KnE Social Sciences

ICoGPASS
The 3rd International Conference on Governance, Public Administration, and Social Science (ICoGPASS)
Volume 2022

Knowledge E
enriching | engaging | empowering

Research article

Parking Needs in Kabupaten Blora: A Case Study of Provincial Highways

Tetty Sulastry Mardiana

Ministry of Transportation RI

ORCID
Tetty Sulastry Mardiana: https://orcid.org/0000-0001-6622-3184

Abstract.
Street parking is allowed in certain locations of Dinas Perumahan dan Perhubungan (Diperkimhub) Kabupaten Blora (Blora Regency), to meet parking needs; however, some vehicles also park on the street in areas with parking restrictions. Based on the need for providing parking spaces while maintaining traffic order, without reducing the level of road services, this study on the parking needs in Kabupaten Blora (Blora Regency) was carried out. This study used the space unit research method approach (SRP) to determine the supply and demand for on-street parking in Cepu District. The survey showed that the location of the on-street parking on Jalan RSU provides enough parking spaces on weekdays and holidays, with less than 50% occupancy (ranked as medium-low), while the Jalan Pasar Plaza on-street parking area cannot meet the parking space requirement and has a 14.6% parking space shortage. In order to overcome this issue on Jalan Pasar Plaza, utilizing motorcycle parking spaces, which have low occupancy rates, is necessary. The shortage of on-street parking locations only occurs at certain times with an incremental percentage. The on-street parking locations in Blora Regency also need to be updated to avoid parking violations, by installing parking signs, retribution information boards, and parking area barriers. Recommended long-term plans include to develop a parking system using metered parking and subscription parking, provide parking attendant salaries according to the minimum wage, distribute fines to vehicles that park inappropriately, limit parking spaces on the street, and build parking facilities (park and ride) in order to avoid disruptions in road use due to roadsides being used for on-street parking.

Keywords: parking arrangement, on street parking, off street parking, roadside

Corresponding Author: Tetty Sulastry Mardiana; email: tetty_sulastry@yahoo.com

Published 20 May 2022

Publishing services provided by Knowledge E

Selection and Peer-review under the responsibility of the ICoGPASS Conference Committee.

1. INTRODUCTION

1.1. Background

The activity of the population to move from one location to another by using transportation requires supporting transportation infrastructure, namely a parking lot. The Department of Housing and Transportation (Diperkimhub) of Blora Regency (Blora Regency) allows on-street parking to meet parking needs at certain locations, including Jalan RSU and Jalan Pasar Plaza, both roads are commercial areas that require parking

locations to support economic activities, but on the other hand these two roads are the main roads which are quite busy so that they have the potential to cause traffic jams. Another problem was that some vehicles were found parked on the street with no parking signs. Based on the need for parking spaces, efforts need to be made to maintain traffic order in the vicinity so as not to reduce the level of road service, the need for parking spaces with good management and can contribute to local revenue (PAD), and the need for enforcement of regulations for those who If parking is prohibited in a parking area, then a Parking Needs Study in Blora Regency (Blora Regency) is needed. A Provincial Highway Case Study in Cepu Regency is needed.

Studies That Have Been Done Before are :

1. Parking Area Arrangement at Melati Market Puring Parit Baru, Sungai Raya District, Kubu Raya Regency, Imran Dani; Syafaruddin As; Sumiyattinah, 2014, this paper concludes that the need for parking spaces at the research site can be met, also has a lot of space that is used to anticipate the development of vehicles. Based on the building floor area ratio method, the Parking Space Unit (SRP) needs of Pasar Melati Puring Parit Baru are 393 parking spaces. The arrangement and placement of parking spaces is carried out at selected locations, by looking at the following:

a. Have enough road side

b. Distance of intersection or bend

c. Traffic density

d. Value of parking space requirements (to find the length of the parking location).

2. The Impact of Agency Parking Arrangement on City Aesthetics in the Commercial Area of Surabaya City, Shanzah Isminingtias, Journal of Public Policy and Management Volume 5, Number 3, September-December 2017, in this journal concludes that road arrangement is considered not to attract attention because in terms of parking neatness the road is still chaotic, not neatly arranged. The impact of off-street parking in the commercial area of Surabaya City on the aesthetics of the city, namely in terms of the positive impact that is felt is that on-street parking is closer to the destination. The negative impact is that the arrangement of street parking is congestion, roads become narrow, traffic disturbances, disturbing other road users, unsafe, and taking pedestrian rights. What's more, the four roads have a high level of vehicle volume while the road capacity is narrow. Thus, causing the traffic flow to be crowded and congested. Therefore, the arrangement of on-street parking has a negative impact on the aesthetics of the city because the city is visible.

3. Efforts to Increase Regional Original Income (Case Study in Blora Regency), Tri Widayati, Faculty of Economics Untag Semarang, Scientific Journal of Economic and Business Dynamics Vol. 1 No. 2, October 2013, ISSN: 2337-6082 35, this journal concludes that several things can be done to increase local taxes from the SWOT analysis, among others, socialization of local taxes for the development of Blora Regency, direct surveys on the potential of local taxes (how much potential can be explored, whether tax reporting is in accordance with the reality), officers' expenditures to take care of regional tax problems, taxes for which there is no local regulation need to be immediately legalized, for example class c taxes, stipulation of strict sanctions for taxpayers who do not pay taxes, use of modern technology , or computerization in each office that deals with tax issues are connected to each other so that there is no leakage and can calculate how much tax revenue comes in fairly (using the online system), late tax payments, high fees are charged, so that there are no taxpayers arrears in the future, data collection of taxpayers who have not been and taxes.

