

Virtual

5th INTERNATIONAL CONFERENCE OF INTERRELIGIOUS AND INTERCULTURAL STUDIES

FUTURE CITIES OF THE WORLD

PROCEEDING BOOK

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Editors:

I Ketut Ardhana

I Komang Gede Santhyasa

Dicky Sofjan

Yekti Maunati

Mochamad Indrawan

Made Adi Widyatmika



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2020

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2 October 2020

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UNIVERSITAS HINDU INDONESIA

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Organizing Committee

Chair: I Komang Gede Santhyasa

Secretary: Ni G A Diah Anabarwati Kardinal

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M. Basoeki Hadimoeljono, Indonesian Minister of Public Work and Housing

Plenary

Ida Bagus Rai Dharmawijaya Mantra, Ngakan Ketut Acwin Dwijendra, Andre van Eymeren,

Purnamawati, Sachi Ando, I Wayan Muka, Grace Robert Dyrnes

Virtual conference on Zoom platform

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CHAIRMAN FOREWORD

Om swastyastu.

It gives me immense pleasure to learn that Universitas Hindu Indonesia Denpasar organized the 5th International Conference of Interreligious and Intercultural Studies with its mesmerizing theme "Future Cities of the World". With the involvement of scholars and researchers from several countries, the conference is expected to become an academic forum that addresses issues and hopes in future cities.

Currently, most cities in the world facing various kinds of threats such as intolerance, radicalism, ethnicities, includes spaces issues, come with the advancement of technology, leading to the degradation of the city resilience. It takes holistic thoughts to realize the resilience of a city. I believe the broad knowledge and experience of scholars from various countries will provide valuable insights to realize sustainable urban resilience.

I am grateful that the pandemic has not dampened the enthusiasm of scholars to continue carrying out academic activities. I express my appreciation for the good collaboration between UNHI and ICRS, LIPI, and IFSSO, so that this conference can be held through an online platform. Hopefully, all participants will enjoy the conference and could achieve useful goals for human civilization. Thank you!

Om santih, santih, santih, Om.

I Komang Gede Santhyasa

Chair, 5th ICIIS Organizing Committee

RECTOR OF UNHI REMARKS

Om swastyastu

It gives me great pleasure to extend to you all a very warm welcome at this virtual meeting. Universitas Hindu Indonesia would like to say how grateful we are to the scientist, scholar, and researcher who have accepted our invitation to convene virtually in the 5th International Conference of Interreligious and Intercultural Studies with an insightful theme: Future Cities of the World, on 2 October 2020. This academic activity is also a part of UNHI's 57th anniversary.

There are more than 20 papers will be presented virtually organized by Universitas Hindu Indonesia in collaboration with ICRS Yogyakarta, LIPI Jakarta, and IFSSO. The greatest academic issues that will be discussed in this forum are the general and specifics issues in the city resilience.

In this precious moment, I would like to express our gratitude to the honorable Minister of Public Work and Housing of Indonesia who will give a valuable speech at this conference. I would like also to convey my appreciation to the Mayor of Denpasar who will share his valuable knowledge and experiences, which we know that Denpasar has made great achievements in the past two decades. Also my gratitude to all invited speakers, both local and broad scholars. As the host, we consider that the contribution of participants and speakers to this conference is exactly the main thing. Through this seminar, we explore and develop smart ideas to deal with the threat to the city resiliences.

We sincerely hope that this conference could be an academic discussion for scholars from various fields of interest, and get the noble goal. Please enjoy the conference.

Om santih, santih, santih, Om.

I Made Damriyasa

Rector of UNHI

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**DEVELOPMENT OF URBAN AND RURAL TRANSPORTATION
THROUGH IMPROVING AND MAINTAINING ROAD PAVEMENT
CONDITIONS IN BALI**

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ABSTRACT

One of the development gaps between regions can be seen from the gap in the availability of facilities and infrastructure such as transportation and the distortion of the urban-rural system. Improvement and maintenance of road pavement conditions will have a major impact on the development of transportation, especially to facilitate the accessibility and mobility of rural and urban communities in Bali. This research was conducted by analyzing descriptively qualitatively to see more clearly how the development of transportation through improvement and maintenance of pavement conditions in villages and cities that have been carried out in Bali.

