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THE IMPACT OF ON STREET PARKING AT JALAN ALIANYANG KOTA PONTIANAK

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Abstract

The development of activities on Jalan Alianyang, Kota Pontianak causes problems, namely the decrease in mobility on the road. This is due to the unavailability of a separate parking area for each of the facilities mentioned above, so parking is carried out using the road. This causes a reduction in road capasity and causes a decrease in speed for passing vehicles. The purpose of this study is to determine the condition of parking on Jalan Alianyang Pontianak in the form of available parking spaces, and the parking characteristics of vehicle owners, to determine the magnitude of side friction due to on street parking, getting a road performance value by considering on street parking. The method used is based on MKJI (1997) and the Technical Guidelines of the Directorate General of Land Transportation (1998). Data collection in this study includes primary data obtained from survey research in the field which includes geometric data on Jalan Alianyang, traffic volume data, vehicle speed data, side friction data, and patrol parking data. The secondary data was obtained from the Mayor's Decree on Pontianak City Road on Parking in Kota Pontianak and data from the Pontianak City Population and Civil Registration Agency. The study was conducted for 4 days on June 24 to 27, 2022 on the Jalan Alianyang segment between Jalan Pangeran Natakusuma and Jalan Suwignyo from 06.00 to 21.00 WIB. From the results of the analysis can be concluded that the highest accumulation of hourly parking on weekdays 45 motorcycles and 30 cars, on weekends 40 motorcycles and 12 cars. The largest parking volume on weekdays is 1043 vehicles, on weekends is 780 vehicles. The highest average parking index along 200 m is 80% which means that not all road segments are used as parking lots. The performance of road sections without on street parking shows a level of service C and a degree of saturation of 0.45. Meanwhile, with the influence of on street parking with a level of service F and a degree of saturation of 1.01. Based on parking needs, it can be considered using one side of the road with good parking management so that parking and mobility needs can be balanced.

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Street Parking, Vehicle Volume, Data Analysis, Road Capacity.

1. Introduction

Traffic conditions in Pontianak are increasingly uncomfortable due to the lack of order for some motorized road users who often use the shoulder of the road on the left side when driving, especially on Jalan Alianyang Pontianak, the road body is often used by motorists to park their vehicles. This behavior causes road sections to become narrow and even hampers traffic flow, especially during peak hours.

On Jalan Alianyang, Pontianak City, road control is carried out by the Pontianak City Transportation Agency, in the form of deflating the tires of the car owner of the vehicle who parks the vehicle carelessly on Jalan Alianyang Pontianak.

The formulation of this research problem is how are the parking characteristics on Jalan Alianyang Pontianak, how is the need for parking space on the Jalan Alianyang Pontianak, how is the arrangement of parking spaces on the Jalan Alianyang Pontianak?

The purpose of the study was to determine the condition of parking on Jalan Alianyang Pontianak and the parking area used as on-street parking, and the parking characteristics of vehicle owners, knowing the amount of side friction due to on street parking, getting a segment performance value by considering on street parking.

2. Methodology

The survey method that will be used in this study is a field survey method with data obtained based on field surveys in the form of direct observation of the research location, with the data that will be obtained based on the results of observations is the number of parking and duration of the vehicles parked at the research location. By using some of the methods below:

- Counting the number of vehicles passing by
- Record vehicle parking hours
- Calculate the duration of vehicle parking
- Measure the available parking lots

2.1 Research Method

The research process carried out can be seen through the following flow chart.

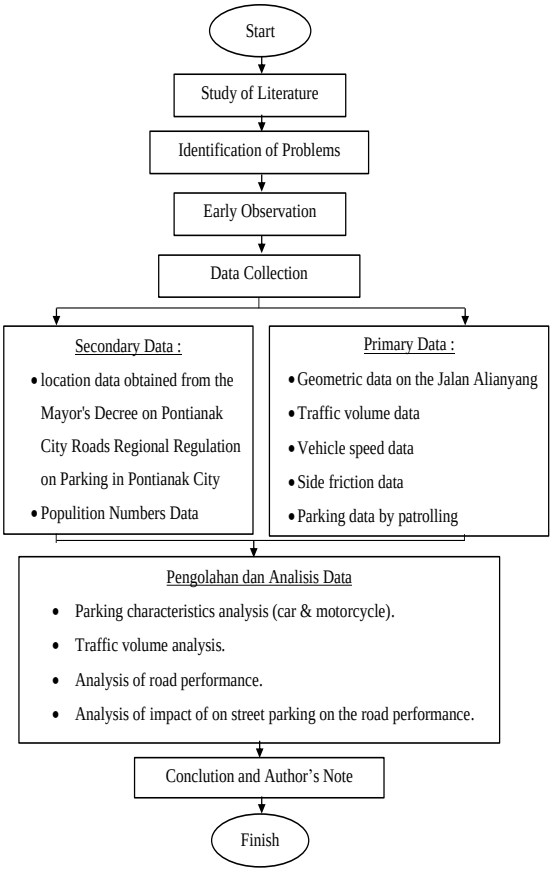

Figure 1. Research flow chart

2.2 Data Collection Techniques

The research location is the location of Jalan Alianyang Pontianak. Jalan Alianyang is divided into three parts because there is an intersection of Jalan Gusti Hamzah and Jalan Putri Candramidi, as well as a crossroads of Jalan Putri Dara Hitam and Jalan Putri Dara Nante. Here is a picture of the Jalan Alianyang Pontianak in Figure 2.

Figure 2. Map of Jalan Alianyang Pontianak

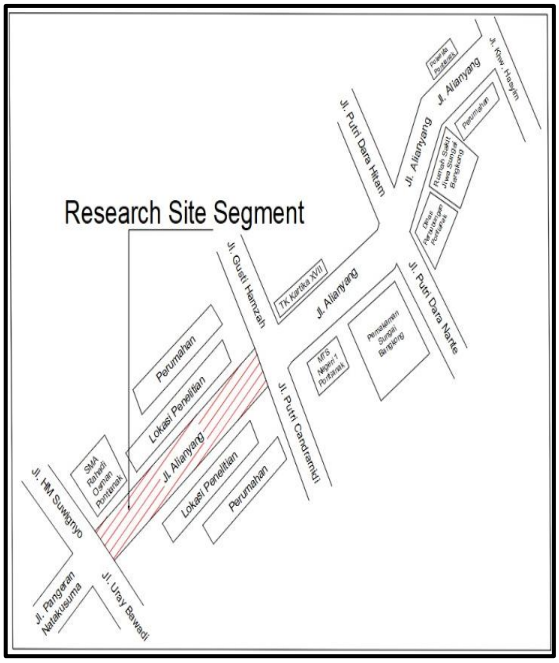

Figure 3. Layout of Jalan Alianyang Pontianak

2.3 Data Collection Techniques

In the implementation of this study, data collection is divided into primary data and secondary data, which are described as follows:

a) Primary Data, in the form of this survey is carried out for 4 (four) days, namely Friday, Saturday, Sunday, and Monday, to obtain geometric data on the Jalan Alianyang, traffic volume data, vehicle speed data, side friction data, and parking data by patrolling.
b) Secondary data, in the form of location data obtained from the Mayor's Decree on Pontianak City Roads Regional Regulation on Parking in Pontianak City, and population data.