1.2. Purpose

The paper purpose is to provide recommendations for parking requirements in the survey location Of Kecamatan Cepu (Cepu District), Blora Regency

1.3. Research Question

The research question of this paper are :

1. What is the current condition of the existing parking lot in Cepu District ?
2. How many parking spaces are needed at the survey location ?
3. What kind of improvements are needed to make the parking system run properly ?

2. LITERATURE REVIEW

2.1. Parking Overview

Traffic from origin to destination requires a stopping place called parking space. In order for the vehicle transportation system to be more efficient, places that are considered to be able to generate travel movements must provide adequate service facilities. The

increasing population and increasing vehicle ownership will increase the demand for roads to accommodate traffic activities. The provision of roadside parking lots at certain road locations, both on the road and using part of the pavement, results in a decrease in road capacity, obstruction of traffic flow and ineffective use of roads. Parking is a no moving a vehicle that does not temporary. Included in the meaning of parking is every vehicle that stops at places certain good which is expressed by signs or not, and not solely to raise and or unloading goods and or people. (Abubakar, 1998).

Intended parking characteristics as basic properties give an assessment of parking services and parking problems that occurred in the study area. Based on the parking characteristics, will it can be seen the condition of the parking occurred in the study area such as includes parking volume, accumulation parking, length of time parking, change parking, provision of parking spaces, parking capacity, and parking index. Parking volume is the number of vehicle that uses space parking in a certain parking area in a certain time unit (Tamim, 2003). Parking accumulation is the sum of vehicles that have used parking area plus vehicle which is entered and reduced by outgoing vehicles (Tamin, 2003). Parking accumulation is needed to find out the number of vehicles who have used the parking lot in a certain time interval.

Parking duration is length time used by each vehicle to stop at the parking space. The average length of parking is expressed in hours/vehicle. A parking space will able to serve more vehicles if the parking time is short, compared to the parking space that used by vehicles in long time. According to Oppenlender (1976) in Abu Bakar (1998), Substitution parking or Parking Turn Over shows the level of use of space parking that is obtained by dividing parking volume by number of spaces parking for a certain period of time. Parking space capacity is the maximum capacity of the space in accommodating vehicles, in terms of this is the volume of the user's vehicle the parking facility.

Parking supply or the ability to provide parking is a limit to the size of the number of vehicles that can be accommodated during a certain period of time (during the survey time). The parking index is comparison between parking accumulation with parking capacity. Index value this parking can show how much large parking capacity that has been filled. Parking Space Requirement is the number of places needed for accommodate vehicles that require parking based on facilities and functions of a use land

2.2. Parking Based On Keputusan Dirjen Hubdat No 272 Tahun 1996

Parking is a stationary state of a temporary vehicle (Directorate General of Land Transportation, 1996). According to Law No. 22 of 2009 concerning Road Traffic and Transportation, parking and stopping have different meanings, parking is a condition where the vehicle stops for a while, where the driver leaves the vehicle, while stopping is the state of the vehicle stopping for a while and not stopping. abandoned by the driver. It is legally prohibited to park in the middle of the highway, but parking on the side of the road is generally allowed. Parking facilities are built together with most buildings, to facilitate vehicles using the building. Included in the definition of parking is any vehicle that stops at certain places, whether or not indicated by traffic signs, and not solely for the purpose of raising and/or lowering people and/or goods.

3. RESEARCH METHODOLOGY

This paper, literature review is carried out, primary and secondary data collection, analysis and discussion, as well as determining conclusions and recommendations. This paper also uses quantitative research methods, quantification approach was carried out through weighting the respondents' answers and findings in the field (Sugiyono 2012). In collecting data, there are two types of data, namely primary data and secondary data. Both of these data will be the basis of study to obtain the results of parking lot needed. The following is a description of each of the data above:

Primary data was obtained through direct observation in the field through the implementation of a survey. The surveys carried out are surveys of existing on-street parking locations. This survey was conducted to determine the condition of the location field, the impact of traffic jams/not, the land area is sufficient/not.

The target data generated in the inventory survey are, Parking location, Parking area, Parking capacity, Number of vehicles entering and leaving the parking location, Number of vehicle queues to find parking lots, Parking vehicle circulation time, interviews with Diperkimhub and users of existing parking facilities. It is necessary to calculate the number of parking users on weekdays and weekends to find out the number of parking needs during peak times.

The tools used in this survey are, Walking size, Calculation tools, Stationery, Forms, Camera, Clipboard.

Secondary data obtained from related agencies, among others parking lot size eksisting, locations and number of on-street parking locations in Blora Regency.

4. Data Analysis

Data analysis technique is inductive in nature where the results emphasize meaning rather than generalization. The analysis is carried out by calculating:

1. Parking accumulation is obtained by finding the difference between parked vehicles (Qin) at the time of the study minus the number of vehicles leaving (Qout).

Accumulation = Qin – Qout .....(1)

If there are already vehicles parked at the parking location, then the number of existing vehicles is added up in the number of parking accumulations:

Accumulation = Qin – Qout + X .....(2)

2. Parking duration is the time span of a vehicle parked in a place (in minutes or hours). The duration of vehicle parking is obtained by observing what time a vehicle enters (T in) and the time the vehicle leaves (T Out), the difference from that time is the duration of parking or the length of time the vehicle is parked.

Duration = Tout – Tin .....(3)

The average parking duration is the average value of the parking time of all vehicles.

