Smart Mobility Development in Lampung Province?  
Analysis based on Medium Term Development Plan 2019-2024

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1. Introduction

Smart mobility is part of the development of urban planning governance [1]. The United Nations is an institution that initiates 17 concepts of sustainable development and one of them is smart mobility [2] [3] [4]. This sustainable development governance is also projected to improve urban environmental sustainability and efficiency and effectiveness [5]. Apart from that, smart mobility is also aimed at managing Information and Communication Technology (ICT) in every planning and design [6]. 

ICT used in smart mobility is characterized by the use of data, knowledge and information technology centers so that it will have an impact on ICT integration and sustainable transportation [8] [9]. Wawer (2022) explained several elements in the concept of smart mobility, namely ICT infrastructure, locally and internationally accessible, innovative, and a sustainable transportation system. This technology system will support the design of...
digital transportation visualization in real time, vehicle data mobilization, and digital prototypes on transportation trips. In Indonesia, the concept of smart mobility is then adopted in the national and regional government development plans and then regulated through one of them, the Regency Medium-Term Development Plan (RPJMD) in a five-year period. The document contains various programs and developments carried out by the government in the next five years. Lampung Province is an area in the red zone category in the Regional Apparatus Organization (OPD) with a percentage of 80 percent and problems from human resources and infrastructure development that need to be further developed. This is also supported by the following data figure 1:

The data above explains that Lampung Province is listed as one of the provinces with the longest damaged infrastructure in Indonesia. BPS defines it as a "heavily damaged road" because transportation mobility can only be carried out at a speed of between 0-20 KM per hour. Nearly 25 percent of the infrastructure is in damaged condition along 165 KM and heavily damaged along 252 KM. Then Lampung itself has the heaviest local accessibility between districts/cities in Sumatra (5,402 billions) and supported by the intensity of the area with an area of 34,623.80 KM² or half of the worst province of North Sumatra with an area of 72,981.23 KM² (total damage of 5,798 billion).

Therefore, based on the literature above, there is still no research linking the concept of smart mobility with the RPJMD. So the author wants analyzing the relationship between smart mobility and the Lampung Province RPJMD document, has it been planned? The study of smart mobility is crucial because it involves the mobilization of citizens through integrated transportation with Autonomous Vehicles (AV), "Flexible Transportation Services" (FTS), and "Free-floating e-mobility" (FFM). Then, other influencing factors are the encouragement of environmentally friendly fuels and public engagement, active mobility and inclusive mobility.

In addition, the urgency of smart mobility is solving problems with transportation infrastructure, urban digitization, and active governance strategies (accessible, equity, and sustainability).

This research will use a thematic analysis approach to map the study of smart mobility with the Lampung Province RPJMD document. Therefore the formulation in this...
study are: 1) How is the planning of smart mobility in Lampung Province? 2) Has Lampung Province implemented smart mobility and what is the potential for future development?

2. Research Method

This study uses qualitative methods with thematic analysis on the development of smart mobility in Lampung Province. Primary data was obtained from the 2019-2024 Lampung Province RPJMD documents. Then secondary data obtained articles, mass media, and documents that have relevance to the research topic. Data analysis uses Nvivo 12plus software with the following analysis process.

Data collection was carried out using Ncapture through the 2019-2024 RPJMD documents. Then coding the data to identify the themes and classification attributes of the RPJMD documents. The indicators used are local accessibility, ICT Infrastructure, sustainable, innovative and safe transportation system [25]. The theme mapping process is used to map the coding results which are then followed by the classification attributes.

3. Result and Discussion

The 2019-2024 Lampung Province Regional Medium-Term Development Plan (RPJMD) document contains provincial government programs and policies for the next five years.
In this document, the Provincial Government of Lampung also includes the concept of smart mobility in its planning. The following is the plan from the Provincial Government of Lampung in realizing the concept of smart mobility:

Fig 3. The Government Lampung Province Plan for Smart Mobility

Source: Analysis Using Nvivo 12 Plus (2023)

Figure 2 shows that it is wrong for the Lampung Provincial Government to design smart mobility for the 2019-2024 development period. The development of smart mobility is then presented by the authors in the results of the crosstab analysis as follows:
From the results of the coding above, it can be seen that the Provincial Government of Lampung in planning the concept of smart mobility has the highest local accessibility. In the RPJMD document it is stated that the program from local accessibility is planned to build road infrastructure to connect roads between provinces and between cities or surrounding districts. Sustainable (2022) describes Lampung as an area that has problems with access to transportation due to limited infrastructure that connects between local areas.
Roads with heavily damaged conditions reached 252 KM and 165 KM with damaged conditions. Therefore the main focus of the Government of Lampung is to carry out large-scale development of infrastructure in each unit [28]. In the Lampung government's RPJMD document, at least it is stated that there are three main priorities for infrastructure development in supporting regional accessibility, namely: 1) building and environmental infrastructure and facilities, 2) transportation infrastructure, 3) service infrastructure. The main goal is to ensure accessible mobility between regions (Primary & Imawan, 2019).