2.4 Survey Methods

In the preliminary survey, the following activities were carried out:

1) Observation of road sections, namely to observe which location will be the place of the surveyor at the time of the survey.
2) Determine the number of surveyors, which in its implementation amounted to 6 surveyors with 3

people opposite the Al Taqwa Mosque Polri and 3 people opposite the Office of the Agricultural, Food Crops and Horticulture Office.

3) Division of survey shifts, each team alternates every 1 hour as many as 5 changes for 4 days.
4) Prepare forms that are easy to understand and use by surveyors. The survey form used refers to previous research (Subianto, 2020).
5) Preparing the necessary survey tools.

After a preliminary survey is carried out, it will be continued by conducting the main survey. The activities carried out during the main survey are divided into several points, namely:

1) Recording Geometric data of Jalan Aliayang with the method of measuring the length and width and area on the road, road shoulder, sidewalk, and road barrier.

2) Parking survey by patrol, the method of conducting this survey is to divide the survey area over 2 zones into patrol areas, so that it can be carried out by 1 surveyor in less than 15 minutes, then surveyor walks in the patrol area by recording information in the form of vehicle license plates, vehicle types at intervals of 15 minutes and this survey is carried out during peak hours, from 6 am to 8 am, 11 am to 1 pm, and 3 pm to 5 pm.
3) Traffic Volume Survey with the method of Recording all vehicles entering and leaving Jalan Alianyang.
4) Side friction survey, which is the recording of the situation of the 200-meter road.
5) The measurement of speed is carried out using an indirect method, manual measurement of the vehicle's travel time to cross one particular point for 200 m. Speed measurement requires 2 surveyors who calculate with a stopwatch until the vehicle reaches the finish line according to the road segment designated as the survey area.

2.5 Data Analysis Methods

After collecting data in the study, the next step is the preparation and presentation of data, as well as data processing and analysis. Provision of data provided in the form of table data and graphic data obtained from research data and data processing, which aims to facilitate the reading of research data and data analysis processing. The data presented in this study are:

- Parking characteristics analysis (car & motorcycle).
- Traffic volume analysis.
- Analysis of road performance, for without on-street parking is carried out by measuring the effective road width before vehicles park on the side of the road and for on-street parking is done by measuring the effective road width when vehicles park on the side of the road.
- Analysis of the impact of on street parking on the road performance.

3. Results And Discussion

From the results of the survey conducted for 4 days, the following results were obtained:

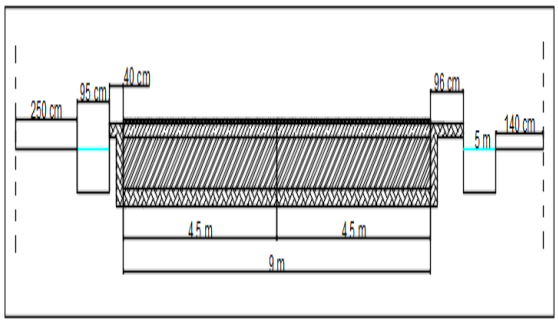

Figure 4. Road Geometric Data Results

Based on the results of measuring geometric data on Jalan Alianyang, it is known that the width of the road is 9 m and the effective road width due to on street parking is 5 m.

Table 1. On Street Parking Vehicle Data On Monday June 27, 2022

No.	Time	Vehicle In	Vehicle Out
1	06.00-06.15	2	2
2	06.15-06.30	1	1
3	06.30-06.45	3	3
4	06.45-07.00	4	4
5	07.00-07.15	4	4
6	07.15-07.30	11	11
7	07.30-07.45	6	5
8	07.45-08.00	6	7
9	11.00-11.15	4	3
10	11.15-11.30	11	9
11	11.30-11.45	9	11
12	11.45-12.00	7	8
13	12.00-12.15	10	8
14	12.15-12.30	12	12
15	12.30-12.45	14	16
16	12.45-13.00	10	10
17	15.00-15.15	10	8
18	15.15-15.30	10	10
19	15.30-15.45	7	7
20	15.45-16.00	12	11
21	16.00-16.15	10	10
22	16.15-16.30	9	10
23	16.30-16.45	8	10
24	16.45-17.00	10	10
TOTAL		190	190

Source: 2022 Survey Results

Table 2. Jalan Alianyang Vehicle Volume Data On Monday, June 27, 2022 Left Lane

TRAFFIC VOLUME ON MONDAY (Left)								
Day/ Date	: 27 Juni 2022							
Surveyor	: Gasa, Sahdimin, Adny							
Time	: 06.00 - 21.00							
Weather	: Sunny							
Traffic Lane	: East							
Time Interval	Vehicle Type			Total	emp			Total Q
60 minute	MC	LV	HV	vehicle /hour	MC	LV	HV	smp/hour
					0,4	1	1,3	
06.00-07.00	472	69	2	543	188,8	69	2,6	260,4
07.00-08.00	956	120	3	1079	382,4	120	3,9	506,3
08.00-09.00	1167	176	4	1347	466,8	176	5,2	648
09.00-10.00	1198	221	6	1425	479,2	221	7,8	708
10.00-11.00	1225	215	8	1448	490	215	10,4	715,4
11.00-12.00	1253	167	11	1431	501,2	167	14,3	682,5
12.00-13.00	986	148	7	1141	394,4	148	9,1	551,5
13.00-14.00	1198	221	6	1425	479,2	221	7,8	708
14.00-15.00	1202	250	6	1458	480,8	250	7,8	738,6
15.00-16.00	1254	224	4	1482	501,6	224	5,2	730,8
16.00-17.00	1298	289	3	1590	519,2	289	3,9	812,1
17.00-18.00	1024	256	3	1283	409,6	256	3,9	669,5
18.00-19.00	898	207	1	1106	359,2	207	1,3	567,5
19.00-20.00	912	185	2	1099	364,8	185	2,6	552,4
20.00-21.00	976	212	1	1189	390,4	212	1,3	603,7

Source: 2022 Survey Results

Table 3. Jalan Alianyang Vehicle Volume Data On Monday, June 27, 2022 Right Lane

TRAFFIC VOLUME ON MONDAY (Right)								
Day/ Date	: 27 Juni 2022							
Surveyor	: Joerka, Wifki, Iwan							
Time	: 06.00 - 21.00							
Weather	: Sunny							
Traffic Lane	: West							
Time Interval	Vehicle Type			Total	emp			Total Q
60 minute	MC	LV	HV	vehicle /hour	MC 0,4	LV 1	HV 1,3	smp/hour
06.00-07.00	546	87	3	636	218,4	87	3,9	309,3
07.00-08.00	997	169	3	1169	398,8	169	3,9	571,7
08.00-09.00	1055	187	4	1246	422	187	5,2	614,2
09.00-10.00	1110	223	7	1340	444	223	9,1	676,1
10.00-11.00	1148	215	11	1374	459,2	215	14,3	688,5
11.00-12.00	1023	165	10	1198	409,2	165	13	587,2
12.00-13.00	924	135	5	1064	369,6	135	6,5	511,1
13.00-14.00	1365	212	6	1583	546	212	7,8	765,8
14.00-15.00	1235	245	7	1487	494	245	9,1	748,1
15.00-16.00	1126	202	5	1333	450,4	202	6,5	658,9
16.00-17.00	1110	184	3	1297	444	184	3,9	631,9
17.00-18.00	867	168	3	1038	346,8	168	3,9	518,7
18.00-19.00	745	187	2	934	298	187	2,6	487,6
19.00-20.00	884	190	1	1075	353,6	190	1,3	544,9
20.00-21.00	975	197	1	1173	390	197	1,3	588,3

Source: 2022 Survey Results

Based on the results of a survey of vehicle volume data on Jalan Alianyang for 4 days, data on vehicle volume from two lanes of Jalan Alianyang were obtained on Monday, Friday, Saturday and Sunday.

