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ASSESSMENT OF THE CONDITION OF THE GIRIMUKTI-JATIMULYA ROAD SECTION USING THE SDI (SURFACE DISTRESS INDEX) IN MAJALENGKA REGENCY

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ABSTRACT

The road is an important means of land transportation that is often used in various countries including Indonesia. In Indonesia, the road itself is an important land transportation infrastructure for people's lives in meeting the needs of life and earning a living. Lately, in 2023, road conditions in Indonesia are being criticized through various social media for about the many damaged road conditions, including on provincial authority roads and in district authority areas in Indonesia, including Majalengka Regency. Girimukti-Jatimulya road section is a road section authorized by Majalengka Regency which has a length of 1.7 km located in Kasokandel District as an alternative road section from Majalengka City Road Center to Cirebon-Bandung Provincial Road. So this study was conducted to determine the condition of the Girimukti-Jatimulya road section using the SDI (Surface Distress Index) method research. In this study, it was divided into 9 segments each length of each segment 200 m. The data is to be surveyed directly from the field using the SDI method assessment in the form of damage to the crack area, crack width, number of holes, and wheel marks. The results of direct surveys from the field have been recapitulated that damage to crack area 9.44%, damage to crack width 5.56%, damage to the number of holes and damage to ruts. Based on the type of handling and condition of the Girimukti-Jatimulya road section which is divided into 9 segments, segments 1, 3, 4, 7, 8, and 9 with the value of the road condition Good with the type of damage handling is enough with routine maintenance, For segment 2 the value of the road condition is medium with the type of damage handling is using periodic maintenance that must be considered, while for segments 5 and 6 with the value of the road, the condition is lightly damaged so that the type of damage handling is by road rehabilitation.

INTRODUCTION

In this era of globalization, the need for comfortable, safe, cheap, and fast facilities and transportation are needed by everyone in carrying out their various activities. Of the various transportation in Indonesia, one of them is land transportation. The road is a land transportation that is very favorite used by the people of Indonesia, from ground level to buildings above ground level and traffic auxiliary buildings are part of road infrastructure (Nisumanti &; Prawinata, 2020). The road is a land transportation infrastructure that has an

important role in various sectors including the economic sector and the land transportation sector to distribute goods and services to encourage sufficient needs and economic growth in an area between provinces, cities, and cities (Mubarak, 2016). In Majalengka regency has the slogan "Jalan Lancar Ekonomi Mantap" installed on the Regency Road section connected to the Cirebon-Bandung Provincial Road. So the road is the most important means for the life of the people of Majalengka Regency because it is a means to earn a living/money, to meet the needs in socializing, and for a means of friendship.

Over time, the growth of traffic vehicle volume on the roads of Majalengka Regency is very dense so it can cause road damage on road sections in Majalengka Regency. In addition, road damage can be caused by excessive loads that can damage the road pavement. Road damage will cause losses for road users, especially in the economic sector, and will be hampered. The more road damage, the slower the vehicle will be in terms of punctuality to its destination, and vice versa if there is less road damage, the vehicle will be fast in reaching the destination because the speed of the vehicle is not hampered (Wirnanda, Anggraini &; Isya, 2018). The expenses of driving will be expensive or increase expenses due to damaged road conditions.

Lately, in 2023, road conditions in Indonesia are being criticized through various social media about the many damaged road conditions, including on provincial authority roads and in district authorities in Indonesia, including Majalengka Regency. The District Authority Road in Majalengka Regency has 271 road sections with a length of 918.725 km (DPUTR Kab. Majalengka, 2019). One of them is the Girimukti-Jatimulya road section located in Kasokandel District with a length of 1.7 km. Girimukti-Jatimulya Road is an alternative road section that connects the economic center of the people of Majalengka Regency to the Cirebon-Bandung Provincial Road. In addition, for the handling line from Majalengka Hospital to Cideres Hospital, Plumbon Hospital, and other hospitals in Cirebon, Sumedang, and Bandung.

So that the Girimukti-Jatimulya road is an important road section for the people of Majalengka Regency which must receive special attention in handling and maintaining roads. Field surveys are very important to determine road conditions gradually according to technical and non-technical to determine the level of availability of existing road services (Pramono, 2016). With the damage on the Girimukti-Jatimulya section, road maintenance is needed to maintain good road conditions. Road maintenance is a work to improve road conditions so that they are maintained structurally and properly according to their function as land transportation infrastructure, in handling road damage it can be seen that it must be by the type of road damage (Rondi, 2016).

