Jurnal Pendidikan Ekonomi, Perkantoran, dan Akuntansi
E-ISSN: 2722-9750
Volume 6 No. 1 (2025)

ANALYSIS OF PUBLIC TRANSPORTATION MODE CHOICE OF GENERATION Z EMPLOYEES IN SUBURBAN AREAS

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ABSTRACT

The high level of congestion in Jakarta City due to commuter activity from buffer areas underlies the urgency of shifting public preferences, especially Generation Z as a vital worker segment, from private transportation to public transportation. This quantitative research aims to analyze the influence of travel costs, travel time, and accessibility on the choice of public transportation modes by 114 Generation Z workers domiciled in buffer cities namely Bogor, Depok, Tangerang, Bekasi who work in Jakarta, using multiple linear regression analysis. The results of the study indicate (1) travel costs have no significant influence on the choice of public transportation, (2) travel time has a negative and significant influence on the choice of public transportation, and (3) accessibility is proven to have a positive and significant influence on the choice of public transportation. The results of the study indicate the need for the government and transportation service providers to prioritize increasing the efficiency of travel time and accessibility through the development of integrated infrastructure and first-mile/last-mile solutions, as well as maintaining affordability and ease of multi-modal transactions.

Keywords: Transportation mode choice, Travel cost, Travel time, Accessibility, Generation Z

ABSTRAK

Tingginya tingkat kemacetan di Kota Jakarta akibat aktivitas komuter dari daerah penyangga mendasari urgensi pengalihan preferensi masyarakat, khususnya Generasi Z sebagai segmen pekerja vital, dari transportasi pribadi ke transportasi umum. Penelitian kuantitatif ini bertujuan menganalisis pengaruh biaya perjalanan, waktu perjalanan, dan aksesibilitas terhadap pemilihan moda transportasi umum oleh 114 pekerja Generasi Z yang berdomisili di Kota penyangga yakni Bogor, Depok, Tangerang, Bekasi yang bekerja di Jakarta, dengan menggunakan analisis regresi linear berganda. Hasil penelitian menunjukkan (1) biaya perjalanan tidak memiliki pengaruh signifikan terhadap pemilihan transportasi umum, (2) waktu perjalanan memiliki pengaruh negatif dan signifikan terhadap pemilihan transportasi umum, dan (3) aksesibilitas terbukti berpengaruh positif dan signifikan terhadap pemilihan transportasi umum. Hasil penelitian menunjukkan perlunya pemerintah dan penyedia layanan transportasi memprioritaskan peningkatan efisiensi waktu perjalanan dan aksesibilitas melalui pengembangan infrastruktur dan solusi *first-mile/last-mile* yang terintegrasi, dan mempertahankan keterjangkauan biaya dan kemudahan transaksi multi-moda.

Kata kunci: Pemilihan moda transportasi, Biaya perjalanan, Waktu perjalanan, Aksesibilitas, Generasi Z

Jurnal Pendidikan Ekonomi, Perkantoran, dan Akuntansi, 6 (1), April 2025: 113 – 126
DOI: https://doi.org/10.21009/jpepa.0601.10

INTRODUCTION

Efficient transportation is key in supporting economic growth and community mobility, especially in big cities like Jakarta. As an economic center, Jakarta faces complex transportation problems, including traffic congestion, which further worsens the quality of life, especially for commuter workers from suburban areas. This challenge is not only unique to Jakarta, but it is also a common phenomenon in many major cities in Asia, where individual attitudes and preferences play a crucial role in commuter mode selection decisions (Van et al., 2014). Data from the Badan Pusat Statistik (BPS, 2024a) shows that the daily movement of people from suburban areas such as Bogor, Depok, Tangerang, and Bekasi to Jakarta reaches more than one million trips, illustrating the importance of efficient modes of transportation.