Table 4. Jalan Alianyang Side Friction Data On Monday, June 27, 2022 Left Lane

SIDE FRICTION ALONG 200 METER ON MONDAY (Left)							
Day/ Date	: 27 Juni 2022						
Surveyor	: Gasa, Sahdimin, Adny						
Time	: 06.00 - 21.00						
Weather	: Sunny						
Traffic Lane	: East						
Time Interval	Motorcycle		Car		Pedestrian	Vehicle Slow	Vehicle Stop
15 minute	In	Out	In	Out			
06.00-06.15	2	2	1	1	2	0	1
06.15-06.30	2	2	2	2	6	2	2
06.30-06.45	6	4	2	2	8	3	2
06.45-07.00	12	9	3	3	13	4	1
07.00-07.15	17	13	5	5	17	3	2
07.15-07.30	10	10	4	4	11	4	1
07.30-07.45	9	10	6	5	7	3	1
07.45-08.00	8	13	7	5	11	4	2
08.00-08.15	5	1	3	2	13	6	3
08.15-08.30	8	3	1	1	17	5	1
08.30-08.45	4	5	1	2	23	6	1
08.45-09.00	3	2	2	1	10	2	0
09.00-09.15	4	5	2	1	7	7	1
09.15-09.30	5	7	1	2	9	7	4
09.30-09.45	8	4	2	3	14	15	5
09.45-10.00	6	3	2	1	5	6	7
10.00-10.15	4	4	2	1	15	17	2
10.15-10.30	3	2	0	1	9	5	3
10.30-10.45	2	2	3	1	10	13	6
10.45-11.00	4	5	5	4	12	7	7
11.00-11.15	5	5	3	3	6	6	1
11.15-11.30	8	8	5	5	3	1	1
11.30-11.45	6	6	4	4	5	12	0
11.45-12.00	7	7	4	4	10	2	1
12.00-12.15	7	7	2	2	20	4	0
12.15-12.30	10	10	4	4	44	6	1
12.30-12.45	13	13	5	5	34	10	2
12.45-13.00	9	9	2	3	24	5	1
13.00-13.15	6	2	1	1	7	3	0
13.15-13.30	3	2	2	1	4	2	3
13.30-13.45	1	2	0	1	3	1	0
13.45-14.00	3	1	4	0	3	3	4
14.00-14.15	1	2	2	3	6	1	0
14.15-14.30	8	5	1	1	3	5	1
14.30-14.45	2	2	1	1	2	1	1
14.45-15.00	1	2	1	2	3	1	0
15.00-15.15	7	7	2	2	6	2	1
15.15-15.30	10	10	3	3	3	1	2
15.30-15.45	19	20	5	5	22	8	2
15.45-16.00	13	13	7	6	12	11	2
16.00-16.15	19	11	4	5	4	6	2
16.15-16.30	10	10	1	0	4	1	1
16.30-16.45	7	7	0	0	6	1	1
16.45-17.00	8	8	2	2	5	1	3
17.00-17.15	10	10	7	5	8	1	2
17.15-17.30	4	4	5	4	21	0	1
17.30-17.45	2	2	2	2	10	0	1
17.45-18.00	1	1	1	1	11	1	1
18.00-18.15	3	5	0	1	11	1	1
18.15-18.30	13	8	1	1	25	3	2
18.30-18.45	7	4	6	4	15	1	1
18.45-19.00	3	4	1	1	11	1	1
19.00-19.15	6	2	1	1	9	1	0
19.15-19.30	9	4	2	4	11	3	1
19.30-19.45	7	11	3	3	14	5	4
19.45-20.00	3	1	2	2	4	3	2
20.00-20.15	8	3	1	1	4	1	1
20.15-20.30	4	10	3	3	5	3	2
20.30-20.45	3	3	2	2	3	1	0
20.45-21.00	2	2	1	1	1	0	1
TOTAL	390	349	157	146	621	238	103

Source: 2022 Survey Results

Table 5. Jalan Alianyang Side Friction Data On Monday, June 27, 2022 Right Lane

SIDE FRICTION ALONG 200 METER ON MONDAY (Right)							
Day/ Date	: 27 Juni 2022						
Surveyor	: Joerka, Wifki, Iwan						
Time	: 06.00 - 21.00						
Weather	: Sunny						
Traffic Lane	: West						
Time Interval	Motorcycle		Car		Pedestrian	Vehicle Slow	Vehicle Stop
15 minute	In	Out	In	Out			
06.00-06.15	2	2	1	1	3	3	1
06.15-06.30	2	2	3	2	5	1	0
06.30-06.45	3	3	2	2	2	2	1
06.45-07.00	8	8	1	1	5	4	1
07.00-07.15	10	10	0	0	4	3	3
07.15-07.30	9	9	3	1	10	2	3
07.30-07.45	8	8	2	2	6	2	4
07.45-08.00	7	7	2	3	5	1	3
08.00-08.15	3	3	2	2	3	6	3
08.15-08.30	4	3	1	1	9	2	1
08.30-08.45	6	5	3	2	5	4	2
08.45-09.00	5	3	1	1	8	6	3
09.00-09.15	5	5	1	1	10	5	3
09.15-09.30	4	3	3	2	8	11	4
09.30-09.45	4	3	2	2	8	6	2
09.45-10.00	3	4	1	1	7	3	3
10.00-10.15	2	4	1	1	14	9	5
10.15-10.30	1	2	3	2	7	2	1
10.30-10.45	3	3	2	2	9	3	1
10.45-11.00	6	6	3	2	12	6	3
11.00-11.15	6	6	1	1	16	5	4
11.15-11.30	4	4	2	1	7	2	2
11.30-11.45	11	11	3	3	40	8	3
11.45-12.00	14	10	5	4	39	29	11
12.00-12.15	11	11	4	2	11	8	2
12.15-12.30	12	12	5	3	17	5	3
12.30-12.45	9	9	2	2	7	4	2
12.45-13.00	7	7	1	1	7	3	1
13.00-13.15	2	2	1	1	4	1	1
13.15-13.30	1	1	1	1	6	2	1
13.30-13.45	2	1	0	0	4	2	2
13.45-14.00	1	2	2	2	5	1	4
14.00-14.15	1	1	1	1	7	2	3
14.15-14.30	2	2	1	1	11	3	2
14.30-14.45	6	4	1	1	6	1	1
14.45-15.00	6	8	2	2	7	2	0
15.00-15.15	9	9	4	4	13	2	1
15.15-15.30	12	13	9	8	30	4	1
15.30-15.45	14	13	7	6	17	3	1
15.45-16.00	9	11	3	2	7	2	1
16.00-16.15	11	11	4	4	3	1	2
16.15-16.30	8	8	3	3	2	2	2
16.30-16.45	7	7	2	2	8	2	4
16.45-17.00	7	7	1	1	3	1	2
17.00-17.15	3	5	3	2	6	2	1
17.15-17.30	1	1	2	2	5	1	0
17.30-17.45	4	4	4	4	3	1	0
17.45-18.00	8	5	4	3	9	1	1
18.00-18.15	6	9	3	2	10	3	1
18.15-18.30	4	4	3	1	8	2	0
18.30-18.45	2	1	0	1	12	4	0
18.45-19.00	1	2	1	1	29	5	1
19.00-19.15	2	2	1	1	20	5	3
19.15-19.30	2	2	1	1	11	3	1
19.30-19.45	2	2	2	2	3	2	0
19.45-20.00	3	2	2	2	7	2	0
20.00-20.15	3	3	2	2	5	1	1
20.15-20.30	3	4	1	1	4	2	1
20.30-20.45	3	4	1	1	2	2	0
20.45-21.00	2	2	1	1	1	1	0
TOTAL	316	315	133	114	552	213	113

