UE Research Journal
Vol. 28 (2025): pp. 67-94

Public and Private Transportation: Assessment Based on Accessibility, Conveniency, and Economical Ways by UE-Caloocan Students

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ABSTRACT

The study provides a detailed comparison between public and private modes of transport, highlighting differences in accessibility, convenience, and cost in order to determine which of the two is more advantageous to use. Using a causal-comparative method, the study established areas where both public and private transportation could improve for the students' benefit. In terms of accessibility, public and private modes were assessed based on their availability. The aspect economical ways or cost examined how much people spend when using public or private transportation, which includes fare and gasoline. Convenience referred to safety and security provided by each mode and the experience of the students in using the transport mode.

From among the respondents, a total of 54.69% use public transportation exclusively, 7.81% use private transportation exclusively, and 37.50% use both. Despite being the lowest percentage, private transportation is considered the more advantageous option (more specifically based on their accessibility and convenience—wherein both were rated a *Moderate High*). However, students prioritize economical ways more, as public transportation was rated *Moderate High* for its economical ways

and is the most widely used. T-Test results show no significant difference between public and private transportation in terms of the three given factors. It is hoped that either public or private transportation can be made better by improving their accessibility, convenience and cost.

Keywords: Public transportation, private transportation, accessibility, convenience, cost-effective

Transportation is a major part of everyday life in the Philippines. It influences how people move, how communities stay connected, how products are delivered, and how local economies grow. In a country made up of busy cities, extensive rural areas, and scattered islands, both public and private transportation shape how Filipinos move around.

Moving through the country's transport system often feels like dealing with a mix of strengths and challenges trying to balance efficiency, accessibility, affordability, and sustainability. Public transportation such as jeepneys, buses, trains, and tricycles continue to be the main transport means for millions, especially in large cities like Metro Manila, Cebu, and Davao. These options are popular because they are cheaper and easy to find, though they often face problems like traffic congestion, overcrowding, and old or insufficient facilities.

Meanwhile, private transportation, whether cars, motorcycles, or ride-hailing services offers comfort and flexibility. These transport means however, add to heavy traffic and raise environmental issues because of additional effluents pumped into the atmosphere. The question of whether to focus more on public or private transport has become more important in recent years. The challenge is figuring out how to upgrade and strengthen public transportation without ignoring the needs of those who depend on private vehicles. With these issues in mind, the push for better policies and smarter solutions that balance convenience with sustainability has become more urgent than ever.

In general, the choice between public or private transportation depends on the people's preferences, location, lifestyle, and budgetary limitations. Regardless of whether they choose public transportation or choose to own and drive a private

vehicle, students face various issues when traveling to school, such as lack of available vehicles aside from traffic congestion. Avoiding traffic can be possible for students who use private transportation which can seek alternative routes. However, students who use public transportation however, are left with no choice but to go along designated routes. Another issue that students deal with is the constant increase in the price of gasoline which subsequently results in fare hikes. Other problems that students face every day include weather, coding, strikes, and even traffic accidents that can prevent them from arriving in school on time. Tardiness can of course affect the academic performance of the students (Traffic congestion around schools, 2022).

The aim of this study was to determine how much each factor (accessibility, convenience, and economical ways) affected the different modes of transportation. Students have different travel baselines when it comes to traveling to school—some live in traffic-prone areas, some live a distance away from their schools, some even resort to walking when transport cost becomes prohibitive.

REVIEW OF RELATED LITERATURE

Advantages and Disadvantages of Public and Private Transportation

The accessibility and convenience of transportation greatly influence how students manage their daily travel to and from school. Recent studies have examined a range of factors that affect students' commuting experiences, especially accessibility, affordability, safety, and overall efficiency.

Reliable and convenient transport options are essential not only for students' mobility but also for supporting their academic performance and well-being. Although many students prefer public transportation because it is more affordable, its common issues such as traffic congestion, safety risks, and insufficient infrastructure—still need immediate attention. Moving forward, research should look more closely at sustainable and technology-based approaches that better meet the needs of students, especially in developing countries like the Philippines.

Public transportation presents both strengths and drawbacks. For instance, it can improve health by encouraging physical activity, yet it may also cause fatigue (Van Soest et al., 2019). It tends to slow down during rush hours, resulting in delays (Saitluanga & Hmangaihzela, 2022), and fixed schedules can be inconvenient when they do not match a person's routine (Mcllroy, 2023). Meanwhile, private transportation provides greater flexibility and independence (Mcllroy, 2023). Cattaneo et al. (2018) also pointed out that private transport can offer improved safety and sustainability for students. However, finding parking can be difficult, leading to inconvenience, frustration, and added traffic, as noted by Cattaneo et al. (2018).