D = (d1 + d2 + ... + dn) / n .....(4)

3. Turnover time (Parking Turn Over) is obtained from the number of vehicles entering the parking area up to a certain time divided by the available parking space, which is obtained from the maximum parking accumulation. This changeover time can be calculated by the following formula:

Wp = Qp ..... (5)

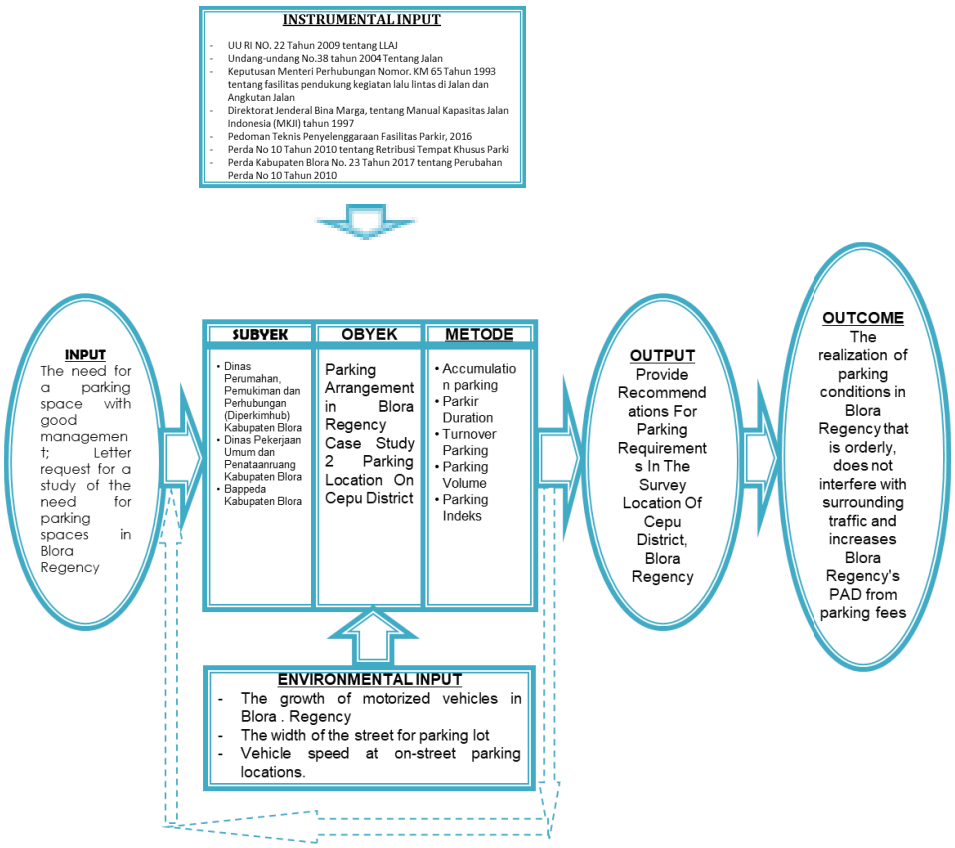
4. Parking Space Needs

The overall value of parking space requirements in the research area can be known, by using the following formula:

Z = Qp x Wp x D .....(6)

5. Availability (Supply) of Parking Spaces at parking locations is obtained from reducing the availability of parking spaces (SRP) with parking space requirements (KRP).

5. Research Paradigm



6. RESULTS AND DISCUSSION

6.1. Survey Location

Survey location was conducted in two parking locations on street parking in Cepu District, namely:

1. RSU Street
2. Plaza Market Street

These two locations are very suitable to be the main research locations because they are the main street and the city center.

6.2. Parking Vehicle Accumulation

The accumulation of vehicle parking on Jalan RSU, Tuesday 20 November 2018 (holidays) is as follows

Figure 1: Layout Location Survey On Street Parking 1 Jl RSU. (Google Satelite; Google Map, Observation, 2018).

Figure 2: Layout Location Survey On Street Parking 2 Jl Pasar Plaza. (Source : Google Satelite; Google Map, Observation, 2018).

Figure 3: Accumulation of vehicle parking on Jalan RSU (Holidays). (Source: Data Processing, 2018).

The highest accumulation of vehicle parking on holidays at the on-street parking location at Jalan RSU, occurred at 09.31-10.00 with a total of 89 vehicles. The accumulation of vehicle parking on Jalan RSU, Wednesday 21 November 2018 (working days) is as follows.

The highest accumulation of vehicle parking on weekdays at the on-street parking location at Jalan RSU, occurred at 09.31-10.00 as many as 47 vehicles. The accumulation

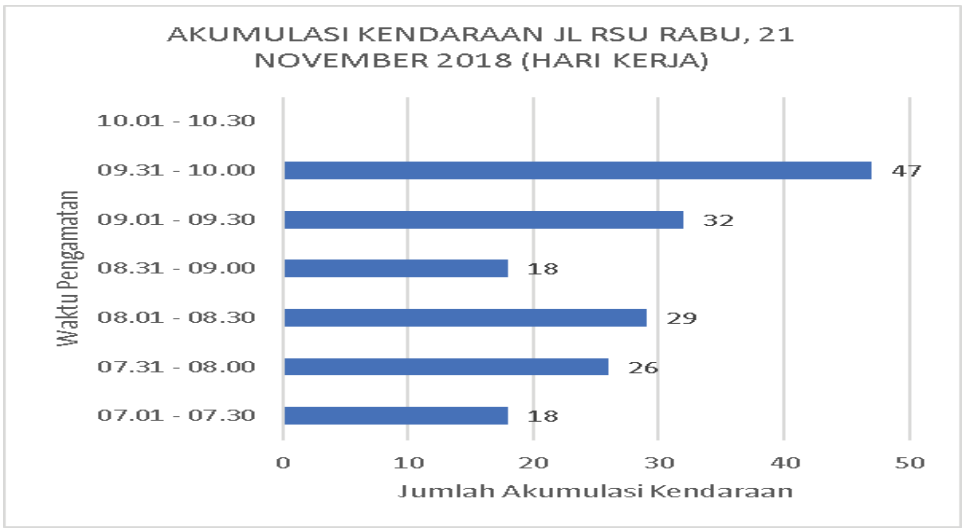


Figure 4: Accumulation of vehicle parking on Jalan RSU (Weekdays). (Source: Data Processing, 2018).

of vehicle parking on Jalan Pasar Plaza, Tuesday 20 November 2018 (holidays) is as follows.

