

# Purabaya Bus Station Service Performance in New Adaptation Period

Putu Cinthya Pratiwi Kardita<sup>1,a)</sup>, Achmad Wicaksono<sup>1,b)</sup> & M. Ruslin Anwar<sup>1,c)</sup>

<sup>1)</sup>*Civil Engineering Dept., Faculty of Engineering, Universitas Brawijaya, Malang*

Correspondent : <sup>a)</sup>pctiwi@gmail.com, <sup>b)</sup>wicaksono68@ub.ac.id & <sup>c)</sup>ruslin@ub.ac.id

## ABSTRACT

The significant losses in the transportation sector, especially the inter-city, with-in-province bus (AKDP) and the inter-city inter-province bus (AKAP) operating at the Purabaya Bus Station during the COVID-19 pandemic, mostly because fewer buses operated due to a significant decrease in passengers' numbers. This situation is the impact of implementing the Large-Scale Social Restrictions (PSBB) policy in the Surabaya Metropolitan Area from April 28th to June 8th, 2020. The COVID-19 case is still increasing, but the economy needs to be saved; therefore, Indonesia has begun to enter a New Adaptation Period. During this period, bus movements increased is less than 5%, while passengers are less than 2% of the typical Purabaya Bus Station's normal situation. The 24 (twenty-four) hours bus station operational services is following health protocols. They have a tight schedule for site sterilization by spraying disinfectants, checking passenger temperatures with a thermal camera, checking health documents for passengers and fleet crews, providing handwashing and disinfecting booths before entering the waiting room, and applying physical distancing between passengers. However, online ticket purchases are currently only for AKAP buses, while for AKDP buses, the passengers still apply on bus payments to the bus crew.

**Keywords :** service operation, Purabaya bus station, new adaptation period, bus terminal asset management.

## INTRODUCTION

Public transportation is one of the sectors that has suffered many losses due to COVID-19 since the global pandemic status by WHO on March 11th, 2020 (Sánchez et al., 2020; Ouhssine et al., 2020; Mogaji, 2020). The implementation of Large-Scale Social Restrictions (PSBB) imposed in some districts/cities in Indonesia resulted in fewer public transportation movements (Caraka et al., 2020; Hadiwardoyo, 2020; Susilawati et al., 2020). Restrictions on people and fleets' movement led to decreased business performance and layoffs in the transportation sector (Ministry of Finance, 2020). The covid-19 case in Indonesia has not yet ended, but the community's economic activity must be saved; therefore, the Republic of Indonesia's Government issued a New Adaptation Period transportation policy. The New Adaptation Period is implementing public economic activities by paying attention to and implementing mandatory health protocols. The protocols include using masks while outdoors, washing hands after using public facilities, and conducting temperature checks before entering public places (Task Force to Accelerated Handling of COVID-19, 2020). Their data shows that East Java Province placed first with the highest number of cases in Indonesia, reaching 500,000 cases as of November 1st, 2020.

As one of Indonesia's economic centers, East Java has several industrial centers, education centers, trade centers, and tourism destinations. East Java's daily economic activity indeed produces a large number of people and goods. One of the transportation nodes at the

center of people's movement in East Java Province is Purabaya Bus Station. The bus station located in Sidoarjo Regency, however, is operated by Surabaya City's Government, which mainly serves AKDP/AKAP Bus with the furthest route to North Sumatra and East Nusa Tenggara Province (Surabaya City Transportation Department, 2020).

The decrease in the number of passengers at Purabaya Bus Station during the COVID-19 pandemic reached 95%. The indicator is a lower load factor due to the number of passengers being less than the number of seats provided. The decrease in the number of passengers in the Purabaya Bus Station affects the inter-city bus's operational performance during the New Adaptation Period (Surabaya City Transportation Department, 2020). Therefore, the number of bus movements decreased to 78%, as Bus Companies decided not to operate during the COVID-19 epidemic. This situation was due to Large-Scale Social Restrictions (PSBB) in Surabaya Metropolitan Area (including Surabaya City, Gresik Regency, and Sidoarjo Regency) started on April 28th and extended until June 8th, 2020. The waiting time of passengers becomes longer reaching 1 hour, which was previously only 30 minutes. The headway is longer due to the low frequency of fleets.

