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Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Trikes

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CHAPTER 1

THE PROBLEM AND ITS NATURE

An electric tricycle, commonly called an e-trike, is a three-wheeled vehicle powered by an electric motor and a rechargeable lithium-ion battery. It carries a small group of passengers, depending on the size and model, and is often used over short distances and on side streets. In recent years, there has been an exponential increase in the number of e-trike drivers (Ong, 2024).

The presence of an e-trike on the South Luzon Expressway (SLEX), as shown by a motorcyclist in a news article by Yu (2024), has raised concerns from even traffic chiefs. However, traffic enforcers cannot apprehend e-trike drivers as of yet due to the fact that there are no laws that regulate these vehicles. A report by the Metropolitan Manila Development Authority (MMDA) in 2023 shows that there were nearly three times more crashes (907) involving e-bikes, e-trikes, and e-scooters in comparison to 2019 (309). In response to this, the MMDA announced the implementation of MMDA Regulation No. 24-022, which prohibits said vehicles from operating on national roads, circumferential roads, and radial roads within Metro Manila. This regulation takes effect on April 15, 2024 (MMDA, 2024). In this study, the researchers aim to collect the narratives of private conventional fuel vehicle (CFV) drivers about their experiences with e-trikes on the road.

The e-trikes are made with one front wheel and two back wheels. This kind of design increases the risk of tipping over, especially during sharp turns or on uneven roads, as the absence of a fourth wheel significantly increases the risk of accidents and injuries (Tribdino, 2023). Regular tricycles' bulky sidecars cause accidents due to their unregulated size, hence interfering with mobility. Theoretically, this infers that modern e-trikes are safer as they have a motorbike design (Nacion et al., 2022).

To further support this, according to a survey by Agaton et al. (2020), 13% or 174 out of 1,319 respondents strongly prefer e-PUVs over conventional PUVs,

and 39% or 539 respondents prefer e-PUVs. Meanwhile, the combined responses for disagree and strongly disagree total 24%, which is less than half of the answers to “prefer” and “strongly prefer” combined. Although the respondents were more inclined towards e-PUVs, a study by Guno et al. (2021) remarked that the spread of electric vehicles is hindered due to the disregard for information dissemination, which is crucial knowledge for all drivers. They mention that this may be the case with e-trike drivers since they are not formally regulated by the law.

Analyzing the perceptions of private CFV drivers have helped in identifying the difficulties encountered when traveling with e-trikes. In the Philippines, approximately 80% of the road is used by private vehicles (Castillo, 2022). As one of the major road users here in the country, getting their insight on the rise of e-trikes could be useful in identifying rules and regulations that could increase safety for all road users. The data gathered from the private CFV drivers were used to determine the problems with the implementation of e-trikes on the road. Using a phenomenological approach, the data was gathered through semi-structured interviews with private CFV drivers about their traveling experiences. This also aided in identifying ways to improve the current e-trike transportation system; a salient factor in establishing a more efficient transportation system for e-trikes and safer roads for traveling.

As of now, the researchers cannot find any suitable research articles regarding private CFV drivers’ traveling experiences with e-trikes on the road. Furthermore, there are minimal research articles that focus on the experiences of drivers who do not use electric vehicles in the Philippines and how it affects their transportation flow, much less drivers who do not use e-trikes.

This study analyzed the narratives provided by private CFV drivers who traveled alongside e-trikes through Metro Manila. This location provided convenient access for the research team while also offering a representative sample of drivers encountering e-trikes on a regular basis. The study also

interpreted the opinions of private CFV drivers about the sharing of roads with e-trikes in the aforementioned area, both beneficial and negative.

Statement of The Problem

This study addressed the perceptions of private CFV drivers in Metro Manila regarding the increased number of e-trikes sharing the road with other PUVs and privately owned vehicles. In addition to understanding private CFV drivers' perceptions of e-trikes, the research identified potential changes and additions to current e-trike regulations based on their perspectives. These findings help to shed light on the traits of e-trike drivers that private CFV drivers may perceive as risky.

By the end of the study, the researchers answered these questions:

1. What are the perceptions of the private CFV drivers towards the increased number of e-trikes and e-trike drivers on the road?
2. How does the increasing number of e-trike drivers influence the road behaviors of private CFV drivers?
3. How can regulations for e-trike transportation be optimized considering the perspectives of private CFV drivers?

Scope and Limitations

This study assessed the transportation system of e-trikes in Metro Manila, through the experiences of private CFV drivers.

The researchers found out the positive and negative feedback of the private CFV drivers through their personal experiences. The feedback was gathered and evaluated through semi-structured interviews, as this was done to further understand the participants’ answers. Furthermore, follow-up questions helped the researchers to clarify and avoid misunderstandings regarding unclear answers.

This study only focused on the private transportation sectors of Metro Manila. Mainly, those who travel with conventional fuel vehicles (CFVs). The researchers did not include participants who travel by human-powered vehicles, like bicycles, or electrical vehicles, like e-bikes. Through the use of convenience sampling, the participants were selected by having an immediate connection with the researchers and having driven on the roads of Metro Manila. This study will only be applicable to Metro Manila, and is therefore not generalizable for the Philippines as a whole. To ensure that the data gathered from the participants was transcribed and properly evaluated, the researchers utilized phones, pens, and notebooks for collecting data and observations.

Challenges, risks, and weaknesses that the study may encounter that could have negatively affected the data collection and analysis are possible. Factors like setting up the interviews and traveling to the interview site were possibly an inconvenience for both the respondent and the interviewers. Conducting the interview through a face-to-face medium could have also made the respondent anxious or uncomfortable. Additionally, the respondent might not have answered the questions truthfully or with all honesty, and they might have felt discomfort from some of the questions that were asked. These challenges were reduced by adequately planning the data collection procedure. Proper communication between researcher and respondent aided in fostering a truthful and unconstrained conversation.

This study does not intend to suggest modernizing fuel-powered tricycles, question the mobility of e-trikes compared to CFVs, nor provide solutions to the issues that will be discussed about the e-trike transportation system.

Significance of The Study

By evaluating the impact of e-trike drivers on private CFV drivers, the findings of the study hope to broaden people’s perspective and understanding of

road safety and may help drivers and policy-makers identify a solution. The findings of the study are significant to:

E-trike drivers. Through the findings of this research, e-trike drivers of Metro Manila may realize the driving behaviors that compromise both their safety, as well as private CFV drivers and other road users' safety. Moreover, they can learn how to regulate themselves better and lessen the difficulties in their transportation.

Private CFV drivers. Through the findings of the study, private CFV drivers will be more aware of the behaviors of e-trike drivers. This study will also bring attention to the overlooked issues of Private CFV drivers driving alongside e-trikes and it can also serve as their voice to their issues in regards to traveling alongside e-trikes.

Pedestrians. Pedestrians walk on roads that all kinds of vehicles travel on. The results of the study may be deemed beneficial for pedestrians in Metro Manila. Since the difficulties between e-trike drivers and private CFV drivers will be acknowledged, this can help make it safer for pedestrians to cross the road.

Passengers of E-trikes and CFVs. The results of this study may extend the benefits to the passengers of e-trikes and CFVs as they are within the same vehicles as the focused participants of the study.

Policy Makers. The findings of this study will provide useful insights into the dynamics between e-trike drivers and drivers of conventional fuel-powered vehicles (CFVs), giving light to potential disputes and safety problems. Understanding these concerns allows policymakers to develop better informed and effective rules to maintain road safety and peaceful coexistence among all types of cars on the road.

Traffic and Safety Sectors. This study's findings could provide critical data for traffic management and safety groups. Understanding the interactions between e-trike and CFV drivers can help build targeted safety campaigns and infrastructure upgrades. This knowledge can help to reduce accidents and improve traffic flow in urban settings.

Future Researchers. The findings of this study will be valuable to researchers in the fields of transportation and urban planning since they provide a foundation for future research. The detailed knowledge of the link between e-trikes and CFVs may inspire future research efforts that investigate various aspects of sustainable transportation and its implications for road safety and urban development. This study can be used as a reference point for future studies that want to address similar concerns or go deeper into certain areas of the research.

Definition of Terms

To ensure a clear understanding throughout this study, the researchers defined key terms used consistently in this research. These definitions are to clarify their actual description and their specific role within the study.

Conventional Fuel Vehicle (CFV). CFV or Conventionally Fueled Vehicles refer to any vehicle that has an engine that is designed to run on fossil fuels such as petroleum or diesel (Key Concepts, n.d.). These vehicles include cars, vans, and motorcycles powered by fossil fuels. The drivers of privately owned conventional fuel vehicles (CFVs), specifically those who drive within Metro Manila, are the target participants of this study.

Drivers. Drivers refer to people who drive motor vehicles like cars, buses, and motorcycles (Sucha, 2014). In this study, there are two groups that the research will focus on: private CFV drivers and e-trike drivers. One will be about

their experiences with the interactions of both vehicles while the other is more about their actions on the road when driving, respectively.

Electric Tricycle (E-trike). E-trikes are three-wheeled, battery-powered vehicles used to carry a few passengers over short distances (Gumasing et al., 2022). The study is centered on the road behaviors of e-trike drivers.

Public Utility Vehicle (PUV). Vehicles that are accessible by the general public (Chuenyindee et al., 2022). In this study, the term 'PUV' was used to broadly to refer to any other public transportation vehicles that may or may not be impacted by the interactions between private CFV drivers and e-trikes on the road.

Road Behavior. According to Rothengatter (2008), road behavior pertains to traffic psychology and driver behavior, which encompasses the underlying factors of the actions of drivers on the road. These factors include visual search, field dependency, perceptual style, attitudes, risk perception, sensation-seeking, attribution, lifestyle, and workload. In this study, this refers to the actions of the drivers, particularly those using e-trikes and CFVs, when traveling on the road of Metro Manila.

Traveling Experiences. In this study, this pertains to the experiences of private CFV drivers when encountering e-trikes on the road. These experiences will act as the basis or the main focus for the information gathering of this study. On the other hand, a study by Schiefelbusch (2015) defines travel experience as “the aggregate of sensory impressions a driver or passenger experiences during the course of his or her journey.” It is a multifaceted phenomenon whose meaning varies with each individual.

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Transportation System. E-trikes have been used as a sustainable mode of transportation in the Philippines to promote energy efficiency and to help reduce pollution, creating a positive impact to the environment (Gumasing et al., 2019). In this study, this term refers to the navigation of e-trikes and CFVs on the roads within Metro Manila.

CHAPTER 2

REVIEW OF RELATED LITERATURE

This chapter reviews similar studies and research that contain relevant information to the study. In particular, it focuses on literatures that have the central theme of e-trikes, how they are used, and perceptions of them as a mode of public transportation. To further understand and analyze them, the chapter is divided into three sections; namely e-trikes in terms of transportation, the effect of e-trikes on road safety and traffic, and phenomenology as an approach in transportation studies. This chapter of the study will serve as a guide for what information the researchers may look for and how they may conduct their study.

E-Trikes as a Mode of Transportation

In recent years, there has been an increase in the use of e-trikes since electric vehicles are being administered in order to battle the amount of carbon emissions produced by motorized vehicles. An E-Trike is generally similar to the conventional motorized tricycle that is commonly seen along the roads of the Philippines. They are both three-wheeled and are designed to transport a specific amount of passengers. The main difference between the two lies in their mechanical makeup. A motorized tricycle is fueled by gasoline while electric tricycles run on electricity via a lithium battery (Balaria et. al., 2017). In 2022, the record of global CO2 emissions from cars and vans stood at 3.53 billion metric tons (Statista, 2023). As this number continues to increase, we continue to see the negative impact that continued carbon emissions have on our environment. In response to this, the use of electric vehicles is being implemented globally as a contribution to the global action of moving towards more environmentally friendly and sustainable transportation (Rosellon, 2021). Alongside the environmental concern, a study by Luansing et. al (2015) suggests that the rising popularity of e-trikes may also be due to issues such as cramped spaces inside

regular tricycles and traffic congestion. Its structure is narrower and allows for more leg space and comfort, giving passengers more leg room while still allowing it the same flexibility when traversing small roads. Although the main reason why they were administered in the first place was to lessen dependency on fossil fuels and help with environmental issues, e-trikes seem to be gaining popularity due to their generally positive characteristics such as comfort and flexibility.

E-Trikes offer appealing facilities for both the driver and passenger, but disadvantages such as costs and the lack of charging stations in the country pose a setback for the vehicle. The three-wheeled electric vehicle generally presents practical traits, gaining favorability for drivers and passengers alike. Economically speaking, since the Philippines is placed as the second biggest producer of nickel in the world, it has much potential for further manufacturing electric vehicles, as nickel is an essential element for E.V. battery cells (BIMP-EAGA, 2023). However, it is a problem that electric vehicles are much more expensive than motorized ones, with some e-trikes costing as much as 455,000 PHP (Omoto, 2019). Seeing how the average Filipino takes home an average income of 44,800 PHP monthly (Jarvis, 2024), suggesting a transition to a vehicle that is high maintenance and more expensive may have negative consequences. Additionally, e-trikes, among all other electric vehicles, face the obstacle of the lack of charging stations in the Philippines (BIMP-EAGA, 2023). This is a major problem if ever the implementation of e-trikes were to become more prevalent. Aside from being a major hassle for both the driver and the passengers, it may also cost more than what they earn. Going to and from different charging stations that are widely far apart could cost the driver both time and money. The Department of Energy (DOE) claims that E-Trikes will boost the income of drivers, but as a high-priced investment for the regular Filipino worker, whether or not it is worth it is up to them. It continues to be endorsed by the department as it presents as a vehicle that consumes and emits less fuel, is more efficient, less expensive, and could earn a bigger daily income (Lao, 2012). E-trikes are generally seen in a good light as they have favorable characteristics

such as lower overall cost, flexibility, comfort, and safety. However, they are also controversial since they could be quite costly to purchase and maintain, given that the income of Filipinos come at 44,800 PHP on average.