Deakin and Yip (2018) highlighted how important it is to study transportation, noting that many students rely on different modes of transport—public or private—to get to school every day. Transportation can strongly influence students' academic performance, especially when factors like distance and travel time come into play. A student's socioeconomic background also matters, as those from higher-income families often live nearer to city centers, giving them easier access to schools. Safety remains another major issue, with many students reporting that they feel unsafe or uncomfortable during their daily commute. Such experiences can negatively affect students' overall health (Balabanian, 2020).

Saif et al. (2018) stressed that walking to reach public transportation stations boosts physical activity, which can be beneficial to health. However, despite advantages such as lower pollution levels and reduced travel costs, public transportation still presents challenges. Fixed schedules and longer travel times can significantly affect students' academic performance as well as their well-being (Advantages and Disadvantages of Public Transport, 2022; Chen, 2023).

Hip (2023) noted that when students choose between public and private transportation, public transit is often a practical option for those who want to save money and reduce their environmental impact. However, issues like delays, crowded vehicles, and cleanliness can make it less appealing. Private transportation, meanwhile, gives students greater comfort, flexibility, and a sense of personal space, but it comes with higher costs and environmental drawbacks. In the end, the best choice varies from

student to student, depending on their needs, priorities, and daily circumstances. There is no single option that works perfectly for everyone. According to Bartolome et al. (2023), many commuters or students are late for class because they chose to take the bus instead of other modes of transportation. However, by encouraging people to learn and develop their lifestyles and giving them the freedom to change their destinations and plans, public transportation benefits the community as a whole (American Public Transportation Association, 2019; as cited by Agunoy et al., 2020). Some people prefer to buy their vehicles due to the Philippines' poor public transportation system. Yet, the reduced use of private vehicles may help to reduce traffic congestion and pollution, raising living standards (Bartolome et al., 2023).

Accessibility, Conveniency, and Economical Ways Factors

Kim et al. (2021) highlighted in their research the recent developments in information and communication technology that have great benefits for commuters. When choosing transportation, students consider safety, comfort, sustainability, accessibility, affordability, and convenience (Cattaneo et al., 2018). This research considered three factors only: accessibility, convenience, and economical ways or cost.

A. Accessibility Factor

Public transportation runs on a specific schedule. It does not wait on passengers, and it is simply up to the driver to decide on which route they will be taking. As a passenger, there is no illusion of control of being behind the wheel because passengers just must wait. Filling up the vehicle with passengers must be accomplished first before the vehicle starts to travel. This becomes a problem for students who need to arrive on time for their classes. Waking up early and starting early may not be the only solution since there are a lot of factors involved such as availability of public transport, how fast the vehicle can be filled up to capacity, traffic and even transport strikes (Mcllroy, 2023). Traffic and rush hour should also be considered. Passengers essentially compete for a spot in public transportation which can devolve into a crisis for students when traveling during rush hour (Mcllroy, 2023; Saitluanga & Hmangaihzela, 2022).

Private transportation may be advantageous in terms of control over the route to take and easy availability. However, vehicles involved are subject to coding based on their plate numbers thus limiting their availability. This policy aims to relieve traffic congestion. Vehicle owners are either forced to travel very early or very late or to avoid travelling at all in compliance with this coding policy.

B. Convenience Factor

Students seek comfort and punctuality in their choice of transport, so they look for well protected terminal and vehicles that offer convenient seating to avoid challenges from extreme weather conditions (Mcllroy, 2023). Close physical contact and even crowding may not sit well with students who prefer some physical space and privacy when travelling. These however could come with a cost and even problems with availability and accessibility of such kind of transport amenity.

Private transportation can be the answer to such kind of specific preference where there is more than space and even comfort provided. Students who bring along delicate and fragile items may be assured of protection of these items in private transportation.

C. Economical Ways or Cost Factor

Public transportation offers discounted fares for students, but students must start early to avoid potential heavy traffic, limited accessibility and even crowding during rush hours (Mcllroy, 2023; Saitluanga & Hmangaihzela, 2022). Public transport just like private transport is also vulnerable to price hikes in response to increases in gasoline prices or maintenance cost (Clarke, 2022). Private vehicle owners; however, additionally must shoulder maintenance cost on their own.