Key words: transportation, urban-rural, road pavement

I. Introduction

Bali as a tourist destination, of course, has various means in terms of transportation or transportation. Various kinds of transportation on the island of Bali help the mobility or movement of human activities. Of course not all regions have complete transportation services, it is different if the place is a tourism area or a city center like Denpasar.

The development and progress in development can be seen from several indicators of economic activity. One indicator to see economic development is by looking at transportation activities, especially land transportation in cities and villages. The use of land transportation can be seen from several indicators, namely from the land transportation facilities and infrastructure used by residents in their activities.

The status of roads as transportation infrastructure in the province of Bali (Bali Provincial PUPR Office, 2017) is 629.39 km of national roads, 743.34 km of provincial roads, and 5,391.43 km of regency roads. The total length of roads in Bali Province is 6,764.16 Km.

Land transportation problems occur in almost all major cities and developing cities with indications of traffic jams, accidents, air and noise pollution and intrusion of sight. Where land transportation includes passenger transportation (passenger) and goods transportation (goods vehicles).

Congestion due to the high volume of vehicle ownership in Bali, currently the population of Bali is around 4.2 million people. The total number of vehicles owned by the Balinese is 4.1 million. The ratio of vehicle ownership in Bali is close to one person per vehicle. The rate of growth of roads is not proportional to the volume of vehicles. As a result, there is often a build-up of vehicles and a traffic jam at some point.

Given the development of transportation in Bali, where the volume of vehicles is dense, resulting in road congestion, especially in cities, and this happens because it is not proportional to the rate of road growth. Then there is vehicle load repetition with several types of heavy vehicles passing through. Then the problems are formulated, among others: how is the development of transportation in villages and cities in Bali and how are the maintenance efforts (overlay) and its improvement (road widening).

II Literature Study

Transportation is a combination of two definitions, namely system and transportation. The system is a form of attachment and linkage between one variable and another in a structured order, while transportation is an attempt to move, move, transport or divert people or goods from one place to another, where in another place the object is more useful or can be useful for certain purposes. So, from these two definitions, it can be concluded that the transportation system is a form of attachment and linkage between various variables in an activity or effort to move, move, transport, or transfer people or goods from one place to another in a structured manner for a specific purpose. Supporting tools for the movement process is termed a transportation system which includes various elements (subsystems) in the form of:

- 1) Space to move (road).
- 2) The starting / ending place of the movement (terminal).

3) Who moves (means of conveyance / vehicle in any form).

4) Management: which coordinates the three previous elements

Then the road as transportation infrastructure, from a cultural perspective according to Salain (2017), is:

1) The road is a physical form of culture, it can be seen, touched or felt.

2) With the advancement of transportation in the world and Bali, all the technology and infrastructure it needs will be carried over and developed in Bali.

3) Changes in transportation facilities have changed the landscape and natural and social environment of Bali.

4) The road has become an ideology and a tool of power in the development discourse.

5) The path succeeds in becoming an object and not a subject under construction. Land becomes a commodity.

6) Road is one of the factors changing agrarian culture.

7) Changing the function and mode of transportation as changes and dimensions of technology systems and equipment will change the evolution of other dimensions.

The strength of the road structure cannot be separated from the pavement conditions. Pavement is a mixture of aggregate and binding material used to serve traffic loads. According to Sukirman (1999) the strength and durability of road pavement construction is highly dependent on the properties and bearing capacity of the subgrade. Road pavement construction is divided into three groups according to the binding material used to form the top layer, namely flexible pavement, rigid pavement and composite pavement, namely rigid pavement combined with flexible pavement (Sukirman, 2010).

Road repairs are carried out in order to be able to provide optimal services in accordance with the required capacity. In this connection, Law no. 13 of 1980 and Government Regulation no. 26 of 1985, states that transportation is one of the infrastructure for land transportation which has an important role for economic growth, socio-culture, development of tourism areas, and defense and

security to support national development, so the importance of road pavement is increasingly clear.