Due to their seemingly enhanced qualities as opposed to the conventional tricycle, e-trikes receive optimistic responses from both drivers and passengers alike. However, it is worth noting that there is a gap in the perceptions of CFV drivers towards e-trikes. E-trikes, from the point of view of public transportation, have many factors of improvement, a few of which are: ease of availability, e-trike intensity, comfort level, PWD accessibility, etc. These factors need to be addressed in order to maintain long-term viability for e-trikes (Gumansing et. al., 2022). As e-trike drivers, however, drivers deem e-trikes as safer than ordinary tricycles on the road due to their shape, the driver being in the center of the vehicle allows for a better view of the road, as opposed to an ordinary tricycle where the driver is on the side. Drivers also feel safe from collision as they are not exposed to the outside. Overall, drivers favor driving e-tricycles as opposed to motorized tricycles (Navarro, n.d). Presently, there is a lack of research about the perceptions of e-trike users on the road, specifically from private conventional fuel vehicle drivers, most articles regarding e-trikes mostly focus on e-trikes performance, or e-trikes as a vehicle. Currently, Navarro's (n.d) article and Gumansing et. al's (2022) article are only focused on the perspective of e-trikes in terms of public transportation. However, Navarro's (n.d.) article briefly discusses drivers' perceptions of e-trikes, although this only focuses on their overall performance on their public transportation potential and not on their experience on the road. Additionally, there is a lack of e-trike studies in Metro Manila. Their research was conducted in Boni, Mandaluyong, while Gumansing's paper was conducted in Manila City. Even though there are various studies on e-trikes, there is a lack of studies on the perception of private vehicle drivers on the road. This is the knowledge gap that the researchers are aiming to answer through this study.

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The current laws on e-trikes are limited to the roads they are allowed to pass and the documents they must have in order to qualify for driving an e-trike. According to Administrative Order No. 2021-039 (2021), three-wheeled electric vehicles (classified under L4 and L5 categories) are required to obtain a driver's license. With a license, they are permitted to drive on the outermost lane of local and tertiary national roads. They are also allowed to pass through main thoroughfares and national roads, but only for the sole purpose of crossing. It is not required for the riders to wear a helmet. However, as stated in the DILG Memorandum Circular No. 2023-195, other three-wheelers, specifically tricycles, and pedicabs, are not allowed to travel through national roads and highways. MMDA Chairperson Romando Artes said that enforcement will rely on these guidelines until proper and more detailed rules are released (Yu, 2024). Artes' statement contrasts the implications of AO No. 2021-039. Despite setbacks such as vague regulations, high prices, and the lack of charging stations, e-trikes are becoming more favored by commuters due to their flexibility, comfort, and sustainability. Regardless of its rapid growth, there is a lack of research about how it is perceived by drivers of other vehicles. One goal of our study is to find out if conventional fuel vehicle (CFV) drivers see e-trikes as beneficial, detrimental, or inconsequential to road safety.

The recent surge in the number of e-trikes presents benefits and disadvantages. Its appeal was created through factors including sustainability, affordability, and flexibility when traversing narrow roads. In contrast, the disadvantages of e-trikes are its high maintenance cost and inconsistent rules and regulations from the government. Meanwhile, the researchers found no studies about the perception of CFV drivers on e-trike vehicles and drivers. Through collecting and analyzing the viewpoints of our respondents, we plan to recommend regulations that may be implemented, enhanced, or optimized in order to address the lack of regulations. On the other hand, CFVs are the most common type of vehicle in the country. Most vehicular laws are geared towards this type of vehicle, but there are also studies showing that some CFV drivers do

not abide by the imposed regulations. As road users who occasionally encounter e-trikes, this study aims to know their perspectives on the road behavior of e-trikes, as well as how CFV drivers react to their presence.

Road Behavior of Conventional Fuel Vehicle Drivers and Electric Vehicle Drivers

CFVs (Conventional Fuel Vehicles), which are any standard vehicle that runs on fossil fuels like petroleum or diesel, make up the majority of the vehicles used in the Philippines. In 2023 alone, the total volume of traffic in Metro Manila reached approximately 3.63 million vehicles, 1.57 million of which were cars. Whether it be a private or public vehicle, most automobiles in the country are CFVs (Statista, 2024). As of May 2019, there are 13 million LTO-registered drivers (Salazar, 2019). 7.3 million hold professional licenses, and 5.7 million have non-professional licenses.

A study by Lidasan et al. (2009) showed that private CFV drivers, as one of the major users of Philippine roads, contribute heavily to the ongoing issue of traffic congestion. According to the study, traffic congestion is an issue that is all too familiar to anyone who uses the roads of Metro Manila on a regular basis. As the country continues to move towards urbanization, the transport sector is not left behind. It carries on with the development and administration of more advanced vehicles, like E-Jeepneys, E-Bikes, and E-Trikes as a way to combat the increasing amount of carbon emissions that standardized vehicles leave behind. Despite this, it remains a fact that CFV continues to be the more popular option. Although they emit large amounts of carbon and significantly contribute to air pollution, they are inexpensive — making them a better option for most. However, there lies another issue with privately owned vehicles. 80% of the road is consumed by and reserved for private drivers. An article from Castillo et. al (2022) reports that congestion continues to be a problem because the current transport and road network system prioritizes the few over the many, referring to the more privileged using private vehicles and the majority of the population

using PUVs. A news article by Manila Standard (2024) stated that 90% of the vehicles using EDSA are private and that there are a number of factors that have a hand in traffic congestion that are also linked to private vehicles, such as illegal parking.

On the topic of their behavior, studies reveal concerning driving behaviors in Manila (speeding, risky maneuvers, drunk driving) that contribute to frequent accidents (Santos & Lu, 2016; Lu et al., 2022). This raises concerns about interactions between conventional fuel vehicles (CFVs) and the growing number of e-trikes. While CFV drivers already face challenges navigating Manila's roads, the influx of e-trikes with potentially different operational characteristics necessitates further investigation. Loss of control, speed violation, risky driving, route violation, and wrongful overtaking are typically the causes of road crashes in Manila. The behavioral factors stated in these studies could potentially appear as a concern when the researchers interview the participants. Furthermore, it gives an idea of consistent and common attitudes that may come from e-trike drivers. Driving under alcohol influence still remains an issue in Metro Manila (Lu et al., 2022). Another study showed that 59% or 56 out of 95 bus drivers encountered work-related accidents, with a mean of 3 accidents. These are usually attributed to factors like bad driving behavior, vehicle defects, loss of control, and fatigue. Bus drivers engage in dangerous actions such as over-speeding and road racing in order to reach their daily quota (Santos et. al, 2016).

However, other studies claim that some EV drivers did not meet the same circumstances. Rolim et al. (2012) stated that EV drivers, motivated by cost and environmental benefits (like past studies), adapted well after 6 months. Initial anxieties about the car's performance, range, and charging stations disappeared. Notably, some drivers reported becoming more relaxed and fuel-conscious behind the wheel. Additionally, the results state, “most of the drivers consider that the use of the EV had an impact on their driving style, in terms of less speeding, less aggressiveness and an economic driving.” However, it's unclear if the car

itself or the novelty of owning a new vehicle caused this change. Further research is recommended to alleviate the confusion.

Another study made a similar claim. Liu et al. (2015) found that not all alternative fuel vehicles (AFVs) affect drivers the same way. Plug-in hybrids, battery electric vehicles, and compressed natural gas vehicles seem to have distinct impacts on driving behavior. Notably, some AFVs are linked to calmer driving compared to conventional vehicles. This suggests that the type of alternative fuel a driver uses might influence their behavior behind the wheel. Philipsen et al. (2018) showed that deciding when to refuel is different for electric and gas-powered vehicles. Electric car owners charge more frequently as needed, while gas car owners tend to wait until near-empty for refueling. Financial considerations are less important for electric car owners while planning and habit are less important for gas car owners. However, both groups (gas and electric) prioritize range anxiety and aim to avoid running out of fuel or battery power. The implication or potential chance of switching to electric vehicles (EVs) can be a mixed bag for drivers. Some initially struggle with quieter engines leading to speed misjudgment and fatigue from faster acceleration/braking (electric buses). However, others (EV owners) report adapting well after a while, even experiencing calmer driving. This diversity suggests the type of EV (Liu et al., 2015) and even refueling habits (Philipsen et al., 2018) can influence driver behavior. More research is needed to understand the evolving relationship between drivers and EVs. Unlike traditional methods focused on data, phenomenology explores the driver's lived experience with EVs. This approach captures the diversity of experiences, from initial challenges with electric buses to smoother adaptation and calmer driving with personal EVs. By understanding these subjective experiences, we can develop better training programs, charging infrastructure, and overall user experiences for the growing EV driver population.

Existing studies about the behavior of CFV drivers emphasize negative behaviors like illegal parking, over-speeding, and road racing. Another study described e-vehicle drivers, who were motivated to purchase by cost and

environmental benefits, as relaxed, less aggressive, and fuel-conscious behind the wheel. One of the goals of this research is to identify the behaviors of e-trike drivers as observed by CFV drivers and subsequently determine if the findings match the results of other related studies, including the study by Rolim et al. (2012), which was conducted in Lisbon, Portugal.

The Philippines relies heavily on conventional fuel vehicles (CFVs), which make up the majority of vehicles on the road (Statista, 2024). This contributes to traffic congestion, a major issue in Metro Manila (Lidasan et al., 2009). While the government promotes electric alternatives like E-Jeeps and E-trikes to reduce emissions, CFVs remain popular due to their affordability (Castillo, 2022). However, this dominance by CFVs creates challenges in road management. Studies report concerning driving behaviors in Manila, including speeding, risky maneuvers, and drunk driving, which contribute to frequent accidents (Santos & Lu, 2016; Lu et al., 2022). These existing issues raise concerns about the interaction between CFVs and the growing number of e-trikes with potentially different operational characteristics.

Phenomenology as an Approach in Transportation Studies

Phenomenology is used as an approach to study lived experiences to broaden understanding of a certain phenomenon (Gallagher, 2012). This study used a phenomenological approach because the goal of this study was to understand the perceptions of private CFV drivers when it comes to e-trikes. This approach allowed the participants to share their opinions, attitudes, and experiences through interviews.

There are several studies that have used phenomenological approaches to reach their goals. Based on the study conducted by Ramseyer et al. (2018) about the perceptions of people about new technology in public transportation, they were able to use a phenomenological approach to understand the participants' perceptions when they used a new type of public transportation. The researchers of this study used qualitative surveys to collect the participants'

opinions before and after the experience. This method allowed them to track the changes in the participants' perceptions over time. Ing et al. (2014) conducted another qualitative study that used phenomenology to assess the challenges that the participants go through when they use public transportation. Through a series of interviews, they achieved data saturation, indicating a thorough understanding of the difficulties faced by this specific group. Additionally, Beirão et al. (2007) used phenomenology in their research study to understand travelers' attitudes towards public transport and to explore perceptions of public transport service quality. The researchers conducted interviews with the general public to gain insight into the underlying participants' evaluations and attitudes toward public transport.

Ethical considerations are paramount in research involving human participants. This includes obtaining informed consent (written and verbal), ensuring data confidentiality (through password-protected storage), and offering participants anonymity (optional aliases) where all procedures were approved by an institutional review board (Lemke et al., 2016). Therefore, these ethical considerations were strictly applied to this study before the data-gathering process began. This commitment to ethics aligns well with the phenomenological approach, which emphasizes understanding the subjective experiences of participants. A previous study using this approach involved in-depth interviews and focus groups with taxi drivers to explore their perspectives on safe driving (Mehri et al., 2019). In addition, the researchers in that study observed participants' body language and facial expressions, asking clarifying questions when needed. For this study, we adopted a similar approach, utilizing interviews only. This aligns with established techniques in transportation research, which can yield valuable insights into interactions between different road users.

Choosing the right participants was crucial for a successful research study, especially when using qualitative methods like interviews. Purposive sampling is suitable for this study because, as stated by Mehri et al. (2019), it ensures that the participants have direct experience with the phenomenon being studied, in

this case, traveling experiences alongside e-trikes. This aligns with Hycner's (1985) view, cited by Mehri et al. (2019), that the research method and participant selection should be guided by the phenomenon itself. Another appropriate sampling technique is convenience sampling which prioritizes readily available participants. The study conducted by Belwal and Belwal (2010) on public transportation in the Middle East used this method where the researchers recruited participants from easily accessible locations like homes, markets, and offices. To efficiently recruit participants and gather valuable insights, this study used a combination of convenience sampling (easy access) and purposive sampling (firsthand experience with e-trikes) to focus on private CFV drivers in the designated area. As demonstrated by Van Cauwenberg et al. (2012) who used purposeful convenience sampling in recruiting 57 older adults living in cities or suburbs and interviewed them during walks to nearby locations, allowing them to analyze the conversations directly in the context of the activity (content analysis). Similarly, Van Cauwenberg et al. (2018) focused on how older adults perceive cycling for transportation in Belgium but used a more targeted approach within purposive sampling.