Private transportation meanwhile, requires additional expenses for fuel, maintenance, and parking fees which not everyone can afford, and which cannot be shared with others. The maintenance of the vehicle lies solely on the owner's shoulders (Mcllroy, 2023). When it comes to the affordability of private transportation, the question was never whether it was the most expensive. It was whether the purchase would be worth it.

Students' views on how acceptable and convenient a mode of transportation is go far beyond simple factors like cost or travel duration. Their personal experiences and perceptions play a major role in shaping how they feel about their daily commute. Qualitative insights, can therefore provide a deeper and more meaningful understanding of the challenges students face and the reasons behind their transportation choices.

A person's choice of transportation can be influenced by many factors, such as distance, location, fares, and the duration of the trip. In recent years, new options like Uber, modern buses, and even bullet trains in other countries have expanded people's choices, helping meet the specific needs of different passengers (Pradonoputro, 2020). Fallaria et al. (2019) also pointed out several key elements of Metro Manila's commuting culture, such as people's preferred modes of transport, the unique experiences tied to commuting, how commuters cope with daily challenges, and the reasons behind their transportation decisions.

Websites or apps have in the past been made available for commuters that could provide reports about traffic situations which can in turn improve the commuting experience of people. Passengers frequently experience inconvenience from heavy traffic and crowded public transportation (Maramba, 2019; as cited by Agunoy et al., 2020). Since the pandemic, many families who can afford private transportation have encouraged their children to switch from public to private transportation for daily commutes (Bucsky, 2020; as cited by Canque et al., 2023) to reduce the risk of disease transmission in shared travel modes.

Problems Experienced by Students while Using Public and Private Transportation

Students have faced many challenges while using public transport, such as arriving late due to the time it takes to access public transportation services and the wait time between these services (Mcllroy, 2023). Moreover, traffic congestion is also a common issue that students have encountered. Various sources have suggested alternative routes as a solution to this problem, but their effectiveness varied. Poor transportation has a clear impact on student performance. When low attendance leads to reduced grades or long commutes cause stress, academic performance suffers (Edwards, 2022).

Manila faces severe urban mobility challenges, ranking among the world's worst due to poor road quality, heavy congestion, and high pollution (Luna, 2022). To address this, the public transit system urgently needs improvement specifically, by boosting speed, cutting waiting times, optimizing station density, and ensuring affordability. Implementing data-driven techniques could help identify specific passenger groups and provide insights to enhance the bus system's overall efficiency and effectiveness. Improving the bus network could, in turn, resolve many of the travel difficulties students encounter across different modes of transportation.

Modernizing the jeepney system has recently added complexity to urban mobility, with the government trying to promote public transport solutions amidst fluctuating oil prices and sector shifts (Villarete, 2024; Magsumbol, 2023; Florentino, 2023). Given the financial strains from the COVID-19 pandemic and the reopening of schools, transport improvements are more imperative than ever. Baylosis (2019) previously highlighted the persistent challenges in Philippine public transportation, arguing for collective action and government accountability to ensure safety, accessibility, and long-term sustainability. Furthermore, the rigid scheduling of public vehicles often inconveniences passengers, particularly during peak rush hours (Take the Bus to Midnight Madness, 2018; as cited by Agunoy et al., 2020).

In recent years, schools and universities have implemented solutions like shuttle services and transportation subsidies. These initiatives are generally well-received, with students praising the reduced financial burden and increased reliability. However, accessibility remains a limitation for many.

Students' Preferred Mode of Transportation

Students from lower-income families are predictably inclined to take public transport for its lower cost. Conversely, students from more affluent households tend to favor personal vehicles, because of the enhanced comfort, convenience, and quick arrival times they provide. This preference is as expected suggesting that people generally opt for private vehicles when given the choice, valuing the benefits of on-demand mobility, comfort, perceived status, speed, and convenience (Rodriguez et al., 2020).

Kurniati and Valentino (2021) tried to identify the factors that influenced the use of public transportation during the COVID-19 pandemic. During the pandemic, travel restrictions were imposed across the country, severely disrupting all modes of transportation except for essential travel (Tiglao et al., 2021). The danger the health crisis brought meant that parents wanted to be involved in their children's mode of transportation to protect them from sickness, crime, accidents, and dangerous roads. Hence, they preferred private transportation.

