Operational and Financial Characteristics of the UP Ikot Jeepneys Amid the 2026 Oil Price Hikes

Paul Anthony F. PRIETO [a], Karl B. N. VERGEL [b]
[a,b] *National Center for Transportation Studies, University of the Philippines Diliman, Quezon City, Metro Manila, 1101, Philippines*
[b] *Institute of Civil Engineering, University of the Philippines Diliman, Quezon City, Metro Manila, 1101, Philippines*
[a] *pfprieto@up.edu.ph*
[b] *knvergel1@up.edu.ph*

Abstract: The global oil price hikes in 2026 led to significant increases in oil prices in the Philippines, posing challenges to public transportation. This study assessed the impacts of oil price hikes on the operational and financial characteristics of the UP Ikot jeepneys in UP Diliman. Operational and financial characteristics were analyzed and compared with previous studies using percent difference and paired t-tests, respectively. The results showed that the passenger demand increased, while the number of daily round trips declined. Fuel costs increased significantly, while take-home pay and rental fees decreased. The interview results revealed that the drivers adopted strategies, such as reducing trips and limiting operations to peak hours, while the commuters experienced longer waiting times. While other factors may have contributed to these changes, the findings show the financial challenges faced by jeepney operations during oil price hikes and emphasize the importance of strengthening public transport resilience.

Keywords: oil price hikes, operational characteristics, financial characteristics, public transportation

1. INTRODUCTION

Geopolitical tensions, supply disruptions, and production adjustments have impacted global fuel prices in 2026. Specifically, the military conflict involving Iran, the United States, and Israel, along with reported attacks affecting oil infrastructure in neighboring countries producing oil such as Saudi Arabia, Kuwait, and the United Arab Emirates, contributed to concerns regarding global oil supply stability (Kilian et al., 2026). As a result, crude oil markets experienced significant volatility due to risks affecting vital routes for international oil shipments, particularly those involving Middle Eastern supply channels and the Strait of Hormuz.

The Philippines is highly vulnerable to fluctuations in global oil markets, as a country dependent on others for petroleum products. Recent analyses, according to data from the Philippine National Oil Company (PNOC) and the Department of Energy (DOE), estimate that the country consumes approximately 33 million liters of diesel and 19-25 million liters of gasoline per day, with the transportation sector accounting for the largest share of this demand (Hilotin, 2026). This heavy reliance on diesel and gasoline exposes the transportation sector to fluctuations in global oil prices, as domestic oil pricing is influenced by global crude oil prices, foreign exchange rates, and regional fuel benchmarks such as the Mean of Platts Singapore (MOPS). As a result, changes in global oil supply and demand conditions are directly reflected in local oil prices.

Figure 1 below shows the weekly common retail price of diesel in the Philippines from February to May 2026. The diesel prices remained at around Php60 per liter from February 24 to March 9 before increasing drastically in the following weeks. The common retail price peaked at Php153.70 per liter during the April 7-13 period, which is more than twice the diesel price before the series of increases. Although the prices subsequently declined, they remained volatile during May (DOE, 2026). This period of elevated and volatile diesel prices provides an important context for the operational and financial characteristics of UP Ikot jeepney services.