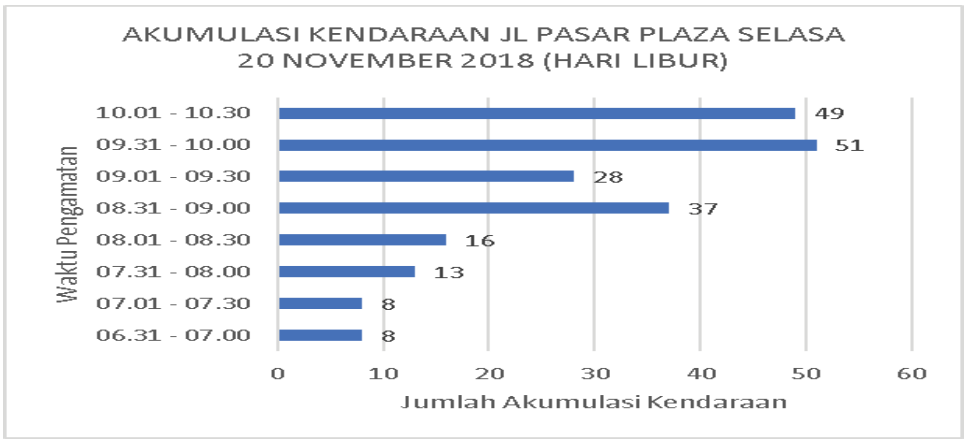


Figure 5: Accumulation of vehicle parking on Jalan Pasar Plaza (Holidays). (Source: Data Processing, 2018).

The highest accumulation of vehicle parking on holidays at the on-street parking area of Jalan Pasar Plaza occurred at 09.31-10 am, with 51 vehicles. The accumulation of vehicle parking on Jalan Pasar Plaza, Wednesday 21 November 2018 (weekdays) is as follows.

The highest accumulation of vehicle parking on weekdays at the on-street parking location of Jalan Pasar Plaza occurred at 07.31-08.00, with 37 vehicles. The comparison of parking accumulation on holidays and weekdays at Jalan RSU is as follows.

Based on the comparison of the highest accumulation of parking areas on holidays and weekdays, Jalan RSU occurred on holidays at 09.31 – 10.00 as many as 89 vehicles.

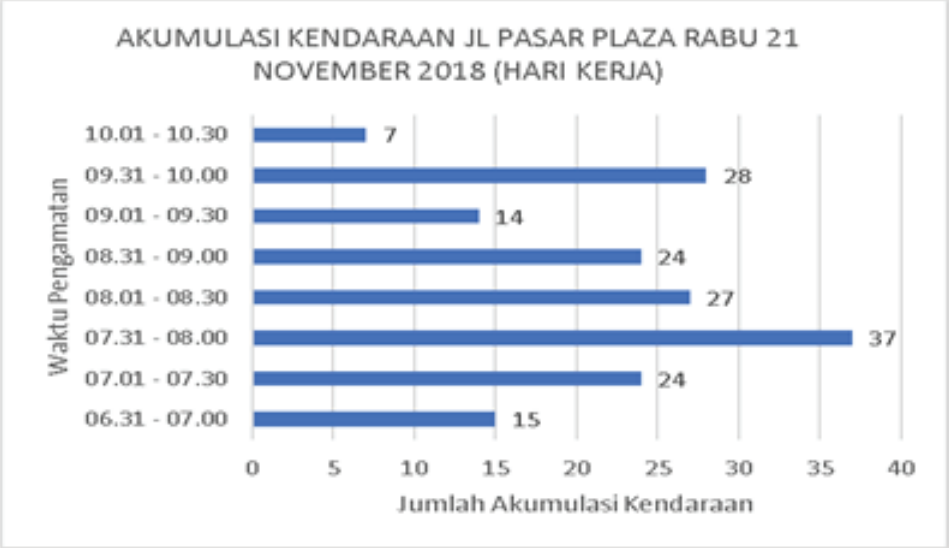


Figure 6: Accumulation of vehicle parking on Jalan Pasar Plaza (Weekdays). (Source: Data Processing, 2018).

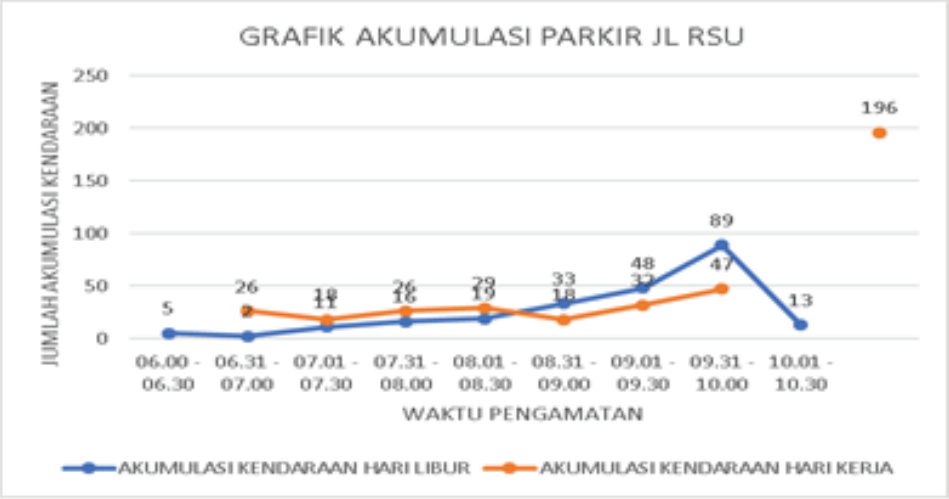


Figure 7: Comparison of Parking Accumulated Holidays and Weekdays on Jalan RSU. (Source: Data Processing, 2018).

