

FUEL SUBSIDY REMOVAL AND TRANSPORTATION IN BIU LOCAL GOVERNMENT AREA, BORNO STATE

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ABSTRACT

This study assessed fuel subsidy removal and transportation in Biu Local Government Area, Borno State. Specifically, it examined the effect of subsidy removal on vehicle operation and transportation costs. A descriptive survey research design was adopted. The study involved 200 respondents selected from transport operators and transportation-dependent business operators in Biu LGA. Data were collected using a structured questionnaire. Descriptive statistics, including frequency, percentage and mean, were used in the analyses of the data, with a criterion mean of 3.00 for decision-making. The findings showed that fuel subsidy removal substantially increased the operating costs of commercial vehicles, particularly daily fuel expenses. The study also found that changes in PMS prices and transportation fares affected transport operations, with a grand mean of 3.87, indicating agreement among respondents. Increased transportation costs were also associated with delays in movement and other activities. The study concluded that fuel subsidy removal placed considerable cost pressures on road transport operators and transportation-dependent businesses in Biu LGA. It recommends that government strengthen targeted transport support and cost-reduction measures to reduce the burden on transport operators and transportation-dependent businesses.

Keywords: Fuel subsidy removal; PMS prices; Transportation fares; Road transportation; Biu Local Government Area.

Introduction

Road transportation is an essential component of economic and social activities because it enables the movement of people, agricultural products, goods, services and business inputs between different locations. In Biu Local Government Area of Borno State, road transportation provides an important link between the local population and major towns and commercial centers, including Gombe, Kano, Numan, Damaturu, Maiduguri, Abuja, Yola, Mubi and Kaduna. Commercial buses, taxis, tricycles and motorcycles are widely used for these movements. Consequently, changes in the price of Premium Motor Spirit (PMS) have important implications for transport operators, passengers and businesses that depend on road transportation.

Prior to the removal of the petrol subsidy, the Federal Government regulated the domestic price of PMS in an attempt to keep petrol affordable to consumers. During the three-year period preceding subsidy removal, 2020–2022, the regulated petrol-price environment generally kept the cost of fuel below the levels subsequently experienced after the policy change. This relatively lower fuel-price environment helped transport operators manage their daily fuel expenditure and enabled passengers to travel at comparatively lower fares. However, the subsidy system also involved substantial government expenditure and created fiscal pressures.

The situation changed significantly in May 2023, when the Federal Government removed the petrol subsidy. The policy resulted in a major increase in PMS prices and consequently affected the cost structure of road transportation. National Bureau of Statistics (NBS) data show the magnitude of the change: the average retail price of PMS was ₦238.11 per litre in May 2023, but increased to ₦769.62 per litre in May 2024, representing a 223.21% year-on-year increase. By October 2024, the national average had risen to ₦1,184.83 per litre, compared with ₦630.63 in October 2023. Importantly for Borno State, the NBS reported an average PMS Price of ₦1,283.79 per litre in Borno State in October 2024 and in 2026 the price raised to ₦1,530 per litre, indicating that the effect was also substantial in the study area, National Bureau of Statistics. (2026)

The three-year period following the subsidy removal, 2023–2025, therefore represents an important period for examining changes in fuel prices and transportation costs. The available NBS records indicate that PMS prices continued to fluctuate after the initial increase rather than returning to the pre-subsidy-removal price structure. For example, NBS reported national average PMS prices of ₦1,258.34 in January 2025, ₦1,245.80 in February 2025 and ₦1,261.65 in March 2025. This pattern demonstrates that the post-removal period was characterized by substantially higher fuel costs than the earlier regulated-price period.

The increase in PMS prices was accompanied by changes in public transportation fares. In the North-East, transport companies adjusted fares to reflect higher fuel and operating expenses. For example, a 2023 Borno Express fare revision reported increases in fares from Borno to Abuja, Kaduna, Yola, Kano, Gombe and Mubi even though was not within the study area. The reported fare from Borno to Abuja increased from ₦15,000 to ₦19,500, while fares to Kaduna and Yola increased from ₦9,000 to ₦11,000. Kaduna ₦14,000 to ₦19,000. The fare to Kano and Gombe increased from ₦4,000 to ₦6,000, Kano ₦23,000 to ₦26,000, while the fare to Mubi increased from ₦5,000 to ₦7,500. These changes illustrate how higher PMS prices were transmitted into passenger transportation costs (Field Survey/Transport Operators' Records, 2026).

