

## Regional Infrastructure Development Achievements in Supporting Regional Connectivity in the New Autonomous Region: A Study in West Muna District, Indonesia

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**Abstract:** The purpose of this study is to determine the achievements of the implementation of infrastructure development in supporting regional connectivity. Using time series data for the period 2018-2022. Using a qualitative approach using a case study design in Lawa District, West Muna Regency, Southeast Sulawesi Province, Indonesia. The availability of basic regional infrastructure is adequate and its quality is continuously being improved. The availability of roads to support connectivity has a strong role and influence in supporting community mobility arrangements and of course, also improving the performance quality of connectivity between nodes in Lawa District so that the wheel of economic rotation through the trip generation and the existence of community mobility can be better and can be economically profitable.

**Keywords:** connectivity, infrastructure, new-autonomy

### 1. Introduction

Regional expansion is an important step in an effort to realize independence, especially in terms of planning development activities independently (Sukmajaya et al., 2021) which hopes to improve the welfare of the people in the region. The concept of regional expansion has a clear and binding legal basis. Juridically, the basis for the issue of regional expansion is contained in Law Number 23 of 2014 in Article 2 which means that dividing the territory of Indonesia into large areas called provinces and provincial areas will be divided into smaller areas called districts/cities. Basically, the division area has various dynamics in its development as a new area. These dynamics can touch various aspects, both political, social, economic, and governmental aspects. This condition can also have a positive impact on areas that are experiencing regional expansion.

The positive impact of regional expansion can be felt by creating opportunities for local identity in the community. The reduced authority and control of the central government get a high response from local governments in dealing with problems that are in their own regions. In fact, the funds obtained were more than those obtained through the bureaucratic channels from the central government. These funds can enable local governments to accelerate regional development as new expansion areas or autonomous regions. This is in line with the results of research by Priyono et. al. (2019) which states that there is a role for decentralization in the level of community welfare. In addition, fiscal decentralization can strengthen regional financial capacity which is used for development programs that can support people's welfare. Next Mumek et. al. (2020) states that an autonomous region means a region that has the authority to manage its own household. The government system that is used between the center and the regions is the difference between centralization and decentralization, different from the concept of a united-state or state. The decentralization currently used is the division of tasks and authorities between the meanings of Central Government and Regional Governments, and there is a delegation of authority for some of the affairs of the Central Government to the Regional Governments.

As an autonomous region/new division that has independence in managing government and regional development. The direction of development in West Muna Regency as mandated in Law 23 of 2014 in particular Article 31 paragraph (2) namely increasing community welfare, effectiveness of government administration and services, including the development of competitive regions. Government administration in West Muna Regency has been running for about 7 years, during which time development programs have focused more on the availability of regional facilities and infrastructure. Most recently, according to the Muna Barat District Mid-Term Development Plan (RPJMD-P) document for 2018-2022, there are 19 strategic issues that will be addressed in the policy plans and development programs. A number of these strategic issues, infrastructure is translated into 4 priority issues namely: 1) road infrastructure development in the framework of regional planning; 2) increasing access to exit and enter the area; 3) increasing accessibility and basic infrastructure for small islands; and 4) development of regional social and economic facilities. These four issues are implied by the development direction of West Muna Regency, namely increasing regional connectivity.

Connectivity is considered one of the strategies pursued by the government in order to accelerate and expand regional economic development. Asian Development Bank, (2012); and United Nations, (2014) state that the concept of connectivity itself is based on three things, namely connecting between nodes (points/nodes), intermodal supply chain systems, and inclusive growth. Quoted by Henckel and McKibbin, (2010); Kuroda et al., (2007); and De and Ghosh, (2005) that infrastructure such as roads as a link between nodes (points/nodes) with growth centers, expanding growth through regional connectivity through an intermodal supply chain system that connects the interior and those that are left behind with growth centers, as well as achieving growth including by connecting remote areas with basic infrastructure and services in obtaining the benefits of development.

Cases in Indonesia have been reported by several studies to strengthen the above argument. Sumar Djoko & Akhmedi, (2019) that the provision of infrastructure has a positive effect on regional economic growth, as well as creating connectivity and trade which ultimately provides socio-economic benefits (poverty reduction). This is supported by the study of Fithra and Sofyan, (2017) that connectivity (road network) can play a significant role in regional development, and Wirabrata and Silalahi, (2012) state that infrastructure development (roads) can reduce logistics costs.

