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ASSESSMENT OF GENDER-BASED TRANSPORT ACCESSIBILITY IN DUTSE, JIGAWA STATE

***Tukur Mohammed Ahijo, Bate Garba Barde, Ijanu Emmanuel Madu, Nura Umar Kura and Nasiru Mustapha Abba**

Department of Environmental Sciences, Faculty of Physical Sciences, Federal University Dutse

*Corresponding authors' email: ahijo.tukur@fud.edu.ng

ABSTRACT

Transport accessibility is inadequate in the medium sized city of Dutse, Nigeria. This paper is the second in the series of papers that analyses traveller experience and understanding in Dutse from a gender perspective. Therefore, this study intends to know the transport accessibility knowledge of the genders in Dutse city based on their travels within the city. 400 questionnaires were administered across the 5 wards of Dutse city using random sampling. The findings shows that while there are similarities between the male transport accessibility challenges and the female there are still distinctions between the genders. Therefore, these distinctions are what is needed for transport planners in Dutse to understand to provide a transport system that is accessible for all genders. Recommendations for periodic quantitative and qualitative data collection and gender-disaggregated analysis, improving physical accessibility and affordability, first and last-mile connectivity, subsidized transport fare schemes for frequent trips to key destinations were proffered.

Keywords: Transport accessibility; Gender; Transport Inclusion

INTRODUCTION

Transport accessibility is defined as reaching goods, services, activities and destinations easily, comfortably, and conveniently (Litman, 2025). Transport accessibility is the systematic provision for travellers to be able to meet up their activities that requires them to move from one geographical location to another (Pot *et al*., 2021), and a sufficiently accessible transport system is a major determinant of an inclusive transport in a location (Lucas, 2012). However, Pot *et al*. (2021) concludes that transport accessibility is said to be satisfactory (or not) based on individual perceptions of their travel experience. Accessible transportation is the passport to independent living for everyone. Transport accessibility "means having transport services going where and when one wants to travel; being informed about the services; knowing how to use them; being able to use them; and having the means to pay for them" (Suen and Mitchell, 2000; p.1). Additionally, Rodrigue (2020) defined transport accessibility as "the measure of the capacity of a location to be reached from, or to be reached by, different locations".

According to Suen and Mitchell (2000) transport accessibility transportation includes using public transport services (subway, buses, taxis, paratransit), their operational procedures (ticketing, and travel information), the design of such vehicles, terminals, and stops, intracity, intercity, regional, national, and international transport by motor coaches, railway, marine vessels, and aircraft, intermodal linkages, personal vehicles, and nonmotorized infrastructure. Litman (2025) presented the factors that affect transport accessibility. These factors include: rransport demand (the amount of mobility and access that people would choose in specific conditions), automobile travel (automobile travel speeds, convenience, and affordability), transport system diversity (the quality (speed, convenience, comfort, safety, etc.) of transport options including walking, bicycling, public transport, etc), roadway network connectivity (density of road and path connections, and therefore the directness of travel between destinations), transport network connectivity (the degree of integration among transport modes), geographic proximity (Land Use Factors) (the distances between activities, and therefore development density and mix), mobility Substitutes (telecommunications and delivery services that substitute for physical travel), user information (availability of reliable information on mobility and accessibility options), affordability (the cost to users relative to their incomes), transport system management (whether transport systems are managed to favour higher value trips and more efficient modes), and inaccessibility (the value of inaccessibility and isolation).

Transport accessibility across the globe varies. In Miami-Dade County of Florida, United States, Yan *et al*. (2022) found out that residents of low-income neighbourhoods enjoy a higher level of transit accessibility because of their (transit) concentration in high-density urban areas, transit accessibility is higher in peak hours than other hours of the day, and gap between transit accessibility and auto accessibility is striking, with car users being able to access eight times more low-wage jobs than transit riders on average. However, this finding is from a region of a State in the United States. Nevertheless, Yang and Liang (2023) studied the level of connection between urban rail transit and regular bus transport in Wuxi city, China. Yang and Liang (*ibid*.) concluded that 57.5% of rail stations in Wuxi have low connectivity and that interchange information service and average transfer time are the most influential factors.