For residents of Biu LGA, the implications are particularly relevant because many journeys are made along routes connecting Biu with Gombe, Kano, Numan, Damaturu, Maiduguri, Abuja, Yola, Mubi and Kaduna. Changes in fares on these routes affect commuters, traders, students, farmers, workers and other residents who depend on road transportation. Higher fares increase the amount of money required for travelling and may also increase the cost of moving

agricultural produce and merchandise between Biu and other markets. Thus, the relationship between PMS prices and transport fares is important in understanding the wider socio-economic effects of subsidy removal in Biu. Therefore, comparing the three years before subsidy removal (2020–2022) with the three years after the policy change (2023–2025) provides a useful basis for understanding the changes associated with PMS prices and road transportation. Such a comparison makes it possible to examine the transition from the subsidized-price period to the post-subsidy period and to relate changes in fuel prices to transportation fares, vehicle operation and maintenance, and business activities.

Despite the national importance of fuel subsidy removal, much of the available discussion focuses on national fuel prices, inflation and general transportation costs. Less attention has been given to how the policy has affected transportation within specific local government areas such as Biu, particularly the fares charged on important inter-city routes and the experiences of local transport operators and transportation-dependent businesses. The present study therefore focuses on Fuel Subsidy Removal and Transportation in Biu Local Government Area, Borno State, examining the changes in PMS prices and transport fares over the three-year periods before and after subsidy removal and assessing their implications for vehicle operation, maintenance and business performance.

Statement of the Problem

Fuel subsidy removal has significantly changed the cost of petroleum products and created new challenges for road transportation in Nigeria. Since commercial transport operators depend heavily on Premium Motor Spirit (PMS), increases in fuel prices directly affect their daily operating expenses and may lead to adjustments in transportation fares. Higher fares can, in turn, affect passenger patronage, travel frequency, operators' income, and the regularity of transport services. In Biu Local Government Area of Borno State, road transportation is an important means of movement for people, goods and services. The removal of the fuel subsidy has exposed transport operators to substantial changes in PMS prices, making it difficult for some operators to maintain their previous fare structures. The situation is particularly important for intra-town and inter-town transport services because operators must balance increased fuel expenditure with passengers' ability to pay higher fares. Frequent changes in PMS prices may also create uncertainty in planning daily trips and determining appropriate transportation charges.

Despite the importance of road transportation to the local economy, limited attention has been given to the specific relationship between changes in PMS prices and transportation fares among transport operators in Biu LGA. Existing studies have largely focused on national or state-level effects of fuel subsidy removal, which may not adequately reflect the experiences of transport operators and passengers in Biu. Differences in travel distances, passenger demand, vehicle types, fuel consumption and local operating conditions may produce different transportation outcomes across locations. The problem, therefore, is the limited empirical evidence on how changes in PMS prices following fuel subsidy removal have influenced transportation fares and the operation of road transport services in Biu LGA. This study therefore examines the changes in PMS prices and transportation fares and their implications for transport operators in the study area.

Objective of the Study

The main objective of this study is examines fuel subsidy removal and transportation in Biu local government area, Borno State. Specifically, the study seeks to:

1. To examine the changes in PMS prices and transportation fares in Biu Local Government Area, Borno State.

Operational Definition of Terms

The following terms are operationally defined:

Fuel Subsidy Removal: In this study, fuel subsidy removal is regarded as that withdrawal of government financial support that previously helped in reducing the market cost of Premium Motor Spirit (PMS), resulting in changes in petrol prices and transportation costs in Biu LGA.

PMS (Premium Motor Spirit): In this study, PMS simply express to the petrol used by commercial vehicles and other road transport vehicles for their daily movement within and outside Biu LGA.

Transportation Fare: This denotes to that amount of money paid by passengers to travel by road from Biu to such destinations such as Gombe, Kano, Numan, Damaturu, Maiduguri, Abuja, Yola, Mubi and Kaduna.

