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# The Implication of the Development of Technology on Land Transportation Law in Indonesia

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## Article Info

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Development; Implication; Land Transportation; Online *Transportation; Technology.* 

# Abstract

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Introduction: The emergence of online transportation provides significant changes in various aspects of people's lives. But its success raises protests from several groups for the abolition of online transportation. The rapid technological development of land transportation that cannot be accommodated by Indonesian law can affect the certainty of law. Further, it can provide legal protection to related parties.

Purposes of the Research: This research aims to analyse the implication of online transportation as land transportation in Indonesia, and to recommend the accommodation of online transportation in Law Number 22 of 2009 on Road Traffic and Transportation to the Government of Indonesia.

Methods of the Research: This research employed the normative juridical method by examining secondary data collected from library research using the statutory approach method analysed by qualitative technique.

Results of the Research: The results show that the existence of online transportation as land transportation has positive implications for society such as the easier process, saving time, saves energy, can identify drivers, can track routes and vehicle locations, traffic monitoring, safety standards, lower costs, promos and discounts, efficient payment methods, and driver services. The other benefits are reducing the unemployment rate, increasing people's income, reducing the number of poverties, improving the people's welfare, and increasing the productivity of every institution and company. So, the government of Indonesia must accommodate online transportation in Law Number 22 of 2009 on Road Traffic and Transportation.

### 1. INTRODUCTION

The development of technology now is evidence of the development of knowledge. During the twenty-first century technology has evolved into a complex structure. Technological developments provide enormous benefits and make it easier for people to conduct business transactions and communicate.1 For example, in this technology era, it cannot be denied that the presence of the internet is increasingly needed in daily life, in socialization activities, education, business, and others.2 Applied science, particularly for

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<sup>&</sup>lt;sup>1</sup> Sukma Nugraha and Dini Nuraeni, "Peran Teknologi Internet Dalam E-Commerce," Journal Civics and Social Studies 5, no. 2 (2021): 181–91, https://doi.org/https://doi.org/10.31980/civicos.v5i2.1474.

<sup>&</sup>lt;sup>2</sup> Salma Fitri Nurfauziah and Nizar Alam Hamdani, "The Influence of Social Media Against Interest in Buying Kopilogi Products," BIEJ: Business Innovation and Entrepreneurship Journal 3, no. 1 (2021): 75-83, https://doi.org/https://doi.org/10.35899/biej.v3i1.107.

commercial purposes to achieve commercial goals.<sup>3</sup> All forms of innovation and inventions are found by humans from various parts. A business is established and managed to produce a product, both in the form of goods and services. Various methods are carried out to make their business run in the midst of competition, while give the benefits for society. Humans seem to be competing to make breakthroughs of something superior and reliable. From time to time, technological developments prove the role of its existence in social life in various aspects of human life.<sup>4</sup> The changes contributed by technological developments are tangible works that have never been thought of before.

This research is the development of other researchers who discuss online transportation in Indonesia. At first, technology developed slowly. But along with the progress of human culture and civilization, technological developments are developing rapidly.<sup>5</sup> At the beginning of its emergence, technology promised several things, such as promising changes (the presence of television will change the pattern of people's daily activities, humans become patterned at certain times depending on the schedule presented), promising convenience (the presence of landlines and mobile phones makes it easy to communicate without having to meet face to face), the presence of an Automated Teller Machine (ATM) makes it easy for someone to take their savings without having to queue for a long time, or a rice cooker that makes the process of cooking rice easier), promising increased productivity (fingerprint machine to increase discipline for productivity at work), promising speed (computers will speed up all forms of work in the form of documents), promises progress (getting information quickly) and promises popularity (via social media).6 It is undeniable, the development of technology that is very impressive provides tremendous benefits for human civilization. Many types of work that previously required physical abilities can now be replaced by automated machines.<sup>7</sup>

Likewise in the field of transportation, the tools used for transportation are manual tools that rely on human labour such as tricycles (*becak*), and even animals such as *delman*. But with the development of technology, transportation has emerged using machines. Public transportation that is most often used by Indonesian people is city transportation (*angkutan kota or angkot*), bus, taxi, train, and traditional vehicles in each region. In fact, in the village, motorcycles are used as transportation to reach untraversed areas by public transportation. The presence of these transportations is very useful to help the mobility of the community for their activities. Because the population is higher than the number of people who have private transportation, public transportation is the only option used by the community.

In Muhammad Nanang Prayudyanto's research, public transportation services are measured from technical variables and cost variables. The variables include travel speed,

<sup>&</sup>lt;sup>3</sup> Ahmed Muayad Younus, "Technological Advancement And Economic Growth For The Business Sector," *Academic Journal of Digital Economics and Stability* 10 (2021): 56–62, https://economics.academicjournal.io/index.php/economics/article/view/345.

<sup>&</sup>lt;sup>4</sup> Alan Sigit Fibrianto and Ananda Dwitha Yuniar, "Technological Development and Its Impact on Community Social Behavior," in *Proceedings of the 1st International Conference on Social Knowledge Sciences and Education (ICSKSE 2018)* (Advances in Social Science, Education and Humanities Research, 2019), 210–13, https://doi.org/10.2991/icskse-18.2019.42.

<sup>&</sup>lt;sup>5</sup> Mohammad Adib, Filsafat Ilmu: Ontologi, Epistemologi, Aksiologi, Dan Logika Ilmu Pengetahuan (Yogyakarta: Pustaka Pelajar, 2011), p. 254.

<sup>&</sup>lt;sup>6</sup> Nanang Martono, Sosiologi Perubahan Sosial: Perspektif Klasik, Modern, Postmodern, Dan Postkolonial (Jakarta: RajaGrafindo Persada, 2012), pp. 289-291.

<sup>&</sup>lt;sup>7</sup> Siti Irene Astuti Dwiningrum, *Ilmu Sosial & Budaya Dasar: Pendekatan Problem Solving Dan Analisis Kasus* (Yogyakarta: UNY Press, 2012), p. 171.

waiting time, vehicle change at the terminal, and time to the final destination. Cost variables include fares (tickets), crew costs (buses), time costs, and distance costs. Some of these variables will impact the services received by users.<sup>8</sup> The results of research conducted by Jodi Rahadian and Sardjito, the factors and variables of public transportation services that did not meet user expectations, there are service level factors (capacity, accessibility, and waiting time), and service quality factors (safety, speed, convenience).<sup>9</sup>

Based on some researchers, the use of public transportation can help reduce traffic congestion. For example, by using the bus rapid transit (BRT). But in fact, congestion is still unavoidable, so community mobility is also hampered. Observing the situation of unresolved congestion, technology helps to provide an easy solution by developing an online transportation system that is not yet known in Indonesian society. This online transportation is an independent rental transportation service connected to a personal device through an application. Very different from how public transportation regulates in general, online transportation offers convenience and comfort for consumers to avoid congestion because it provides intelligent transportation features as a critical solution to handling city traffic flow. It is projected as being able to manage traffic jams, thus leading to a reduction in traffic time. However, online transportation is often cited as the cause of the reduced income of traditional transportation or conventional transportation.

Another reason is the position of online transportation which is not accommodated by law in Indonesia. Despite many resistances and threats, online transportation still exists and continues to be trusted by the community. The emergence of online transportation will affect transportation laws, especially land transportation regulated in Law Number 22 of 2009 on Road Traffic and Transportation (hereinafter referred to as RTT Law) which has not accommodated the existence of online transportation modes. So, this paper will discuss the implications of online transportation as land transportation in Indonesia, and the problem-solving about the existence of online transportation as land transportation in Indonesia. This

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Muhammad Nanang Prayudyanto, "Perbandingan Kinerja Buy The Services Angkutan Umum Massal Kota Metropolitan Dengan Metode Biaya Operasional Kendaraan Dan Indeks Sustainabilitas," Jurnal Penelitian Transportasi Darat 23, no. 1 (2021): 55–71, https://doi.org/https://doi.org/10.25104/jptd.v23i1.1734.

<sup>&</sup>lt;sup>9</sup> Jodi Rahadian and Sardjito, "Preferensi Masyarakat Terhadap Pelayanan Angkutan Umum Di Jakarta Barat (Studi Kasus: Koridor Jalan Daan Mogot)," *Jurnal Teknik ITS* 4, no. 1 (2015): 1–6, https://repository.its.ac.id/72799/2/3611100056-Paper.pdf.