This study used a phenomenological approach to understand the perceptions of private CFV drivers regarding the growing presence of e-trikes on roads. Phenomenology, as stated by Gallagher (2012) is used in research studies to explore and understand lived experiences of individuals, aligning with the goal of this study to comprehend private CFV drivers perspectives towards e-trikes. Previous research, such as that by Ramseyer et al. (2018), Ing et al. (2014), and Beirão et al. (2007), highlights the effectiveness of phenomenological methods in investigating perceptions related to transportation. These studies emphasize the significance of qualitative data collection methods, highlighting the importance of data collection through interviews. Additionally, the researchers of this study ensured that the ethical considerations in research were upheld with utmost importance. The researchers of this study were committed to upholding ethical principles such as obtaining informed consent, ensuring data

confidentiality, and respecting participant anonymity (Lemke et al., 2016). In terms of population and sampling, we used a combination of purposive sampling and convenience sampling. As suggested by Mehri et al. (2019), Belwal and Belwal (2010), Van Cauwenberg et al. (2012), and Van Cauwenberg et al. (2018), purposive sampling and convenience sampling allowed us to include participants with first-hand experience with e-trikes on roads while also ensuring the accessibility of participants. Through utilizing phenomenology, the researchers were able to understand the concerns and opinions of private CFV drivers in Metro Manila.

Research Framework

To address the issue regarding carbon emissions (Statista, 2023) and traffic congestion (Lidasan et al., 2009), electric vehicles are being used as alternatives (Rosellon, 2021) to conventional options, as such electric tricycles (e-trikes) are part of this vehicle implementation. Despite the increase in amounts of these alternatives, CFVs (Conventional Fuel Vehicles) remain to be the more popular choice in the Philippines (Statista, 2024). The interactions of both vehicles are inevitable. Hence, understanding how private CFV drivers perceive sharing the road with e-trikes is essential for promoting road safety and developing effective regulations in areas with quite a number of e-trikes. This research, centered on Metro Manila, analyzed the experiences shared by private CFV drivers about their regular encounters with e-trikes. Through these narratives, the study explored both the benefits and drawbacks of this shared experience from the perspective of the drivers. This framework guided the research process in exploring these perceptions and ultimately contribute to a more comprehensive understanding of driver-e-trike interactions.

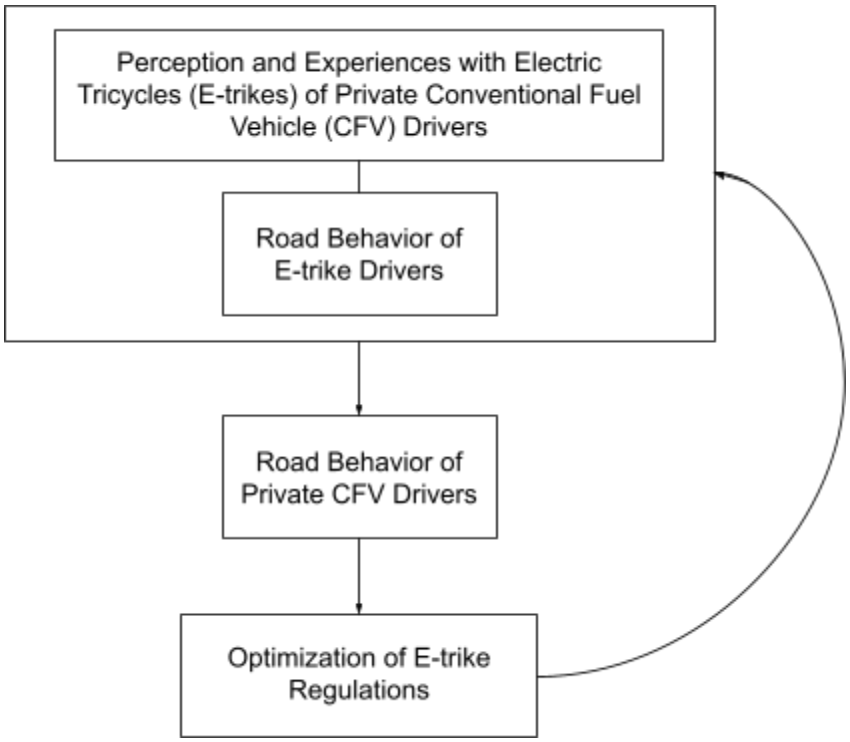

Figure 1. *Research Framework of Private CFV Driver Perceptions about E-Trike Transportation*

As shown in figure 1, the focus of the study started on understanding private CFV drivers' perceptions and experiences of e-trike driver behavior on the road. Semi-structured interviews explore whether these drivers perceive e-trike drivers with positive or negative influences on other road users, especially on their own road behavior. Then, the focus shifted to private CFV drivers' opinions on current e-trike regulations. Interviews delved into their perceived effectiveness, whether there are potential areas for improvement, and any suggestions they might have for regulation changes. Then a cycle formed as those potential "suggestions" in e-trike regulations can affect the road behavior of e-trike drivers. The understanding of the results from the interview data was then used to recommend potential improvements for safer and smoother interactions between all road users.

CHAPTER 3

METHODOLOGY

Research Design

This study used a phenomenological approach. Phenomenology is a qualitative approach used to describe and understand human experiences and social phenomena (Mortari et al., 2013). Using phenomenology to explain the findings to provide detailed narratives help the readers understand the lived experiences of the participants. Various methods are used to collect data in phenomenological research such as interviews, discussions, observations, and focus groups (Qutoshi, n.d.). The study aimed to understand the perspectives and experiences of private CFV drivers regarding the e-trike transportation system in Metro Manila. As the number of individuals using e-trikes grows, phenomenology is the most suitable approach for this study because the goal of this study is to understand the perceptions of CFV drivers regarding their experiences with e-trikes on roads in Metro Manila.

Population and Sampling

The primary participants of the studies are conventional fuel vehicle drivers from Metro Manila. The participants from the given area were chosen through the most applicable sampling method, which is a purposive and convenience sampling method. The researchers chose about 7-15 participants for the study. This sample size aligns with research suggesting that 6-20 participants are sufficient for phenomenological studies (Ellis, 2016; as cited in Karahan, 2022). With this number, it was able to provide the researchers with sufficient data for the study.

Purposive sampling is a non-probability sampling method where participants are chosen due to a certain characteristic or quality that they have. The chosen participants were required to be CFV drivers, they were chosen

because CFV drivers are the majority of road users, and currently, there is a lack of studies about the perception of CFV drivers on e-trikes.

Convenience sampling is a non-probability sampling method where the participants are chosen based on the convenience of the researchers. The participants were chosen in Metro Manila.

Research Instrument

Seeing that this study utilized a phenomenological approach, the researchers chose to use face-to-face semi-structured interviews for the data gathering method as they believed it is the most appropriate method for the study. It allowed for more in-depth conversations between the researchers and participants, as it is more flexible than structured interviews. As proven by Mehri et. al (2019) who interviewed taxi drivers using the same approach. With this, they were able to personally observe the participants' body language and facial expressions. For the study, the researchers asked questions that directly reflect the questions placed in the paper's statement of the problem. An interview guide was utilized to give leeway for additional comments and questions from both the researcher and interviewee, while keeping the interview within control. It consisted of questions derived from the research problems.

Semi-structured interviews allow the respondent to freely answer and bring up questions or relevant topics, while the researchers can keep the topic in control (Adeoye-Olatunde & Olenik, 2021). It is also highly important that the terms used by the researchers during the interview are clear and defined to the participants. Additionally, alongside coding, it would be useful to utilize digital tools such as computers to maintain a high degree of accuracy when transcribing (A Companion to Qualitative Research, n.d.).

Data Gathering Procedure

The questions that were asked during the interview were formulated from the statement of the problem to ensure that our research problems were properly

answered. A semi-structured interview was utilized, wherein rather than a detailed interview script, a checklist is used as a guide in order to give the interviewer more leeway to probe the respondent for opinions while still staying within the parameters of the study (Utibe, 2020). Because road experiences may differ for each participant, more data can be gathered if the interviewers are allowed to freely investigate the factors that influence their viewpoints on e-trikes.

Participants were given consent forms to ensure that they are aware of the proceedings during the interview. The researchers followed the ethical considerations of consent, seeking permission, benefits and risks, data security, and validity. The participants were asked to participate in face-to-face, semi-structured interviews which were audio recorded. The participants were not forced to answer if they were not willing to because they have the right to answer only when they are comfortable with the questions being asked. It is of importance that the participants' privacy will be protected. On the other hand, the researchers prepared a checklist or outline for the questions that must be answered. These questions are mainly connected to perceptions of e-trikes, the impact of e-trikes, and the respondent's opinions on what must be done to regulate e-trikes. Papers and laptops were used to take notes, and a phone was used for audio recording.

Prior to the interview, the researchers and respondents agreed on a time, date, and location for the face-to-face meeting. The interview questions were primarily focused on the participants' experiences with e-trikes on the road, as well as their perceptions of e-trikes. Researchers employed techniques throughout the interview to ensure reliable data gathering, such as open-ended questions, member checking for understanding, and probing for clarity (follow-up questions), as recommended by Lemke et al. (2016). Three researchers facilitated the interview, wherein two asked questions and one was in charge of recording and transcribing the data. To further ensure data accuracy, similar to Investigator Triangulation (Mehri et al., 2019) where multiple researchers analyze the data, the recordings were transcribed after the interview and then rechecked

for accuracy. Finally, the data gathered was verified with external sources to strengthen credibility.

Data Analysis

Data collected from this research was examined to understand the experiences of Private CFV drivers driving alongside e-trikes on the road. The researchers processed the data by coding in an emergent/grounded theory way. Emergent grounded theory coding is used when there are unexpected events that have a possibility of occurrence (Charmaz, 2008) which infers that emergent coding has no restrictions when it comes to themes, a critical aspect to consider when organizing different experiences and perceptions and to further validate the authenticity of the received information by cross-checking with other received information. Thematic Analysis was utilized to determine the similarities and differences between the experiences of the participants. Data after the interviews were processed and thematically analyzed to identify the common patterns that arise in the responses of the participants.

CHAPTER 4

RESULTS AND DISCUSSION

Following the Methodology stated in Chapter 3 of the research study, this chapter examines, analyzes, and interprets the answers of the participants. The information presented in this section is categorized to answer the questions in the Statement of the Problem. Accordingly, Chapter 4 is divided into 3 sections: Perceptions of private CFV drivers, Influence on the road behaviors of private CFV drivers, and Regulations considering the perspectives of private CFV drivers.

The researchers used emergent and open coding to organize the information and thematic analysis to further evaluate the responses.

Perceptions of Private CFV Drivers

This section explores private CFV drivers' perceptions of the growing number of e-trikes and their drivers on the road. Drivers response to the question "What are the perceptions of the private CFV drivers towards the increased number of e-trikes and e-trike drivers on the road?" are categorized into three main areas: (1) Positive Traits of E-Trikes; focusing on the perceived benefits of e-trikes as a transportation option, (2) Negative Traits of E-Trikes; exploring the perceived disadvantages, and (3) E-Trike Driver Behavior; highlighting consistent behaviors that drivers believe clash with proper road safety practices.

Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Trikes

Table 1. *Perceptions of Private CFV Drivers Towards the Increasing Number of E-trikes and E-trike Drivers*

OPEN CODE	PROPERTIES	TEXT SEGMENT
Positive properties of the vehicle	Cost-efficient	Cheaper energy source Low price
	Eco-friendly	No gas emissions Low electrical consumption
	Convenient	Good for short distances Accessible
Negative properties of the vehicle	Slow	Limited speed
	Poorly regulated	No license required Violations are overlooked
Behavior of e-trike drivers	Unfamiliar with traffic rules	Usual violators of traffic laws Lacks knowledge about road protocols
	Inexperienced	No formal training Age restrictions are ignored Lack of common sense when driving
	Irresponsible	Moves spontaneously Obstructs the road Overtaking incorrectly
	Varying attitudes	Confrontational Mindful Unpredictable

Table 1 presents the perceptions of CFV drivers on the rising number of e-trikes and e-trike drivers based on the data gathered from CFV drivers. Three open codes stem from the data gathered: positive characteristics of e-trikes, negative characteristics, and behavior of e-trike drivers.

71% of the respondents saw e-trikes in a positive light because of their eco-friendly property; specifically, its lessened carbon emission and lower energy consumption. E-vehicles, which include e-trikes, are becoming more widely-used

due to their sustainability and energy efficiency (Rosellon, 2021). As stated by one respondent who also owned an electric scooter, "*Ako, binili ko siya ang reason diyan is number one, siyempre I'm also an advocate of sustainability and eco-friendly things* [The reason I bought it is because, of course, I'm also an advocate of sustainability and eco-friendly things]." Since e-trikes consume less energy, it is also valued for its cost-efficiency. According to Department of Energy's Energy Utilization and Management Bureau Director Patrick Aquino via Cordero (2022), "Electric vehicles have an average fuel consumption of six kilometers per kilowatt-hour (km/kWh) which can be translated to P1.67 per km (at an electricity rate of P10.00 per kWh); compared to the 14 km per liter of gasoline equivalent, which can be translated to P5.00 per km (at P70.00 per liter of average gasoline price)." The energy source of CFVs cost approximately three times more than that of e-trikes. Lastly, 57% of respondents considered convenience as one of the strong points of e-trikes. It can be used over short distances and for running small errands. One interviewee stated;

> "*Sasakyan kasi nga for convenience nga. Nagagamit nila sa mga bata, panghatid sa school, pamalengke, pasyal, 'yung malapitan lang* [It is a vehicle for convenience. It can be used when dropping off the kids at school, going to the market, small trips, and for nearby places]."

Two interviewees perceived e-trikes as accessible. As one interviewee said, "*Madaling kumuha, accessibility to get one is very easy, and as I said, anybody can drive nga eh* [It is easy to obtain, accessibility to get one is very easy, and as I said, anybody can drive it]."