However, as the number of trips increases, congestion becomes a major problem. Based on the Global Traffic Scorecard 2024 released by INRIX, Jakarta ranks seventh as the most congested city in the world (INRIX, 2025). The growth of motor vehicles in Jakarta, Bogor, Depok, Tangerang, and Bekasi (Jabodetabek) reached 3.6% per year, with the dominance of private vehicles such as motorcycles and passenger cars (BPS, 2024b). Although the government has developed various modern public transportation infrastructures, such as TransJakarta, MRT (*Mass Rapid Transit*), and LRT (*Light Rail Transit*), the level of public dependence on private vehicles is still high (Sidqi, 2024). This gap between the availability of infrastructure and the adoption rate of public transportation is a common dilemma. Each city has different levels of development, including Jakarta as a developing city where complex behavioral factors also influence the choice of mode (Arslannur & Tortum, 2023).

In this context, understanding the behavior of young commuters, especially Generation Z, in choosing modes of transportation is very important. Generation Z, now starting to dominate the working population in Jabodetabek, has a unique pattern of transportation choices. Based on the research of Harianto et al. (2023), their transportation preferences are influenced by travel costs, travel time, safety, accessibility, and flexibility of transportation modes. A previous study by Firdausi & Putra (2021) it also shows that economic factors such as cost play a major role in the decision to use public transportation modes, where many workers choose private vehicles because they are considered more economical and flexible than public transportation that is not yet fully integrated. This is also related to the consideration of people's monthly income; the costs they will incur to travel are reflected in the distance to be traveled and the speed of time obtained. Further exploration, previous studies by (Ahmed et al., 2020) on young commuters in Melbourne, have shown that choosen decisions are not only based on objective factors, but also involve complex psychological and social dimensions, including attitudes and perceptions that shape behavioural intentions. This underscores the importance of analyzing these factors from a more detailed perspective of electoral behavior in the local context of Jakarta and the demographics of Generation Z.

The government has implemented various policies to encourage the use of public transport, such as an odd-even system that has been proven to reduce the volume of vehicles on major roads (Rahadian et al., 2022). In addition, data shows a significant increase in the number of public transportation passengers in recent years. In 2023, the number of Kereta Commuter Indonesia (KCI) passengers reached 290.9 million people, an increase of 33.46% compared to the previous year (BPS, 2024c). The newly inaugurated Jabodebek LRT also recorded an increase in the number of passengers from 1.95 million in September 2024 to 2.2 million in October 2024. Despite indications of a shift in people's behavior towards public transportation, the challenge of integrating these various modes of transportation is still an obstacle to a more massive and efficient choosen.

Based on the background and gaps that have been identified, this study aims to analyze in depth the factors that influence the choice of public transportation modes by Generation Z in the Jakarta suburban area. Specifically, this study will identify how the factors of travel cost,

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travel time, and accessibility concretely contribute to shaping their transportation choosen patterns. With a more comprehensive understanding of Gen Z public transportation choosen, this study is expected to provide more effective policy recommendations in encouraging sustainable mobility, as well as present relevant new insights to improve the productivity and quality of life of commuter workers in Jabodetabek.

LITERATURE REVIEW

Transportation Demand Theory

The Transportation Demand Theory is introduced by Small & Verhoef (2007) in his book entitled The Economics of Urban Transportation. This theory explains how individuals and society make decisions regarding the use of transportation modes based on various economic and non-economic factors. Based on the theory of demand, namely the theory that explains the concept of the relationship between the amount demanded by consumers is influenced by price. In economics, demand always refers to the relationship between the quantity of goods people want to buy and the prevailing price level. u (Arihta & Syahwier, 2023). Transport demand refers to the willingness and ability of individuals or groups to travel using a particular mode of transport at various price levels and conditions. It reflects the number of trips users are willing to make under certain conditions. The demand for a mode of transport is reflected by the number of people who choose a vehicle under certain conditions, such as the quality of public transport and its price (Rachman, 2015).

Travel Costs

Travel costs are costs incurred by individuals or transportation users during a trip, including transportation fares, fuel costs, and parking fees. The main purpose of the existence of public passenger transportation is to provide good and decent transportation services for the community. One measure of good service is transportation at a low price. The effect of competition is included to find which mode of transportation has the best value based on travel costs.n (Riawan & Ahyudanari, 2020). In theory, the cost of travel is one of the fundamental factors that are assumed to influence an individual's decision to use a mode of transportation. According to basic economic principles such as Demand Theory, consumers are likely to choose more affordable options if the quality and benefits offered are comparable.