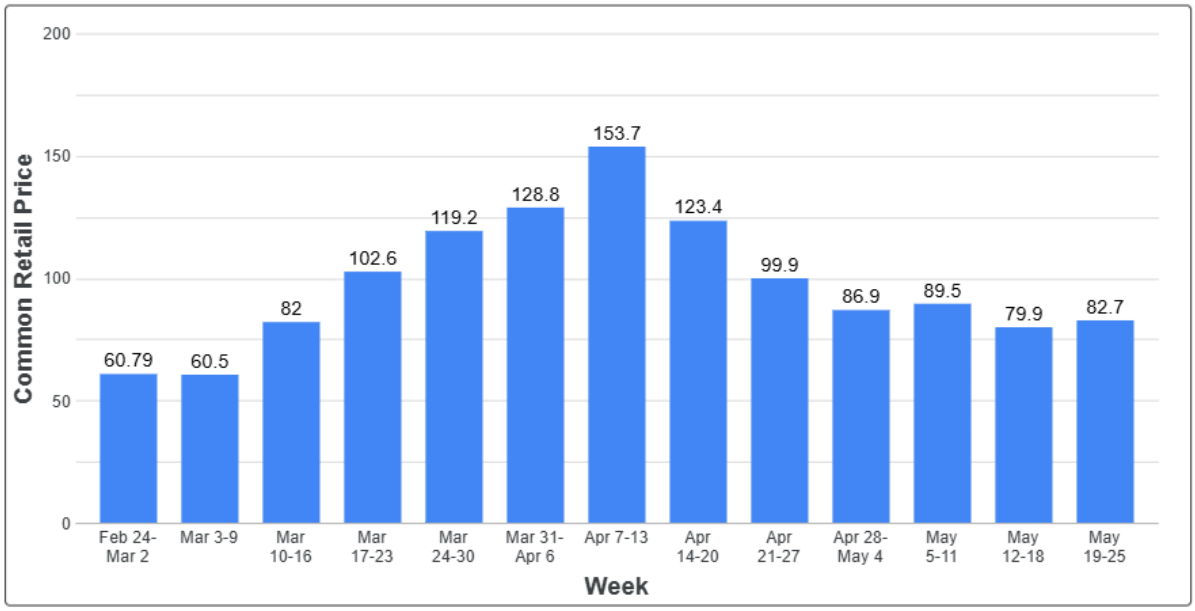


Figure 1. Weekly common retail price of diesel in the Philippines, February to May 2026

These fluctuations have direct implications for public transportation, as fuel expenses represent a major component of their daily operating costs. According to Dimalanta (2025), oil price increases disproportionately affect low-income groups and informal transport workers, including jeepney drivers and operators, whose livelihoods are highly dependent on fuel prices. As fuel costs rise, transport workers experience reduced take-home earnings and increased financial uncertainty. These challenges are particularly relevant to the jeepney sector, which remains a primary mode of public transportation in many parts of the country.

To mitigate the effects of the oil price hikes, the government implemented various assistance programs for the transportation sector. Around 1.8 million beneficiaries from different public transportation sectors received Php5,000 cash aid from DSWD, amounting to a total disbursement of Php9.11 billion (Reganit, 2026). In addition, the DOE expanded its nationwide fuel subsidy, including a ₱10-per-liter fuel subsidy program involving 2,252 participating fuel stations (Guzman, 2026). While these interventions provided temporary relief, questions remain regarding their adequacy in addressing the long-term effects of fuel price volatility and the resilience of transport operators to future oil price shocks.

Within the University of the Philippines Diliman (UPD) Campus, the UP Ikot jeepney service plays a vital role in providing mobility to students, faculty, staff, residents, and visitors. Because the service depends primarily on diesel, it is directly affected by changes in fuel prices. The spike in diesel prices in 2026 likely placed additional financial burden on drivers and operators through higher fuel costs and reduced incomes, which may have influenced their operations. Despite the significance of the 2026 oil price hikes, limited studies have examined their impacts on the operational and financial characteristics of the public transportation, particularly the UP Ikot jeepney service, likely due to its contemporaneous nature.

Understanding these impacts is essential for evaluating the resilience of the UP Ikot jeepney service and identifying measures that can help sustain campus mobility during periods of fuel price volatility.

With this, the study aims to: (1) compare the operational and financial characteristics of the UP Ikot jeepney service from 2023 to 2026, and (2) assess the impacts of the 2026 oil price hikes on the operations, revenues, costs, and service provision of the UP Ikot jeepney service.

2. REVIEW OF RELATED LITERATURE

2.1 Geopolitical Conflicts and Global Oil Price Volatility

Geopolitical tensions in the Middle East significantly influenced global oil prices in 2026. Attacks on energy infrastructure and disruptions to shipping activities in the Strait of Hormuz, a critical route for global oil trade, reduced global oil supply and contributed to a sharp increase in crude oil prices. As a result, Brent crude prices increased to more than 50% above their levels at the beginning of the year and were projected to average US$86 per barrel in 2026, compared to US$69 per barrel in 2025 (World Bank Group, 2026). These point out how conflicts in major regions producing oil can affect global markets and ultimately translate into higher fuel prices in countries such as the Philippines.

The effects of these disruptions were particularly evident in diesel prices. According to Gaudiaut (2026), the escalation of the U.S.-Israel conflict with Iran contributed to significant increases in fuel prices worldwide, with diesel experiencing larger and more rapid price increases than gasoline. This is because diesel is closely linked to global trade, freight transportation, and industrial activities, making it more sensitive to supply disruptions and market uncertainties. As a result, diesel often experiences greater price volatility in times of geopolitical tensions. Given that public utility vehicles, buses, trucks, and other transport services in the Philippines rely predominantly on diesel, increases in diesel prices can significantly raise operating costs and place additional financial burden on transport operators and drivers.