The comparison of parking accumulation on holidays and weekdays on Jalan Pasar Plaza is as follows.

Based on the comparison of the highest accumulation of parking area on holidays and weekdays Jl Pasar Plaza occurred on holidays at 09.31 – 10.00 as many as 51 vehicles.

6.3. Parking Duration

The duration of parking for vehicles parked on Jalan RSU on holidays is as follows.

Figure 8: Comparison of Parking Accumulated Holidays and Weekdays at Jalan Pasar Plaza. (Source: Data Processing, 2018)

TABLE 1: RSU Road Vehicle Parking Duration (Holidays).

No	Day/ Date	Location	Type of Vehicle	Parking Space Unit (SRP) m^2	Car Number	Parking Duration (Tout -- Tin) (menit)
1	Tuesday, 20 Novem-ber 2018	Jalan RSU	Car	13	AB7604 AS	120
2			Motorcycle	1.5	K 5824 CY	120
3			Motorcycle	1.5	K 5701 Y	30
4			Car	13	L 1427 ET	30
5			Car	13	S 1573 AV	30
6			Car	13	M 1376 SC	30
7			Motorcycle	1.5	S 5790 BC	45
8			Motorcycle	1.5	S 3178 CR	45
9			Car	13	H 8506 CR	45
10			Motorcycle	1.5	K 8940 DY	45
11			Car	13	K 1726 PN	30
12			Motorcycle	1.5	K 4404 DN	45
13			Car	13	K9297 CN	45
14			Car	13	B 1368 FZD	45
15			Car	13	K 9338 FN	45
16			Car	13	K 8543 N	45
	Average					49.7

Source: Data Processing, 2018

The average duration of parking on Jalan RSU (holidays) is 49.7 minutes ≈ 50 minutes. The duration of parking for vehicles parked on Jalan RSU on weekdays is as follows.

Table 2: RSU Road Vehicle Parking Duration (Working Days).

No	Day/ Date	Location	Type of Vehicle	Parking Space Unit (SRP) m^2	Car Number	Parking Duration (Tout -- Tin) (menit)
1	Wednesday, 21 November 2018	Jalan RSU	Mobil	13	S 3228 AQ	30
2			Motorcycle	1.5	K 5824 CY	15
3			Motorcycle	1.5	L 1153 IN	15
4			Motorcycle	1.5	L 1427 ET	15
5			Motorcycle	1.5	S 1573 AV	15
6			Motorcycle	1.5	M 1376 SC	30
7			Motorcycle	1.5	S 5790 BC	15
8			Motorcycle	1.5	S 3178 CR	15
9			Motorcycle	1.5	H 8506 CR	15
10			Motorcycle	1.5	K 8940 DY	30
11			Motorcycle	1.5	K 1726 PN	30
12			Motorcycle	1.5	K 4404 DN	30
13			Car	13	K9297 CN	30
14			Car	13	B 1368 FZD	15
15			Car	13	K 9338 FN	30
16			Motorcycle	1.5	K 8543 N	30
	Average					22.5

Source: Data Processing, 2018

The average duration of vehicle parking on Jalan RSU (weekdays) is 22.5 minutes 23 minutes. The volume of parking for vehicles that have used parking spaces in a certain parking area in a certain time unit on Jalan RSU is as follows.

The highest volume of parking vehicles on Jalan RSU on holidays is 71 cars and 165 motorcycles, the volume of vehicles parked on Jalan RSU on weekdays is 118 cars and 274 motorcycles. The volume of parking for vehicles that have used parking spaces in a certain parking area in a certain time unit on Jalan Pasar Plaza is as follows.

The highest volume of parking vehicles on Jl Pasar Plaza on holidays is 64 cars and 150 motorcycles, the volume of vehicles parked on Jalan Pasar Plaza on weekdays is 53 cars and 123 motorcycles. There was a 9% increase in holiday parking volumes.

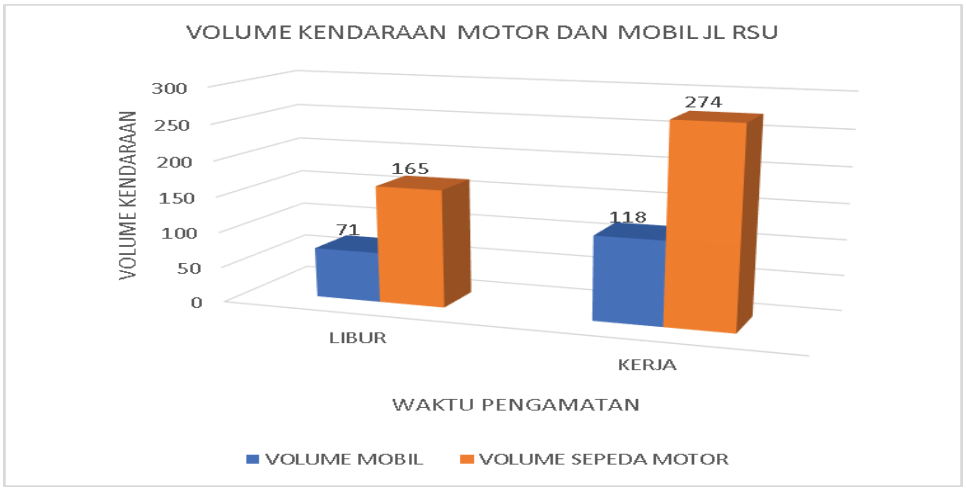


Figure 9: Comparison of Vehicle Parking Volume on Holidays and Working Days on Jalan RSU. (Source: Data Processing, 2018).

