Study of Passenger Perceptions for Public Transport During Covid 19 in Pekanbaru, Indonesia

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Abstract During the COVID-19 pandemic, the manager of the Trans Metro Pekanbaru bus limited the number of passengers, operating hours, and rit. This policy follows the implementation of a transition period to the new normal in Pekanbaru City. With the enactment of this government policy, it has made an impact on the performance of Trans Metro Pekanbaru public transportation during the COVID-19 pandemic. This study analyzes the performance of Trans Metro Pekanbaru public transportation during the COVID-19 pandemic based on passenger operations and perceptions. The research methods used in this study are quantitative and qualitative. The data analysis used is the analysis of operational performance data during the COVID-19 period, and the analysis of passenger perceptions of service performance during the COVID-19 period. The results of this study show that the operational performance of Trans Metro Pekanbaru public transportation during the COVID-19 pandemic based on load factor, headway, and frequency indicators is considered poor. The average load factor value on all routes is below 70%, with the highest and lowest average values being 42% on the Ramayan – Pandau route and 2% on the Unilak – Palas Raya route. The average headway value on all routes is more than 10 minutes, with the highest average score being 63 minutes on the BRPS - UIN and Ramayana - Unilak routes. The average frequency value on all routes is only 1-3 vehicles/hour on average, with the highest average value being 5 vehicles/hour on the Ramayana - Pandau route. Based on passenger perceptions, it shows that passengers' perceptions of the quality of Trans Metro Pekanbaru public transportation services during the COVID-19 pandemic are considered good. This can be seen from the average score of respondents' assessment of 74.86%.

Keywords : Covid 19; Trans Metro Pekanbaru; Performance; Public Transport; Pekanbaru

I. PRELIMINARY

In 2019, a coronavirus (COVID-19) outbreak began to be detected in Wuhan, China. WHO declared the disease a pandemic and began to enter Indonesia on March 2, 2020. Not only in Indonesia, but the whole world is feeling the impact [1]. As a result of this outbreak, many tourism industries and other sectors are experiencing difficulties. The number of cases of Covid-19 sufferers is increasing day by day. To anticipate the spread of the COVID-19 virus, the Indonesian government issued a policy of limiting activities outside the home, schools are carried out online and work from home and worship activities are carried out at home[2]. However, not all people can carry out activities at home only because of economic interests. So the government strengthened policies in dealing with COVID-19 by limiting social interaction or social distancing related to the spread of COVID-19.The Government's policy inevitably affects the transportation sector because it is related to reduced community mobility. Human movement or mobility is essentially just a derivative (secondary) activity generated by those primary activities. To meet the needs of these primary activities, modes of transportation, especially public transportation, are needed for the community.

Public transportation as part of the urban transportation system has a role in supporting the mobilization of urban people in carrying out daily activities. So that public transportation has the potential to become a vector of transmission of COVID-19. The Indonesian government is currently carrying out conventional policies towards public transportation, including Pekanbaru City which has a high level of COVID-19 spread and has red zone status. To regulate the transportation order during the pandemic, the Minister of Transportation issued a Transportation Control regulation in order to prevent the spread of *Corona Virus Disease 2019* (Regulation of the Minister of Transportation of the Republic of Indonesia No PM 18, 2020).

Public transport is passenger transport carried out by a rental or pay system. Included in the definition of passenger public transport are city transport (buses, minibuses, and so on), trains, water transport and air transport [3].Public transport was an effective solution for the city that happened about high density for the road. Congestion that occurs in an urban area is mostly caused by the number of private vehicles that have more activities on the road [4]. Public transportation is a mass transportation capable of carrying more passengers at the same time.

One of the public transportations in Pekanbaru City is the Pekanbaru Trans Metro Bus (TMP) or better known as the TMP Bus which began operating in July 2009 [5]. Trans Metro Pekanbaru currently has 12 route corridors and 95 bus units operating. Trans Metro Pekanbaru bus managers in responding to this pandemic condition, one of which is the existence of limits on the number of passengers and operating hours and rit (round trips), as well as preparing health protocols according to the direction in Pekanbaru Mayor Regulation (Perwako) No. 104 of 2020 concerning Guidelines for New Living Behavior of Productive and Safe Communities in the Prevention and Control of COVID-19. This policy follows the implementation of a transition period to a new order or new normal in Pekanbaru City. This aims to minimize the potential transmission of the corona virus or COVID-19 [6]. Therefore, this study aims to determine the absorption of Trans Metro Pekanbaru public transportation passengers during the COVID-19 pandemic and to determine the performance of Trans Metro Pekanbaru operationally in public transportation.

II.   RELATED RESEARCH

Albalate and G.Bell (2010) adapted by [7] have an explanation that transportation as a means of connection between two or more different places will play an important position, especially towards mobility. According to [8] in the book Transportation Management in Studies and Theories, public transportation is a means transportation for small and medium-sized communities in order to carry out their activities in accordance with their duties and functions in society. Public transportation is a type of public transportation or often called passenger transportation which is carried out through a rental or pay system. In addition, passenger transportation is a type of city transportation such as buses, mini buses, trains and so on. On the other hand, in accordance with government regulation No. 41 of 1993 concerning road transportation, it is explained that transportation is the transfer of people and or goods from one place to another using a vehicle. While public transportation is any motorized vehicle that is provided for use by the public with a fee. Transportation of people by public transportation is carried out using bus cars or passenger cars served with fixed or regular routes and not on the route.