<sup>&</sup>lt;sup>10</sup> Abir ATM et al., "Encouraging Public Transport Use to Reduce Traffic Congestion in Uttara, Dhaka," *Civil Engineering Research Journal* 5, no. 2 (2018): 64–70, https://doi.org/10.19080/CERJ.2018.05.555659.

<sup>&</sup>lt;sup>11</sup> A R Rakhmatulloh, D I Kusumo Dewi, and D M K Nugraheni, "Bus Trans Semarang toward Sustainable Transportation in Semarang City," in *The 1st International Conference on Urban Design and Planning* (Semarang, Indonesia: IOP Conference Series: Earth and Environmental Science 409 012021, 2020), https://doi.org/10.1088/1755-1315/409/1/012021.

<sup>&</sup>lt;sup>12</sup> Duy Q. Nguyen-Phuoc et al., "Traffic Congestion Relief Associated with Public Transport: State-of-the-Art," *Public Transport* 12 (2020): 455–481, https://doi.org/https://doi.org/10.1007/s12469-020-00231-3.

<sup>&</sup>lt;sup>13</sup> Novi Kartika Dewi and Anita Ratnasari Rakhmatulloh, "The Characteristic of Online Transportation Services and Provision in Semarang City," *Jurnal Teknik Sipil & Perencanaan* 20, no. 2 (2018): 90–97, https://doi.org/10.15294/jtsp.v20i2.15496.

<sup>&</sup>lt;sup>14</sup> Matheus S Quessada et al., "ITSMEI: An Intelligent Transport System for Monitoring Traffic and Event Information," *International Journal of Distributed Sensor Networks* 16, no. 10 (2020), https://doi.org/10.1177/1550147720963751.

<sup>&</sup>lt;sup>15</sup> Fidya Nur Styaningsih, Yardan Widyadhana Riyadi Putra, and Wiyan Herra Herviana, "Analysis of the Development of Online Transportation in Indonesia in Era 4.0 with Descriptive Research Methods," *Jurnal Teknologi Dan Sistem Informasi Bisnis* (*Jteksis*) 4, no. 1 (2022): 162–70, https://doi.org/10.47233/jteksis.v4i1.389.

paper aims to analyse the implications of transportation online as land transportation in Indonesia and to recommend to the Government of Indonesia to accommodate online transportation in Law Number 22 of 2009 on Road Traffic and Transportation.

#### 2. METHOD

The research method used is a normative juridical or dogmatic juridical by examining secondary data in the form of legislation, research results, books, journals, and other written works, legal dictionaries, and the internet that has a relationship with the object of study. By using the statutory approach, all laws and regulations relating to land transportation in Indonesia will be reviewed. The data that were collected were analyzed qualitatively to summarize the results of data collection and then found a concept to answer the problem.

#### 3. RESULTS AND DISCUSSION

# 3.1 The Implication of Online Transportation as Land Transportation in Indonesia

Now, transportation has become a necessity for everyone, <sup>16</sup> not only in urban areas but also in rural areas. In Black's Law Dictionary, it is stated that transportation is the movement of goods or persons from one place to another by a carrier. <sup>17</sup> According to Abdulkadir Muhammad, transportation is the process of loading goods or passengers into the transportation, carrying goods or passengers from the place of loading to the destination and unloading the goods or passengers from the transportation to a specified place. <sup>18</sup> The purpose of transportation was created to facilitate and help the movement of people and goods from one place to another more quickly and efficiently. Then transportation was regulated to make a profit, thus creating a vehicle that could load several people.

The current transportations are proof of modernization. Modernization can be interpreted as a process of changing society from a traditional society to a modern society. Technological developments that are increasing are very influential in various fields, including the field of transportation. The development of transportation in Indonesia is quite fast because long ago people travelled by foot, no matter how far the distance had to be travelled. The traditional transportation at that time was *delman* and wagon from woods made by local people. Rikardus Kristiano, Suryana, and Upi Supriatna in their research say that the availability of transportation facilities and infrastructure can eliminate an isolated area and improve its accessibility. The transportation used was initially very simple, took a very long time and was limited. Then came the bicycle which became modern transportation in its time, used to be made of wood and some had pedals and some did

<sup>16</sup> Muh. Kadarisman, "Transportation System and Human Needs in a Family," *Jurnal Manajemen Transportasi & Logistik (JMTranslog)* 2, no. 3 (2015): 313–31, https://doi.org/http://dx.doi.org/10.54324/j.mtl.v2i3.113.

<sup>&</sup>lt;sup>17</sup> Henry Campbell Black, *Black's Law Dictionary*, ed. Bryan A. Garner, 11th ed. (Minnesota: Thomson Reuters, 2014), p. 1638.

<sup>&</sup>lt;sup>18</sup> Abdulkadir Muhammad, *Hukum Pengangkutan Darat, Laut, Dan Udara* (Bandung, Indonesia: Citra Aditya Bakti, 1991), p. 19.

<sup>&</sup>lt;sup>19</sup> Asnawati Matondang, "The Modernization Impacts for Indonesian Development," *Asian Journal of Social Sciences & Humanities* 8, no. 1 (2019): 47–54, http://www.ajssh.leena-luna.co.jp/ajsshvol8n1.php.

<sup>&</sup>lt;sup>20</sup> Rikardus Kristiano, Suryana, and Upi Supriatna, "Perkembangan Sarana Dan Prasarana Transportasi Dalam Hubungannya Dengan Tingkat Perekonomian Masyarakat Di Desa Kolang Kecamatan Kuwus Barat, Kabupaten Manggarai Barat, Provinsi Nusa Tenggara Timur," *Jurnal Geografi Gea* 19, no. 2 (2019): 131–40, https://doi.org/10.17509/gea.v19i2.19886.

not.<sup>21</sup> As times progressed, people were introduced to more modern transportation at that time, such as motorcycles, cars, buses, and trains,<sup>22</sup> although they still used steam engines. The presence of transportation equipment is increasingly sophisticated and has experienced a lot of progress, in terms of speed, shape, appearance, features, and others.

During the New Order era, the development of land transportation technology in Indonesia was increasing. Seen by the variety of vehicles that have been operating on the highway in both big cities and rural areas. Various buses facilitate transportation for various routes such as within cities, between cities, within provinces, and across provinces and islands.<sup>23</sup> Types of public transportation in Indonesia consist of buses, taxis, angkot<sup>24</sup>, and certain vehicles of each region, all of which have operating permits. The operating system of public transportation is different. Passengers who will use the bus, must come to the bus station, wait on the bus and then depart according to the departure schedule, and drop off at the bus station. Passengers who will use an angkot can wait on the side of the road and get off according to the route that the *angkot* passes so that if the destination is not on the angkot route, they have to look for an angkot in another direction or walk. As for taxis, passengers can wait on the side of the road and ask the taxi driver to take them to their final destination, but the costs are more expensive than buses and angkot. One of the other public transportations commonly used by Indonesian people is the motorcycle taxi called ojek. Ojek is one of the paratransit (the mode between private and transit, or for hire) modes that have not been formally permitted by the government because it is the form of a two-wheeled motor vehicle. *Ojek* is a motorcycle that is rented by provide a lift passenger or renter with the motorcycle,<sup>25</sup> carry the passengers to their destination.

In general, public transportation uses four-wheeled vehicles by considering the higher security aspect. But in Indonesia, besides being used by ojek drivers to earn income, in fact, passengers always choose *ojek* as an alternative to avoid the congested, so that passengers can arrive at their destination faster. The operation system of ojek same as taxis, the difference is passengers have to come to the ojek base (pangkalan) first to hire a delivery service. Ojeks can exist as public transportation because of habit, not because of a law that allows two-wheeled vehicles to function as public transportation.

Human knowledge is growing and increasingly sophisticated technological advances have made a breakthrough that was born by companies engaged in transportation, it is online transportation. Online transportation is a transportation service through a special application as a transaction medium. Online transportation began to be known to the public

<sup>&</sup>lt;sup>21</sup> Melissa Bopp, Dangaia Sims, and Daniel Piatkowski, "The Bicycle: A Technological and Social Bicycling for Transportation An Evidence-Base for Communities, https://doi.org/https://doi.org/10.1016/B978-0-12-812642-4.00001-5.