Damage to flexible pavement construction can be caused by:

- a. Traffic, which can be in the form of increased loads, and load reps.
 - b. Water, which can come from rainwater, poor road drainage systems and rising water due to capillary action.
 - c. Pavement construction material. In this case it is caused by material properties or it can also be caused by a bad material processing system.
 - d. Climate, Indonesia has a tropical climate, where the air temperature and rainfall are generally high, which can be one of the causes of road damage.
 - e. Unstable subgrade conditions. It may be caused by a poor implementation system, or it could also be caused by the nature of the underlying soil which is not good enough.
 - f. The process of compaction of the layers above the subgrade is not good.
- Generally, the damages that arise are not caused by just one factor, but can be a combination of related causes.

One way to improve or build highway construction is to plan and design the thickness of the flexible pavement by understanding and using several methods. The accuracy of using the method will guarantee the strength of the road (Indriani, MN, 2017).

III Research Methodology

The type of research that will be used is descriptive qualitative research, which is a research strategy that produces data or information that can be. Describing social reality and related events in people's lives. The research process is cyclical, not linear as in quantitative research (Sugiyono, 1992). According to Moelong (2002), this qualitative research requires more data in the form of a series of words not numbers. The data collection techniques used in this study are observation, literature, interview and documentation. Data analysis technique is a method of data processing which is carried out by using a certain analysis technique in order to obtain valid data, according to the data analyzed for the

technique used is descriptive analysis technique. Analysis is the process of arranging the order of data, organizing it into a pattern, category and basic description unit so that it can be interpreted. Interpretation or interpretation means giving meaning to analysis, explaining patterns or categories and looking for relationships between various concepts. This is done continuously from the beginning to the end of the study so that further conclusions can be drawn from the research results.

IV Result and discussion

Pavement layers often experience breakage or failure before they reach the design life. Pavement failure can be seen from the functional and structural damage conditions. Functional damage is when the pavement can no longer function as planned. Meanwhile, structural damage is caused by unstable subgrade, traffic load, surface fatigue, and the influence of environmental conditions.

The development of transportation on the island of Bali, is growing very fast, here are a number of transportation on the island of Bali:

a) Car rental

To rent a car, it is considered the most complete means of transportation in Bali, almost all areas in Bali, both in villages and in cities, provide car rental services.

b) Rent a motorbike

This kind of transportation is more widely used by tourists for easier mobility in cities or in tourist centers that tend to be congested, as well as visiting a number of nearby tourist attractions from the nearest residence or hotel.

c) Taxi

This means of transportation on the island of Bali, the price is using metered meters, it is quite popular for use by local residents and tourists alike, there are a number of taxi companies operating in Bali, but it is necessary to know this transportation in Bali. Does not operate in all areas of Bali, only on a small part of the island, namely in the center of Denpasar.

d) Online transportation

The existence of online transportation is considered the newest in Bali, not only transportation using cars but also motorbikes, some of which are now known as Grab and Gojek brands.

e) Transportasifreelance

Transportation in Bali is only located in tourism centers, such as Ubud, Kuta, Seminyak, Nusa Dua, Tanah Lot, Amed, Candidasa, Lovina and a number of other places. Their existence has received approval from the local village, their position is usually in the center of the crowd so that it is easily found by tourists who need it, such as near restaurants, nightlife centers and hotels.

f) Sarbagita

This means of transportation in Bali, which has started operating in Bali, can indeed reduce congestion, where operations are more dominant in the South Bali and Denpasar areas.

The results of observations, surveys, observations, documentation are as follows:

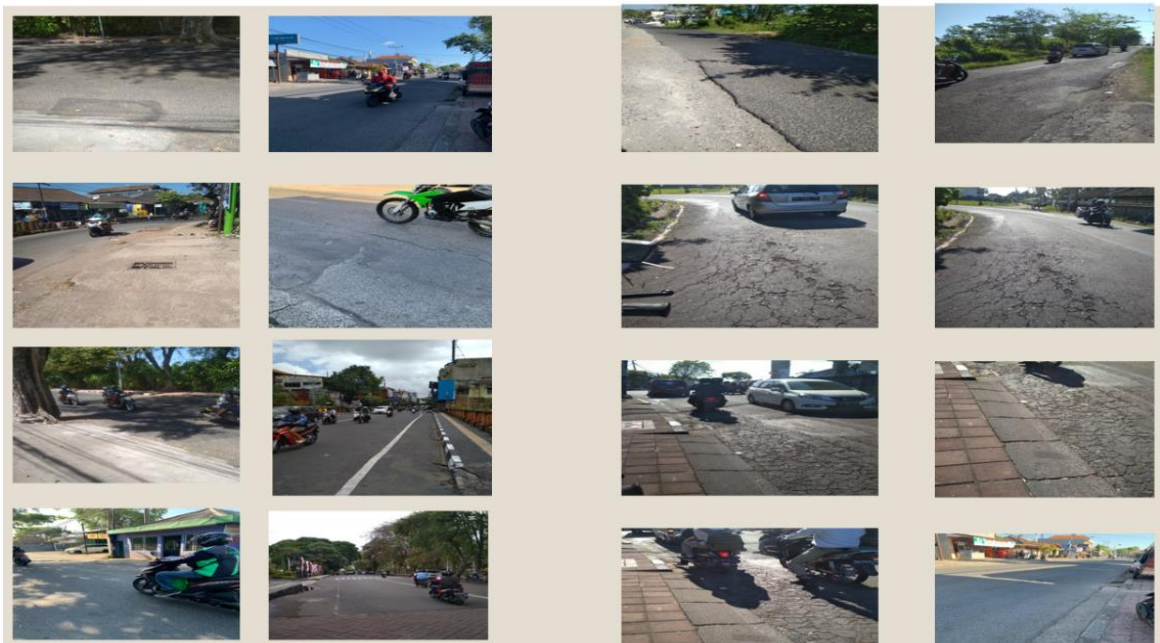


Figure 4.1 Transportation conditions and road pavement on several urban and rural roads in Bali

Source: Researcher (2020)

Conclusion

From the previous description, it can be concluded that one of the benefits of roads in Bali is as an implementation of the urban-village spatial pattern. The development of transportation in cities and villages in Bali is supported by the strength of the pavement construction. The Provincial Government of Bali already has a routine program to maintain road quality, namely a road improvement program, a road maintenance program, a periodic maintenance program, a road construction program.

The road improvement program is carried out on road sections that have decreased service levels due to damage to road construction and the planned / service life of the road that has expired its service life (plan age = 10 years) by increasing the carrying capacity of construction and widening (additional capacity) and improved vertical and horizontal alignment. Routine maintenance programs are carried out on every road segment throughout the year to maintain road conditions in order to serve traffic flow. In carrying out routine maintenance, it does not only maintain the pavement (asphalt) such as patching (hole patching), buras (laburan asphalt), burtu (one-layer laburan) and burda (two-layer laburan), but everything in the road space (rumija) such as: road shoulders, gutters, grass and other road equipment.

A periodic maintenance program is carried out on roads that have decreased service levels so that construction repairs are needed to return them to their original service levels. The construction is carried out on periodic road maintenance in the form of overlaying and reconstruction.

A new road construction program is carried out if the road improvement that has been implemented cannot solve traffic problems or regional development, so it is necessary to improve the road network in the form of new roads and bridges.

REFERENCE

- Dinas pekerjaan umum dan penataan ruang provinsi bali bidang bina marga. Seminar pelapisan ulang perkerasan jalan. Universitas Udayana Denpasar. 2017.
Indriani, Made Novia. (2017). Metode-Metode Perhitungan Perencanaan Tebal Perkerasan Lentur Jalan

- Moleong, Lexy. (2002). Metodologi Penelitian Kualitatif. Bandung: PT. remaja Rosdakarya.
- Peraturan Pemerintah Republik Indonesia Nomor 26 Tahun 1985 Tentang Jalan
- Sugiyono. 1992. Metode Penelitian Kualitatif-Kuantitatif. Bandung: Alfabeta
- Rumawan Salain Putu. Seminar pelapisan ulang perkerasan jalan. Universitas Udayana Denpasar. 2017.
- Sukirman Silvia, 1999, Perkerasan Lentur Jalan Raya, Penerbit Nova, Bandung.
- Sukirman Silvia, 2010, Perencanaan Tebal Struktur Perkerasan Lentur, Penerbit Nova, Bandung.
- Undang-Undang Republik Indonesia Nomor 13 Tahun 1980 Tentang Jalan