Average Daily Traffic of The Srijaya Street in Palembang City
(Sriwijaya University Gate)

Paramitha Syafarina[1], Andi Herius[1], Indrayani[1] , Septarianti Arini[1]

[1]Civil Engineering, Politeknik Negeri Sriwijaya, Palembang, Indonesia
paramitha.syafarina@polsri.ac.id

Abstract. Srijaya Negara Street is one of the roads located in the city of Palembang. This street is situated in the Ilir Barat I district, an area that is known as both a residential and educational zone. Along this road lies the largest university in South Sumatra, Sriwijaya University, sharing the area with Sriwijaya State Polytechnic. The traffic conditions are quite congested and disorganized, often experiencing traffic jams during peak hours, particularly when students and school children are arriving or leaving. A traffic count survey was conducted on Srijaya Negara Street to determine the Daily Traffic Volume (LHR). Vehicle counts were recorded at 15-minute intervals using traffic counters and observation survey sheets. During the observation, it was recorded that 71,845 vehicles passed through Srijaya Negara Street, with an average daily traffic volume of 5,987 vehicles per hour. The study results indicated that motorcycles accounted for 75% of the vehicles, light vehicles for 24%, heavy vehicles for 1%, and non-motorized vehicles for 0.04%. The volume of vehicles is also quite dense at certain times. Therefore, further traffic engineering is necessary to manage the traffic flow and regulate parking along Srijaya Negara Street.

Keywords: Average Daily Traffic, traffic counter, Vehicles

1 Introduction

1.1 Research

Roads play an important role as a means of transportation that connects various regions, enabling more efficient mobility of people, goods, and services. Good road infrastructure supports economic growth, accelerates logistics distribution, and facilitates access to public services such as education, healthcare, and markets. Additionally, roads also play a vital role in supporting the development of remote areas and improving community welfare. Traffic conditions in several parts of the city are currently quite congested, especially on main roads due to rush hour. Congestion is worsened by road repairs in some sections, so drivers are advised to seek alternative routes to avoid longer delays. Traffic conditions on Srijaya Negara Road are quite

N. L. Husni et al. (eds.), *Proceedings of the 8th FIRST 2024 International Conference on Global Innovations (FIRST-ESCSI 2024)*, Advances in Engineering Research 261,
https://doi.org/10.2991/978-94-6463-678-9_18

congested and disorganized, with frequent traffic jams during peak hours, especially during school or university start and end times.

2 Methodology

2.1 The Scope of Research

The location of this research is on one of the road sections in the city of Palembang, namely Jalan Srijaya Negara. Jalan Srijaya Negara has a length of approximately 1.7 KM. This road is located in Ilir Barat I District, an area known as a residential and educational zone. On this road lies the largest university in South Sumatra, Sriwijaya University, as well as the Sriwijaya State Polytechnic. This situation inevitably increases the traffic load on the Srijaya Negara road. Several sections of the road in the campus area have the potential to experience congestion due to the volume of transport modes exceeding the road's capacity. For this study, the survey location was chosen at the intersection of the entrance and exit gates of Sriwijaya University, which directly connects to Jalan Srijaya Negara.

2.2 Data Collection

This type of research is descriptive qualitative. The data required to support this research consists of primary and secondary data. Primary data is obtained from a Traffic Counting survey to collect traffic flow volume data. The traffic count survey was conducted at three points along Srijaya Road: first at the Lunjuk Road intersection, then at the entrance and exit gates of Sriwijaya University. Vehicle counts were recorded at 15-minute intervals using data collection tools such as traffic counters and observation survey sheets. Secondary data was obtained from various related agencies from several sources, including: MAT data obtained from a home interview survey or through Google Forms in 2023. Data released by related agencies includes the Road Network Map of Palembang City.

2.3 Data Analysis

The method used to obtain the daily traffic volume in this study involved conducting a traffic count survey. The survey was conducted over two days, on May 13 and 15, 2024, to capture data from both a workday and a non-workday (Saturday and Monday). Vehicle counts on the surveyed road section were recorded at 15-minute intervals using data collection tools, commonly referred to as traffic counters, and a pre-prepared survey form. The data from the traffic count survey were processed and entered into a survey form. The survey was conducted for 12 hours each day (from 6:00 AM to 6:00 PM WIB). The types of vehicles surveyed in this study were classified based on guidelines from the Indonesian Highway Capacity Manual (MKJI 1997) and according to the procedures for conducting manual traffic count surveys (No. 016/T/BNKT/1990).

The vehicles surveyed included Motorcycles, abbreviated as MC (motorcycles, etc.); Heavy Vehicles, abbreviated as HV (heavy vehicles); Light Vehicles, abbreviated as LV (light vehicles); and Unmotorized Vehicles, abbreviated as UM (non-motorized vehicles).
The collected vehicle data were then processed to calculate the average daily traffic volume using the following formula:

$$\text{ADT} = \frac{Number\ of\ vehicles\ during\ observation}{Observation\ duration}$$

The traffic count is conducted by inputting the number of surveyed vehicles, then dividing it by the observation period to obtain the Average Daily Traffic (ADT) or number of vehicles/observation period. Measuring ADT has several important benefits, especially in the context of urban traffic planning, management, and road infrastructure.