Transportation preferences for students could vary significantly depending on location, personal choices, and available resources. There is no one-size-fits-all solution, and what works for one person may not be suitable for another. Choosing the right means of transportation as a student in the Philippines is a personalized decision based on various factors and circumstances (Your ultimate guide to student discounts in the Philippines, 2021). It is essential to consider priorities, take advantage of privileges under the Student Fare Discount Act, and keep an open mind to ensure the best experience possible. Parents' perceptions of safety and security were also viewed as critical in their children's mobility, particularly in the surrounding environment to which they were frequently exposed (Jansson, 2019; as cited by Rivera & Castro, 2023).

Student feedback offers crucial insights into the complexities of their transportation experiences. While affordability, safety, and convenience are consistently key factors, the emotional and mental stress associated with commuting is an equally significant, often overlooked, dimension. These lived experiences underscore the necessity for transportation systems that move beyond just addressing infrastructure and cost. Such systems must also cultivate a safer, more dependable, and user-friendly experience. Future research and policy should fully incorporate these perspectives to design truly student-centric mobility solutions.

Implemented Laws and Programs of the Government

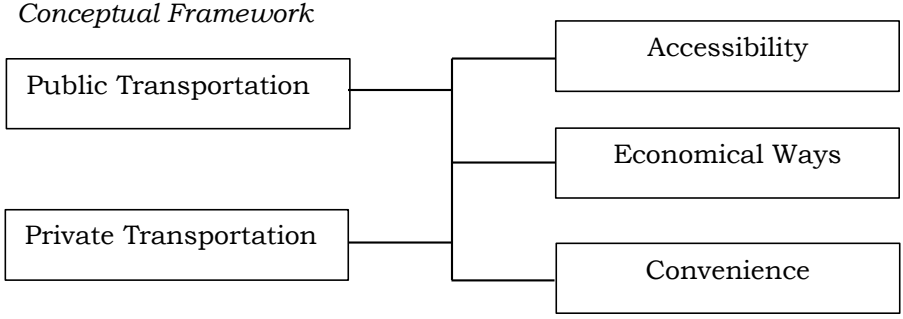
Passed in 2019, Republic Act No. 11314 grants students a mandatory 20% fare discount as a way to support their access to education. This benefit only covers public transport such as buses, jeepneys, trains, tricycles, and airplanes—and specifically leaves out private school services (Republic Act No. 11314, 2019). For the

government, this measure was seen as a vital form of student support, designed to offer meaningful financial breathing room and ease the overall burden of daily commuting costs to and from school (RA 11314: Student Fare Discount Act, 2022)

Republic Act No. 4136, also known as the Land Transportation and Traffic Code, was enacted on June 20, 1964, to govern all matters related to the registration and operation of motor vehicles in the Philippines. It states that all motor vehicles must be registered, and any registration not renewed on or before the specified date for each classification shall be considered delinquent and invalid (REPUBLIC ACT NO. 4136, 2019). This act helped ease traffic congestion by limiting unregistered vehicles from being allowed on the road.

Conceptual Framework

Figure 1
Conceptual Framework

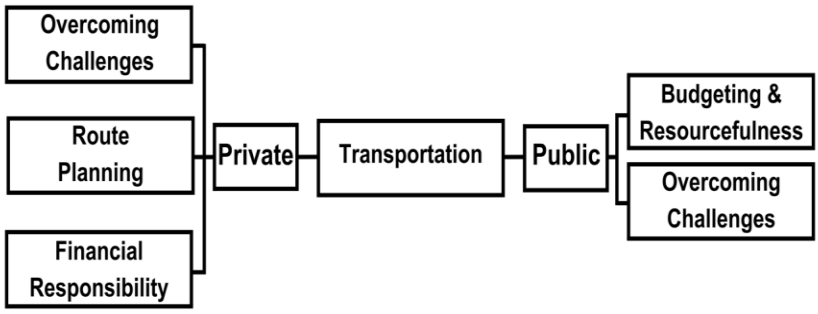


The conceptual framework in Figure 1 shows the independent factors affecting public and private transportation, which include accessibility, convenience, and economical ways or cost.

The diagram follows the IV-DV format, with the righthand boxes affecting both modes of transportation. The primary factors identified under accessibility are the type of vehicle, strikes, and coding, while under economical ways or cost, are included gasoline prices. Lastly, convenience was determined by general comfort, rush hours, and difficult weather. The dependent variable is the mode of transportation.