<sup>&</sup>lt;sup>22</sup> Ulin Nuha, "Public Transportation Transformation Towards a Smart, Efficient and Inclusive System," in Indonesia Post-Pandemic Outlook: Environment and Technology Role for Indonesia Development, ed. R. Trialih et Alliance **BRIN** (Overseas Indonesian Student's & Publishing, 2022), https://doi.org/10.55981/brin.538.c500, p. 257.

<sup>&</sup>lt;sup>23</sup> Dinas Perhubungan, "Seputar Pengertian Transportasi Darat," Dinas Perhubungan, 2017, https://dishub.bulelengkab.go.id/informasi/detail/artikel/seputar-pengertian-transportasi-darat-44.

<sup>&</sup>lt;sup>24</sup> Tri Basuki Joewono, Djoen San Santoso, and Yusak O. Susilo, "Paratransit Transport in Indonesia: Characteristics and User Perceptions," Journal of the Eastern Asia Society for Transportation Studies 11 (2015): 1346-61, https://doi.org/https://doi.org/10.11175/easts.11.1346.

<sup>&</sup>lt;sup>25</sup> Dewi Handayani, "Motorcycle Taxi (Ojek) as One of Indonesian's Future Sustainable Transportation," in The 1st ICETIA 2014: Proceedings of the International Conference on Engineering Technology and Industrial (Universitas Muhammadiyah Surakarta, 2014), 163-66, https://publikasiilmiah.ums.ac.id/handle/11617/4969.

around 2013 which was only in the form of two-wheeled motorized vehicle (motorcycle) transportation,<sup>26</sup> so initially, it was more familiarly called *ojek* online. Its efficiency attracts great interest in the community so in a short time the level of need for online transportation has increased. The presence of online transportation, whether from Gojek, Grab, Uber, or other online-based transportation companies in big cities, has proven to be able to facilitate people's mobility. Not only motorcycles, but four-wheeled vehicles (cars) also become part.

The use of online transportation in the community is more often used to replace the use of *angkot* or *ojek pangkalan*, not replace inter-city or provincial public transportation. So, the people who feel disadvantaged are the people who have been looking for income from the *angkot* or *ojek pangkalan*. *Angkot* has the disadvantage of taking a long time to wait for full passengers and often stopping on the way due to transporting and stopping passengers, the number of passengers in the *angkot* is always forced by the *angkot* driver so it does not provide a comfortable space to sit. In addition, there are disturbances from the outside in the form of many buskers and/or beggars who sometimes force passengers to give money, and sometimes even *angkot* drivers like to charge fares that are too expensive than the normal fare. Worse yet, *angkot* drivers like to drop passengers in the middle of the trip arbitrarily and still ask for payment from passengers. Meanwhile, *ojek pangkalan* has some weaknesses that does not provide safety equipment, including helmets for passengers, and also sometimes charges expensive fares. Those are some of the reasons why many people are moving to choose online transportation.

Although the existence of online transportation does not yet have legal force, interestingly, most people show their interest in choosing online transportation. There are many advantages that online transportation (either motorcycle or car) provides for passengers, such as:

- 1) Easier ordering process.<sup>27</sup> Passengers order online transportation through a certain application on their cell phones. Passengers will freely ask to be escorted to their desired destination, passengers just wait where he is and the vehicle, they ordered will come to pick them up. Passengers benefit greatly because passengers do not have to go to the bus station or places where transportation stops in general;
- 2) Efficient time (efficient and practical)<sup>28</sup>. Passengers do not need to spend time going to a public transport station and then waiting for the departure time. Even worse, waiting until the passengers on the transport are full. In addition, travel time is also relatively faster because online transportation will not pick up other passengers in the middle of the trip;
- 3) Does not drain energy. Passengers can wait leisurely at the pickup location. Passengers also don't have to spend energy to move to other public transportation routes. Passengers will be delivered to their final destination (for example, a house in a

<sup>&</sup>lt;sup>26</sup> Utari Meridha Putri, Muryanto Amin, and Warjio, "Development of Online Transportation Services: Effectiveness and Efficiency of The Grabbike Applications for Society in Medan City," *International Journal of Research in Business and Social Science* 8, no. 4 (2019): 71–78, https://doi.org/10.20525/ijrbs.v8i4.286.

<sup>&</sup>lt;sup>27</sup> Doharman Lumban Tungkup, "The Importance of Online Transportation Effectiveness for Business Resistance Strategies During the Covid-19 Pandemic," in *Excellent Human Resource for the Sustainable Safety of Inland Water and Ferries Transport in New Normal Era – International Webinar (IWPOSPA 2020)*, vol. 5 (KnE Social Sciences, 2021), 396–414, https://doi.org/https://doi.org/10.18502/kss.v5i1.8302.

<sup>&</sup>lt;sup>28</sup> Eko Harry Susanto and Sisca Aulia, "Communication Technology as Support for Online Transportation (Case Study of GO-JEK in Indonesia)," in *Proceedings of the Tarumanagara International Conference on the Applications of Social Sciences and Humanities (TICASH 2019)* (Atlantis Press, 2019), 148–51, https://doi.org/10.2991/assehr.k.200515.025.

- complex or an alley). Public transportation usually only stops passengers on the highway according to its route, so passengers still have to walk to locations that are not passed by the transportation;
- 4) Can identify the driver.<sup>29</sup> Passengers can find out the identity of the driver of the vehicle whose services will be used, besides the type of car, and the number plate can also be known. So, passengers can identify the driver if there is an accident or other things;
- 5) Can track the route and location of the vehicle. Before booking transportation online, passengers can view a map showing where they are when they order transportation online, and where they are going. The map is equipped with traffic information to find out which roads are being trafficked or are running smoothly because online transportation is provided by intelligent transportation system services;<sup>30</sup>
- 6) The application has traffic management and monitoring features. There are three functions that can be utilized, namely interaction with users through a mobile interface and display of real-time traffic conditions, prediction of seasonal traffic conditions based on historical data, and monitoring of users' movements and locations for analysis and advising;<sup>31</sup>
- 7) Safety standards. Compare with other public transportation, all vehicle of online transportation modes has passed the test. Starting from the completeness of the vehicle documents to the completeness of the driver's documents. In addition, drivers are also required to wear complete driver costumes for safety standards. Especially for *ojek* online, special helmets are provided for passengers;
- 8) Cheaper cost. With a series of benefits for passengers, the fees charged for online transportation are relatively cheap rather the other transportation fees;
- 9) There are promotions and discounts. Online transportation often offers and provides promos and discounts, which are accommodated in the form of electronic vouchers. Passengers will be pleased to pay less than the fare cost;
- 10) Efficient payment method. At first, online transportation payment methods were still using cash. But then a change was made so that the method of payment could be in cash or with the balance that we filled in the online transportation application;
- 11) Driver service. This driver service, for example, provides an umbrella when it's raining then picks up and delivers it to the car. In addition, the items that we bring will also be lifted by the driver carefully (ask whether the item is fragile or not);

In addition to the series of advantages above, people are also interested in becoming "ojol drivers" or ojek online drivers. It is not only men who become ojol drivers, but also women as well. Besides that, the online transportation service also provides delivery services, food ordering services, supermarket shopping services, salon services, health

<sup>&</sup>lt;sup>29</sup> Kholidah Romli, Shania Correlly Noor Sabila, and Farhan, "Effect of the Online Transportation against Conventional Transportation and User of Transportation Services in Semarang Poncol Railway Station, Indonesia (Legal and Economic Perspective)," in *Advances in Social Science, Education and Humanities Research: Proceedings of the 1st International Conference on Indonesian Legal Studies (ICILS 2018)*, vol. 192 (Atlantis Press, 2018), 303–4, https://doi.org/10.2991/icils-18.2018.57.

<sup>&</sup>lt;sup>30</sup> Ricardo Salazar-Cabrera, Álvaro Pachón de la Cruz, and Juan Manuel Madrid Molina, "Sustainable Transit Vehicle Tracking Service, Using Intelligent Transportation System Services and Emerging Communication Technologies: A Review," *Journal of Traffic and Transportation Engineering (English Edition)* 7, no. 6 (2020): 729–47, https://doi.org/https://doi.org/10.1016/j.jtte.2020.07.003.