3 Result and Discussion

3.1 Overview of Srijaya Negara Street.

The Srijaya Negara street is approximately 1.7 kilometers long. It stretches from the intersection at Universitas Palembang to the intersection at Padang Selasa Market. Geographically, the midpoint of this road is located at the coordinates 2°59'12.7"S and 104°43'55.7"E. Below is the map of Srijaya Negara Street.

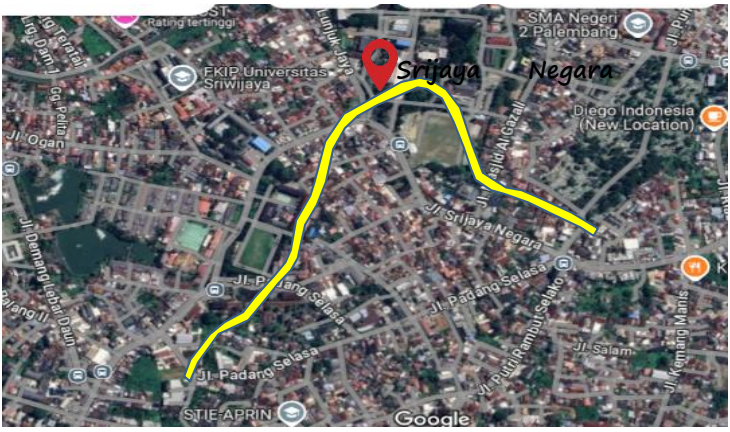

Fig. 1. Location Map of Srijaya Negara Street

3.2 Average Daily Traffic Calculation for Srijaya Negara Street

3.2.1 The flow from the direction of Lunjuk Street and SMKN 3 Palembang

The survey was conducted for 12 hours (06:00-18:00 WIB). The location of the first observation point is in front of the gate of Sriwijaya University. The survey was

conducted over 2 days. Observers will count the number of vehicles coming from Lunjuk Road and from the direction of SMK N 3 Palembang. The traffic converges on Srijaya Negara Road right in front of the gate of Sriwijaya University.

The results of the observation of the number of vehicles from Lunjuk Jaya Road and SMK N 3 Palembang on day 1 can be seen in Table 1.

Table 1 The Number of vehicles coming from Lunjuk Street and SMKN 3 Palembang day 1

No	Vehicle Type	Amount
1	Bicycle, Motorcycle, Scooter, Classic Bicycle & Tricycle	32.993
2	Sedan, Jeep, Station Wagon & Taxi (Private)	10.260
3	Shuttle Van, Pickup Truck, SUV (Sport Utility Vehicle), Microbus, Minibus	358
4	Pick-up Micro Truck, Delivery Vehicle & Rear-Wheel Truck	133
5	Mini Bus	0
6	Large Bus	166
7	2-Axle ¾ Truck / Box / Tank	0
8	Two-Axle Truck / Box / Tank.	306
9	3-Axle Truck / Box / Tank	0
10	Tanker Truck / Trailer Truck	0
11	Trailer & Semi Trailer Truck	0
12	Unmotorised	0
	Total	44.216

Based on the table above, the number of vehicles passing from the direction of Lunjuk Jayadan road to SMK N 3 Palembang on day 1 is 44,216 vehicles. During the observation, there were fluctuations in the number of vehicles passing at certain times, and the trend in the number of vehicles can be seen in Figure 2

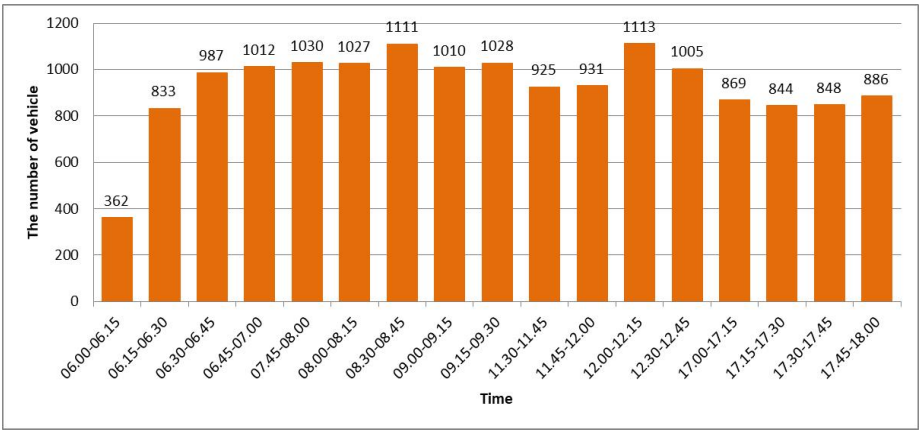

Fig. 2. Trend for The Number of vehicles coming from Lunjuk Street and SMKN 3 Palembang on day 1