Relatedly, there are huge first-and-last-mile accessibility deficits with respect to public transport stations and service routes in the Greater Kumasi city region of Ghana that leads to poor accessibility for both public/paratransit and car especially in traffic congestion. This is observed out by Acheampong and Asabere (2022). However, in Abuja, Nigeria, Abdullah *et. al.* (2022) concluded that females use more public transport services than males, that demographic characteristics affected respondents' choices of public transport use, and that men are generally more satisfied and face fewer challenges than women in accessing and using public transport services. Though, Vanderschuren *et. al.* (2023) confirms that women make more public transport (but shorter) trips than men, but they experience sexual harassment more than men. The harassment women experience occurs across all parts of public transport trips, including travelling to/from the system, while waiting for the vehicle and in the vehicle. This stsudy was conducted in Lagos (Nigeria) and Blantyre (Malawi).

Acheampong and Asabere (2022) observation is similarly observed by Kapsalis *et al*. (2024) when doing a systematic review of the lack of accessibility in urban environments for disabled travellers. Kapsalis *et al. (ibid.)* concluded that Mobility Assistive Devices (MobAD) in many parts of the world faces a substantial number of inaccessible barriers in public spaces. Elements like pathways, boarding ramps, entrance features, confined spaces, and service surfaces were deemed to be the least accessible elements. These barriers had multifaceted effects on MobAD users' quality of life with aspects of physical health, mobility, and use of public transport being most affected. Additionally, Mabry *et al*., (2025) examined the extent to which urban and transport policies in Oman support the creation of healthy, active living cities in the country using the 1000 Cities Challenge urban policy checklist. They found out that some of the urban policy frameworks are supportive of healthy and active cities, yet there are policy gaps in the walkability and destination access domain.

Nigerian urban areas have their own peculiar experiences on transport accessibility. In Lagos, Castro *et al.* (2022) concluded that poor public transportation systems can lead to transport-related social exclusion and opportunity costs of traffic congestion exact a toll on the city's poorest residents. In view of the factors that affect transport accessibility as outlined by Litman (2025), the conclusion of Castro *et al*. (2022) highlights the impact on education, work, shopping, leisure, and health that inadequate transport system has on transport users' lives. Similarly, Okosun *et al*. (2023, September) determined that Enugu city's transport infrastructure is adequate for motorized traffic but inadequate for walking and cycling which affects accessibility. Also, Abdullah *et al*. (2022) found out that in Abuja females use more public transport services than males, and that men are generally more satisfied and face fewer challenges than women in accessing and using public transport services. Though females are using the public transport because it is the available option they have. Across Nigeria, transport accessibility for travellers faces issues of insufficient funding to provide the needed infrastructure and facilities, regulatory inefficiencies, regional disparities, and security challenges (Audu and Adeiza, 2024).

The ideal accessible transport system highlighted by Litman (2025) and the challenges itemised in the Nigerian urban transport system necessitated the need to understand the experience of travellers on accessing transportation in a medium sized city in Nigeria. This paper is a second in the series of papers that analysed traveller understanding in Dutse from a gender perspective. Therefore, this study intends to know the transport accessibility knowledge of the genders in Dutse city based on their travels within the city.

MATERIALS AND METHODS

The research was conducted in Dutse, the capital of Jigawa State, Nigeria. It is primarily accessible via road transport, and its transport infrastructure is dominated by motorcycles and tricycles. According to the population census of Nigeria in 2006, Dutse LGA has a population of 251, 135, and the number of wards in the LGA are 11 (Independent National Electoral Commission, 2019). Dutse is a city in northwestern Nigeria, it is the capital city of Jigawa State, and it is located between latitude 11°45' 22.5° N and longitude 9°20', 20.26° E.

Population Estimation

This study adopts quantitative method of research. The data was collected using structured questionnaires, where respondents were provided options to choose from as their answers in the questionnaire. The questionnaire captured demographic information and transport behaviours.