<sup>&</sup>lt;sup>31</sup> Research work of Yingqi Yue, Kaiwen Zhang, and Hans-Arno Jacobsen cited by Godson S. Olusanya et al., "Smart Transportation System for Solving Urban Traffic Congestion," *Review of Computer Engineering Studies* 7, no. 3 (2020): 55–59, https://doi.org/https://doi.org/10.18280/rces.070302.

services, payment services, body care services (salons) and other features. More details can be seen in the following image:



Figure 1. Service Features in Online Transportation (Grab).

Source: Author's Personal Grab Application, 2023 (Edited).

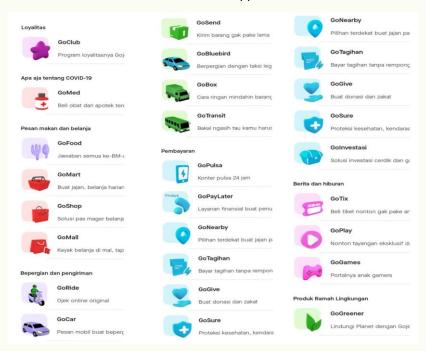


Figure 2. Service Features in Online Transportation (Gojek).

Source: Author's Personal Gojek Application, 2023 (Edited).

With several advantages offered by online transportation as summarized above, most people feel very benefited from the existence of online transportation. In addition, previously unemployed people now have income from being ojol drivers. With a series of advantages, it is not surprising that people prefer online transportation modes. So, it can be concluded that the existence of online transportation as land transportation has very large and broad positive implications for people in Indonesia.

# 3.2 The existence of online transportation that has not been accommodated in Law Number 22 of 2009 on Road Traffic and Transportation

Article 1 point 3 RTT Law states that transportation is the movement of people and/or goods from one place to another by using a vehicle in the road traffic scope. A vehicle is transportation on the road which consists of motorized vehicles and non-motorized vehicles. Article 1 point 8 RTT Law states that a motorized vehicle is any vehicle that is driven by mechanical equipment in the form of a machine other than a vehicle that runs on rails. The non-motorized vehicle is any vehicle that is driven by human and/or animal power.

Online transportation is a private vehicle that is functioned as the transportation of people or goods by the owner, which is facilitated by a service provider company on online transportation. Meanwhile, public transportation services can only be provided by public transportation companies as regulated in Article 1 number 21 RTT Law which states that public transportation companies are legal entities that provide transportation services for people and/or goods using public motorized vehicles. A public motorized vehicle is any vehicle used to transport goods and/or people for a fee.<sup>32</sup> The provisions of Article 1 point 20 RTT Law stipulates that a motorcycle is a two-wheeled motorized vehicle with or without houses and with or without a side carriage or a three-wheeled motorized vehicle without houses. Then Article 47 paragraph 3 RTT Law stipulates that motorized vehicles of the types of passenger cars, buses, goods cars, and special vehicles, are grouped based on their function into individual motorized vehicles, and general motorized vehicles. So based on the classification, motorcycles are not included in public motor vehicles. The provisions of Article 140 RTT Law stipulate that the service of transporting people with public motorized vehicles consists of: 1) Transportation of people with public motorized vehicles on the route; and 2) Transportation of people with public motorized vehicles not on the route.

Transportation of people with public motorized vehicles on a route is transportation served by public passenger cars and public buses from one place to another, has a fixed and regular origin-destination, route, regular and scheduled time and it is charged.<sup>33</sup> Transportation of people using public motorized vehicles not on route is transportation served by public passenger cars or public buses in urban areas and/or certain areas or from one place to another, having origin and destination but not having a fixed route and time.<sup>34</sup> Then Article 151 RTT Law states that the service of transporting people with public motorized vehicles not on the route consists of: 1) Transportation of people by taxi; 2) Transportation of people with a specific purpose; 3) Transportation of people for tourism purposes; and 4) Transportation of people in certain areas.

Article 15 RTT Law stipulates that the transportation of people using taxis must be used for door-to-door transportation services with operating areas in urban areas. Transportation of people for certain purposes is prohibited from raising and/or dropping

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<sup>&</sup>lt;sup>32</sup> "The Law Number 22 of 2009 on Road Traffic and Transportation" (2009).

<sup>33 &</sup>quot;Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 15 of 2019 on Organization of the Transportation of People with Public Motorized Vehicles on the Route" (2019).

<sup>34 &</sup>quot;Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 108 of 2017 on the Implementation of Transportation of People with Public Motorized Vehicles Not On Route" (2017).

passengers along the way for other purposes other than the service of transporting people on the route. Transportation of people with a specific purpose is carried out using public passenger cars or public buses. Transportation of people for tourism purposes must be used for tourist transportation services. Transportation of people for tourism purposes must use public passenger cars and public buses with special markings, it is not allowed to use public motorized vehicles on the route except in areas where special transportation for tourism is not yet available. Transportation of people in certain areas must be carried out through transportation services on local roads and neighbourhood roads and must use public passenger cars. Thus, it is clear that online transportation, both motorbikes and cars, are not public motorized vehicles.

At the beginning of the emergence of online transportation, many people rejected the existence of online transportation. They are people who work at public motorized transportation that already exists rather than online transportation. They argue that the existence of online transportation (whether from Gojek, Grab, Uber, Maxim or other online-based transportation companies) does not meet the provisions of the laws and regulations as regulated in RTT Law. Rejections aimed at online transportation, because they are considered to violate RTT Law, Government Regulation Number 74 of 2014 on Road Transportation, and Minister of Home Affairs Regulation Number 101 of 2014 on Basic Calculation of the Imposition of Motor Vehicle Taxes, by not having an operational permit in the form of a corporation as provided in the law. At its peak, the Decree of the Minister of Transportation UM.302/1/21/phb/2015 was issued because it was considered contrary to RTT Law. In fact, against the application for a judicial review of Article 47 paragraph (3) RTT Law submitted by *ojol* drivers, the Constitutional Court refused to legalize *ojek* online (motorcycle) as public transportation because motorcycles were not considered safe vehicles for public transportation.<sup>35</sup>

From the perspective of laws and regulations, the existence of online transportation has not been accommodated. So, there is no legal certainty for the existence of online transportation. But if we look at the facts, the existence of online transportation modes provides enormous benefits, especially for the lower middle class. The problem is that the regulations imposed in Indonesia are not directly proportional to the rapid technological advances that occur in society. The facts in the community show that the existence of online transportation provides benefits:

#### 1. Reducing the unemployment rate in Indonesia

Online transportation helps the unemployed community by becoming an *ojek* online driver because it does not require having a highly educated diploma.<sup>36</sup> At the beginning of the emergence of online transportation, the Head of the Central Statistics Agency (CSA) at that time, Suhariyanto said that the Open Unemployment Rate (OUR) decreased from 7.56 million in August 2015 to 7.03 million in August 2016. This means that the number of unemployed decreased by as much as 530 thousand people in a year. Suhariyanto then emphasized that *ojek* online had helped reduce unemployment because *ojol* drivers helped

<sup>&</sup>lt;sup>35</sup> Gusti Ayu Oktaviani, "Legalitas Ojol Dan Mode Transportasi Daring Lainnya," kompasiana, 2020, https://www.kompasiana.com/gustiayuoktaviani9853/5e873b5271d69605b23c1d64/legalitas-ojol-dan-mode-transportasi-daring-lainnya?page=all.

<sup>&</sup>lt;sup>36</sup> Nandi, "The Influence of Online Transportation Application to the Mobility and Economic of the Society (Case Study on Using Grab and Go-Jek in Bandung, Indonesia)," in *IGEOS International Geography Seminar* 2018 3–4 *December* 2018, vol. 286 (Malaysia: IOP Conference Series: Earth and Environmental Science, 2019), 1–6, https://doi.org/10.1088/1755-1315/286/1/012034.

boost the number of workers in the service sector, which increased by 1.52 million to 19.5 million people. More specifically, workers in the transportation sector increased by 500 thousand to 5.6 million people. The next reason is driven by the mobility of workers, especially many housewives who become traders. Thus, women's participation rose by 1.9 million to 50.8 million in August 2016. Overall, CSA noted that the employment rate increased. From 189.10 million people of working age or above 15 years, around 125.44 million people are workers, an increase of 3.06 million compared to August 2015.<sup>37</sup> Based on the realization of the 2014-2019 Medium-Term Development Plan (MTDP), OUR decreased to 5.34% in 2018 from 5.94% in 2014.<sup>38</sup> The existence of this online transportation has proven to have contributed to overcoming the problem of the high unemployment rate in Indonesia. The Head of the National Planning and Development Agency (NPDA) at that time, Bambang Brodjonegoro, said that OUR continued to decrease since 2015. This opinion is supported by data from the CSA:

Table 1. Reduction of Open Unemployment Rate (OUR).