Despite the positive perceptions regarding its environmental impact and convenience, there were still negative opinions regarding e-trikes. 57% of the respondents mentioned that e-trikes are slow-moving vehicles. According to one respondent, "*Kasi e-vehicle, limited yung speed niyan eh. Most likely, meron diyan na nasa 25 (kilometers per hour) lang* [E-vehicles have a limited speed. Most likely, they would only reach up to 25 kilometers per hour]." These responses coincide with a study by Azad et al. (2023), stating that the average

speed of e-trikes is 13 to 20 kilometers per hour and its average range is 12 to 24 kilometers per hour. This pales in comparison to CFVs, which travel at around 20-30 kilometers per hour on city roads, and can reach up to 100 kilometers per hour on expressways. On the other hand, the poor regulations surrounding e-trikes is a concern for the majority of CFV drivers, based on the results of the interviews. All of the respondents said that there is a deficiency of regulations, particularly regarding the absence of driver's licenses for e-trike drivers. A participant said, "*Karamihan po 'pag nag-violate, wala naman pong lisensya, walang papel yung e-trikes* [Most of the violators have no licenses, no papers]." Additionally, one participant said that the existing rules are not strictly enforced when it comes to e-trikes. One respondent also said that violations are simply overlooked by traffic officials: "Oo, kahit na magka-violation walang pakialam.".

The third open code is about the behavior of e-trike drivers as perceived by CFV drivers. 57% of respondents said that e-trike drivers are unfamiliar with traffic rules. According to some interviewees, they lack knowledge about road protocols and etiquette. When asked about the attitude of e-trike drivers on the road, one participant responded, "*Well, yung mga e-trike drivers, hindi naman lahat, pero maraming e-trike drivers talaga na walang alam with traffic rules* [Well, not all e-trike drivers, but a lot of them really do not know anything about traffic rules]." Due to their lack of knowledge about road protocols, one participant perceived e-trike drivers as usual violators of traffic laws. They said, "*Madalas or karamihan ngayon ng mga traffic violators ay nanggagaling with e-vehicles, kasi nga they are taking advantage of no registration and no licensing* [Most traffic violators these days come from e-vehicles since they are taking advantage of no registration and no licensing]." These elements of the first property are also tied to the second property, inexperienced drivers. 43% stated that they have seen underaged people driving e-trikes, such as one respondent who said, "*May mga na-experience ako na nagda-drive ng e-tricycle, e-bicycle na bata, which is technically speaking, hindi siya dapat allowed* [I encountered children who drive e-tricycles and e-bicycles when, technically speaking, it should not be allowed]."

Other text segments are about the absence of formal training and lack of common sense when driving. One participant said, "*May mga ano na kulang nga sila ng parang training? Or… kasi nga may ano na wala silang license, wala silang proper procedure. Natuto lang mag bike, diba* [They lack training? Or… since the drivers do not have licenses, they did not go through the proper procedure. They just learned how to bike, right]?" Another respondent stated, "*Kasi most likely, ang lagi kong nae-encounter ko nga is yung e-bike talagang wala sa wisyo mag-drive* [The e-bike drivers I encounter, most likely, are those that really do not have the wits in driving]." These shortcomings contribute to the perception that e-trike drivers are inexperienced.

Some participants also implied that the behaviors and actions of the e-trikes they encounter are irresponsible. A participant said that they encountered e-trikes drivers who move spontaneously and are unaware of their designated position on the road. Due to the spontaneous movement of e-trikes, they obstruct the path of other vehicles, causing an inconvenience to CFV users. When asked about the situation, the participant stated; *"Ano, lagi silang nasa gitna. Tapos minsan binubusinahan ko kasi nga nasa gitna, syempre dadaan ako* [They're always in the middle. Sometimes, I honk at them because they are in the middle and I need to pass through]." Participants also expressed their frustration regarding e-trikes' incorrect way of overtaking. Despite the compact structure of e-trikes, they have an extended body, which blocks other drivers' way of passage on the road. *"Basta hindi naman siya ganoon kalaki pero yung diameter nung ano niya malaki so kapag oovertake sila, harang sila sa daan.* [It's not that big but their diameter is big so when they overtake, they block the road]." However, the irresponsibility of e-trike drivers and CFV drivers are two sides of the same coin. Although more CFV drivers undergo licensure and training, they still commit traffic violations such as drunk driving and speeding (Santos & Lu, 2016; Lu et al., 2020).

The participants have also observed that e-trike drivers have varying attitudes. One participant said that the e-trike drivers they have encountered

were often confrontational. The participants implied that their lack of knowledge on the road is the reason behind their defensive and confrontational attitude. *"So, dahil wala silang alam, their first line of defense is to argue talaga and to confront with road rage* [So, because they really don't know anything, their first line of defense is to argue and to confront with road rage].*"* In contrast the previous participant's statement, another participant has stated that some e-trike drivers are mindful of their surroundings and are conscious of other road users; *"May mga drivers naman kasi na 'Oh nakakasagabal tayo, igilid natin'* [There are some drivers that say 'Oh, we're obstructing the road, let's move somewhere].*"* The personality of the e-trike drivers varies depending on the person behind the wheel: some e-trike drivers may be rude, while some may be mindful.

According to Section 3.8 of Administrative Order No. 2021-039, e-trikes and other 3-wheeled electric vehicles, categorized under L4 and L5 vehicles, are allowed in barangay, local, and national tertiary roads, with the exception of limited highways, given that the user has a driver's license. However, in relation to the second code's property "poorly regulated", three respondents reported incidents where unlicensed e-trike users, specifically minors, are traveling on main roads and highways such as Kalayaan Avenue in Brgy. Cembo, Taguig. These reports of unlicensed drivers operating e-trikes correspond with a report by Yu (2024), "E-trikes and e-bikes remain largely unregulated by the government." From the responses of the interviewees, it could be inferred that the government does not strictly regulate the licensure of e-trike drivers.

Based on the interviews, CFV drivers see e-trikes as favorable vehicles because they are less harmful to the environment and less expensive compared to CFVs. Their drawbacks mainly stem from their limited speed, lack of government control, and generally unpleasant behaviors when traveling alongside other vehicles. The behaviors typically exhibited by e-trike drivers are unfamiliarity with traffic rules, inadequate experience, irresponsible maneuvers, and varying behaviors. These behaviors are all similar to those exhibited by novice drivers. According to the MMDA Road Safety Unit via ABS-CBN News

(2024), “a total of 907 e-bike, e-trike and e-scooter related road crashes in Metro Manila for the last year. In 2019, only 309 accidents were recorded.” The growth in the amount of novice and inexperienced e-trike drivers may play a part in the increasing number of e-vehicle related accidents.

Influence on the Road Behaviors of Private CFV Drivers

This section explores how the growing number of e-trikes on the road impacts the behavior of private CFV drivers. By analyzing responses to the question “Why does the increasing number of e-trike drivers influence the road behaviors of private CFV drivers?”, two key themes emerged: (1) Increased Awareness; centering on being more vigilant on the road, (2) Increased Responsibility; due to leniency in e-trike traffic enforcement, and (3) Emotional Response; focusing on how private CFV drivers experience irritability during encounters with e-trikes.

Table 2. *Response of Private CFV Drivers to the Road Behavior of E-trike Drivers*

OPEN CODE	PROPERTY	TEXT SEGMENT
Increased awareness	Maintaining rationality	Be considerate Should have good road awareness
	Adjusting to their behavior	Intuition is to keep away from them It is instinctual to adjust
Increased responsibility	Defensive driving	Their slow speed is an inconvenience To avoid accidents
	Liability	Lack of insurance The charge goes to the CFV driver E-trike drivers are vulnerable to accidents
Emotional response	Irritability	Mounting annoyance

Table 2 presents common behaviors or traits among the seven private CFV drivers interviewed that developed in response to the driving behaviors of e-trike drivers. It is divided into two open codes. The first, increased awareness,

has two respective properties; “maintaining rationality” and “adjusting to their behavior”. 43% of the participants relayed that their awareness of the road and their driving behavior is increased when driving alongside e-trike drivers due to factors such as improper placement on the road and unpredictability. They would often encounter e-trikes using the middle or fastest lanes on major roads, which would cause them inconvenience due to the slow speed of the vehicle. One participant stated:

> “*Number one diyan is siyempre mas mataas na dapat yung awareness mo or road awareness mo, kasi you don’t know na ngayon kung sino yung pwede mong ma-encounter sa roads* [Number one, you should have high awareness or road awareness because you don’t know who you can come across on the road].”

This factor is connected to the second property, “adjusting their behavior”, as to how private CFV drivers adjust their behavior in response to the increased awareness. Another participant explained:

> “*Alam ko na magadjust sa kanila kaya ako na yung nag aadjust, Di ko iniinsist lagi ung right ko — as a driver, wag mo lagi iinsist yung right mo. Kailangan malawak ang pananaw mo sa kanila lalo na kung school service* [I know that I should adjust to them, so I’m the one who adjusts instead. I don’t always insist on my right — as a driver, you shouldn’t always insist on your right. You should always maintain a wide perspective on them [e-trike drivers] especially as a school bus driver].”

Both these properties also seem to be an influence on the responsibility that falls on private CFV drivers, as seen in the second code of “increased responsibility”. One of the properties of the code is “defensive driving”, as participants would do things such as switching to another lane or honk due to the slow speeds of the vehicle. They would also actively avoid e-trikes in order to minimize the risk of getting into an accident. This is associated with the second property, where 57% of the participants stated how e-trikes become a liability for them while driving due to their road behavior and size. They would also connect

these to the lack of proper documentation, such as vehicle registration and a driver's license. In specific terms, a participant said:

> "*Wala silang lisensya, wala silang registration, so it follows, wala silang insurance. Pag bumangga sasakyan mo, thank you ka* [They don't have a license, they're not registered. So it follows, they don't have insurance. If your vehicle crashes [into them], you're done for]."

All 57% expressed statements relating to the heavy responsibility that they must shoulder if they were ever to get into an accident with e-trikes as they are very vulnerable. The participants expounded that the lack of legal documents gives them a disadvantage if they do get into an accident with e-trikes. Participants also expressed that without these proper documents, CFV Drivers will be at fault in times where an accident happens between a CFV and e-trike vehicle. A participant emphasized this situation by stating:

> *"Mas nagiging unfavorable siya sa mga dumaan sa tamang proseso in driving, kasi unang-una, 'pag nabangga ka ng e-tricycle at nagkaroon ng aksidente, ang makakasuhan diyan ay yung driver, hindi yung mga e-vehicle.* [He becomes more unfavorable to those who have gone through the correct process in driving, because first of all, 'when you collide with an e-tricycle and have an accident, the one who can be charged is the driver, not the e-vehicles]*."*

Without the proper registration, license, and insurance, CFV Drivers are at a disadvantage in terms of accountability in accidents because of the lack of regulatory measures for e-trike vehicles and drivers. The experiences of our participants in this case further validates that there is a lack of regulations and rules for e-trike and other electric-powered vehicles, as it makes CFV drivers more liable for accidents as mentioned in a news article by Yu (2024). Knowing that CFV drivers are still liable for accidents involving e-trikes, they adjust and change their driving behavior to decrease the possibility of accidents on the road.

Lastly, a participant said that they felt irritated and quick-tempered when encountering E-trike drivers who lack experience and knowledge in roads. The participant stated:

> "*Kumbaga nagiging high blood ka lalo kasi nga nakapuno sila, naano ka, nagiging mas lalo kang naiirita kasi puno na diba* [It seems that you become more high blood because they are full, what are you, you become more irritated because they are full.]"

The irritation of CFV Drivers caused by E-trike drivers may change the driving behavior of CFV drivers negatively. Another study showed that drivers' driving style may be more aggressive if they are in an angry or agitated mood (Scott-Parker, 2017). This could directly affect the CFV Driver's behavior and influence them to turn to a more aggressive and unsafe driving style, increasing the risk of accidents happening.

Regulations Considering the Perspectives of Private CFV Drivers

To optimize e-trike regulations while considering private CFV drivers, this section analyzes their suggestions categorized into three areas: (1) Proper Registration; focusing on licensing and permits, (2) Responsible Road Use; emphasizing driver education and safety, and (3) Traffic Management; exploring solutions for common road problems. The comments of the participants relate to the question "How can regulations for e-trike transportation be optimized considering the perspectives of private CFV drivers?"

Table 3. *Suggested Regulations from Private CFV Drivers for the Implementation of E-trikes.*

OPEN CODE	PROPERTY	TEXT SEGMENT
Proper registration	Mandatory permits	Government should implement identification Qualifications are a necessity Proper license registration Age limit is necessary
	Complete documentation	License, vehicle registration, and insurance
Responsible Road Use	Proper Education	Be made mandatory Leads to proper preparation Familiarize traffic signs and their meanings
	Awareness	Leads to accident prevention Continuous improvement
	Responsibility and Discipline	It falls onto the driver Have boundaries when driving Don't cause trouble on the road For passenger safety
	Safeguarding	Follow laws to prevent accidents Safety consideration for all involved Limitations to speed are required
Traffic Management	Vehicle zoning	Designated areas need rules for all vehicles Adapt to vehicle type Place designation
	Designated Lanes or Roads for E-Trikes	Bike lane expansion for e-trike accommodation Use bike lane as e-trike lane Specified lanes for e-trikes
	Coding	Plate numbers dictate when to drive Implementation on e-vehicles

Table 3 presents three open codes about the responses of the private CFV drivers about the suggested regulations for e-trike transportation. The open codes are "Proper Registration," "Responsible Road Use," and "Traffic Management."

The first open code is proper registration, which contains two properties, “mandatory permits,” and “complete documentation." 29% (2 out of 7) of the respondents during the interviews emphasized how the government should strictly implement a means of identification for e-trike drivers. One respondent

stated, *"Dapat kailangan tulungan ng gobyerno bigyan ng lisensiya o bigyan man lang ng ID o identification yung magddrive ng e-trike* [The government should help give a license or at least give an ID or identification to those who drive e-trikes]." This participant believes that there is a need for government assistance in providing licenses or identification for e-trike drivers to ensure that only qualified individuals are permitted to operate e-trikes, reducing the risk of accidents on roads. Moreover, the statement aligns with the findings of Morrisey et al. (2006), which demonstrated that individuals with driver's licenses were statistically less likely to cause accidents. Ensuring that only individuals that have met certain qualifications and have a driver's license can minimize the likelihood of accidents caused by drivers.