Theoretical Framework

Figure 2
Theoretical Framework



This study was based on a theoretical framework shown in Figure 2 that encompassed two different paradigms, one for public transportation and the other for private transportation. The public transportation paradigm focused on budgeting and resourcefulness, where students who have a fixed budget must find the right mode of transportation and maximize its use by looking for student discounts for instance. This aligned with the neoclassical economic theory (contributed by the likes of Alfred Marshall, Carl Menger et al., 1950), which assumed that individuals think rationally to optimize their experience and economic well-being based on time, convenience, and affordability. The paradigm also highlighted the importance of overcoming challenges like rush hour and traffic, and finding alternatives or solutions to these issues.

In contrast, the private transportation paradigm emphasized route planning, where private vehicle users were advised to plan their route in advance and take the path with less traffic or better weather conditions thereby aligning with rational choice theory (by Adam Smith, 2003), which assumed that individuals make decisions by weighing their options and choosing the one that can benefit them more. Additionally, the paradigm also stressed the importance of financial responsibility, where private vehicle users must consider factors like maintenance, insurance, and fuel to maximize their travel experiences in the long run. Overall, the theoretical framework of this study provided a comprehensive

understanding of the different paradigms that can be employed to optimize the transportation experience, whether one was using public or private transportation.

Objectives of the Study

- To identify the advantages and disadvantages of public and private transportation
- To identify the factors affecting public and private transportation
- To determine how accessibility, convenience, and economical ways or cost are considered in the decision to choose between public and private transportation
- To determine the students' preference in using one transportation mode over the other based on their experiences

Statement of the Problem

This study aimed to differentiate and compare the advantages and disadvantages of public and private transportation, and attempted to determine which mode of transportation was the most preferred among students. This study answered the following questions:

1. What are the advantages and disadvantages of public and private transportation for UE – Caloocan students?
2. What are the factors affecting public and private transportation for UE – Caloocan students?
3. What is the level of assessment on public transportation among UE – Caloocan students in terms of:
    a. Accessibility
    b. Convenience
    c. Economical Ways/Cost
4. What is the level of assessment on private transportation among UE – Caloocan students in terms of:
    a. Accessibility
    b. Convenience
    c. Economical Ways/Cost
5. Is there a significant difference between the factors affecting the private and public transportation among UE – Caloocan students in terms of accessibility, convenience, and economical ways/cost?

6. Which mode of transportation is more preferred by students?
7. Based on the study's findings, what recommendations could be made to enhance public and private transportation for the UE – Caloocan students?

Significance of the Study

A study on public and private transportation could benefit students of the University of the East Caloocan, parents/drivers, the university, researchers, and future researchers. The results of this research can drive evidence-based improvements in transportation planning, ensuring systems that are equitable, efficient, and aligned with the needs of students.

- Students can gain insight into budget allocation, and time management, in addition to their concerns being addressed hopefully contributing to improved academic performance.
- The University can gain a better understanding of student transportation issues and set achievable goals in alleviating transportation woes of students.
- The government can hopefully gain insight from student commuters and adopt possible ways to improve public transportation.
- Parents/Drivers can better understand the plight of students when it comes to transportation.
- Researchers can gain a deeper understanding of transportation system and the problems it has and possibly investigating ways on improving the system.

Scope and Delimitations of the Study

This study was limited to sixty-four (64) Grade 12 ABM students attending and traveling to the University of the East - Caloocan. The conclusions that can be made may be limited since convenience sampling was used to determine the respondents in the online surveys. The data collected would not be applicable to locations outside of the ones used in the study and would not be accurate to commuters who are not a part of the target population.

METHODOLOGY

Research Design

The primary goal of this research was to obtain a thorough understanding of students' daily experiences and preferences concerning the two modes of transportation by using a quantitative causal-comparative research design, a methodology that helps identify differences between groups based on specific variables.

Additionally, the study employed an embedded mixed-methods design where qualitative data (like open-ended feedback) was gathered to support and elaborate on the findings derived from the primary quantitative analysis.

The study can only suggest that accessibility, convenience, and economical ways are linked to transportation satisfaction or preferences but it cannot prove that one directly causes the other.

Sample and Population

The Grade 12 ABM students of the University of the East Caloocan S.Y. 2023 - 2024 were the participants of this study. The researchers used convenience sampling for easier access to the participants. The sample size for the study was determined using Slovin's Formula, yielding 64 ABM students.