Year	Percentage
2015	6,18%
2016	5,61%
2017	5,50%
2018	5,34%

Source: https://bisnis.tempo.co/read/1144453/pengangguran-turun-sejak-2015-bappenas-nawacita-akan-tercapai.

At the end of 2019, OUR experienced an increase due to COVID-19 which caused all work activities to be suspended indefinitely. The Minister of Manpower, Ida Fauziyah explained that in 2020 the unemployment rate rose to 6.50%.<sup>39</sup> There are 11.53 million people (5.53%) of the working-age population affected by COVID-19, consisting of 0.96 million unemployed due to COVID-19, 0.55 million Non-Working Forces (NWF) due to COVID-19, 0.58 million no working due to COVID-19, and 9.44 million the working population experiencing reduced working hours due to COVID-19. The latest data in February 2022 shows that OUR is 5.83%, which decreased by 0.43% compared to February 2021.<sup>40</sup> The number of OUR is expected to continue to decrease considering that all work activities are normalized.

<sup>&</sup>lt;sup>37</sup> Desy Setyowati, "Pengangguran Turun 530 Ribu Berkat Ojek Online Dan Ibu Rumah Tangga," katadata.co.id, 2016, https://katadata.co.id/marthathertina/finansial/5e9a56bcbd17c/ojek-online-dan-iburumah-tangga-berdagang-perkecil-pengangguran.

<sup>&</sup>lt;sup>38</sup> Cantika Adinda Putri, "Angka Pengangguran Turun Gegara Jadi Driver Gojek-Grab?," CNBC Indonesia, 2019, https://www.cnbcindonesia.com/news/20191009070933-4-105456/angka-pengangguran-turun-gegara-jadi-driver-gojek-grab.

<sup>&</sup>lt;sup>39</sup> Indra Gunawan, "TPT Capai 5,8 Persen, Menaker Optimistis Kejar Target Dari Jokowi," Bisnis.com, 2022, https://ekonomi.bisnis.com/read/20220816/12/1567489/tpt-capai-58-persen-menaker-optimistis-kejar-target-dari-jokowi.

<sup>&</sup>lt;sup>40</sup> Badan Pusat Statistik, "Februari 2022: Tingkat Pengangguran Terbuka (TPT) Sebesar 5,83 Persen Dan Rata-Rata Upah Buruh Sebesar 2,89 Juta Rupiah per Bulan," Badan Pusat Statistik, 2022, https://www.bps.go.id/pressrelease/2022/05/09/1915/februari-2022--tingkat-pengangguran-terbuka--tpt-sebesar-5-83-persen.html.

## 2. Increasing people's income

In the early years of the emergence of online transportation, the Kompas Survey showed that the income of *ojol* drivers had reached 11 million rupiahs per month.<sup>41</sup> For example, in 2016, Muhammad Hidayat (31 years old) could earn Rp. 500,000 per day (with bonus). If he has two days off a week, at least he gets Rp. 11,000,000 in a month. Febri (42 years old) can earn Rp. 300,000 per day. Although this condition is no longer enjoyed by *ojol* drivers, at least they have income. Muhammad Hidayat now earns Rp. 300,000 per day or around Rp. 6,600,000 per month with a note that the income he earns from working for 8 hours. Likewise with Febri who now only gets approximately Rp. 100,000 per day or only Rp. 2,200,000 per month.<sup>42</sup> Based on the Research and Development Agency (RDA) of the Ministry of Transportation, from the total 2,016 *ojol* drivers surveyed, 50.1% only earned Rp. 50,000 – Rp. 100,000 per day. Meanwhile, 44.1% of respondents spent Rp. 50,000 – Rp. 100,000 per day. This means that the driver's daily income is almost the same as his operating costs.<sup>43</sup>

# 3. Reducing the number of poverties in Indonesia

The results of a survey by the Transportation Policy Agency of the Ministry of Transportation in the Jakarta, Bogor, Depok, Tangerang, and Bekasi areas, from 2,016 *ojol* drivers show that 15.6% take this job as a side job, while 84.4% use this job as a main job.<sup>44</sup> In 2015, the CSA DKI Jakarta stated that the poverty rate in Jakarta decreased by 0.16% from 2014. In 2014 there were 412,790 poor people (4.09%), in 2015 it was 398,920 people (3.93%).<sup>45</sup> Based on the research by Eka Purnama Sari and Talia Yudrika, online transportation that was present in Medan in 2016 was proven to be able to reduce poverty in the city of Medan.<sup>46</sup> Spatially, the reduction in poverty levels can be seen in the following table:

Table 2. Reduction of Poverty.

Period	Urban	Rural
March 2021	7,89%	13,10%

<sup>&</sup>lt;sup>41</sup> Desy Setyowati, "Pendapatan Driver Ojek Online Pernah Rp 11 Juta/Bulan, Kini Berapa?," katadata.co.id, 2022, https://katadata.co.id/desysetyowati/digital/63438dc8aa9d6/pendapatan-driver-ojek-online-pernah-rp-11-jutabulan-kini-berapa.

<sup>&</sup>lt;sup>42</sup> Fahmi Ahmad Burhan, "Dulu Bisa Raup Rp 11 Juta/Bulan, Driver Ojol Kini Sulit Dapat Orderan," katadata.co.id, 2020, https://katadata.co.id/desysetyowati/digital/5e9a470fa1e63/dulu-bisa-raup-rp-11-jutabulan-driver-ojol-kini-sulit-dapat-orderan.

<sup>&</sup>lt;sup>43</sup> Desy Setyowati, "Survei Kemenhub: Pendapatan Driver Ojol Pas-Pasan, Jarang Dapat Bonus," katadata.co.id, 2022, https://katadata.co.id/desysetyowati/digital/634385d50a306/survei-kemenhub-pendapatan-driver-ojol-pas-pasan-jarang-dapat-bonus.

<sup>&</sup>lt;sup>44</sup> Anisyah Al Faqir, "Pegawai BUMN Dan PNS Ramai Jadi Driver Ojek Online, Berapa Pendapatannya?," merdeka.com, 2022, https://www.merdeka.com/uang/pegawai-bumn-dan-pns-ramai-jadi-driver-ojek-online-berapa-pendapatannya.html.

<sup>&</sup>lt;sup>45</sup> Alsadad Rudi, "Ojek Aplikasi Berhasil Turunkan Kemiskinan Di Jakarta," KOMPAS.com, 2015, https://megapolitan.kompas.com/read/2015/10/01/20373771/Ojek.Aplikasi.Berhasil.Turunkan.Kemiskin an.di.Jakarta.

<sup>&</sup>lt;sup>46</sup> Eka Purnama Sari and Talia Yuedrika, "Analisis Pengaruh Transportasi Online Terhadap Kesempatan Kerja Dan Kesejahteraan Di Kota Medan," *Jurnal Ekonomi Dan Bisnis Islam* 4, no. 2 (2019): 100–113, https://doi.org/10.32505/v4i2.1253.

September 2021	7,60%	12,53%
March 2022	7,50%	12,29%

Source:

https://fiskal.kemenkeu.go.id/publikasi/siaran-pers-

detil/408#:~:text=Secara%20spasial%2C%20tingkat%20kemiskinan%20di,2021%3A% 2013%2C10%25).