Study by Wallimann et al. (2023) in the city of Geneva, an urban area in Switzerland, shows that an increase in public transport costs significantly reduces the demand for the number of users. Similarly as Firdausi & Putra (2021) found that economic factors, including cost, play a major role in workers' decisions to use public transportation or switch to private vehicles. However, there is also literature that suggests that the influence of cost may not always be the only or dominant factor, especially in specific contexts or in specific demographics. As in the study (Prianto et al., 2023), which researched online transportation users with conventional transportation in Kendari City, found that tariffs do not affect people's intentions in choosing modes of transportation. Based on the synthesis of theories and previous empirical findings, a negative relationship is expected, because the higher the cost of travel, the lower the possibility of individuals using the mode of transportation, and vice versa. So the following hypothesis is formulated:

H1: Travel costs have a negative effect on the transportation mode choices of Generation Z employees in the Jakarta suburban area.

Travel Time

One measure of good service besides cost is fast transportation. Travel time or journey is the total time required for a trip, including stops and delays, from one place to another via a

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particular route (Tamin, 2019). Therefore, measuring travel time does not only look at how long it takes to reach the destination but also the total time during the trip, including waiting and other obstacles. Travel time is needed for one trip from home to the destination. If using public transportation, travel time tends to be longer because it has to consider the time to wait at the bus stop, get to the bus stop, and travel time during the trip. Meanwhile, with a private vehicle, travel time only depends on the distance from home to the destination without having to wait or change modes of transportation (Ardyannas et al., 2022).

Travel time is one of the crucial factors in making decisions about using transportation modes. Study by Ha et al. (2020) which examined the impact of travel time and transit time (such as walking time during transfer) on the choice of commuter mode in the Seoul metropolitan area, South Korea, found that a faster transit system with shorter walking distances and minimal transfers was significantly associated with increased transit use. Firdausi & Putra (2021) and Harianto et al. (2023) also emphasized the importance of travel time as a key consideration for Gen Z, especially regarding short waiting times and efficient routes. Thus, based on the theoretical foundation and consistency of previous research findings that highlight the importance of time efficiency for commuters, it is predicted that the longer the travel time, the lower the possibility of individuals using the mode of transportation, and vice versa. It is expected that a negative relationship between travel time and the choice of mode of transportation is formulated, so the following hypothesis is formulated:

H2: Travel time have a negative effect on the transportation mode choices of Generation Z employees in the Jakarta suburban area.

Accessibility

According to Litman (2024), accessibility or access is something that refers to the ease of reaching goods, services, activities, and destinations. It can also be called opportunities, and it can be defined as the potential for interaction and exchange. Accessibility measures of the ease of making a trip from the location of origin to the destination of the required service, so the measure of ease is expressed in the accessibility index. (Putra & Adeswastoto, 2018). The main purpose of providing a transportation system is to provide accessibility (ease) for every user including humans, goods, and services. Accessibility planning does not mean trying to make it easy to move (mobility) for many vehicles but ensuring that every destination remains easy to reach with all types of transportation, especially non-motorized vehicles or public transportation. (Tamin, 2019). Ease of access to public transport points, including first-mile/last-mile solutions, is vital in encouraging the use of public transport modes. Study by Ahmad et al. (2024), shows that in developing countries, accessibility for transit is an important factor in increasing the number of public transportation passengers. Harianto et al. (2023) also specifically found that ease of accessibility to stations or bus stops is very significant in influencing Gen Z's transportation preferences in Jakarta, including the aspect of inclusivity. The higher the level of accessibility of a mode of transportation, the more likely a person is to use it, and vice versa. Therefore, based on theoretical consensus and empirical evidence, it is hoped that a positive relationship between accessibility and the choice of transportation mode will be achieved. Therefore, it is hypothesized that:

H3: Accesibility have a positive effect on the transportation mode choices of Generation Z employees in the Jakarta suburban area.