It seems that the West Muna Regency development plan until 2022 has not shown anything significant in achieving development goals, including in terms of regional connectivity. This refers to several previous studies which give the impression that the implementation of the regional autonomy of West Muna Regency has not fully led to the fulfillment of the mandated goals. Yasir (2019), stated that the implementation of the regional government's authority in managing infrastructure development in West Muna Regency has not fully sided with the public interest and has not fully complied with the proper procedures. Apart from that, Sumantri (2019) also explained that the development of human resources based on the level of education is still relatively low in West Muna Regency. Other research on the economic aspects of West Muna Regency by Sabilalo *et al.*, (2019) stated that there were 2 (two) sectors that were growing slowly, namely: (1) the water supply sector, waste management, waste, and recycling as well; (2) the sector of government administration, defense, and mandatory social security. There are 10 (ten) economic sectors that are not competitive and there are 7 (seven) economic sectors that are not progressive. The latest is research conducted by Herdiyana and Andriana (2020) which reveals that West Muna Regency has not yet achieved 10% Compulsory Expenditures in the health sector in the 2018 Fiscal Year APBD, where this can cause public service performance and community welfare to decline.

However, based on the results of previous research above, it has not explained further about the development model (infrastructure) for welfare, and connectivity is not effective, because there are assumptions and other variables that influence whether a development is effective or not. According to Ferdian and Reski (2020), the effectiveness of development can be assessed based on 5 (five) indicators, namely: (1) the accuracy of the use of the budget; (2) the appropriate use of resources; (3) the correct use of tools and equipment; (4) timely use available; and (5) appropriate use of natural resources.

Based on the description above, an overview of the development (achieved and planned) of the new division area in West Muna Regency was obtained, as well as previous research which then strengthened the research problem that there was still a gap (gap) between the plan and what was expected in that development. Because regional infrastructure which is directed at regional connectivity in West Muna Regency is the focus point (priority) of

development, this aspect has become the focus area of analysis in a scientific study to find out the achievements of the implementation of infrastructure development in supporting regional connectivity, by taking studies in Lawa District, West Muna Regency, Southeast Sulawesi Province, Indonesia.

## 2. Methods

This research was conducted in West Muna Regency, Southeast Sulawesi Province, by taking studies in Lawa District. It was carried out for 5 (five) months, starting from April to August 2022. The type of research used was qualitative research using a case study design, namely in Lawa District, West Muna Regency.

The focus of this research is the achievement of the implementation of infrastructure development and regional connectivity. Using secondary data based on development planning documents in the 2018-2022 West Muna Regency RPJMD for the location and focus of activities in the Lawa District. The information collected is related to the type of activity, implementation, or program that has been implemented, the volume of activity, and the location of the activity.

The collection technique is carried out by tracing documents, namely data collection (secondary sources) from report documents and the like which present information on the implementation of infrastructure development in Lawa District during 2018-2022; as well as field observations by conducting field observations related to research objects or problems. Data analysis was carried out descriptively by presenting the types of activities, implementation, or programs that have been implemented, the volume of activities, and the locations of activities to be able to describe regional connectivity. The results of the analysis are presented in the form of tables, graphs, and distribution maps of infrastructure development and regional connectivity for further interpretation so that they can provide an overview according to actual conditions.

## 3. Result

### 3.1. Development Achievements in 2018

In 2018 infrastructure development activities in Lawa District were directly related to regional connectivity in the form of roads and bridges/deckers in sufficient quantity and spread over 9 (nine) infrastructure work locations. In this case, details can be seen in Table 1.

**Table 1 Achievements of Environmental Infrastructure and Facilities Development in Supporting Regional Connectivity in Lawa District in 2018**

No.	Name of activity	Source of funds	Total Budget (Rp)	Volume (m)	Description Form of activity
A.	Road Facilities				
1.	Improvement of Village Roads Lagadi – Latugho	DAU	1.641.100.000	1.680	Asphalt
2.	Improvement of Village Roads Lalemba-Watumela	DAU	1.689.700.000	1.700	Asphalt
3.	Improvement of Village Roads Latugho-Lasasi	DAU	843.600.000	690	Asphalt
4.	Improvement of Village Roads Kelurahan Wamelai	DAU	2.533.900.000	2.520	Asphalt
5.	Improvement of Village Roads Desa Latompe	DAU	838.900.000	1.280	Asphalt
6.	Improvement of Village Roads Lalemba	DAU	1.265.000.000	1.390	Asphalt
Total			8.812.200.000	9.260	
B.	Environmental Facilities				
7.	Wamelai Village Drainage Development	DAU	149.700.000	150	New Build
8.	Wamelai Village Drainage Development	SLIPA	149.700.000	150	New Build