Overall, the poverty rate in Indonesia in March 2022 was 9.54%, from 9.71% in September 2021 and 10.14% in March 2021.<sup>47</sup> These numbers are quite good considering the increasing poverty rate caused by COVID-19, in March 2019 by 9.41%, September 2019 by 9.22%, March 2020 by 9.78% and continue to increase in September 2020.48

## Improving the welfare of Indonesian people

Welfare is a measuring point for a society that is already in a prosperous condition. Community welfare can be measured from four aspects, there are health aspects, economic aspects, happiness aspects, and people's quality of life aspects. 49 Through a global survey in 2019, the welfare of the Indonesian people was ranked 4th with the welfare index jumping 4.4 points from 61.0 points to 65.4 points.<sup>50</sup> The increase in the welfare of the Indonesian people cannot be separated from the decline in the poverty rate in Indonesia. Welfare can be represented through the level of income. Not only that but welfare is also seen from a person's ability to manage his income. Another reason is from the employment side of the Indonesian people, by increasing the number of people who have jobs and earn income, thereby reducing the unemployment rate in Indonesia. The strengthening of economic recovery is expected to be able to continue to create new job opportunities.<sup>51</sup> Online transportation in this case is very meritorious because it provides wide employment opportunities, especially after the COVID-19 period which made many people lose their jobs and income. In the concept of the general welfare, the position of the Indonesian people is not merely an object to gain benefits for the government and ultimately the state, but in fact, it is also a subject of development (development goals).<sup>52</sup>

## Increasing the productivity of every institution and company

With the various conveniences provided by online transportation, passengers are guaranteed to feel comfortable, so the person's internal (feeling) factor will be positive so that his work productivity will also be positive. Users are not hampered by traffic jams, do

<sup>&</sup>lt;sup>47</sup> Siaran Pers SP - 32/BKF/2022, "Tingkat Kemiskinan Maret 2022 Menurun Di Tengah Risiko, APBN Akan Terus Menjadi Shock Absorbe," Badan Kebijakan Fiskal Kementerian Keuangan Republik Indonesia, 2022, https://fiskal.kemenkeu.go.id/publikasi/siaran-pers-detil/408#:~:text=Secara spasial%2C tingkat kemiskinan di,2021%3A 13%2C10%25).

<sup>&</sup>lt;sup>48</sup> Wibi Pangestu Pratama, "BPS: Tingkat Kemiskinan Indonesia Turun Jadi 9,54 Persen," Bisnis.com, https://ekonomi.bisnis.com/read/20220715/9/1555288/bps-tingkat-kemiskinan-indonesia-turun-2022, jadi-954-persen.

<sup>&</sup>lt;sup>49</sup> Astriana Widyastuti, "Analisis Hubungan Antara Produktivitas Pekerja Dan Tingkat Pendidikan Pekerja Terhadap Kesejahteraan Keluarga Di Jawa Tengah Tahun 2009," Economics Development Analysis Journal 1, no. 1 (2012): 1–11, http://journal.unnes.ac.id/sju/index.php/edaj.

<sup>&</sup>lt;sup>50</sup> Raja Suhud, "Kesejahteraan Masyarakat Indonesia Meningkat," Media Indonesia, 2019, https://mediaindonesia.com/ekonomi/225616/kesejahteraan-masyarakat-indonesia-meningkat.

<sup>&</sup>lt;sup>51</sup> Siaran Pers SP - 2 /BKF/2022, "Indikator Kesejahteraan Meningkat, Bukti Pemulihan Ekonomi Badan Kebijakan Fiskal Kementerian Keuangan Republik https://fiskal.kemenkeu.go.id/publikasi/siaran-pers-detil/360.

<sup>&</sup>lt;sup>52</sup> Tukino, "Kajian Kesejahteraan Rakyat Dan Kesejahteraan Negara Di Indonesia," HUMANIORA 3, no.

not feel emotions for the driver, and do not experience interference from buskers and beggars, and others, which will make the user feel comfortable. Recently, there has been a lot of discussion regarding the increase in online transportation fares, in response to demands from *ojol* drivers. In response to this problem related to tariffs, actually, for the time being as evidence of the legal basis for online transportation, the Government through the Ministry of Transportation issued Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 118 of 2018 on Implementation of Special Lease Transportation. It is stated in Article 22 paragraph (2) of the Regulation which essentially states that the amount of online transportation fares is determined by the Minister or Governor following the area of operation.

Now, the Ministry of Transportation has issued new rules regarding *ojek* online fares as outlined in the Minister of Transportation Decree Number KP 564 of 2022, on 4 August 2022. Then, online transportation application companies immediately make tariff adjustments to the application. The main problem in this issue lies not in the increase in fares, but in the official regulation which states that *ojek* online are public transportation. Alvin Lie, a former member of the Ombudsman criticized by saying that "ojek online itu ilegal" (ojek online is illegal), because the business license is not transportation. Until now, there is no umbrella act for two-wheeled public transportation. Based on the current legal regulations, public transportation is a four-wheeled vehicle or more and must have a yellow plate. While *ojek* online are two-wheeled vehicles and have black plates, the driving license used must be a general driving license. Likewise, online transportation by car uses black plates. Alvin Lie realises that people do need ojek (online), but there must be a strong legal basis first before the trading system is taken care of. Therefore, Alvin Lie suggested that the laws and regulations should be reformed first.<sup>53</sup> So to ensure legal certainty, it is necessary to make an appropriate amendment plan to the RTT Law to accommodate the existence of online transportation by adding online transactions from Gojek, Grab, Uber, and other types of online-based transportation companies in Article 151 RTT Law. Thus, Article 151 RTT Law more or less become: "Services for the transportation of people using Public Motorized Vehicles, not on the route as referred to in Article 140 letter b consist of: a) Transportation of people by taxi; b) Transportation of people with a specific purpose; c) Transportation of people for tourism purposes; d) Transportation of people in certain areas; and e) Transportation of people using online transportation (Gojek, Grab, Uber, Maxim and other types of online-based transportation companies)." The plan to amend RTT Law, of course, does not only change Article 151, it must be followed by other articles that accommodate the existence of online transportation in the law, as well as its derivative legislation. So, it can be concluded that Law Number 22 of 2009 on Road Traffic and Transportation needs to be revised.

#### 4. CONCLUSION

First, the existence of online transportation as land transportation has very large and broad positive implications in Indonesia: reducing the unemployment rate in Indonesia, increasing people's income, reducing the number of poverties in Indonesia, improving the welfare of the people in Indonesia, and increase the productivity of every institution and companies. Second, there is an importance to accommodate the existence of online

<sup>&</sup>lt;sup>53</sup> Idris Rusadi Putra, "Tarif Naik, Legalitas Ojek Online Justru Dipertanyakan," merdeka.com, 2022, https://www.merdeka.com/uang/tarif-naik-legalitas-ojek-online-justru-dipertanyakan.html.

transportation in Indonesia by revising Article 151 RTT Law. Law Number 22 of 2009 on Road Traffic and Transportation needs to be amended so that legal certainty can be achieved