Road Transportation: In this study, road transportation refers to the movement of passengers and goods within and from Biu LGA using vehicles such as buses, taxis, tricycles and motorcycles

Transport Operators: These are individuals or groups operating commercial vehicles to convey passengers or goods on routes within and connecting Biu LGA with other locations.

Vehicle Operating Cost: This refers to the expenses incurred by transport operators in running their vehicles, particularly expenditure on PMS and other routine expenses associated with daily transportation activities.

Biu Local Government Area: This refers to the geographical area in Borno State where the study is conducted, focusing on the experiences of road transport operators and transportation users affected by changes in PMS prices and transportation fares.

Theoretical Framework

Social Stress Theory

Social Stress Theory, developed by Pearlin et al. (1981), explains how social and economic conditions can expose individuals and groups to stress and affect their daily activities. The theory assumes that changes in the social and economic environment can create stressful conditions and that people exposed to greater economic pressures may experience greater difficulties in meeting their normal responsibilities. In relation to this study, the removal of fuel subsidy and the resulting increase in PMS prices can be viewed as economic stressors that affect road transportation activities in Biu Local Government Area.

Despite all this the theory was criticized as placing considerable emphasis on external sources of stress and may give insufficient attention to differences on individual responses and coping strategies. Its limitation even though does not specifically explain the mechanisms through which changes in fuel prices are translated into transportation fares and changes in transport operations. Yet, the theory is relevant to the study because it provides a basis for understanding how changes in fuel prices and transportation fares could create economic pressure for transport operators and road users in Biu LGA.

Empirical Review

Recent empirical studies were reviewed on fuel subsidy removal and transportation in Borno State and states of Nigeria.

Mohammed, Ahmed and Adedeji (2020) examined Assessment of Impact of Fuel Subsidy Removal on Socio-economic Characteristics: A Survey of Households in Maiduguri, Borno State, Nigeria. The study assessed the effects of subsidy removal on households in Maiduguri. The authors focused on the implications of the policy for household socioeconomic conditions and welfare. The study is relevant to the present research because Maiduguri is within Borno State and provides evidence of how changes associated with fuel subsidy policies can affect households.

However, the study focused on household socioeconomic conditions rather than specifically examining transportation fares and transport operators in Biu LGA. The study differed with current study in population, not household rather transport operators and scope of study.

Adepoju, Balogun and Bekesumowei (2023). The researchers used secondary data obtained from sources including the World Bank, Statista and PMS Price records covering 2011–2023. Their findings linked fuel subsidy removal with increased transportation costs and wider economic implications. The study is particularly relevant because two of the authors were affiliated with Nigerian Army University, Biu, Borno State. However, its national-level secondary-data approach did not provide primary evidence on transportation experiences in Biu LGA. Though this study used respondents but current study dwelt on different scope.

Ali, Ahmad and Jibrilla (2024) examined An Empirical Analysis of the Immediate Socio-Economic Impact of Fuel Subsidy Removal on Households' Living Standard in Adamawa State, Nigeria. The study covered six LGAs, including Numan, Demsa, Yola North, Yola South, Mubi North and Mubi South, and involved 400 respondents. The researchers examined the immediate socioeconomic consequences of subsidy removal on households. The study provides useful evidence from Adamawa State, a neighboring state to Borno, but its main focus was household living standards rather than road transportation and transportation fares. Yet it differed in terms of tools of analysis, and scope.

Abdulyakeen and Mumuni (2024) studied Challenges of Fuel Subsidy Removal on the Nigerian Economy: A Study of Gombe State. Using a survey design and questionnaires, the study examined the implications of subsidy removal in Gombe State. The findings reported increased inflation, reduced economic welfare and an increase in transportation fares of about 35% among the effects associated with subsidy removal. The study is relevant because Gombe shares a close transportation and commercial relationship with Biu and is one of the major destinations served by road transport from Biu. However, the study considered Gombe State generally rather than transportation activities in Biu LGA specifically.