Using the growth rate of 2.91% (2006 Census) for Jigawa State, the estimated population for Dutse LGA is:

New Population = Original Population x (1 + Growth Rate) Numbers of Years (1)

(Whelpton, 1936)

Where,

Original Population = 251,135;

Growth rate = 2.91% (2.91 ÷ 100) = 0.0291;

Number of Years = 19 years (2006 – 2025)

Therefore, 251135 x (1 + 0.0291) ^ 1

= 251135 x (1.0291) ^ 19

= 251135 x 1.724 = 432,956.74

Therefore, the population of Dutse LGA as at 2025 is ≈ 432,956. Thus, the average population of each Ward in Dutse LGA is: 432,956 ÷ 11 Wards = 39,359.

Dutse city is within 5 Wards of Dutse LGA. The Wards that are within the city limits are: Kachi, Limawa, Jigawa Tsada, Kudai, and Madobi Wards. Hence, the total population size of the study is: 39,359 x 5 wards = 196,795

Using Taro Yamane formula (Ikehi *et al*., 2019) with 95% confidence level and 5% margin of error, the sample size is:

$$n = \frac{N}{1 + N(e)2\ (2)}$$

Where N= 196,795

e (error margin) = 0.05

$$n = \frac{196{,}795}{1 + 196{,}795\ (0.05)^2}$$

$$n = \frac{196{,}795}{1 + 196{,}795\ (0.0025)}$$

$$n = \frac{196{,}795}{492.987}$$

N = 399.18 = the sample size is approximately 400

Therefore, 400 questionnaires were distributed to 400 respondents. Therefore, a total of 400 respondents were selected across the 5 wards of Dutse Local Government Area using random sampling.

Data Analysis

The data was analysed using SPSS, producing descriptive statistics such as frequencies and percentages. The analysis focused on transport access by gender, and tables were used to present the findings.

RESULTS AND DISCUSSION

A total of 400 respondents participated in this study. 64.5% of the respondents are male while 35.5% are female (Table 1).

Table 1: Respondents Gender

Gender	Frequency	Percentage (%)
Male	258	64.5
Female	142	35.5
Total	**400**	**100.00**

Source: Research data

The respondents are further disaggregated into age groups as illustrated in Table 2 (below). The 20 – 24 age group have the highest respondents with 20.5% and the lowest is the 45 – 49 age groups with 1.5% of total respondents.

Table 2: Respondents Age Group

Age Group	Frequency	Percentage (%)
15 – 19	80	20.00
20 – 24	82	20.50
25 – 29	69	17.25
30 – 34	63	15.75
35 – 39	22	5.50
40 – 44	24	6.00
45 – 49	6	1.50
50 – 54	12	3.00
55 – 59	8	2.00
60 – 64	13	3.25
65 – 69	12	3.00
70 & above	9	2.25
Total	400	100.00

Source: Research data

The level of education of the respondents is diverse as illustrated in Table 3. The highest level of education attained by the total respondents is Secondary School Education with 29% and those with Trade Certificate are the lowest at 1.75%. Additionally, 7.25% of the respondents do not have any form of formal education.

Table 3: Respondents Level of Education

Level of Education	Frequency	Percentage (%)
No Formal Education	29	7.25
Primary School Education	44	11.00
Secondary School Education	116	29.00
Trade Certificate	7	1.75
OND	13	3.25
Islamic Education	21	5.25
College Education	26	6.50
HND	46	11.50
University Degree	98	24.50
Total	400	100.00

Source: Research data

Another socio-economic indices data presented is the occupation of the respondents (Table 4). Where 33% of the respondents are students, 29.75% are self-employed, and 19.25% are employed with the lowest percentage being the retirees at 3.25%.

Table 4: Respondents Occupation

Occupation	Frequency	Percentage (%)
Student	132	33.00
Self-Employed	119	29.75
Employed	77	19.25
Unemployed	43	10.75
Retired	13	3.25
Others	16	4.00
Total	400	100.00

Source: Research data

Lastly, 3.75% of the respondents are disabled while 96.25% are not (Table 5).

