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Development of Mass-Based Road Public Transportation With Buy the Service Scheme Yogyakarta City

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Abstract: The rapid growth of urban areas requires the provision of adequate transportation infrastructure so that the mobility of people and goods can run optimally. Complex urban transportation problems require appropriate solutions to support economic development, activities, and transportation movements. Successful transportation development is essential to increase ease of movement, which impacts on the efficiency of time and place. Mass public transport has great economic, social and environmental benefits, but this need has not been met equally. Public transport, as an important part of the national transportation sector, is key in realizing better mobility. One proposed solution is a road-based mass transit purchasing scheme, which can meet transportation needs in a more affordable and sustainable way. The existence of mass transit is particularly relevant in cities characterized by tourism, such as Yogyakarta, to support the tourism sector and the city's economy. Therefore, the development of a physically integrated transportation system, fares, and schedules is necessary to achieve this goal. This research uses quantitative and qualitative *mixed methods.* The results show that a *Buy The Services* scheme in road-based mass transit can improve service quality and attract more passengers, provided that the facilities desired by users are in line with their ability to pay. The operational performance of public transportation in Yogyakarta, such as Trans Jogja, has met the Minimum Service Standards (MSS), with good quality indicators. Setting tariffs in accordance with users' ability and desire is important to maintain accessibility and sustainability of services, as well as ensuring optimal operational quality.

Keyword: Service Purchase Scheme, Mass Transit, Land Transportation.

INTRODUCTION

The use of urban mass transit has multiple benefits regarding economic, social and environmental benefits (Litman, 2003)**.** In the context of national policy, urban public transport according to the National Medium Term Development Plan (RPJMN) is the backbone of urban transportation in Indonesia. This need has not been met in other circles that are more in need,

due to various existing limitations. This limitation will cause a person to depend on certain types of transportation (*captive rider*), causing travel costs to be inelastic. The increasingly unlimited number of transportation facilities and infrastructure requires an economical transportation management and does not add too high a traffic burden.

In minimizing transportation problems in urban areas, government policy applies a car-oriented transportation development pattern through efforts to increase road capacity (*capacity concept*), which is not the right solution (Khairiah & Hajar, 2021). Car-oriented infrastructure development fails to meet rapidly growing transportation demand, resulting in increasingly acute levels of traffic congestion (Saputri et al., 2024). In connection with this phenomenon, cities in the world are changing their transportation development patterns by using the concept of *sustainable transportation*. Sustainable transportation emphasizes the use of public transportation, bicycles, and walking and does not encourage the use of private motorized transportation modes such as cars and motorbikes (Praditya et al., 2020).

In Indonesia, the implementation and provision of public transport services (public transportation) is a mandate (Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 98 of 2013) concerning Road Traffic and Transportation, where the government is obliged to organize and provide public transport services that are safe, comfortable, safe and affordable for the community. Public transportation is a transportation system that prioritizes sustainable and equitable concepts that serve the social and economic needs of all communities and are environmentally sound (Bagus & Yola, 2023). The existence of public transportation in Indonesian cities, in general, has not provided the services expected in accordance with the provisions of the Law. Public transportation services in most urban areas in Indonesia are still conventional and the government has limited intervention in their operation. Some characteristics of public transportation in most urban areas in Indonesia are Management is carried out by individuals who are not legal entities; Operators are legal entities in the form of cooperatives or limited companies without having standard operating procedures (SOPs); Driver income is based on the number of passengers transported (deposit); Operational routes overlap; and Low service supervision and evaluation of minimum service standards (SPM) set by the government.