The perception of the general public passenger starts from the definition of perception, where Zamroni (2013) argues that perception is the process by which individuals can recognize objective objects or facts using individual tools [9]. Meanwhile, Tjiptono(2012) states that the perception of quality is a consumer assessment of the overall excellence of a product or service in terms of its function relative to other products. Perception will relate to a person's behavior in making decisions about what is desired [10]. One way to find out consumer behavior is to analyze consumer perceptions of products. In this study, the product in question was related to the quality of public transportation. Service quality has been defined as the value received by customers (consumers) of products or services provided by service providers (providers). L.A. Guedesa (1998) adapted by [11] explained that services are a process of negotiation between consumers as service appraisers and service providers as service sources where resources and management have been carried out in a balanced manner between the perception of service quality (product) and job satisfaction of the Employees. Parasuraman, et al (1990) explain that the quality of service depends on how the service of the operator is able to meet consumer expectations [12]. The perception of the consumer determines how the service performs. Perception is one of the components in a service user experience that plays a role in satisfaction and building the quality of service of the service. Oliver (1997) adapted by [13] states that consumer satisfaction is one of the assessments of consumers' views on how the service is able to meet consumer expectations. [14] states that performance is one of the important aspects of evaluating public transport operators, not just about profitability. Performance creates a satisfaction effect from customers. Consumer loyalty and interest in the use of service services is the ultimate goal of customer satisfaction obtained.

III.   RESEARCH METHODS

A. *Study Location*

This research was conducted during the COVID-19 pandemic. The research site in this study was carried out on the basis of the design of the study, which was carried out in all public transportation corridors of Trans Metro Pekanbaru, Pekanbaru City.

B. *Pengumpulan data penelitian*

After carrying out the identification of problem formulation and preliminary studies, the next step is that data collection is carried out in two ways, namely primary data and secondary data.

Primary data are data obtained directly from the subject of study, in this case the researcher obtains data or information directly using predetermined instruments. Which includes primary data which is questionnaire data given to passengers of Trans Metro Pekanbaru public transportation.

Meanwhile, secondary data is data obtained from citing existing information data, in collaboration with trusted agencies or sources to be used as research references. Secondary data can be obtained from the Pekanbaru City

Transportation Office. Secondary data include data on the number of fleets, number of passengers, number of rit, and public transportation capacity of Trans Metro Pekanbaru during the COVID-19 pandemic.
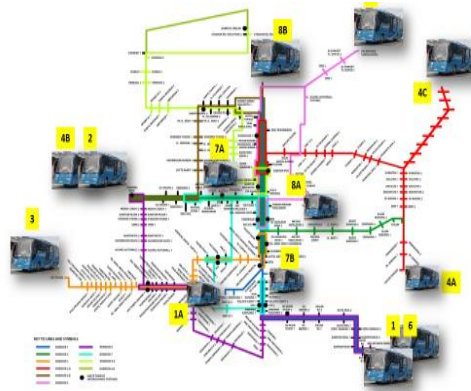

Fig 1. Trans Metro Pekanbaru Route Map

C. Data Analysis

Data analysis can be carried out both qualitatively and quantitatively using the following analytical tools: analysis of operational performance during the COVID-19 period, and analysis of passenger perceptions of service performance during the COVID-19 period. In analyzing operational performance, what needs to be calculated is the load factor, headway, and frequency. Meanwhile, in analyzing passenger perceptions, what needs to be analyzed is the percentage value of respondents based on service indicators such as aspects of security, safety, affordability, equality.

IV.   RESULTS AND DISCUSSION

Based on the results of the study, the average value was obtained on the operational performance of Trans Metro Pekanbaru public transportation on the Ramayana – Pandau Permai Corridor route during the COVID-19 pandemic based on the indicators used.

Tabel 1. Average Pperformance Value ofo Trans Metro Pekanbaru in Covid-19 Situation

No.	Corridor	Load Factor	Headway	Frequency
1	Ramayana-Pandau	42	12,23	5
2	Awal Bros- Airport	6	51,52	1
3	BPRS-kulim	28	23,57	3
4	Awal Bros - UIN	25	15,33	4
5	Ramayana-Tangor	30	21,02	3
6	BRPS-Ramayana	23	31,28	2
7	Sudirman-Tenayan	12	82,01	1
8	BRPS-Pandau	15	23,49	3
9	Sudirman-Rumbai	30	19,99	3
10	Unilak-Palas	2	59,03	1
11	BRPSS-UIN	6	52,83	1
12	Ramayana-Unilak	10	62,83	1

The average load factor value of Trans Metro Pekanbaru public transportation on all routes operating during the COVID-19 pandemic is below 70% (standard load factor in dynamic conditions of the Directorate General of Land Transportation). Of the several routes that operated during the pandemic, there were routes whose load factor values were considered low or did not reach 10%, namely on the Awal Bros - Airport, Unilak - Palas Raya, and BRPS - UIN routes. The low value of the load factor during the COVID-19 pandemic can occur due to a decrease in the number of passengers during the COVID-19 pandemic which makes a long comparison between the number of

passengers who board the Pekanbaru Trans Metro bus during the COVID-19 pandemic to the passenger capacity provided by the Trans Metro Pekanbaru bus during the COVID-19 pandemic.