In addition to being a top priority of the Provincial Government Lampung, the infrastructure development program is also the main program of the national government to encourage transportation between regions. From the program, data from the Ministry of Public Works and Public Housing above states that 95% of national infrastructure projects have been running in Lampung Province. This is also supported by the commitment of the national government to carry out national strategic projects in every region in Indonesia with the aim of an accessible mobility network [31] [32].

Then the next aspect that also supports the concept of smart mobility is ICT Infrastructure which is the parameter for thinking about the dimensions of a smart city [33] [34] [35]. To support the flow of mobility, ICT devices are needed to optimize transportation with technological infrastructure [36] [37]. The resulting impact is on the aspect of spatial integration between infrastructure, human, business, consumption, energy and space technology networks [37] [38].

The Provincial Government of Lampung in the RPJMD document states that the construction of telecommunication infrastructure and networks between area. In addition, establish a technology network to accelerate the process of reporting, communication and execution of infrastructure improvements. However, in social reality there is still a tendency towards difficulties in reaching transportation access to support mobility [39].
Fig 7. The data presents the condition of digitizing infrastructure in each Indonesian province, and Lampung itself occupies the 33.19th position or the 30th position of all provinces. Of course, in this case it is a bit ironic because the available ICT infrastructure is still very minimal with a percentage of 22.19 percent. ICT infrastructure in the concept of smart mobility development is the main infrastructure that is significantly positive for smart transportation management [41]. ICT has an important projection on integrated information systems from Information Technology with virtual information systems and information system architectures [42] [43]. Apart from that, the basis for the existence of ICT infrastructure is the foundation (mobile technology, websites, and digital government) for the realization of smart mobility [44].

The concept of ICT Infrastructure (Smart Mobility) according to the Ministry of PUPR at least has factors such as EV Charging and Infrastructure, Traffic Mgt, Tolling Management, Railway MGT, Tunnel Management, and Airport Solutions (Ministry of PUPR, 2022). The Lampung Province Medium-term Development Plan 2019-2024 document does not find the program as a step towards smart mobility. The data is also clarified in the increase in traffic violations in 2022 which increased to 31.28 percent or 8,729 cases [46]. According to the Lampung Police Chief, this happened due to inadequate transportation facilities and infrastructure in the development of the digitalization trend and the increasing number of transportation. This then becomes a complaint for traffic users that all roads in Lampung Province do not yet have street lighting [47]. Then in the indicators of innovation and safe transportation, the Provincial Government of Lampung through the RPJMD document only has an effort program for routine maintenance of roads and bridges. Apart from that, another thing is the fast response unit for repairing existing infrastructure. Innovative and safe transportation here is meant as a technological innovation that is offered through the best possible connectivity between people, vehicles and digital infrastructure [48] [49] [50]. Gang Kou & Serhat Yuksel (2022) explained in the research that this innovative and safe transportation concept can be realized with a program strategy of reducing carbon emission gas by projecting it on environmentally
Therefore, a conclusion can be drawn that the Provincial Government of Lampung does not yet have a plan or program that leads to innovation and safe transportation. This happens because of the main priority, namely physical development to establish transportation accessibility [52].

Then in the last indicator namely sustainable which can then be interpreted as a design or model of transportation that is modern, electric, environmentally friendly, digitized in the system [53] [54]. The smart mobility model that prioritizes sustainability will be framed within the smart city framework in growing smart cities. In the context of Lampung Province itself, links between programs or plans that lead to sustainability have not been found from the analysis of the RPJMD development documents. It can be seen that the sustainable priority that will be pursued by the local government is strengthening the sources of apparatus and infrastructure that are fast, responsive and appropriate. In addition to refunctioning regional infrastructure networks (Sumatra toll roads, national roads, seaports, ferry ports, wharves, railways and airports) to improve external connectivity.

4. Conclusion

In general, the Lampung provincial government has not implicitly implemented smart mobility, which is regulated through the 2019-2024 RPJMD. This is because Lampung’s main problem is in the road accessibility sector. Many found that road accessibility is still classified as very unfit (damaged) so that the future projections of smart mobility are still very far away and left behind.

Then, ICT devices regulated in the realization of smart mobility in Lampung province are also still minimal because they themselves are in 30th position out of provinces in Indonesia. So that’s what causes smart mobility in Lampung not to work with such a projection. That’s why the Lampung government is still focusing on physical infrastructure to build accessibility to support community mobilization.

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