2.2 Fuel Price Movements in the Philippines

Fuel prices in the Philippines are influenced by both global market conditions and domestic pricing factors. The country's fuel pricing mechanism is implemented based on the Mean of Platts Singapore (MOPS), which serves as the benchmark for refined petroleum products traded in the regional market. In addition, domestic fuel prices are affected by foreign exchange rates, taxes, and local distribution costs (Cordero, 2026). As a result, changes in the global oil market are directly reflected in domestic fuel prices.

Based on the weekly Oil Monitor Reports of the Department of Energy from March to May 2026, although gasoline, diesel, and kerosene all experienced price adjustments during this period, diesel exhibited the largest fuel price increases and the greatest price volatility (Department of Energy [DOE], 2026). Since the onset of fuel price increases in March 2026, diesel recorded its highest cumulative increase on April 7, 2026, with a net increase of Php109.85 per liter. During the same period, gasoline and kerosene recorded lower net increases of Php54.20 and Php87.20 per liter, respectively (DOE, 2026). The April 7, 2026, price adjustment was particularly notable, as diesel prices reached Php148.60 per liter following an increase of Php19.80 per liter. However, the largest single-week increase in diesel prices occurred earlier on March 10, 2026, when prices increased by Php24.25 per liter (DOE, 2026).

These trends suggest that diesel prices are particularly sensitive to disruptions in the global oil market, which aligns with findings from previous studies indicating that geopolitical uncertainty drives more frequent fluctuations in diesel prices compared to other fuel types.

The significant increase in diesel prices is particularly relevant to the public transportation sector, where diesel serves as the primary fuel for many public utility vehicles, including jeepneys. Oil price hikes adversely affect their daily operating expenses, income, and overall service viability. These impacts may compel operators and drivers to adopt strategies on their operations to remain financially viable. Therefore, understanding fuel price movements is essential for understanding the economic and operational impacts of oil price hikes on public transportation, such as the UP Ikot jeepney service.

2.3 Impacts of Fuel Price Hikes on Public Transport Operations, Livelihood, and Ridership Behavior

Fuel price hikes have been shown to have significant socioeconomic and operational effects on the public transportation sector. In the Philippines, a study by Acobera (2026) explored the impacts of the 2026 global oil price hikes on jeepney drivers driven by the US-Iran conflict. Based on a survey of 50 jeepney drivers, the study found that the increase in fuel prices significantly affected the drivers' daily operating expenses and income. Results showed that the average daily fuel expenses increased by 169.38%, from Php 871.45 to Php 2,347.50. As a result, their average daily net income declined by 54.54%, from Php 1210.46 to Php 550.23, despite drivers extending their working hours from 9.66 hours to 10.94 hours per day to recover the incurred losses (Acobera, 2026). These findings highlight how fuel price shocks directly strain the financial sustainability of jeepney operations. Similar to Acobera's (2026) study, the present study aims to examine the financial conditions of the UP Ikot Jeepney drivers before and during the 2026 oil price hikes. The shared timeframe and financial conditions emphasize the relevance of Acobera's findings. However, while Acobera's study provides a broader perspective on jeepney drivers across the Philippines, this study narrows its focus to the UP Ikot service. In doing so, it considers the unique operating conditions and route characteristics within the UP Diliman Campus.

Complementing this, a study by Conchas and Apas (2024) analyzed the effects of oil price hikes on the transportation sector in Padada, Davao del Sur, through interviews with fourteen respondents from different transportation sectors. Their study found that oil price hikes negatively affected livelihoods and lifestyles, while also prompting fare adjustments that increased financial pressure on commuters. They further emphasized the need for proactive policies and support programs that would help the transportation sector manage future fuel price increases (Conchas & Apas, 2024). Aligned with these findings, the present study examines how oil price hikes affected the operations and finances of UP Ikot Jeepney drivers and operators. Through interviews, this study explores the changes in their operating characteristics, financial challenges, and coping strategies during the period of oil price hikes. In addition, it incorporates commuter perceptions, particularly on accessibility, affordability, and overall service quality of UP Ikot during the same period.