Maimodu, Ahmadu, Geidam and Sultan (2024) investigated Incessant Hike in Transportation Costs and Transportation Fare: Investigating the Role of Subsidy Removal in Nigeria. The study was conducted by researchers from Mai Idris Aloomo Polytechnic, Geidam, Yobe State. The study examined the relationship between fuel prices, transportation costs and transportation fares, recognizing fuel as an important factor influencing transport costs in Nigeria. Its geographical location makes it relevant to the present study because Yobe is a neighboring state to Borno and shares important road-transport connections with the state. However, the study was not specifically focused on Biu LGA.

Bashir (2026) examined An Analysis of the Effects of Fuel Subsidy Removal on Cost of Transportation in Northern Nigeria. The study specifically considered the effects of fuel subsidy removal on transportation costs and associated socioeconomic consequences in Northern Nigeria. It adopted a desk-review methodology using scholarly publications, government reports, policy documents and institutional publications. The study concluded that the removal of subsidy had important implications for transportation costs in the northern region, where road transportation is a major means of moving people and goods. Although the study provides useful regional evidence, its reliance on secondary materials and its broad Northern Nigerian coverage leave a gap concerning primary evidence from transport operators and users in Biu LGA.

Summary of the Empirical Gap

The reviewed studies demonstrate that fuel subsidy removal has been associated with higher transportation costs, increased fares and broader socioeconomic pressures in Borno,

Adamawa, Gombe and Yobe States. However, most of the studies examined households, general socioeconomic welfare, agricultural activities or broad regional transportation costs. There is limited empirical evidence specifically examining changes in PMS prices and transportation fares on routes connecting Biu with Gombe, Kano, Numan, Damaturu, Maiduguri, Abuja, Yola, Mubi and Kaduna. This gap provides justification for the present study on fuel subsidy removal and road transportation in Biu Local Government Area, Borno State.

Methodology

The study adopted a descriptive survey design and was conducted in Biu Local Government Area, Borno State, located approximately between 10°36'N and 12°11'E. the projected population growth of Biu was approximately 295,456 persons in 2026. The population comprised road transport operators and users of commercial buses, taxis, tricycles and motorcycles. A purposive sampling technique was used to select respondents with relevant transportation experience, while 200 respondents were selected because the number was considered adequate and manageable for the study.

Data were collected using a structured questionnaire based on the study objectives. The instrument employed a five-point Likert scale: Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), and Strongly Disagree (1). Content validity was established through review by the supervisor and relevant experts, while a pilot test was conducted to improve unclear items. Reliability was assessed using Cronbach's alpha, with an acceptable coefficient of 0.70 or above adopted as evidence of internal consistency.

Questionnaires were administered directly to selected respondents at motor parks and transportation points in Biu LGA. Data were analyzed using frequency, percentage, mean and standard deviation and presented in tables. A criterion mean of 3.00 was adopted; mean scores of 3.00 and above indicated agreement, while scores below 3.00 indicated disagreement. Ethical requirements were observed through informed consent, voluntary participation, confidentiality and the use of information strictly for academic purposes.

Results and Discussions

This section presents and discusses the results

Table 1: Socio - Economic Characteristics of the Respondents

Variables	Frequency	Percentage
Sex		
Male	196	98
Female	4	2
Age		
18-25	5	2.5
26-35	90	45
36-45	50	25
46-55	30	15
56 years and above	25	12.5
Educational level		
Primary education	55	27.5
Secondary education	75	37.5
Tertiary education	25	12.5
No formal education	45	22.5
Years of Experience as a Driver/transport operator		
Less than 5 years	75	37.5
5-10 years	30	15
11-15 years	23	11.5
16-20 years	17	8.5
21 years and above	55	27.5
Type of Vehicle you operate		
Tricycle (Keke)	100	50
Bus/taxi/car	55	27.5
Pickup/another commercial vehicle	45	22.5
Main type of transportation services		
Intra-town	110	55
Inter-town	40	20
Both intra-town and inter-town	50	25

Source: Field Survey, 2026.