Source: 2022 Survey Results

Based on the results of a 4-day Jalan Alianyang side friction data survey, side obstacle data from two lanes of Jalan Alianyang were obtained on Monday, Friday, Saturday and Sunday.

Table 6. Jalan Alianyang Speed Data On Monday June 27, 2022

SPEED ALONG 200 METER ON MONDAY						
Time Interval	Distance	Travel Time	Speed			Vehicle Type
60 minte	M	Second	M / Second		Km / Hour	
06.00-07.00	200	14,55	13,75	3,6	49,48	Motor / Mobil
07.00-08.00	200	18,24	10,96	3,6	39,47	Motor / Mobil
08.00-09.00	200	18,44	10,85	3,6	39,05	Motor / Mobil
09.00-10.00	200	19,03	10,51	3,6	37,83	Motor / Mobil
10.00-11.00	200	19,40	10,31	3,6	37,11	Motor / Mobil
11.00-12.00	200	19,54	10,24	3,6	36,85	Motor / Mobil
12.00-13.00	200	18,33	10,91	3,6	39,28	Motor / Mobil
13.00-14.00	200	24,06	8,31	3,6	29,93	Motor / Mobil
14.00-15.00	200	23,11	8,65	3,6	31,16	Motor / Mobil
15.00-16.00	200	20,45	9,78	3,6	35,21	Motor / Mobil
16.00-17.00	200	23,36	8,56	3,6	30,82	Motor / Mobil
17.00-18.00	200	19,10	10,47	3,6	37,70	Motor / Mobil
18.00-19.00	200	17,55	11,40	3,6	41,03	Motor / Mobil
19.00-20.00	200	18,02	11,10	3,6	39,96	Motor / Mobil
20.00-21.00	200	18,51	10,80	3,6	38,90	Motor / Mobil

Source: 2022 Survey Results

Based on the results of the Jalan Alianyang speed data survey for 4 days, speed data from two lanes of Jalan Alianyang were obtained on Monday, Friday, Saturday and Sunday.

3.1 Parking Characteristics Analysis (Cars & Motorcycles)

The analysis of parking characteristics is intended to assess the service and parking problems that occur at the study location based on the basic characteristics of parking, in order to find out parking conditions at the research survey location.

Table 7. Parking Accumulation and Parking Volume Data Monday 27 June 2022

ACUMULATION AND PARKING VOLUME ON MONDAY JUNE 27 2022							
Time	Motorcycle		Acumulation	Car		Acumulation	Volume
	In	Out		In	Out		
06.00-07.00	37	32	5	15	14	1	52
07.00-08.00	78	80	3	29	25	5	159
08.00-09.00	38	25	16	14	12	7	211
09.00-10.00	39	34	21	14	13	8	264
10.00-11.00	25	28	18	19	14	13	308
11.00-12.00	61	57	22	27	25	15	396
12.00-13.00	78	78	22	25	22	18	499
13.00-14.00	19	13	28	11	7	22	529
14.00-15.00	27	26	29	10	12	20	566
15.00-16.00	93	96	26	40	36	24	699
16.00-17.00	77	69	34	17	17	24	793
17.00-18.00	33	32	35	28	23	29	854
18.00-19.00	39	37	37	15	12	32	908
19.00-20.00	34	26	45	14	16	30	956
20.00-21.00	28	31	42	12	12	30	996

Source: 2022 Data Analysis Results

Table 8. Parking Duration Data (On Street Parking)

PATROL PARKING DURATION *(ON STREET PARKING)*									
No	Parking Duration	Vehicle Total Number				Persentase Kendaraan			
	(Minute)	Monday	Friday	Saturday	Monday	Monday	Friday	Saturday	Monday
1	0-15	182	244	177	150	95,79%	97,99%	96,20%	96,77%
2	16-30	3	2	4	3	1,58%	0,80%	2,17%	1,94%
3	31-45	2	3	2	1	1,05%	1,20%	1,09%	0,65%
4	46-60	1	0	1	1	0,53%	0,00%	0,54%	0,65%
5	61-75	0	0	0	0	0,00%	0,00%	0,00%	0,00%
6	76-90	0	0	0	0	0,00%	0,00%	0,00%	0,00%
7	91-105	2	0	0	0	1,05%	0,00%	0,00%	0,00%
8	106-120	0	0	0	0	0,00%	0,00%	0,00%	0,00%
	Total	190	249	184	155	100,00%	100,00%	100,00%	100,00%

Source: 2022 Data Analysis Results

The space that can be used by drivers with an on-street parking system at the study site along 200 m is as many as 40 units of car parking space.

Table 9. Car Parking Index Data on Monday, June 27, 2022

Car Parking Index Data On Monday (June 27 2022)		
Time	Parking Acumulation	Parking Index (%)
06.00-07.00	1	2,5
07.00-08.00	5	12,5
08.00-09.00	7	17,5
09.00-10.00	8	20,0
10.00-11.00	13	32,5
11.00-12.00	15	37,5
12.00-13.00	18	45,0
13.00-14.00	22	55,0
14.00-15.00	20	50,0
15.00-16.00	24	60,0
16.00-17.00	24	60,0
17.00-18.00	29	72,5
18.00-19.00	32	80,0
19.00-20.00	30	75,0
20.00-21.00	30	75,0

Source: 2022 Data Analysis Results

In table 9 monday (June 27, 2022) the highest parking index occurred in the interval of 18.00 – 19.00 where as many as 32 vehicles parked with a car parking index along the study site of 200 m of 80%. This shows that not all parts of the road segment at the study site are used as on-street parking lots.

The space that can be used by drivers with an on-street parking system at the study site along 200 m is as many as 91 units of motorcycle parking space unit.

