chance to make sure that the whole city is served to a standard, the advantages of belonging to certain populations are visible.

Safety Concerns for the Elderly and People with Disabilities

With the population of elderly people increasing, the need to improve transportation to help the elderly stay mobile also increases. By 2030, at least 72 million people in the United States will be 65 years old or older.⁷ As the proportion of the US population is growing older, safety concerns with elderly people and people with disabilities need to be addressed. With age, the future population may struggle with mobility, whether it is driving or walking. Studies show that elderly people, especially women are less likely to walk or drive. Elderly women are more likely to rely on others to drive them.⁸ While there is no definite answer to why elderly women are less likely to drive, it may be because they have different confidence levels from men about driving. This can be addressed through more training focused for women to practice their driving skills.

One of the projects in Oregon that addresses mobility issues is building ramps that meet the American with Disabilities Act (ADA) standards. This includes building slopes with certain inclination and space that are supposed to make moving on and off curbs easier. By creating a smoother transition at crosswalks, hopefully elderly people and people with disabilities feel more comfortable traveling on pedestrian facilities.

⁷ Rosenbloom, Sandra, and Susan Herbel. "The Safety and Mobility Patterns of Older Women." *Public Works Management & Policy*, vol. 13, no. 4, 2009, pp. 338.

⁸ Rosenbloom, Sandra, and Susan Herbel. "The Safety and Mobility Patterns of Older Women." *Public Works Management & Policy*, vol. 13, no. 4, 2009, pp. 339.

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