Table 1 shows that the respondents were predominantly male (98%), while females accounted for only 2%. The largest age group was 26–35 years (45%), indicating that most respondents were within the economically active population. In terms of education, 37.5% had secondary education, while 27.5% had primary education. Also, 50% operated tricycles, and 55% provided intra-town transportation services. These characteristics provide an important background for understanding how fuel subsidy removal affects transport operators in Biu LGA. The predominance of male transport operators is consistent with the nature of commercial road transportation reported in previous Nigerian studies. Mohammed, Ahmed and Adedeji (2020) noted the strong dependence of households and commercial activities on petroleum products, making transport operators particularly exposed to changes in fuel prices. Their observation is relevant to the present study

because the respondents mainly depend on petrol-powered vehicles for their livelihoods. The finding also relates to Adepoju, Balogun and Bekesuomowei (2023), who examined fuel subsidy removal and transportation costs in Nigeria using PMS Price, inflation and GDP data. They found a strong relationship between increasing fuel prices and broader economic pressures, including transportation costs. This supports the relevance of the present respondents, particularly the 50% who operate tricycles and the 55% involved in intra-town services.

Similarly, Abdulyakeen and Mumuni (2024), in their study of Gombe State, found that subsidy removal increased transportation fares by about 35%, alongside increased inflation and reduced economic welfare. Since Biu is also located in the North-East, the concentration of respondents in local transport services provides a useful basis for examining similar effects in the study area. The distribution of respondents by years of experience is also important. The presence of operators with less than five years of experience (37.5%) alongside those with 21 years or more (27.5%) means that the study captures experiences from both relatively new and highly experienced operators. This provides a broader basis for assessing changes in transportation resulting from fuel subsidy removal.

Ali, Ahmad and Jibrilla (2024), Maimodu, Ahmadu, Geidam and Sultan (2024), Bashir (2026), and Gambo, Ahmad and Dahiru (2026) similarly provide evidence on the socio-economic and transportation consequences of fuel subsidy changes. Their studies reinforce the importance of considering operators' socio-economic characteristics when examining fuel-price effects. Overall, the characteristics in Table 1 show that the respondents constitute a relevant group for assessing the effects of fuel subsidy removal on vehicle operation, maintenance costs and transportation services in Biu LGA.

Table 2: Examining changes in PMS Prices and Transportation Fares in Biu Local Government Area, Borno State.

S/N	PMS and transportation fares	SA	A	D	SD	U	TOTAL	MEAN	DECISION
1	PMS prices have increased the amount transport operators spend on fuel in Biu LGA.	750	180	9	2	1	942	4.71	Agreed
2	Frequent changes in PMS prices have made difficulties for transport operators to plan their daily operations.	650	200	30	10	5	895	4.48	Agreed
3	Increases in PMS prices does not compelled transport operators to increase transportation fares.	5	8	411	116	2	542	2.71	Disagreed
4	Increased PMS prices have reduced the number of trips made by transport operators	250	200	240	36	2	728	3.64	Agreed
5	Changes in PMS prices have affected the income of transport operators	250	200	240	40	0	730	3.65	Agreed
6	Increased transportation fares have affected passenger patronage of transport operators	335	212	150	56	2	755	3.78	Agreed
7	Changes in PMS prices have made long-distance routes from Biu more expensive for transport operators to operate	510	272	60	14	3	859	4.3	Agreed
8	Increased PMS prices have affected the ability of transport operators to maintain regular transportation services.	250	280	150	40	10	730	3.65	Agreed
9	Changes in PMS prices and transportation fares have significantly affected the overall operations of transport operators	225	380	144	24	0	773	3.87 Grand Mean (3.87)	Agreed

NB: Response Scale: (SA) = 5, (A) = 4, (U) = 3, (D) = 2, (SD) = 1, Decision Mean = 3.00.

Source: Field survey, 2026

The table shows that the respondents generally perceived changes in PMS prices and transportation fares as having substantial effects on transport operations in Biu LGA, with a grand mean of 3.87, indicating agreement. The strongest response was that increased PMS prices raised operators' fuel expenditure (mean = 4.71), followed by difficulties in planning daily operations due to frequent changes in PMS prices (mean = 4.48). This suggests that changes in fuel prices directly affect the operating conditions of transport operators.