Table 5: Response from Disabled Respondents

Disability	Frequency	Percentage (%)
Yes	15	3.75
No	385	96.25
Total	400	100.00

Source: Research data

In terms of accessibility, 26.25% of the research participants have had difficulty finding a ride to their medical appointment in the past 6 months while 73.25% have not. For the gender responses, majority of the male (75.59%) and female (70.43%) respondents have not had any difficulty finding a ride to their medical appointments while 24.41% of male and 29.57% of female have had difficulty finding a ride to their medical appointment within the past 6 months.

There can be improvement in healthcare access to people with low income if the transport system in an urban area is enhanced (Smith *et al.,* 2022). This conclusion by Smith *et al.* (2022) is inferred from the reduction of medical appointment no-shows for patients living near a new light rail compared to those living far from it, after the light rail opened. Also, Cochran *et al*. (2022) found out that female and patients are prone to be late, delayed, or missed hospital appointment because of not having a private vehicle, costs of travelling, and lack of driver to drive them to hospital. Furthermore, Avoka *et al*. (2022) found out that 31% of all women in Nigeria used motorised transport to get to their place of childbirth, 77% of women who delivered in health facilities used motorised transport to get to the facility, and women with higher education and wealth and women travelling to health facilities because of pregnancy complications were more likely to use motorised transport.

Across Nigerian cities, Banke-Thomas *et al*. (2024) found out that the travel time to the nearest comprehensive emergency obstetric care facility varies from city to city and from locations within the same city. For example, it ranges from 18 minutes in Maiduguri to 46 minutes in Kaduna. Also, informal settlements and peripheral areas tended to be worse off compared to the inner city in terms of travel time to health facility. Similarly, the percentage of female aged 15–49 years within 60 min of their nearest public comprehensive emergency obstetric care ranged from 83% in Aba to 100% in Maiduguri, while the percentage within 30 minutes ranged from 33% in Aba to over 95% in Ilorin and Maiduguri. However, during peak traffic times, the number of public comprehensive emergency obstetric care facilities reachable by women aged 15–49 years under 30 minutes was zero in 8 of 15 cities across Nigeria (Banke-Thomas *et al*., 2024).

Similarly, the means of mobility, cost, and safety and security during their mobility are the factors that most pregnant women consider when seeking for transport accessibility to health facilities (Olapoju, 2025). Olapoju (*ibid*.) concluded that gross unemployment among women of productive age, collapse of efficient public transport system may have been factors responsible for observed findings in the study locations. Therefore, transport access to health facilities varies across locations, availability of the facilities, and affordability to reach the facilities across cities and nations.

Respondents were unable to travel from for their socio-economic activities because they have no way nor means to get to where they want to go. Though 62.5% of the respondents responded that it rarely happens, yet once a week it happens to 16% of respondents, every day to 11%, thrice a week to 8%, and twice a month to 2.5% of the respondents. This is illustrated in Table 6 (overleaf). Cooke *et al*. (2022) concluded that transport accessibility is not restricted to affordability, onboard safety, physical accessibility but factors that causes the trips that are not taken, the trips that cannot be taken despite the proximity of the destination, and the effect of those unrealized trips on a person's freedom to access the opportunities that will improve their livelihood. Those are the factors that needs to be made visible and tangible to achieve a socially sustainable transportation.

Desire, intention, need, vulnerability, and capability of travellers' care factors to consider for transport accessibility (Cooke *et al*., 2022). This is reiterated by Amankwaa and Gough (2023) three key themes on accessibility emerged – disrupted road and transport infrastructure, everyday mobility challenges, and coping/adaptive strategies. They highlighted that transportation can be postponed (by all trip makers), improvised (by young people), and assisted (for children and the elderly) based on the accessible transport system available.

Table 6: General Responses to Respondents Inability to Travel

Time Variables	Frequency	Percentage (%)
Once a Week	64	16.0
Thrice a Week	32	8.0
Everyday	44	11.0
Twice a Month	10	2.5
Rarely	250	62.5
Total	**400**	**100.0**

Source: Research data

Similarly, majority of the male (63.56%) and female (60.56%) rarely unable to travel for their socio-economic activities because they have no way nor means to get to where they want to go. However, 18.21% of the male respondents are unable to travel for their socio-economic activities once a week, 10.07% everyday, 6.20 thrice a week, and 1.93% twice a month. While the 12.67% of the female respondents are unable to travel every day, 11.97% once a week, 11.26% thrice a week, and 3.52% twice a month. This is illustrated in Table 7.