The lack of government investment in the provision of public transportation infrastructure and services has an impact on the low mode share of public transportation (Agustin & Hariyani, 2023). In connection with this, the government must be present in the development of public transportation by providing public transportation infrastructure and services that are connected between regions so as to meet the mobility needs of the community. In order to solve development issues, measurable and the benefits can be directly understood and felt by the community, the government has developed a Strategic Priority Project (*major project*) to implement the national priority development agenda of the 2020-2024 National Medium-Term Development Plan in the field of public transportation. Strategic priority project number 23 (*major* project 23) is a project to develop urban mass public transportation systems in metropolitan areas with subsidy assistance. To expand the scope of urban public transportation development in Indonesia, the Directorate General of Land Transportation's 2020-2024 Strategic Plan (Renstra) document stipulates that 21 cities will receive subsidies for urban mass public transport through the *buy the service* scheme (Khairiah & Hajar, 2021). The development of subsidized urban public transportation systems is expected to improve transportation mobility and reduce congestion in urban areas, potentially reducing economic losses and environmental damage. *The Buy the Services* (BTS) approach has been applied in many countries to efficiently manage mass transportation systems. In the UK, the cities of London and Manchester have implemented this model in bus and light rail management. The government through *Transport for London* (TfL) contracts private operators to run the services, with payments based on performance and agreed standards, ensuring sustainability and quality of service. A similar approach is taken in Paris, France, where bus and tram services are

operated by private companies under contract with the local government. In Spain, cities such as Barcelona and Madrid adopted the BTS model for mass transportation, contracting private operators to provide services tailored to the needs of the community, while the government is responsible for quality control and fares (Suzuki et al., 2013).

In Asia, Japan, particularly Tokyo and Osaka, uses this approach for some bus and light rail routes, although most rail and metro systems are managed by state companies. The use of this model allows Japan to reduce the burden on the government in terms of direct management and focus on better service quality. In Singapore, the government has also implemented the BTS model on bus and MRT services, where private operators are responsible for operations and the government makes payments based on agreed outcomes. Cities in the United States, such as New York and Los Angeles, have also adopted this system for some bus routes, with private operators managing public transportation services under a performance-based payment scheme (Development Bank, 2010)**.**

In Indonesia, the *Buy The Services* (BTS) approach to mass transit management is being applied in several major cities, although implementation is still limited and under development. One example of its application is in Jakarta, through *TransJakarta*, a bus rapid transit (BRT) system that adopts a contract model with private operators to provide transportation services. The Provincial Government of DKI Jakarta pays operators based on performance, namely the number of fleets provided, punctuality, and passenger comfort and safety, with strict supervision of service standards.

Buy the Services in Indonesia can bring many benefits in improving economic efficiency and strengthening the services sector. With *Buy The Services*, Indonesia can focus on developing sectors that have a competitive advantage, while other sectors can rely more on third parties to fulfill specific needs. It can also encourage innovation, as service providers will strive to provide more efficient and high-quality solutions. In addition, implementing this model can help reduce operational costs and encourage the utilization of the latest technology, which in turn will support sustainable economic growth.

Since 2020 until now, the Government of Indonesia through the Ministry of Transportation (Kemenhub) has been committed to improving public transportation services in Indonesia by implementing the *Buy the Service* (BTS) Program. This program is a service purchase scheme by the central government from the Ministry of Transportation's state budget (APBN) to pay operators who provide public transportation services with an auction mechanism based on SPM that has been determined on certain routes in several cities in Indonesia.

Yogyakarta is well suited to implement the concept of "*buy the services*", due to its strong tourism sector. Jogja is one of the major tourist destinations in Indonesia, with a thriving tourism sector. The implementation of "buy the services" can help improve the quality of tourism services, such as hotels, transportation, and tour guides, all of which contribute to the tourist experience. Local Economic Empowerment, Jogja is known for its many small and medium enterprises (SMEs), such as handicrafts, culinary, and other creative sectors. By purchasing services from local sectors, Jogja can boost regional economic growth, create more jobs, and optimize the potential of the local economy and Renowned Education Sector, Jogja is also known as a student city, with many universities and higher education institutions. The implementation of "*buy the services*" can improve the quality of education services, with more investment in infrastructure and programs that benefit students and teachers.

In its implementation, the *Buy the Services* (BTS) program in Yogyakarta received a positive response from the community, especially related to improving the quality of services in the tourism and education sectors. However, there are still some obstacles that hinder its effective implementation. One of the main obstacles is the lack of coordination between the government sector and private service providers, which has led to the non-integration of various existing services. In addition, there are still challenges in raising community awareness

and understanding of the benefits of the BTS program, so some parties are still hesitant to actively participate. Another obstacle is the limited infrastructure and technology supporting the implementation of BTS, especially in more remote areas, where access to quality services is limited. Overcoming this requires closer cooperation between the government, private sector and communities, as well as improved facilities and education on the importance of the program.