9.	Lalemba Village Drainage Development	DAU	149.700.000	150	New Build
10.	Madampi Village Drainage Development	SILPA	184.630.000	190	New Build
11.	Latugho Village Drainage Development	DAU	199.457.000	200	New Build
Total			833.187.000	840	
Total Number			9.645.387.000	10.100	

Notes: DAU= General Allocation Fund, and SLIPA= Remaining Budget Financing

Achievements in infrastructure development in improving regional connectivity in Lawa Subdistrict. In 2017, as the first year the Muna Barat RPJMD took effect, the priority was on improving road infrastructure. The total length of the improved road is around 9,260 m or 9.26 km with a total budget of around IDR 8,812,200,000. Then there is the construction of environmental facilities, namely about 840 m (0.8 km) of drainage with a total budget of IDR 833,187,000. Administratively, the distribution of road construction for regional connectivity in Lawa District is in six (6) villages/kelurahan out of eight (8). The drainage construction is spread across five (5) villages/kelurahans out of the total village/kelurahan enclosures.

There are three road development activities that are related to or aim at regional connectivity, namely the construction (improvement) of the Lagadi - Latugho Village Road, the Dess Lalemba-Watumela Road, and the Latugho-Lasasi Village Road. The total road length on these three lanes is 4,070 m, meaning that the total roads built in 2018 are around 43.95% for connectivity.

### 3.2. Development Achievements in 2019

Data on infrastructure development activities in Lawa District related to regional connectivity in 2019 in the form of roads and bridges/deckers. The full data is presented in Table 2. Most of the regional infrastructure that was built in Lawa District in 2019 was environmental facilities. Especially for roads, there is only 1 activity in the Wamelai Village.

**Table 2 Achievements of Environmental Infrastructure and Facilities Development in Supporting Regional Connectivity in Lawa District in 2019**

No.	Name of activity	Source of funds	Total Budget (Rp)	Volume (m)	Description Form of activity
A.	Road Facilities				
1.	Improvement of Village Roads Wamelai	DAU	470.000.000	340	Asphalt
Total			470.000.000	340	
B.	Environmental Facilities				
2.	Lapadaku Village Drainage Development	DAU/DAK	89.530.000	1 Package	New Build
3.	Wamelai Village Drainage Development	DAU/DAK	89.700.000	1 Package	New Build
4.	Lagadi Village Drainage Development	DAU	215.600.000	1 Package	New Build
Total			394.830.000	3 Package	

Notes: DAU= General Allocation Fund, DAK=Special Allocation Fund, and SLIPA= Remaining Budget Financing

### 3.3. Development Achievements in 2020

Infrastructure development activities in Lawa District in 2020 are distributed to the construction (improvement) of roads with locations in Wamelai Village and in Lalemba Village. The total road construction in 2020 is 1,844 m or around 1.84 km. The data is presented in full in Table 3.

**Table 3 Achievements of Infrastructure Development and Environmental Suggestions in Supporting Regional Connectivity in Lawa District in 2020**

No.	Name of activity	Source of funds	Total Budget (Rp)	Volume (m)	Description Form of activity
1.	Improvement of Village Roads Wamelai-1	DAU	1.291.900.000	703	Asphalt
2.	Improvement of Village Roads Wamelai-2	DAU	581.000.000	381	Asphalt
3.	Improvement of Village Roads Lalemba	DAU	994.000.000	760	Asphalt
Total			2.866.900.000	1.844	

Notes: DAU= General Allocation Fund,

Until 2020, development in Lawa District is still focused on providing road infrastructure. This means that improving accessibility services is of particular concern to the government. It's just that there are no roads in terms of increasing inter-village connectivity, what does exist is connectivity between nodes within one sub-district, namely in Wamelai Kelurahan.

### 3.4. Development Achievements in 2021

It is known from data from the implementation of the RPJM that during the 2021 period infrastructure development activities in Lawa District are directly related to regional connectivity in the form of roads. There are two points/locations for road construction, respectively in Lalemba Village and in Latugho Village. This information is presented in Table 4.