For arrivals and departure passengers, the bus station should be a clean and hygienic location. Disinfectant spraying at bus stations needs to be done regularly in crowded areas and aisles (Pourghaznein and Salati, 2020). Covid-19 transmission in bus clusters shows 28.91 times higher risk of infection and 26.01 times higher than people who do not use buses (Ye et al., 2020). Therefore, it is necessary to know how much the decrease in passengers in Purabaya Bus Station and how to implement transportation policies in Purabaya Bus Station during the New Adaptation Period and provide appropriate recommendations for improving bus station performance prevention Covid-19 spread. It is clear that Covid-19, largely influences Terminal Asset Management, in terms of Infrastructure Asset Operation (Soemitro & Suprayitno, 2018; Suprayitno & Soemitro, 2018; Suprayitno & Soemitro, 2019).

Table 1 shows the Purabaya Bus Station service in the New Adaptation Period that prioritizes hygiene and health for passengers, drivers, and bus crew based on transportation regulations on land transport.

## **RESEARCH METHOD**

Primary data collection was conducted on July 23rd, 2020, at Purabaya Bus Station. The method of data collection is carried out with direct observation in the field. The interview has been done with the Head of Purabaya Bus Station Office to find out the transportation policy during the New Adaptation Period organized by Surabaya City Transportation Department.

Secondary data used in this study include transportation policies implemented in Indonesia during the New Adaptation Period, the active service of Purabaya Bus Station Office in preventing the spread of COVID-19 in the bus station, data on passenger numbers at Purabaya Bus Station in 2019 – 2020, and data on public mobility reports during the COVID-19 pandemic belonging to Google.com from July – September 2020.

**Tabel 1.** Transportation Policy in The New Adaptation Period

No.	Transportation Regulation	Purabaya Bus Station Service Rule
1	Circular Letter No. 7 and No. 9 of 2020 by The Task Force for The Acceleration of Handling COVID-19	<ol style="list-style-type: none"> <li>1. All individuals traveling are required to wear masks in each activity;</li> <li>2. Public transport users must present their identities (KTP or other IDs), present a PCR test certificate with negative results or a Rapid-Test certificate with non-reactive results valid 14 days upon departure;</li> <li>3. Especially for areas that do not have PCR Test facilities, and Rapid-Test can show a symptom-free certificate such as influenza (influenza-like illness) issued by the Hospital Medical Doctor</li> </ol>
2	Minister of Transportation Regulation No. PM 18 and No. PM 41 of 2020	<ol style="list-style-type: none"> <li>1. Checking the passenger's body temperature with the condition of less than 38°C; if more than that, the passenger will be referred to the health facility for further examination;</li> <li>2. Perform routine sterilization by spraying disinfectant on infrastructure and means of transportation, as well as providing hand sanitizer at the entrance of means of transportation;</li> <li>3. The ticketing system is done electronically.</li> </ol>
3	Circular Letter of Director General of Land Transportation No. 9/AJ.201/DRJD/2020	<ol style="list-style-type: none"> <li>1. The head of the Land Transportation Hall ensures that the passenger bus station remains operational for 24 (twenty-four) hours while keeping into account the provisions of health protocols;</li> <li>2. Public transport companies are obliged to ensure that prospective passengers meet the requirements of health documents and ensure the health of the fleet's crew complies with health protocols during duty.</li> </ol>
4	Circular Letter of Minister Transportation Republic No. 11 of 2020	<ol style="list-style-type: none"> <li>1. Load factor or carrying capacity is allowed a maximum of 70% in areas with a red zone.</li> </ol>

Source : Analysis Result (2020)