This study tests three hypotheses related to the factors that influence the public transportation modes choice for Generation Z workers in the suburban areas of Jakarta City. It can be concluded that the hypotheses for this study are (Figure 1):

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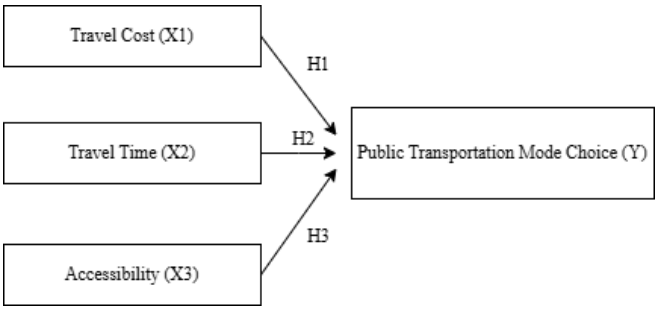

Figure 1. Framework

Source: Authors (2025)

METHOD

This study employs a quantitative research design with an explanatory approach to investigate the influence of independent variables (travel cost, travel time, and accessibility) on the dependent variable (transportation mode choice). This design is suitable for examining the causal relationships between predefined variables through numerical data analysis. The population of this study comprises Generation Z commuters (individuals born between 1997 and 2012) who are actively working in Jakarta City and residing in its suburban areas (Bogor, Depok, Tangerang, and Bekasi, collectively known as Bodetabek). A total of 114 respondents were selected using a purposive sampling technique. The specific criteria for sample selection were: (1) individuals born between 1997 and 2012, (2) actively employed and commuting to Jakarta City for work, (3) residing in the Bodetabek area, and (4) regularly using either private or public transportation for their daily commute.

The primary research instrument used in this study was a closed questionnaire, designed to gather data on respondents' perceptions and choices. The questionnaire employed a 5-point Likert scale, ranging from 'Strongly Agree' (5) to 'Strongly Disagree' (1). The questionnaire was structured into several sections, covering respondent characteristics information and items related to the research variables. The questionnaire consisted of items designed to measure three independent variables and one dependent variable: Travel costs: This variable can be measured through the cost of using a mode of transportation (such as public transportation fares or purchasing operating costs for private vehicles). Then additional costs (such as transportation mode transfers, parking, or tolls); Travel time: This variable was assessed through indicators such as travel duration, delayed time, and availability of high-speed or fast-track routes; Accessibility: This variable captured the perceived ease of distance to the mode of transportation, ease of access, ease of access, and fashion connectivity.

The collected data were analyzed using IBM SPSS Statistics software. The data analysis process involved several stages:

1) Data quality tests: Validity of the instrument was tested using Pearson Product Moment Correlation, with an item considered valid if its significance value (sig.) was less than 0.05. Reliability was assessed using Cronbach's Alpha, with a coefficient value greater than 0.50 indicating reliability of the instrument.
2) Classical Assumption Tests: Prior to performing Multiple Linear Regression analysis, several classical assumption tests were conducted to ensure the validity of the regression model. Normality Test assessed whether the residual values in the regression model were normally distributed. This was examined using Kolmogorov-Smirnov test, if a significance value (sig.) greater than 0.05 indicates a normal distribution of residuals. Multicollinearity Test evaluated whether there was a high correlation among the independent variables. This was checked using Variance Inflation Factor (VIF) less than 10 and Tolerance values greater

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than 0.10, indicate the absence of multicollinearity. Heteroscedasticity Test examined whether there was an unequal variance of residuals across the range of predictor variables. A significance value (sig.) greater than 0.05 using the Glejser test indicates no heteroscedasticity.

3) Multiple Linear Regression Analysis: This analysis was employed to measure the influence of the independent variables (travel cost, travel time, and accessibility) on the dependent variable (transportation mode choice). F-Test (Simultaneous Test) was conducted to determine whether all independent variables simultaneously have a significant influence on the dependent variable. The decision was made by comparing the calculated F-value with the F-table value or by examining the significance value (sig. < 0.05). t-Test (Partial Test) was used to determine whether each independent variable individually has a significant influence on the dependent variable. The decision was made by comparing the calculated t-value with the t-table value. Coefficient of Determination (R-squared) measures the proportion of the total variance in the dependent variable that can be explained by the independent variables. A higher R-squared value indicates a better fit of the model.