Another respondent said, *"Minsan wala pang 18-years-old nakakapage-bike na so parang basta lang sila makapag drive* [Sometimes less than 18-year-olds can ride a bike, so it seems like they can just drive]." This statement shows that there are concerns regarding the lack of age restrictions for e-trike drivers. They emphasized that underage drivers should not be allowed to operate e-trikes on the road due to their inexperience in driving and lack of qualifications. To support their statement, according to Hajdukova et al. (2019), underage drivers are statistically more likely to cause road accidents due to their inexperience and frequent speeding. Younger individuals who have not yet obtained their respective driver's license may not have the necessary driving skills and judgment required to be able to navigate through roads safely.

The participants in the study identified four key properties for the next open code, namely, responsible road use. Firstly, the foundation lies in the proper education of e-trike drivers. A strong emphasis was placed on mandatory driver training (mentioned by 43% or 3 out of 7 of the participants) to ensure preparedness. Moreover, a participant claimed, "*Kailangan, pag-aralan mo pa rin yung mga traffic signs* [It is necessary, you should still study the traffic signs]." where a thorough understanding of traffic signs and their meanings is a must for all those behind the wheels. Moving on to "awareness", two statements were

made in relation to this property. The participants acknowledged that heightened awareness of traffic rules and road conditions directly leads to accident prevention. They also stressed the importance of ongoing awareness for continuous improvement in road safety and the need to stay informed about changes in traffic regulations.

Thirdly, “responsibility” and “discipline” were emphasized by approximately 57% of the participants. They pointed out that everyone on the road plays a role in ensuring safety, and that e-trike drivers are not exempt from this responsibility. A participant even emphasized that the driver bears ultimate responsibility for the vehicle’s every movement. Those participants mentioned the importance of maintaining boundaries and avoiding “reckless” behavior to prevent complications and accidents.

> “*Hindi ka dapat makasagabal sa kalsada, hindi ka makadisturbo, hindi ka perwisyo sa mga traffic enforcers, ibig sabihin hindi ka nagpapasaway sa kalsada* [You must not be a hindrance on the road, you cannot disturb, you are not an inconvenience to traffic enforcers, meaning you do not cause trouble on the road].”

This was stated by a participant to highlight that such reckless behaviors should not be demonstrated when driving. Passenger safety was also a concern for some participants, giving importance to the responsibility that drivers have towards those they transport, as it is not only their own lives that are at stake, but everybody who is in the vehicle with them. Finally, “safeguarding” focused on maintaining peace and safety for all road users. While all seven of the participants suggest additional e-trike regulations, 29% specifically mentioned the need for speed limitations. This is due to concerns that were raised regarding the safety of e-trikes traveling alongside fuel-powered vehicles. With the claims of slower movement of e-trikes compared to fuel-powered ones, this opens the discussion of alternative solutions such as lanes for e-trikes (where the topic falls on the category of Traffic Management).

The last code, traffic management contains three properties; vehicle zoning, designated lanes or roads for e-trikes, and coding. A participant stated, "*Halimbawa, e-bike, it's different from e-scooter, from mopeds, iba-iba sila. Dapat iba-iba 'yan ng category. Iba-iba din 'yan ng licensing at iba-iba din 'yan kung saan yung mga restrictions niya* [For example, e-bike, it's different from e-scooter, from mopeds, they are different. They should differ in category. Licensing is also different and its restrictions are also different]." This comment was stated by one of our participants to highlight that each specific vehicle should have different restrictions and categorization to other road vehicles. That statement contradicts the results found in the study of De Grange et al. (2011), which reveals that permanent vehicle restrictions did not generate vehicle flow reductions. Traffic management problems can be solved if there are laws or regulations that are existing and functioning properly specifically in e-trike vehicles.

Based on the results of the interviews, regulations on e-trikes in the traffic management sector can be improved with vehicle zoning. First, areas need specific rules for all types of vehicles. "*Dapat talaga may, may patakaran o kaya rules na dapat sundin bawat behikulo, magsimula man yan sa isang gulong, dalawang gulong, hanggang ilang gulong, na dapat may lugar sila kung saan sila* [There really should be policies or rules that every vehicle must follow, whether it starts with one wheel, two wheels, up to several wheels, that they must have a designated place]." Second, one participant recommended that if e-trikes are not given their own lane, they must adapt and make use of the bike lane. For the last text segment, place designation, the respondents said that there should be designated areas where e-trikes are allowed to drive on. Regarding this text segment, one participant stated, "*Parang katulad sa highway, kahit na sundin nila yung rules and regulation, if banned sila sa lugar na yon ibig sabihin hindi pwede* [Just like on highways, even if they follow traffic rules and regulations, if they are banned, then it means that they really are not allowed]."

Lastly, cars and motorcycles are controlled by number coding. The Unified Vehicular Volume Reduction Program, commonly known as number coding, is a program implemented by the Metropolitan Manila Development Authority in order to reduce the amount of cars on the streets during weekdays. When asked about rules that may improve the road interaction between e-trikes and drivers of other vehicles, a participant suggested, "*Lalagyan ng numero bawat E-Trike para may araw na hindi sila makakalabas. Makakabawas yun sa trapiko* [Numbers will be placed on each e-trike so there will be days where they will not be allowed to go out. That will reduce traffic]." In a study by De Guzman (2017), the results showed that the implementation of number coding lessened the parking volume by 5 vehicles per hour.

Based on the insights gathered from the interviews, there are not enough regulations implemented by the government to maintain safety and order on the roads of Metro Manila. All of the respondents have expressed their concerns about the lack of government regulations on different types of electric vehicles. According to Yu (2024) "e-trikes and e-bikes remain largely unregulated by the government." The absence of clear guidelines leads to situations where drivers are able to bend the rules or disregard them altogether, fostering unsafe driving habits. This creates environments where accidents are likely to happen on roads. Addressing these challenges requires the collaborative efforts of policy makers and the traffic and safety sectors, by establishing proper regulations.

CHAPTER 5

SUMMARY, CONCLUSION, AND RECOMMENDATION

Summary

E-trikes, or e-tricycles, are three-wheeled vehicles that run on electricity instead of gasoline or petroleum, as opposed to the traditional motorized tricycle which is commonly used as a public mode of transportation in the Philippines. Following recent years, the country has seen an increase in the use of e-trikes or e-tricycles (Ong, 2024).

Although the vehicle is generally seen positively (Navarro, n.d), this phenomenon led to a rise of concerns and issues over the behavior of e-trike drivers, as they are linked with a significant hike in e-vehicle related accidents (MMDA, 2023). This led the researchers to study the background of this problem, investigating the issue by looking at it from the perspective of private CFV drivers.

In doing so, the study aims to identify common driving behaviors of e-trike drivers, the perceptions of private CFV drivers on their increase, how they influence the driving behaviors of private CFV drivers, and the regulations that could be implemented for the betterment of all road users and the improvement of road safety in the Philippines.

The research study focuses on the perceptions of private CFV drivers as they are one of the major road users in the Philippines, occupying as much as 80% (Castillo, 2022). The study includes their positive and negative feedback about e-trike vehicles and drivers, based on their personal experiences and encounters in Metro Manila, which were collected via semi-structured face-to-face interviews.

Conclusion

The analysis of data gathered from semi-structured interviews with private CFV drivers in Metro Manila revealed mixed views on the presence of e-trikes on the road. With these gathered data, we can conclude that:

1. There are positive and negative views of private CFV drivers regarding the e-trike vehicle. In this category, the positive outweighs the negative, it showcased e-trikes favorably for their environmental friendliness and personal convenience. However, the same cannot be said when it comes to e-trikes drivers. Based on the participants' experiences, e-trike drivers exhibited a lack of professionalism on the road. This led us to conclude that there is a need for significant improvement in their driving behavior.
2. When responding to the questions relating to the road behaviors of e-trike drivers, private CFV drivers emphasized (1) increased awareness and (2) increased responsibility. This concern translated directly into their own driving habits. The respondents reported needing to be more vigilant and adjust their driving to accommodate the unpredictable movements and improper positioning of e-trikes. This adaptation even extended to slower speeds and navigating around vehicles that might lack proper insurance. Frustration with e-trike drivers could lead to more aggressive driving by CFV drivers, potentially mirroring the findings that anger increases aggressive driving behaviors.Through this, it can be concluded that there are a lack of suitable laws that holds e-trike owners accountable to their behavior on the road. Hence, the continuous actions of private CFV drivers to minimize their interactions.
3. When asked about e-trike regulations, respondents offered a multitude of potential solutions. Their concerns ranged from personal safety to minimizing traffic congestion and overall improvement for all road users. This outpouring of suggestions highlights a critical gap in current e-trike regulations – the lack of effective measures to ensure safety and minimize

inconvenience for regular road users. We can therefore conclude that participants believe the existing regulations are inadequate. Their call for government intervention, urging authorities to take action and address their grievances regarding e-trike vehicles, underscores this sentiment.

Recommendations

This research study explores how private CFV drivers in Metro Manila feel about the growing presence of e-trikes on the roads alongside other public utility vehicles (PUVs) and personal cars. The majority of respondents reported adjustments to their driving behavior due to the increasing number of e-trikes.

For e-trike drivers, it is recommended that before operating an e-trike, drivers should be thoroughly familiar with traffic regulations and feel comfortable navigating alongside other vehicles. This foundational knowledge could significantly reduce inconveniences and accidents for all road users.

Many of the participants expressed the need to adapt their driving when encountering e-trikes. Common concerns included unpredictable lane changes and improper positioning of e-trikes on the road. Additionally, drivers worried about the lack of insurance coverage from e-trike drivers in case of accidents. The study suggests acknowledging these concerns and emphasizes the continued importance of vigilance by private drivers to prevent accidents. Furthermore, reflecting on these experiences and attempting to understand the challenges faced by e-trike drivers themselves might lead to more positive attitudes.

For the government, all of the respondents have tacked on what could be improved to e-trike regulation. It is emphasized that the government should have a plan for addressing the concerns of drivers when on the topic of regulation for electric vehicles. From analyzing the comments of the participants, we

recommend that complete and proper registration of e-trike vehicles and driver identification should be a priority. Furthermore, educational programs should be implemented to increase awareness of traffic regulations and promote appropriate driving behavior among e-trike drivers. Moreover, in the topic of managing traffic, it is highly adviced to explore strategies like vehicle zoning and coding to manage traffic flow and prevent congestion caused by an overload of different types of vehicles on the road.

Finally, due to this research focusing solely on private CFV drivers, we recommend for future researchers to shift the perspective to e-trike drivers themselves. Additionally, we propose employing a larger sample size in future studies so that it would allow for more robust findings. Furthermore, the research questions of this paper can be adapted to suit the new perspective of e-trike drivers. Finally, we suggest also adopting purposive sampling techniques in future research for it allows the future researchers to recruit participants who best fit the specific criteria of the study, leading to more accurate and effective outcomes.

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Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Trikes

APPENDICES

Appendix A: Consent Form for Respondents

MAKATI SCIENCE HIGH SCHOOL
Kalayaan Avenue, Barangay Cembo, Makati City

Consent to Participate in The Research Study

Title of the study: Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Tricycles

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Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Trikes

Introduction

- We would like to invite you to participate in our research project, which is being led by 11th grade Makati Science High School students. We are examining the viewpoints of private CFV drivers in order to give recommendations for potential modifications to present e-trike rules based on their thoughts and experiences.
- You have been selected as a potential participant. The following criteria must be met in order to participate in the study:
    1. Uses fuel-powered vehicles for private use
    2. Has driven at least 2-3 times on the roads of Metro Manila
    3. Has interacted with E-Trikes
- It is important to carefully review the consent form and seek clarification from the researchers before agreeing to participate in the study. This ensures that you fully understand the purpose and potential risks involved in being a respondent.

Goal of the Study

- The study aims to gather participants' perceptions and experiences regarding the growing popularity of E-Trikes on roads and propose potential changes to existing e-trike laws based on their viewpoints.
- This study will be passed to our research adviser as a school requirement for the subject Practical Research 1 for the school year 2023 - 2024.

Processes and Steps

- If you agree to participate in this study, the following steps will be done:
    - Before conducting the interview, you and the researchers will discuss the most optimal time, date, and location. The interview will be a face-to-face meeting. Three researchers will facilitate the interview; two will ask questions and one will transcribe or record your responses.
    - During the interview, you will be asked about your experiences with e-trikes on the road, as well as your perceptions on e-trikes. The researchers may ask follow-up questions if your responses need to be clarified. Likewise, you may ask the researchers to clarify their questions.
    - Your responses will be recorded through voice recording for the purpose of transcription. Field notes will also be written down.

Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Trikes

Benefits of the Study

- The study will develop understanding towards the road behavior of e-trikes, identify the needs of both CFV drivers, e-trike drivers and all other users, as well as shed light on any other underlying concerns. It will bring awareness to the road behavior of e-trike drivers, leading us to see any more rules or regulations that may need to be enforced.

Possible Obstacles and Problems

- The research study may encounter the following:
    - Respondents may feel anxious due to a high number (3) of interviewers asking questions at the same time.
    - Some questions may be difficult for the respondents to answer.
    - There might be an inconvenience to the respondents due to the need to travel as the interview will be conducted via face to face.