There are several factors causing damage to existing roads in Majalengka Regency, namely the drainage beside the road does not function according to its function so water overflows into the road area, the weather in Majalengka Regency is also very hot can cause damage to the road, the compaction process above the bottom soil layer is not good, besides that road users who pass are not orderly about the load of vehicles that exceed applicable regulations.

Therefore, initial research will be carried out by looking at the condition of the road surface by conducting a survey directly of the Girimukti-Jatimulya road section which intends to see the

situation and analyze the damage that exists on the Girimukti-Jatimulya road section with various types and levels of damage on the road section. In the analysis note, you will know the basic steps to make repairs or handling and maintenance on the road. In addition, it can facilitate repairs by prioritizing the level of damage and facilitating monitoring of road sections in the GIS map of road conditions in the Majalengka Regency. So this study was conducted to determine the amount of road damage, the type of damage, knowing the sections that must be prioritized in carrying out road repairs. and the type of road handling to repair the road according to the damage that will be done after the data is collected with SDI assessment through the SDI (Surface Distress Index) method and inventory in GIS (Geographic Information System). If the assessment of the condition of the road has suffered a lot of damage or is called poor road condition, then the road must require better handling (Tho'atin, Setyawan & Suprapto, 2016). 4 factors affect the SDI value, namely the assessment category of wheel drive depth, crack gap width assessment category, crack area assessment category, and number of holes assessment category (Bina &; Wesli, 2018)

LITERATURE REVIEW

Definition of the Road

The road is a land transportation infrastructure that can improve the economic, cultural, and social in an area. Highways are one of the land transportation infrastructures (Kamba, 2018). Road is one of the land transportation that has parts including road shoulders, drainage, and other complementary buildings as a function of traffic above ground level.

The road is one of the important transportation routes in the national economy that can improve the community's economy to create community welfare (Bunga, 2019). With good road quality, it can facilitate the distribution of goods or services that make expenditure in transportation on the road not increase so that profits or profits are greater and the local community can prosper.

Roads have types of roads including arterial roads, arterial roads (primary and secondary), collector roads (primary and secondary), local roads, and neighborhood roads. Arterial roads are major roads that serve the purpose of traveling long distances with an average high speed and a large number of driveways. While collector roads are roads that serve for medium and average travel distances, the speed is moderate and the number of driveways is limited. Local roads are roads that connect regions and connect the second region and the third region. Neighborhood roads are roads that serve short trips at low average speeds.

To create good road quality, you must pay attention to carrying out road pavement 3 things must be considered, namely as a service function that must be provided to road users to create comfort in driving, must pay attention to safety for road users who can affect tire conditions due to tire contact and road asphalt that rubs against the condition of tires and the structure of the road surface, the last is to pay attention to the form of pavement with road damage in the form of potholes in the repair stage, the structure and shape must be considered so that road users are comfortable and safe.

Types of road damage

Road damage is a condition where the road no longer functions as planned, both in terms of structural and functional roads (Baihaqi, 2018). Structural damage is damage caused by road pavements that cannot withstand the weight of vehicles (overloaded), causing the road structure to be damaged. While road functional damage is damage that occurs on the road surface so that it causes the road function not to function as its function.

Road damage is caused by the large volume of vehicles, vehicle loads that exceed the load capacity or exceed the strength limit of the road, and due to the quality of the road condition is poor. The other factors are due to extreme weather from heat to rain, the rain itself lowers water so that it can pool and erode the road surface which creates holes in the road area.

Road damage is distinguished by several parts, namely random cracking, longitudinal cracks, alligator cracking, holes, grain release, flow, emaciation, tight surfaces, depression, peeling, overweight, and transverse cracks (Directorate General of Highways, 2011).

Metode Surface Distress Indeks (SDI)

Surface Distress Index (SDI) is a method of assessing road conditions carried out by direct observation of the field or location and can be used as data material to handle repairs and maintenance of the road (Bina Marga, 2011). In assessing road conditions using the Surface Distress Index (SDI) method, direct survey observations to the field will examine the segmentation of 200 meters in length with factors that have been determined after the Surface Distress Index (SDI) method including crack area, area of width, number of holes and ruts of the vehicle. In marking road damage, it can be marked by using chalk and paint to make it look square or rectangular according to the hole in the road damage (Asri, 2015).