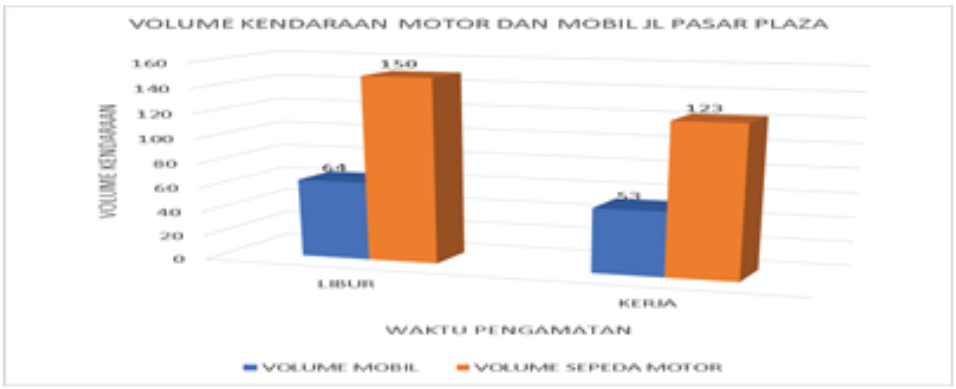


Figure 10: Comparison of Vehicle Parking Volume on Holidays and Weekdays on Jalan Pasar Plaza. (Source: Data Processing, 2018).

6.4. Turn Over Time (Parking Turn Over)

The Turnover Rate for Motorcycles and Cars at Jl RSU on weekdays and holidays is as follows.

TABLE 3: Turnover Rates for Motorcycles and Cars on Jl RSU on weekdays and holidays.

Type of Vehicle	Day	Turnover (Car/Day/Space)
Motorcycle	WEEKEND	0.53
	WEEKDAY	0.89
CAR	WEEKEND	4.86
	WEEKDAY	8.08

Source: Data Processing, 2018

Turnover (replacement) of vehicles in the vehicle parking area of Jl. RSU is highest on holidays, cars at 8.08 and motorcycle at 0.89. The Turnover Rate for Motorcycles and Cars at Jl Pasar Plaza on weekdays and holidays is as follows.

Table 4: Motorcycle and Car Turnover Rates Jl Pasar Plaza.

TYPE OF VEHICLE	DAY	TURNOVER (CAR/DAY/SPACE)
MOTORCYCLE	WEEKEND	1.45
	WEEKDAY	1.19
CAR	WEEKEND	0.59
	WEEKDAY	0.49

Source: Data Processing, 2018

Turnover (replacement) of vehicles in the vehicle parking area of Jl Pasar Plaza is highest on holidays, cars of 0.59, motorcycle of 1.45. This parking turnover explains that the greater the value of vehicle turnover, shows the activeness of parking circulation along with a description of the number of parking lots that can accommodate vehicles.The parking index of the RSU Street parking location is as follows.

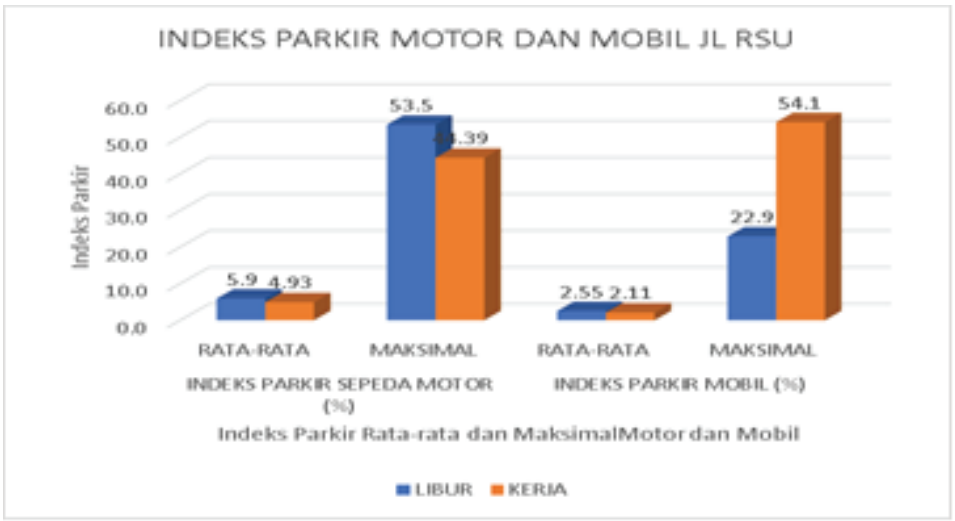


Figure 11: Parking Index JL RSU. (Source: Data Processing, 2018).

Maximum parking index Jl RSU holidays: Motorcycle 53.5.55% Car 22.9%. Average parking index Jl. RSU on holidays: Motorcycle 5.9 % Car 2.55%. Maximum parking index Jl RSU weekdays : Motorcycle 44.39 % Car 54.1 %. Average parking index on Jl. RSU on weekdays: Motorcycle 4.93 % Cars 2.11%. The average and maximum motorcycle and car parking index for motorcycle and cars on holidays and weekdays on Jalan Pasar Plaza are as follows.