Confidentiality

- The information disclosed during the interview will be confidential. Rest assured that your interviews, answers, and audio recordings will be kept safe, and only the researchers of this study will have access to them. Your privacy and confidentiality will be safeguarded at all times. No participant will be identified or linked to the results in the final research study unless you wish to do so.

Right to Refuse

- Your participation in this study is voluntary, so you have the right to decline participation and withdraw your participation at any moment during the interview. You have the right to refuse to answer any questions that cause you discomfort. You have the right to refuse permission for the researchers to use any data gathered during the interview.

Right to Ask and Consult

- You are entitled to information regarding this research study. You have the right to ask questions about the research study before, during and after the interview. You may contact the researchers for any questions or concerns using the emails and phone numbers written above. You may contact our research adviser for any questions or concerns using the data below.

Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Trikes

Research Adviser:

Ernell O. Placido
Phone: 0977-817-4632
Email: ernell.placido@depedmakati.ph

Agreement / Consent

- By signing this consent form, you are acknowledging that you have fully read and understood the information written here and therefore agree to participate in the study. The researchers will provide you with a signed copy with the date of this consent form.

_____ _____

Signature and Printed Name of Respondent Date of Signature

_____

Erin Maia F. Toquero
Research Leader

_____

Leeanna Gail M. Bragais
Research Leader

Appendix B: Coding of Data: Perceptions

OPEN CODE	PROPERTIES	TEXT SEGMENT
Positive traits of the vehicle	Cost-efficient	"Mas mura– sa taas ng bilihin, sa taas ng gasoline, you divert to alternative na mas mura." "How much lang naman ang e-trike, diba? At 35,000 [PHP], you can get one na."
	Eco-friendly	"It is environmental friendly kasi wala siyang gas emission." "Yung isang charge niyan… yung average niya is 12 pesos lang. So, yung 12 pesos na 'yun, parang tatakbo na 'yan ng three to four usage or three to four days, depende kung paano ginagamit ng user."
	Convenient	"Sasakyan kasi nga for convenience nga. Nagagamit nila sa mga bata, panghatid sa school, pamalengke, pasyal, yung malapitan lang." "Madaling kumuha, accessibility to get one is very easy, and as I said, anybody can drive nga eh."
Negative traits of the vehicle	Slow	"Kasi e-vehicle, limited yung speed niyan eh. Most likely, meron diyan na nasa 25 (kilometers per hour) lang."
	Poorly regulated	"Karamihan po 'pag nag-violate, wala naman pong lisensya, walang papel yung e-trikes" "Oo, kahit na magka-violation walang pakialam."

Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Trikes

Behavior of e-trike drivers	Unfamiliar with traffic rules	"Madalas or karamihan ngayon ng mga traffic violators ay nanggagaling with e-vehicles, kasi nga they are taking advantage of no registration and no licensing." "Oo, kasi hindi nila alam yung protocols sa kalsada."
	Inexperienced	"At the same time, may mga ano na kulang nga sila ng parang training? Or… kasi nga may ano na wala silang license, wala silang proper procedure, natuto lang mag bike, diba?" "Wala sa edad basta kaniya-kaniyang drive lang ng E-Trike." "Kasi most likely ang lagi kong na-eencounter ko nga is nung e-bike talagang wala sa wisyo mag-drive."
	Irresponsible	"Salpak lang sila ng salpak since 'di nila alam kung saan sila pupwesto." "Ano, lagi silang nasa gitna. Tapos minsan binubusinahan ko kasi nga nasa gitna, syempre dadaan ako." "Basta hindi naman siya ganoon kalaki pero yung diameter nung ano niya malaki so kapag oovertake sila, harang sila sa daan."
	Varying attitudes	"So, dahil wala silang alam, their first line of defense is to argue talaga and to confront with road rage." "May mga drivers naman kasi na 'Oh nakakasagabal tayo, igilid natin' alam nila yun." "Yung parang, minsan liliko nalang sila nang basta-basta."

Appendix C: Coding of Data: Response

OPEN CODE	PROPERTY	TEXT SEGMENT
Increased awareness	Maintaining rationality	"kailangan malawak ang pananaw mo sa kanila (E-Trike Drivers)" "Number one diyan is syempre mas mataas na dapat yung awareness mo or road awareness mo"
	Adjusting to their behavior	"When you see an e-trike, ang intuition mo kaagad is 'keep away from that e-trike.'" "Alam ko na mag-adjust sa kanila kaya ako na yung nag-aadjust"
Increased responsibility	Defensive driving	"Mas kailangan aware, mas kailangan ina-apply yung pagiging defensive driver" "Kasi nga gusto mo, ayaw mo makadisgrasya, iniiwasan mo sila"
	Liability	"Wala silang lisensya, wala silang registration, so it follows, wala silang insurance. Pag bumangga sasakyan mo, thank you ka." "Kasi nga ano ba naman ang lakas nang e-bike kung binunggo ng mga malalaking sasakyan diba? Anong lakas nila diba wala eh."
Emotional response	Irritability	"Kumbaga nagiging high blood ka lalo kasi nga nakapuno sila, naano ka, nagiging mas lalo kang naiirita kasi puno na dba"

Appendix D: Coding of Data: Regulations

OPEN CODE	PROPERTY	TEXT SEGMENT
Proper registration	Mandatory permits	"Dapat kailangan tulungan ng gobyerno bigyan ng lisensiya o bigyan man lng ng id o identification yung magddrive ng e-bike." "Oo dapat may qualifications, dapat may lisensiya sila ganun." "Again, dapat meron siyang proper licensing and registration." "Dapat may mga driver's license na rin, kasi unang una kailangan dapat hindi minor ang driver"
	Complete documentation	"Okay, first, 'yung documentation nung tatlo diba? The driver's license, registration ng sasakyan, insurance."
Responsible Road Use	Proper Education	"Pero dapat talaga ma-educate ang tao, eh. Ang education, eh. … parang sinalpak mo 'yung isang bagay na walang preparasyon" "Once you have the education prepared, the driver, and everything, may registration sila, may insurance na sila, they you are already allowed." "Kailangan, pag-aralan mo pa rin yung mga traffic signs. You still follow the traffic rules."
	Awareness	"Of course, following the laws prevent you from happening accidents."
	Responsibility and Discipline	"Once you're the driver, na sa'yo ang responsibility, 'wag mong itransfer sa iba." "Hindi ka dapat makasagabal sa kalsada, hindi ka makadisturbo, hindi ka perwisyo sa mga traffic enforcers, ibig sabihin hindi ka nagpapasaway sa kalsada" "hindi lang para sa safety ng mga nasa labas kundi para sila"
	Safeguarding	"Kasi may bitbit silang bata, matanda. buntis, o ano man yan, kailangan professional na din ang driver, hindi yung kung sino-sino lang" "Tapos may limit ang speed"
Traffic Management	Vehicle zoning	"Dapat talaga may, may patakaran o kaya rules na dapat sundin bawat behikulo, magsimula man yan sa isang gulong, dalawang gulong, hanggang ilang gulong, na dapat may lugar sila kung saan sila"
	Designated Lanes or Roads for E-Trikes	"If we're being practical, maybe they can share na lang yung lanes ng e-bike, ng bicycle. Lakihan lang ng konti kasi maliit lang naman mga daan natin" "Another is kung masasama or ishe-share sa kanila yung road o national road, meron silang particular lane na doon lang dapat."
	Coding	"Lalagyan ng numero bawat E-Trike para may araw na hindi sila makakalabas, makakabawas yun sa trapiko" "'Yan kase ang problema ng LTO right now. Wala pa tayong code for electric vehicles."

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Appendix E: Questionnaire

Example Survey Questions/Interview Guide

We are a group of researchers from Makati Science High School, currently in Grade 11. As part of our academic program, we are conducting this study to explore:

Aim of the study

Understanding private CFV drivers' perceptions of e-trikes on the road can shed light on the challenges and opportunities associated with their growing presence. This study focuses on the perspectives of private CFV drivers in Metro Manila, who share the road with e-trikes alongside other public utility vehicles (PUVs) and private cars.

Statement of the Problem	Questions
Preliminary Questions	- Thank you for agreeing to participate in this interview. To begin, could you please tell me your name for the record? (Maraming salamat sa pakikilahok sa interview na ito. Ano po ang pangalan ninyo?) - Firstly, can you tell me a bit about your experience driving in the Philippines? Specifically, around the areas of Metro Manila? (Una sa lahat, kamusta po ang driving experience niyo dito sa Metro

	Manila? At gaano po kayo kadalas magmaneho dito?) - By any chance, have you observed or encountered an e-trike while driving around these roads? (Nakasalubong na po ba kayo ng e-trike kahit saan sa Metro Manila, habang nagmamaneho?)
SOP 1 Why does the increasing amount of e-trikes influence the road behaviors of private CFV drivers?	● What is your overall experience when driving alongside e-trike drivers? (Ano ang iyong pangkalahatang karanasan kapag nagmamaneho kasama ng mga e-trike driver?) ● How has the presence of e-trikes affected your driving experience? (Paano naapektuhan ng mga e-trikes ang iyong pagmamaneho?) ● What do you think are the reasons why some people use or choose e-trikes as a mode of transportation? (Bakit sa tingin niyo ginagamit ng ibang tao ang e-trikes bilang mode of transportation?)

	● What benefits do you see from e-trikes? (Anong benepisyo ang nakikita niyo mula sa e-trikes?) ● If given the chance, would you like to own or use an e-trike? (Kung nabigyan kayo ng pagkakataon, bibili o gagamit ba kayo ng e-trike? Bakit?)
SOP 2 How did the increasing amount of e-trikes influence the road behaviors of private CFV drivers?	● What comments do you have on the behaviors of e-trike drivers? (Ano ang masasabi niyo tungkol sa ugali at kilos ng mga e-trike drivers?) ● How has your driving behavior changed, if at all, in response to the presence of e-trikes? (Kung meron, paano nagbago ang pagmamaneho niyo bilang tugon sa mga e-trikes?) ● Overall, what do you feel about e-trikes and e-trike drivers? (Sa pangkalahatan, ano ang pakiramdam at opinyon niyo sa mga e-trikes at e-trike drivers?)
SOP 3 How can regulations for e-trike transportation be optimized	● Do you think the current regulations for e-trikes are

considering the perspectives of private CFV drivers?	sufficient? Why or why not? (Sa tingin niyo, sapat na ba ang kasalukuyang regulasyon at patakaran para sa mga e-trikes? Bakit?) ● What kind of regulations for e-trikes could make you feel comfortable sharing the road? (Ano-anong patakaran para sa mga e-trikes ang tutulong upang maging komportable kayo sa pagmamaneho kasama ang mga e-trike drivers?) ● In your opinion, why is it important for both private CFV drivers and e-trike operators to follow traffic laws? (Sa tingin niyo, bakit mahalaga na sundan ng CFV drivers at e-trike drivers ang mga batas trapiko?) ● In your opinion, how can e-trike integration be achieved smoothly while considering the needs of all road users? (Paano sa tingin niyo mas maaayos ang pagsangkap ng mga e-trikes habang isinasaalang-alang ang pangangailangan ng lahat ng mga gumagamit ng kalsada?)

Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Trikes

Appendix F: Transcription of Interview #1

Interviewer: Toquero, Bragais
Participant: Interviewee #1
Location: Pitogo Brgy. Hall

Statement of the Problem

1. What are the perceptions of the private CFV drivers towards the increased number of e-trikes and e-trike drivers on the road?
2. How does the increasing number of e-trike drivers influence the road behaviors of private CFV drivers?
3. How can regulations for e-trike transportation be optimized considering the perspectives of private CFV drivers?

(START)

Researcher: And as for your preferred mode of communication po, would it be tagalog, english, or kahit taglish lang po?

Participant: Anything, di na ano

Researcher: Sige po. Okay po, thank you for agreeing to participate in this interview. To begin po, could you please tell us your name for the record po?

Participant: My full name is Alfonso Lucas O. Altarejos, but you can just call me “Lucky”, that’s my nickname.

Researcher: Sige po, we will begin na po.

Participant: Okay.

Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Trikes

Researcher: Good afternoon po, sir Alfonso. To introduce ourselves, we're student researchers from Grade 11 - Euclid of Makati Science High School. We are conducting-

Participant: Hold on, timeout. Okay lang ba? Maingay eh.

Researcher: Po?

Participant: Maingay. Kung mag-aano, baka hindi maging quality 'yung interview niyo eh.

Researcher: Ah hinde, okay lang po. Kami naman po mag-aayos.

Participant: I-edit niyo pa rin?

Researcher: Opo.

Participant: All right, sige.

Researcher: To continue po, we are conducting a study that aims to understand and explore the perspectives of private CFV drivers, or also called as private conventional fuel vehicle drivers, like you po, on e-trikes or e-tricycles. So it may shed light on the opportunities and challenges that come with their growing presence. Now, before we start po with the questions, please take the time to read the consent form po.

Participant: Ah, i have a problem, wala akong glasses.

Researcher: Ay okay po, state ko na lang po.

Participant: Read it for me.

Researcher: So ‘yun po, we would like to invite you to participate in our research project, which is being led by the grade 11 Makati Science High School students.

Participant: Mhm.

Researcher: So na-explain na po ang goal namin, and you have been selected po as a potential participant. Although the following criteria must be met; which is that they use fuel powered vehicles for private use, has driven at least 2-3 times on the roads of Metro Manila, and has interacted with e-trikes po.

Participant: Ok.

Researcher: And then po, processes and steps po, if you agree to participate in this study, the following steps will be done: before conducting the interview, you po and the researchers will discuss the, so we have discussed na po, we are meeting na here po. And, during the interview po, you will be asked about your experiences with e-trikes on the road as well as your perceptions po on them. The researchers may ask po follow-up questions if the response may need to be clarified. And likewise po, you may also ask if you need clarification.

