



CONFERENCE SERIES

IOP Publishing is one of the world's largest conference proceedings publishers, providing organisers and authors with a fast, easy to use and effective publication process.

We publish research presented and discussed at prestigious conferences in physics and related subjects around the world. Key topics include physics, materials science, environmental science, bioscience, engineering, computational science and mathematics.

In 2021 we are relaunching our proceedings service with a brand-new suite of tools that offer seamless management of each stage of the process as well as the option to host your conference online. Find about more about our new services [here](#).

More info

[About us](#)
[Authors](#)
[Organizers](#)
[Request quote](#)
[View forthcoming volumes](#)
[Contact us](#)



Publish your proceedings with IOP

An end-to-end publishing solution: our easy-to-use platform provides seamless management of each stage of the process, and features world-class tools included in the standard publishing charge, including:

- call for abstracts and abstract management
- call for papers and author submission
- peer review management
- submission to the publisher
- data and analytics

Host your conference online: our platform integrates seamlessly with Morressier's world leading management tools for virtual and hybrid conference hosting, meaning you can easily manage all aspects of your event in one place (subject to a separate charge)

[Learn more](#)

[Request a quote](#)

View published volumes

[Journal of Physics: Conference Series \(JPCS\)](#)

[IOP Conference Series: Materials Science and Engineering \(MSE\)](#)

[IOP Conference Series: Earth and Environmental Science \(EES\)](#)

View forthcoming volumes

[Journal of Physics: Conference Series \(JPCS\)](#)

[IOP Conference Series: Materials Science and Engineering \(MSE\)](#)

[IOP Conference Series: Earth and Environmental Science \(EES\)](#)



PUBLICATIONS

[Journals](#)

[Physics World](#)

RESEARCHERS

[Publishing Support](#)

[Author guidelines](#)

LIBRARIANS

[Ordering](#)

[Continued Access Rights Policy](#)

PARTNERS

[Partners](#)

[Work with us](#)

OUR COMPANY

[About us](#)

[News](#)

LEGAL

[Terms and conditions](#)

[Privacy and cookies](#)

[Conference Series](#)

[Submit your paper](#)

[Jobs](#)

[Copyright notice](#)

[Books](#)

[Checking the proofs of
your journal article](#)

[Contacts](#)

[Environmental policy](#)

[Article structure](#)

[Disclaimer terms](#)

[Editing services](#)

[Modern Slavery Policy](#)

[Gender Pay Gap
Report](#)

[Advertising policy](#)

[Federated access
privacy statement](#)

[Journal policies](#)

SOCIAL



[BACK TO TOP](#)



1 of 1

[Download](#) [Print](#) [E-mail](#) [Save to PDF](#) [Save to list](#) [More... >](#)

IOP Conference Series: Earth and Environmental Science • [Open Access](#) • Volume 396, Issue 1 • 11 December 2019 • Article number 012018 • 2nd International Conference on Smart City Innovation • Semarang • 9 October 2019 • Code 156287

Document typeConference Paper • [Bronze Open Access](#)**Source type**

Conference Proceedings

ISSN

17551307

DOI

10.1088/1755-1315/396/1/012018

Publisher

Institute of Physics Publishing

Original language

English

Volume Editors

Damayanti M.

[View less](#)

Effect of Weather for Demand of Online Transportation in Tembalang, Semarang

Rakhmatulloh A.R.^a ; Dewi D.I.K.^a ; **Wijayanti**^b ; Winarendri J.^c

Save all to author list

^aUrban Regional Planning Department, Faculty of Engineering, Diponegoro University, Jl. Prof Sudharto, SH Tembalang, Semarang, Jawa Tengah, Indonesia

^bArchitecture Department, Faculty of Engineering, Diponegoro University, Jl. Prof Sudharto, SH Tembalang, Semarang, Jawa Tengah, Indonesia

^cWageningen University and Research, Netherlands

1 63th percentile Citation in Scopus	0,72 FWCI	17 Views count	View all metrics >
---	--------------	-------------------	---------------------------------------

[View PDF](#) [Full text options](#) [Export](#)
Abstract

Author keywords

Indexed keywords

Sustainable Development Goals 2021

SciVal Topics

Metrics

Funding details

Abstract

Estimates of online transportation users in an area need to be known because it can be used to analyze how much the dependence of the traveler on online transportation. So that it can be seen how the travel patterns of online transportation users. However, research on the impact of weather variables on the selection of modes of online transportation has not been widely implemented. This study aims to evaluate the influence of the weather by entering dry season and rainy season variabel related to daily travel behaviour on online transportation. This research was conducted at Tembalang Semarang, and the target of respondents was students. The analytical results show that, in general the existence of rainfall is associated with a certain degree of online transpotation user of go car/grab car increase. So we can conclude that weather-related variables were found to routine/daily trips. © Published under licence by IOP Publishing Ltd.

Author keywords

daily trip; demand of online transportation; education area; weather

Cited by 1 document

Impact of weather conditions on travel demand – the most common research methods and applied models | Uticaj vremenskih uslova na transportnu potražnju – najčešće metode istraživanja i primenjeni modeli

Petrović, D. , Ivanović, I. , Đorić, V. (2020) *Promet - Traffic - Traffico*

[View details of this citation](#)

Inform me when this document is cited in Scopus:

[Set citation alert >](#)**Related documents**

Impact of weather conditions on middle school students' commute mode choices: Empirical findings from Beijing, China

Ma, L. , Xiong, H. , Wang, Z. (2019) *Transportation Research Part D: Transport and Environment*

Assessment of metro ridership fluctuation caused by weather conditions in Asian context: Using archived weather and ridership data in Nanjing

Li, J. , Li, X. , Chen, D. (2018) *Journal of Transport Geography*

Through the storm: Transit agency management in response to climate change

Miao, Q. , Feeney, M.K. , Zhang, F. (2018) *Transportation Research Part D: Transport and Environment*

[View all related documents based on references](#)

[Find more related documents in Scopus based on:](#)

[Authors >](#) [Keywords >](#)

Engineering controlled terms

Weathering

Engineering uncontrolled terms

Analytical results; Daily travel behaviours; daily trip; Dry seasons; Rainy seasons; Related variables; Travel patterns

Engineering main heading

Smart city

Sustainable Development Goals 2021 ⓘ New

^

Sustainable Development Goals mapped to this document

Sustainable cities and communities

Goal 11

SciVal Topics ⓘ

^

Topic name

Bicycling; Bike; Cyclist

Prominence percentile

99.307 ⓘ

Metrics

^

Scopus metrics

1

63th percentile

Citation in Scopus

0,72

Field-Weighted citation impact ⓘ

Views count ⓘ
Last updated on 11 August 2022

3

Views count 2022

3

Views count 2021

17

Views count 2013-2022

[More metrics >](#)

PlumX metrics ⓘ

Captures

6

Readers

[View PlumX details >](#)

Funding details

^

Funding sponsor	Funding number	Acronym
City-centered Innovation and Technology		
Sustainable Higher Education Research Alliance		
United States Agency for International Development		USAID
See opportunities by USAID ↗		
Singapore-MIT Alliance for Research and Technology Centre	-00000078-UI-1, -497-A-1600004	SMART
See opportunities by SMART ↗		



Source details

[Feedback >](#) [Compare sources >](#)

IOP Conference Series: Earth and Environmental Science

Scopus coverage years: from 2010 to Present

ISSN: 1755-1307 E-ISSN: 1755-1315

Subject area: [Earth and Planetary Sciences: General Earth and Planetary Sciences](#) [Environmental Science: General Environmental Science](#)

Source type: Conference Proceeding

[View all documents >](#)[Set document alert](#)[Save to source list](#)[Source Homepage](#)

CiteScore 2021

0.6



SJR 2021

0.202



SNIP 2021

0.409

[CiteScore](#) [CiteScore rank & trend](#) [Scopus content coverage](#)

Improved CiteScore methodology

CiteScore 2021 counts the citations received in 2018-2021 to articles, reviews, conference papers, book chapters and data papers published in 2018-2021, and divides this by the number of publications published in 2018-2021. [Learn more >](#)



CiteScore 2021



$$0.6 = \frac{45.063 \text{ Citations 2018 - 2021}}{74.324 \text{ Documents 2018 - 2021}}$$

Calculated on 05 May, 2022

CiteScoreTracker 2022

$$0.8 = \frac{60.727 \text{ Citations to date}}{75.404 \text{ Documents to date}}$$

Last updated on 05 March, 2023 • Updated monthly

CiteScore rank 2021

Category	Rank	Percentile
Earth and Planetary Sciences	#153/191	20th
General Earth and Planetary Sciences		
Environmental Science	#191/228	16th
General Environmental Science		

[View CiteScore methodology >](#) [CiteScore FAQ >](#) [Add CiteScore to your site >](#)

About Scopus

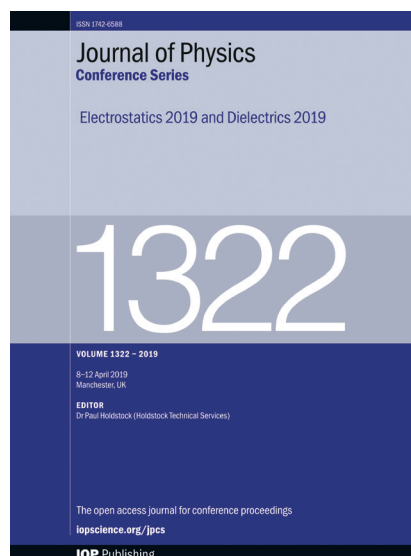
[What is Scopus](#)
[Content coverage](#)
[Scopus blog](#)
[Scopus API](#)
[Privacy matters](#)

Language

[日本語版を表示する](#)
[查看简体中文版本](#)
[查看繁體中文版本](#)
[Просмотр версии на русском языке](#)

Customer Service

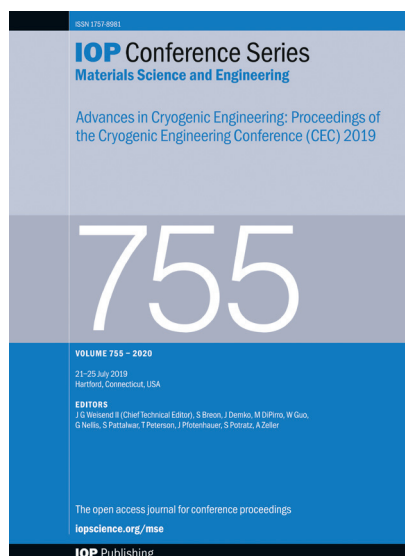
[Help](#)
[Tutorials](#)
[Contact us](#)



JOURNAL OF PHYSICS: CONFERENCE SERIES

The open access *Journal of Physics: Conference Series* (JPCS) provides a fast, versatile and cost-effective proceedings publication service.

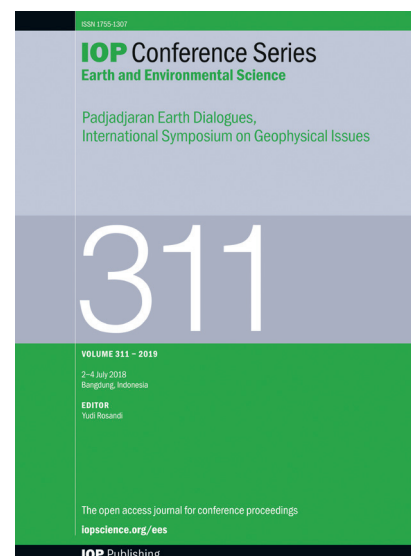
iopscience.org/jpcs



IOP CONFERENCE SERIES: MATERIALS SCIENCE AND ENGINEERING

With the ability to publish proceedings from events of any size, the *IOP Conference Series: Materials Science and Engineering* provides a comprehensive solution for materials science and engineering conferences.

iopscience.org/mse

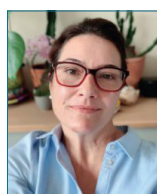


IOP CONFERENCE SERIES: EARTH AND ENVIRONMENTAL SCIENCE

The *IOP Conference Series: Earth and Environmental Science* (EES) provides a fast, versatile and cost-effective proceedings publication service.

iopscience.org/ees

MEET THE COMMISSIONING TEAM



Senior Publisher
ANETE ASHTON



Commissioning Editor
LORNA WROE
jpcnf@iopublishing.org



Commissioning Editor
LUCY EVANS
mse@iopublishing.org



Commissioning Editor
FEICHI GAO
ees@iopublishing.org

➤ For more information visit **conferenceseries.iop.org**

IOP Conference Series: Earth and Environmental Science

Table of contents

Volume 396

December 2019

[◀ Previous issue](#) [Next issue ▶](#)

The 2nd International Conference on Smart City Innovation 9 October 2019, Semarang, Indonesia

[Open all abstracts](#)

Preface

OPEN ACCESS

011001

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy and Cookies](#) policy.

OPEN ACCESS

011002

Peer review statement

[+ Open abstract](#) [View article](#) [PDF](#)

Energy and environment

OPEN ACCESS

012001

Sustainability of Using Low-Rank Coal as Energy Source through The Upgrading Brown Coal (UBC) Process by Adding Waste Cooking Oil

B D Afrah, M I Riady, N Thereza, H Widhaningtyas and M Siregar

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012002

Plasma Gasification With Municipal Solid Waste As A Method Of Energy Self Sustained For Better Urban Built Environment: Modeling and Simulation

P A Sesotyo, M Nur and J E Suseno

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012003

Purification of Used Cooking Oil Using Activated Carbon Adsorbent from Durian Peel

S Miskah, T Aprianti, M Agustien, Y Utama and M Said

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012004

Local Wisdom in Malay Kampung Semarang as Representatives of Smart Environment

W Kurniawati, Mussadun, D Suwandono and T Z Islamey

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012005

Online Taxi bike To Create Informal Public Spaces in Urban Areas

W Kurniawati and T Z Islamey

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012006

Organism Associated with *Cymodocea Serulata* in Different Habitats near Urban Coastal Area

N L Watiniasih, I W Nuarsa, I M Merdana, I N Budiarsa, A Dharma, I N G Antara and M W Paborini

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012007

The Potential of Urban Organic Waste Utilization as Neo Carbon Food

S L Putri, C V Marbun and G L Utama

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012008

Preliminary study on hydrogen storage for fuel of fuel cell using Fe₃Al metal hydride system

D Rohendi, A Rachmat, N Syarif, M Said and I Amelia

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012009

The Production of Hydrogen from Aluminum Waste by Aluminum-Water Methods at Various Conditions

D Rohendi, A Rachmat, N Syarif, M Said and I Rihansah

[+ Open abstract](#) [View article](#) [PDF](#)

JOURNAL LINKS

[Journal home](#)[Journal scope](#)[Information for organizers](#)[Information for authors](#)[Contact us](#)[Reprint services from Curran Associates](#)

OPEN ACCESS 012010

The Role of Food Delivery Services by Online Motorcycle Taxi on the Development of Culinary Home-Based Enterprises

W P Tyas, M Damayanti, J K Hutama and D D Saragih

+ Open abstract View article PDF

OPEN ACCESS 012011

An analysis of potential utilization of low cost Cu2ZnSnS4 thin film based photovoltaic in Sumbawa

A Rukini, L Suhaimi, A S Pradhipta and M Anggara

+ Open abstract View article PDF

OPEN ACCESS 012013

Sustainable Communities as a Response to Climate Change: Analysis of Geroldsäcker Eco-Housing Project and Recommendations for its Replication Considering Current Urban Challenges

B Kasih, K Nohara, L Zerbst and R Javier

+ Open abstract View article PDF

Environment

OPEN ACCESS 012014

Land Use Change Along *Lebih* Coastal Line, Entailing Its Designation as A Zone for Tourist Development

G A M Suartika, I A S O Ledysianty and K E Saputra

+ Open abstract View article PDF

OPEN ACCESS 012015

Coworking Space and Cluster Spatial Relations in the Context of Jakarta City Spatial Structure

W Huliana and E Ellisa

+ Open abstract View article PDF

OPEN ACCESS 012016

Urban Planning Simulation Game and the Development of Spatial Competence

N I Pramaputri and A Gamal

+ Open abstract View article PDF

Infrastructure

OPEN ACCESS 012017

Hydroponic Plants Monitoring System based on Single Board Computing in Order to Increase Food Security in Bali

I K A Mogi and A Dharma

+ Open abstract View article PDF

OPEN ACCESS 012018

Effect of Weather for Demand of Online Transportation in Tembalang, Semarang

A R Rakhmatulloh, D I K Dewi, Wijayanti and J Winarendri

+ Open abstract View article PDF

OPEN ACCESS 012019

Basic Framework of Regional Model for Disaster Waste Estimation and Distribution by Using Spatial Approach in Central Java-Indonesia

M Maryono, K Seruningtyas, A D Roynaldi, Sudarno and Hadiyanto

+ Open abstract View article PDF

OPEN ACCESS 012020

Literature Review: Technologies and Property Development

C F Maududy and A Gamal

+ Open abstract View article PDF

OPEN ACCESS 012021

User Assessment of Quality Service of Trans Jateng Bus Stops, in Sub-Urban Corridor (Ungaran-Bawen)

L D Agitha and F H Mardiansjah

+ Open abstract View article PDF

OPEN ACCESS 012022

Modelling the Needs of Light Rail Transit (LRT) on Transit Oriented Development Area around LRT Stations in Palembang

M Agustien, B Susanti and H Pahlevi

+ Open abstract View article PDF

OPEN ACCESS 012023

Smart Community in Public Toilet Management in Demaan Slum Settlement, Jepara Regency

S Sunarti, M Helmi, R Widjajanti and A A Purwanto

+ Open abstract View article PDF

OPEN ACCESS 012024

Smart Kampung: Characterisation of Surabaya Urban Coastal Settlements through Smart City Measurement

K P Nariratih and D Rahmawati

+ Open abstract View article PDF

OPEN ACCESS 012025
Towards Collaborative Batik Waste Management Model in Kampong Batik Semarang
G L Wungo, S P Dewi, H Susanto, R Desiriani and E F Karamah
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012026
Usability of QR code in the design of Information system for recognizing historic buildings, Kota Lama, Semarang
D M K Nugraheni, D I K Dewi and A K Nugroho
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012027
Traffic Management for Jalan Kayu Ayu in Seminyak Area, Badung Regency
I N K Mataram, A A N A J Wikrama and I G A M Suartika
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012028
Angle Characterization Radiation Detection of Microstrip Antenna for Short Range Terahertz Communication System
C Apriono and G Adriandi
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012029
PROVISION OF A SUSTAINABLE PUBLIC SPACE: LEBIH COASTAL AREA IN THE AFTERMATH OF RAMPANT ABRASIONS
G A M Suartika, N P D A Permasuri and K E Saputra
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012030
Try and Find it - Understanding Public Space and Civil Society in Bali
N M Swanendri and G A M Suartika
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012031
The Implication of Smart Environment on Old Palembang Cultural Heritage Places
W F F Anwar
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012032
Desktop-Based Population Data Information System to Support The Sumbawa Electronic Government in Rhee District
Muhammad Hidayatullah, Fery Hendrawan, Titi Andriani, Shinta Esabella and Nurhairunnisah
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012033
The Analysis of Barriers for Implementation of Sustainable Construction in Indonesia
B Susanti, S F H Filestre and I Juliantina
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012034
Comparison Analysis Operational Cost of Vehicle (VOC) Between Kayu Agung-Palembang-Betung Toll Road Plan with Existing Road
E Kadarsa, Hanafiah, B B Adhitya, M Pataras and A Azari
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012035
Erosion Potential Based on Erodibility and Plasticity Index data on Cilengkrang, Bandung, West Java, Indonesia
N Khoirullah, IJ Mufti, I Sophian, T Yan W. M. Iskandarsyah and D Muslim
[+ Open abstract](#) [View article](#) [PDF](#)

Accepted papers received: 4 November 2019 Published online: PI Online DATE Preface

OPEN ACCESS 012036
Evaluation and study of minimarket potential locations in BWK I, Semarang City
D Pramukti and W P Tyas
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012037
Community Perception of Cheese-Making Wastes Utilization and its Sustainability
G L Utama, I Dinika and R L Balia
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012038
Liquefaction Potential Based on Geology and Geotechnical Data on Sanana Region, Sula Island Regency, North Maluku, Indonesia
U S Pajrin, A Mubarak, J P Basuki, Z Zakaria, R I Sophian and N Khoirullah
[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS 012039
The Impact of Go-food on Travel Behaviour for The Fulfillment of Consumption Needs in Higher Education Areas

OPEN ACCESS

012040

The Hexa-Helix Concept for Supporting Sustainable Regional Development (Case Study: Citatah Area, Padalarang Subdistrict, West Java, Indonesia)

Z Zakaria, R I Sophian, B Muljana, N Gusriani and S Zakaria

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012041

An Open Market: The Legitimation and Regulation of the Public Realm in Denpasar

G A M Suartika, I K Mudra and K E Saputra

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012042

The spectrum of city park service scope: case study of Lapangan Puputan Badung and Lapangan Puputan Margarana Denpasar-Bali

N Kohdrata, G A M Suartika, A A K Krisnandika, L S Yusiana and I M A Dharmadiatmika

[+ Open abstract](#) [View article](#) [PDF](#)

Sustainable Communities as a Response to Climate Change: Analysis of Geroldsäcker Eco-Housing Project and Recommendations for its Replication Considering Current Urban Challenges

B Kasih¹, K Nohara¹, L Zerbst¹, R Javier¹

¹University of Stuttgart, Stuttgart, Jerman

Email: bonikasih@gmail.com

Abstract. Geroldsäcker eco-housing is a unique project located in the northeast of Karlsruhe, in a 1.24-hectare plot with constructed area of 5.600m². The planning of the project started in year 1989 and its completion happened in 1992. It is composed of 40 residence units: apartments and 3 store row-houses with private garden. The initial concept was an ecological settlement with common infrastructure and spaces for human interaction, using constructive ecological materials and devices for the residences and common areas. The community living sense is one of this project's highlights. The 120 residents not only share common spaces, such as a community house destined to events and practice of activities, but also developed task groups to cover all necessary workspaces in the settlement. What can be observed nowadays is that Geroldsäcker, even being implemented 3 decades ago, presents several important sustainability aspects in the ecological, social and economic dimensions. What started as a pilot project at a time when the definition of sustainability was still under discussion, can be considered a model not only of sustainable housing, but also as a broader model for sustainable communities. This paper explores the aspects identified in Geroldsäcker eco-housing project leading towards a sustainable community concept. Potentialities and improvement points are analysed, considering current urban challenges, such as high demand and costs for land, lack of public land for experimental projects, efforts to stimulate bottom up processes, the behaviour of current generations, the need for new and environmental friendly constructive patterns, and how to aggregate stakeholders to boost new models of sustainable communities projects.

Keywords: Sustainable communities, Geroldsäcker housing project, sustainable housing.



Traffic Management for Jalan Kayu Ayu in Seminyak Area, Badung Regency

I N K Mataram¹, A A N A J Wikrama¹, I G A M Suartika²

¹*Civil Engineering, Universitas Udayana*

²*Architecture Engineering, Universitas Udayana*

E-mail: nym.karnata@unud.ac.id

Abstract: The usage of land for commercial purpose along the side of the road often causes conflicts. One of the areas in Badung Regency, namely along the road called Jalan Kayu Aya, is an attractive tourism area, the passageway is quite large, while on the other hand the effective width of the road is only 5 meters. The purpose of this study is to analyze the performance and the current condition of the road as well as to analyze alternative solutions for improvement. Based on the results of the analysis, the peak hours at Jalan Kayu Aya Badung Regency is at 23.15-00.15 WITA, with a traffic volume of 1,078 pcu / hour, road capacity of 1236.51 pcu / hour, actual speed of 19, 26 km / h and a saturation level is 0.87 and an F for the level of road service. The analysis results of alternative 1 with the arrangement of side barriers shows that the traffic volume becomes 1,078 pcu / hour. The road's capacity is 1404.43 pcu / hour, the actual speed is 27.23 km / h and the saturation level is 0.77 with a C for the level of road service. While the analysis of alternative 2 with the application of one-way roads results in a traffic volume of 550.2 pcu / hour, the capacity of the road's passage is 1407.06 pcu / hour, the actual speed is 27.23 km / h and saturation level is 0.77 with a road service level of B.

Keywords: road performance, side obstacle

1. Introduction

Badung Regency is among the Regencies in Bali Province which is active in the trade, agriculture and tourism sectors. The tourism sector is the main economic activity in the Southern Badung region, mainly in Kuta District. One of the locations with a high density of visits from local and foreign tourists is Jalan Kayu Aya. There are many facilities that support the tourism activities in this area such as hotels, restaurants, cafés and art shops, which have a positive impact on the increase in the number of tourist who visits.

The increase in economic activity in the areas of Jalan Kayu Aya has lead to an increase in the road traffic volume. The utilization of land for commercial purposes along the sides of the road creates various problems[1]. The land along the sides of the road is generally used by pedestrians (both walking on and crossing), non-motorized vehicles, access for vehicles from the road side, and there are also vehicles that stop and park on the street. The various activities has caused side friction conflicts [2,3].

The main problem in Jalan Kayu Aya Badung Regency is the tall barriers on the road side. While the width of the road is narrow, it only has an effective width of 5m. So that traffic delays often occur due to the high side barriers on these roads.

Based on the background of the traffic problems in Jalan Kayu Aya, this study will examine the extent of the influence of side barriers on the road performance along with alternative solutions. This research is the first study to analyze side barriers in the areas of Jalan Kayu Aya.

2. Materials And Method

2.1. Side Obstacles

Many transportation problems are linked to the problems of delays that occur during the trip. [4,5]These problems are caused by vehicles entering and exiting the road, vehicles that park on the roadside, pedestrians using the road bodies, and non-motorized vehicles [6]. These are what are called side obstacles. Side obstacles in certain circumstances may result in a temporary travel delay and also cause traffic jams (Table 1, 2).



Angle Characterization Radiation Detection of Microstrip Antenna for Short Range Terahertz Communication System

C Apriono, G Adriandi

Antenna Propagation and Microwave Research Group (AMRG), Department of Electrical Engineering, Faculty of Engineering, Universitas Indonesia, Depok, Indonesia

E-mail: catur@eng.ui.ac.id

Abstract. Communication technologies are crucial components to develop smart city systems related to low latency and massive data transfer. The near field communication (NFC) technology has been becoming more popular for close-range data transmissions, such as multimedia data transfer and non-contact payment, and still increasing in term of capacity and data transfer. Increasing carrier frequencies is a solution to fulfill those demands. In wireless communication technology, an antenna is a crucial element to convert electrical signals into electromagnetic waves or vice versa. Theoretically, an antenna dimension is comparable to the considered wavelength. This condition indicates that higher working frequency systems have a smaller antenna size due to its wavelength shorten. Terahertz (THz) spectrum band is promising to apply higher carrier frequencies. However, the antenna design and fabrication are becoming issues because of the tiny size, electronic components availability, and practical complexities. We have designed a microstrip antenna for working frequency of 0.35 THz by combining ground modification to cover distance and data rates up to 10 cm and more than 20 Gbps, respectively. By considering the previous design, this paper discusses different distances and rotation angles to analyze the effectiveness of wave transmission by simulation using CST Microwave Studio. Analysis use received power parameters to identify accepted signals detection possibility. The results show that the received power exceeded the sensitivity boundary from -50° to 40° , which show that the angles also limit the allowable accepted power level. Therefore, THz NFC systems should consider the antenna placement for an optimum condition application.

Keywords: wireless, Terahertz, Near Field Communication (NFC), communication, antenna

1. Introduction

Communication technologies are crucial components to develop smart city infrastructure systems, especially related to the demand for low latency and massive data transfer. These requirements have been coming from new emerging human communication behaviors, such as video-on-demand services, video conferences, and cloud computing. Those technologies need wide bandwidth and high-speed data transfer to obtain high quality of service (QoS) for various both fix and mobile multimedia applications. They have been becoming more popular and have shifted previous telecommunication technologies usage and the way people communicate. The current technologies have been in a stage which should



Modelling the Needs of Light Rail Transit (LRT) on Transit Oriented Development Area around LRT Stations in Palembang

M Agustien^{1,2}, B Susanti^{1,2}, H Pahlevi¹

¹ Department of Civil Engineering, Sriwijaya University, Indonesia

² National Center for Sustainable Transportation Technology, Institut Teknologi Bandung, Indonesia

E-mail: Melawaty74@gmail.com

Abstract. Various efforts have been made to overcome the problem of congestion in Palembang, one of them is to provide Light Rail Transit (LRT) which has been operating since July 2018. Analysis of the relationship between the needs of LRT, travel characteristics and characteristic of LRT operation is needed to evaluate the LRT level of service. Level of service of LRT can be assessed from route service, integration of LRT modes with other public transportation, travel time and cost of travel demand. Based on this, the research aims to model the need for LRT in Palembang City on the Transit Oriented Development (TOD). TOD is an area that has the potential to be developed into an integrated area between land use and transportation systems including LRT transportation mode in the area. Travel and mode choice characteristics data of respondents are collected on households in the TOD area. Structural Equation Modelling (SEM) method is used to modelling the needs of LRT. The model can be used to determine the relationship between variables the need of LRT, travel behaviour characteristic and LRT operation characteristics. The result of the study shows that there is a positive and significant relationship between the variables on TOD area around LRT stations in Palembang.

Keywords: transit oriented development, structural equation modelling (SEM), modelling the needs of LRT,

1. Introduction

Currently transportation becomes derived demand for everyone in facilitating their daily activities. In line with the pace of development and growing population growth triggered the emergence of mobility as well. One effort to solve the need of transportation problem in Palembang City is providing mass transit of Light Rail Transit (LRT) which has been operating since mid-2018. However, in order to provide mass transportation in urban areas in accordance with the requirements of community movement, it is necessary to evaluate the characteristics operational of LRT. The purpose of the evaluation is to find out wheather the operational characteristics of LRT such as appropriate route, operational time, accessibility from and to the station accordingly with the travel characteristic and mode choice perception of community in Palembang City. Travel characteristics that need to be identified are the location of the origin-destination travel, the activities carried out before and after travel, travel time, the modes that are generally used and the possibility to change modes. Such information is important to know that the LRT in accordance with the daily needs of urban communities.

The purpose of this research is to evaluate the operation of LRT by modelling the need of Light Rail Transit for urban community in Palembang City. The model is used to find out the relationship between public perception about the need of LRT, travel characteristic, mode choice and operational characteristic of LRT. The method used in this study is descriptive analysis method to determine the travel characteristics and Structural Equation Modelling with second order testing of confirmatory factor



PAPER • OPEN ACCESS

Effect of Weather for Demand of Online Transportation in Tembalang, Semarang

To cite this article: A R Rakhmatulloh *et al* 2019 *IOP Conf. Ser.: Earth Environ. Sci.* **396** 012018

View the [article online](#) for updates and enhancements.

You may also like

- [List of Participants](#)
- [Application of Cluster Analysis and Principal Component Analysis for Assessment of Groundwater Quality—A Study in Semarang, Central Java, Indonesia](#)
T R N Amanah, T T Putranto and M Helmi
- [Analyzing Human Scale Space on Street Characteristics in The Tembalang Education Area](#)
D I K Dewi, A R Rakhmatulloh, J Winarendri *et al*.



IOP Publishing

**ENVIRONMENTAL
RESEARCH
2021**

**A VIRTUAL CONFERENCE
15-19 NOVEMBER**

FREE TO
ATTEND

REGISTER
NOW