#### **REFERENCES**

#### **Journal Article**

- ATM, Abir, Mostafizur Rahman MD, Farjana Islam, and Sirajul Islam. "Encouraging Public Transport Use to Reduce Traffic Congestion in Uttara, Dhaka." *Civil Engineering Research Journal* 5, no. 2 (2018): 64–70. https://doi.org/10.19080/CERJ.2018.05.555659.
- Bopp, Melissa, Dangaia Sims, and Daniel Piatkowski. "The Bicycle: A Technological and Social History." In *Bicycling for Transportation An Evidence-Base for Communities*, 1–19, 2018. https://doi.org/https://doi.org/10.1016/B978-0-12-812642-4.00001-5.
- Dewi, Novi Kartika, and Anita Ratnasari Rakhmatulloh. "The Characteristic of Online Transportation Services and Provision in Semarang City." *Jurnal Teknik Sipil & Perencanaan* 20, no. 2 (2018): 90–97. https://doi.org/https://doi.org/10.15294/jtsp.v20i2.15496.
- Fibrianto, Alan Sigit, and Ananda Dwitha Yuniar. "Technological Development and Its Impact on Community Social Behavior." In *Proceedings of the 1st International Conference on Social Knowledge Sciences and Education (ICSKSE 2018)*, 210–13. Advances in Social Science, Education and Humanities Research, 2019. https://doi.org/10.2991/icskse-18.2019.42.
- Fitri Nurfauziah, Salma, and Nizar Alam Hamdani. "The Influence of Social Media Against Interest in Buying Kopilogi Products." *BIEJ: Business Innovation and Entrepreneurship Journal* 3, no. 1 (2021): 75–83. https://doi.org/https://doi.org/10.35899/biej.v3i1.107.
- Joewono, Tri Basuki, Djoen San Santoso, and Yusak O. Susilo. "Paratransit Transport in Indonesia: Characteristics and User Perceptions." *Journal of the Eastern Asia Society for Transportation Studies* 11 (2015): 1346–61. https://doi.org/https://doi.org/10.11175/easts.11.1346.
- Kadarisman, Muh. "Transportation System and Human Needs in a Family." *Jurnal Manajemen Transportasi & Logistik (JMTranslog)* 2, no. 3 (2015): 313–31. https://doi.org/http://dx.doi.org/10.54324/j.mtl.v2i3.113.
- Kristiano, Rikardus, Suryana, and Upi Supriatna. "Perkembangan Sarana Dan Prasarana Transportasi Dalam Hubungannya Dengan Tingkat Perekonomian Masyarakat Di Desa Kolang Kecamatan Kuwus Barat, Kabupaten Manggarai Barat, Provinsi Nusa Tenggara Timur." *Jurnal Geografi Gea* 19, no. 2 (2019): 131–40. https://doi.org/https://doi.org/10.17509/gea.v19i2.19886.
- Matondang, Asnawati. "The Modernization Impacts for Indonesian Development." *Asian Journal of Social Sciences & Humanities* 8, no. 1 (2019): 47–54. http://www.ajssh.leena-luna.co.jp/ajsshvol8n1.php.
- Nandi. "The Influence of Online Transportation Application to the Mobility and Economic of the Society (Case Study on Using Grab and Go-Jek in Bandung, Indonesia)." In *IGEOS International Geography Seminar 2018 3–4 December 2018*, 286:1–6. Malaysia: IOP Conference Series: Earth and Environmental Science, 2019. https://doi.org/10.1088/1755-1315/286/1/012034.
- Nguyen-Phuoc, Duy Q., William Young, Graham Currie, and Chris De Gruyter. "Traffic

- Congestion Relief Associated with Public Transport: State-of-the-Art." *Public Transport* 12 (2020): 455–481. https://doi.org/https://doi.org/10.1007/s12469-020-00231-3.
- Nugraha, Sukma, and Dini Nuraeni. "Peran Teknologi Internet Dalam E-Commerce." *Journal Civics and Social Studies* 5, no. 2 (2021): 181–91. https://doi.org/https://doi.org/10.31980/civicos.v5i2.1474.
- Nuha, Ulin. "Public Transportation Transformation Towards a Smart, Efficient and Inclusive System." In *Indonesia Post-Pandemic Outlook: Environment and Technology Role for Indonesia Development*, edited by R. Trialih, F. E. Wardiani, R. Anggriawan, C. D. Putra, and A. Said, 255–77. Overseas Indonesian Student's Alliance & BRIN Publishing, 2022. https://doi.org/10.55981/brin.538.c500.
- Olusanya, Godson S., Monday O. Eze, Oluwaseun Ebiesuwa, and Charles Okunbor. "Smart Transportation System for Solving Urban Traffic Congestion." *Review of Computer Engineering Studies* 7, no. 3 (2020): 55–59. https://doi.org/https://doi.org/10.18280/rces.070302.
- Prayudyanto, Muhammad Nanang. "Perbandingan Kinerja Buy The Services Angkutan Umum Massal Kota Metropolitan Dengan Metode Biaya Operasional Kendaraan Dan Indeks Sustainabilitas." *Jurnal Penelitian Transportasi Darat* 23, no. 1 (2021): 55–71. https://doi.org/https://doi.org/10.25104/jptd.v23i1.1734.
- Putri, Utari Meridha, Muryanto Amin, and Warjio. "Development of Online Transportation Services: Effectiveness and Efficiency of The Grabbike Applications for Society in Medan City." *International Journal of Research in Business and Social Science* 8, no. 4 (2019): 71–78. https://doi.org/https://doi.org/10.20525/ijrbs.v8i4.286.
- Quessada, Matheus S, Rickson S Pereira, William Revejes, Bruno Sartori, Euclydes N Gottsfritz, Douglas D Lieira, Marco AC da Silva, Geraldo P Rocha Filho, and Rodolfo I Meneguette. "ITSMEI: An Intelligent Transport System for Monitoring Traffic and Event Information." *International Journal of Distributed Sensor Networks* 16, no. 10 (2020). https://doi.org/https://doi.org/10.1177/1550147720963751.
- Rahadian, Jodi, and Sardjito. "Preferensi Masyarakat Terhadap Pelayanan Angkutan Umum Di Jakarta Barat (Studi Kasus: Koridor Jalan Daan Mogot)." *Jurnal Teknik ITS* 4, no. 1 (2015): 1–6. https://repository.its.ac.id/72799/2/3611100056-Paper.pdf.
- Rakhmatulloh, A R, D I Kusumo Dewi, and D M K Nugraheni. "Bus Trans Semarang toward Sustainable Transportation in Semarang City." In *The 1st International Conference on Urban Design and Planning*. Semarang, Indonesia: IOP Conference Series: Earth and Environmental Science 409 012021, 2020. https://doi.org/10.1088/1755-1315/409/1/012021.
- Romli, Kholidah, Shania Correlly Noor Sabila, and Farhan. "Effect of the Online Transportation against Conventional Transportation and User of Transportation Services in Semarang Poncol Railway Station, Indonesia (Legal and Economic Perspective)." In *Advances in Social Science, Education and Humanities Research: Proceedings of the 1st International Conference on Indonesian Legal Studies (ICILS 2018)*, 192:303–4. Atlantis Press, 2018. https://doi.org/10.2991/icils-18.2018.57.
- Salazar-Cabrera, Ricardo, Álvaro Pachón de la Cruz, and Juan Manuel Madrid Molina. "Sustainable Transit Vehicle Tracking Service, Using Intelligent Transportation System Services and Emerging Communication Technologies: A Review." *Journal of*

- *Traffic and Transportation Engineering (English Edition)* 7, no. 6 (2020): 729–47. https://doi.org/https://doi.org/10.1016/j.jtte.2020.07.003.
- Sari, Eka Purnama, and Talia Yuedrika. "Analisis Pengaruh Transportasi Online Terhadap Kesempatan Kerja Dan Kesejahteraan Di Kota Medan." *Jurnal Ekonomi Dan Bisnis Islam* 4, no. 2 (2019): 100–113. https://doi.org/10.32505/v4i2.1253.
- Styaningsih, Fidya Nur, Yardan Widyadhana Riyadi Putra, and Wiyan Herra Herviana. "Analysis of the Development of Online Transportation in Indonesia in Era 4.0 with Descriptive Research Methods." *Jurnal Teknologi Dan Sistem Informasi Bisnis (Jteksis)* 4, no. 1 (2022): 162–70. https://doi.org/https://doi.org/10.47233/jteksis.v4i1.389.
- Susanto, Eko Harry, and Sisca Aulia. "Communication Technology as Support for Online Transportation (Case Study of GO-JEK in Indonesia)." In *Proceedings of the Tarumanagara International Conference on the Applications of Social Sciences and Humanities* (TICASH 2019), 148–51. Atlantis Press, 2019. https://doi.org/10.2991/assehr.k.200515.025.
- Tukino. "Kajian Kesejahteraan Rakyat Dan Kesejahteraan Negara Di Indonesia." *HUMANIORA* 3, no. 1 (2012): 194–204.
- Tungkup, Doharman Lumban. "The Importance of Online Transportation Effectiveness for Business Resistance Strategies During the Covid-19 Pandemic." In *Excellent Human Resource for the Sustainable Safety of Inland Water and Ferries Transport in New Normal Era International Webinar (IWPOSPA 2020)*, 5:396–414. KnE Social Sciences, 2021. https://doi.org/https://doi.org/10.18502/kss.v5i1.8302.
- Widyastuti, Astriana. "Analisis Hubungan Antara Produktivitas Pekerja Dan Tingkat Pendidikan Pekerja Terhadap Kesejahteraan Keluarga Di Jawa Tengah Tahun 2009." *Economics Development Analysis Journal* 1, no. 1 (2012): 1–11. http://journal.unnes.ac.id/sju/index.php/edaj.
- Younus, Ahmed Muayad. "Technological Advancement And Economic Growth For The Business Sector." *Academic Journal of Digital Economics and Stability* 10 (2021): 56–62. https://economics.academicjournal.io/index.php/economics/article/view/345.

