**Final Project Proposal Topic:**

**Analysis of Road Traffic Accident in Metro Manila**

**Group 4**

Alvarez, Vivian Marie J.

Bautista, Nica Rose G.

Cortez, Jenjen M.

Hernandez, Inah Alessandra L.

Sadiangcolor, Jo Maika L.

Batangas State University

**Introduction**

In large cities with numerous modes of transportation, accidents are common, and roadways are becoming increasingly narrow and congested. Accidents like this cause both human and material loss. Drivers' carelessness, as well as their ignorance and disdain for traffic rules, are to blame. The variables that impact the severity of traffic collisions The severity of road traffic accidents is influenced by several factors, including driver age, driving time, driving day, and province. Accidents have grown far too common in recent years. As the number of people who own cars in Metro Manila grows, so does the incidence of traffic incidents. In addition, people are becoming more careless currently. Only a small portion of the population adheres to traffic laws. Various kinds of transportation are available, especially in large urban areas. Furthermore, streets are narrowing, and urban areas are becoming more densely populated. Furthermore, the most serious traffic incidents involve huge vehicles such as trucks and buses. To lower the number and severity of accidents, the government should improve traffic legislation. Because driving speed has been linked to accident severity, the government should consider enforcing speed restrictions, particularly late at night when traffic is light. It should act as a wake-up call to the government to build and strengthen safe driving infrastructure. The increasing number of cars on the road and, as a result, the increasing frequency of RTAs necessitates the implementation of traffic safety measures. The fast-rising economy has aided the development of further RTAs as the usage of automobiles for transportation has increased (Johansson et al., 2014). Late-night driving, according to other studies, has a consistent traffic flow. Drivers frequently speed up to take advantage of the steady flow of traffic. As a result, late-night occurrences are more likely to result in death. As a result, to reduce RTAs, additional traffic enforcement and traffic education measures are required. The purpose of this study is to look into the level of injuries suffered by victims of car accidents in Metro Manila. In addition, by identifying critical gaps and opportunities, this study intends to raise awareness in the region and push the government to take action to improve road safety.

**Problem Statement**

Road traffic accidents are a big problem nowadays. Drivers paying less attention to various site routing signage on the road, as well as a lack of awareness of road traffic accidents, which causes harm to life and other vehicle properties. The state of Metro Manila's roadways has deteriorated significantly in recent years due to a variety of factors. Increased vehicle numbers, as well as a lack of sufficient road safety, are all contributing factors. In addition, interventions and a lack of enforcement legislation are only a few instances. Over speeding kills or injures a high number of persons on the road when drivers disregard the speed limit and drive too fast. Some drivers use their cellphones while driving, diverting their focus away from the road.

**PROBLEM**

A road accident is commonly defined as a collision between two or more vehicles, pedestrians, or an object that causes death, disability, or property damage. The leading cause of road accidents (26%) was driver error, followed by mechanical defects (12%), excessive speeding (18%), a drinking binge before driving (1%) and damaged roads (5 percent ). These issues are mostly encountered in Metro Manila.

These are the Major reasons for traffic road accidents in Metro Manila;

**Driving too fast.** In the Philippines, exceeding the speed limit is another common complication of road-related deaths and injuries. Not only is it because there are no authorized officers to capture speeders, but some drivers are also unaware of the Philippines' statutory speed limit law.

**Alcohol-impaired driving**.The most prevalent and leading cause of vehicular accidents in Metro Manila are driving while under the influence of narcotics or alcohol. Our nervous system, which regulates our reflexes, cognition, and motor skills, is affected by alcohol usage.

**Mechanical defects.** It is not always your fault when disaster strikes. Your tires, brakes, and even your motor may wear out if your vehicle isn't properly maintained, resulting in a potentially dangerous situation on the road.

**Inadequate driver knowledge.** Ignorance is a common cause of traffic accidents. The majority of driver knowledge is gained through practice. This is why so many unfamiliar situations result in mishaps. If you know what occurs when you speed or brake suddenly in unusual conditions like rain, snow, or a curving road, you won't speed or brake suddenly again.

Minor reasons for traffic road accidents in Metro Manila;

**Inadequate thinking.** Inadequate thinking can contribute to hazardous driving in a variety of ways. Such thinking includes believing that breaking traffic laws is OK as long as it does not result in an accident; racing to get to your destination even if you are not late; and viewing pedestrians on the road as barriers.

**Improper driving practices** Many drivers mistakenly feel that because they have not yet caused any traffic accidents, their bad driving behaviors are harmless. This notion can perpetuate bad practices, leading to catastrophic collisions.

### Sudden turns without signaling. Dodging other vehicles is the most common cause of sudden turns. The driver moves abruptly due to the risk of colliding with other vehicles or pedestrians.

**SOLUTION**

Street accidents are very rampant nowadays, more often on the busy roads or streets like Metro Manila. Accidents that cause deaths are driving under the influence of liquors. More often the nut are motorcycle drivers.