From the image above, it can be seen that the trend in the number of vehicles passing from the direction of Lunjuk Jaya Street and SMK N 3 Palembang on Day 1 was highest at 12:00 - 12:45, with a total of 1,113 vehicles, while the lowest number of vehicles passed at 06:00 - 06:15, totaling 362 vehicles. The average daily traffic calculation for Srijaya Negara Street from the direction of Lunjuk Jaya Street and SMK N 3 Palembang on Day 1 is as follows:

$$\text{ADT} = \frac{Number\ of\ vehicles\ during\ observation}{Observation\ duration}$$

$$\text{ADT} = \frac{44.216}{12\ hours} = 3.685 \text{ Vehicles/hours}$$

Therefore, the average daily traffic (LHR) for Srijaya Negara Street from the direction of Lunjuk Jaya Street and SMK N 3 Palembang on Day 1 is 3,685 vehicles/hour. Next, a Daily Traffic Count was conducted for the second day at the same observation point. The number of vehicles passing from the direction of Lunjuk Jayadan and SMK N 3 Palembang on day 2 can be seen in Table 2.

No	Vehicle Type	Jumlah
1	Bicycle, Motorcycle, Scooter, Classic Bicycle & Tricycle	30.357
2	Sedan, Jeep, Station Wagon & Taxi (Private)	12.839
3	Shuttle Van, Pickup Truck, SUV (Sport Utility Vehicle), Microbus, Minibus	380
4	Pick-up Micro Truck, Delivery Vehicle & Rear-Wheel Truck	190
5	Mini Bus	0
6	Large Bus	146
7	2-Axle ¾ Truck / Box / Tank	0
8	Two-Axle Truck / Box / Tank.	333
9	3-Axle Truck / Box / Tank	0
10	Tanker Truck / Trailer Truck	0
11	Trailer & Semi Trailer Truck	0
12	Unmotorised	32
	Total	44.277

Table 2 The Number of vehicles coming from Lunjuk Street and SMKN 3 Palembang day 2.

Based on the table above, the number of vehicles passing from the direction of Lunjuk Jayadan road to SMK N 3 Palembang on day 2 is 44.277 vehicles. During the observation, there were fluctuations in the number of vehicles passing at certain times, and the trend in the number of vehicles can be seen in Figure 3.

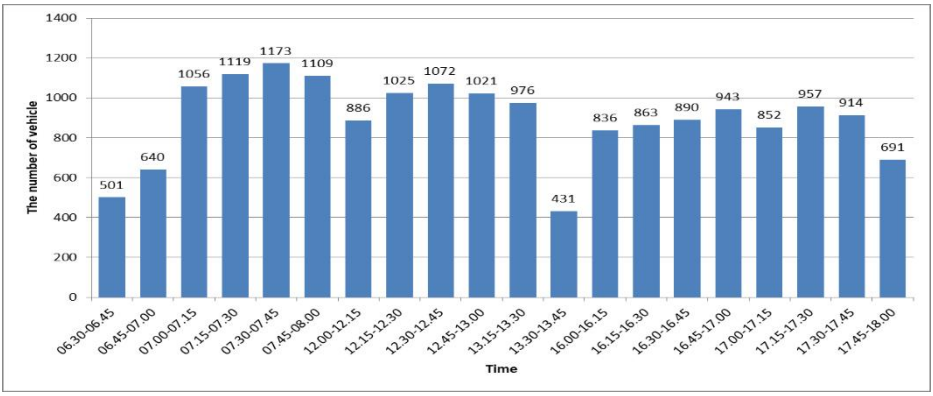

Fig. 3. Trend for The Number of vehicles coming from Lunjuk Street and SMKN 3 Palembang on day 2

From the image above, it can be seen that the trend in the number of vehicles passing from the direction of Lunjuk Jaya Street and SMK N 3 Palembang on Day 2 was highest at 07.30 – 07.45, with a total of 1,173 vehicles, while the lowest number of vehicles passed at 13.30-13.45, totaling 431 vehicles.
The average daily traffic calculation for Srijaya Negara Street from the direction of Lunjuk Jaya Street and SMK N 3 Palembang on Day 2 is as follows:

$$\text{ADT} = \frac{Number\ of\ vehicles\ during\ observation}{Observation\ duration}$$

$$\text{ADT} = \frac{44.277}{12\ hours}$$

$$= 3.690 \text{ Vehicles/hours}$$

Therefore, the average daily traffic (LHR) for Srijaya Negara Street from the direction of Lunjuk Jaya Street and SMK N 3 Palembang on Day 2 is 3.690 vehicles/hour.

3.2.2 The flow from Srijaya Negara Street into the gate of the Sriwijaya University area.

The survey was conducted for 12 hours (06:00-18:00 WIB). The location of the second observation point is at the entrance gate of Sriwijaya University. The survey was conducted over 2 days. The observer will count the number of vehicles coming from Srijaya Negara Road entering the gate of Sriwijaya University. The results of the observation of the number of vehicles from the flow of Srijaya Negara Road into the gate of the Sriwijaya University area on day 1 can be seen in Table 3.