RESULTS AND DISCUSSION

Respondent Characteristics

Based on Table 1, respondents who meet the criteria as Generation Z workers who live in Bodetabek and work in Jakarta mostly come from the age groups of 25-28 years and 21-24 years. This composition confirms that respondents are of productive age and have a high level of mobility for commuting activities using public transportation. This happens because Generation Z tends to use travel applications to help them make more efficient and economical transportation mode choices (Fisu et al., 2024). In addition, the dominant composition of women among Generation Z employees also shows that women prefer to use public transportation to avoid high costs and increase travel time efficiency.

Table 1. Respondent's Age & Gender

Age	Percentage
17-20	6,1%
21-24	45,6%
25-28	48,2%
Gender	**Percentage**
Female	71,1%
Male	28,9%

Source: Authors (2025)

Basen on Table 2, the distribution of respondents' residence areas, which are more in Depok and Tangerang, shows that these two areas have better access to the public transportation modes choice that they use. Meanwhile, based on the distribution of work areas, South Jakarta is the center of dominant workplaces for workers who travel from the suburban areas of Jakarta City. This is indicated by the existence of all public transportation access in Jakarta City through the South Jakarta area, such as MRT, KRL, TransJakarta, LRT, and JakLingko.

Table 2. Respondent's Residence and Work Area

Residence Area	Percentage	Work Area	Percentage
Bogor	19,3%	Central Jakarta	21,9%
Depok	33.3%	North Jakarta	18,4%
Tangerang	26,3%	West Jakarta	13,2%
Bekasi	21,1%	East Jakarta	14,9%
		South Jakarta	31,6%

Source: Authors (2025)

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Basen on Table 3, the average income profile and average transportation expenditure provide an overview of the economic conditions of Generation Z workers who commute from Bodetabek to Jakarta. Most respondents, with incomes in the range of IDR 5,000,000 - IDR 7,999,999, indicate that most of them have incomes equivalent to or slightly above the Provincial Minimum Wage (UMP) in the Jakarta area and most of Bodetabek in 2025. Meanwhile, most public transportation users have average monthly transportation expenditures in the middle range (IDR 250,000 - IDR 500,000). If we take the middle point of the majority income (for example, IDR 6,500,000) and the majority transportation expenditure (IDR 375,000), then transportation costs are only around 5.7% of income. Based on Table 4, the average travel time was dominated by respondents who traveled from 30 minutes to 1.5 hours. This shows that their high time allocation to get to work is a top priority for commuters in Bodetabek.

Table 3. Respondent's Transportation Expenditure & Income

Average Transportation Expenditure	**Percentage**
< IDR 250.000	17,5%
IDR 250.000 – IDR 500.000	54,4%
IDR 500.001 – IDR 1.000.000	14,9%
IDR 1.000.001 – IDR 2.000.000	8,8%
> IDR 2.000.000	4,4%
Average Income	**Percentage**
< IDR 2.500.000	6,1%
IDR 2.500.000 – IDR 4.999.999	30,7%
IDR 5.000.000 – IDR 7.999.999	47,4%
IDR 8.000.000 – IDR 9.999.999	9,6%
≥ IDR 10.000.000	6,1%

Source: Authors (2025)

Table 4. Respondent's Average Travel Time

Average Travel Time	**Percentage**
< 30 minutes	7,0%
30 minutes – 60 minutes	44,7%
61 minutes – 90 minutes	43,0%
> 90 minutes	5,3%

Source: Authors (2025)

Based on Table 5, the data shows that the public transportation mode Bus (TransJakarta/RoyalTrans/Umum/etc.) is the most widely used mode. Online motorcycle taxis also have a high percentage, often functioning as a connecting or feeder mode to reach or continue the journey from/to public transportation stations/stops. Other public transportation options such as MRT, Angkot/JakLingko, and LRT are also used significantly. This aligns with the observation that most respondents use public transportation because of their work commute routine and the long travel distance.