Cooke *et al*. (2022) pointed out that personal safety and social norms and construct can influence the inability of female to travel for their socio-economic activities. Personal safety can lead to female travellers avoiding walking but taking public transport because it is safer but not affordable, walking longer route instead of shorter routes, and avoiding going out because of harassment during travel irrespective of mode and means of travel. While social norms and constructs can be because of exposure to dust and heat while walking or cycling resulting in arriving at their destinations sweaty and untidy, and stained. Additionally, women are discouraged from cycling because of the belief that they can lose their virginity. All of these brings to the fore conclusion by Cooke *et al*. (2022) on the need to identify and quantify the hidden factors that hinders access to transport from all travellers in an urban area.

The data in Dutse (Table 7) illustrates that majority of both genders are rarely unable to travel, yet once a week male can face an inability to travel while females face the issue every day. This shows some distinctions on the challenges the genders face of which can be solved when these peculiarities are understood for them to be addressed as concluded by Cooke *et al*. (2022) and Amankwaa and Gough (2023). Furthermore, both genders have peculiar experiences during

their commute (Carmichael et al., 2024), however like the data in Table 7, the genders are rarely unable to travel if the need for it arises.

Additionally, COVID-19 have brought about insight to female travelling in an urban area (Porter *et al*., 2022). In Tunis, Tunisia, reduced number of passengers in public transport during the pandemic have reduced incidences of harassment faced by women when travelling. Therefore, increased service frequency, priority seating and boarding for women on public transport, together with (working, regularly serviced) surveillance cameras can support women's safer travel. Summarily, Bagdatli and Ipek (2022) concluded that major worldwide event like COVID-19 can change the transport behaviour of travellers in an urban area. Because of this possibility, understanding the transport mode demand changes of particular social group of transport users and using the social group data as a baseline, an urban area can forecast the transport needs of the area in the future. Therefore, identifying underlying factors of different social groups (or sub-groups) and using it as a baseline for transport planning will benefit in providing a socially sustainable transport system in Dutse.

Table 7: Gender Responses to Inability to Travel

Gender	Once a Week		Thrice a Week		Everyday		Twice a Month		Rarely		Total
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Male	47	18.21	16	6.20	26	10.07	5	1.93	164	63.56	258
Female	17	11.97	16	11.26	18	12.67	5	3.52	86	60.56	142
Total	64	16	32	8	44	11	10	2.5	250	62.5	400

Source: Research data

32.5% of the respondents have difficulty leaving their homes due to lack of transportation while 67.5% do not have the difficulty. Similarly, 34.49% of male respondents and 28.16% of female respondents have difficulty leaving their homes due to lack of transportation while 65.51% of male and 71.84% of female do not have the difficulty.

Transport accessibility is "the ease of reaching goods, services, activities and destinations" (Litman, 2025; p.7), and a sufficiently accessible transport system is a major determinant of an inclusive transport in a location (Lucas, 2012). The 32.5% of the respondents, 34.49% of male and 28.16% of female who have difficulty leaving their homes are not having it easy to reach goods, services, activities, and destinations. Also, they are excluded from transportation. Therefore, Luz and Portugal (2022) conclude that policies aimed at reducing transport exclusion should be concerned with increasing the capabilities of those in transport accessibility poverty to a sufficient level that enables individuals' participation in key opportunities of the society. Nevertheless, Abdullah *et al.* (2022) commuters in Abuja, Nigeria make use of public transport at any time of the day, and they prefer to use public and private transport alternately due to personal comfort and schedules. The similarities of both sexes have a similar attitude towards most trip-related characteristics (Abdullah *et al.,* 2022) gives an insight of the similarities of data for general respondents and both genders in this study.