A crack area is part of the road surface that has road damage in the form of cracks. The wide area is damaged in the form of length and width on the road surface, so the damage will be calculated by how deep it is in the form of square meters. The number of potholes is the amount of road damage that has potholes on the road surface. Wheel wheel marks are road damage caused by vehicle tires and vehicle rims when braking both light vehicles and heavy vehicles so that damage arises on the road surface.

The Surface Distress Index (SDI) assessment is carried out directly in the field to classify road conditions based on the type of damage and the level of damage (Yahya, 2019). The Surface Distress Index (SDI) assessment will produce about road conditions and the type of road damage handling that has been determined, including the SDI calculation value of <50, so the handling is sufficient with routine maintenance, 50-100 then the handling is sufficient with periodic maintenance, for the SDI value of 100-150 the handling must carry out road rehabilitation, while the SDI value of >150 the handling must be the reconstruction of the road.

METHOD

Research Location

This research site was conducted on the Girimukti-Jatimulya road with a length of 1.7 km located in the Kasokandel district. The Girimukti-Jatimulya road section was chosen because the road section is an alternative road connecting district roads and provincial roads. In addition, the Girimukti-Jatimulya road section is an important road for the economy and health sector. This research will be carried out a predetermined time, looking at the situation in advance, weather conditions, and collecting complete data on the Girimukti-Jatimulya road section.