The average value of the Trans Metro Pekanbaru public transportation headway on all routes during the COVID-19 pandemic is worth more than 10 minutes (the standard headway in dynamic conditions of the Directorate General of Land Transportation), meaning that the headway during the COVID-19 pandemic is considered not good. Of the several routes that operated during the pandemic, there are routes with a headway value of more than 60 minutes, namely on the Sudirman-Mayor Tenayan, BRPS-UIN, and Ramayana-Unilak routes. The poor value of the headway during the COVID-19 pandemic can occur due to the reduction of the Pekanbaru Trans Metro buses that operate during COVID-19 which makes the length of time between the arrival or departure of the first bus and the arrival or departure of the next bus during the COVID-19 pandemic. The government issued a policy on Trans Metro Pekanbaru public transportation by reducing the number of fleets operating on Trans Metro Pekanbaru public transportation by 35%.

The average frequency value of Trans Metro Pekanbaru public transportation on all routes during the COVID-19 pandemic has an average value of only 1-3 vehicles/hour which is considered not good, and only one route whose frequency value is considered good by reaching 5 vehicles/hour, namely the Ramyana - Pandau route. The lack of frequency values during the COVID-19 pandemic can happen the same as the headway due to the reduction of Trans Metro Pekanbaru buses operating during COVID-19 which has reduced the number of vehicles operating in one hour during the COVID-19 pandemic.

The results of the data analysis of 100 respondents can be seen that the general passenger perception of the quality of Trans Metro Pekanbaru public transportation services during the COVID-19 pandemic is good. This can be seen from the average score of respondents' assessment of 74.86%.

Tabel 2. Passengers' Perceptions of Service Performance During the COVID-19 Pandemic

No	Question	TCR (%)	Categories
1	Appearance on public transport	85.25	Very Good
2	Seating comfort	78	Very Good
3	Cleanliness of public transport	79.5	Very Good
4	Number of seats provided	83.25	Very Good
5	Comfortability of air conditioning	75.75	Good
6	Travel Time	68	Good
7	Costs	84.75	Very Good
8	Waiting time	49	Poor
9	Public transport needs	48.75	Poor
10	Clarity of public transport travel route information	83.5	Very Good
11	Politeness of the attendant when speaking to passengers	74.5	Good
12	How drivers drive public transport	76.25	Very Good
13	A sense of security for crime	77.25	Very Good
14	Neatness of dressing on officers	78.5	Very Good
15	Helpin the passengers	78.5	Very Good
16	Caring to the passenger	77	Very Good
	Average	74.86	Good

Based on the results of the perception value of service performance during the COVID-19 pandemic, there are 2 parameters that are categorized as not good, namely the parameters of public transportation waiting time and public transportation needs. From these parameters, it is very related because the waiting time for public transportation can occur for a long time due to the need for public transportation that is less operational. With the issuance of a policy by the government towards Trans Metro Pekanbaru public transportation by reducing the number of fleets operating on Trans Metro Pekanbaru public transportation by 35%.

V.   CONCLUSION

After this study explains the results and discussion thoroughly, it can be concluded that the operational performance of Trans Metro Pekanbaru public transportation during the COVID-19 pandemic based on load factor, headway, and frequency indicators is considered poor. In detail, first, the average load factor value of Trans Metro Pekanbaru public transportation on all routes operating during the COVID-19 pandemic is below 70% (standard load factor in dynamic

conditions of the Directorate General of Land Transportation), with the highest and lowest average values being 42% on the Ramayan - Pandau route and 2% on the Unilak - Palas Raya route. Secondly, the average headway value of Trans Metro Pekanbaru public transportation on all routes during the COVID-19 pandemic is worth more than 10 minutes (standard headway in dynamic conditions of the Directorate General of Land Transportation). And the three frequencies, the average frequency value of Trans Metro Pekanbaru public transportation on all routes during the COVID-19 pandemic, the average value only reached 1-3 vehicles / hour which was considered poor, and only one route whose frequency value was considered good by reaching 5 vehicles / hour, namely the Ramyana - Pandau route. Based on passenger perceptions, it shows that passengers' perceptions in general of the quality of Trans Metro Pekanbaru public transportation services during the COVID-19 pandemic are considered good. This can be seen from the average score of respondents' assessment of 74.86%.

THANK-YOU NOTE
The author's thanks to Universitas Islam Riau for all assistance and supporting to this research.

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