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Public Satisfaction Analysis and Performance Evaluation of Trans Bus Service East Java Corridor I

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Abstract
Public transportation is one form of progress in a region. If the public transportation system is good, then the economic level of that region will also improve. Currently, the community considers public transportation to be a mode that is perceived as inadequate. This can be seen from the many negative stigmas surrounding public transportation, as well as the reality that the condition of existing public transportation fleets is far from a satisfactory level of service. This study aims to evaluate public satisfaction with the Trans Jatim Bus transportation services along Corridor I, which connects Sidoarjo Regency, Surabaya City, and Gresik Regency, and analyze the performance and ideal conditions of public transportation that are expected. The method employed in this research is a survey involving 437 respondents who are users of public transportation. Data were collected through a questionnaire measuring satisfaction levels across various aspects, including service speed, cost/fare, and infrastructure condition. The results of the analysis indicate that while the majority of the public considers public transportation an important alternative, several performance aspects require improvement, particularly in terms of load factor and headway time. This study also identifies the elements deemed ideal by users, such as optimizing the number of fleets and improving public transportation scheduling. The findings are expected to serve as recommendations for relevant authorities to enhance the performance of public transportation and meet the needs of the public.

1. Introduction
Public transportation, particularly bus services, plays an important role in supporting people's mobility and the economic growth of a region. Efficient and quality public transport not only helps reduce congestion, but also contributes to reducing greenhouse gas emissions and improving the quality of life in cities (World Bank, 2021). In this context, public satisfaction is a key factor reflecting the quality of public transport services, as well as an important indicator in measuring the success of transportation policies (Parasuraman et al., 1988).

Transportation is a benchmark for the economy and development of an area. In its efforts to develop development and the economy in transportation, it must be supported by the existence of national and international movement routes, both by land, sea and air transportation so that development and the economy can run safely, orderly, comfortably and smoothly. (Primasworo et al., 2022)

Integrated and efficient transportation plays an important role in supporting connectivity between regions and countries, while accelerating economic growth and sustainable development. A well-connected transportation system allows the distribution of goods and mobility of people to run smoothly, so that economic activity can grow without obstacles (World Bank, 2021). In addition, safe, convenient, and orderly transportation will improve people's quality of life by accelerating access to health facilities, education, and other economic opportunities (JICA, 2019).

Successful transportation development requires not only the role of the government but also the active participation of the public and the private sector. People need to be encouraged to use public transportation as part of their lifestyle, while the private sector can contribute through investment and innovation in transportation services (World Bank, 2021).

The quality of public transport services also greatly influences public perception and participation in utilizing public transportation. Safe, convenient, and punctual public transport will increase user confidence and potentially reduce reliance on private vehicles. This is in line with the goal of sustainable transportation, which not only minimizes congestion but also reduces environmental impacts through reduced exhaust emissions (ITDP, 2020). The government's role as regulator is crucial in ensuring that policies and regulations are in place that support the improvement of public transport services and the active involvement of operators in service maintenance and improvement.

The use of public transportation in existing conditions tends to trend downward, this is due to the decreasing services provided by the operator to the users of these transportation services. The level of service is provided to users in accordance with service standards. If the quality of human resources is poor in providing services, resulting in a decrease in sympathy from the use of services, especially city transportation. Another factor that encourages public transport users to choose more easily available vehicles such as private transportation and online transportation in traveling is the difficult access and availability of the transportation itself. When digital technology successfully grows online transportation, it turns out that it also slowly kills conventional transportation. (Primasworo et al., 2022).

Public transportation in East Java, especially for people around Greater Surabaya, or commonly known as the Gerbangkertasusila area, is the Trans Jatim Corridor I Bus service. This service connects 3 (three) city/regency areas, namely Sidoarjo Regency, Surabaya City, and Gresik Regency. The Trans Jatim Bus service has become a very popular public transportation option for the people of East Java, since the inauguration of the first service in 2022. So far, the public stigma regarding public transportation services is an uncomfortable fleet, long travel time, inappropriate tariffs, and security disturbances when riding public transportation . With the existence of the Trans Jatim Corridor I Bus service, the negative stigma towards public transportation is slowly shifting to a more positive direction.