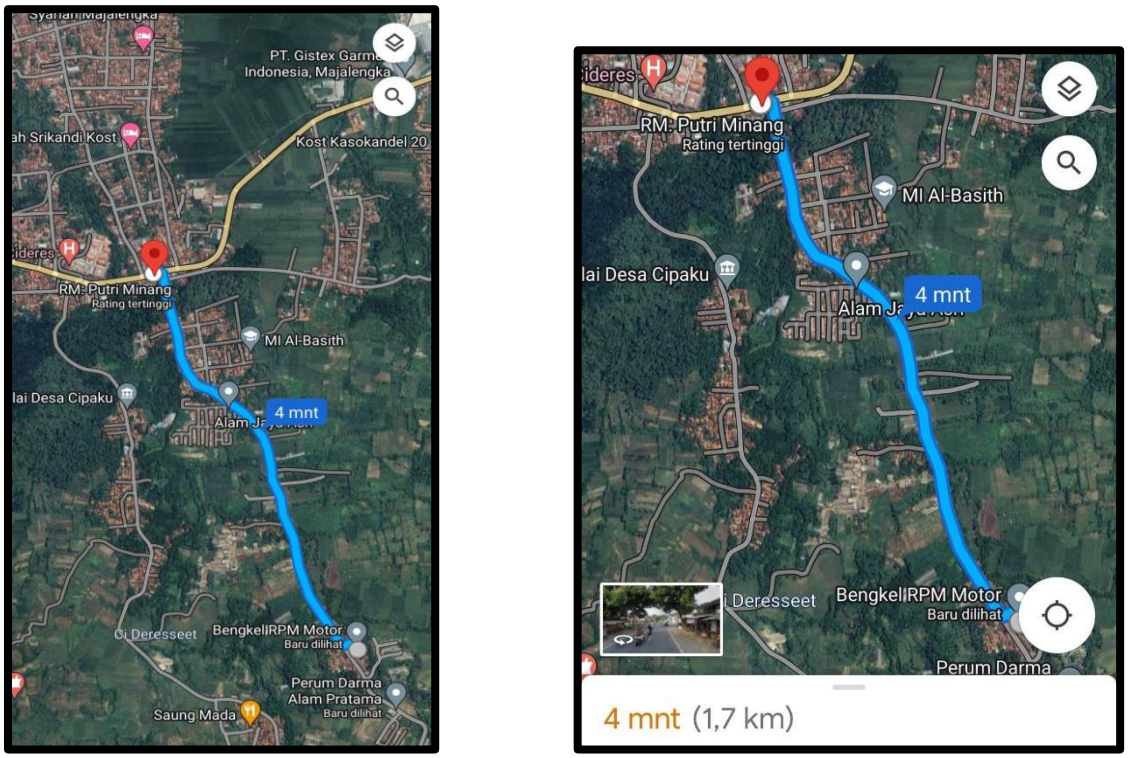

Figure 1. Research Location of Girimukti-Jatimulya Road Section

Data Retrieval Techniques

This data collection is carried out to complete the data to meet the initial objectives of the study. The data used in this study are primary and secondary. Primary Data data collection is carried out directly to the location of the location, namely on the Girimukti-Jatimulya road. Primary data includes road damage data, types of road damage, the amount of road damage, and the dimensions of the road. Secondary Data is taking or collecting data from relevant agencies about the Girimukti-Jatimulya Road section in the form of location, previous types of damage, documentation about the road section, and the planning plan of the Girimukti-Jatimulya Road section.

Data Collection and Data Management Techniques

The Girimukti-Jatimulya road section with a length of 1.7 km, in taking the data will be divided into 9 segments, each segment with a length of 200 meters. Then the primary data will be surveyed directly to look for damage on the Girimukti-Jatimulya road section with predetermined provisions using the Surface Distress Index (SDI) assessment method, including :

a. Extensive Crack

Table 1. Extensive Crack SDI Value Assessment

No.	Extensive Crack	SDI Value
1	None	-
2	<10%	5
3	10-30%	20
4	>30%	40

b. Number of Holes

Table 2. SDI Value Assessment Number of Holes

No.	Number of Holes	SDI Value	
1	None	-	
2	<2 /200 m	SDI + 15	
3	2-10 / 200 m	SDI + 75	
4	>10 / 200 m	SDI + 225	

c. Wide Crack

Table 3. Wide-Cracked SDI Value Assessment

No.	Wide Crack	SDI Value
1	None	-
2	Fine < 1 mm	-
3	Med 1-5 mm	-
4	Wide > 5 mm	SDI*2

d. Ruts

Table 4. Used SDI Value Assessment

No.	Number of Ruts	SDI Value
1	None	-
2	< 1 cm	SDI +2,5
3	1-3 cm	SDI + 10
4	> 3 cm	SDI + 20

While secondary data is carried out by taking data from related agencies. After obtaining primary and secondary data, then a recapitulation of the data was carried out using MS. Excel through the SDI research method to determine the assessment of the road condition of the Girimukti-Jatimulya road section which was divided into 9 segments, the type of road damage and the amount of road damage.

Table 5. Surface Distress Index (SDI) Method Assessment by Road Conditions

Road Conditions	SDI Value
Heavily Damaged	>150
Lightly damaged	100-150
Keep	50-100
Good	<50

Table 6. Types of Road Handling Based on Road Conditions

Types of Handling	SDI Value
Road Reconstruction	>150
Road Rehabilitation	100-150
Periodic Maintenance	50-100
Routine Maintenance	<50

After that, recapitulate the data to find out the type of road repair handling on the Girimukti-Jatimulya road section which is divided into 9 segments using the SDI assessment method based on road conditions and will find out which sections should be prioritized in road repairs using the Surface Distress Index (SDI) method assessment.

RESULT AND DISCUSSION

This research has been carried out and has obtained primary data as well as secondary data. The Girimukti-Jatimulya road section with a length of 1.7 km is divided into 9 segments and the segment length is 200 meters using the SDI (Surface Distress Index) method has been studied

with the observation that there is some damage and there must be handling by road rehabilitation so that the road condition functions properly.

The following is the calculation with the results of data obtained by the direct survey of the Girimukti-Jatimulya road section with a length of 1.7 km divided by 9 segments, per segment of 200 meters in length using the Surface Distress Index (SDI) assessment method :

1. **Segments 1 (STA 00+00 – 00+200)**
   a. **Extensive Crack**

$$\frac{\text{Volume Extensive Crack}}{\text{Amount of Volume Extensive Crack}} \times 100\%$$

   - Volume Extensive Crack = 45,65 m2
   - Amount of Volume Extensive Crack = 600 m2

$$\frac{45,56}{600} \times 100\% = \mathbf{7,61\%}$$

   With a crack area assessment percentage of <10%. So the SDI value of the crack area in Segment 1 is 5

   b. **Wide Cracks**
   With crack width assessment >5mm, so SDI value crack width = SDI*2 = 5*2 = 10

   c. **Number of Holes**
   With the assessment of the number of holes, there is nothing in the field, so SDI+0= 10+0 = 10

   d. **Ruts**
   With the assessment of ruts there is no in the field, so SDI+0= 10+0 = 10