**Table 4 Achievements of Infrastructure Development and Environmental Suggestions in Supporting Regional Connectivity in Lawa District in 2021**

No.	Name of activity	Source of funds	Total Budget (Rp)	Volume (m)	Description Form of activity
1.	Construction of Lalemba - Gusi Road	DAU	1.100.000.000	781	Asphalt
2.	Construction of Wakante Road	DAU	200.000.000	602	Asphalt
Total			1.300.000.000	1.383	

Notes: DAU= General Allocation Fund,

The road construction is in Lalemba Village connecting with (connectivity) with Gusi with the stain of agricultural activities in Lalemba Village. The second is the road in Latugho Village, which is located in the Wakante natural bathing area. The Lalemba Gusi road in Lalemba Village is considered a priority because it can support trip generation mobility for people with agricultural-based activities in the Gusi area which is important in facilitating the distribution of agricultural products.

### 3.5. Development Achievements in 2022

Infrastructure development to support regional connectivity in Lawa District in 2022 in the form of roads. Focused on 4 (four) infrastructure work location points as presented in Table 5.

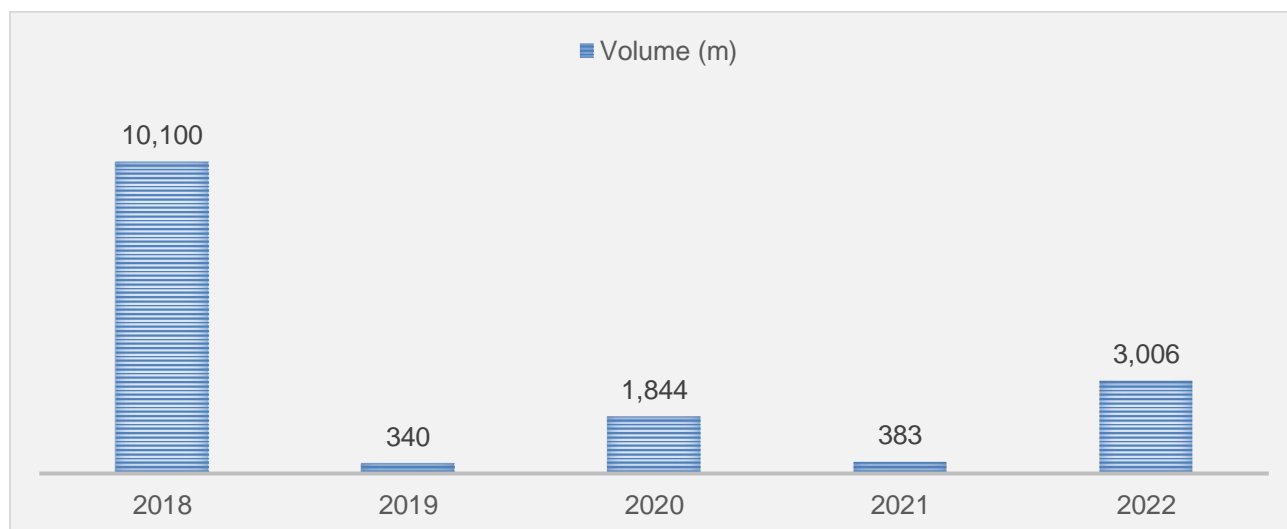
**Table 5 Achievements of Infrastructure Development in Supporting Regional Connectivity in Lawa District in 2022**

No.	Name of activity	Source of funds	Total Budget (Rp)	Volume (m)	Description of activity
1.	Construction of a Village Road (from Lorong 1 to the Bata-Kalambe Baths)	DAU	199.800.000	530	Asphalt
2.	Lalemba - Walelei Road Improvement	DAU	1.288.499.000	917	Asphalt
3.	Road Improvement and Construction of Decker Plates (Bebele Intersection)	DAU	199.800.000	330	Asphalt
4.	Improvement of the Wamelai Ring Road	DAU	1.178.000.000	1.229	Asphalt
Total			2.866.099.000	3.006	

Notes: DAU= General Allocation Fund,

The four road construction activities generally support connectivity. There are three road construction locations that function in connectivity, namely the construction of a village road (from Lorong 1 to the Kalambe Bata Baths) in Latugho-Lapadaku Village, Improvement of the Lalemba-Walelei Road as an agricultural base in Lalemba Village, and Improvement of the Wamelai Ring Road in connecting between nodes in Wamelai village.

The results of the accumulation of all types of infrastructure development activities in Lawa District in the last five years have mostly focused on the development and improvement of the quality of village roads to alleyways. In addition, there are also additional types of infrastructure development items as supporting attributes of road utilities, namely the deucker facility which functions to continue to guarantee road performance when used during rains by anticipating the emergence of puddles due to the flow of water entering the road body. In fact, for the most part every year in Lawa District construction or improvement of the physical quality of roads is carried out in order to support the improvement of the quality of regional connectivity.