The Department of Land Transportation Office where restrictions start, to prevent these kinds of accidents. The said Department should implement policies for drivers to keep them away from number vehicular accidents. It is right that the Department must be strict enough in their rules before one can have his driver's license. Nobody can avail a driver's license once he has not undergone a rigid training and pass examinations both written and actual driving. All street rules and regulations should have been acquired which simply means that all safety measures; the do's and don'ts should be understood and need to be put into practice. Some of these are, the severe rules about drunk driving, prohibiting the use of mobile phones while driving, and over speeding. These are only some simple points to remember in safe driving and solutions as well to avoid traffic accidents.

All drivers should be knowledgeable with the laws, rules, and regulations that govern land transportation. They must be willing to share the road with other people. They should be aware of not just the benefits and pleasures of having a driver's license, but also the duties and responsibilities that come with it. Most essential, they should understand the basics of defensive driving because they will almost certainly encounter road users who are careless, stupid, arrogant, or flagrantly disobedient to traffic rules.

The rigorous and consistent enforcement of traffic rules, particularly those relating to drunk driving, seatbelt use, overloading, speed limits, and the use of standard motorcycle helmets and child restraints, would be a good place to start. Prioritize increased patrol visibility in accident-prone regions or, better yet, the repair of hazardous road conditions for both automobiles and pedestrians. Speed limit devices in PUVs, dashcams in private vehicles, and CCTVs at critical areas are all projects that should be implemented. At any time, sellers should be removed from sidewalks and unlawfully parked vehicles removed from side streets. Vehicles that fail a roadworthiness inspection should be impounded immediately.

**Significance of the Proposed Project**

This research will specifically benefit the following:

**Driver –** This will assist drivers in avoiding a car accident, as well as saving them the stress and expense of a traffic ticket for a traffic infraction.

**Government —** By identifying critical gaps and possibilities, this will assist the government in taking action to improve road safety.

**Future Researchers —** This study will be utilized as a reference for road traffic accident researchers. This will be used as a guide to help construct the research in terms of the variables considered.

**Methods**

The application of the analytic hierarchy process approach (AHP) was developed to examine the importance of individual factors impacting road safety. It is a multi-criteria method that allows us to do a hierarchical study of the decision-making process using expert opinions. We were able to evaluate and rank the factors that affect road safety using the AHP approach. This study will also employ an analytical approach, which will necessitate the ability to think critically as well as the evaluation of facts and information relevant to the study at hand, as well as assisting the researcher in determining the individual's level of adherence to and comprehension of traffic regulations. Tortum and Atalay (2015) used a factor analysis to find variables that had a statistically significant link with the number of traffic accidents in order to get their conclusions. According to the analysis, the data was gathered for accident purposes and would be used as a future viewpoint. Important and useful information was gathered from police and various other transportation departments for the examination of accident-related data.

**Expected Output**

Each country must play a significant role in identifying road safety issues, with the power and duty to make decisions, manage resources, and collaborate across all government sectors, especially health, transportation, education, and law enforcement. This research intends to provide a comprehensive and strategic road safety action plan to reduce road traffic accidents in Metro Manila, as early detection of threats can assist lower the risk.

**Relevant Articles**

According to figures issued by the World Health Organization (WHO), road accidents claimed the lives of 1.35 million people in 2018. In the Philippines, statistics show that 12,000 Filipinos die on the road every year. The results for Metro Manila are even more alarming. The number of car accidents has been steadily increasing, increasing from 63,072 in 2007 to 116,906 in 2018. With the increasing number of road accidents in the Philippines and around the world, concerned government and non-government organizations in the country are working to reduce, if not eliminate, the number of instances.

According to the MMDA's Metro Manila Accident Reporting and Analysis System (MMARAS), there were 31,279 motorcycle-related traffic accidents reported in 2019, averaging 86 events per day. This represents a 17% increase over the 26,652 motorcycle-related accidents reported in 2018, averaging 73 per day. Thankfully, the number of fatalities has only increased by 8%, with 221 reported in 2019 compared to 204 in 2018.

According to the Metro Manila Accident Reporting and Analysis System (MMARAS), 3465 road crashes were reported in March, the month when Metro Manila and other portions of the country were originally quarantined. There were 1221 traffic crashes in June, the most recent data available, with at least 12 persons killed. While the figure is down from 6876 cases prior to the lockdown in February, the continued incidence of road crashes at a time when there are fewer people and vehicles on the road and more police officers monitoring the streets raises concerns. Advocates presented several reasons why road crashes occur despite the lockdown during a road safety webinar hosted by public interest law firm Imagine Law on Oct. 2.

