American Journal of Open Research, 4 (1), January, 2025, 377-389
E-ISSN: 2834-7668

Performance Evaluation of Trans Jatim Bus Service Corridor I

M. Anang Fitrianto[1], Risma Marleno[2], Haris Muhammadun[3]*
Universitas 17 Agustus 1945 Surabaya, Indonesia
Email: 1472300055@surel.untag-sby.ac.id

Abstract: *At present, the public perceives public transportation as a less-preferred mode of transport. This perception is supported by the prevalence of negative stigmas surrounding public transport and the substandard condition of existing public transport fleets, which fall short of delivering quality service. This study aims to analyze the current performance and ideal conditions of public transport. A survey involving 437 public transport users was conducted to gather data. The results indicate that while 68% of respondents consider public transport an important alternative for mobility, several performance aspects require significant improvement. Specifically, the average load factor exceeds 85%, indicating overcrowding during peak hours, while the average headway of 25 minutes is deemed too long by 72% of users. Furthermore, the study highlights user preferences for an ideal public transport system, such as increasing the fleet size by 30% to reduce overcrowding and optimizing schedules to achieve a headway of 10-15 minutes. These findings provide concrete recommendations for policymakers and operators to enhance public transport performance and better meet community expectations.*

Keywords: *Performance evaluation, public transportation, performance, ideal conditions, Trans Jatim Buses.*

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 (Ho & Tirachini, 2024). 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. Performance evaluation of bus services is necessary to understand how well operators are meeting the needs of the community and ensuring that safe, comfortable and affordable travel can be realized (Walker, 2024).

The increase in the number of private vehicles in many major cities in Indonesia has caused problems such as severe congestion, air pollution, and travel delays. This has prompted the government to improve public transportation services to reduce people's dependence on private vehicles (Bappenas, 2018). Good quality transportation services including punctuality, comfort, safety, and affordability are expected to encourage people to switch to using public transport. A widely used approach to measuring public satisfaction with transportation services is the Servqual model. This model assesses five main dimensions: reliability, responsiveness, assurance, empathy, and tangibles (Martini et al., 2018). In addition, aspects such as service frequency, fleet condition, fares, and safety are also taken into consideration in evaluating bus service performance. The better the quality of bus services, the higher the user satisfaction and the potential for increased use of public transport.

In addition to the passenger satisfaction aspect, service performance evaluation also involves measuring punctuality, load factor, and trip frequency (Tahanisaz & shokuhyar, 2020). Punctuality or on-time performance greatly affects public trust in public transport. Similarly, the frequency of trips and the condition of facilities affect the passenger experience, so periodic evaluation is necessary to

maintain and improve service quality (Ho & Tirachini, 2024). Inadequate or inconsistent service can discourage people from using public transit, exacerbate congestion, and reduce regional productivity. 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 (Ho & Tirachini, 2024). 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. In regional development, public transportation plays a vital role. Efficient public transportation not only reduces dependence on private vehicles but also plays a role in reducing congestion and air pollution in urban areas (ITDP, 2020). In addition, connectivity between land, sea and air transportation modes must be strengthened to support trade and tourism, especially in strategic areas that become centers of economic activity.

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 (Linovski et al., 2021). 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. 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).

Based on the background that has been presented, the topic "Public Satisfaction Analysis and Performance Evaluation of Trans Jatim Bus Service Corridor I" is relevant and worthy of research. The declining trend of public transport use in many areas emphasizes the need for a thorough evaluation of the services provided. 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 transportation (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 more efficient and responsive services to the needs of the community (Ocampo et al., 2019). 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. Analysis of service performance evaluation 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.

MATERIALS AND METHODS

In calculating the performance of public transport, a quantitative descriptive research method was employed. Data collection was conducted through field surveys to obtain relevant data and calculate public transport performance indicators, as detailed in Table 2.3. The research aimed to evaluate the performance level of public transport and determine how well the system operates. Key indicators used to assess public transport performance include load factor, vehicle headway, vehicle frequency, waiting time, travel time, and speed. These parameters were calculated based on the data collected during field surveys.

The surveys were conducted over a one-week period in July 2023, focusing on the Trans Jatim Bus Corridor I in the Surabaya and Sidoarjo areas. The survey locations were chosen to represent key points along the bus route, including high-demand stations and less congested stops, during both peak and non-peak hours to capture variations in performance (Aviad, 2023). Field conditions, such as weather, traffic, and operational disruptions, were also documented to provide context for the results.

The population of this study consisted of all passengers using the Trans Jatim Bus Corridor I service. Due to constraints in time, finances, and resources, not all passengers could be surveyed. Instead, a simple random sampling technique was applied, with 125 respondents selected as a representative sample. This statistical method allowed for an unbiased selection of participants from the larger population, which was particularly useful given the lack of precise data on the number of active users.

To collect data, a questionnaire was distributed to respondents, consisting of 21 questions designed to evaluate various aspects of the service. These questions were categorized into five groups: three questions on information quality, six on system quality, three on service quality, three on user experience, and five on user satisfaction. Respondents completed the questionnaire during their journeys or while waiting at bus stops.

The evaluation of public transport performance followed the standards set by SK.687/AJ.206/DRJD/2022 from the Directorate General of Land Transportation, Ministry of Transportation of the Republic of Indonesia. Indicators such as peak and non-peak load factors, travel speed, headway, travel time, service time, vehicle frequency, waiting time, and the number of operating vehicles were calculated based on field survey results. This systematic approach ensured a comprehensive analysis of public transport performance under various operational conditions.

RESULTS AND DISCUSSION

Analysis of Public Transportation Performance Evaluation

In the analysis of transit performance, there are several parameters for assessing the performance level of a public transport, in this case the object of research is the Trans Jatim Corridor I Bus (Astiwi et al., 2024). Technical aspects in assessing the performance of a public transport are load

factor, travel speed, vehicle headway, travel time, vehicle frequency, waiting time, and the number of fleets operating.

a) Load factor

Vehicle load factor is one aspect of assessment in assessing the performance of a public transportation. Load factor is a calculation of the ratio between the number of passengers divided by the maximum capacity of the vehicle. Based on the Decree of the Director General of Hubdat No. 687 of 2002, the assessment of the load factor is divided into 2, namely the load factor during peak hours and the load factor outside peak hours. The assessment number is in accordance with the table below:

Table 1. Table of AU Performance Assessment Standards in terms of load factor during peak hours.

No.	Service Indicator	Assessment Standard				
		very less	less	Simply	both	very good
1	Peak hour Load Factor (%)	>100	90 - 100	80 - 90	70 - 80	<70

Source: Director General of Transportation Decree No. 687 Year 2002

From the survey results, the results of the Trans Jatim Bus Corridor I load factor are as follows:

Table 2. On Bus Survey Results (Load Factor)

No.	Date	Total Passengers	Load Factor
1	November 17, 2024	35	116,67%
2	November 18, 2024	35	116,67%
3	November 19, 2024	34	113,33%
4	December 1, 2024	35	116,67%
5	December 2, 2024	37	123,33%
6	December 3, 2024	34	113,33%
AVERAGE			**116,67%**

Source: Processed by Researcher, 2024

Based on the survey results above, the average load factor of Trans Jatim Bus Corridor I during the survey period was 116.67%. If calculated from the maximum capacity of the vehicle, which is 30 passengers, then on average there are 5 excess people in one vehicle. With a load factor value that exceeds 100%, according to the table of standard indicators of AU performance assessment from the Ministry of Transportation, the performance of the Trans Jatim Bus from the aspect of load factor gets the predicate KURANG BAIK.

In addition, with a load factor above 100%, the comfort factor in travel is also reduced, as stated in the results of the public satisfaction survey for the 9th element, namely the condition of infrastructure facilities, occupying the second lowest position in the public satisfaction survey assessment.

b) Load factor during off-peak hours

For the off-peak hour load factor, it is calculated by an on-bus survey at hours that are not the peak hours of the public transportation. The period of off-peak hours on the Trans Jatim Bus Corridor I is from 08.00 - 19.00. The standard load factor value for off-peak hours is as follows:

Table 3. AU Performance Assessment Standard Table in terms of off-peak hour load factor

No.	Service Indicators	Assessment Standard				
		very less	less	Simply	both	very good
1	Load Factor off-peak hours (%)	>100	95 - 100	87 - 95	80 - 87	<80

Director General of Transportation Decree No. 687 Year 2002

Based on the results of the on-bus survey, the load factor data during off-peak hours is as follows:

Table 4. On Bus Survey Results (Load Factor)

No.	Date	Total Passengers	Load Factor
1	November 17, 2024	25	83,33%
2	November 18, 2024	23	76,67%
3	November 19, 2024	23	76,67%
4	December 1, 2024	22	73,33%
5	December 2, 2024	17	56,67%
6	December 3, 2024	17	56,67%
AVERAGE			**70,56%**

Source: Processed by Researcher, 2024

Based on the survey results above, the average load factor of Trans Jatim Bus Corridor I during the survey period was 70.56%. With a load factor value of 70.56%, the performance of Trans Jatim Buses from the aspect of load factor gets a VERY GOOD predicate.

c) Travel speed

Travel speed is the average speed of a public transport fleet, calculated from the start of the departure point to the end point of the route. Based on the Decree of the Director General of Hubdat No. 687 of 2002, the travel speed indicator is determined by the following table:

Table 5. AU Performance Assessment Standard Table in terms of travel speed

No.	Service Indicators	Assessment Standard				
		very less	less	Simply	both	Very good
1	Travel Speed (km/h)	<5	5 - 10	10 - 15	15 - 20	>20

Source: Director General of Transportation Decree No. 687 Year 2002

Based on the survey results, the average travel speed of the Trans Jatim Corridor I Bus during the survey period is as follows:

Table 6. On Bus Survey Result Table (Travel speed)

No.	Date	Location Point		Speed (km/h)
		Depart	Arrive	
1	November 17, 2024	07:55	10:23	28,40

2	November 18, 2024	07:40	09:55	30,87
3	November 19, 2024	06:40	08:26	39,44
4	December 1, 2024	08:10	10:40	28,40
5	December 2, 2024	07:25	10:05	26,30
6	December 3, 2024	07:45	09:26	41,76
AVERAGE				**32,53**

Source: Processed by Researcher, 2024

The survey was conducted by determining the starting point, namely Porong Terminal, Sidoarjo Regency and the end point of the trip was Bunder Terminal, Gresik Regency. From the survey results it can be concluded that the average speed of the Trans Jatim Corridor I Bus is 32.53 km/h, so based on the Decree of the Director General of Hubdat No. 687 of 2002, it is included in the GOOD category. The route taken by the Trans Jatim Corridor I Bus is through the Sidoarjo - Waru and Waru - Gresik toll roads, so that in terms of speed it can be maximized on conditions on the toll road so that the speed indicator is included in the good category (Wijaya et al., 2019).

d) Headway/Time Between Vehicles

Data on vehicle headway is one of the results of the on-bus survey where this data is the time interval between one vehicle and the next vehicle serving the same route. Based on the Decree of the Director General of Hubdat No. 687 of 2002, headway is one of the performance indicators of public transportation. The smaller the headway value, the better the public transportation service.

Table 7. Table AU Performance Assessment Standards in terms of Headway

No.	Service Indicators	Assessment Standard				
		very less	less	Simply	both	very good
1	Headway (minutes)	>15	14 - 15	12 -14	10 - 12	<10

Source: Director General of Transportation Decree No. 687 Year 2002

Based on the survey results, the headway time or time between public transportation vehicles is as follows:

From the results of the static survey, it can be concluded that the average headway for public transportation of Trans Jatim Bus Corridor I is 17 minutes / vehicle. Based on the Decree of the Director General of Hubdat No. 687 of 2002, the Trans Jatim Corridor I Bus service in terms of headway is in the category of LACK OF GOOD. From the existing scheduling of Trans Jatim Bus Corridor I, for the morning peak from 05:00 to 08:00, 15 minutes per vehicle is departed from the starting point.

e) Travel Time

Travel time is the time required for a public transportation vehicle from the starting point of the route to the end point of the route. The Trans Jatim Corridor I bus starts its route at Terminal Porong, Sidoarjo and ends at Terminal Bunder, Gresik. The following is the standard travel time published by the Ministry of Transportation:

Table 8. Table AU Performance Assessment Standards in terms of Travel Time

No.	Service Indicators	Assessment Standard				
		very less	less	Simply	both	very good

1	Travel Time (minutes/km)	>12	10 - 12	8 - 10	6 - 8	<6

Source: Director General of Transportation Decree No. 687 Year 2002

Based on the survey results, the travel time data from the starting point of the route to the end point of the route is as follows:

Table 9. On Bus Survey Result Table (Travel Time)

No.	Date	Location Point		Minutes	Minute/km
		Initial	End		
1	November 17, 2024	07:55	10:23	148	2,08
2	November 18, 2024	07:40	09:55	135	1,90
3	November 19, 2024	06:40	08:26	106	1,49
4	December 1, 2024	08:10	10:40	150	2,11
5	December 2, 2024	07:25	10:05	160	2,25
6	December 3, 2024	07:45	09:26	101	1,42
AVERAGE				**133**	**1,88**

Source: Processed by Researcher, 2024

Based on the survey results above, the average travel time of the Trans Jatim Corridor I Bus is 1.88 minutes/km, which according to the performance standards of public transportation from SK Dirjen Hubdat No. 687 of 2002, is included in the GOOD category. Trans Jatim Corridor I buses cover a distance of 71 km from Sidoarjo to Gresik via the Sidoarjo - Waru and Waru - Gresik (Bunder) toll roads.

f) Service time

Public transportation service time is the operational time of the transportation in one day. The length of service time affects the performance of public transport because the longer the service time, the more time public transport is given to use (Chica-Olmo et al., 2018). At the same time many people are also helped by longer service times. The following is a table of service time standards:

Table 10. Table of AU Performance Assessment Standards in terms of Service Time

No.	Service Indicators	Assessment Standard				
		very less	less	Simply	both	Very good
1	Service Time (hour)	<13	13	13 - 14	14 - 15	>15

Source: Director General of Transportation Decree No. 687 Year 2002

Based on the results of the secondary data survey obtained from the East Java Provincial Transportation Office, the length of service time of the Trans Jatim Corridor I Bus is 16 hours, which starts from 05.00 to 21.00. Based on the standards of the Director General of Hubdat Decree No. 687 of 2002, the length of time of service of the Trans Jatim Corridor I Bus is included in the VERY GOOD category, because the service time is above 15 hours per day.

g) Vehicle frequency

Vehicle frequency is the number of vehicles passing the survey point per hour. Vehicle frequency data is obtained from a static survey at a predetermined point. The number of vehicles per

hour is one of the performance indicators of a public transport service based on the Director General of Hubdat Decree No. 687 of 2002.

Table 11. AU Performance Assessment Standard Table in terms of Vehicle Frequency

No.	Service Indicator	Assessment Standard				
		very less	less	Simply	both	Very good
1	Frequency (kend/hr)	<4	4	5	6	>6

Source: Director General of Transportation Decree No. 687 Year 2002

Based on the survey results, the static survey results for vehicle frequency data are as follows:

Table 12. Static Survey Result Table (Vehicle Frequency)

No.	Time	Number of Vehicles/Hour
1	09:00 - 10:00	4
2	10:00 - 11:00	4
3	11:00 - 12:00	4
4	12.00 - 13.00	4
5	13.00 - 14.00	3
6	14.00 - 15.00	4
7	15.00 - 16.00	4
8	16.00 - 17.00	4
	AVERAGE	3,88

Source: Processed by Researcher, 2024

Based on the survey results above, the vehicle frequency value of the Trans Jatim Corridor I Bus is a total of 3.88 vehicles / hour, or rounded up to 4 vehicles / hour. In accordance with the standards of the Director General of Hubdat Decree No. 687 of 2002, the figures obtained fall into the MEDIUM category. In its existing scheduling, the Trans Jatim Corridor I Bus has a departure system per 15 minutes for each bus, so the average number of vehicles per hour is 4 vehicles/hour.

h) Vehicle Waiting Time

Vehicle waiting time is the time required by passengers until the arrival of public transportation vehicles. Vehicle waiting time is one of the performance parameters of public transportation based on the Director General of Hubdat Decree No. 687 of 2002. The unit of vehicle waiting time is minutes. The following is a table of vehicle waiting time standards from the Ministry of Transportation:

Table 13. Vehicle Waiting Time Standard Table

No.	Service Indicators	Assessment Standard				
		very less	less	Simply	both	very good
1	Waiting time (minutes)	>30	25 - 30	20 - 25	15 - 20	<15

Source: Director General of Transportation Decree No. 687 Year 2002

Based on the survey results, the waiting time of vehicles from Trans Jatim Bus Corridor I is as follows:

Table 14. On Bus Survey Result Table (Vehicle Waiting Time)

No.	Date	Waiting time		Waiting time (minutes)
		Arrive at the bus stop	Kend. come	
1	November 17, 2024	07:50	07:55	00:05
2	November 18, 2024	07:27	07:40	00:13
3	November 19, 2024	06:25	06:40	00:15
4	December 1, 2024	07:57	08:10	00:13
5	December 2, 2024	07:12	07:25	00:13
6	December 3, 2024	07:34	07:45	00:11
AVERAGE				**00:11**

Source: Processed by Researcher, 2024

Based on the survey results table above, it can be concluded that the waiting time for passengers to get a vehicle for Trans Jatim Bus Corridor I is 11 minutes. When compared with the performance standards of public transportation from SK Dirjen Hubdat No. 687 of 2002, the waiting time for vehicles for the Trans Jatim Corridor I Bus is included in the GOOD category. In its scheduling, the Trans Jatim Bus Corridor I determines that each bus departure will be departed every 15 minutes.

i) Number of Operating Vehicles

The number of vehicles operating is the number of vehicles operating on one day of service. The number of vehicles operating determines whether or not the scheduling has been prepared. If there is one vehicle that cannot operate, then the entire travel schedule on that day will run less than optimal (An et al., 2023). The number of vehicles operating is one of the performance parameters of public transportation based on the Decree of the Director General of Hubdat No. 687 of 2002. The following is a standard table of the number of vehicles operating from the Ministry of Transportation:

Table 15. Standard Number of Operating Vehicles

No.	Service Indicators	Assessment Standard				
		very less	less	Simply	both	very good
1	Number of vehicles in operation (%)	<82	82 - 88	88 - 95	95 - 99	100

Source: Director General of Transportation Decree No. 687 Year 2002

Based on the results of the static survey, the number of vehicles operating at the operational time in the survey period can be concluded that the number of vehicles operating according to their service time during the survey period is 100% the number of fleets operating optimally. In accordance with the Decree of the Director General of Hubdat No. 687 of 2002, the number of vehicles operating from the Trans Jatim Bus Corridor I is included in the GOOD category. The total number of fleets for

Trans Jatim Bus Corridor I is 33 units of bus fleet, with details of 30 units of operational fleet and 3 units of spare fleet.

j) Evaluation Analysis of Trans Jatim Corridor I

Public transportation performance is measured by several indicators. Based on the Decree of the Director General of Hubdat No. 687 of 2002, several aspects that are indicators of public transport performance assessment are load factor, travel speed, headway, travel time, vehicle frequency, vehicle waiting time, and the number of vehicles operating. The assessment of public transport performance is divided into 5 (five) assessments, namely VERY LACK, LACK, ENOUGH, GOOD, and VERY GOOD. So as to facilitate the assessment numbers, each assessment is given a value of 1 - 5 and multiplied by 20, so that the maximum value for each assessment is 100. To apply the assessment with several assessment indicators, it can be done by adding up the total of each value and then making an average of the values. That number will be used as the performance value of public transportation. The following table shows the weighted values for each indicator:

Table 16. Weighted Value Table of Public Transportation Performance Indicators

No.	Service Indicators	Assessment Standard				
		very less	less	Simply	both	very good
1	Peak hour Load Factor	1	2	3	4	5
2	Load Factor off-peak hours	1	2	3	4	5
3	Travel Speed	1	2	3	4	5
4	Headway	1	2	3	4	5
5	Travel Time	1	2	3	4	5
6	Service Time	1	2	3	4	5
7	Frequency	1	2	3	4	5
8	Waiting time	1	2	3	4	5
9	Number of vehicles in operation	1	2	3	4	5

Source: Processed by Researcher, 2024

Based on the survey results regarding the indicators of public transport performance, the assessment of the performance of Trans Jatim Bus Corridor I can be displayed as follows.

Table 17. Performance Assessment Table of Trans Jatim Bus Corridor I

No.	Service Indicators	Assessment		
		Survey Results	Category	Score x 20
1	Peak hour Load Factor	116,67%	1	20
2	Load Factor off-peak hours	70,56%	4	100
3	Travel Speed	32.53 km/h	5	100
4	Headway	17 minutes	1	20
5	Travel Time	1.88 km/min	5	100
6	Service Time	16 hours	5	100
7	Frequency	4 kend	2	40

8	Waiting time	11 minutes	5	100
9	Number of vehicles in operation	100%	5	100
TOTAL VALUE				**680**
AVERAGE				**75,55**

Source: Processed by Researcher, 2024

Based on the table of public transportation performance assessment results above, it can be concluded that the Trans Jatim Corridor I Bus service obtained a performance score of 75.55 and was included in the GOOD category. All aspects of the assessment get a value in accordance with existing standards, except for the aspects of load factor and vehicle headway (Vuchic, 2017). When compared to the standards of the Ministry of Transportation, the load factor value to get a good category is a maximum of 80% for the peak hour period and 70% in the off-peak hour period.

In the existing condition, Trans Jatim Corridor I Bus is the only choice for the people of Sidoarjo Regency and Gresik Regency to travel to Surabaya City and vice versa, where . This condition makes the demand for public transportation very high, as evidenced by the survey results for load factor, getting average load factor data during the survey period is 116.67%. With a load factor above 100%, then for passengers, comfort during the trip is reduced because in the vehicle becomes crowded with other passengers, and this can reduce the level of public satisfaction with this transportation.

As for the headway indicator, in the existing condition, Trans Jatim Corridor I buses apply headways 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, headways per 15 minutes per departure are applied. This condition allows some fleets to experience delays until certain stops, thus making the headway time even longer. Based on the standard, the maximum time for public transportation headway is 15 minutes per vehicle. While from the survey results obtained data for headway is 17 minutes per vehicle so it is included in the category less.

CONCLUSION

The results of the study indicate that the performance of Trans Jatim Bus Corridor I has achieved a score of 75.55, placing it in the GOOD category. However, several aspects require improvement to optimize service performance. The on-bus and static surveys conducted reveal that the load factor, which ideally should not exceed 80% for urban public transport, was recorded at 116.67%, significantly surpassing the recommended standard. Additionally, the vehicle headway, which should ideally be a maximum of 15 minutes per vehicle, aligns with the standard but shows room for further optimization based on operational efficiency.

This conclusion underscores the relationship between the findings and the research objectives, particularly in analyzing public satisfaction and the performance of public transport services. The results suggest that while the overall performance is commendable, targeted actions are necessary to address specific shortcomings. To improve service quality, it is recommended to increase the number of buses in operation to reduce the load factor and to reevaluate the operational schedule to ensure a consistent and reliable headway. These steps can enhance both passenger satisfaction and operational efficiency, aligning with the goals of sustainable and efficient public transport services.

REFERENCES

An, Y., Gao, Y., Wu, N., Zhu, J., Li, H., & Yang, J. (2023). Optimal scheduling of electric vehicle charging operations considering real-time traffic condition and travel distance. *Expert Systems with Applications*, *213*, 118941. https://doi.org/10.1016/j.eswa.2022.118941

Astiwi, A., Setyowati, D. L., Sholeh, M., Benardi, A. I., & Hayati, R. (2024). The Design of Trans Jateng Bus Stop for Susuwono Region to Establish Clean Transportation. *Journal of Geoscience and Environment Protection*, *12*(12), 253–269.

Aviad, E. (2023). *Waiting for the Magic Bus: Unravelling the Impact of Bus Design on Station Dwell Time: A Comprehensive Analysis and Case Study*.

Chica-Olmo, J., Gachs-Sánchez, H., & Lizarraga, C. (2018). Route effect on the perception of public transport services quality. *Transport Policy*, *67*, 40–48. https://doi.org/10.1016/j.tranpol.2017.03.024

Fitra, M. F., & Syukhri, S. (2023). Rancang Bangun E-Survei Indeks Kepuasan Masyarakat Terhadap Pelayanan Pemerintahan Desa. *Voteteknika (Vocational Teknik Elektronika Dan Informatika)*, *11*(1), 80. https://doi.org/10.24036/voteteknika.v11i1.120587

Ho, C. Q., & Tirachini, A. (2024). Mobility-as-a-Service and the role of multimodality in the sustainability of urban mobility in developing and developed countries. *Transport Policy*, *145*, 161–176. https://doi.org/10.1016/j.tranpol.2023.10.013

Linovski, O., Dorries, H., & Simpson, S.-A. (2021). *Public transit and equity-deserving groups: understanding lived experiences*.

Martini, L. K. B., Suardana, I. B. R., & Astawa, I. N. D. (2018). Dimension effect of tangibles, reliability, responsiveness, assurance, empathy, leadership towards employee satisfaction. *International Research Journal of Management, IT and Social Sciences*, *5*(2), 210–215.

Ocampo, L., Alinsub, J., Casul, R. A., Enquig, G., Luar, M., Panuncillon, N., Bongo, M., & Ocampo, C. O. (2019). Public service quality evaluation with SERVQUAL and AHP-TOPSIS: A case of Philippine government agencies. *Socio-Economic Planning Sciences*, *68*, 100604. https://doi.org/10.1016/j.seps.2017.12.002

Primasworo, R. A., Oktaviastuti, B., & Madun, R. W. (2022). Evaluasi Penggunaan Angkutan Umum Perkotaan Di Kota Malang (Trayek Arjosari – Tidar / AT). *Fondasi : Jurnal Teknik Sipil*, 98. https://doi.org/10.36055/fondasi.v0i0.10561

Tahanisaz, S., & shokuhyar, S. (2020). Evaluation of passenger satisfaction with service quality: A consecutive method applied to the airline industry. *Journal of Air Transport Management*, *83*, 101764. https://doi.org/10.1016/j.jairtraman.2020.101764

Vuchic, V. R. (2017). *Urban transit: operations, planning, and economics*. John Wiley & Sons.

Walker, J. (2024). *Human transit, revised edition: how clearer thinking about public transit can enrich our communities and our lives*. Island Press.

Warnadi, W., & Putra, M. A. (2022). Analisis Indeks Kepuasan Masyarakat (Ikm) Pada Kantor Camat Rengat Kabupaten Indragiri Hulu. *Jurnal Bisnis Kompetitif*, *1*(2), 58–63. https://doi.org/10.35446/bisniskompetif.v1i2.973

Wijaya, S. E., Imran, M., Wijaya, S. E., & Imran, M. (2019). Transport Policies and Planning in Surabaya. *Moving the Masses: Bus-Rapid Transit (BRT) Policies in Low Income Asian Cities: Case Studies from Indonesia*, 115–154.