Table 3 The number of vehicles coming from Srijaya Negara Road entering the gate of Sriwijaya University on day 1

No	Vehicle Type	Amount
1	Bicycle, Motorcycle, Scooter, Classic Bicycle & Tricycle	11.780
2	Sedan, Jeep, Station Wagon & Taxi (Private)	3.653
3	Shuttle Van, Pickup Truck, SUV (Sport Utility Vehicle), Microbus, Minibus	0
4	Pick-up Micro Truck, Delivery Vehicle & Rear-Wheel Truck	0
5	Mini Bus	0
6	Large Bus	23
7	2-Axle ¾ Truck / Box / Tank	15
8	Two-Axle Truck / Box / Tank.	3
9	3-Axle Truck / Box / Tank	0
10	Tanker Truck / Trailer Truck	0
11	Trailer & Semi Trailer Truck	0
12	Unmotorised	0
	Total	**15.474**

Based on the table above, the number of vehicles coming from Srijaya Negara street entering the gate of Sriwijaya University on day 1 is 15.474 vehicles. During the observation, there were fluctuations in the number of vehicles passing at certain times, and the trend in the number of vehicles can be seen in Figure 4.

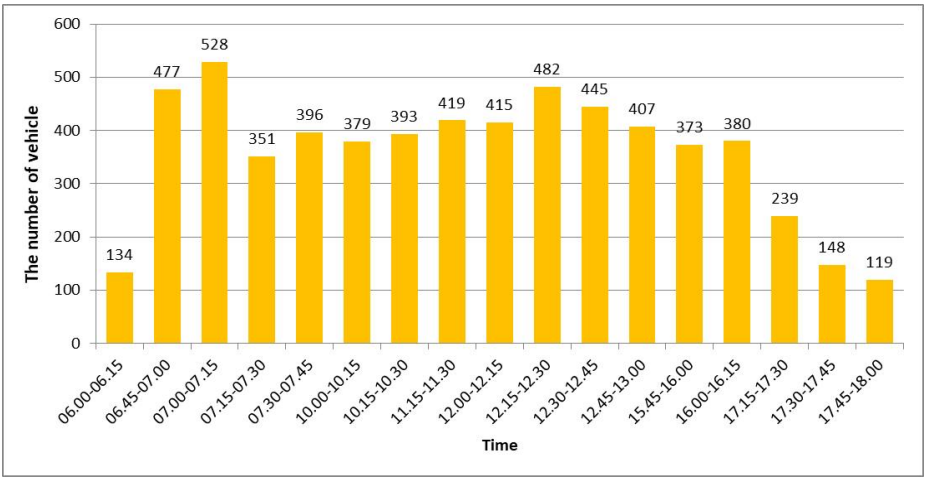

Fig. 4. Trend The number of vehicles coming from Srijaya Negara Road entering the gate of Sriwijaya University on day 1.

From the image above, it can be seen that the trend in the number of vehicles passing from the direction of Srijaya Negara Road into the gate of the Sriwijaya University area on Day 1 is highest at 07:00–07:15 with 528 vehicles, and the lowest number of vehicles passing is at 17:45–18:00 with 119 vehicles. The average daily traffic calculation for Srijaya Negara Street from the direction of Srijaya Negara Street entering the gate of the Sriwijaya University area on day 1 is as follows:

$$\text{ADT} = \frac{Number\ of\ vehicles\ during\ observation}{Observation\ duration}$$

$$\text{ADT} = \frac{15.474}{12\ hours}$$

$$= 1.290 \text{ Vehicles/hours}$$

Therefore, the average daily traffic (LHR) calculation for Srijaya Negara Street from the direction of Srijaya Negara Street entering the gate of the Sriwijaya University area on day 1 is 1.290 vehicles/hour.

Next, a Daily Traffic Count is conducted for the second day at the same observation point. The observer will count the number of vehicles coming from Srijaya Negara Street entering the gate of Sriwijaya University. The results of the observation on the number of vehicles from the flow of Srijaya Negara Street entering the gate of the Sriwijaya University area on day 2 can be seen in Table 4.

Table 4 The number of vehicles coming from Srijaya Negara Road entering the gate of Sriwijaya University on day 2

No	Vehicle Type	Amount
1	Bicycle, Motorcycle, Scooter, Classic Bicycle & Tricycle	11.080
2	Sedan, Jeep, Station Wagon & Taxi (Private)	3.378
3	Shuttle Van, Pickup Truck, SUV (Sport Utility Vehicle), Microbus, Minibus	0
4	Pick-up Micro Truck, Delivery Vehicle & Rear-Wheel Truck	0
5	Mini Bus	0
6	Large Bus	12
7	2-Axle ¾ Truck / Box / Tank	13
8	Two-Axle Truck / Box / Tank.	0
9	3-Axle Truck / Box / Tank	0
10	Tanker Truck / Trailer Truck	0
11	Trailer & Semi Trailer Truck	0
12	Unmotorised	0
	Total	**14.483**

Based on the table above, the number of vehicles coming from Srijaya Negara street entering the gate of Sriwijaya University on day 2 is 14.483 vehicles. During the observation, there were fluctuations in the number of vehicles passing at certain times, and the trend in the number of vehicles can be seen in Figure 5.