A study by Alves and Marques da Costa (2024) investigated public transport mobility across 25 European countries following oil price hikes after the 2022 Russian invasion of Ukraine. The results showed that the rising fuel prices contributed to an increase in public transport ridership, as commuters shifted toward more affordable transportation alternatives. This is particularly relevant to the present study, which also examines ridership patterns of UP Ikot Jeepneys during oil price hikes. Similar to their approach, this study uses ridership data of UP Ikot Jeepneys and contextualizes changes in passenger demand during the period of oil price

hikes. By integrating both operational characteristics and commuter experiences, the present study provides a targeted perspective on how oil price hikes may influence public transport reliance within the UP Diliman campus.

3. METHODOLOGY

3.1 Data Collection

Two transport surveys were conducted on May 15, 2026: the Public Transportation Frequency and Occupancy Survey and the Boarding and Alighting Survey. Interviews with UP Ikot drivers, operators, and commuters were also conducted to gather their experiences and perceptions regarding the effects of oil price hikes.

3.1.1 Public transportation frequency and occupancy survey

The Public Transportation Frequency and Occupancy Survey was conducted from 6:00 AM to 9:00 PM. The survey recorded the license plate number, body number, passenger occupancy at departure, and departure time of each UP Ikot jeepney passing through the designated roadside survey stations, namely, Molave Residence Hall (north approach of Roces St. and Magsaysay Avenue) and the National Institute of Geological Sciences (NIGS) (Velasquez St.) shown in Figure 2. The collected data were used to determine the frequency, headway, passenger occupancy, average seating capacity, and passenger demand of the service on both an hourly and a daily basis.



Figure 2. PTFO Survey Stations (retrieved from Delgado and Fredeluces (2025))

3.1.2 Boarding and alighting survey

The Boarding and Alighting Survey was conducted to record passenger boarding and alighting activities at each designated stop and determine passenger occupancy along the UP Ikot route. Instead of depending solely on occupancy observed at the two designated survey locations, the survey was conducted to capture variations in passenger load as the jeepney traveled along the entire route. This provided a more representative estimate of average passenger occupancy for passenger demand calculations. The resulting average occupancy was multiplied by the

corresponding jeepney frequency obtained from the Frequency and Occupancy Survey to calculate the hourly passenger demand. In addition, the data obtained from the survey were used to develop the passenger load profile and examine the distribution of passenger activity across stops and route segments.

3.1.3 Drivers' interview

A total of 15 UP Ikot jeepney drivers were interviewed to gather their operational and financial information. This corresponds to 36.6% of the 41 unique UP Ikot jeepneys operating within the campus during the survey day. Respondents were selected through convenience sampling based on their availability and willingness to participate. The number of drivers available for interview was limited by the available resources and the two-day interview schedule, which coincided with the distribution of fuel subsidies to drivers, affecting their availability for interviews. Given this, the interview sample was not intended to be statistically representative of all UP Ikot drivers. Instead, the interviews were conducted to provide insights into the drivers' operational and financial conditions in addition to their experiences during the oil price hikes.

The interview collected details about their jeepney's license plate number, passenger seating capacity (excluding the driver), and nominal tank capacity. For the subsequent sections, they were asked about the comparison of the parameters before and during the oil price hikes including the schedule of daily operation, number of operating days per week, gross revenue (Php), take-home pay (Php), vehicle rental fee (Php), average number of liters of fuel being filled, average daily fuel cost (Php), fuel price per liter (Php), and other daily costs. They were also asked about the difficulties they experienced and the actions they may take if fuel prices continue to increase.

3.1.4 Operators' interview

The surveyors conducted individual interviews with two UP Ikot Jeepney operators to obtain their operational and financial information. The interview focused on differences in operational information before and during the oil price hikes, such as the number of jeepney units operating, the number of operating days per week, the schedule of daily operation, vehicle rental fee, vehicle registration cost, maintenance cost, and other costs. Operators were likewise asked to share their views on the impact of the fuel price increases and their plans for managing future hikes.

3.1.5 Commuters' interview

A total of 30 commuters were selected to participate in interviews regarding their use of the UP Ikot service. The questions examined their travel patterns and experiences before and during the oil price hikes. The respondents were also asked about changes in their commuting behaviors, their overall assessment of the service, and suggestions for improvement.

3.1.6 Collection of past studies

Relevant studies on UP Ikot jeepney operations were reviewed and compiled. Operational and financial characteristics of UP Ikot jeepneys obtained from these studies served as baseline data for comparing the findings of the present study with previous years.

3.2 Data Processing

3.2.1 Number of units

The number of units (NU) of jeepneys required to sustain the daily operation of UP Ikot was estimated using Equation 1 below, with values derived from the survey results and used as inputs in the calculation.

$$NU = \frac{PD}{UR \times VLF \times NRT \times ASC} \quad (1)$$

where,

PD : passenger demand,
UR : utilization rate,
VLF : viable load factor,
NRT : number of round trips, and
ASC : average seating capacity.