The phenomenon of high use of online motorcycle taxis also highlights the need for accessibility and connectivity between modes that have not been fully maximized. Respondents often transfer between modes of transportation to reach their destination, which shows that the main public transportation requires connectivity support to overcome first-mile and last-mile problems. For example, the existence of public transportation access in South Jakarta (the dominant workplace of respondents), such as MRT, KRL, TransJakarta, LRT, and JakLingko, can support easy access for public transportation users

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Table 5. Respondent's Type of Transportations Mode Percentage

Type of Transportations Mode	Percentage
Train (KRL)	20,1%
MRT	16,1%
LRT	5,0%
Bus (TransJakarta/RoyalTrans/Umum/dll)	21,7%
Angkot/JakLingko	6,0%
Online Motorcycle Taxi	18,7%
Private Car	4,3%
Private Motorcycle	8,0%
Private Bicycle	0,0%

Source: Authors (2025)

Based on Table 6, the dominance of the composition of respondents in vehicle ownership has a motorbike, as well as the fact that most respondents choose motorbikes and private cars as part of the transportation modes they use, this can be a strong indicator that private vehicles are often still a solution to first-mile and last-mile problems. This indicates a significant challenge in solving first-mile and last-mile problems because it creates a double dependency. Public transportation is a mode of long-distance travel efficiency but still relies on private vehicles to reach the starting and ending points.

Table 6. Private Vehicle Ownership

Private Vehicle Ownership	Percentage
Don't have a vehicle	23,7%
Have motorcycle	53,5%
Have private car	5,3%
Have a private car & motorcycle	17,5%

Source: Authors (2025)

Classical Assumption Tests

Normality Test

The results of the normality test calculation using *the One-Sample Kolmogorov-Smirnov* test with the SPSS version 26 program device, it can be concluded that the four variables are normally distributed. Based on Table 7, this is evidenced by the significance value (Asymp. Sig.) of 0.200 > 0.05. So, it can be concluded that the data has been distributed normally.

Table 7. Normality Test

		Unstandardized Residual
N		114
Normal Parameters	Mean	0,0000000
	Std. Dev	2,05142844
Most Extreme Differences	Absolute	0,069
	Positive	0,050
	Negative	-0,069
Test Statistics		0,069
Asymp. Sig. (2-tailed)		0,200

Source: Authors (2025)

Multicollinearity Test

A regression model should not show symptoms of multicollinearity provided that the VIF value is < 10 and has a tolerance value greater than 0.1. Based on Table 8, the results of

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the multicollinearity test, the X1 variable has a VIF value of 3.294, the X2 variable has a VIF value of 3.587, and the X3 variable has a VIF value of 1.256. Other things that can be seen are *the tolerance values* of the variables X1 (0.304), the variable X2 (0.279), and the variable X3 (0.796). Therefore, it can be concluded from the previous explanation that the data does not show symptoms of multicollinearity.

Table 7. Multicollinearity Test

	Collinearity Statistics	
	Tolerance	VIF
X1	0.304	3,294
X2	0,279	3,587
X3	0,796	1,256

Source: Authors (2025)

Heteroscedasticity Test

Through *the Glejser* test, namely by regressing the residual absolute value to independent variables through the SPSS program tool version 26. Based on Table 9, the results of *the Glejser test* can be seen that the significance values of the variables X1 (0.446), X2 (0.137), and X3 (0.782) > 0.05. Therefore, it can be concluded that there is no symptom of heteroscedasticity, or that the assumption of homoscedasticity is fulfilled.

Table 8. Heteroscedasticity Test

	Sig.
X1	0,446
X2	0,137
X3	0,782

Source: Authors (2025)

Multiple Linear Regression Analysis

Based on the Table 10, the following equation can be seen:

$$\hat{Y} = 27{,}550 - 0{,}026\, X_1 - 0{,}295\, X_2 + 0{,}257\, X_3 + e$$

Based on this equation, it can be concluded that:

1. Constant value of 27.550, this is if Travel Cost (X1), Travel Time (X2), and Accessibility (X3) have a value of 0 or there is no increase or decrease, then the Transportation Mode Choice (Y) has a value of 27.550.
2. The Travel Cost Coefficient (X1) has a negative value of 0.026. If the Travel Cost variable (X1) increases by 1 point (assuming other independent variables remain constant), then the Transportation Mode Choice (Y) value will decrease by 0.026.
3. The Travel Time Coefficient (X2) has a negative value of 0.295. If the Travel Time variable (X2) increases by 1 point (assuming other independent variables remain constant), then the Transportation Mode Choice (Y) value will decrease by 0.295.
4. The Accessibility Coefficient (X3) has a positive value of 0.257. If the Accessibility variable (X3) increases by 1 point (assuming other independent variables remain constant), then the Transportation Mode Choice value (Y) will increase by 0.257.