The level of community satisfaction is also one of the benchmarks for the success of a public service. Public service providers are expected to be able to provide services in accordance with the

needs and changes in various aspects of life as mandated by Law No. 25 of 2009 concerning Public Services. In this regard, continuous monitoring of public services is needed so that the services received by the community are in accordance with service standards and community expectations and needs. One of the actions that must be taken by public service providers to determine the level of satisfaction of service recipients is to conduct a Community Satisfaction Survey (SKM).(Fitra & Syukhri, 2023)

Public service is an effort to help or benefit the public through the provision of services needed by them. So that public services are not merely administrative issues such as granting permits and authorizations, or physical fulfillment such as the provision of public infrastructure, but also include more fundamental issues, namely fulfilling people's wants and needs for satisfying and quality services. This is natural because in every organization the fulfillment and provision of services to customers is a demand. Service quality and customer satisfaction are highly prioritized considering that both have a huge influence on the sustainability and development of an organization's mission. (Warnadi & Putra, 2022)

Public satisfaction and service performance are important indicators to determine the success of public transport in meeting user needs and attracting people back to use public transportation (Warnadi & Putra, 2022). The success of Trans Jatim Bus Corridor I in changing people's perceptions shows that improving service quality, such as punctuality, comfort, and safety, can reduce the negative stigma towards public transport (Primasworo et al., 2022). However, for these services to remain competitive and sustainable, regular monitoring of performance and public satisfaction is necessary. This can be achieved through a Community Satisfaction Survey (SKM), as mandated by Law No. 25/2009 on Public Services (Fitra & Syukhri, 2023).

This research will provide important insights for operators and government in identifying the strengths and weaknesses of existing services. With the results of this evaluation, appropriate policy development and operational quality improvements can be made to ensure a more efficient and responsive service to the needs of the community. Ultimately, improving public transport services such as the Trans Jatim Bus Corridor I will support the shift from private vehicles to public transportation, thereby reducing congestion and carbon emissions, while promoting sustainable transportation in East Java (ITDP, 2020).

Analysis of public satisfaction and evaluation of service performance on Trans Jatim Bus Corridor I is very important. This research can provide practical recommendations for service improvement and ensure that public transportation remains the main choice of the community in daily mobility.

2. Materials and Method

Analysis of Community Satisfaction Index Calculation

This research was conducted using quantitative descriptive research methods. The purpose of this study, namely to describe a number of variables related to the problem and the unit under study between the phenomena being tested. In this study, the technique used to collect research data was a questionnaire as an instrument to answer a set of questions or written statements to respondents.

The research was conducted to determine the general level of public satisfaction with the Trans Jatim Corridor I Bus service. From the results obtained data regarding the number of respondents who filled out the questionnaire and got the results of the calculation to get the value of public satisfaction with the service.

The sample determination used purposive sampling, the sample in this study was determined by the researcher with the consideration that the sample could provide accurate information. The limitation in determining this sample is that there are no restrictions on the criteria for respondents. The respondents are users of the Trans Jatim Bus service corridor I, be it men, women, children, parents, and others. For the implementation of filling out the questionnaire, researchers used a QR Code that can be accessed using a smartphone with an Android operating system. By scanning the QR Code, the respondent can immediately fill in the questionnaire that has been prepared previously. The questions in the questionnaire have been predetermined, with reference to the Regulation of the Minister of Administrative Reform and Bureaucratic Reform Number 14 of 2017 concerning Guidelines for Preparing Community Satisfaction Surveys for Public Service Delivery Units.

Analysis of Public Transportation Performance Calculation

In calculating the performance of public transport, a quantitative descriptive research method was carried out. In the calculation of public transport performance, a survey was conducted to obtain data in the field and then calculate the performance indicators of public transport, as listed in table 2.3. Research was conducted to calculate the performance level of a public transport, so that it is known how the performance level of the public transport.

Some indicators that parameterize public transport performance are load factor, vehicle headway, vehicle frequency, waiting time, travel time, and speed. These parameters are calculated based on the results of surveys conducted in the field and then obtained the value of these parameters.

3. Results and Discussions

Research Findings

From the results of data collection conducted to obtain data on the results of public satisfaction surveys and public transport performance surveys, data were obtained in accordance with the survey results. The survey results were used to analyze data on community satisfaction and public transport performance.

a. Community Satisfaction Index Analysis

The community satisfaction survey conducted uses a questionnaire as a tool to obtain data from service users, in this case users of the Trans Jatim Corridor I Bus service. From the results of the interview survey, data was obtained including demographic data (gender and age of users), as well as data on the results of public perceptions of the services used, namely the East Java Trans Bus Corridor I service.