3.3 Data Analysis

3.3.1 Operational and financial characteristics of UP Ikot jeepneys

The data gathered from the drivers', operators', and commuters' interviews were organized and summarized for analysis of the operational and financial characteristics of UP Ikot jeepneys during the study period. The quantitative data related to operations and costs were summarized using averages. Initially, gross revenue was collected to serve as one of the financial indicators. However, inconsistencies in the values reported by the drivers were observed during data validation, which may have been caused by the misinterpretation of gross revenue or variations in how the question was communicated during the interviews. As a result, it was excluded from the statistical and comparative analyses to avoid conclusions based on unreliable datasets. Nonetheless, the study focused on driver take-home pay, vehicle rental fee, and fuel cost, for which the respondents provided more consistent data. Meanwhile, the qualitative data were compiled and grouped according to common themes of the drivers' experiences, challenges, perceptions, and plans related to oil price hikes.

3.3.2 Comparison with past studies

The results of the surveys and interviews were compared with the data collected from the previous years. Operational and financial indicators, including passenger demand, frequency, occupancy, number of round trips, distance traveled, operating days, fuel costs, and driver take-home pay, were examined and compared across the study years. Percent differences were calculated to assess the magnitude of change in each operational and financial characteristic. Also, observed patterns and trends were used to assess how UP Ikot jeepney operations have evolved. The processed data was then used to examine the effects of oil price hikes and compare current operational and financial conditions with those observed in the previous years.

3.3.3 Paired t-test analysis

To determine whether the 2026 oil price hikes resulted in significant changes in the financial characteristics of the UP Ikot jeepney service, paired t-tests were conducted on selected financial indicators, including daily fuel cost, take-home income, and rental fee. These data were obtained from interviews with UP Ikot drivers and represented conditions before and

during the oil price hikes. The paired t-test was selected because the two sets of data were collected from the same drivers, allowing for the comparison of changes in financial characteristics across the two periods. Statistical significance was evaluated at a 95% confidence level (α = 0.05). A p-value less than 0.05 indicated a statistically significant difference between the pre-oil price hike and oil price hike periods. Equation 2 below shows the formula for the t-value

$$t = \frac{\bar{d}}{\frac{s_d}{\sqrt{n}}} \quad (2)$$

where,

d : mean differences,
s_d : standard deviation, and
n : sample size.

4. RESULTS AND DISCUSSIONS

4.1 Operational Characteristics of the UP Ikot Jeepneys

4.1.1 Public transportation frequency and occupancy survey

Table 1 presents the summary of the jeepney frequency, average headway, average seating capacity, and average occupancy per hour. Table 2 presents the hourly and daily comparison of jeepney frequencies from 2023 to 2026. Table 3 represents the hourly and daily comparison of unique jeepney frequencies from 2023 to 2026, which is essential in identifying the number of jeepneys operating on certain periods.

Table 1. Summary of the frequency, average headway, average seating capacity, and average occupancy per hour

Time	Frequency	Average Headway (in mins)	Average Seating Capacity	Average Occupancy
6-7 AM	22	2.73	18.73	5.68
7-8 AM	42	1.43	18.62	5.02
8-9 AM	53	1.13	18.79	7.70
9-10 AM	47	1.28	19.36	6.98
10-11 AM	55	1.09	18.80	6.45
11-12 NN	58	1.03	18.66	8.53
12-1 PM	67	0.90	18.30	7.88
1-2 PM	62	0.97	18.58	8.55
2-3 PM	60	1.00	18.87	10.02
3-4 PM	67	0.90	19.07	6.09
4-5 PM	72	0.83	18.72	7.71
5-6 PM	54	1.11	18.56	9.30
6-7 PM	53	1.13	18.57	9.11
7-8 PM	42	1.43	18.76	8.62
8-9 PM	23	2.61	18.87	11.78
Average	77	1.30	18.75	7.96

Table 2. Comparison of Frequency of Jeepneys from 2023 to 2026

Time	2023	2024	2025	2026
6-7 AM	25	15	26	22
7-8 AM	52	32	41	42
8-9 AM	60	40	55	53
9-10 AM	53	42	53	47
10-11 AM	57	49	62	55
11-12 NN	58	38	63	58
12-1 PM	61	49	66	67
1-2 PM	53	48	67	62
2-3 PM	50	49	65	60
3-4 PM	51	60	70	67
4-5 PM	66	56	75	72
5-6 PM	60	56	70	54
6-7 PM	49	44	53	53
7-8 PM	41	39	43	42
8-9 PM	20	20	28	23
Average hourly (15-hour)	50.00	42.47	55.80	51.80