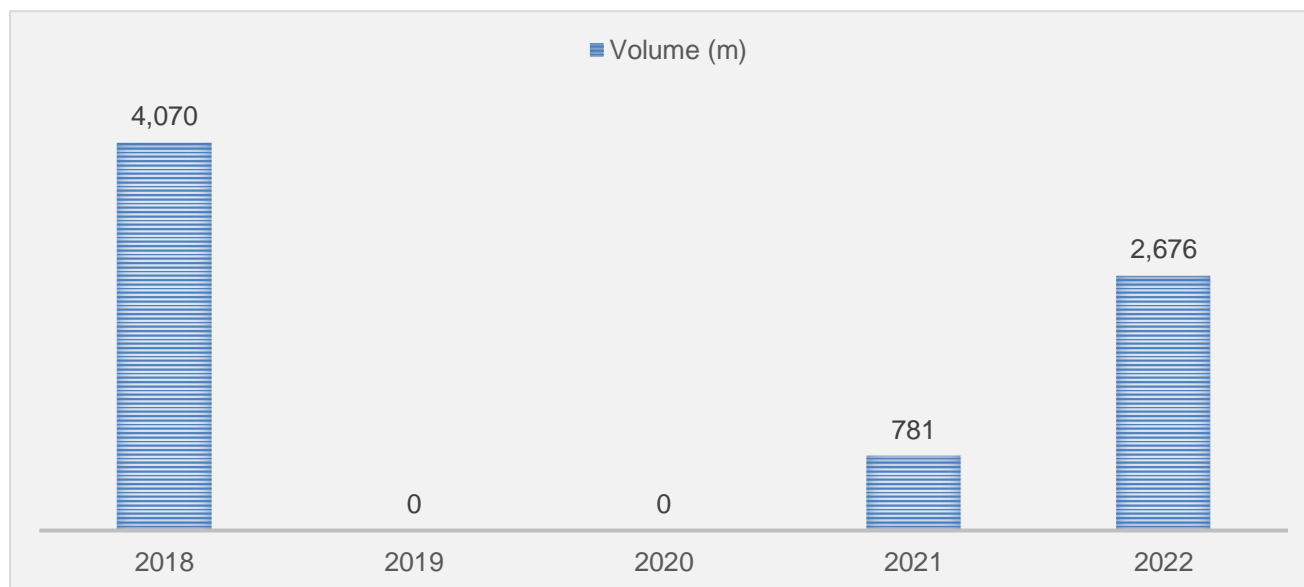


**Figure 1 Volume Development of Road Infrastructure in Lawa District in 2018-2022**

Based on data on regional infrastructure development in Lawa District during the 2018-2022 development period, in terms of quantity, it shows a decrease in numbers, as shown in Figure 1. Early in 2018, the West Muna Regency Government did focus on providing regional infrastructure to increase the mobility of goods and services including connecting between nodes.

The total length of roads built in Lawa District in 2018 was around 10,100 m (10.10 km) or around 69.58% of the total length of roads built during the 2018-2022 period, namely 16,673 m. Then during the 2018-2022

construction period for road construction which aims to open new access or increase residential access roads between areas that are paved the most in 2018, namely 4,070 m spread over three points. Especially in 2019 and 2020 there will be no road construction with the aim of increasing connectivity. Later in 2021, road construction for regional connectivity will be 781 m long, and in 2022 it will increase to 2,676 m. This data is presented in full in Figure 2.



**Figure 2 Volume of Road Infrastructure Development for Regional Connectivity in Lawa District in 2018-2022**

The length of roads built during 2018-2022 for connectivity is 7,527 m. This means that around 45.14% of the total roads were built (16,673 m) for regional connectivity. The composition of road construction for connectivity is relatively large (45.14%), so this fact positions the role of roads in supporting regional development through connectivity. The improvement of regional connectivity is believed to be able to improve many aspects, including the community's economy. Achjar (2015) in his study stated that road infrastructure has a positive effect on economic growth and is spatially able to support trip generation for community mobility.

#### 4. Conclusions

Based on the results and discussion, it was found that the length of the road built in Lawa District during 2018-2022 was 16,673 m, for the connectivity function between regions (nodes) was 7,527 m. This means that there is 45.14% of road infrastructure development for connectivity. It can be said that the availability of basic regional infrastructure is sufficient and its quality continues to be improved. The availability of roads to support connectivity has a strong role and influence in supporting community mobility arrangements and of course also improving the performance quality of connectivity between nodes in Lawa District so that the wheel of economic rotation through trip generation and the existence of community mobility can be better and can be economically profitable.

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