The period of the community satisfaction survey conducted was from May - November 2024. In collecting public satisfaction data, the author uses the Sukma-E Jatim Application developed by the East Java Provincial Government to support the implementation of public satisfaction surveys.

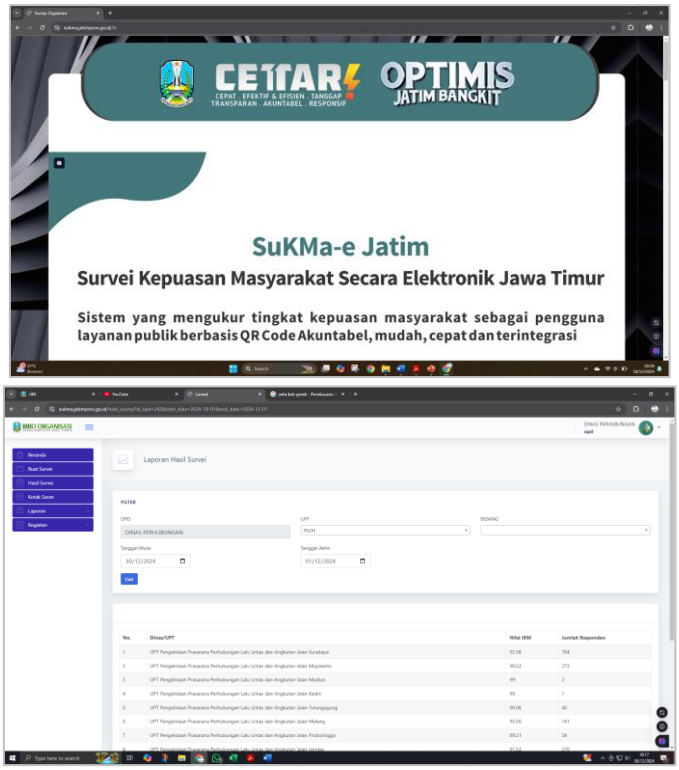

Figure 1. Display of Sukma-E East Java Application

Source: Bureau of Organization of East Java Province, 2024

The use of the Sukma-E East Java Application in this study is to take advantage of technological advances, especially in the field of information technology where the use of applications can facilitate the implementation of research preparation. The way the Sukma-E East Java Application works is by distributing barcode codes to the service user community, and can directly fill out surveys via the link on the barcode.

In the implementation of the survey of Trans Jatim Bus Corridor I, barcode codes were distributed to flight attendants and stewards on the bus, and at the time of payment, passengers were asked to fill out the satisfaction survey directly.

Table 1. Service User Demographics Table (Gender)

No.	Description	Total	Description
1	Male	289	
2	Female	148	
	Total	**437**	

Source: Processed by Researcher, 2024

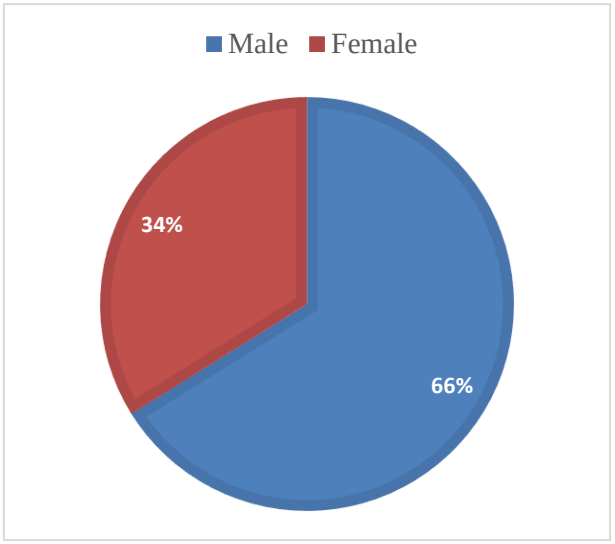

Figure 2. User Comparison Chart Based on Gender

Source: Processed by Researcher, 2024

From the table above, it can be concluded that users of the Trans Jatim Corridor I Bus service for the May - November 2024 time period are men with 289 users, and women with 148 users.