2. **Segments 2 (STA 00+200 – 00+400)**
   a. **Extensive Crack**

$$\frac{\text{Volume Extensive Crack}}{\text{Amount of Volume Extensive Crack}} \times 100\%$$

   - Volume Extensive Crack = 90,88 m2
   - Amount of Volume Extensive Crack = 600 m2

$$\frac{90,88}{600} \times 100\% = \mathbf{15,15\%}$$

   With a crack area assessment percentage of 10-30%. So the SDI value of the crack area in segment 2 is 20

   b. **Wide Cracks**
   With crack width assessment there is no in the field, so the SDI value of crack width = 0

   c. **Number of Holes**
   With the assessment of the number of holes, there are 7, so SDI+75= 20+75 = 95

   d. **Ruts**
   With the assessment of ruts there is no in the field, so SDI+0= 95+0 = 95

3. Segments 3 (STA 00+400 – 00+600)
   a. Extensive Crack

$$\frac{\text{Volume Extensive Crack}}{\text{Amount of Volume Extensive Crack}} \times 100\%$$

   - Volume Extensive Crack = 0 m2
   - Amount of Volume Extensive Crack = 600 m2

$$\frac{0}{600} \times 100\% = \mathbf{0\ \%}$$

   Percentage assessment of crack area does not exist in the field. So the SDI value of the crack area in segment 3 is 0

   b. Wide Cracks
   With crack width assessment there is no in the field, so the SDI value of crack width = 0

   c. Number of Holes
   With the assessment of the number of holes, there is nothing in the field, so SDI+0= 0

   d. Ruts
   With the assessment of ruts, there is no in the field, so SDI+0= 0

4. Segments 4 (STA 00+600 – 00+800)
   a. Extensive Crack

$$\frac{\text{Volume Extensive Crack}}{\text{Amount of Volume Extensive Crack}} \times 100\%$$

   - Volume Extensive Crack = 0 m2
   - Amount of Volume Extensive Crack = 600 m2

$$\frac{0}{600} \times 100\% = \mathbf{0\ \%}$$

   Percentage assessment of crack area does not exist in the field. So the SDI value of the crack area in segment 4 is 0

   b. Wide Cracks
   With crack width assessment there is no in the field, so the SDI value of crack width = 0

   c. Number of Holes
   With the assessment of the number of holes there is nothing in the field, so SDI+0= 0

   d. Ruts
   With the assessment of ruts, there is no in the field, so SDI+0= 0

5. Segments 5 (STA 00+800 – 01+000)
   a. Extensive Crack

$$\frac{\text{Volume Extensive Crack}}{\text{Amount of Volume Extensive Crack}} \times 100\%$$

   - Volume Extensive Crack = 325,6 m2
   - Amount of Volume Extensive Crack = 600 m2

$$\frac{325,6}{600} \times 100\% = \mathbf{54,27\%}$$

With a crack area assessment percentage >30% So the SDI value of the crack area in segment 5 is 40

b. **Wide Crack**
With crack width assessment there is no in the field, so the SDI value of crack width = 0

c. **Number of Holes**
With the assessment of the number of holes, there are 9, so SDI+75= 40+75 = 115

d. **Ruts**
With the assessment of ruts, there is no in the field, so SDI+0= 115 +0 = 115

6. **Segments 6 (STA 01+000 – 01+200)**
   a. **Extensive Crack**

$$\frac{\text{Volume Extensive Crack}}{\text{Amount of Volume Extensive Crack}} \times 100\%$$

- Volume Extensive Crack = 112,55 m2
- Amount of Volume Extensive Crack = 600 m2

$$\frac{112,55}{600} \times 100\% = \mathbf{18,76\%}$$

With a crack area assessment percentage of 10-30%, so the SDI value of the crack area in Segment 6 is 20

b. **Wide Crack**
With crack width assessment >5mm, so SDI value crack width = SDI*2 = 20*2= 40

c. **Number of Holes**
With the assessment of the number of holes there are 9, so SDI+75= 40+75 = 115

d. **Ruts**
With the assessment of ruts, there is no in the field, so SDI+0= 115 +0 = 115