Maximum parking index Jl Pasar Plaza holidays: Motorcycle 48.5% Car 20.8%. Average parking index Jl. RSU on holidays: Motorcycle 5.4% Car 2.31 %. Maximum parking

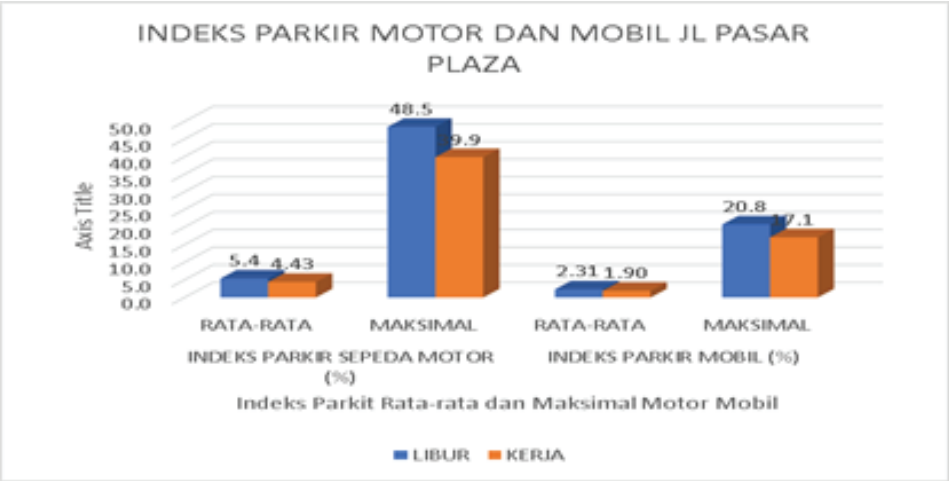


Figure 12: Average and Maximum Motorcycle and Car Parking Index for Plaza Plaza Street Street Cars. (Source: Data Processing, 2018).

index Jl Pasar Plaza weekdays : Motorcycle 39.9 % Car 17.1%. Average parking index Jl Pasar Plaza weekdays: Motorcycle 4.43 % Car 1.90%.

6.5. Parking Space Requirement (KRP)

Parking Space Requirements (KRP) Jl RSU are as follows.

Table 5: Parking Space Requirement (KRP) Jl RSU.

VEHICLE PARKING AREA	PARKING SPACE UNIT (SRP)	EFFECTIVE AREA	WEEKEND		WEEKDAY	
			NUMBER OF VEHICLES	PARKING SPACE NEEDS (KRP)	NUMBER OF VEHICLES	PARKING SPACE NEEDS (KRP)
Motorcycle Parking Area	1.5	442	18	28	15	23
Car Parking Area	13	189	8	102	7	85

Source: Data Processing, 2018

The need for parking space on Jl RSU on holidays 28 m^2 for motorcycle, 102 m^2 for cars. The need for parking space on Jl. RSU on weekdays is 23 m^2 for motorcycle, 85 m^2 for cars. The need for parking space (KRP) on Jl Pasar Plaza is as follows.

The need for parking space on Jl Pasar Plaza on holidays 25 m^2 for motorcycle, 76 m^2 for cars. The need for parking space on Jl Pasar Plaza weekdays for motorcycle is 21 m^2, cars is 76 m^2.

Table 6: Parking Space Requirement (KRP) Jl Pasar Plaza.

VEHICLE PARKING AREA	PARKING SPACE UNIT (SRP)	EFFECTIVE AREA	WEEKEND		WEEKDAY	
			NUMBER OF VEHICLES	PARKING SPACE NEEDS (KRP)	NUMBER OF VEHICLES	PARKING SPACE NEEDS (KRP)
Motorcycle Parking Area	1.5	155	17	25	14	21
Car Parking Area	13	67	6	76	6	76

Source: Data Processing, 2018

6.6. Availability (Supply) of Parking Space

The availability of parking spaces on Jl. RSU and the percentage of occupied parking spaces are as follows:

Table 7: Availability (Supply) of Parking Spaces and Percentage of Occupancy of Parking Locations Jl RSU.

VEHICLE TYPE	Observation Day	Parking Availability (m^2)	PARKING SPACE NEEDS (KRP)	Parking Lot Occupancy Percentage
MOTORCYCLE	WEEKEND	442	28	6.2
	WEEKDAY	442	23	5.2
CAR	WEEKEND	189	102	54
	WEEKDAY	189	85	44,9

Source: Data Processing, 2018

The availability of parking space on Jalan RSU for motorcycle is 442 m^2, for cars it is 189 m^2. The need for parking space on Jalan RSU on holidays for motorcycle is 28 m^2, for cars it is 102 m^2. The percentage of occupancy of motorcycle parking spaces on holidays is 6.2%, and 5.1% on weekdays. The percentage of car park occupancy on holidays is 54%, and 44.9% on weekdays, meaning that the location of the on-street parking area at the RSU can meet the needs of parking spaces, with a medium-low percentage of parking space occupancy. The availability of parking spaces on Jl Pasar Plaza and the percentage of occupied parking spaces are as follows.

The availability of parking space on Jalan Pasar Plaza for motorcycle is 155 m^2, for cars is 67 m^2. The need for parking space on Jalan Pasar Plaza on holidays for motorcycle is 25 m^2, for cars is 76 m^2. Percentage of occupancy of motorcycle parking spaces on holidays is 16.1%, and 13.2% on weekdays. The percentage of occupancy of car parking spaces on holidays is 114.6%, and 114.6% on weekdays, meaning that the

TABLE 8: Availability (Supply) of Parking Spaces and Percentage of Occupancy of Parking Locations Jl Pasar Plaza.