Table 9. Multiple Linear Regression

	Unstandardized Coefficients		Sig.
	B	Std. Error	
(Constant)	27,550	2,306	0,000
X1	-0,026	0,051	0,614
X2	-0,295	0,065	0,000
X3	0,257	0,053	0,000

Source: Authors (2025)

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Hypothesis Testing

F-test

Based on Table 11, the F_{count} value (54.728) > F_{table} (2.69) and sig. value (0.000) < (0.05) were obtained, so it can be concluded that Travel Costs, Travel Time, and Accessibility together have a significant effect on the Transportation Mode Choice.

Table 11. F-test

	F	Sig.
Regression	54.728	0.000

Source: Authors (2025)

t-test

Based on Table 12, the results of the t-test, it can be concluded that: Travel Costs do not affect the Transportation Mode Choice. This is proven by the results of t_{count} (-0.506) < t_{table} (1.65870). Travel Time has a negative effect on the Transportation Mode Choice. This is proven by the results of t_{count} (4.543) > t_{table} (1.65870). Accessibility has a positive effect on the Transportation Mode Choice. This is proven by the results of t_{count} (4.886) > t_{table} (1.65870).

Table 12. t-test

Variable	t_{count}	t_{table}
Travel Cost (X1)	-0,506	1,65870
Travel Time (X2)	-4,543	1,65870
Accessibility (X3)	4,886	1,65870

Source: Authors (2025)

Coefficient of Determination

Based on Table 13, the results of the determination coefficient show that the R square (R^2) value is 0.599. Thus, the influence of the variables of travel costs, travel time, and accessibility simultaneously on the transportation mode choice is 59.9%, while the remaining 40.1% is explained by other variables outside the variables studied in this study

Table 10. Coefficient of Determination

R	R Square	Adjusted R Square
0,774	0,599	0,588

Source: Authors (2025)

Discussion

The Effect of Travel Costs on the Public Transportation Mode Choices

Based on the research results, shows that travel costs do not significantly influence on the public transportation mode choices for Generation Z workers who live in Bodetabek and work in Jakarta. This finding confirms that Generation Z workers in the suburban areas of Jakarta City pay attention to travel cost factors, as seen from the burden on transit costs and ticket fares. The cost itself does not significantly drive their decisions in choosing public transportation modes. This is in line with the findings in the study by Irjayanti et al. (2021) which shows that even though public transportation costs are relatively cheaper, factors such as uncertainty of waiting times, limited number of public vehicles, and lack of comfort in public vehicles are more important considerations for commuter workers in Jabodetabek.

As well as a study by Prianto et al. (2023) shows that costs have not been proven to influence people in choosing a mode of transportation. Still, safety and service factors are much more influential in determining the choice of transportation mode. This is similar to research Ha et al. (2020) in the Seoul metropolitan area showing that the impact of cost on commuting

mode choosen is not always dominant or can vary significantly between age groups and incomes, with factors such as travel time or transit load likely to influence decisions more. In the context of Jakarta, research by Yugihartiman et al. (2023) which examines the application of congestion charging that private car rates or vehicle density levels do not necessarily affect travel behavior or fashion choices.

This indicates that for Generation Z workers in the Jakarta suburban zone, the decision to use public transportation is more based on considerations of accessibility, safety, and comfort. Governments need to combine cost policy strategies such as effective congestion charging with significant improvements in non-cost factors, such as total travel time efficiency (including minimizing waiting times and transfers) and ease of accessibility. A holistic approach that understands the unique priorities of young demographics will be more effective in achieving the goal of changing fashion selection behavior.