Participant: Ok. no problem.

Researcher: And, eto po, the response will be recorded through voice recording for the purpose of transcription.

Participant: Sure.

Researcher: The benefits of the study po include developing understanding towards the road behavior or e-trikes, identifying the needs of both CFV drivers and e-trike drivers as well as all other road users, and to bring awareness po to the road behavior of e-trike drivers, which may lead us to see any more rules or regulations that may need to be addressed. Possible obstacles and problems lang po that may be encountered during the interview is, respondents may feel anxious due to the interviewers, to ano po, since hindi po, wala pong personal relationship. And, some questions po may be difficult for the respondents to answer. And then, for confidentiality naman po, the information disclosed during the interview will be confidential. Rest assured po that your interviews, answers, and audio recordings will be kept safe and only the researchers of the study will have access to them.

Participant: Okay.

Researcher: Your privacy and confidentiality will be safeguarded at all times and no participant will be identified or linked to the results in the final research study unless you wish to do so. You also have po a right to refuse participation as well as to ask and consult if you have any clarifications.

Participant: Okay.

Researcher: So if you agree po to participate, you can sign here lang po.

Participant: Wala naman kulang ‘to ‘no? Today is April…

Researcher: 25, po.

Participant: Okay, here.

Researcher: And another one po, for our copy lang. ** We'll start the questioning po.

Participant: Sure.

Researcher: Firstly po, could you tell us about your experience driving in Metro Manila, and so far po, gaano kayo kadalas magmaneho around this Metro Manila?

Participant: Your first questions was, how was my experience, right? Terrible. Grabe and traffic, eh. Diba? Considering before, may oras ang traffic and may oras na medyo maluwag. Pero right now, it's almost hindi– wala na, eh. So, actually, starting from 7 o'clock in the morning up to almost 7 o'clock in the evening, it is usually the, 'yung coding time, diba? Color coding. 'Yun ang traffic pa rin. And then, the other one was, what was the next question?

Researcher: And the second question po is gaano po kayo kadalas nagmamaneho around-

Participant: Almost everyday.

Researcher: Almost everyday po, sige po. As for the, by any chance po, have you observed or encountered e-trikes while driving around these roads?

Participant: Most of the time.

Researcher: Hmm, sige po. Next po.

Participant: Tuwang-tuwa nga 'ko sa kanila, eh.

Researcher: Sige po. If you were to describe po, what is your overall experience driving along these e-trikes?

Participant: With e-trikes?

Researcher: Opo.

Participant: Actually, just to clarify things, ‘no, i’m not anti e-trike. Because, unang-una, they are pro-environment. Kasi nga, electric sila. But the reason why, medyo anxious ako about the e-trikes is that– the way they drive. Actually, it’s not the machine, it’s the driver, eh. Because, as you know naman right now, when it comes to e-trike, it doesn’t require registration, it doesn’t require a driver’s license for the person to drive an e-trike, and most of the time, you can see people– the drivers are either over-aged or underaged. When i say “over-aged”, most of them are senior people already. And at the same time, when i say “underaged”, usually below 17.

Researcher: Teenagers po?

Participant: Bata talaga ang nagd-drive. So as you can see, meron nang, may konting problema eh. Kase when it comes to the younger ones, they don’t know how to drive. Kumbaga, bisikleta pinag-aralan nila, eh. Kumbaga, wala silang right training for that. And when it comes to most of the over-aged, di ko man dini-discount sila, pero alam naman natin na, medyo less na ang kanilang reflexes and everything, diba? So, most of the time, parang, when you see an e-trike, ang mag- ang intuition mo kagad is “keep away from that e-trike.” Kase definitely, maaano ka eh, anything is possible, eh. Diba?

Researcher: So like, they, to ano- clarify po, they lack the experience to drive on the roads po with other vehicles?

Participant: Correct. Pwede siguro sa within the village. Or the, in within the barangay. Or the minor roads lang. Pero when it comes to the main roads, it's a no-no, eh. 'Saka at the same time, these e-trikes, as you know, how fast can they travel ba? Maximum siguro, 20 kilometers an hour? And now, it will cause traffic, pangalawa, it can create accident parin. It can cause an accident pa rin.

Researcher: With the presence of e-trikes, has it ever affected your driving experiences?

Participant: Well yeah, kasi nga most of the time, when you see an e-trike, and tingin mo kagad- "you need to get away from it". Iiwasan mo talaga sila. Kase unang-una, as mentioned earlier, wala silang lisensya, wala silang registration, so it follows, wala silang insurance. Pag bumangga sasakyan mo, thank you ka. Diba? Para kang bumangga sa bike.

Researcher: Sige po. For the next question po, what do you think are the reasons why some people use or choose e-trikes?

Participant: Okay. first is, syempre, the lack of transportation in- the usual, the lack of transportation in our country. Kase most of the time, even though sabi natin marami na tayong public transport, take a look at it; medyo kulang pa rin. Kase, just because, hindi na maganda ang management. Second is the cost of e-trike. How much lang naman ang e-trike, diba? At 35,000 you can get one na, yung tatlo pa ata ang gulong. Diba? 'Saka, 'yun na nga, at the same time, madaling kumuha, accessibility to get one is very easy, and as i said, anything– anybody can drive nga eh. So parang, like for some, you *unintelligible* mga gasoline-fed vehicles. Hindi ganon kadali, diba? 'Saka at the same time, ang liit niya. Kaya marami talaga nae-enganyo kumuha ng e-trike.

Researcher: Mm, sige po, thank you po. For you po, meron- may nakikita po ba kayong mga, like, benefits from e-trikes?

Participant: Yeah, as i mentioned earlier, again, it's electric. The benefits is environment talaga. That's the reason why naglalabas ng mga hybrid ang mga sasakyan, diba? Combination of gasoline and electric, 'yun pa nga, like Tesla, it's full electric na talaga. Which is dapat talaga. Kase, like now for example, experiencing the heat, it's being caused by the carbon emission ng sasakyan eh, diba? Ang laking bagay n'on. Kaya, i'm, i'm pro-renewable. Oo, kaya, kase if we're looking at the future right now eh. Kase nga, sabi nga nila, kung ano meron kayo ngayon, kasalanan namin. Batch namin. So, kami mang na nasa batch namin, we're trying to find ways den on how to solve that carbon problems for the next generation. Kase kayo nag *unintelligible* lang kayo eh, mga bata eh, diba? You're just enjoying the fruits of our labor, eh.

Researcher: Okay, sige po, thank you po. If given the chance po, would you like to own or use an e-trike? If yes or no po, can you explain why or why not?

Participant: Given a chance?

Researcher: Yes po.

Participant: For me kase, for myself, 'yung usual ano ko, for me kase walang gamit ang e-trike sa'kin eh. Kase i'd rather walk than use an e-trike. Kase nga, for me diba, i drive in the village nga. Like for example, everytime i go here sa barangay, bahay, considering that i can take the trike, or you know, 'yung tricycle, talaga i do walk. Mas gusto ko more relaxed, more exercise eh. Kumbaga, at the same time, male-lessen 'yung physical activities mo pag naka e-trike ka. 'Saka, kasi dito sa barangay, this is just a joke ah, pero joke-joke namin, pag naka e-trike kase parang pang ano ka, pang senior. Alam mo 'yon? Oo nga. Lahat ng

mga naka e-trike dito, nilololoko namin, pang-ano na, di ‘yan, di ‘yan, pang senior ‘yan. Totoo! Oo. ‘Saka, hindi, walang gamit eh. For me, kase, hinde, ayoko din lumabas. Kase ayokong, ayokong maproblema ako, ako ang mag-create ng problemang ganon. For example, going out of the main road, mage-etrike ka, inaayawan ko ta’s gagawin ko pa, diba?

Researcher: Mmm, sige po. Sige po, relating po sa kanina, about the way you said na po, kaya po wala na po silang, like, registration, license, or lack of experience po, what comments do you have po on the behaviors of e-trikes po?

Participant: Unang-una kase, everytime I drive a vehicle, dapat may responsibility, diba? Kase, ikaw, pati yung people around you, like for example, diba. So you need to take a look at that, in that manner. ‘Saka, dapat magkaroon ng registration, para regulated den. Sabihin parang bike, lahat pwede bumili. Diba? ‘Saka, when you buy something like that na gumagalaw sa daan, dapat talaga may ano ‘yan, may kaakibat na responsibility ‘yon. Like for example, bumangga, walang insurance, what’s next? Walang insurance ‘yan eh. Walang registration, eh. How can you raise your- how can you get an insurance on something na hindi naman registered. So dapat talaga may registration, may license for that. ‘Yan kase ang problema ng LTO right now. Wala pa tayong code for electric vehicles. Ito oh, trivia na ‘to, ah. Si Manny Pangilinan, meron siyang Tesla. Matagal na sa Pilipinias, pero hindi niya ‘man mapatakbo kase walang registration. Kase hindi siya kayang i-classify, wala siya sa classification ng LTO natin. At the same time, diba, take a look at it; electric, walang coding. Diba? So nat-take advantage talaga ng mga sasakyan, eh. Parang ginagawa nilang ano, eh. Pero sa sasakyan siguro, siguro may advantage. Same with e-trike. Pero, dapat talaga ma-educate ang tao, eh. Ang education, eh. Kase, parang sinalpak mo ‘yung isang bagay na walang preparasyon. So right now, nakikita mo ‘yung problema, dapat mini-mitigate mo na ka’gad bago lumaki, diba? The problem with that kase gusto nila, malaki na bago nila gawan ng paraan.

Researcher: So kumbaga po, parang may lack of education and responsibility ang most of e-trike drivers? And most of them po ay, ‘yun nga po, dahil walang registration, it’s hard po for vehicle drivers- drivers such as you po , kase pag nagkabanggaan, kayo din po malalagot?

Participant: Correct.

Researcher: Okay po, you mentioned po pros such as, maganda po siya sa environment, kasi nga electrical, hindi- unti po ‘yung usok, so less carbon emission. And the cons po is more on the behavior and lack of regulations. But overall po, what do you feel about e-trikes and e-trike drivers?

Participant: Actually, ganto na lang. Siguro ‘wag na lang the way i feel, the way i think about it na lang.

Researcher: Sige po.

Participant: Siguro, ang pwede na lang gawin natin is i-*unintelligible* na lang siguro ‘yung group nung good part at ‘saka yung bad part nila, tapos find a solution. Kase take a look at it, walang problema naman kase. E-trike is pro-environment, diba? Tapos at the same time, the accessibility is okay, andon lahat ng pros, eh. Tapos lang is the driver, so dapat lang talaga magkaron ng education for that. Once you have the education prepared, the driver, and everything, may registration sila, may insurance na sila, then you are already allowed, diba? Kase, ganito yan eh. Once you know your responsibility, alam mo-san ka pwede- where you stand, diba? Kase like for example, yung mga underage, they drive, ang alam nila patakbuhin. Diba? So pagka nakabangga ‘yan, tatawag ng nanay at tatay. But on their own, di nila alam responsibility nila. Pero, it’s a- parang, napaka primordial talaga na, once you’re the driver, na sa’yo

ang responsibility, ‘wag mong i-transfer sa iba. Kase ikaw ang may hawak ng manibela, eh. Kase once you have that, you’ll be responsible habang tumatakbo ka eh. Diba? Oo, for you, your passenger, your vehicle, at the same time, tao sa paligid mo.

Researcher: As of the current regulations po, we read po that the current reg- may current regulations po that e-trikes or e-bikes or any electric vehicles are banned in main roads and highways.

Participant: Ah, ‘yun ba yung sa MMDA na hinarang ni Bongbong? Hinarang ni Bongbong, eh. Supposedly, dapat na-implement na eh.

Researcher: Yes po, major highways and roads po.

Participant: Ah yeah, diba, supposedly ano- pwede sila mag-cross sa major roads, pero they cannot traverse the main ano, the main- for example, we’re talking about EDSA, no, no. Pero kung tatawid ka lang sa EDSA, maybe.

Researcher: So on that po, do you think that the current regulations for e-trikes are sufficient po? And why or why not?

Participant: Eh, what- what?

Researcher: If sufficient po ‘yung regulations for e-trikes ngayon.

Participant: What regulation are we talking about? Kasi nga nagkaron ng MMDA diba? It was cancelled naman ni Bongbong? So, what are we talking about right now kung na-cancel naman?

Researcher: Siguro, ‘yun den po.

Participant: Pero, kung babaliktarin naman natin, kung ‘yung regulation na sabi ng MMDA, that’s good enough, eh. But, again, it’s more of the education pa rin. Kase, dun lalabas, dun manggagaling ‘yun eh. It’s more of the responsibility of the driver, eh. ‘Saka, protection of the driver, protection na rin sa mga ibang tao, kase walang insurance.

Researcher: So ‘yun po, since ‘yun nga po, walang- na-cancel din po ‘yung regulation for the e-trikes, and na, may negative impact po sila on the driving behaviors of most vehicles, so masasabi po na insufficient din po ‘yung regulations sa ano- i mean, kailangan po ng regulations for e-trikes?

Participant: Definitely. Kailangan talaga regulate- regulated sila.

Researcher: In the topic of regulations po, what kind of regulations do you think may make you more comfortable on the road and more safe for all road users.

Participant: Okay, first, yung documentation nung tatlo diba? The driver’s license, registration ng sasakyan, insurance. Secondly, because they’re a slow-moving vehicle, dapat ‘wag silang gigitna. Papasok ‘yan sa education na nila. Kase most of the time, sila pa ‘yung sumisingit-singit eh. Kung category nila-kung they can be classified as bike, may bike lane, pwede silang dumaan sa bike lane, diba? Which is the ano, slowest lane ng sasakyan. Most of the time, sila pa ‘yung nasa matulin, eh, ‘yung ano, fast lane. Kaya lahat, tutubo din, diba? Nakakaawa naman, kase as a driver ‘no, ulitin ko, once nagd-drive ka ng matagal, nagiging innate na sa’yo na, kung ikaw gago, babanggain, diba? *unintelligible* pero hindi eh, kase nga, responsible kang driver. Eh ‘yung mga ‘yon, walang pakialam. ‘Di nila alam, eh. They don’t know about- kaya wala silang fear.