Source: Andig and Siete (2024) and Delgado and Fredeluces (2025)

Table 3. Comparison of Frequency of Unique Jeepneys from 2023 to 2026

Time	2023	2024	2025	2026
6-7 AM	14	9	14	13
7-8 AM	24	16	21	23
8-9 AM	27	20	28	28
9-10 AM	28	21	31	28
10-11 AM	29	25	35	33
11-12 NN	29	25	33	33
12-1 PM	29	25	35	33
1-2 PM	30	26	36	33
2-3 PM	28	25	32	36
3-4 PM	27	27	36	34
4-5 PM	31	27	38	37
5-6 PM	27	27	35	28
6-7 PM	27	24	32	28
7-8 PM	19	20	22	22
8-9 PM	8	9	14	10
Average hourly (15-hour)	25.13	21.73	29.47	27.93

Source: Andig and Siete (2024) and Delgado and Fredeluces (2025)

The survey results do not support the drivers' responses regarding the adjustments they made to their operations during the oil price hikes. Findings from the drivers' interview revealed that some drivers minimize their operations to peak hours and wait longer before departing to maximize passengers, while others reduce the number of daily trips to minimize fuel consumption and operating costs. Furthermore, these supposed changes were also reflected in the commuters' interview, with several passengers reporting longer waiting times due to the lower number of jeepneys operating.

If these adjustments had been widely implemented, a significant reduction in jeepney frequency and number of unique jeepneys operating would be expected, particularly during off-peak periods. However, the survey results indicate otherwise, as the recorded jeepney frequencies and the number of unique jeepneys operating during both peak and off-peak hours remained the second highest among the four years of available data. These findings suggest that the adjustments reported by the drivers were not significant enough to affect the overall service.

4.1.2 Boarding and alighting survey

Table 4 presents the hourly results of the Boarding and Alighting Survey conducted from 6:00 AM to 9:00 PM. Table 5 presents the hourly and daily comparison of passenger demand from 2023 to 2026. The passenger demand below was calculated by multiplying the average occupancy per hour and the frequency collected in the Frequency and Occupancy Survey.

Table 4. Summary of Total Occupancy, Number of Trips, and Average Occupancy per hour

Time	Total Occupancy	Number of Trips monitored by the Survey	Average Occupancy per hour	Passenger Demand
6-7 AM	49	4	5.82	128
7-8 AM	67	4	7.81	328
8-9 AM	60	4	7.49	397
9-10 AM	85	4	9.47	445
10-11 AM	63	3	10.66	586
11-12 NN	83	4	10.99	637
12-1 PM	72	3	9.35	626
1-2 PM	85	4	9.70	601
2-3 PM	68	4	7.99	479
3-4 PM	70	4	9.16	614
4-5 PM	49	3	9.33	672
5-6 PM	47	3	10.52	568
6-7 PM	54	4	8.26	438
7-8 PM	78	4	8.91	374
8-9 PM	63	3	9.96	229
Total/Average	993	3.67	9.03	7122

Table 5. Comparison of Passenger Demand from 2023-2026

Time	April 2023	July 2024	October 2025	May 2026
6-7 AM	106	71	212	128
7-8 AM	318	184	344	328
8-9 AM	527	322	535	397
9-10 AM	466	323	379	445
10-11 AM	367	256	487	586
11-12 NN	459	261	743	637
12-1 PM	555	356	411	626
1-2 PM	516	343	461	601
2-3 PM	419	345	638	479
3-4 PM	464	299	606	614
4-5 PM	420	318	583	672

Time	April 2023	July 2024	October 2025	May 2026
5-6 PM	319	442	781	568
6-7 PM	782	406	464	438
7-8 PM	351	245	437	374
8-9 PM	189	169	263	229
Per day	6258	4339	7344	7122

Source: Andig and Siete (2024) and Delgado and Fredeluces (2025)

Most drivers reported a decline in passenger volume, while most commuters stated that they started walking more frequently during the oil price hikes. In contrast, the results revealed that passenger demand was higher than that recorded in previous years. One possible explanation for this discrepancy is expectancy bias, wherein the respondents tend to perceive and interpret their experiences based on prior expectations or beliefs (NeuroLaunch, 2024). With the concern regarding oil price hikes and their anticipated effects on transportation, drivers and commuters may have perceived a decline in passenger volume even when actual passenger demand remained stable. Nevertheless, other factors, including variations in travel patterns and differences in survey periods, may also have contributed to these perceptions. The 2024 survey was conducted in July, a period that typically experiences lower travel demand within the university due to the academic calendar. In contrast, the surveys in 2023, 2025, and 2026 were conducted in April, October, and May, respectively, all of which fall within the regular academic semester when campus activity and passenger demand are generally higher.