Slovin's Formula: $n = \frac{N}{1+Ne^2}$ With n meaning *Sample Size*; N meaning *Population Size* (with a total of 181 Grade 12 ABM students, minus the 5 student researchers); and e meaning the *Margin of Error* (0.05)	$n = \frac{181-5}{1+(181-5)(0.10)^2}$ $n = \frac{176}{1+(176)(0.10)^2}$ $\boldsymbol{n = 63.768\ or\ 64}$

Data Gathering Tools

Close-ended questions were utilized to make it easier for respondents to answer and allow for efficient data quantification (Yusron, 2022). According to Improta et al. (2019), the Likert scale is a psychometric scale used to measure respondents' opinions in

a quantifiable manner, usually consisting of four or five options. This study used four options, excluding the middle choice to avoid mindless neutrality. These options include: *Not Satisfied, Somewhat Satisfied, Satisfied,* and *Very Satisfied*. The limits of the data collected from the Likert Scale, meanwhile, were set as : *Low* (1.00 – 1.74), *Moderate Low* (1.75 – 2.49), *Moderate High* (2.50 – 3.24), and *High* (3.35 – 4.00).

Data Analysis

The assessment of the respondents was rated based on a four-point Likert scale found in *Table 1.0.*

Table 1.0
Verbal Description of the Likert Scale

SCALE	VERBAL DESCRIPTION
1	Not Satisfied
2	Somewhat Satisfied
3	Satisfied
4	Very Satisfied

Table 2.0.
Limits of the Data Collected from the Likert Scale

SCALE	MEAN RANGE	VERBAL DESCRIPTION
1	1.00 - 1.74	Low
2	1.75 - 2.49	Moderate Low
3	2.50 - 3.24	Moderate High
4	3.25 - 4.00	High

Table 2.0. was used as the verbal description of the numerical options in the questionnaire that the respondents answered. This helped compare public and private transportation based on accessibility, convenience, and economical ways or cost for UE Caloocan students.

The researchers used comparative analysis for this study to compare public and private transportation based on their accessibility, convenience, and economical ways for UE Caloocan students. The researchers then used the mean, variance, and standard deviation in assessing the data.

Ethical Considerations

The research was granted ethical clearance by the CBA College Research Committee. Informed consent and assent were obtained from the respondents.

RESULTS AND DISCUSSION

PROBLEM 1: What are the advantages and disadvantages of public and private transportation for UE – Caloocan students?

Table 3.0. below shows the comparison of public and private transportation in terms of the three variables namely accessibility, convenience, and economical ways. While accessibility pertained to the vehicle itself (whether it was a jeep, a tricycle, a private vehicle, etc.) and the effect of strikes and coding on the availability of transportation, economical ways pertained to the price. This included the gas prices, the distance, and the fare. Meanwhile, convenience pertained to the comfort of the passenger during travel—including during rush hours and under different weather conditions.

The last column shows which of the two modes of transport was more advantageous based each of the three factors. For public transportation, accessibility was rated with a 2.47, economical ways with a 3.07, and convenience with a 2.49. This translates to *Moderate Low*, *Moderate High*, and *Moderate Low* respectively. Private transportation, meanwhile, was rated 3.23 for accessibility, 2.63 for economical ways, and 3.33 for convenience. This translated to *Moderate High*, *Moderate High*, and *High* for each respective factor. In the end, private transportation was rated higher in accessibility and conveniency, but public transportation tied with the former in terms of cost or economical ways. These results are similar to those obtained by Hip (2023.

Table 3.0
Advantages of Public and Private Transportation

INDICATORS	PUBLIC TRANSPOR-TATION MEAN RATING	INTERPRE-TATIONS	PRIVATE TRANSPORTA-TION MEAN RATING	INTERPRE-TATIONS	MORE ADVANTA-GEOUS
Accessibility	2.47	Moderate Low	3.23	Moderate High	PRIVATE
Economical Ways	3.07	Moderate High	2.63	Moderate High	PUBLIC

Convenience	2.49	Moderate Low	3.33	High	PRIVATE

PROBLEM 2: What are the factors affecting public and private transportation for UE – Caloocan students?

Accessibility refers to how easily students can reach transportation options from their homes or schools. Public transportation must have well-distributed routes, safe and reliable stops, and inclusive infrastructure for students with disabilities. Meanwhile, private transportation depends on the availability of vehicles within the family. In rural or underdeveloped areas, lack of transportation services can significantly hinder student attendance and punctuality.

Convenience, meanwhile, involves factors such as travel time, frequency, and reliability of transport services. Lack of personal space is a major issue in public transportation; while with private transportation, both the driver and the passenger have enough space for their own comfort and convenience.

Transportation costs can be a substantial burden for families, especially those from lower socioeconomic backgrounds. Public transportation is generally more affordable than private options, but fare costs can still be prohibitive without student subsidies or discount programs. For private transport, expenses include fuel, maintenance, and possibly hired drivers, which may not be feasible for all households.