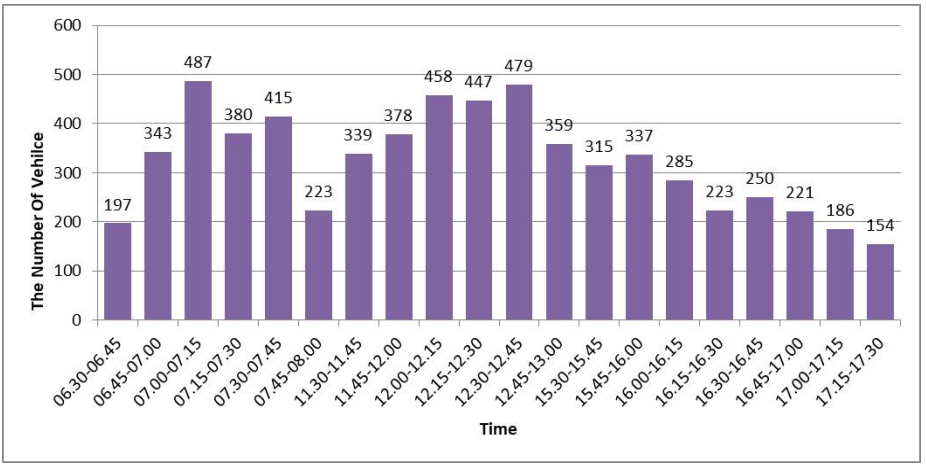

Fig. 5. Trend The number of vehicles coming from Srijaya Negara Road entering the gate of Sriwijaya University for day 2

From the image above, it can be seen that the trend in the number of vehicles passing from the direction of Srijaya Negara Road into the gate of the Sriwijaya University area on Day 2 is highest at 12.30 – 12.45 with 479 vehicles, and the lowest number of vehicles passing is at 17.15-17.30 with 154 vehicles.

The average daily traffic calculation for Srijaya Negara Street from the direction of Srijaya Negara Street entering the gate of the Sriwijaya University area on day 2 is as follows:

$$\text{ADT} = \frac{Number\ of\ vehicles\ during\ observation}{Observation\ duration}$$

$$\text{ADT} = \frac{14.483}{12\ hours}$$

$$= 1.207 \text{ Vehicles/hours}$$

Therefore, the average daily traffic (LHR) calculation for Srijaya Negara Street from the direction of Srijaya Negara Street entering the gate of the Sriwijaya University area on day 1 is 1.207 vehicles/hour.

3.2.3 The flow from the area of Sriwijaya University that exits to Jalan Sri-jaya Negara.

The survey was conducted for 12 hours (06:00 AM - 06:00 PM WIB). The location of the third observation point is at the exit gate of Sriwijaya University. The survey was conducted over 2 days. Observers will count the number of vehicles passing from within the Sriwijaya University area that exit to Srijaya Negara Road. The results of the observations of the number of vehicles from within the Sriwijaya University area that exited to Srijaya Negara Road on day 1 can be seen in Table 5.

Table 5 Number of Vehicles Passing from Within the Sriwijaya University Area to Srijaya Negara Road on Day 1

No	Vehicle Type	Amount
1	Bicycle, Motorcycle, Scooter, Classic Bicycle & Tricycle	9383
2	Sedan, Jeep, Station Wagon & Taxi (Private)	2728
3	Shuttle Van, Pickup Truck, SUV (Sport Utility Vehicle), Microbus, Minibus	0
4	Pick-up Micro Truck, Delivery Vehicle & Rear-Wheel Truck	0
5	Mini Bus	0
6	Large Bus	25
7	2-Axle ¾ Truck / Box / Tank	18
8	Two-Axle Truck / Box / Tank.	0
9	3-Axle Truck / Box / Tank	0
10	Tanker Truck / Trailer Truck	0
11	Trailer & Semi Trailer Truck	0
12	Unmotorised	0
	Total	**12.155**

Based on the table above, the number of vehicles passing from within the Universitas Sriwijaya area that exited onto Srijaya Negara street on Day 1 was 12,155 vehicles. During the observation, there were fluctuations in the number of vehicles passing through at certain times; the trend of the vehicle count can be seen in Figure 6.