Table 2. Service User Demographics Table (Age Group)

No.	Description	Total	Description
1	under 16 years old	17	
2	16 - 30 years	272	
3	30 - 50 years	134	
4	above 50 years old	14	
	Total	**437**	

Source: Processed by Researcher, 2024

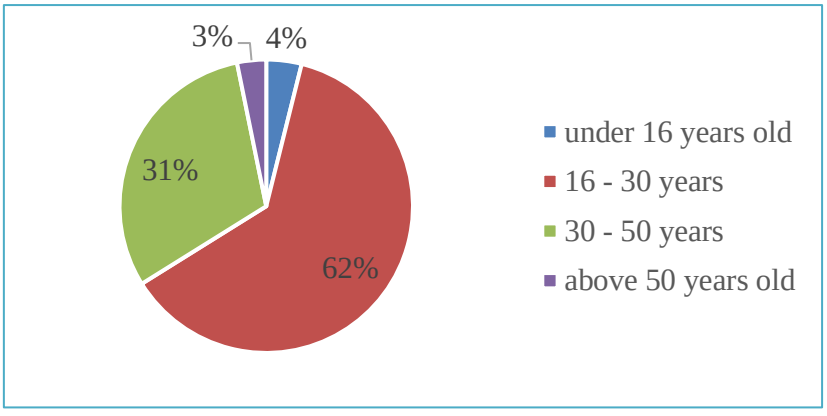

Figure 3. User Comparison Chart by Age Group

Source: Processed by Researcher, 2024

From the table and graph above, it can be concluded that users of the Trans Jatim Corridor I Bus in terms of age groups are the largest age range of 16 - 30 years with 272 users, then from the age range of 30 - 50 years with a total of 134 users, then the age range is less than 16 years as many as 17 users, and the least is the age range above 50 years as many as 14 users.

In the implementation of the public satisfaction survey for the Trans Jatim Corridor I Bus service, the total number of respondents who conducted the survey was 437 users. In its implementation, the survey contains 9 predetermined questions, with reference to the Minister of PAN RB Regulation Number 14 of 2017, with a total of 9 questions. Each question has a scale of 1 - 4 where each number describes a certain value. The following is a table of the questions in the survey:

Table 3. Question Rating Scale on Community Satisfaction Survey

No.	Question Description	Rating Scale
1	What is your opinion about the suitability of service requirements with the type of service?	1. Not suitable 2. Not suitable 3. As per 4. Very suitable
2	How do you understand the ease of service procedures in this unit?	1. Not easy 2. Less easy 3. Easy 4. Very easy
3	How do you feel about the speed of time in providing services	1. Not fast 2. Not fast enough 3. Quick 4. Very fast
4	How do you feel about the reasonableness of the fees/tariffs in the service?	1. Very expensive 2. Quite expensive 3. Cheap 4. Free
5	What do you think about the suitability of service products between those listed in the service standards and the results provided?	1. Not suitable 2. Not suitable 3. As per 4. Very suitable
6	What do you think about the competence/ability of officers in the service?	1. Incompetent 2. Less competent 3. Competent 4. Very competent
7	What do you think about the behavior of officers in services related to politeness and friendliness?	1. Not polite and friendly 2. Less Polite and friendly 3. Polite and friendly 4. Very polite and friendly

No.	Question Description	Rating Scale
8	How do you feel about the handling of service user complaints	1. None 2. Existing but not functioning 3. Function less than optimal 4. Well managed
9	What do you think about the quality of facilities and infrastructure	1. Bad 2. Simply 3. Good 4. Very good

Source: Sukma-E East Java Application, 2024

The following are the results of the interview survey to obtain public satisfaction data from the Trans Jatim Corridor I Bus service. Calculations were carried out to obtain public satisfaction index data for the Trans Jatim Corridor I Bus service:

Table 4. Interview Survey Result Table

Formula	U1	U2	U3	U4	U5	U6	U7	U8	U9
Value per element (NRR)	1337	1353	1206	1310	1293	1347	1375	1421	1244
NRR / Number of respondents	3,06	3,10	2,76	3,00	2,96	3,08	3,15	3,25	2,85
NRR/element x 25	76,49	77,4	68,99	74,94	73,97	77,06	78,66	81,29	71,17
Average	**75,55**								

Source: Processed by Researcher, 2024

From the table above, it can be concluded that the IKM value for the Trans Jatim Corridor I Bus service is **75.55**. For the performance value of the service unit, according to table 2.2, the performance of the service unit for the Jatim Corridor I Trans Bus service is **C (not good).** In the existing survey results, the lowest value given by respondents to the Jatim Corridor I Trans Bus service is from the 3rd element, namely the speed of time in providing services, in this case the length of time at the bus stop to get the bus. This condition can be influenced by several reasons including congestion and the high volume of vehicles on the route.

Analysis of the Ideal Condition of Trans Jatim Bus Corridor I in terms of Number of Fleets and Scheduling

The ideal condition of public transport is a condition in which all aspects that become indicators of public transport performance assessment are all met with good categories, in accordance with the standards of the Ministry of Transportation through Decree of the Director General of Hubdat No. 687 of 2002. From the results of the study, there are 2 (two) indicators of public transport performance that got the category less, namely from the load factor indicator (116.67%) and vehicle headway (17 minutes / vehicle).

a. Ideal conditions in terms of fleet size

The number of fleets determines the performance of a public transport service. Based on SK Dirjen Hubdat No 687 Year 2002, there are calculations used to calculate the number of fleets. Based on the survey results, the initial data required to determine the ideal fleet size of the Trans Jatim Corridor I Bus in the morning peak period (05.00 to 08.00) are as follows:

- Vehicle type : Medium Bus
- Capacity : 30 (20 sitting, 10 standing)
- Busy period (W) : 05.00 - 08.00 (180 minutes)
- Most number of passengers in 1 hour : 156
- AB travel time : 133 minutes
- BA travel time : 122 minutes
- Deviation AB (sAB) : 6,65
- BA deviation (sBA) : 6,10
- Downtime at A : 13.3 minutes
- Downtime at B : 12.2 minutes
- Availability factor (fA) 100% = 1

Then, from these data, it can be calculated that the number of fleets needed in the morning busy period (05.00 to 08.00) is as follows:

CT ABA = (T AB+ T BA)+(sAB+sBA)+(T TA+T TB)

= (133+122)+(6,65+6,1)+(13,3+12,2)

= **293.25 minutes**

Headway (H) = $\frac{60 \times C \times Lf}{P}$

= $\frac{60 \times 30 \times 0.7}{156}$

= **8.07 minutes**

Number of vehicles (K)

K = $\frac{CT\ ABA}{H \times fA}$

= $\frac{293,25}{8,07 \times 1}$

= 36.30 = **36 vehicle units**

From these calculations it can be concluded that for the morning peak hour period (05.00 to 08.00) there are **36 units of vehicles.**

Then the calculation of the number of fleets for the non-peak period (08.00 to 16.00), the initial data to determine the number of fleets is as follows:

- Vehicle type : Medium Bus
- Capacity : 30 (20 sitting, 10 standing)
- Busy period (W) : 08.00 - 16.00 (480 minutes)
- Most number of passengers in 1 hour : 91
- AB travel time : 133 minutes
- BA travel time : 122 minutes
- Deviation AB (sAB) : 6,65
- BA deviation (sBA) : 6,10
- Downtime at A : 13.3 minutes
- Downtime at B : 12.2 minutes
- Availability factor (fA) 100% = 1

Then, from these data, it can be calculated that the number of fleet needs in the off-peak period (08.00 to the completion of bus operations) is as follows:

CT ABA = (T AB+ T BA)+(sAB+sBA)+(T TA+T TB)

= (133+122)+(6,65+6,1)+(13,3+12,2)

= **293.25 minutes**

Headway (H) = $\frac{60 \times C \times Lf}{P}$

= $\frac{60 \times 30 \times 0.7}{91}$

= **13.84 minutes**

Number of vehicles (K)

K = $\frac{CT\ ABA}{H \times fA}$

= $\frac{293,25}{13,84 \times 1}$

= 21.17 = **21 vehicle units**

b. Ideal condition in terms of scheduling

Scheduling in public transport systems is needed to manage the entry and exit of vehicles at the starting point and end point of the route. Scheduling is influenced by several aspects, such as route length plans, travel time from origin to destination and vice versa, headway plans, fleet size plans, and determination of peak and non-peak time periods.