The percentage of female respondents in this study that have difficulty leaving their homes due to lack of transportation may not be unconnected with women's low level of satisfaction regarding public transport accessibility, safety, reliability, and comfort than men (Abdullah *et al*., 2022). Though another female subgroup (female with disabilities) faced issues of transport availability, accessibility, safety, integrated transport system, and societal attitudes make them not leave their homes for their socioeconomic needs (Remillard *et al.,* 2022). Yet homelessness can also be a difficulty for travellers (Aykanian, 2023) because those without houses do not have address for the provision of transport subsidy, they are at the mercy of the city authorities to provide housing for them across the city which may not be easily accessible for them in their areas of socio-economic activities. These literatures and the data shows that the lack of transportation and/or mobility has different factors that are simple, complex, visible, and hidden that requires collective and holistic understanding for it to be addressed.

When using the available public transport in Dutse, 54.3% (very friendly and a little friendly) of respondents responded that their driver is friendly while 8.8% (not very friendly and very unfriendly) responded that their driver is unfriendly. Though, 36.8% responded that their drivers are neither friendly nor unfriendly. This is illustrated in Table 8 below. Faridah *et al.* (2023, December) found out that Banjarmasin, Indonesia online taxi drivers are friendly and courteous to their passengers. However, in Santander, Spain, Echaniz *et al.* (2022) concluded that driver friendliness is not much of a factor for travellers, and the friendliness of the drivers (or not) varies across peak transport times during the day. Nevertheless, travellers in the Akure-Owo axis of Nigeria, were unanimous that public transport drivers' attitude is poor and unfriendly to their passengers (Krishna *et al.*, 2023).

Table 8: General Response to Public Driver Friendliness

Variable	Frequency	Percentage (%)
Very Friendly	82	20.5
A Little Friendly	135	33.8
Neither friendly nor unfriendly	147	36.8
Not very friendly	23	5.8
Very unfriendly	13	3.0
Total	400	100.0

Source: Research data

Similar like the general response, Table 9 (overleaf) illustrates that majority of the male (53.87%) and female (54.92%) respondents responded that their driver is friendly (very friendly and a little friendly). While minority of the male

(9.29%) and female (8.44%) respondents responded that their driver is unfriendly (not very friendly and very unfriendly). Though, 36.82% of male and 36.61% of female responded that their drivers are neither friendly nor unfriendly.

In Lagos, Nigeria, Owolabi and Busari-Akinbode (2023) studied female public drivers and their experiences operating public transportation. The female operators faced mixed acceptance from their passengers; however, the data did not disaggregate the gender of the passengers to understand which gender is most sympathetic to the female drivers. The female drivers engaged in driving because of survival and family support; although participants acknowledged that they cannot be in the profession for a long time. Nevertheless, Barau *et al.* (2025) concluded age, lifestyle choices, occupational pressures, enforcement officers' attitudes, drivers' experience, and level of education are factors that influences negative driving behaviour among commercial drivers in Nigeria. Hence, it can be said that driver's friendliness (or not) is not dependent on the driver's character or attitude but based on the factors mentioned by Barau *et al.* (2025). Also, driver operational behaviour is one of the factors that affects passenger safety (Ohida *et al.,* 2025).

Table 9: Gender Response to Public Driver Friendliness

Gender	Very Friendly		A Little Friendly		Neither friendly nor unfriendly		Not very friendly		Very unfriendly		Total
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Male	60	23.25	79	30.62	95	36.82	15	5.81	9	3.48	258
Female	22	15.49	56	39.43	52	36.61	8	5.63	4	2.81	142
Total	82	20.50	135	33.75	147	36.75	23	5.75	12	3.00	400

Source: Research data

The most common destinations by the overall research participants are work (55.80%) and market (64.00%). Similarly, the most common destinations of male respondents are work (60.85%) and market (64.34%). Likewise, the most common destination of female respondents is market (63.38%). Across towns and cities in Southwest Nigeria, work and school are the most common destinations in 5 days a week, followed by market, recreation, and religious trips which is taken 2-3 times a week with social trips happening once a week (Yakubu *et al.,* 2023). Yet, while disaggregating the data into gender, Yakubu *et al. (ibid)* found out that most destination of men and women is work then school, and religion. This makes it distinctive with the data for Dutse which has market as a common destination for both genders.