4.1.3 Estimation of optimal number of UP Ikot jeepneys

Table 6 shows the estimated optimal number of jeepneys required to operate during AM peak hour, PM peak hour, and off-peak hour based on passenger demand, utilization rate, viable load factor, average seating capacity, and number of round trips. In particular, the Local Public Transport Route Plan Manual of DOTr (2017) specifies the range of acceptable VLF as 0.60 to 0.80. Since the calculated passenger load factors fall outside this range, a VLF of 0.60 was adopted for the analysis, which provides a more conservative basis for calculating the required number of units. It also assumes that the jeepneys are already receiving a viable profit at 60% average occupancy. Furthermore, Table 7 presents the comparison of the optimal number of jeepneys required from 2023 to 2026 during the AM peak hour, PM peak hour, off-peak hour, and daily. The results show that the fleet requirement varies across years and operating periods.

Table 6. Optimal Number of UP Ikot Jeepneys at Selected Hours

Period	Passenger Demand	Utilization Rate	Viable Load Factor	Average Seating Capacity	Number of Round Trips	Number of Units
AM Peak Hour	637	0.71	0.60	18.66	1.76	46
PM Peak Hour	672	0.71	0.60	18.72	1.95	43
Off-Peak Hour	128	0.71	0.60	18.73	1.69	9
Daily	7,122	0.71	0.60	18.75	1.87	32

Table 7. Comparison of Optimal Number of Jeepneys in 2023-2026

Period	2023	2024	2025	2026
AM Peak Hour	40	25	48	46
PM Peak Hour	73	34	48	43
Off-Peak Hour	10	6	14	9
Daily	36	23	32	32

Source: Andig and Siete (2024) and Delgado and Fredeluces (2025)

The discrepancy in the calculated optimal number of jeepneys across the study years may be partly attributed to the various periods in which the surveys were conducted, as explained in the last paragraph of 4.1.2, which in turn significantly affected the passenger demand and utilization rate.

4.2 Financial Characteristics of the UP Ikot Jeepneys

The data shown in the table below were obtained from the interviews with the drivers. They were able to share their estimated expenses before and during the oil price hikes. Table 8 presents the operational and financial characteristics of UP Ikot jeepneys before and during the oil price hikes.

Table 8. Financial Characteristics of the UP Ikot Jeepney Before and During the Oil Price Hikes based on the Drivers' Interview

Parameters	Before Oil Price Hike (2026)	During Oil Price Hike (2026)	Percent Difference
Hours of Operation	12 hrs 44 mins	12 hrs 28 mins	-2.12%
Number of Days of Operation per Week	4.53	4.40	-2.99%
Fuel Cost	₱1,283.33	₱2,393.33	60.38%
Take-home pay	₱1,173.33	₱623.21	-61.24%
Vehicle Rental Fee	₱953.57	₱742.86	-24.84%

After calculating the percent differences of the data provided by the drivers during the interview, paired t-tests were conducted to determine if a statistically significant difference exists between the selected variables before and during the oil price hikes. Table 9 below shows that the gross revenue, take-home pay, fuel cost, and rental fee all have statistically significant differences before and during the oil price hikes, as their p-values are less than the significance level of 0.05. These results suggest that the changes in financial characteristics were not coincidental and may be linked to operating characteristics during the oil price hikes.

The statistically significant differences indicate that the financial characteristics of the jeepney drivers changed considerably before and during the 2026 oil price hikes. These results should be interpreted as changes that occurred during the oil price hikes rather than as effects solely attributed to the increases in fuel prices. Other factors such as differences in survey periods explained in 4.1.2, passenger demand, number of trips completed, and operating hours may have also contributed to the observed differences.