The finding agrees with Mohammed, Ahmed and Adedeji (2020), whose study in Maiduguri examined the socio-economic effects of fuel subsidy removal and highlighted the importance of fuel-price changes to household welfare in Borno State. Their study is particularly relevant because it was conducted in the same state, although it focused on households rather than transport operators. Similarly, Adepoju, Balogun and Bekesumomwei (2023) found a relationship between PMS prices, inflation and transportation costs using national secondary data for 2011–2023. Their study reported that increasing fuel prices were associated with higher transportation costs. The present finding supports this evidence by providing primary, location-specific evidence from Biu, where transport operators reported increased fuel expenditure and operational difficulties. The result also corresponds with Ali, Ahmad and Jibrilla (2024), who investigated the immediate socio-economic consequences of fuel subsidy removal among 400 households across six LGAs in Adamawa State. Their study provides evidence from a neighboring North-Eastern state; however, its household-based approach differs from the present study, which directly examines transport operators.

Furthermore, Abdulyakeen and Mumuni (2024) reported that fuel subsidy removal in Gombe State increased transportation fares by about 35% and was associated with reduced economic welfare. This is consistent with the present result, particularly the finding that respondents agreed that increased transportation fares affected passenger patronage (mean = 3.78) and that changes in PMS prices affected operators' income (mean = 3.65). A critical observation, however, is that the relationship between PMS prices and transportation fares is not uniform across all indicators. The statement that increased PMS prices "does not compel transport operators to increase transportation fares" was rejected (mean = 2.71). This implies that respondents generally perceived fare increases as a response to rising fuel costs. However, the relatively lower means for reduced trips (3.64), reduced income (3.65), and the ability to maintain regular services (3.65) suggest that the effects extend beyond fare adjustments to changes in the volume and regularity of transport services.

Overall, the grand mean of 3.87 indicates that respondents agreed that changes in PMS prices and transportation fares significantly affected transport operations in Biu LGA. The major contribution of the present study is therefore its provision of local, operator-level evidence that complements earlier studies, which largely examined households, state-level socio-economic effects, or national secondary data.

Summary

The study examined fuel subsidy removal and transportation in Biu Local Government Area, Borno State, focusing on changes in PMS prices and transportation fares. The socio-economic findings showed that 98% of respondents were male, with the largest age group being 26–35 years (45%). Most respondents had secondary education (37.5%), while tricycle operators constituted 50% and intra-town operators 55%.

The findings revealed that changes in PMS prices substantially affected transportation operations. Respondents agreed that increased PMS prices raised fuel expenditure (mean = 4.71) and made daily operational planning difficult (mean = 4.48). They also reported increased costs

on long-distance routes (mean = 4.30), reduced passenger patronage (mean = 3.78), reduced trips (mean = 3.64), and effects on operators' income (mean = 3.65). Overall, the grand mean of 3.87, above the criterion mean of 3.00, indicates that changes in PMS prices and transportation fares significantly affected transport operations in Biu LGA.

Recommendations

Based on the findings, following recommendation are made

1. Government should provide targeted transport support such as affordable public transport schemes, temporary fare relief, or other measures that can reduce the impact of rising PMS prices on transport operators and passengers.
2. Transport operators should adopt effective cost-management and vehicle maintenance practices. Regular servicing, proper tyre maintenance, efficient route planning and timely repairs can help reduce fuel consumption and prevent avoidable operating costs.
3. Relevant transport authorities should strengthen fare monitoring and stakeholder consultation. Changes in transportation fares should reflect reasonable changes in PMS prices while considering passengers' ability to pay and the operating costs of transport providers.

Suggestions for Further Studies

1. Further studies should examine the long-term effects of fuel subsidy removal on transportation fares and passenger patronage in Biu and other Local Government Areas of Borno State.
2. Future research should investigate the effect of fuel subsidy removal on vehicle maintenance costs, vehicle availability and the frequency of transport services.
3. Further studies could compare the effects of PMS Price changes among tricycle, taxi, bus and other commercial vehicle operators to determine whether the impact differs according to vehicle type.
4. Future researchers should also examine the effects of increased transportation fares on households, traders, students and transportation-dependent businesses in Biu LGA.

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