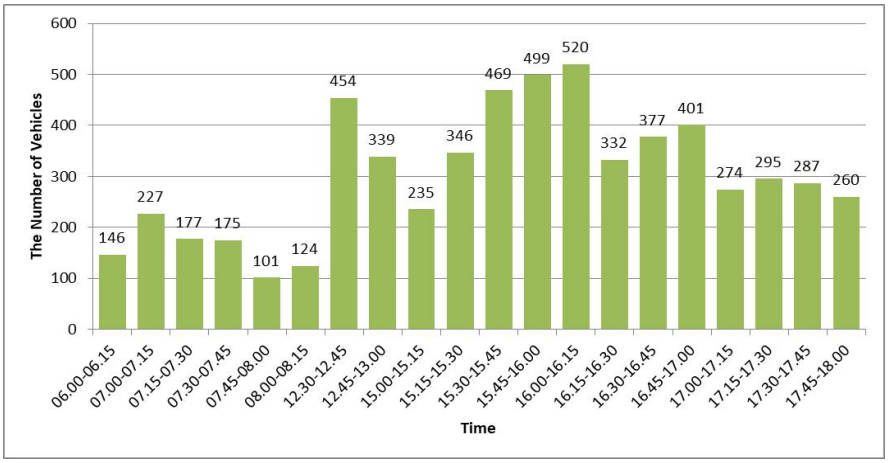

Fig. 6 Trend Number of Vehicles Passing from Within the Sriwijaya University Area to Srijaya Negara Road on Day 1

From the image above, it can be seen that the trend in the number of vehicles passing through the University of Sriwijaya area exiting the University of Sriwijaya gate on Day 1 was highest at 4:00 PM - 4:15 PM with 520 vehicles, and the lowest number of vehicles passing was at 7:45 AM - 8:00 AM with 101 vehicles. The average daily traffic count on Srijaya Negara Street from the University of Sriwijaya area exiting to Srijaya Negara Street on Day 1 is as follows:

$$\text{ADT} = \frac{Number\ of\ vehicles\ during\ observation}{Observation\ duration}$$

$$\text{ADT} = \frac{12.155}{12\ hours}$$

$$= 1.013 \text{ Vehicles/hours}$$

The average daily traffic (ADT) on Srijaya Negara road from within the Sriwijaya University area exiting to Srijaya Negara road on day 1 is 1,013 vehicles per hour.
Next, a Daily Traffic Count will be conducted for the second day at the same observation point. The observer will count the number of vehicles coming from within the Sriwijaya University area that exit onto Srijaya Negara road. The results of the observation of the number of vehicles coming from within the Sriwijaya University area that exit onto Srijaya Negara road on Day 1 can be seen in Table 6

Table 6 Number of Vehicles Passing from Within the Sriwijaya University Area to Srijaya Negara Road on Day 2

No	Vehicle Type	Amount
1	Bicycle, Motorcycle, Scooter, Classic Bicycle & Tricycle	8043
2	Sedan, Jeep, Station Wagon & Taxi (Private)	2049
3	Shuttle Van, Pickup Truck, SUV (Sport Utility Vehicle), Microbus, Minibus	0
4	Pick-up Micro Truck, Delivery Vehicle & Rear-Wheel Truck	0
5	Mini Bus	0
6	Large Bus	28
7	2-Axle ¾ Truck / Box / Tank	29
8	Two-Axle Truck / Box / Tank.	0
9	3-Axle Truck / Box / Tank	0
10	Tanker Truck / Trailer Truck	0
11	Trailer & Semi Trailer Truck	0
12	Unmotorised	0
	Total	**10.149**

Based on the table above, the number of vehicles passing from within the Universitas Sriwijaya area that exited onto Srijaya Negara street on Day 2 was 10.149 vehicles. During the observation, there were fluctuations in the number of vehicles passing through at certain times; the trend of the vehicle count can be seen in Figure 7.

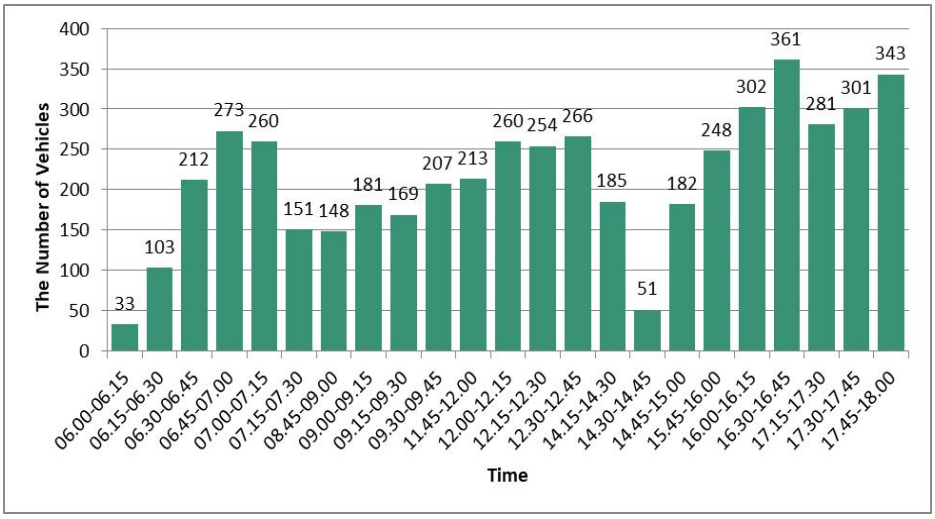

Fig. 7. Trend Number of Vehicles Passing from Within the Sriwijaya University Area to Srijaya Negara Road on Day 2