Cattaneo et al. (2018) placed emphasis on these three dimensions as they can influence the students' educational experiences and attendance rates. Addressing disparities in transportation access is essential for promoting equity in education.

PROBLEM 3: What is the level of assessment on public transportation among UE – Caloocan students in terms of: (a) accessibility, (b) economical ways/cost, and (c) convenience?

Table 4.0
Level of Student Assessment on Public Transportation

INDICATORS	MEAN RATING	INTERPRETATIONS
Accessibility	2.47	Moderate Low
Economical Ways	3.07	Moderate High
Convenience	2.49	Moderate Low

Table 4.0 shows the mean ratings obtained from the responses on the public transportation alone. The table indicates that accessibility, economical ways, and convenience have a mean rating of 2.47, 3.07, and 2.49 respectively–being rated *Moderate Low*, *Moderate High*, and *Moderate Low* again as followed. This could indicate that according to the respondents, public transportation may not be that worst but is not the best either. Previous studies such as that of Public transportation can still be improved, as evidenced by this study's results and previous Saitluanga & Hmangaihzela (2022) gave similar results where no standout "*Low*"s or "*High*"s, were obtained. It can be inferred that the rating for public transportation maybe average or just enough or average when it comes to the satisfaction of the respondents.

PROBLEM 4: What is the level of assessment on private transportation among UE – Caloocan students in terms of: (a) accessibility, (b) economical ways/cost, and (c) convenience?

Table 5.0
Level of Student Assessment on Private Transportation

INDICATORS	MEAN RATING	INTERPRETATIONS
Accessibility	3.23	Moderate High
Economical Ways/Cost	2.63	Moderate High
Convenience	3.33	High

Table 5.0 shows the mean ratings obtained from respondents on the questionnaire for private transportation alone. These would

be 3.23 for accessibility, 2.63 for economical ways/cost, and 3.33 for convenience. Accessibility and economical ways/cost are both rated as *Moderate High*, and convenience rated as *High*. Private transportation clearly shows higher ratings compared with public transportation specifically in terms of convenience and accessibility. In terms of economical ways/cost, respondents gave both public transportation and private transportation equal rating which is moderate high. Based on these scores, private transportation is considered the better of the two options which is a perspective shared by others as seen in the studies of Mcllroy (2023) and Cattaneo et al. (2018).

PROBLEM 5: Is there a significant difference between the factors affecting the private and public transportation among UE – Caloocan students in terms of accessibility, convenience, and economical ways/cost?

T-test was done to determine whether there is a difference between public and private transportation in terms of the three titular factors. Twelve questions were asked which distributed into the three factors namely accessibility, convenience, and economical ways/cost. The means from these responses are shown below in Table 6.0.

Table 6.0
T-Test

	X_1 ; **Private**	X_2 ; **Public**	X_1^2	X_2^2
Accessibility	3.25	2.36	10.56	5.57
	3.14	2.52	9.86	6.35
	3.31	2.55	10.96	6.50
Economical Ways/Cost	2.50	2.88	6.25	8.29
	2.50	3.02	6.25	9.12
	2.88	3.33	8.29	11.09
Convenience	3.28	1.92	10.76	3.69
	3.42	2.20	11.70	4.84
	3.41	2.78	11.63	7.73
	3.38	2.59	11.42	6.71
	3.25	2.63	10.56	6.92
	3.25	2.81	10.56	7.90
	$n_1 = 64$	$n_2 = 64$		

Results of the T-test showed no significant difference between public and private transportation in terms of accessibility, conveniency, and economical ways/cost.

PROBLEM 6: Which mode of transportation is more preferred by students?

Table 7.0 shows the number of public and private transportation users, as well as those who use both, among the Grade 12 ABM students of the University of the East - Caloocan. There are thirty-five (54.69% of the sixty-four (64) respondents) students who exclusively use public transportation, five (7.81%) who exclusively use private transportation, and seventeen (37.50%) who use both modes interchangeably. This means, that while private transportation is rated higher than public transportation in most categories by the respondents, the affordability of the form of transport tipped the scale in favor of public transportation. These results also mirror other studies such as those of Rodriguez et al. (2020) and Saitluanga & Hmangaihzela (2022), who said that only if given the choice and budget, students and families prefer private transportation. In the end, economical ways is the main priority of students in evaluating their travel options.