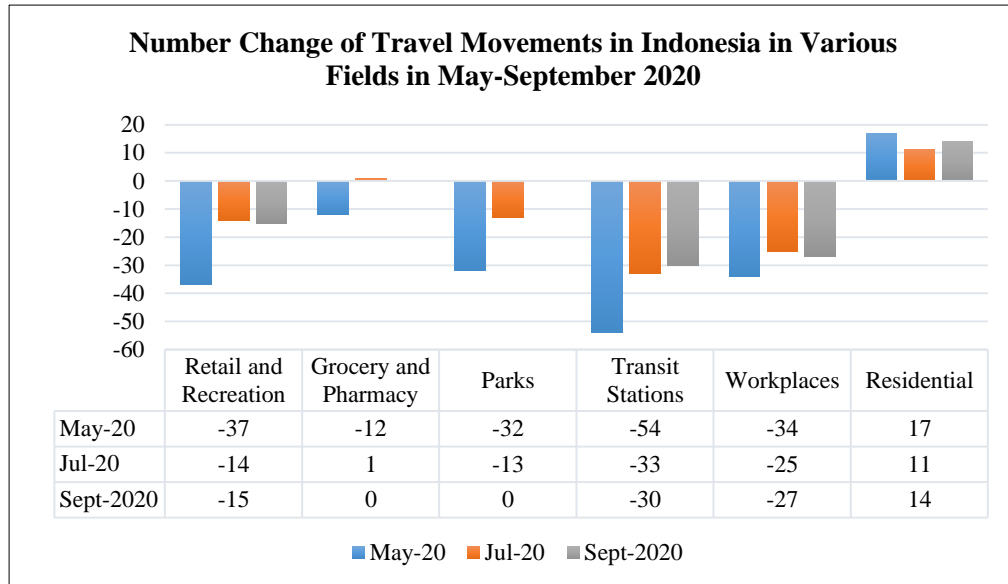
## RESEARCH ANALYSIS

### 1. Change of Movements in Indonesia

The decrease in the number of movements occurred almost across sectors, such as Retail and Recreation, Grocery and Pharmacy, Parks, Transit stations, and Workplaces. However, there has been an increase in residential areas. This situation is the effect of the enactment of government policies such as :

- a. Large-scale Social Restrictions (PSBB) in almost all Indonesia regions, especially in Surabaya Metropolitan Area (including Surabaya, part of Gresik Regency, and Sidoarjo Regency). Restrictions in certain areas due to a significant increase in the number of patients/people in COVID-19 surveillance.
- b. Work and Study from Home (WFH), working and learning from home for government agencies, general employees, and students.
- c. Restriction of Community Activities (PKM) is carried out by banning homecoming or traveling out of the area to prevent passengers queue in transportation nodes such as bus stations, airports, stations, and ports.

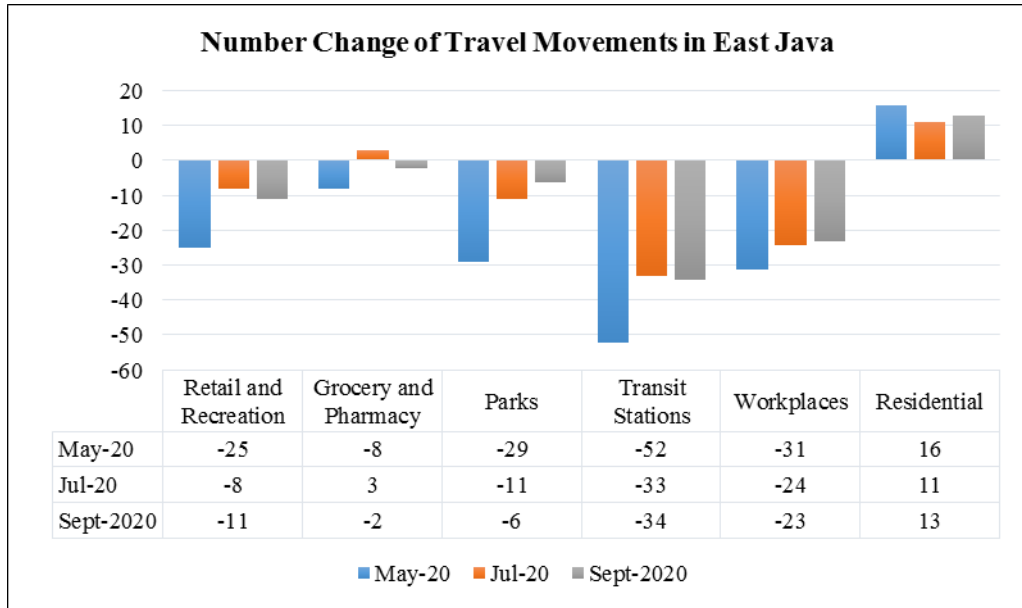
- d. Temporary closure of some shopping and recreation locations such as malls, parks, sports centers, and other public places has been done to prevent people from gathering during pandemics