Based on the results of public transport performance for Trans Jatim Bus Corridor I, there are two indicators in the less category, namely load factor and headway, where each value obtained is a load factor of 116.67% and a headway of 17 minutes per vehicle. This is strongly influenced by the number of fleets and scheduling in accordance with ideal conditions. In the existing conditions, the data from the existing scheduling is the number of fleets of 30 fleets, the estimated travel time of AB and BA is 120 minutes, headway per 5 minutes for the period 05.00 - 05.20, per 10 minutes for the period 05.20 - 06.10 while after 06.10 until the completion of bus operations on that day, headway per 15 minutes per departure is applied, and waiting time at the terminal adjusts to the next departure time.

Table 5. Existing Timetable/Scheduling Table Trans Jatim Bus Corridor I (Porong - Bunder Department)

URUTAN BUS	JADWAL KEBERANGKATAN TERMINAL PORONG								SELESAI OPERASI
	TERM. PORONG		TERM. BUNDER		TERM. PORONG		TERM. BUNDER		
	STAY	BERANGKAT	TIBA	BERANGKAT	TIBA	BERANGKAT	TIBA	BERANGKAT	
1	04:30	**05:00**	07:00	**07:40**	09:55	**11:50**	14:05	**15:30**	**17:30**
2	04:45	**05:05**	07:05	**07:55**	10:10	**12:05**	14:20	**15:45**	**17:45**
3	05:00	**05:10**	07:10	**08:10**	10:25	**12:20**	14:35	**16:00**	**18:00**
4	05:10	**05:15**	07:15	**08:25**	10:40	**12:35**	14:50	**16:15**	**18:15**
5	05:20	**05:20**	07:20	**08:40**	10:55	**12:50**	15:05	**16:30**	**18:30**
6	05:30	**05:30**	07:40	**08:55**	11:10	**13:05**	15:20	**16:45**	**18:45**
7	05:40	**05:40**	07:50	**09:10**	11:25	**13:20**	15:35	**17:00**	**19:00**
8	05:55	**05:50**	08:05	**09:25**	11:40	**13:35**	15:50	**17:15**	**19:15**
9	06:10	**06:00**	08:15	**09:40**	11:55	**13:50**	16:05	**17:30**	**19:30**
10	06:15	**06:10**	08:25	**09:55**	12:10	**14:05**	16:20	**17:45**	**19:45**
11	06:30	**06:25**	08:40	**10:15**	12:30	**14:20**	16:35	**18:00**	**20:00**
12	06:40	**06:40**	08:55	**10:35**	12:50	**14:35**	16:50	**18:15**	**20:15**
13	07:00	**06:55**	09:10	**10:55**	13:10	**14:50**	17:05	**18:30**	**20:30**
14	07:10	**07:10**	09:25	**11:15**	13:30	**15:05**	17:20	**18:45**	**20:45**
15	07:20	**07:25**	09:40	**11:35**	13:50	**15:20**	17:35	**19:00**	**21:00**

Source: East Java Provincial Transportation Office, 2024

Table 6. Existing Timetable/Scheduling Table Trans Jatim Bus Corridor I (Bunder - Porong Department)

URUTAN BUS	JADWAL KEBERANGKATAN TERMINAL BUNDER								SELESAI OPERASI
	TERM. BUNDER		TERM. PORONG		TERM. BUNDER		TERM. PORONG		
	STAY	BERANGKAT	TIBA	BERANGKAT	TIBA	BERANGKAT	TIBA	BERANGKAT	
18	04:30	**05:00**	07:00	**07:40**	09:55	**11:50**	14:05	**15:30**	**17:30**
19	04:45	**05:05**	07:05	**07:55**	10:10	**12:05**	14:20	**15:45**	**17:45**
20	05:00	**05:10**	07:10	**08:10**	10:25	**12:20**	14:35	**16:00**	**18:00**
21	05:10	**05:15**	07:15	**08:25**	10:40	**12:35**	14:50	**16:15**	**18:15**
22	05:20	**05:20**	07:20	**08:40**	10:55	**12:50**	15:05	**16:30**	**18:30**
23	05:30	**05:30**	07:40	**08:55**	11:10	**13:05**	15:20	**16:45**	**18:45**
24	05:40	**05:40**	07:50	**09:10**	11:25	**13:20**	15:35	**17:00**	**19:00**
25	05:55	**05:50**	08:05	**09:25**	11:40	**13:35**	15:50	**17:15**	**19:15**
26	06:10	**06:00**	08:15	**09:40**	11:55	**13:50**	16:05	**17:30**	**19:30**
27	06:15	**06:10**	08:25	**09:55**	12:10	**14:05**	16:20	**17:45**	**19:45**
28	06:30	**06:25**	08:40	**10:15**	12:30	**14:20**	16:35	**18:00**	**20:00**
29	06:40	**06:40**	08:55	**10:35**	12:50	**14:35**	16:50	**18:15**	**20:15**
30	07:00	**06:55**	09:10	**10:55**	13:10	**14:50**	17:05	**18:30**	**20:30**
31	07:10	**07:10**	09:25	**11:15**	13:30	**15:05**	17:20	**18:45**	**20:45**
32	07:20	**07:25**	09:40	**11:35**	13:50	**15:20**	17:35	**19:00**	**21:00**