Table 10 Motorcycle Parking Index Data on Monday, June 27, 2022

Motorcycle Parking Index Data On Monday (June 27 2022)		
Time	Parking Acumulation	Parking Index (%)
06.00-07.00	5	5,5
07.00-08.00	3	3,3
08.00-09.00	16	17,6
09.00-10.00	21	23,1
10.00-11.00	18	19,8
11.00-12.00	22	24,2
12.00-13.00	22	24,2
13.00-14.00	28	30,8
14.00-15.00	29	31,9
15.00-16.00	26	28,6
16.00-17.00	34	37,4
17.00-18.00	35	38,5
18.00-19.00	37	40,7
19.00-20.00	45	49,5
20.00-21.00	42	46,2

Source: 2022 Data Analysis Results

In table 10 Mondays occur at intervals of 19.00 - 20.00 where as many as 45 vehicles parked with a motorcycle parking index of 49.5%. This shows that not all parts of the road segment in the study location are used as on-street parking lots.

Table 11. Maximum Car Turn Over Data

MAXIMUM CAR *TURN OVER DATA*						
Study Time	Parking Space (200 M)	Parking Volume	Turn Over Level	Available Parking Space	Parking Volume	Turn Over Level
MONDAY	40	290	7,25	80	290	3,63
FRIDAY	40	278	6,95	80	278	3,48
SATURDAY	40	190	4,75	80	190	2,38
MONDAY	40	209	5,23	80	209	2,61

Source: 2022 Data Analysis Results

The car turnover rate obtained based on data analysis shows that the maximum vehicle turnover rate occurred on Monday along the 200 m survey area of 7.25 vehicle / room / hour and along the Jalan Alianyang segment of 3.63 vehicle / space / hour.

Table 12. Maximum Motorcycle Turn Over Data

MAXIMUM MOTORCYCLE *TURN OVER DATA*						
Study Time	Parking Space (200 M)	Parking Volume	Turn Over Level	Availabl eParking Space	Parking Volume	Turn Over Level
MONDAY	91	706	7,76	182	706	3,88
FRIDAY	91	765	8,41	182	765	4,20
SATURDAY	91	587	6,45	182	587	3,23
MONDAY	91	571	6,27	182	571	3,14

Source: 2022 Data Analysis Results

The motorcycle turnover rate obtained based on data analysis showed that the maximum vehicle turnover rate occurred on Fridays along the 200 m survey area of 8.41 vehicle /room / hour and along the Jalan Alianyang segment of 4.20 vehicle / space / hour.

Table 13. Motorcycle Parking Space Requirement Data

MOTORCYCLE PARKING SPACE REQUIREMENT							
Study Time	Parking Space (200 M)	Maximum Akumulation	SRP Motorcycle	KRP Motorcycle (m^2)	Available Parking Space	Maximum Akumulation	KRP Motorcycle (m^2)
MONDAY	49,5	45	1,5	33,4	24,9	45	16,8
FRIDAY	48,4	44	1,5	31,9	24,2	44	16,0
SATURDAY	44,0	40	1,5	26,4	22,0	40	13,2
MONDAY	27,5	25	1,5	10,3	13,7	25	5,2

Source: 2022 Data Analysis Results

Table 14. Car Parking Space Requirement Data

MOTORCYCLE PARKING SPACE REQUIREMENT							
Study Time	Parking Space (200 M)	Maximum Akumulation	SRP Car	KRP Car (m^2)	Available Parking Space	Maximum Akumulation	KRP Car (m^2)
MONDAY	80,0	32	11,5	294,4	40,0	32	147,2
FRIDAY	42,5	17	11,5	83,1	21,3	17	41,5
SATURDAY	55,0	22	11,5	139,2	27,5	22	69,6
MONDAY	52,5	21	11,5	126,8	26,3	21	63,4

Source: 2022 Data Analysis Results

Based on the results of the analysis calculation, the need for parking space needed on the Jalan Alianyang Pontianak is:

a) Based on table 13 the space required for a motorcycle to park for 200 m is 33.4 m^2 and along the Jalan Alianyang section which is 16.8 m^2.

b) Based on table 14 the space required for a car to park for 200 m is 294.4 m^2 and along the Jalan Alianyang section is 147.2 m^2.

3.2 Traffic Volume Analysis

Based on data obtained from the results of research surveys conducted on Friday, Saturday, Sunday, and Monday. The traffic volume of peak hours that occurs on the Jalan Alianyang section Pontianak can be seen that based on Table 15 and Figure 4 the volume of vehicles on Monday and Friday is 1486.7 smp / hour at 14.00 – 15.00.

Table 15. Traffic Volume Data On Monday 27 June 2022

TRAFFIC VOLUME DATA ON MONDAY JUNE 27 2022								
Time Interval	Vehicle Type			Total	emp			Total Q
60 minute	MC	LV	HV	vehicle /hour	MC	LV	HV	smp/hour
					0,4	1	1,3	
06.00-07.00	1018	156	5	1179	407,2	156	6,5	569,7
07.00-08.00	1953	289	6	2248	781,2	289	7,8	1078
08.00-09.00	2222	363	8	2593	888,8	363	10,4	1262,2
09.00-10.00	2308	444	13	2765	923,2	444	16,9	1384,1
10.00-11.00	2373	430	19	2822	949,2	430	24,7	1403,9
11.00-12.00	2276	332	21	2629	910,4	332	27,3	1269,7
12.00-13.00	1910	283	12	2205	764	283	15,6	1062,6
13.00-14.00	2563	433	12	3008	1025,2	433	15,6	1473,8
14.00-15.00	2437	495	13	2945	974,8	495	16,9	1486,7
15.00-16.00	2380	426	9	2815	952	426	11,7	1389,7
16.00-17.00	2408	473	6	2887	963,2	473	7,8	1444
17.00-18.00	1891	424	6	2321	756,4	424	7,8	1188,2
18.00-19.00	1643	394	3	2040	657,2	394	3,9	1055,1
19.00-20.00	1796	375	3	2174	718,4	375	3,9	1097,3
20.00-21.00	1951	409	2	2362	780,4	409	2,6	1192

Source: 2022 Data Analysis Results

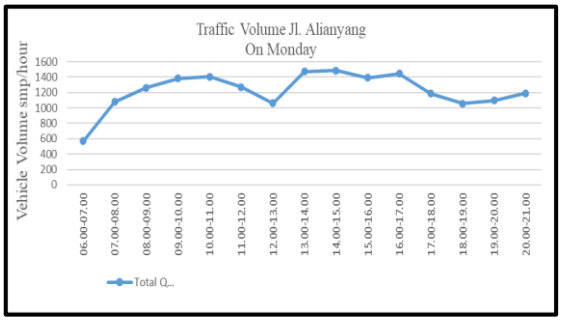

Figure 5. Traffic Fluctuation Chart On Monday June 27, 2022

3.3 Road Section Performance Analysis

The analysis carried out in this study is the analysis of road capacity, side friction analysis, saturation degree analysis, and traffic density analysis.