Source: [www.google.com/covid19/mobility/](http://www.google.com/covid19/mobility/)

**Figure 1.** Number Change of Movements in Various Fields in Indonesia

Based on Figure 1, Indonesia experienced the largest decrease in Transit Stations in May 2020; at that time, it was the beginning of a significant increase in COVID-19 cases in Indonesia. Some regions in Indonesia began to implement large-scale social restrictions. In July 2020, during the transition to the New Adaptation Period in Indonesia, movement in residential areas decreased by 6%. However, other areas increased by 23% for Retail and Recreation, 11% for Grocery and Pharmacy, 19% for Parks, 21% for Transit Station, and 9% for Workplaces. In September 2020, the start of a new school year for some schools and campuses in Indonesia, it showed a 1-3% increase in all fields' movement. This data indicates a change in Indonesia's movement patterns influenced by policies imposed by the government on the daily activities of the people.



Source: [www.google.com/covid19/mobility/](http://www.google.com/covid19/mobility/)

**Figure 2.** Number Change of Travel Movements in East Java

Based on Figure 2, the implementation of large-scale social restrictions in the Surabaya Metropolitan Area from April 28th – June 8th, 2020, caused a more massive decrease in East Java's travel movement affecting Purabaya Bus Stations in May 2020 reaching 52%. This decrease was also due to significantly less operation of the Intercity Bus in Purabaya Bus Station. The situation was followed by a 31% decline in workplace trips and a 16% increase in residential trips. In July 2020, the movement began to show significant increases of 17% for Retail and Recreation, 11% for Grocery and Pharmacy, 18% for Parks, 19% for Transit Stations, and 7% for Workplaces.

**2. The Decrease of Bus and Passenger Departures at Purabaya Bus Station**

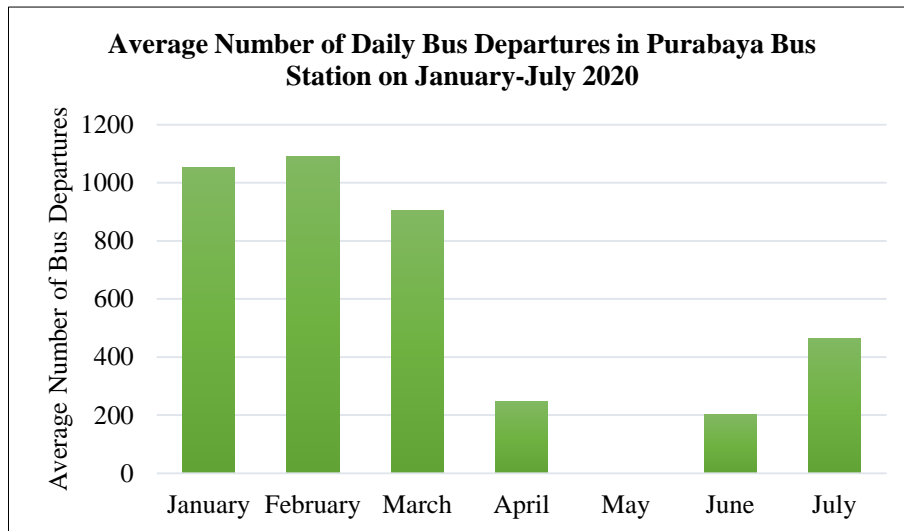
Table 2 shows the average change in the number of daily departures of AKDP and AKAP Bus and the number of daily passengers at Purabaya Bus Station from January – Juli 2020