Source: East Java Provincial Transportation Office, 2024

From the results of the calculation of the number of fleet requirements, the scheduling plan of the Trans Jatim Bus Corridor I public transportation is obtained as follows:

Table 7. Timetable/Scheduling Plan of Trans Jatim Bus Corridor I for Porong - Bunder Department

No Bus	Term Porong	Term Bunder		Term Porong		Term Bunder		Term Porong		Term Bunder		Term Porong
	Berangkat	Tiba	Berangkat	Tiba	Berangkat	Tiba	Berangkat	Tiba	Berangkat	Tiba	Berangkat	Selesai
1	05:00	07:13	07:25	09:27	09:40	11:53	12:05	14:07	14:20	16:33	16:45	18:47
2	05:08	07:21	07:33	09:35	09:53	12:06	12:18	14:20	14:33	16:46	16:58	19:00
3	05:16	07:29	07:41	09:43	10:06	12:19	12:31	14:33	14:46	16:59	17:11	19:13
4	05:24	07:37	07:49	09:51	10:19	12:32	12:44	14:46	14:59	17:12	17:24	19:26
5	05:32	07:45	07:57	09:59	10:32	12:45	12:57	14:59	15:12	17:25	17:37	19:39
6	05:40	07:53	08:05	10:07	10:45	12:58	13:10	15:12	15:25	17:38	17:50	19:52
7	05:48	08:01	08:18	10:20	10:58	13:11	13:23	15:25	15:38	17:51	18:03	20:05
8	05:56	08:09	08:31	10:33	11:11	13:24	13:36	15:38	15:51	18:04	18:16	20:18
9	06:04	08:17	08:44	10:46	11:24	13:37	13:49	15:51	16:04	18:17	18:29	20:31
10	06:12	08:25	08:57	10:59	11:37	13:50	14:02	16:04	16:17	18:30	18:42	20:44
11	06:20	08:33	09:10	11:12	11:50	14:03	14:15	16:17	16:30	18:43	18:55	20:57
12	06:28	08:41	09:23	11:25	12:03	14:16	14:28	16:30	16:43	18:56		
13	06:36	08:49	09:36	11:38	12:16	14:29	14:41	16:43	16:56	19:09		
14	06:44	08:57	09:49	11:51	12:29	14:42	14:54	16:56	17:09	19:22		
15	06:52	09:05	10:02	12:04	12:42	14:55	15:07	17:09	17:22	19:35		
16	07:00	09:13	10:15	12:17	12:55	15:08	15:20	17:22	17:35	19:48		
17	07:08	09:21	10:28	12:30	13:08	15:21	15:33	17:35	17:48	20:01		
18	07:16	09:29	10:41	12:43	13:21	15:34	15:46	17:48	18:01	20:14		

Source: Processed by Researcher, 2024

Table 8. Trans Jatim Corridor I Bus Timetable/Scheduling Plan for Bunder - Porong Department