7. **Segments 7 (STA 01+200 – 01+400)**
   a. **Extensive Crack**

$$\frac{\text{Volume Extensive Crack}}{\text{Amount of Volume Extensive Crack}} \times 100\%$$

- Volume Extensive Crack = 0 m2
- Amount of Volume Extensive Crack = 600 m2

$$\frac{0}{600} \times 100\% = \mathbf{0\ \%}$$

Percentage assessment of crack area does not exist in the field. So the SDI value of the crack area in segment 7 is 0

b. **Wide Crack**
With crack width assessment there is no in the field, so the SDI value of crack width = 0

c. **Number of Holes**
With the assessment of the number of holes, there is none in the field, so SDI + 0= 0

d. **Ruts**
With the assessment of ruts, there is no in the field, so SDI + 0= 0

8. **Segments 8 (STA 01+400 – 01+600)**
   a. **Extensive Crack**

$$\frac{\text{Volume Extensive Crack}}{\text{Amount of Volume Extensive Crack}} \times 100\%$$

- Volume Extensive Crack = 0 m2
- Amount of Volume Extensive Crack = 600 m2

$$\frac{0}{600} \times 100\% = \mathbf{0\ \%}$$

Percentage assessment of crack area does not exist in the field. So the SDI value of the crack area in segment 8 is 0

b. Wide Crack

With crack width assessment there is no in the field, so the SDI value of crack width = 0

c. Number of Holes

With the assessment of the number of holes, there is 1, so SDI +15= 0 +15 = 15

d. Ruts

With the assessment of ruts, there is no in the field, so SDI + 0 = 15 + 0 = 15

9. Segments 9 (STA 01+600 – 01+100)

a. Extensive Crack

$$\frac{\text{Volume Extensive Crack}}{\text{Amount of Volume Extensive Crack}} \times 100\%$$

- Volume Extensive Crack = 0 m2
- Amount of Volume Extensive Crack = 600 m2

$$\frac{0}{600} \times 100\% = \mathbf{0\ \%}$$

By percentage assessment of crack area does not exist in the field. So the SDI value of the crack area in segment 9 is 0

b. Wide Crack

With crack width assessment there is no in the field, so the SDI value of crack width = 0

c. Number of Holes

with the assessment of the number of holes is not in the field, so SDI+ 0= 0

d. Ruts

With the assessment of ruts there is no in the field, so SDI + 0= 0

Table 7. Calculation of SDI Value per 200 meters

NO.	PATOK		CEK STATUS ENTRY	CALCULATION OF SDI VALUE 200 M				
	FROM	TO		EXTEN SIVE CRACK	WIDE CRACK	NUMBER OF HOLES	RUTS	SDI VALUE
1	0 0 + 0 0 0	0 0 + 2 0 0	OK	5	10	10	10	10
2	0 0 + 2 0 0	0 0 + 4 0 0	OK	20	0	95	95	95
3	0 0 + 4 0 0	0 0 + 6 0 0	OK	0	0	0	0	0
4	0 0 + 6 0 0	0 0 + 8 0 0	OK	0	0	0	0	0
5	0 0 + 8 0 0	0 1 + 0 0 0	OK	40	0	115	115	115
6	0 1 + 0 0 0	0 1 + 2 0 0	OK	20	40	115	115	115
7	0 1 + 2 0 0	0 1 + 4 0 0	OK	0	0	0	0	0
8	0 1 + 4 0 0	0 1 + 6 0 0	OK	0	0	15	15	15
9	0 1 + 6 0 0	0 1 + 7 0 0	OK	0	0	0	0	0