**Table 2.** Average Number of Daily Departures and Passengers by 2020

MONTH	AVERAGE NUMBER OF BUS DEPARTURES	AVERAGE NUMBER OF PASSENGERS
January	1052	31853
Februari	1092	29872
March	905	23227
April	249	2030
May	0	0
June	203	2083
July	464	5221

Source : Surabaya City Transportation Department (2020)

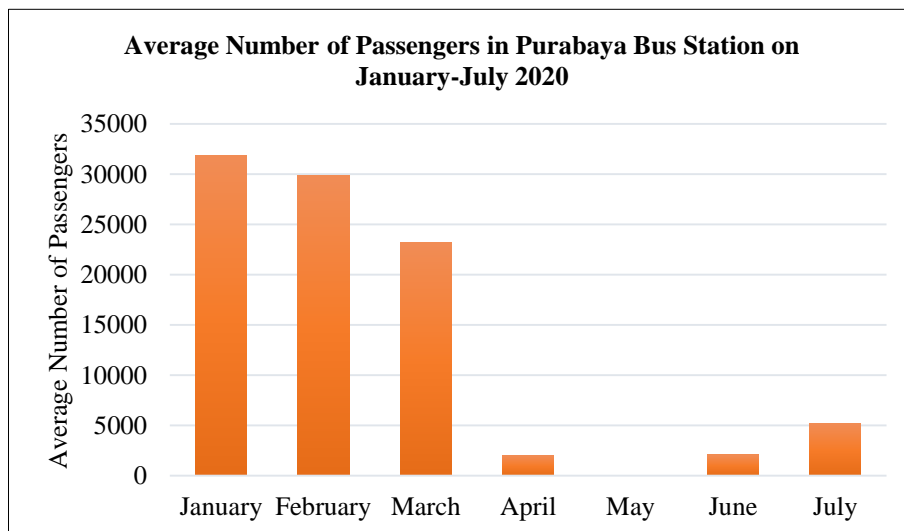
The enactment of the New Adaptation Period at Purabaya Bus Station was marked by the end of PSBB in the Surabaya Metropolitan Area on June 9th, 2020. However, the increase in passenger numbers has not shown a significant number.



Source: Surabaya City Transportation Department (2020)

**Figure 3.** Average Number of Daily Bus Departures in Purabaya Bus Station

Since covid-19 was raised to a national pandemic by the Government of the Republic of Indonesia on April 13th, 2020, through Presidential Decree No. 12 of 2020, people's life patterns continue to show change. Communication, which is usually done face-to-face, is currently replaced with online. It can be seen in Figure 3 that from January to March 2020, the movement of AKDP/AKAP Bus more than 900 fleets per day. In April 2020, when the government began enforcing work and studying home policies, the movement decreased to more than 650 fleets. In May 2020, when PSBB was enacted in Surabaya Metropolitan Area, there was no fleets movement in the Purabaya Bus Station. The increase began in June when the New Adaptation Periossd's implementation reached 203 buses and doubled in July to 464 buses.



Source: Surabaya City Transportation Department (2020)

**Figure 4.** Average Daily Number of Passengers in Purabaya Bus Station

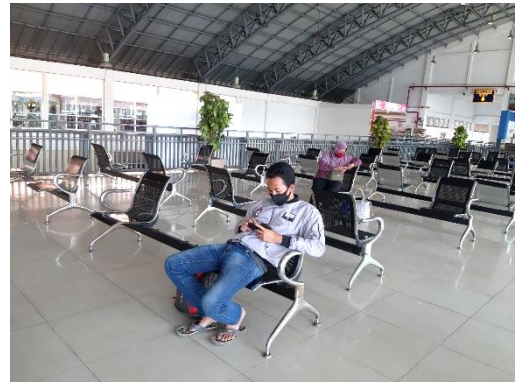
Figure 4 shows January 2020; the number of passengers per day could reach over 30,000 due to the New Year holiday and Chinese New Year. However, from February to April 2020, the number of passengers continued to decrease, reaching only 2000 passengers per day in April 2020. In June 2020, AKDP/AKAP Bus at Purabaya Bus Station started operating but only got 2000 passengers per day, and by July 2020