No Bus	Term Bunder	Term Porong		Term Bunder		Term Porong		Term Bunder		Term Porong		Term Bunder
	Berangkat	Tiba	Berangkat	Tiba	Berangkat	Tiba	Berangkat	Tiba	Berangkat	Tiba	Berangkat	Selesai
19	05:00	07:02	07:15	09:28	09:40	11:42	11:55	14:08	14:20	16:22	16:35	18:37
20	05:08	07:10	07:23	09:36	09:53	11:55	12:08	14:21	14:33	16:35	16:48	18:50
21	05:16	07:18	07:31	09:44	10:06	12:08	12:21	14:34	14:46	16:48	17:01	19:03
22	05:24	07:26	07:39	09:52	10:19	12:21	12:34	14:47	14:59	17:01	17:14	19:16
23	05:32	07:34	07:47	10:00	10:32	12:34	12:47	15:00	15:12	17:14	17:27	19:29
24	05:40	07:42	07:55	10:08	10:45	12:47	13:00	15:13	15:25	17:27	17:40	19:42
25	05:48	07:50	08:03	10:16	10:58	13:00	13:13	15:26	15:38	17:40	17:53	19:55
26	05:56	07:58	08:16	10:29	11:11	13:13	13:26	15:39	15:51	17:53	18:06	20:08
27	06:04	08:06	08:29	10:42	11:24	13:26	13:39	15:52	16:04	18:06	18:19	20:21
28	06:12	08:14	08:42	10:55	11:37	13:39	13:52	16:05	16:17	18:19	18:32	20:34
29	06:20	08:22	08:55	11:08	11:50	13:52	14:05	16:18	16:30	18:32	18:45	20:47
30	06:28	08:30	09:08	11:21	12:03	14:05	14:18	16:31	16:43	18:45	18:58	21:00
31	06:36	08:38	09:21	11:34	12:16	14:18	14:31	16:44	16:56	18:58		
32	06:44	08:46	09:34	11:47	12:29	14:31	14:44	16:57	17:09	19:11		
33	06:52	08:54	09:47	12:00	12:42	14:44	14:57	17:10	17:22	19:24		
34	07:00	09:02	10:00	12:13	12:55	14:57	15:10	17:23	17:35	19:37		
35	07:08	09:10	10:13	12:26	13:08	15:10	15:23	17:36	17:48	19:50		
36	07:16	09:18	10:26	12:39	13:21	15:23	15:36	17:49	18:01	20:03		

Source: Processed by Researcher, 2024

From the table above, several points can be concluded, among others:

1. Each bus gets 6 ritases or 3 round trips, except for buses 11 - 18 on the Porong - Bunder route and buses 31 - 36 on the Bunder - Porong route. The application of 6 times ritase can be made alternating with other buses by exchanging the bus departure schedule;
2. The morning peak period on both routes is from 05:00 to 08:00 with a headway of 8 minutes. At 08:00 to 19:00, a headway of 13 minutes is applied with the assumption that during this period there is no need for as many fleets as the morning busy period;
3. In the existing scheduling of Bus Trans Jatim Corridor I, the headway between vehicles is 10 minutes for morning peak hours and 15 minutes for non-busy periods, so that the optimization of this scheduling can improve the performance of Bus Trans Jatim Corridor I;

4. Spare buses can be procured by adding 2 buses each at each terminal. Spare buses are intended when the main bus experiences problems so that it cannot travel.

4. Conclusion

Based on the results of data analysis and calculations, this study concludes that the performance of the Trans Jatim Bus service unit, as assessed through an interview survey of 437 respondents, received a score of 75.55, which is categorized as "B" (good). However, the lowest-rated service element is service speed, with an average score of 2.76, indicating a need for improvement in this aspect. Furthermore, the calculation of the ideal operational conditions of Trans Jatim Bus Corridor I, based on SK Dirjen Hubdat No. 687 Year 2002, reveals that during peak hours (05.00 - 08.00), 36 fleet units are required with a vehicle headway of 8.07 minutes, while during non-peak hours (08.00 - 19.00), the headway extends to 13.84 minutes. These findings have important implications for improving the efficiency and reliability of public transportation services. To enhance service speed and overall performance, it is recommended that Trans Jatim Bus management optimize fleet deployment strategies, increase the number of operating buses during peak hours, and implement advanced scheduling systems to reduce headway time. Additionally, improving real-time monitoring and communication between drivers and dispatchers can contribute to better service delivery. Future research should explore passenger satisfaction factors in greater depth and consider integrating technology-based solutions, such as smart ticketing and route optimization, to further enhance service quality.

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