The Effect of Travel Time on Public Transportation Mode Choices

Based on the research results, shows that travel time negatively and significantly influences on the public transportation mode choices for Generation Z workers who live in Bodetabek and work in Jakarta. Travel time efficiency is an asset for workers who work in Jakarta but live in Bodetabek. They need a mode of transportation that can save travel time, minimize waiting time, and provide a predictable schedule to manage work schedules effectively. In line with previous research conducted by Firdausi & Putra (2021) shows that travel time is a strong important factor for people in determining their transportation mode choice. The study found that the longer the travel time, the respondents tend to change to a faster mode of transportation because it is directly proportional to the short travel time.

Study by Ha et al. (2020), which found that faster transit systems increase transit use, the results of the study also showed that Gen Z commuters are more likely to choose public transportation if they perceive more efficient travel time. Consistent with research Helmmie & Joewono (2022) in Bandung, it highlights that public transportation users have sensitivity to changes in access time and travel time, so reducing total travel time (including waiting and transit times) is an effective strategy in encouraging public transportation choices in urban contexts in Indonesia. This underscores the importance of the government's efforts in accelerating travel time and improving transit efficiency in Jabodetabek.

The Effect of Accessibility on the Public Transportation Mode Choices

Based on the research results, shows that accessibility positively and significantly influences on the public transportation mode choices for Generation Z workers who live in Bodetabek and work in Jakarta. This study clearly shows that accessibility, which includes ease of reaching available transportation modes, availability of efficient transportation routes, and ease of obtaining route/schedule information, greatly influences Generation Z's public transportation mode choices in the suburban areas of Jakarta. In addition, the availability of online motorcycle taxis also plays an important role in supporting transportation accessibility for them, especially as a first-mile and last-mile solution when the main transportation mode cannot reach the destination point directly.

Similarly, the results of the study are in line with the study by Moniruzzaman & Páez (2012) through their research in Hamilton, Canada, showed that both aspects of accessibility to transit (ease of reaching stations/stops) and accessibility by transit (ease of reaching destinations using transit) are significant predictors of mode share. S A case study in Southeast Asia (Bangkok) by Thiri Kyaw Nyunt & Wongchavalidkul (2019) which shows a positive relationship between accessibility and metro usage rate. The study shows that increased physical and functional accessibility around transit stations can increase the number of passengers. Previous research by Harianto et al. (2023), which shows that transportation

Jurnal Pendidikan Ekonomi, Perkantoran, dan Akuntansi, 6 (1), April 2025: 113 – 126
DOI: https://doi.org/10.21009/jpepa.0601.10

accessibility is positively related to the public transportation choice, especially for Generation Z who prefer efficient and affordable modes.

These findings on accessibility provide important insights for policymakers in Jakarta. Given that in developing countries, accessibility is often a major barrier in driving the use of public transport Ahmad et al. (2024) focus on improving physical and digital connectivity, as well as the provision of convenient and secure first-mile/last-mile solutions (such as micromobility or on-demand services), may be key to further driving the choice of public transport among Generation Z and the wider community.

CONCLUSION AND RECOMMENDATION

Conclusion

This study examines the influence of travel costs, travel time, and accessibility on the public transportation mode choices for Generation Z workers in the suburban area of Jakarta City. Based on the results of the hypothesis testing, the findings of this study can be concluded as follows: (1) Travel costs do not affect the public transportation mode choices for Generation Z workers in the suburban area of Jakarta City; (2) Travel time has a negative and significant influence on the public transportation mode choices for Generation Z workers in the suburban area of Jakarta City; (3) Accessibility has a positive and significant influence on the public transportation mode choices for Generation Z workers in the suburban area of Jakarta City.

Recommendation

This research has several limitations that need to be acknowledged, so there are several recommendations for future researchers: The focus of this research is limited to Generation Z commuter workers in the suburbs of Jakarta, the implementation of the next research is expected to be able to expand the scope of research by examining other variables that have the potential to influence the choice of public transportation modes, especially in Generation Z commuter workers in the Jakarta suburban area to create renewal and deeper linkages with the factors that affect the choice of transportation modes; Query measurement enhancements, for further research can improve the research instrument by adding more specific questions and focusing on each variable being studied; The number of respondents is relatively small compared to the total population of Generation Z workers in the suburban area of Jakarta, for further research is suggested to expand the sample size so that the population representation is better and the results can be generalized more broadly.

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