Table 9. Paired t-test results for selected financial characteristics of UP Ikot jeepneys before and during the 2026 oil price hikes

Variable	Average Before Oil Price Hikes	Average During Oil Price Hikes	Mean Difference	t-value	p-value	Interpretation
Take-home pay	1,173.33	623.21	-609.62	-6.09	<0.001	Significant decrease
Fuel cost	1,283.33	2,393.33	1,110.00	5.22	<0.001	Significant increase
Rental fee	953.57	742.86	-210.71	-4.19	<0.001	Significant decrease

Table 10 presents the operational and financial characteristics of UP Ikot jeepneys from 2024 to 2026, based on the studies of Andig and Siete (2024), Delgado and Fredeluces (2025), and the present study (2026). It provides a descriptive comparison of some operational and financial characteristics reported across three years.

The comparison across 2024, 2025, and 2026 should be interpreted with caution, as differences in operating and socioeconomic conditions during each respective survey period may have contributed to the variations in the operational and financial characteristics of the UP Ikot jeepneys presented in Table 10. In addition, differences in methodologies and parameters adopted across the studies should be considered when interpreting and analyzing the results. Therefore, the comparison is only intended to describe the changes and trends in the jeepney operations and should not be used to attribute these differences exclusively to the oil price hikes in 2026.

Table 10. Operational and Financial Characteristics of UP IKOT Jeepneys based on previous studies from 2024 to 2026

Parameter	Andig and Siete (2024)	Delgado and Fredeluces (2025)	This Study (2026)
Number of Round Trips	30.40	20.76	18.95
Distance covered per day (in kilometers)	161.42	110.24	100.62
Average Number of Days of Operation per Week	4.33	4.88	4.40
Average Vehicle Rental Fee (Php) per day	980	1,000	742.86
Average Driver's Take Home Pay (Php) per day	980	1,200	623.21

These findings indicate that despite continued operations, drivers experienced reduced income during the 2026 oil price hikes. The decline in income is consistent with interview responses in which drivers reported that a large portion of their earnings was allocated to fuel expenses and rental fees, with some drivers even experiencing days when their earnings were insufficient to cover operating costs.

5. CONCLUSION

This study was conducted to evaluate the effects of the 2026 oil price hikes on the operational and financial characteristics of the UP Ikot jeepneys. Specifically, it gathered and assessed changes in operations, finances, passenger demand, and stakeholder experiences due to the oil price hikes.

The results of the study revealed that passenger demand remained high and increased compared with previous years. Likewise, the operating days and average seating capacity remained virtually the same, which suggests that drivers maintained their weekly schedules. Although some drivers reported reducing the number of daily trips and adjusting their operating schedules in response to the oil price hikes, in addition to commuters observing lower frequencies of jeepneys, the observed jeepney frequencies and the number of unique jeepneys in operation remained comparable to those of previous years. These findings suggest that the adjustments and reductions reported by the drivers and commuters were not substantial enough to affect the overall service operation of UP Ikot jeepneys.

In terms of financial characteristics, the oil price hikes increased the drivers' operating costs and reduced their take-home pay significantly. The paired t-test confirmed statistically significant differences in take-home pay, fuel costs, and rental fees before and during the oil price hikes. The interview findings further revealed that the drivers adopted various coping strategies in response to higher operating costs, which include reducing the number of trips, concentrating operations during peak hours, and waiting longer for passengers in stops before departing. These findings indicate that the oil price hikes considerably changed the drivers' financial and operational characteristics.

Overall, the study found notable changes in the operational and financial characteristics of UP Ikot jeepneys during the oil price hikes in 2026. The higher diesel prices significantly reduced the drivers' incomes, which encouraged them to adjust their operations to continuously meet the higher passenger demand and cope with the prevailing conditions. However, these changes cannot be solely attributed to increases in fuel prices, as other factors, such as survey periods, passenger demand, number of trips completed, and operating hours, may have also influenced the observed results. Therefore, comparisons with the 2024 and 2025 studies should be primarily interpreted as trends rather than direct evidence of the effects of oil price hikes. Nevertheless, these findings exhibit the vulnerability of jeepneys to fuel price volatility and emphasize the need for proactive strategies and policy interventions to mitigate its effects.

6. RECOMMENDATIONS

Based on the findings of this research, future studies are encouraged to expand the scope of the investigation by increasing the number of respondents for stakeholder interviews and extending the survey period over several weeks or months to capture longer-term operational trends. Future studies may also provide a more comprehensive assessment of passenger travel behavior before and during oil price hikes, examine the long-term effects of fuel price volatility on public transportation, and evaluate the effectiveness of government programs and subsidies in improving the resilience of public transportation.

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