The level of satisfaction with the means of transportation used by the respondents in Dutse in the last 6 months is illustrated in the Table 10 (overleaf). 41.5% (satisfied and very satisfied) of the research participants are satisfied with walking while 6.50% do not walk. 51.70% of respondents responded that they do not cycle. However, 24.20% are satisfied with cycling. Also, 50.25% of respondents do not use taxi yet 27.75% are satisfied with the method.

Furthermore, 53% of respondents are satisfied with the motorcycle taxi (*achaba*) in Dutse while 24.25% responded that it is okay. Also, 59.25% responded that they are satisfied with the tricycle taxi (*a daidaita/keke napep*) in the city while 19.50% responded that it is okay. Likewise, 52% responded that they are satisfied with friend/family transporting them while 36% do not use the friend/family option. Lastly, 59.75% of respondents do not drive themselves in their own vehicle while 36.50% are satisfied with driving themselves.

In Thessaloniki, Greece, the university students walk and use private cars (in equal measure) as passengers 2 – 3 times a week as their means of transportation if it is a travel of less than a day (Bouhouras *et al.,* 2022). Though Bouhouras *et al. (ibid)* found out that private cars are preferable than public. Yet passengers of public transportation in Addis Ababa, Ethiopia are satisfied with the quality of the bus services supplied in the city (Girma and Woldetensae, 2022). Relatedly, in Ibadan, Nigeria tricycle (*keke*), taxi (3 doors), mini-bus (*danfo*) and large city bus (*Ajumose*) are the means of transportation, and that the level of service satisfaction of commuters is low. Lastly, while studying four Nigerian cities – Lagos, Abuja, Port Harcourt, and Kano – Aniebiet and Aniefiok (2025) concluded that public transportation in Nigeria is not satisfying to the users. The transport users are utilising the available transport system because of necessity not because of satisfaction.

Table 10: General Response on Satisfaction with Means of Transportation

Methods of Travel	Very Dissatisfied		Dissatisfied		Okay		Satisfied		Very Satisfied		I don't use this option	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Walking	36	9.00	48	12.00	124	31.00	76	19.00	90	22.50	25	6.50
Cycling	21	5.30	15	3.80	60	15.00	57	14.20	40	10.00	207	51.70
Taxi	5	1.25	7	1.75	76	19.00	59	14.75	52	13.00	201	50.25
Motorcycle Taxi	6	1.50	7	1.75	97	24.25	119	29.75	93	23.25	78	19.50
Tricycle Taxi	8	2.00	8	2.00	78	19.50	127	31.75	110	27.50	69	17.25
Friend/Family Member	7	1.75	1	0.25	40	10.00	47	11.75	161	40.25	144	36.00
Driving myself in my own vehicle	3	0.75	1	0.25	11	2.75	11	2.75	135	33.75	239	59.75

Source: Research data

From the perspectives of the male respondents, 39.14% are satisfied with walking, 35.27% responded that it is okay, while 5.81% responded that they do not walk. Similarly, 45.77% of the female respondents responded that they are satisfied with walking, 22.53% responded that it is okay, and 7.74% do not walk. Furthermore, the male respondents

(47.28%) do not use cycle for their transportation, 24.80% are satisfied with cycling, and 18.21% responded that cycling is okay. Likewise, the female respondents (58.45%) responded that they do not cycle, 23.23% are satisfied with cycling, and 9.15% responded that cycling is okay.

51.93% of male respondents do not use taxi, 26.74% are satisfied with the available taxis, and 18.21% are okay with it. Similarly, 44.36% of female respondents do not use taxi, 29.57% are satisfied with the available taxis, and 20.42% are okay with it. Additionally, majority of male respondents (52.32%) are satisfied with the motorcycle taxis (*achaba*), 24.03% are okay with it, and 19.37% do not use motorcycle/taxis. Equally, majority of the female respondents (54.22%) are satisfied with the motorcycle taxis (*achaba*), 23.94% are okay with it, and 19.71% do not use motorcycle/taxis.