From the image above, it can be seen that the trend in the number of vehicles passing through the University of Sriwijaya area exiting the University of Sriwijaya gate on Day 2 was highest at 16.30 – 16.45 with 361 vehicles, and the lowest number of vehicles passing was at 06.00 – 06.15 with 33 vehicles.
The average daily traffic count on Srijaya Negara Street from the University of Sriwijaya area exiting to Srijaya Negara Street on Day 2 is as follows:

$$\text{ADT} = \frac{Number\ of\ vehicles\ during\ observation}{Observation\ duration}$$

$$\text{ADT} = \frac{10.149}{12\ hours}$$

= 846 Vehicles/hours

The average daily traffic (ADT) on Srijaya Negara road from within the Sriwijaya University area exiting to Srijaya Negara road on day 1 is 846 vehicles per hour.

3.2.4 Overall LHR Calculation for Srijaya Negara Street.

The average daily traffic observation overall on Srijaya Road, specifically at the entrance gate to Sriwijaya University, was conducted on the first day of the survey by recapping the total number of vehicles obtained from observation data in every direction toward the intersection. The recapitulated data of vehicle counts from each direction can be seen in Table 7.

Table 7 Total Number of Vehicles Passing Through Srijaya Road (Entrance Gate of Sriwijaya University) on the First Day

No	Vehicle Type	Front Road	Entrance Gate	Exit gate
		Amount	Amount	Amount
1	Bicycle, Motorcycle, Scooter, Classic Bicycle & Tricycle	32.993	11.780	9.383
2	Sedan, Jeep, Station Wagon & Taxi (Private)	10.260	3.653	2.728
3	Shuttle Van, Pickup Truck, SUV (Sport Utility Vehicle), Microbus, Minibus	358	0	0
4	Pick-up Micro Truck, Delivery Vehicle & Rear-Wheel Truck	133	0	0
5	Mini Bus	0	0	0
6	Large Bus	166	23	25
7	2-Axle ¾ Truck / Box / Tank	0	15	18
8	Two-Axle Truck / Box / Tank.	306	3	1
9	3-Axle Truck / Box / Tank	0	0	0
10	Tanker Truck / Trailer Truck	0	0	0
11	Trailer & Semi Trailer Truck	0	0	0

12	Unmotorised	0	0	0
	Total	44.216	15.474	12.155
	Total Number of Vehicles	**71.845**		

From the table above, it can be seen that the total number of vehicles passing through Srijaya Negara Street, specifically at the entrance gate of Sriwijaya University, on the first day of the survey was 71,845 vehicles.

The total Average Daily Traffic overall is as follows:

$$\text{ADT} = \frac{Number\ of\ vehicles\ during\ observation}{Observation\ duration}$$

$$\text{ADT} = \frac{71.845}{12\ hours}$$

= 5987 Vehicles/hours

.

The total Average Daily Traffic overall on Srijaya Negara street, specifically at the entrance gate of Sriwijaya University, on the first day of the survey was 5,987 vehicles per hour. This was followed by the calculation of the Average Daily Traffic overall on Srijaya Negara street, specifically at the entrance gate of Sriwijaya University, on the second day of the survey. The recap data of vehicle counts from each direction can be seen in Table 8.

Table 8 Total Number of Vehicles Passing Through Srijaya Road (Entrance Gate of Sriwijaya University) on the Second Day

No	**Vehicle Type**	**Front Road**	**Entrance Gate**	**Exit gate**
		Amount	**Amount**	**Amount**
1	Bicycle, Motorcycle, Scooter, Classic Bicycle & Tricycle	30.357	11.080	8.043
2	Sedan, Jeep, Station Wagon & Taxi (Private)	12.839	3.378	2.049
3	Shuttle Van, Pickup Truck, SUV (Sport Utility Vehicle), Microbus, Minibus	380	0	0
4	Pick-up Micro Truck, Delivery Vehicle & Rear-Wheel Truck	190	0	0
5	Mini Bus	0	0	0
6	Large Bus	146	12	28
7	2-Axle ¾ Truck / Box / Tank	0	13	29
8	Two-Axle Truck / Box / Tank.	333	0	0
9	3-Axle Truck / Box / Tank	0	0	0

10	Tanker Truck / Trailer Truck	0	0	0
11	Trailer & Semi Trailer Truck	0	0	0
12	Unmotorised	32	0	0
	Total	44.277	14.483	10.149
	Total Jumlah Kendaraan	**68.909**		

From the table above, it can be seen that the total number of vehicles passing through Srijaya Negara Street, specifically at the entrance gate of Sriwijaya University, on the second day of the survey was 68.909 vehicles.