A road traffic accident kills an estimated 1.35 million people every year around the world. The World Health Organization confirms this (WHO). Furthermore, between 20 and 50 million more people have non-fatal injuries, with many of them resulting in disability. Pedestrians, cyclists, and motorcyclists, as well as their passengers, account for more than half of all road traffic deaths and injuries, according to the organization, with the young being particularly vulnerable on the world's roadways.

In fact, for children and young adults aged five to 29, road traffic injuries are the greatest cause of death. According to statistics, young males under the age of 25 are more likely than girls to be engaged in traffic accidents, accounting for 73 percent of all road traffic deaths. Road traffic injuries are more common in developing nations, such as the Philippines, with 93 percent of fatalities occurring in low- and middle-income countries.

Traffic slowing, according to Huang and Cynecki (2000), is a possible solution for the deterioration of living conditions caused by increased vehicle speed and noise by generating the impression that the route is not designed for high-speed traffic. Several academics have argued that the road hump has the ability to successfully limit the speed and loudness of moving cars, based on a variety of traffic calming strategies.

According to the World Health Organization, road traffic accidents cause the death of more than 1.2 million and the injury of between 20 and 50 million people annually worldwide with more than 90% of deaths in low and middle income countries. (Ismail & Abdelmageed, 2010). Traffic accidents are dependent events. In general, accidents are defined by a series of variables that helps to analyze traffic accidents and to identify significant factors that affect injury severity (de Oña, López, Mujalli, & Calvo, 2013).

Despite ongoing advancements in vehicle technology and road engineering, road accidents remain one of the leading causes of death and injury. WHO (2004). Traffic accidents are a major concern around the world, and both the location and frequency of traffic accidents change over time. These accidents can be measured as discrete random, indicating a low occurrence probability (Soler-Flores, 2013).

According to the Metro Manila Accident Reporting and Analysis System's automobile accidents Philippines report, 394 people have died in road-related incidents in the Metro (including adults and children). This is a good thing because it is lower than the 2017 data. In total, 14,553 people have died or been injured in traffic accidents involving passengers, drivers, and pedestrians. This equals an average of 40 people every day.

**References:**

Automology. (2020, October 9). Top Causes of Road Accidents in the Philippines. Retrieved April 11, 2022, from https://www.automology.com/top-causes-of-road-accidents-in-the-philippines/

Brotoisworo, P. (2020, September 8). Manila Traffic Incident Data. Retrieved April 1, 2022, from https://www.kaggle.com/datasets/esparko/mmda-traffic-incident-data

BusinessWorld. (2021, May 14). Where we are now on road safety. Retrieved April 11, 2022, from https://www.bworldonline.com/special-features/2021/05/14/368263/where-we-are-now-on-road-safety/

Charisse Kim. (2021, October 6). Car Accidents in the Philippines: Causes, Facts & Latest Statistics. Retrieved April 11, 2022, from https://philkotse.com/safe-driving/road-accidents-in-the-philippines-causes-facts-latest-statistics-5455

GOV.PH. (2020, September 8). Law Enforcement Units, Traffic and Transport Agencies to Intensify Enforcement of Regulations to Reduce Road Accidents in Metro Manila. Retrieved April 11, 2022, from https://mmda.gov.ph/72-news/news-2020/4362-sept-8-2020-law-enforcement-units-to-reduce-road-accidents-in-mm.html

Johansson, Asa and Olaberria, Eduardo A. and Olaberria, Eduardo A., Long-Term Patterns of   
Trade and Specialization (July 4, 2014). OECD Working Paper No. 1136, Available at  
SSRN: https://ssrn.com/abstract=2555625 or http://dx.doi.org/10.2139/ssrn.2555625

Lu SFD, Lu JL. Analysis of Human Error as a Factor in Road Crash in Metro Manila (2005-2015). Acta Med Philipp [Internet]. 2021Sep.22 [cited 2022Apr.6];55(6). Available from: https://actamedicaphilippina.upm.edu.ph/index.php/acta/article/view/3325

Mendoza, J. E. (2022, February 19). Surviving driver in fatal EDSA road crash found to be over alcohol limit. Retrieved April 11, 2022, from https://newsinfo.inquirer.net/1556772/surviving-driver-in-fatal-edsa-road-crash-found-to-be-over-alcohol-limit

NSW Compensation Lawyers. (2017, May 22). The National Road Safety Strategy: Reducing car accidents. Retrieved April 1, 2022, from  
https://www.nswcompensationlawyers.com.au/blog/national-road-safety-strategy-reducing-car-accidents/

TORTUM, A. and ATALAY, A., 2015. Spatial analysis of road mortality rates in Turkey,  
Proceedings of the Institution of Civil Engineers-Transport 168(6), Thomas  
Telford Ltd, pp. 532-542. Available from: SSRN: https://www.icevirtuallibrary.com/doi/abs/10.1680/jtran.14.00029

World Health Organization. (2021, June 21). Road Traffic Injuries. Retrieved April 1, 2022, from https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries