

**LEMBAR**  
**HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW***  
**KARYA ILMIAH : PROSIDING**

Judul karya ilmiah (paper) : Towards An Independent City: The Role of Ungaran City as A Sub-Center of Semarang City

Jumlah Penulis : 3 orang

Status Pengusul : T R Setiyowati, **W Handayani**, M Damayanti, I Rudiarto

Identitas prosiding :

- a. Judul Prosiding : IOP Conference Series:Earth and Environmental Science
- b. ISBN/ISSN : 1755-1315
- c. Tahun Terbit/tempat pelaksanaan : 2018
- d. Penerbit/organiser : IOP Publishing
- e. Alamat repository PT/web : <https://iopscience.iop.org/article/10.1088/1755-1315/202/1/012035>
- f. Terindeks di (jika ada) : SJR 0,17 (2018) dan SNIP 0,54 (2018)

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Catatan Penilaian paper oleh Reviewer :

- a. Isi tulisan: kelengkapan di bagian awal sudah baik sesuai IMRaD tetapi di bagian akhir tidak dilengkapi dengan kesimpulan dan *acknowledgement*. Benang merah judul dan isi sesuai, membahas tentang konsep kota mandiri.
- b. Substansi sesuai ruang lingkup seminar terkait dan bidang ilmu penulis khususnya penulis ke dua yaitu pengembangan wilayah. Diskusi mengenai peran kota terkait dengan konsep kota mandiri tidak tajam, tidak jelas apa novelty-nya. Didukung 12 pustaka, hanya 6 yang dari jurnal.
- c. Metode dijelaskan dengan cukup baik tetapi secara keseluruhan terkesan seperti paper yang belum selesai karena tidak ada kesimpulan. Isi juga tidak dijelaskan secara detail. Referensi ada 12, dan hanya 15% saja terbitan ≤ 10 tahun terakhir.

- d. Prosiding terindeks *Scopus* (IOP Series) dengan SJR 0,17 tersedia *online* dan *open access*. Prosiding dilengkapi dengan ISBN, DOI, dan terkategori internasional, tetapi kualitas paper tidak sesuai. Editor & tim review kurang cermat!

Semarang, 12-04-2020  
Reviewer 1,



Prof. Dr.rer.nat. Imam Buchori, ST  
NIP. 197011231995121001  
Departemen PWK, FT. Undip

**LEMBAR**  
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- a. Unsur isi artikel di bagian awal lengkap merujuk pada *author guidelines*. Namun, di bagian akhir, *conclusions* dan *acknowledgement* tidak ada. Isi berhubungan dengan judul tentang konsep kota mandiri.
- b. Lingkup pembahasan sesuai dengan bidang ilmu penulis khususnya di bidang Perencanaan Wilayah. Substansi di bahas dengan cukup baik dengan ruang lingkup yang komprehensif terkait *The Role of Ungaran City*.
- c. Penjelasan metode cukup memadai. Artikel memiliki nilai kebaruan cukup. Referensi ada 12, 15% saja terbitan ≤ 10 tahun terakhir.

- d. Prosiding diterbitkan oleh IOP Publishing dan terindeks scopus dengan SJR 0,17, SNIP 0,54 , dan ber-ISBN. Prosiding internasional dan tersedia *online* dengan system *open access* yang dilengkapi dengan tautan DOI. Prosiding diterbitkan oleh IOP Publishing.

Semarang, 09-07-2020  
Reviewer 2,



Prof. Dr. Ir. Nany Yulastuti, MSP  
NIP. 195407171982032001  
Departemen PWK, FT. Undip

**LEMBAR**  
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| c.Kecukupan dan kemutakhiran data/informasi dan metodologi (30%) | 4              | 7           | 5,5             |
| d.Kelengkapan unsur dan kualitas terbitan/prosiding (30%)        | 5              | 9           | 7               |
| <b>Total = (100%)</b>  | <b>14,5</b>    | <b>26</b>   | <b>20,25</b>    |
| <b>Nilai = (40% x 20,25 : 3)</b>                                 |                |             | <b>2,7</b>      |

Reviewer 1,



Prof. Dr.rer.nat. Imam Buchori, ST  
NIP. 197011231995121001  
Departemen PWK FT.Undip

Semarang, 17-07-2020

Reviewer 2,



Prof. Dr. Ir. Nany Yulastuti, MSP  
NIP. 195407171982032001  
Departemen PWK FT.Undip



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IOP Conference Series: Earth and Environmental Science  
Volume 202, Issue 1, 27 November 2018, Article number 012035  
2017 CITIES International Conference: Multi Perspectives on Peri-Urban Dynamics Towards Sustainable Development; Surabaya; Indonesia; 18 October 2017 through ; Code 142713

## Towards an independent city: The role of Ungaran City as a sub-center of Semarang City (Conference Paper) (Open Access)

Setiyowati, T.R.<sup>a,b</sup> ✉, Handayani, W.<sup>a,b</sup>, Damayanti, M.<sup>a,b</sup>, Rudiarto, I.<sup>a,b</sup>

<sup>a</sup>Urban and Regional Planning, Indonesia

<sup>b</sup>Universitas Diponegoro, Semarang, Indonesia

### Abstract

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Semarang City has a strong connection with Ungaran City as they are interlinked and connected by a good transportation system. However, Ungaran City growth is not solely influenced by Semarang City development. Ungaran as the sub-center is able to develop as an independent growth center for its surrounding areas mainly because of the existing industrial activities and its strategic location alongside the main road of Semarang - Yogyakarta - Solo. This paper aims to analyze the growth process of Ungaran City. It is find out that some areas in Ungaran City are able to act as a Counterurbanization of Semarang City and some others act as a Suburbanization. © Published under licence by IOP Publishing Ltd.

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Topic: Regency | Open Space | Spatial Planning

Prominence percentile: 81.379 ⓘ

### Indexed keywords

Engineering controlled terms:

Planning Sustainable development

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Engineering main heading:

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October 18th, 2017

Department of Urban and Regional Planning  
Institut Teknologi Sepuluh Nopember  
Surabaya, INDONESIA



**Adjie Pamungkas, ST. M.Dev.Plg., Ph.D**  
Head of Urban and Regional Planning Department  
Institut Teknologi Sepuluh Nopember



**Mochamad Yusuf, ST, M.Sc**  
Chair of CITIES 2017  
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## CITIES 2017 International Conference

**PREFACE**

CITIES conference is an annual conference event held by the Departement of Urban and Regional Planning. CITIES conference has a scale from national to international conference. CITIES conference had been held 7 (seven) times nationally and 3 (three) times Internationally in 2013, 2015 and 2017. The purpose of this conference is to provide publications of all of the science and technology result based on research and planning practices. The past themes of the CITIES serial are:

- Innovations In Spatial Planning Practices for Development and Decentralization (2005);
- In Search of Integration: Between Planning and Spatial Programming (2008);
- Toward Sustainable, Competitive, and Autonomous Spatial Planning (2009);
- Facing the Future: Innovation In Planning Research and Practices (2010);
- Spatial Planning Research Agenda for Sustainable and Just Urban and Regional Development (2011);
- Facing Global Challenges In The Future Urban Sphere (2012);
- Resilient Cities: Beyond mitigation, preparedness, response, dan recovery (2013);
- Eco City, Utopia or Reality (2014);
- Intelligent Planning Towards Smart Cities (2015);
- Coastal Planning for Sustainable Maritime Development (2016);

This **2017 CITIES INTERNATIONAL CONFERENCE** is featuring topic in: ***Multi Persepectives on Peri-Urban Dynamics Towards Sustainable Developments.*** Focusing on the urban and peri-urban connections, issues, challenges and dynamics development of peri urban, this conference aim to provide the insights in many aspects of the developments towards the future which not only considering urban area but also focusing in the peri-urban.

Some results that can be concluded in this proceedings are: 1). Better predictions on the urban and sub urban development is equal with better planning, there are many new modelling approaches that presented in this conferences from land use, transportation to smart applications, 2). The emerging development of peri urban often facing the infrastructure and land use issues and 3). The urban that recently need to be revitalized not only on the sense of economic and land use but also gaining social and humanistic approaches to be creative space and igniting the place attachment in the city.



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October 2017, Surabaya, Indonesia**

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Analysis of flood by using river flow map from landsat 8 imaging to mitigate flood and  
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# The institutionalisation process of Transit Oriented Development practices for peri-urban development in Indonesia: Actor network perspective

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**Abstract.** Transit Oriented Development (TOD) has increasingly become a popular concept for peri-urban developments in Indonesia. It offers regeneration approaches to create compact, mixed-use, and walking-distance public transit areas that promote more effective land-use growth and efficient public transport uses towards sustainable environment in urban peripheries. This paper focuses on the institutionalisation of TOD peri-urban through analysis of stakeholder interactions in TOD peri urban. Interpretations of stakeholder interactions are observed from a case study of the establishment of TOD planning standard from two TOD peri-urban plans, Gedebage (Greater Bandung) and Purabaya (Greater Surabaya). Applying the logic of Actor Network Theory (ANT), this paper discusses emerging networks, key actors, intermediaries, and their interaction process. Data and information are produced from triangulation of semi-structured interviews and documentary reviews. The conclusion provides dynamic stakeholder interaction maps for TOD peri-urban institutions, which identify strong engagements of cross-boundary transportation agencies, planning agencies, public transport operators, the state government, and property developers.

## 1. Introduction

Rapid urbanisation in Indonesian metropolitan cities has been growing uncontrolled and leading to massive increases of land conversion, car-dependent commuters, and environmental issues in peri-urban areas. In Jabodetabek metropolitan area, for instance, in last 40 years, there have been going intensive land conversions in about 32,000 hectares of agriculture and green spaces in peri-urban areas into housing and urban settlement functions [1]. There are also around 1,105,000 daily commuters travel to the centre of Jakarta from its peripheries, which contribute to traffic congestion, air pollution, and inefficient energy consumption issues [1]. In facts, urbanisation process in many Indonesian cities is still depending on core cities as their peri-urban areas are still poorly organised, especially in terms of the provisions of workplace, commercial, and public facilities for local residents [2, 3].

The so-called Transit Oriented Development (TOD) recently came into account as one of the strategies to encourage more effective, productive, and sustainable development in peri-urban areas in



# Exploring distance decay pattern of public transport-induced agglomeration and its impacts on train ridership attraction

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**Abstract.** Public transport infrastructure creates the effect of agglomeration through transportation externalities. Effective density is an accessibility based agglomeration that was raised as a positive externality from public transportation investments. The aim of this paper is to understand whether public transport facility would induce agglomeration around stations and furthermore induce train ridership. A methodology was developed to reveal the causality of effective density on ridership and reduce the confounding effects from land use-related determinant factor. This was shown by the propensity score matching that tested if effect of a station being in the treatment group (high effective density stations) on train ridership was influenced by land use characteristics of catchment stations. The causality of effective density on ridership was compared between station groups. Findings showed the effect of treatment group was higher in the matched sample compare to the unmatched sample. This difference may be assigned as the true effect of public transport induced agglomeration which was higher after controlling the land use characteristics of stations. Thus, the inclusion of land use variables in the model prediction may has the effect of rendering the influence of effective density variable lower in the model. These findings could guide station catchment area planning to maximise effective density benefits on train ridership.

**Keywords:** *effective density, propensity score matching, agglomeration, public transport infrastructure, train ridership.*

## 1. Introduction

The impacts of transportation systems in terms of transportation infrastructure need to be evaluated not only on their aspect of land use but also travel behavior [1]. Further, other factors such as the spatial economic dimension may come into play when transportation system-impacted land use and travel behavior to be examined in a holistic manner.

The extension of the new Perth – Mandurah railway line in the Perth Metropolitan Region (PMR) has been assumed to have made a direct influence on land use and property development, or on economic development. The question of the contribution of stations along the new line to increased train ridership has been considered for more than ten years. Public transport infrastructure creates the effect of agglomeration through transportation externalities. Public transport-induced agglomeration



# Modelling toll traffic pattern: the Jagorawi toll case study

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**Abstract.** The aim of this study is to investigate the impacts of, such as conventional, automatic toll gate with e-toll card (GTO) and On-Board Unit with Multi Lane Free Flow (MLFF) payment system on the level of queuing, such as the number of cars in queue, the amount of queue time, and the congestion costs due to queue. The queuing theory was used to compare the performance of different payment system on Jagorawi toll roads as a case study. A model was developed to understand the pattern of queue and the relationship between queuing pattern, the toll's gate volume, and the number of booth. This study found that congestion occurred in the majority of the toll gate, which heavily due to unreliability of the booth services. Rather than increasing the number of booth, simulation of queuing models showed that optimization of toll gate could be achieved with GTO systems. The findings showed that the total number of cars and time in queue at cash payment system is almost 540% higher and annual congestion cost is almost 284% higher than GTO.

## 1. Introduction

Toll road serves the purpose of high mobility and accessibility. Currently, there is 34 toll roads in Indonesia with total length 987 km, serve 3.7 million vehicles daily on average. The National Development Mid-term Plan (2015 – 2019) has targeted toll road development for 1,807 km in 2019 [1].

While new toll road construction is progressively developing, current issues are related with the establishment of new payment system with electronic toll card (ETC), which targeted all toll booths to be cashless by 100% in the end of 2017 and the shift of the payment system into the multilane free flow by 100% in the end of 2018.

The Ministry of Public Works Regulation in [2] has assigned the minimum service standards on toll accessibility for Indonesia's toll. In relate with the toll payment system, the minimum service standard sets the average transaction speed of maximum 6 second per vehicle on an open transaction, while the close transaction should serve at maximum 5 second per vehicle on the entrance and maximum 9 second per vehicle on the exit. It is believed the implementation of ETC and high speed tolling by Jasa Marga and Indonesian Toll Road Authority or BPJT is a direct strategy to achieve these standards. The ETC system is expected to increase the transaction speed by reducing the transaction period, at the service





# Exploring farming strategies in a metropolitan area: case study of inland aquaculture in Bogor Regency

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**Abstract.** Farming practices in a metropolitan area are often under pressure of forces and processes associated with urbanization. In those circumstances, “reconnection” between agriculture and the urban environment is required to preserve farming activities. This partnership is secured by strategies of sustainable intensification, sustainable valorization and sustainable diversification. Studies concerning farmer strategies have been done in the Netherlands, India and China, but are lacking in many other countries such as Indonesia. The objective of this study was to explore which strategies are being adopted by farmers in Indonesia to adapt to and benefit from the process of urbanization. The research included a case study of inland aquaculture, a dominant agricultural activity in Bogor Regency, Jakarta Metropolitan Area (JMA). Document study and in-depth interviews with farmers, government officers and a consumer organization were conducted. Pattern matching was chosen as technique for analyzing the collected data. The results show that intensification is the dominant farming strategy implemented by farmers of inland aquaculture in JMA. Farmers concentrate on intensive methods in order to reduce production costs and subsequently obtain enough revenues from their farming activities. However, the research also shows that fish farming in JMA is not sustainable, given concerns about animal welfare and financial robustness. Furthermore, the discharge of wastewater from fish ponds to the surface water is a potential issue of environmental concern. Local training programs also seem to be too generic in order to be effective to address these issues and making inland aquaculture more sustainable.

**Keywords:** *Metropolitan agriculture; inland aquaculture; farming strategies; socio-cultural boundaries; spatial planning*

## 1. Introduction

Farming practices situated in a metropolitan area offer many benefits besides supplying food for urban dwellers. The presence of agricultural activities in a metropolitan area can stimulate economic growth by intertwining diverse economic activities [1]. Moreover, it can reduce the geographical distance between food producers and consumers. Shorter links and direct contacts between farmers and consumers may increase trust concerning, for instance, food quality [1]. In addition, farming activities contribute to shaping a regional identity for metropolitan areas and being embedded in culture-historical, socio-cultural or landscape features [1].

However, farming practices situated in metropolitan areas typically suffer from economic problems because they cannot compete with other urban activities [2]. Furthermore, farming in metropolitan areas often meets distrust from society, typically rooted in poor performance of traditional agricultural practices concerning environmental issues and animal welfare [3,4]. In those circumstances, a