Table 7.0
Frequency and Percentage of Respondents' Mode of Transportation

INDICATORS	**FREQUENCY**	**PERCENTAGE**
Public Transportation	35	54.69%
Private Transportation	5	7.81%
Both Transportation	24	37.50%

PROBLEM 7: Based on the study's findings, what recommendations could be made to enhance public and private transportation for the UE – Caloocan students?

Students frequently have to endure transportation problems, which can have major impacts on their academic performance and well-being. While public transportation is often less expensive for students, it might be overcrowded, causes delays, and has limited service hours. If buses, trains, jeeps or tricycles are rare, students who rely on them may struggle to get to early morning lessons or get home safely after late-night study sessions. Long commute times can also limit the amount of time available for learning, extracurricular activities, and rest, resulting in increased stress and exhaustion. Moreover, a problem that the students often experience in commuting is the weather conditions where they have to face floods due to heavy rains that cause delay and increase travel time reducing time for learning, resulting in students being unproductive.

Traffic congestion is a major problem that causes significant delays regardless of the mode of transportation chosen (Mcllroy, 2023). Private transportation has an advantage since private vehicle owners can choose alternative routes to avoid heavy traffic. Public transport follows a fixed route and cannot use alternative routes. Early start for students can only do so much and in the end persistent traffic congestion that leads to delay and tardiness deprives students of attendance in important lectures or academic activities that could contribute to reduced academic performance.

In CaMaNaVa, an urban area with a high population density, traffic congestion is a major issue. The increased reliance on private vehicles worsens the problem, as additional cars on the road cause obstacles, particularly during peak hours. Students, much like other urban residents, regularly face major travel delays that interrupt their schedules and inevitably affect their academic performance.

Public transport can be made more attractive to students by adopting practical changes. The priority is improving the accessibility of the public transit system itself. This means establishing well-organized and strategically located terminals and stops to significantly cut down the time students spend searching for a ride. These designated areas need to be easily reachable, safe, and equipped with essential amenities, such as shelters, seating, and clear signage providing real-time arrival information. Singapore has set a good example in segregating vehicles for different routes such as those vehicles travelling long distance and those with

shorter routes. This segregation could hopefully ease traffic congestion by funneling and filtering the different vehicles according to the specific needs of the passengers better.

In terms of accessibility, public transportation is more accessible than private transportation. Private transportation has a higher cost so the question of sustaining enough funds to maintain and drive privately-owned vehicles should be answered first. In terms of economical ways or cost, Public transportation may be ideal for students who have limited budgets and therefore severely restricted in owning and maintaining their own vehicles. Lastly, convenience remains a significant determining factor. Commuting can be clearly inconvenient especially for one who has a lot of baggage and caught during the rush hour. Private transportation easily is the answer affording convenience and accessibility. Private car owners do have the freedom to choose how much baggage they would transport or what time or route they would travel. Results of this study show that convenience and accessibility may be significant factors depending on the situation but the cost remains the most important factor for students' choice of public transportation.

CONCLUSION

The researchers conducted this study to determine whether the factors (accessibility, convenience, and economical ways/cost) affected the two modes of transportation for Grade 12 ABM students of the University of the East - Caloocan.

While private transportation is the more advantageous option (in both accessibility and convenience), students prioritize the affordability of their transportation–and therefore prefer public transportation. In fact, 54.69% of them use public transportation exclusively. Private transportation's advantages include its availability, as it allows the driver to control their routes, their speed, and gives them more control in general. But, its expenses drag its rating down and often restricts its users. Public transportation's advantages include its affordability. Its accessibility is debatable as the passenger/student lacks control over the vehicle's schedule, and its convenience is lacking as students receive minimum personal space and comfort.

The respondents rated public transportation *Moderate Low* for accessibility and convenience, and *Moderate High* for its economical ways; while they rate private transportation *Moderate High, Moderate High*, and *High* for accessibility, economical ways/cost, and convenience respectively. As shown by the conducted T-test, there is no significant difference to be found between public and private transportation in terms of the three factors.

RECOMMENDATION

Although public transportation is preferred by the majority of the student respondents, it was rated lower than private transportation. This finding indicates the need to improve public transportation for the comfort and use of the masses but, the improvements done should not be at the cost of the transportations' fare. Certain aspects in public transportation can be reviewed and improved to raise the accessibility and convenience level of this transport mode. Terminals can be physically improved and travel time can be shortened and possibly new routes can be introduced for better accessibility. Transportation models in more advanced countries can be studied and their applicability in the country be explored. Future research can look into other population groups aside from students to obtain wider perspectives about the transportation system in the country.

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