### Book

- Adib, Mohammad. Filsafat Ilmu: Ontologi, Epistemologi, Aksiologi, Dan Logika Ilmu Pengetahuan. Yogyakarta: Pustaka Pelajar, 2011.
- Black, Henry Campbell. *Black's Law Dictionary*. Edited by Bryan A. Garner. 11th ed. Minnesota: Thomson Reuters, 2014.
- Dwiningrum, Siti Irene Astuti. *Ilmu Sosial & Budaya Dasar: Pendekatan Problem Solving Dan Analisis Kasus.* Yogyakarta: UNY Press, 2012.
- Martono, Nanang. Sosiologi Perubahan Sosial: Perspektif Klasik, Modern, Postmodern, Dan Postkolonial. Jakarta: RajaGrafindo Persada, 2012.
- Muhammad, Abdulkadir. *Hukum Pengangkutan Darat, Laut, Dan Udara*. Bandung, Indonesia: Citra Aditya Bakti, 1991.

#### Thesis, Web Page, and Others

Badan Pusat Statistik. "Februari 2022: Tingkat Pengangguran Terbuka (TPT) Sebesar 5,83 Persen Dan Rata-Rata Upah Buruh Sebesar 2,89 Juta Rupiah per Bulan." Badan Pusat

- Statistik, 2022. <a href="https://www.bps.go.id/pressrelease/2022/05/09/1915/februari-2022--tingkat-pengangguran-terbuka--tpt--sebesar-5-83-persen.html">https://www.bps.go.id/pressrelease/2022/05/09/1915/februari-2022--tingkat-pengangguran-terbuka--tpt--sebesar-5-83-persen.html</a>.
- Burhan, Fahmi Ahmad. "Dulu Bisa Raup Rp 11 Juta/Bulan, Driver Ojol Kini Sulit Dapat Orderan." katadata.co.id, 2020. <a href="https://katadata.co.id/desysetyowati/digital/5e9a470fa1e63/dulu-bisa-raup-rp-11-jutabulan-driver-ojol-kini-sulit-dapat-orderan">https://katadata.co.id/desysetyowati/digital/5e9a470fa1e63/dulu-bisa-raup-rp-11-jutabulan-driver-ojol-kini-sulit-dapat-orderan</a>.
- Dinas Perhubungan. "Seputar Pengertian Transportasi Darat." Dinas Perhubungan, 2017. <a href="https://dishub.bulelengkab.go.id/informasi/detail/artikel/seputar-pengertian-transportasi-darat-44">https://dishub.bulelengkab.go.id/informasi/detail/artikel/seputar-pengertian-transportasi-darat-44</a>.
- Faqir, Anisyah Al. "Pegawai BUMN Dan PNS Ramai Jadi Driver Ojek Online, Berapa Pendapatannya?" merdeka.com, 2022. <a href="https://www.merdeka.com/uang/pegawai-bumn-dan-pns-ramai-jadi-driver-ojek-online-berapa-pendapatannya.html">https://www.merdeka.com/uang/pegawai-bumn-dan-pns-ramai-jadi-driver-ojek-online-berapa-pendapatannya.html</a>.
- Gunawan, Indra. "TPT Capai 5,8 Persen, Menaker Optimistis Kejar Target Dari Jokowi." Bisnis.com, 2022. https://ekonomi.bisnis.com/read/20220816/12/1567489/tpt-capai-58-persen-menaker-optimistis-kejar-target-dari-jokowi.
- Handayani, Dewi. "Motorcycle Taxi (Ojek) as One of Indonesian's Future Sustainable Transportation." In *The 1st ICETIA 2014: Proceedings of the International Conference on Engineering Technology and Industrial Application*, 163–66. Universitas Muhammadiyah Surakarta, 2014. <a href="https://publikasiilmiah.ums.ac.id/handle/11617/4969">https://publikasiilmiah.ums.ac.id/handle/11617/4969</a>.
- Oktaviani, Gusti Ayu. "Legalitas Ojol Dan Mode Transportasi Daring Lainnya." kompasiana, 2020. <a href="https://www.kompasiana.com/gustiayuoktaviani9853/5e873b5271d69605b23c1d64/legalitas-ojol-dan-mode-transportasi-daring-lainnya?page=all.">https://www.kompasiana.com/gustiayuoktaviani9853/5e873b5271d69605b23c1d64/legalitas-ojol-dan-mode-transportasi-daring-lainnya?page=all.</a>
- Pratama, Wibi Pangestu. "BPS: Tingkat Kemiskinan Indonesia Turun Jadi 9,54 Persen." Bisnis.com, 2022. https://ekonomi.bisnis.com/read/20220715/9/1555288/bps-tingkat-kemiskinan-indonesia-turun-jadi-954-persen.
- Putra, Idris Rusadi. "Tarif Naik, Legalitas Ojek Online Justru Dipertanyakan." merdeka.com, 2022. https://www.merdeka.com/uang/tarif-naik-legalitas-ojek-online-justru-dipertanyakan.html.
- Putri, Cantika Adinda. "Angka Pengangguran Turun Gegara Jadi Driver Gojek-Grab?" CNBC Indonesia, 2019. <a href="https://www.cnbcindonesia.com/news/20191009070933-4-105456/angka-pengangguran-turun-gegara-jadi-driver-gojek-grab">https://www.cnbcindonesia.com/news/20191009070933-4-105456/angka-pengangguran-turun-gegara-jadi-driver-gojek-grab</a>.
- Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 108 of 2017 on the Implementation of Transportation of People with Public Motorized Vehicles Not On Route (2017).
- Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 15 of 2019 on Organization of the Transportation of People with Public Motorized Vehicles on the Route (2019).
- Rudi, Alsadad. "Ojek Aplikasi Berhasil Turunkan Kemiskinan Di Jakarta." KOMPAS.com, 2015. <a href="https://megapolitan.kompas.com/read/2015/10/01/20373771/Ojek.Aplikasi.Berhasil.Turunkan.Kemiskinan.di.Jakarta">https://megapolitan.kompas.com/read/2015/10/01/20373771/Ojek.Aplikasi.Berhasil.Turunkan.Kemiskinan.di.Jakarta</a>.
- Setyowati, Desy. "Pendapatan Driver Ojek Online Pernah Rp 11 Juta/Bulan, Kini Berapa?"

katadata.co.id, 2022.

https://katadata.co.id/desysetyowati/digital/63438dc8aa9d6/pendapatan-driverojek-online-pernah-rp-11-jutabulan-kini-berapa.

- − − . "Pengangguran Turun 530 Ribu Berkat Ojek Online Dan Ibu Rumah Tangga." 2016. katadata.co.id, https://katadata.co.id/marthathertina/finansial/5e9a56bcbd17c/ojek-online-danibu-rumah-tangga-berdagang-perkecil-pengangguran.
- ---. "Survei Kemenhub: Pendapatan Driver Ojol Pas-Pasan, Jarang Dapat Bonus." katadata.co.id, 2022. https://katadata.co.id/desysetyowati/digital/634385d50a306/survei-kemenhubpendapatan-driver-ojol-pas-pasan-jarang-dapat-bonus.
- Siaran Pers SP 2 /BKF/2022. "Indikator Kesejahteraan Meningkat, Bukti Pemulihan Ekonomi Berkualitas." Badan Kebijakan Fiskal Kementerian Keuangan Republik Indonesia, 2022. https://fiskal.kemenkeu.go.id/publikasi/siaran-pers-detil/360.
- Siaran Pers SP 32/BKF/2022. "Tingkat Kemiskinan Maret 2022 Menurun Di Tengah Risiko, APBN Akan Terus Menjadi Shock Absorbe." Badan Kebijakan Fiskal Republik Kementerian Keuangan Indonesia, 2022. https://fiskal.kemenkeu.go.id/publikasi/siaran-pers-detil/408#:~:text=Secara spasial%2C tingkat kemiskinan di,2021%3A 13%2C10%25).
- Suhud, Raja. "Kesejahteraan Masyarakat Indonesia Meningkat." Media Indonesia, 2019. https://mediaindonesia.com/ekonomi/225616/kesejahteraan-masyarakatindonesia-meningkat.