For tricycle taxis (*a daidata/keke napep*), 56.20% of male are satisfied with it, 19.76% are okay with it, and 19.37% do not use it. Similarly, 64.78% of female are satisfied with tricycles, 19.01% are okay with it, and 12.67% do not use it. Moreover, 52.32% of male respondents who are transported by friends/family members are satisfied with that method. Yet 35.27% of males do not use friends and family, though, 10.07% are okay with the arrangement. Similarly, 51.40% of female respondents are satisfied being transported by friends and family. Still, 35.91% of females do not use friends and family, though, 9.85% are okay with the arrangement. Lastly, 52.32% of male and 71.83% of female respondents do not drive themselves in their vehicles. Also, 43.02% of male and 24.64% of female respondents are satisfied with driving themselves in their own vehicles.

In Abuja, Nigeria, the means of transportation are by shared taxi, tricycles (locally called *Keke*), ride-hailing services (*Uber, Bolt* and *Taxify*), bus, and motorcycle taxi (*Okada*) (Abdullah *et al.,* 2022). However, men are generally more satisfied and face fewer challenges than women in accessing and using public transport services. Similarly, Girma and Woldetensae (2022) concluded that male and female users of the city's public transportation in Addis Ababa were quite satisfied general transport services but more satisfied with its availability and least satisfied with security.

CONCLUSION

A survey of 400 respondents in Dutse, Nigeria, examined socio-demographic characteristics and transport accessibility. The sample was predominantly male (64.5%), young (20.5% aged 20–24), and varied in education, with secondary schooling the most common attainment (29%). Students constituted 33% of the sample, and 3.75% reported a disability. Transport challenges were evident: 26.25% had difficulty finding a ride to a medical appointment in the preceding six months, and 32.5% experienced difficulty leaving home due to lack of transportation. Although 62.5% rarely missed socio-economic activities because of mobility constraints, 16% faced this once a week and 11% daily, with females more likely to face daily inability. Satisfaction with modes varied—tricycle taxis and motorcycle taxis received the highest satisfaction—while driver friendliness was rated positively by 54.3% of users. Gendered differences in travel patterns, safety concerns, and mode use align with literature highlighting that transport disadvantage is shaped by affordability, personal security, and hidden social factors beyond mere infrastructure availability.

This study reveals that transport accessibility in Dutse is shaped by a complex interplay of socio-demographic factors, modal satisfaction, and gendered constraints. Although most respondents reported being able to travel, a significant minority faced persistent difficulty in reaching health facilities, leaving the home, or undertaking daily socio-economic activities, with women disproportionately experiencing daily travel exclusion. The finding that satisfaction is highest for informal modes like tricycle and motorcycle taxis, while many avoid walking and cycling, underscores a reliance on motorised transport that may not be affordable or safe for all groups. Consistent with Cooke et al. (2022), the data confirm that accessibility is not only a matter of physical proximity or availability but also of the hidden burdens—safety fears, social norms, economic limits, and the trips that are never realised—that constrain individuals' participation in society.

Addressing these challenges requires context-sensitive policies that move beyond infrastructure provision to enhance the capabilities of transport-poor groups. Interventions should prioritise affordable, safe, and frequent public transport services, integrate gender-sensitive design such as improved security and women-friendly boarding policies, and account for the distinct travel needs of diverse sub-groups, including students, low-income earners, and persons with disabilities. As Luz and Portugal (2022) argue, the goal must be to lift those in transport accessibility poverty to a level where they can fully access essential opportunities. By using baseline data on social group-specific barriers, urban transport planning in Dutse can evolve towards a socially sustainable system that leaves no traveller excluded.

Transport planners should adopt a multi-pronged strategy encompassing periodic gender-disaggregated data collection, enhanced first- and last-mile physical accessibility and affordability, subsidized fares for essential trips, formalized integration of paratransit with women-friendly routes and designated vehicles or hours, improved safety via lighting and women-only waiting areas, and mandatory gender-sensitivity training coupled with a strictly enforced zero-tolerance harassment policy.

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