VEHICLE TYPE	OBSERVATION DAY	PARKING AVAILABILITY (M^2)	PARKING SPACE NEEDS (KRP)	PARKING LOT OCCUPANCY PERCENTAGE
MOTORCYCLE	WEEKEND	155	25	16.1
	WEEKDAY	155	21	13.2
CAR	WEEKEND	67	76	114.6
	WEEKDAY	67	76	114.6

Source: Data Processing, 2018

location of on-street parking on Jalan Pasar Plaza can meet the needs of motorcycle parking spaces both on weekdays and holidays, while the location of on-street parking on Jalan Pasar Plaza unable to meet the need for car parking spaces both on weekdays and holidays with a percentage of car parking shortages of 14.6% or 9 m2. To overcome the shortage of parking spaces for cars on Jalan Pasar Plaza is to use vacant land on motorcycles so that the need for car parking spaces can be met.

7. CONCLUSION

The on-street parking location on survey location on Jalan RSU and Jl Pasar Plaza, Cepu District, has a parking area of 631 m^2, can accommodate the need of parking lots. parking for 210 motorcycles and 24 cars. The on-street parking location on Jalan Pasar Plaza with a parking area of 222 m^2, can accommodate 74 motorbikes and 9 car parks. Blora Regency street has a wide enough shoulder to be used as on street parking. On-street parking eksisting are not equipped with parking signs, retribution information boards based on PERDA, and vehicle parking area barriers. Traffic in Blora Regency is very smooth with the intensity of vehicles being not crowded, so the road shoulder can be used for on street and more. Retribution fee based on PERDA Parking for 2-wheeled vehicles Rp. 1,000, - four wheels and more Rp. 2,000,-. The amount of retribution fee was cheap and not burdensome for responden, they were willing to walk from the parking location to their destination as far as 10 to 200 meters.

The need for parking space at the study site as a whole can fulfil except the shortage of parking spaces for cars on Jalan Pasar Plaza, it also has excess space that is used to anticipate vehicle developments. There are only a few times that experience overcapacity (>100%), time that experiences overcapacity above can be transferred to a motorcycle parking area whose occupancy rate is still low.

8. RECOMMENDATION

The development of on-street parking in Blora Regency is very possible because the average shoulder of the road in Blora Regency is quite wide (2 meters) so that it can be used for on-street parking with efforts to improve parking locations, equipped with parking signs to avoid parking users out of place, retribution information boards are based on PERDA so that the public gets information on services that must be paid for, setting parking fees, structuring on-street parking locations, imposing fines on users who park not in the right place and limits the vehicle parking area so that parking is organized. To overcome the shortage of parking spaces for cars on Jalan Pasar Plaza is to utilize vacant land on motorcycles so that the need for car parking spaces can be met.

Increase PAD from parking in Blora Regency is posible, considering the occupancy of the existing on-street parking area is below 50% on average, through the way one of which is by inviting investors so that the economic and tourism potential of Blora Regency can develop, and attract tourists to visit Blora Regency. The calculation of parking fees will be easy to do, with good supervision so as to minimize parking deposit leaks. Another effort that can be made to increase PAD from the parking sector is to use the concept of parking meters and subscription parking, as well as providing salaries according to the minimum wage and employment facilities for parking officers to work professionally.

However, in order to avoid disruption of road performance due to road shoulders for on-street parking, it is necessary to build off street parking facilities (park and ride).

ACKNOWLEDGMENT

The authors would like to thank the Center for Research and Development of Road and Railway Transportation (Puslitbang Transportasi Jalan dan Perkeretaapian) of the Research And Development Ministry of Transportation, Diperkimhub, Blora Regency, and the surrounding community as respondents who have supported this research.

References

[1] Abubakar I. Pedoman perencanaan dan pengoperasian fasilitas parkir. Jakarta: Direktorat Jenderal Perhubungan Darat; 1998.

[2] Departemen Perhubungan Direktur Jenderal Perhubungan Darat. Pedoman teknis fasilitas parkir, kep dirjen hubdat no 272 tahun 1996.

[3] Dani I, Syafaruddin A, Sumiyattinah S. Penataan lahan parkir di pasar melati puring parit baru kecamatan sungai raya kabupaten kubu raya.UNTAN: Pontianak; 2014.

[4] Iqbal M. Penataan parkir pada kawasan pasar sungai durian kabupaten sintang [skripsi]. Universitas Tanjungpura: Pontianak; 2010.

[5] Peraturan daerah no. 02 tahun 2009 tentang penataan pasar tradisional, pusat pembelanjaan dan toko modern, Bandung.

[6] Isminingtias S. Dampak penataan parkir badan jalan terhadap estetika kota di kawasan niaga Kota Surabaya. Universitas Airlangga: Surabaya; 2017.

[7] Sugiyono S. Metode penelitian kuantitatif kualitatif dan R&D. Bandung: Alfabeta; 2012.

[8] Tamin OZ. Perencanaan dan pemodelan transportasi. ITB: Bandung; 1997.

[9] Tim Departemen Perhubungan. Pedoman teknis penyelenggaraan fasilitas parkir. Jakarta: Departemen Perhubungan Direktur Jenderal Perhubungan Darat; 1996.

[10] Tamin OZ. Perencanaan, pemodelan dan rekayasa transportasi. Bandung: ITB; 2008.

[11] Widayati T. Upaya peningkatan pendapatan asli daerah (Studi kasus di Kabupaten Blora). Untag: Semarang; 2013.

[12] Warpani S. Parkir di pusat Kota Bandung. Kotamadya Bandung: ITB-Pemda DT II; 1985.