Table 16. Road Capacity Data Without On Street Parking

Description	Without *On street Parking*	
Basic Capasity (Co)	2900	
Lane Width (Fcw)	9 m	1,25
Direction Seperator (FCsp)	50 - 50	1,00
Side Friction (FCsf)	VH	0,97
City Size (FCcs)	0.5 - 1.0	0,94
Actual Capasity (C)	3305,275	

Source: 2022 Data Analysis Results

The result of the calculation of road capacity, on the Jalan Alianyang section without On Street Parking the effective width of the road is 9 m so that the Road Capacity is obtained

C = Co x Fcw x FCsp x FCsf x FCcs

= 2900 x 1,25 x 1,00 x 0,97 x 0,94 = 3305,275

Table 17. Road Capacity Data With On Street Parking

Description	With *On street Parking*	
Basic Capasity (Co)	2900	
Lane Width (Fcw)	5 m	0,56
Direction Seperator (FCsp)	50 - 50	1,00
Side Friction (FCsf)	VH	0,97
City Size (FCcs)	0.5 - 1.0	0,94
Actual Capasity (C)	1480,7632	

Source: 2022 Data Analysis Results

The result of the calculation of road capacity, on the Jalan Alianyang section with On Street Parking, the effective width of the road becomes 5 m so that the Road Capacity is obtained

C = Co x Fcw x FCsp x FCsf x FCcs

= 2900 x 0,56 x 1,00 x 0,97 x 0,94 = 1480.7632

Table 18. Side Friction Data Monday 27 June 2022

SIDE FRICTION ALONG 200 METER ON MONDAY JUNE 27 2022							
Time Interval	Motorcycle		Car		Pedestrian	Vehicle	Vehicle
60 minute	In	Out	In	Out		Slow	Stop
06.00-07.00	37	32	15	14	44	19	9
07.00-08.00	78	80	29	25	71	22	19
08.00-09.00	38	25	14	12	88	37	14
09.00-10.00	39	34	14	13	68	60	29
10.00-11.00	25	28	19	14	88	62	28
11.00-12.00	61	57	27	25	126	65	23
12.00-13.00	78	78	25	22	164	45	12
13.00-14.00	19	13	11	7	36	15	15
14.00-15.00	27	26	10	12	45	16	8
15.00-16.00	93	96	40	36	110	33	11
16.00-17.00	77	69	17	17	35	15	17
17.00-18.00	33	32	28	23	73	7	7
18.00-19.00	39	37	15	12	121	20	7
19.00-20.00	34	26	14	16	79	24	11
20.00-21.00	28	31	12	12	25	11	6
TOTAL	706	664	290	260	1173	451	216

Source: 2022 Data Analysis Results

Average (PED x F. weight) = 1173 x 0.5 = 586,5

Average (PSV x F. weight) = 216 x 1.00 = 216

Average (EEV x F. weight) = 290 x 0.7 = 203

Average (SMV x F. weight) = 451 x 0.4 = 180,4

So, the total weight of the frequency of side friction on weekdays is:

Total = (PED x F. weight) + (PSV x F. weight) + (EEV x F. weight) + (SMV x F. weight)

= (586,5) + (216) + (203) + (180,4)

= 1185,9 event weight.

The number of weighted frequencies per 200 m every 1 hour on Monday was 1185.9. So the side friction class is categorized as very high (VH), with an average road shoulder of 1.0 m, then FFVsf = 0.79 (MKJI 1997).

Table 19. Degree Of Saturation Data Without On Street Parking Monday, June 27, 2022

DEGREE OF SATURATION DATA WITHOUT ON STREET PARKING ON MONDAY JUNE 27 2022			
Time Interval 60 minute	Traffic Volume (smp/jam)	Capasity (smp/jam)	V/C Ratio
06.00-07.00	569,7	3305,275	0,17
07.00-08.00	1078	3305,275	0,33
08.00-09.00	1262,2	3305,275	0,38
09.00-10.00	1384,1	3305,275	0,42
10.00-11.00	1403,9	3305,275	0,42
11.00-12.00	1269,7	3305,275	0,38
12.00-13.00	1062,6	3305,275	0,32
13.00-14.00	1473,8	3305,275	0,45
14.00-15.00	1486,7	3305,275	0,45
15.00-16.00	1389,7	3305,275	0,42
16.00-17.00	1444	3305,275	0,44
17.00-18.00	1188,2	3305,275	0,36
18.00-19.00	1055,1	3305,275	0,32
19.00-20.00	1097,3	3305,275	0,33
20.00-21.00	1192	3305,275	0,36

Source: 2022 Data Analysis Results

Table 20. Degree of Saturation Data With On Street Parking Monday, June 27, 2022

DEGREE OF SATURATION DATA WITH ON STREET PARKING ON MONDAY JUNE 27 2022			
Time Interval 60 minute	Traffic Volume (smp/jam)	Capasity (smp/jam)	V/C Ratio
06.00-07.00	569,7	1480,7632	0,38
07.00-08.00	1078	1480,7632	0,73
08.00-09.00	1262,2	1480,7632	0,85
09.00-10.00	1384,1	1480,7632	0,93
10.00-11.00	1403,9	1480,7632	0,95
11.00-12.00	1269,7	1480,7632	0,86
12.00-13.00	1062,6	1480,7632	0,72
13.00-14.00	1473,8	1480,7632	1,00
14.00-15.00	1486,7	1480,7632	1,00
15.00-16.00	1389,7	1480,7632	0,94
16.00-17.00	1444	1480,7632	0,98
17.00-18.00	1188,2	1480,7632	0,80
18.00-19.00	1055,1	1480,7632	0,71
19.00-20.00	1097,3	1480,7632	0,74
20.00-21.00	1192	1480,7632	0,80

Source: 2022 Data Analysis Results

Based on data and analysis calculations, the value of the degree of saturation of days on weekdays, and weekends is obtained as follows:

On Monday the maximum v/c ratio without On Street Parking is:

DS = 1486,7 / 3305,275

DS = 0,45

On Monday the maximum v/c ratio value with On Street Parking is:

DS = 1486,7 / 1480,7632

DS = 1,00

Table 21. Freeflow Speed Data With On Street Parking Monday June 27, 2022

Free Flow Speed (FV)	FVo	FVw	FFVsf	FFVsc	Number km / hour
Without On Street Parking	44	4	0,97	0,95	44,232
With On Street Parking	44	-9,5	0,97	0,95	31,792

Source: 2022 Data Analysis Results

FV = (FVo +FVw) x FFVsf x FFvsc

= (44+4) x 0.79 x 0,95

= 44,232 km/h

The results of the free flow speed, on the Jalan Alianyang section, data were taken for 4 days without On Street Parking, the effective width of the road became 9 m so that it was obtained FV = 44.232 km / h.

FV = (FVo +FVw) x FFVsf x FFvsc

= (44+(-9,5)) x 0.79 x 0,95

= 31,792 km/h

The result of the calculation of the free flow speed, on the Jalan Alianyang section, data was taken for 4 days with On Street Parking, the effective width of the road became 5 m so that it was obtained FV = 31,792 km / h.