The total Average Daily Traffic overall is as follows:

$$\text{ADT} = \frac{Number\ of\ vehicles\ during\ observation}{Observation\ duration}$$

$$\text{ADT} = \frac{68.909}{12\ hours}$$

$$= 5.742 \text{ Vehicles/hours}$$

.The total Average Daily Traffic overall on Srijaya Negara street, specifically at the entrance gate of Sriwijaya University, on the second day of the survey was 5.742 vehicles per hour.

From the total number of vehicles passing through Srijaya Negara Street, specifically at the entrance gate of Sriwijaya University on the first day of the survey, it can be seen based on groups and types of vehicles, which consist of four types based on vehicle weight, further divided into 12 sub-types of vehicles. The types of vehicles passing through the Srijaya Street intersection can be seen in Figure 8

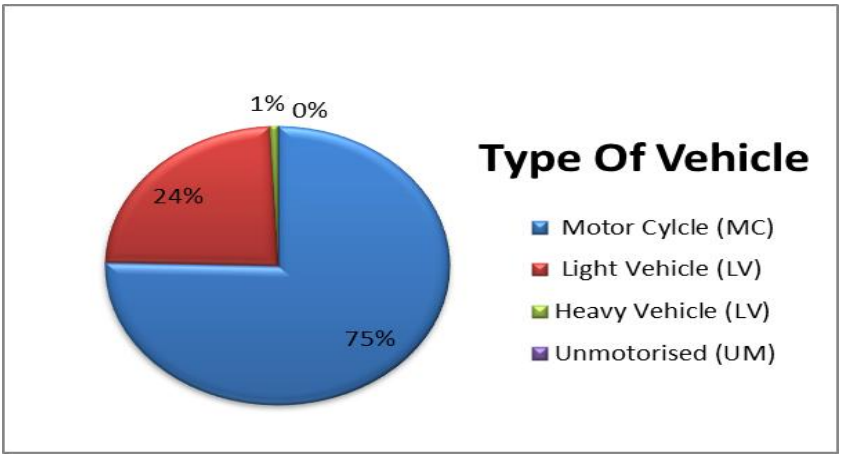

Fig. 8. The types of vehicles passing through the intersection at the entrance gate of Sriwijaya University on Srijaya Negara Street

From the image above, it can be seen that the percentage of vehicle types passing through Srijaya Street (the entrance gate to Sriwijaya University) consists of 75% Motorcycles (MC), 24% Light Vehicles (LV), 1% Heavy Vehicles (HV), and 0% Unmotorized Vehicles (UM).

3.2.5 Problems and Solutions

The problem occurring on Srijaya Road (the entrance gate of Sriwijaya University) is the high volume of vehicles passing through during peak hours, especially in the morning and evening. This condition sometimes causes a buildup of vehicles from various directions, particularly since this intersection is a stop for public transportation waiting for passengers in front of the Sriwijaya University campus gate. Additionally, during these times, it coincides with the average commuting hours for students and daily activities of the community, resulting in a significant volume of vehicles at certain hours. Therefore, there is a need for further traffic engineering to manage the traffic flow and regulate parking along Srijaya Negara Street.

4 Conclusion

From this study, the average daily traffic volume on Srijaya Negara Street, specifically at the entrance gate of Sriwijaya University, has been determined. This intersection serves as the main access point to the educational area of Sriwijaya University, Sriwijaya State Polytechnic, Meeting Hall, and others.

The research findings indicate that the percentage of motorcycle traffic is 75%, while light vehicles account for 24%, heavy vehicles make up 1%, and non-motorized vehicles comprise 0.04%. The volume of vehicles is also quite dense at certain hours. Hence, further traffic engineering is necessary to regulate traffic flow and manage parking along Srijaya Negara Road. The continued goal of this research is to evaluate the traffic conditions on Srijaya Negara Road, analyze the current road traffic capacity, and determine alternatives/improvements for road capacity.

Acknowledgments.
This works is fully funded and supported by Pusat Penelitian dan Pengabdian Kepada Masyarakat (P3M), Politeknik Negeri Sriwijaya, 2023 Applied Research Scheme Program.

References

1. Direktorat Jendral Bina Marga, Februari 1997. *Manual Kapasitas Jalan Indonesia (MKJI).* Republik Indonesia.
2. Syafarina, P., Indrayani, Herius, Andi., Budi, D. 2023. *Identification Of The Movement State Polytechnic Of Sriwijaya Student's Journeys*. Proceedings of the 7th

FIRST 2023 International Conference on Global Innovations (FIRST-ESCSI 2023) on 31 october 2023, South Sumatera, Indonesia.

3. Suthanaya, Putu Alit dan Candra Maulidawati, 2019. *Analisis Pola Pergerakan Di Kota Denpasar.* Jurnal Iilmiah Teknik Sipil. Vol. 23 No. 2 Juli 2019. Universitas Udayana. Bali
4. Tamin, O. Z., 2000, *Perencanaan dan Permodelan Transportasi*, Institut Teknologi Bandung, Bandung.
5. Syafarina, P. 2019. *Model Transportasi di Kota Baturaja. Fakultas Teknik Sipil.* Palembang: Universitas Sriwijaya