This research expected to be useful for relevant stakeholders and for the community towards the development of road-based mass public transport *buy the service* scheme in accordance with Minimum Service Standards, including through the *Buy The Services* Scheme, this research can provide information on how to ensure that mass transit services are accessible to all levels of society, with rates that are in accordance with purchasing power and do not burden users. It can also help the government manage and fund public transport operations more efficiently; it can help formulate policies that ensure mass transit is accessible to all groups of people, including those in remote or unreachable areas. This will reduce inequalities in access to transport and improve population mobility in different urban areas; The research provides deeper insights into how urban transport systems can be optimized, particularly in terms of road-based mass transit development. An understanding of the management of mass transit fleets, routes, and schedules, as well as the relationship between public transit policy and operations, can enrich both theory and practice in transportation science.

The purpose of the study is to analyze whether there is an effect of the Development of Mass-Based Road Public Transport with the Purchase Scheme Services (Buy The Services); To find out how road-based transport services *(buy the service)* are considered in accordance with the Minimum Service Standards set by the Government; To find out why the Service Purchase Scheme (*Buy The Services*), is considered necessary; To find out why the operational performance of the service is considered in accordance with the applicable Minimum Service Standards; To find out how to make good operational performance of the service in accordance with the applicable Minimum Service Standards; and To find out how the amount of tariff to be applied can take into account the ability and willingness of service users; then the Thinking Flow (Figure 1) and the research hypothesis can be prepared.

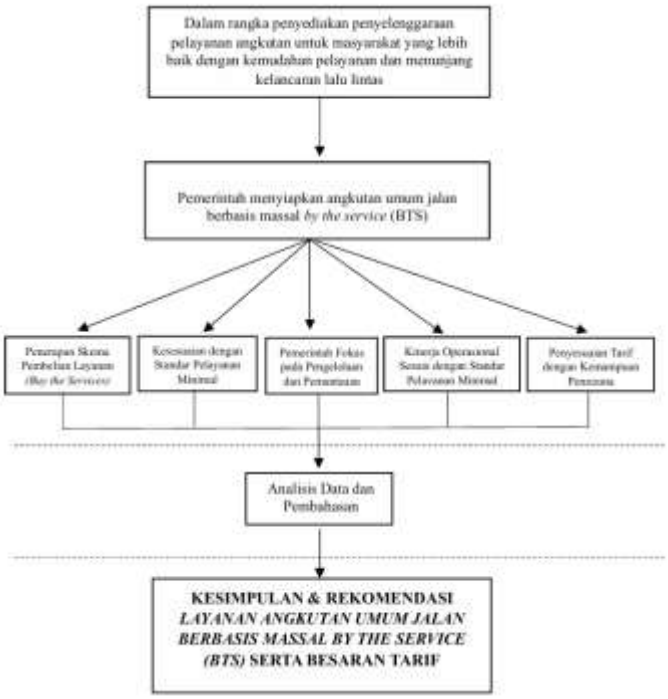

Figure 1. Flow of Thought

Research Hypothesis

Based on the existing flow of thought, the hypothesis in this study is that there is a positive and significant influence between the development of mass-based transportation and the *Buy The Services* scheme.

METHOD

This research uses quantitative and qualitative *mixed methods* or *Mix Method*, which means combining data that can be stated to provide understanding using quantitative and qualitative research. This method is a new and rapidly developing method used for research because of the combination of two studies (Seftiani et al., 2022). The two research methods are quantitative and qualitative research methods. The quantitative approach is usually called the old-fashioned or traditional approach. Because this research has long been used and has become commonplace in research using a quantitative approach. While qualitative methods are new methods that have not been used for a long time and are also called methods that contain art or artistic. This mixed methods research aims to expand the discussion by applying two studies at once (Waruwu, 2023).

Quantitative Analysis is carried out to determine whether mass-based public transport is running well or not, it can be evaluated using service quality indicators which are then measured through five indicators of Reliability, Responsiveness, Assurance, Empathy, and Direct Evidence as well as measuring the effectiveness of BTS through parameters such as transport routes, number of passengers, load factor, speed, headway, frequency, and number of fleets, all of which affect the quality of service and operational efficiency of public transport.

Qualitative analysis is carried out by calculating Vehicle Operating Costs (BOK), *Ability to Pay* (ATP), and *Willingness to Pay* (WTP). The BOK method is used by knowing with the current tariff how much the daily BOK is from the operator, then from the gross income is reduced by the amount of BOK so as to produce net income every day. *The ability to pay* and *willingness to pay* method is used by interviewing respondents how much income each month, how much money is spent on transportation and for city transportation so that the ATP value is obtained. Then by interviewing the respondent what is the appropriate tariff for city transportation, the value of WTP is obtained.

This study includes a description of variable data, analysis of test criteria, hypothesis testing, discussion, and research limitations. Before delving into the research findings, 96 respondents will be sampled to fulfill the instrument of each variable with each variable having an item correlation coefficient value and a higher table value correlation coefficient as seen from the item correlation coefficient value discussed in the research results. Thus indicating that all of the above factors are real.

The place of this research is located in the city of Yogyakarta, the city of Yogyakarta has an area of approximately 32.5 KM^2or 1.02% of the area of the province of Yogyakarta Special Region. The farthest distance from North to South is approximately 7.5 KM and from West to East is approximately 5.6 KM. Administratively, Yogyakarta city consists of 14 sub-districts and 45 villages. Below is an image of the Yogyakarta urban area map. The city of Yogyakarta only has one bus terminal, Giwangan Terminal, which is located in Umbulharjo District. In addition, there are two train stations located in Yogyakarta, namely Yogyakarta Station (Tugu) and Lempuyangan Station. Giwangan Terminal is a type A terminal and type A terminals function to serve public vehicles for Inter City Within Province (AKDP) transportation, city transportation, and rural transportation. In addition, there are also a number of bus stops for the Tranjogja bus fleet. Transjogja Bus uses two types of bus stops, namely stops owned by the Yogyakarta City Government and stops owned by the Yogyakarta Special Region Provincial Government (owned by the city government). The Trans Jogja Bus transportation routes can be seen in the table below:

Table 1. Bus Transportation Routes

No.	Route	Route
1	Godean (Loop)	Godean Market - Jl. Godean - Jl. Kyai Mojo - Jl. Pangeran Diponegoro - Jl. P. Mangkubumi - Jl. Kleringan - Jl. Abu Bakar Ali - Jl. Ps. Kembang - Jl. Jlagran Lor - Jl. Letjen Suprapto - Ngabean Terminal - Jl. RE. Martadinata - Jl. Wates - Jl. Patukan - Jl. Sidoarum Gamping - Jl. Godean - Godean Market
2	Ngaglik (Radial)	Pasar Pakem - Jl. Kaliurang - Jl. Teknika Selatan - Jl. Health - Jl. Bhinneka Tunggal Ika - Jl. Persatuan - Jl. Terban - Jl. Colombo - Jl. Prof. DR. Drs Notonagoro - Jl. UGM Valley - Jl. Bougenville - Jl. Affandi - Jl. Anggajaya - Condongcatur Terminal Condongcatur Terminal - Jl. Anggajaya - Jl. Affandi - Jl. Bougenville - Jl. UGM Valley - Jl. Prof. DR. Drs Notonagoro - Jl. Colombo - Jl. Terban - Jl. Persatuan - Jl. Bhinneka Tunggal Ika - Jl. Health - Jl. Teknika Selatan - Jl. Kaliurang - Pakem Market
3	Ngemplak (Radial)	UII - Jl. Kaliurang - Jl. Besi Jangkang - Jl. Ngaglik - Jl. Raya Babadan - Jl. Raya Tajem - Jl. Ringroad Utara - Jl. Raya Solo Yogyakarta - Adisutjipto Airport Adisutjipto Airport - Jl. Raya Solo Yogyakarta - Jl. Ringroad Utara - Jl. Raya Tajem - Jl. Raya Babadan - Jl. Ngaglik - Jl. Besi Jangkang - Jl. Kaliurang - UII

This study uses a survey as a data collection method. Survey information is collected from respondents using a questionnaire to passengers who use public transportation in Yogyakarta on each route passed on public transportation in Yogyakarta which serves to collect data. The design of the questionnaire is divided into three parts, namely the characteristics of respondents, ATP and WTP to find out whether the services provided by road-based transportation (*buy the service)* are in accordance with the Minimum Service Standards set by the Government, how to perform good service operations to meet Minimum Service Standards and how much tariff can be applied by taking into account the ability and willingness of service users, namely bus passengers or public transportation in Yogyakarta.

RESULTS AND DISCUSSION

Validity Test

The measuring tool used by researchers in the validity test is the *person product moment* correlation. The requirement for an instrument to be said to be valid if the value of $r_{count} \geq r_{(table)}$ in this study is known (df) = n - 2 data $\alpha = 0.05$ then the value of $r_{(table)}(\alpha, n)$ from the *Pearson product moment* table is (0.05, 94) = 0.200**.**

What is tested in this test is the Reliability Indicator with question points: Are you satisfied with the punctuality of the BTS Bus Friend trip, Are you satisfied with the BTS Bus Friend operating time Are you satisfied with the current fare; Responsiveness Indicator with question points: Are you satisfied with the emergency facilities on the bus, Are you satisfied with the attitude of the driver when serving passengers, How satisfied are you with the prevention of unwanted actions on the bus; Assurance indicator with question points: How satisfied are you with Internet of Things (IoT) facilities available on the bus, How satisfied are you with the presence of CCTV to ensure security on the bus; Empathy Indicator (Emphaty) with question points: Are you satisfied with the availability of priority seats in the Teman Bus BTS, Are you satisfied with the availability of special wheelchair spaces in the Teman Bus BTS; Tangibles (Physical Evidence) indicator with question points: Are you satisfied with the information on the schedule and route of the Teman Bus BTS, Are you satisfied with the current payment system.

The value of r_{table} is then used to see the validity of each statement of each questionnaire, the following are the results of validity testing in this study.

Table 2. Validity Test Results

Variables	Item	Correlation Value	Description
Reliability	1	0,819	Valid
	2	0,752	Valid
Responsive	3	0,677	Valid
	4	0,803	Valid
	5	0,826	Valid
Assurance	6	0,804	Valid
	7	0,765	Valid
	8	0,659	Valid
Empathy	9	0,634	Valid
	10	0,591	Valid
Tangible	11	0,687	Valid
	12	0,698	Valid

Source: Data processed by researchers

Based on the table above, it can be concluded that each item on the service quality variable as a whole is greater than *r-table* that all statement items used in this study are declared valid and can be used for further testing.

Reliability Test

In the reliability test, researchers used *Cronbach's alpha* formula with 96 respondents. The requirement for an instrument is said to be reliable if the *Cronbach's alpha* value is ≥ 0.60. The following are the results of the reliability test carried out in this study with analysis using SPSS which are shown in the following table;

Table 3. Reliability Test Results

Variable	*Cronbach Alpha*	Critical Value	Description
Reliability	0,759	0,60	Valid
Responsive	0,810	0,60	Valid
Assurance	0,801	0,60	Valid
Empathy	0,647	0,60	Valid
Tangible	0,762	0,60	Valid

Source: Processed by researchers

Based on the table above, it shows that all variables have a *Cronbach's* alpha value ≥ 0.60, it can be concluded that all variables in this study are said to be reliable and can be used for further testing. Descriptive statistical analysis in this study includes the mean of the respondent frequency table for each variable in each statement item which is determined using the *SPSS* version 28 program.

Descriptive statistical analysis in this study includes the mean of the respondent frequency table for each variable in each statement item which is determined using the *SPSS* version 28 program. The number of answers from respondents uses a scale of 1 - 5 so that the categorization of answers uses the provisions of the range (r) as follows: (r) = 5,00 - 2,00 = 3.

Table 4. Categorization of Average Respondent Assessment Score

Average	Criteria
1,00 - 1,80	Very Low / Very Poor
1,81 - 2,60	Low/Poor
2,61 - 3,40	Sufficient/Medium
3,41 - 4,20	High/Good
4,21 - 5,00	Very High / Very Good

Source : Nurdin

The data description of the service quality variable in detail can be seen in the following table:

Table 5. Service Quality Data Results

Indicator	Item	Average	Category
Reliability	1	3,98	Good
	2	4,05	Good
Responsive	3	3,98	Good
	4	3,96	Good
	5	3,95	Good
Assurance	6	4,01	Good
	7	4,03	Good
	8	4,05	Good
Empathy	9	3,77	Good
	10	3,65	Good
Tangible	11	3,78	Good
	12	3,77	Good

Source: Data processed by researchers

Based on the table above, the average on each item of the service quality variable is good and shows that the lowest value is in the 10th item on the *Empathy* indicator 3.65, namely Communication between public transportation officers and passengers is always good followed by the second item on the *empathy* indicator and *tangible* also 3,77, namely Public transportation pays special attention to passengers with special needs and Facilities in public transportation are adequate and the highest value on the average data from the service quality questionnaire results in this study is item 2 *Reliability* 4.05, namely Information on routes and schedules is always clearly available and followed by item 8 responsive, namely 4.05 Public transportation provides services that ensure comfort.

So it can be concluded that the quality of service provided by road-based public transportation *buy the service* on public transportation in Yogyakarta has met the minimum service standards set by the Government based on the results of the questionnaire conducted because it is included in the good category. However, the item with the lowest score is expected to be improved so that it can be better in the future and become an improvement for the future so that the quality of public transportation services in Yogyakarta will be better than before.

Tariff Rate Based on ATP & WTP (Qualitative)

a. Ability to pay (ATP) analysis

In the ATP analysis of service users of BTS Tugu Trans Jogja in Yogyakarta, the amount of ATP value is made based on respondents' income, income allocation to transportation.

Table 6. Ability to Pay

Ability To Pay	Statement	Percentage
Income Per Month	< 2.000.000	40%
	2.000.000 - 4.000.000	31%
	4.000.000 - 6.000.000	18%
	> 6.000.000	11%
Public Transportation Expenses per Month	< 200.000	32%
	200.000 - 250.000	29%
	250.000 - 300.000	26%
	> 300.000	13%
	< 100.000	41%
	100.000 - 150.000	32%

Ability To Pay	Statement	Percentage
***Trans Jogja Bus* Transportation Expenses per Month**	150.000 - 200.000	18%
	> 200.000	9%
Expenses when waiting for transportation	< 20.000	69%
	20.000 - 30.000	12%
	30.000 - 40.000	7%
	> 50.000	2%

Based on the analysis of the respondent's *ability to pay* (ATP), the most dominant respondent's monthly income is < 2,000,000 with a percentage of 40% or 40 people with an average income of all respondents of Rp. 1,702,500, public transportation expenses in a month the most dominant respondent is < 200,000 with a percentage of 32% or 32 people with an average expenditure on public transportation for all respondents of Rp. 170.969, the most dominant trans Jogja bus transportation expenditure in a month for respondents is <100,000 with a percentage of 41% or 41 people with an average expenditure for trans Jogja buses for all respondents of Rp. 82,634, the most dominant expenditure when waiting for public transportation for all respondents is <20,000 with a percentage of 69% or 69 people with an average expenditure when waiting for public transportation for all respondents of Rp. 15,217 with 96 respondents.

In the *Ability To Pay* (ATP) analysis of users of trans Jogja bus transportation services, the amount of *Ability To Pay* (ATP) value is made based on the respondent's monthly income, expenditure on transportation and expenditure when waiting for transportation, trans Jogja bus transportation expenditure in one month and the respondent's trip as a passenger approach to trans Jogja bus transportation. With the following data requirements:

- Average income of respondents: IDR 1,702,500
- Average percentage of respondents' expenditure: 16%
- Transportation expenses and expenses while waiting for transportation : IDR 186,186
- Average Trans Jogja Bus transportation expenditure in a month : IDR 82,634
- Percentage of Trans Jogja Bus transportation expenditure in a month : 48,33%
- Frequency of travel using Trans Jogja Bus: 3
- Average distance traveled by respondents: 27.6 Km

From the data mentioned above, it can be calculated using the *Ability To Pay* formula, namely:

$$ATP = \frac{It \times Pp \times Pt}{Tt}.$$

Description:
It: Average monthly income
Pp: Average percentage of public transportation cost allocation per month
Pt: Average percentage of Trans Jogja Bus transportation cost allocation
Tt: Average distance traveled

Then the results of the *Ability To Pay (ATP)* analysis were obtained at IDR 4,737/km.

b. Willingness To Pay

The characteristics of *Willingness To Pay* (WTP) of Trans Jogja Bus transportation passengers are divided into two which discuss the respondents' willingness to pay for Trans Jogja Bus, namely the expected bus stop building facilities, and the increase in tariffs after the

addition of facilities. Determination of this respondent variable is used to determine the extent of the respondent's ability to pay based on his income in this study.

Table 7. Expected Building Facilities

Expected Transportation Facilities	
Description	**Percentage**
Toilets that are cleaned 3 times a day	21%
Equipped with CCTV	13%
Equipped with air conditioning	13%
Paid parking facility	12%
Equipped with an information center	12%
Equipped with an information screen	11%
Equipped with audio information system	9%
Equipped with a mosque	9%

In the results of this study obtained data on expenses in the station, with a percentage of 13% of respondents expecting a building equipped with air conditioning or as many as 13 respondents, with a percentage of 10% of respondents expecting a building equipped with CCTV or as many as 10 respondents, with a percentage of 13% of respondents expecting a building equipped with an information screen or as many as 13 respondents, with a percentage of 2% of respondents expecting a building equipped with an audio information system or as many as 2 respondents, with a percentage of 8% of respondents expecting buildings equipped with information centers or as many as 8 respondents, with a percentage of 5% of respondents expecting buildings equipped with paid parking facilities or as many as 5 respondents, with a percentage of 9% of respondents expecting buildings equipped with prayer rooms as many as 9 respondents, with a percentage of 21% of respondents expecting buildings with toilets that are cleaned 3 times a day or as many as 21 respondents.

Table 8. Rate Increase After Facility Addition

Rate Increase After Facility Addition	
Yes	No
92	8

In the results of this study obtained data on tariff increases after the addition of facilities, with a percentage of 92% of respondents wanting an increase in tariffs after the addition of facilities as expected or as many as 92 respondents, with a percentage of 8% of respondents not wanting an increase in tariffs after the addition of facilities as expected or as many as 8 respondents.

Table 9. Calculation of WTP

Required Trans Jogja Bus Fare	Number of Respondents
Rp. 5,000	32
Rp. 4,000	21
Rp. 3,500	18
Rp. 5,500	15
Rp. 6,000	8
Rp. 6,500	3
Rp. 7,500	2
Rp. 2,500	1

The average tariff expected by respondents is **Rp 4,745.** Where the largest *Willingness To Pay* (WTP) from respondents is IDR 5,000 with complete toilet facilities cleaned 3 times a

day, and the smallest *Willingness To Pay* (WTP) is IDR 2,500 with complete toilet facilities cleaned 3 times a day.

Table 10. ATP and WTP for Tariff

Rates	ATP	WTP
IDR 2,500	100%	100%
IDR 3,500	47%	62%
IDR 4,000	36%	29%
IDR 5,000	6%	4%
IDR 5,500	4%	3%
IDR 6,000	4%	1%
IDR 6,500	3%	1%
IDR 7,500	0%	0%

At a tariff of Rp. 2,500 ATP and WTP reached a percentage of 100%, at a tariff of Rp. 3,500 ATP had a percentage of 47% and WTP respondents had a percentage of 62%, at a tariff of Rp. 4,000 ATP had a percentage of 36%, and WTP had a percentage of 29%, at a tariff of Rp. 5,000 ATP had a percentage of 6% and WTP had a percentage of 4%, at a tariff of Rp..000 ATP has a percentage of 36%, and WTP has a percentage of 29%, at a tariff of Rp. 5,000 ATP has a percentage of 6% and WTP has a percentage of 4%, at a tariff of Rp. 6,000 ATP has a percentage of 4% and WTP has a percentage value of 1%, at a tariff of Rp. 6,500 ATP has a percentage of 3% and WTP 1%, and if the tariff> Rp. 7500 then ATP and WTP have a percentage of 0%.

CONCLUSION

The buy the Services scheme has great potential to improve the quality of road-based mass transit services in Yogyakarta. Although the majority of service quality variables show good results, there are some aspects, such as staff communication and attention to passengers with special needs, that still need to be improved. This scheme allows the government to work with competent service providers, so that services can be more responsive and meet the minimum service standards set. In addition, the opportunity to improve indicators such as reliability and responsiveness provides a strong basis for tailoring services to the needs of the community, as well as encouraging sustainable development that will improve public transport comfort and facilities.

Road-based transportation services with the buy the service scheme in Yogyakarta have generally met the Minimum Service Standards (MSS) set by the government, as evidenced by the questionnaire results which show that most service quality indicators are in the good category. Reliability and responsiveness indicators that received high scores, such as 4.05, reflect the success of public transportation in providing clear information about routes and schedules as well as comfort for passengers.

A Buy The Services scheme is needed to improve the quality of road-based public transport services in Yogyakarta. By partnering with competent service providers, this scheme allows the government to focus more on managing and improving the effectiveness and efficiency of public transport services. Although most service quality indicators are already in the good category, there are still areas that need improvement, such as officer communication and attention to passengers with special needs.

The overall operational performance of road-based public transport services in Yogyakarta is in accordance with the applicable Minimum Service Standards (MSS). Based on the questionnaire results, most service quality indicators, such as reliability and responsiveness, have met or even exceeded passenger expectations, with a high average score (4.05). This reflects the success of public transport in providing clear information on routes and schedules, and ensuring passenger comfort.

Improving the quality of communication between officers and passengers, especially in the empathy aspect, is a top priority so that interactions are more friendly and responsive to the needs of passengers, especially those with special needs. In addition, improvements to public transport facilities, reflected in tangible indicators, are also very important to improve passenger comfort, through maintenance or renewal of existing facilities. The dissemination of clear and easily accessible information on transit routes and schedules should also be strengthened, by utilizing technology to facilitate access to information for passengers. Collaboration between government and service providers is essential in evaluating and improving service quality on an ongoing basis, to ensure that standards of punctuality, comfort and attention to passenger needs are consistently achieved.

Fares for public transport services should be in the range of Rp 4,737 to Rp 4,745 per kilometer, reflecting a balance between users' ability and willingness to pay. These fares are in line with respondents' purchasing power, which can cover reasonable transportation costs. While higher fares are acceptable, as reflected in respondents' willingness to pay slightly more if the quality of facilities and services improve, fares exceeding Rp 5,000 will lead to a decrease in willingness to pay more.

The novelty/findings of this research are that; 1) the development of Mass-Based Road Public Transport with a Buy The Services Scheme can create a more efficient, sustainable, and attractive transportation system for users, with a more flexible approach to meeting facility needs. This research is based on the understanding that the Buy The Services scheme allows the government to manage mass transportation more effectively through cooperation with private service providers, without being directly involved in operations. By adjusting fares based on users' willingness to pay (WTP), the scheme allows for more affordable fares while maintaining sustainability and service quality. The research also shows that with continuous monitoring and evaluation of operational performance, as well as the introduction of technology to improve efficiency, road-based mass transit systems can be more attractive to the public and reduce dependence on private vehicles. The findings provide new insights into the development of a more inclusive, efficient, and environmentally friendly transportation system, which is expected to be widely implemented in major cities.

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