Table 22. Density Data On Friday June 24 2022

DENSITY DATA ON **FRIDAY JUNE 24 2022**			
Time Interval	**Traffic Volume**	**Speed**	**Density**
60 minute	**vehicle / Hour**	**Km / Hour**	**vehicle / Hour**
06.00-07.00	432,4	50,70	8,53
07.00-08.00	973,8	41,26	23,60
08.00-09.00	1200,4	39,34	30,51
09.00-10.00	1319,4	38,96	33,86
10.00-11.00	1393,5	37,44	37,22
11.00-12.00	1233,4	36,92	33,40
12.00-13.00	1054,3	39,13	26,94
13.00-14.00	1478,7	29,75	49,70
14.00-15.00	1422,2	31,92	44,55
15.00-16.00	1388,1	35,91	38,65
16.00-17.00	1422,1	31,16	45,65
17.00-18.00	1173,6	38,86	30,20
18.00-19.00	1064,1	41,19	25,83
19.00-20.00	1064,4	41,03	25,94
20.00-21.00	1154,8	39,26	29,42

Source: 2022 Data Analysis Results

Table 23. Density Data On Saturday June 25 2022

DENSITY DATA ON **SATURDAY JUNE 25 2022**			
Time Interval	**Traffic Volume**	**Speed**	**Density**
60 minute	**vehicle / Hour**	**Km / Hour**	**vehicle / Hour**
06.00-07.00	399,2	51,25	7,79
07.00-08.00	848,7	43,45	19,53
08.00-09.00	1019,3	41,38	24,63
09.00-10.00	1182,4	42,28	27,97
10.00-11.00	972,6	41,26	23,57
11.00-12.00	943,8	41,50	22,74
12.00-13.00	1234,2	35,63	34,64
13.00-14.00	1353,6	31,18	43,41
14.00-15.00	1187,7	41,62	28,54
15.00-16.00	1168,7	41,28	28,31
16.00-17.00	1356,6	31,01	43,75
17.00-18.00	1119,3	39,05	28,67
18.00-19.00	1232	37,02	33,28
19.00-20.00	1462,5	30,74	47,57
20.00-21.00	1497,2	29,84	50,18

Source: 2022 Data Analysis Results

By looking at the relationship between current, speed and density, the densest density value is obtained, namely for weekdays (Friday) and weekends (Saturdays).

Table 24. Level Of Service Data On Monday June 27 With On Street Parking

LEVEL OF SERVICE DATA ON MONDAY JUNE 27 2022 WITH ON STREET PARKING				
Time Interval 60 minute	V/C Ratio	Level Of Service	Average Speed	Traffic Condition
06.00-07.00	0,38	C	49,48	Heavy traffic,limited speed
07.00-08.00	0,73	D	39,47	Saturated traffic, low starting speed
08.00-09.00	0,85	E	39,05	Traffic starts to jam, slow speed
09.00-10.00	0,93	E	37,83	Traffic starts to jam, slow speed
10.00-11.00	0,95	E	37,11	Traffic starts to jam, slow speed
11.00-12.00	0,86	E	36,85	Traffic starts to jam, slow speed
12.00-13.00	0,72	E	39,28	Traffic starts to jam, slow speed
13.00-14.00	1,00	E	29,93	Traffic starts to jam, slow speed
14.00-15.00	1,00	E	31,16	Traffic starts to jam, slow speed
15.00-16.00	0,94	E	35,21	Traffic starts to jam, slow speed
16.00-17.00	0,98	E	30,82	Traffic starts to jam, slow speed
17.00-18.00	0,80	D	37,70	Saturated traffic, low starting speed
18.00-19.00	0,71	D	41,03	Saturated traffic, low starting speed
19.00-20.00	0,74	D	39,96	Saturated traffic, low starting speed
20.00-21.00	0,80	D	38,90	Saturated traffic, low starting speed

Source: 2022 Data Analysis Results

So we get the results of the level of road service with on street parking on Monday. For the level of road service after on street parking is up to level E, where the value of V / C Ratio reaches 1.00.

Table 25. Level Of Service Data On Saturday June 25 With On Street Parking

LEVEL OF SERVICE DATA ON SATURDAY JUNE 25 2022 WITH ON STREET				
Time Interval 60 minute	V/C Ratio	Level Of Service	Average Speed	Traffic Condition
06.00-07.00	0,27	C	51,25	Heavy traffic,limited speed
07.00-08.00	0,57	D	43,45	Saturated traffic, low starting speed
08.00-09.00	0,69	D	41,38	Saturated traffic, low starting speed
09.00-10.00	0,80	D	42,28	Saturated traffic, low starting speed
10.00-11.00	0,66	D	41,26	Saturated traffic, low starting speed
11.00-12.00	0,64	D	41,50	Saturated traffic, low starting speed
12.00-13.00	0,83	E	35,63	Traffic starts to jam, slow speed
13.00-14.00	0,91	E	31,18	Traffic starts to jam, slow speed
14.00-15.00	0,80	D	41,62	Saturated traffic, low starting speed
15.00-16.00	0,79	D	41,28	Saturated traffic, low starting speed
16.00-17.00	0,92	E	31,01	Traffic starts to jam, slow speed
17.00-18.00	0,76	D	39,05	Saturated traffic, low starting speed
18.00-19.00	0,83	E	37,02	Traffic starts to jam, slow speed
19.00-20.00	0,99	E	30,74	Traffic starts to jam, slow speed
20.00-21.00	1,01	F	29,84	Traffic jam, very low speed

Source: 2022 Data Analysis Results

There can also be a result of the level of road service with on street parking on Saturdays. For the level of road service after there is on street parking is up to level F, where the value of V / C Ratio reaches 1.01.

3.4 Analysis of the Impact of On Street Parking on Road Section Performance

The analysis carried out in this study is the analysis of side friction, average speed, and the degree of saturation that exists due to on street parking that occurs on the Alianyang Street Section, Pontianak City.

Table 26. Side Friction Data On Peak Hour With On Street Parking

Day/ Date	SIDE FRICTION WITH *ON STREET PARKING*						
Monday, June 27 2022	Time Interval	FED (0.5)	PSV (1.0)	EEV (0.7)	SMV (0.4)	Total	Category
	10.00-11.00	359	99	91	200	422,2	M
	13.00-14.00	685	149	154	325	729,3	H
	16.00-17.00	875	185	221	389	932,8	VH
Friday, June 24 2022	Time Interval	FED (0.5)	PSV (1.0)	EEV (0.7)	SMV (0.4)	Total	Category
	10.00-11.00	332	86	95	185	392,5	M
	13.00-14.00	705	127	183	295	725,6	H
	16.00-17.00	857	158	234	331	882,7	H
Saturday, June 25 2022	Time Interval	FED (0.5)	PSV (1.0)	EEV (0.7)	SMV (0.4)	Total	Category
	10.00-11.00	314	57	61	118	303,9	M
	13.00-14.00	404	81	103	150	415,1	M
	16.00-17.00	583	104	143	213	580,8	H
Sunday, June 26 2022	Time Interval	FED (0.5)	PSV (1.0)	EEV (0.7)	SMV (0.4)	Total	Category
	10.00-11.00	296	51	59	102	281,1	L
	13.00-14.00	395	73	116	136	406,1	M
	16.00-17.00	565	102	162	187	572,7	H