Based on the results of **Table 7**. That the Girimukti-Jatimulya road section with a length of 1.7 km is divided into 9 segments whose 200-meter length segments produce segments 1,3,4,7,8 and 9 with good condition values, for segments 2 produce medium condition values, While segments 5 and 6 produce a value of minor damage conditions so that there must be handling of road repairs. The following is a review of the assessment using the SDI (Surface Distress Index) method on the Girimukti-Jatimulya road :

a. The 1st segment (STA 00+00 – STA 00+200) returns an SDI value of 10, with that value the 1st segment is in “good” condition.
b. The 2nd segment (STA 00+200 – STA 00+400) returns an SDI value of 95, with that value the 2nd segment in the "medium" condition.
c. The 3rd segment (STA 00+400 – STA 00+600) produces an SDI value of 0, with that value the 3rd segment is in “good” condition.
d. The 4th segment (STA 00+600 – STA 00+800) produces an SDI value of 0, with that value the 4th segment is in “good” condition.
e. The 5th segment (STA 00+800 – STA 01+000) produces an SDI value of 115, with that value the 5th segment in a "lightly damaged" condition.
f. The 6th segment (STA 01+000 – STA 01+200) produces an SDI value of 115, with that value the 6th segment in a "lightly damaged" condition.
g. The 7th segment (STA 01+200 – STA 01+400) returns an SDI value of 0, with that value the 7th segment in “good” condition.
h. The 8th segment (STA 01+400 – STA 01+600) yields an SDI value of 15, with that value of the 8th segment in “good” condition.
i. The 9th segment (STA 01+600 – STA 01+700) yields an SDI value of 0, with that value of the 9th segment in “good” condition

Table 7. Type 200 meter segment damage handling

NO.	PATOK				CONDITION LENGTH (M)				HANDLING TYPE 200 M
	FROM	-	KE		GOOD	MEDIUM	LIGHTLY DAMAGED	HEAVILY DAMAGED	
1	0 0 + 0 0 0	-	0 0 + 2 0 0		200,00	0,00	0,00	0,00	Routine Maintenance
2	0 0 + 2 0 0	-	0 0 + 4 0 0		0,00	200,00	0,00	0,00	Periodic Maintenance
3	0 0 + 4 0 0	-	0 0 + 6 0 0		200,00	0,00	0,00	0,00	Pemeliharaan Rutin
4	0 0 + 6 0 0	-	0 0 + 8 0 0		200,00	0,00	0,00	0,00	Pemeliharaan Rutin
5	0 0 + 8 0 0	-	0 1 + 0 0 0		0,00	0,00	200,00	0,00	Road Rehabilitation
6	0 1 + 0 0 0	-	0 1 + 2 0 0		0,00	0,00	200,00	0,00	Road Rehabilitation
7	0 1 + 2 0 0	-	0 1 + 4 0 0		200,00	0,00	0,00	0,00	Routine Maintenance
8	0 1 + 4 0 0	-	0 1 + 6 0 0		200,00	0,00	0,00	0,00	Routine Maintenance
9	0 1 + 6 0 0	-	0 1 + 7 0 0		100,00	0,00	0,00	0,00	Routine Maintenance

Based on table 7. The type of damage handling per segment is 200 meters long segments 1, 3, 4, 7, 8, and 9 the type of handling is sufficient with routine maintenance. Routine maintenance includes cleaning the road area, road shoulders with grass chronicle work, cleaning culverts, and cleaning sidewalks (Pratami &; Hariyadi, 2018). The 2nd segment is its type of handling with periodic maintenance. Periodic maintenance is maintenance that is often carried out in a week or month and in it, there is repair work (self-management) so that the condition and function of the road are well maintained. While segments 5 and 6 types of handling must be carried out road rehabilitation which aims to improve roads such as adding road coating, covering potholes, and leveling the road area so that it is not bumpy (Pratami &; Hariyadi, 2018). For the 5th and 6th segments, special attention must be paid when handling road repairs on the Girimukti-Jatimulya road section because the road conditions in the segment are declared lightly damaged with 115 potholes each and have several cracks 40 in width according to the assessment using the SDI (Surface Distress Index) method.

CONCLUSION

In this conclusion, researchers concluded that the Girimukti-Jatimulya road section with a length of 1.7 km contained several types of damage, the amount of damage, and the type of handling in road repairs. Most of the Girimukti-Jatimulya road sections are in good condition including segments 1, 3, 4, 7, 8, and 9. So that it must carry out the type of routine maintenance handling, for segment 2 to get an assessment of the condition while the type of handling is periodic maintenance to maintain the condition and function of the road properly. While in Segments 5 and 6 must do the type of handling is road rehabilitation. With this result, segments 5 and 6 should get special attention because there is a lot of damage in those segments and if there is road repair on the Girimukti-Jatimulya section should be mandatory in segments 5 and 6 located at STA (00+800-01+000) and STA (01+00-01+200).

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