Researcher: Sige po, sige po. For the next po, in your opinion po, why is it important for both private CFV drivers po, like yourself po, and e-trike operators to follow traffic laws?

Participant: Dapat naman talaga. Kase unang-una, we're all-lahat naman tayo vehicles na nasa daan, diba? We're drivers inside the vehicle, nasa vehicle tayo lahat. Dapat may respetuhan din. Pero, respect kase, hindi naman just a word na respect 'yan. May definition 'yan eh. Diba? It goes with definition. So dapat, alam mo kung nasaan ka talaga. Unang-una, para at least, you can lessen traffic. It can lessen times na magkakaroon ng accident. And at the same time, syempre, when it comes to that, magiging you have to- ano yan, parang existing mo 'yan eh, you have to live it harmoniously. Kase pag hinde, isa lang yung gumalaw diyan, eh, rumble talaga 'yan. Diba?

Researcher: So, parang since everyone shares the same roads po, dapat everyone should follow the laws po?

Participant: Correct. Dapat lahat 'yan, if you're, parang equal footing lahat. Walang kuha ng special treatment.

Researcher: Mm, sige po. So in your opinion po, paano po ma-achieve ang integration ng e-trikes while considering the needs of all users po? All road users.

Participant: Integration of e-bikes considering that?

Researcher: Considering the needs of all road users po. Parang, naiimplement po 'yung e-trikes habang naco-consider po lahat ng road users. Like sabi niyo po kanina, yung e-trike po pag gumigitna, nakakaabala po sa lahat, dahil slow-moving vehicle.

Participant: Again, dapat, sabi ko, may sarili silang lane. Parang yung sa bicycle lane. Diba? Kase maximum naman ‘yan 20 kilometers, 30 kilometers. Ang bagal niyan, para kang naglalakad halos niyan, tumatakbo ka lang niyan. So they had to ano, kumbaga, kung sa highway, dun ka sa slowest- sa slow lane ka lang. Kaso gumigitna, eh.

Researcher: In the topic of lanes po, do you think po that it’s better po ba to make like, a lane for e-trikes themselves? Like bike lane for bikes, e-trike lanes, for e-trikes lang po ba?

Participant: Yes, yes, definitely yes. Pero siguro, mas much better kung- kase maliit lang roads natin. If we’re being practical, maybe they can share na lang yung lanes ng e-bike, ng bicycle. Lakihan lang ng konti kasi maliit lang naman mga daan natin. We’re not 6 lanes, we’re 4 lanes maximum na. EDSA alone is 4 lanes, eh. Diba? Ang six lanes nga, sa Quezon Ave., maraming disgrasya palagi, eh. Pwede naman, pero dapat talaga, alam kung san ka lulugar. ‘Yun lang ‘yun, eh. Para di ka din makaabala, isipin mo rin, safety mo, di ka maka-abala, dun ka lang. ‘Yun naman ang rule, eh. Kaya nga may mga lanes, eh. ‘Yun din ang di nila alam, kase wala ngang proper training. Takbo lang ng takbo. Bigyan mo ng kalabaw ‘yan, itatakbo sa gitna ‘yan eh. Oo. Diba?

Researcher: So parang, among them po, ang major- most of the problems po is due to their age po and lack of driving experience?

Participant: Actually it’s not the age, *unintelligible*, it’s more of the know-how, eh. The knowledge eh, the knowledge of the regulation, eh. ‘Yun lang ‘yun eh.

Researcher: As well as ‘yung documents, proper documents?

Participant: Correct, para at least safe sila at sigurado. May insurance, may ano, may insurance kase ‘yun kailangan talaga, in case of an emergency.

Researcher: Okay po, yun lang po for the interview, thank you so much po.

(END OF INTERVIEW)

Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Trikes

Appendix G: Transcription of Interview #2

Interviewers: Toquero, Besas
Participant: Interviewee #2
Location: Makati Science High School

Statement of the Problem

1. What are the perceptions of the private CFV drivers towards the increased number of e-trikes and e-trike drivers on the road?
2. How does the increasing number of e-trike drivers influence the road behaviors of private CFV drivers?
3. How can regulations for e-trike transportation be optimized considering the perspectives of private CFV drivers?

(START)

Interviewer: Bago po magsimula kung pwede lang po pabasa yung consent form, Nandun po ung mga goals po namin and –

Participant: ‘Di, Mukha namang walang ano dito — Masamang gagawin eh hehehe

Interviewer: Wala naman po, ito po yung processes and steps, benefits po namin and sinec irerecord po namin and gagamitin po namin ang mga sasabihin niyo, meron po siyang confidentiality, hindi po marereveal ang identity niyo and for formalities sake lang ang name niyo po pero hindi naman po irereveal. Meron rin po right to refuse and pwede rin po kayo magtanong samin during the interview po.

Likes and Yikes: Perspectives of Private Conventional Fuel Vehicle Drivers on E-Trikes

sir alex nag aagree lang habang sinasabi

Interviewer: So una po sa lahat, Kamusta naman po yung driving experience niyo dito sa metro manila.

Participant: Okay naman, Medyo Traffic at dapat hindi masyado mainitin ang ulo mo pag nagdadrive ka. Regular na yung traffic eh heheheh

Interviewer: Pero sa metro manila po san po yung pinaka traffic talaga?

Participant: Halos dati dito lang sa makati pero ngayon kahit saan ka magpunta sa area ng taguig, traffic narin.

Interviewer: Pero paano po yung init like di po ba ito nakakaapekto?

Participant: Mainit talaga, kasama init kaya kailangan *unintelligable* yung driver, yung pananaw niya malawak.

Interviewer: Pag nagmamaneho po ba kayo sa metro manila, nakakasalubong po ba kayo ng e-trikes?

Participant: Oo naman.

Interviewer: Usually saan po?

Participant: Sa Makati, Mandaluyong, Taguig, Pasig, Kapitolyo. Most of the — Karamihan, necessity na din kasi ngayon eh part narin siya ng transportation.

Interviewer: Next naman po, Ito na yung main questions po namin sainyo. Ano ang iyong pangkalahatang karanasan kapag nagmamaneho kasama ng mga e-trike driver?

Participant: Minsan kasi ang problema kasi ang problema sa mga e-trike ay hindi sila naka ready hindi katulad nung mga may lisensiya pero hindi ako against sakanila dahil papunta na tayo sa future Yun lang kasi minsan bata ang nagmamaneho ng tricycle, Nasa gitna sila at usually dapat nasa tabi. Yon lang na encounter ko pero wala pa naman akong nakikitan aksidenteng ganun pero ang observation ko sakanila ay yun lang kailangan iregulate yung panong paggamit kasi hindi lahat naman — pano pag nainvolve sa aksidente? Minsan wala pang 18-years-old nakakapage-bike na so parang basta lang sila makapag drive pero sa iba naman, ok lang naman yung iba

Interviewer: Sa ano po ibig sabihin po nung not ready?

Participant: Katulad niyan, dapat iregulate —

Interviewer: Dapat may qualifications?

Participant: Oo dapat may qualifications, dapat may lisensiya sila ganun. Pero yung luicence ay yung hindi na sila pahihirapan. Kasi ako nageebike rin ako so kung may lisensiya ka na, ok na yun ngayon yung mga walang lisensiya, just incase na may mangyaring aksidente, alam nila kung saan sila lulugar. Iba kasi pag driver ka, Alam mo kung san ka lulugar pagnagddrive ka ng e-bike (e-trike) alam mo kung saan ka lulugar. Yun lang naman ang gusto ko, ireregulate lang

Interviewer: Sunod naman po, Paano naapektuhan ng mga e-trikes ang iyong pagmamaneho?

Participant: Ako kase, Cool lang ako eh pero yung iba kasi nakakainit ng ulo yung iba. Salpak lang sila ng salpak since hindi nga nila alam yung — hindi ko naman sila dinedegrade, pero di nila alam kung saan sila pupwesto minsan nagiging cause sila ng traffic pero saming mga 4-Wheel na nagddrive, depende sa tao yung pagapproach pero dahil sa panahon natin ngayon dapat cool ka lang hehehe.

Interviewer: So yung iba po parang may improper road behaviour?

Participant: Most of the time yung ganon kasi — yung iba minsan bata pa, teenager. Ang E-bike may unicycle, may tricycle. Minsan yung mga tricycle na may tatlong gulong (E-Trike rah), yan yung Makukulit lalo na kung bata yung nagmamaneho pero pag yung may edad na siguro alam na nila yung ganon (traffic rules and regulations). May matitino rin namang mga bata kaya lang doon sa mga major na kalye, di nila alam kung saan sila poposisyon kasabay nila yung malalaki, dapat sa gilid lang sila.

Interviewer: Sa tingin niyo po, Bakit ginagamit ng ibang tao ang e-trikes bilang mode of transportation?

Participant: Unang una, Mura ‘tsaka hindi naman lahat afford mag kotse at sa panahon natin ngayon kailangan na din natin magupgrade sa ganyan (Electric Vehicles) kasi kailangan ng kalikasan, Yun nga lang ireregulate lang dapat. Kung saan sila lulugar, ganon. Meron narin mga motor e-bike na rin

Interviewer: So ano po yung mga benepisyo na nakikita niyo sa mga e-trikes?

Participant: Maraming natutulungan, Ang sidecar dun, wala ng sidecar ung mga bisekleta, Ang ginagamit na nila ay ung e-trike na tatlo ung gulong yun. Siguro

kulang lang sila sa ireregister sila iaayos sila, para alam ng mga tao. Di naman ako against sa e-trikes kasi malaking tulong din sa mga tao.

Interviewer: Kung mabigyan po kayo ng pagkakataon, Bibili rin po ba kayo ng E-trike?

Participant: Oo, gumagamit ako, Hinihiram ko sa may biyanan ko. Ginagamit namin yun pag namamalengke kami so alam ko kung saan ako lulugar. Yun ang kagandahan pag driver ka, May lisensiya ka, pag nagdrive ka ng e-bike o e-trike, alam mo kung saan ka pupwesto sa daan.

Interviewer: So in terms of vehicle po okay lang, yung drivers lang po talaga?

Participant: Kasi kailangan talaga natin, Sa pananaw ko kailangan mag-ano ng mga tao (???) lalo na pag traffic ngayon, Pag lahat magdadala ng 4-wheel, mahirap.

Interviewer: So ano po masasabi niyo sa mga ugali at kilos ng mga e-trike?

Participant: Di naman sila lahat pasaway, may magagalang din, may matitino rin. Yon

Interviewer: Pero most of them po lack the proper knwoledge on the road?

Participant: Oo yun lang kasi yung iba maangas eh, nagdadrive na nga lang nakataas pa yung paa so di nila alam yung dapat (proper) gesture

Interviewer: So kung ganon po pag nagmamaneho po kayo at nakakasalubong po kayo ng e-trikes, paano po nagbabago yung driving behaviour niyo?

Participant: Alam ko na magadjust sakanila kaya ako na yung nag aadjust, Di ko iniinsist lagi ung right ko —- as a driver, wag mo lagi iinsist yung right mo. kailangan malawak ang pananaw mo sakanila lalo na kung school service.

Interviewer: Sa pangkalahatan po, ano ang pakiramdam niyo, ano po ang pakiramadam niyo sa mga e-trike vehicle at e-trike drivers

Participant: Sa pangkalahatan, Pabor ako. Kailangan lang Maregulate, Maeducate, bigyan sila ng tamang lisensiya at identification at wag pahirapan para narin sa masa, para sa lahat kasi kailangan din natin yan eh.

Interviewer: So sa tingin niyo po, sapat na po ba yung mga regulasyon at patakaran para sa mga e-trike drivers?

Participant: Medyo ngayon, magulo pa ngayon yan eh. Sabi nila kukumpiskahin tapos pinakansel nila. Di naman ako against sa cancel, Dapat kailangan tulungan ng gobyerno bigyan ng lisensiya o bigyan man lng ng id o identification yung magddrive ng e-bike.

Interviewer: Ano anong patakaran po sa tingin niyo po ang makakatulong po maging komportable kayo sa pagmamaneho kasama ang mga e-trike drivers.

Participant: Unang una para sa komportable ng lahat, dapat my lisensiya at may sapat na identification para sa proteksyon ko at protection din ng e-trike, protection ng lahat. At Ma-educate sila,

Interviewer: sa tingin niyo po bakit mahalagang sundan ng private vehicle drivers at e-trike drivers ang batas trapiko?

Participant: Kasi lahat naman tayo hati-hati sa daan so dapat alma natin yung tama, Umpisa palang ang tao ay nabuhay na (mayroong) bylaws, may batas so dapat sundin ang batas para sa kayusan *unintelligable*

Interviewer: Paano sa tingin niyo mas maaayos ang pagsangkap ng mga e-trikes habang isinasaalang-alang ang pangangailangan ng lahat ng mga gumagamit ng kalsada?

Participant: Ay ayun, as usual, I-educate ang mga tao, yung driver e-trike at fuel vehicles para alam nila kung saan sila lulugar kasi sa ibang mga negosyo, katulad niyan mga ordinary lang na mahihirap, malaking tulong sakanila ang etrike kailangan lang talaga maregulate ng maayos. Iregulate at Ieducate.

Interviewer: Yun lang naman thank you so much po!

(END OF INTERVIEW)