Source: 2022 Data Analysis Results

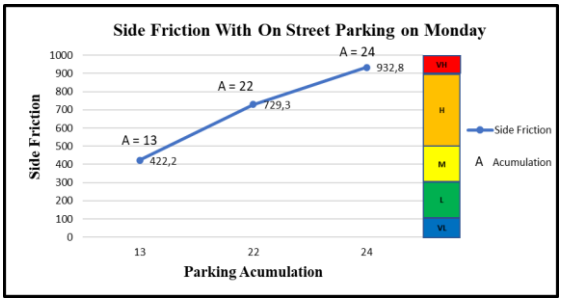

Figure 6. Side Friction On Street Parking Fluctuation Chart Monday June 27, 2022

Table 27. Average Speed Data On Peek Hour With On Street Parking

Day/ Date	AVERAGE SPEED WITH *ON STREET PARKING*					
Monday, June 27 2022	Time Interval	Distance	Travel Time	Speed		
	60 minute	M	Second	M / Second		Km / Hour
	10.00-11.00	200	19,40	10,31	3,6	37,11
	13.00-14.00	200	24,06	8,31	3,6	29,93
	16.00-17.00	200	23,36	8,56	3,6	30,82
Friday, June 24 2022	Time Interval	Distance	Travel Time	Speed		
	60 minute	M	Second	M / Second		Km / Hour
	10.00-11.00	200	19,23	10,40	3,6	37,44
	13.00-14.00	200	24,20	8,26	3,6	29,75
	16.00-17.00	200	23,11	8,65	3,6	31,16
Saturday, June 25 2022	Time Interval	Distance	Travel Time	Speed		
	60 minute	M	Second	M / Second		Km / Hour
	10.00-11.00	200	17,45	11,46	3,6	41,26
	13.00-14.00	200	23,09	8,66	3,6	31,18
	16.00-17.00	200	23,22	8,61	3,6	31,01
Sunday, June 27 2024	Time Interval	Distance	Travel Time	Speed		
	60 minute	M	Second	M / Second		Km / Hour
	10.00-11.00	200	18,06	11,07	3,6	39,87
	13.00-14.00	200	20,45	9,78	3,6	35,21
	16.00-17.00	200	22,43	8,92	3,6	32,10

Source: 2022 Data Analysis Results

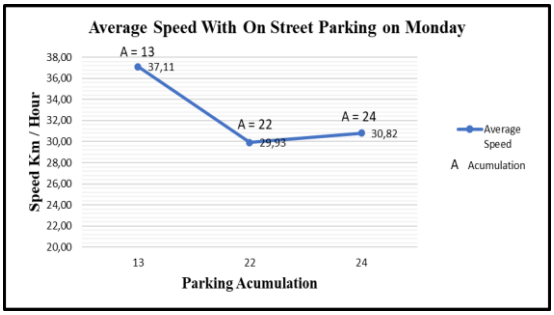

Figure 7. Average Speed On Street Parking Fluctuation Chart Monday June 27, 2022

Table 28. Degree Of Saturation Data On Peek Hour With On Street Parking

Day/ Date	DEGREE OF SATURATION WITH *ON STREET PARKING*			
Monday, June 27 2022	Time Interval 60 minute	Traffic Volume (smp/hour)	Capasity (smp/hour)	V/C Ratio
	10.00-11.00	1403,90	1480,7632	0,95
	13.00-14.00	1473,8	1480,7632	1,00
	16.00-17.00	1444	1480,7632	0,98
Friday, June 24 2022	Time Interval 60 minute	Volume Lalu Lintas (smp/jam)	Kapasitas (smp/jam)	V/C Ratio
	10.00-11.00	1393,50	1480,7632	0,94
	13.00-14.00	1478,7	1480,7632	1,00
	16.00-17.00	1422,1	1480,7632	0,96
Saturday, June 25 2022	Time Interval 60 minute	Traffic Volume (smp/hour)	Capasity (smp/hour)	V/C Ratio
	10.00-11.00	972,60	1480,7632	0,66
	13.00-14.00	1353,6	1480,7632	0,91
	16.00-17.00	1356,6	1480,7632	0,92
Sunday, June 26 2022	Time Interval 60 minute	Traffic Volume (smp/hour)	Capasity (smp/hour)	V/C Ratio
	10.00-11.00	1079,50	1480,7632	0,73
	13.00-14.00	1235,8	1480,7632	0,83
	16.00-17.00	1245,1	1480,7632	0,84

Source: 2022 Data Analysis Results

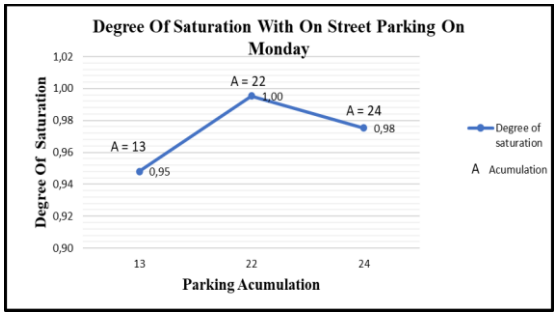

Figure 8. Degree Of Saturation On Street Parking Fluctuation Chart Monday June 27, 2022

From the results of the analysis above, it can be seen that there was a significant decrease in road capacity, causing disruption of traffic flow on Jalan Alianyang. The decrease in capacity as a result of on street parking is mainly during peak hours. From the results of observations, it was also found that parking activities carried out on Jalan Alianyang Pontianak tend to be short because vehicle users only stop to shop and buy snacks along the Jalan Alianyang Pontianak.

4. Conclusions

Based on the analysis and discussion that has been previously presented on the Jalan Alianyang section Pontianak from 24 to 27 June 2022 for 4 days from 06.00 to 21.00, it can be concluded as follows:

1) The characteristics of parking that occur are as follows:

a) The largest accumulation of parking that occurs on weekdays from 19.00 to 20.00 is 45 motorcycles and 30 cars, while on weekends it is 43 motorcycles and 43 cars.

b) The largest parking volume on the Jalan Alianyang section Pontianak on weekdays from 06.00 to 21.00 is 1043 vehicles, while on weekends it is 780 vehicles.

c) The longest duration of on street parking during peak hours on both roads is 90 – 105 minutes with a value of 1.05% and the shortest during peak hours is 00 – 15 minutes with a value of 95.79%.

d) The highest parking index of 200 m is 80% which means that not all road segments are used as parking lots.

2) The performance of the Jalan Alianyang section Pontianak without on street parking on weekdays shows that the road has a Level Of Service C value and a saturation degree of 0.45, while on weekends it is with a C value and a saturation degree of 0.45.

3) The performance that occurs on the Jalan Alianyang Pontianak with on street parking on weekdays has a saturation with an E value and a saturation degree of 1.0, while on weekends it is with an F value and a saturation degree of 1.01.

4) From the results, it is seen that the existence of traffic that has on street parking is a problem that must be solved because it significantly decreases the performance of existing road sections thereby causing traffic congestion and reducing the level of road speed service. Based on parking needs, it can be considered using 1 side of the road for parking so that parking management becomes better.

5. Author's Note

Based on the results of the study, there are several suggestions, including:

1) It is necessary to divert the parking lot from the road (On Street Parking) to the parking lot (Off Street Parking), so as not to hinder the mobility of traffic flow.

2) Provision of proper and well organized land / parking plots around the shoulder of the road in order to reduce the congestion that occurs on Jalan Alianyang, especially during peak hour and reduce the level of On Street Parking.

3) Every shop business owner has a way or arrangement of parking lots and allows their parking lots to be opened to the public so that vehicle drivers can reduce the volume of parking on the Jalan Alianyang.

4) Rearrangement of stalls of merchants and hawker sellers along the way so that buyers' vehicles are neatly arranged.

5) Parking analysis is carried out by separating data, namely the left side and the right side of the road, so that the results obtained are clearer and more accurate.

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