experienced an increase of 5000 passengers per day. The impact of the COVID-19 pandemic at Purabaya Bus Station is the operation of several Bus Companies (PO) in Purabaya Bus Station, and some PO buses that start operating do not operate the entire fleet. The increase in passenger numbers did not reach 2% of the typical number, caused by some campuses and schools still carrying out school from home, and some tourist attractions have also not opened.

### 3. Purabaya Bus Station Service during New Adaptation Period

The following services are carried out related to the prevention of covid-19 spread in the Purabaya Bus Station area :

- a. Every person in the Purabaya Bus Station area must wear a mask.



Source: Personal Document (2020)

**Figure 1.** Officers and Passengers wear Masks at Purabaya Bus Station

- b. AKDP/AKAP Bus passengers are required to present their identity and PCR Test letter with negative results or Rapid Test with non-reactive results valid 14 days upon departure



Source: Personal Document (2020)

**Figure 6.** Identity Checks and Health Documents by Bus Station Officers

- c. The Bus Station Officer will check the passenger's body temperature and referral to a health facility when the body temperature is more than 38°C.



Source: Personal Document (2020)

**Figure 2.** Temperature Checking with Thermal Camera and Referral Health Room

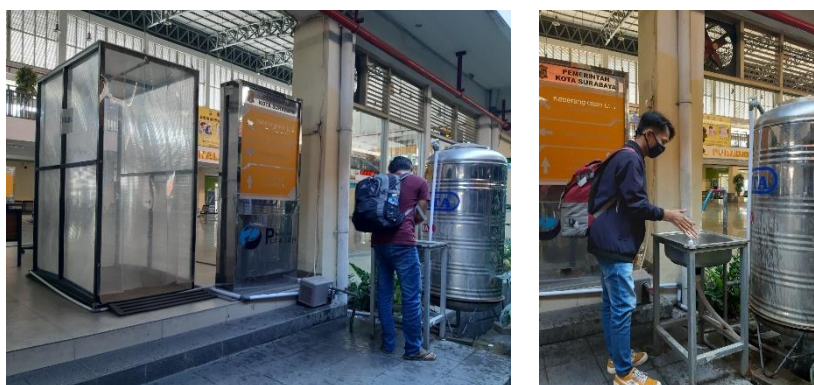
- d. Perform routine sterilization by spraying disinfectants in the Purabaya Bus Station area.



Source: Surabaya City Transportation Department (2020)

**Figure 8.** Sterilization Process with Disinfectant Fluid

- e. Provision of handwashing and sterilization facilities in disinfectant booths for passengers and luggage before entering the lounge.



Source: Personal Document (2020)

**Figure 3.** Disinfectant Room and Washing Hand Place for Passengers



The ticket purchase system is done electronically for AKAP Bus, whereas for Bus AKDP Bus, transactions are done on the bus, with a bus officer.



Source: Personal Document (2020)

**Figure 4.** Online and Offline Ticketing in Purabaya Bus Station

- f. Purabaya Bus Station continues to operate 24 (twenty-four) hours concerning the provisions of health protocols.



Source: Personal Document (2020)

**Figure 5.** Purabaya Bus Station Operations During New Adaptation Period

- g. The load factor is allowed 70% in the red zone and physical distancing in the bus station.



Source: Personal Document (2020)

**Figure 6.** Physical Distancing in Purabaya Bus Station

## CONCLUSION

The average decrease in the number of AKDP/AKAP Bus departures at Purabaya Bus Station can initially reach 900 more fleets per day; in the New Adaptation Period, only about 200 – 400 fleets per day. The average daily number of passengers in Purabaya Bus Station initially reached more than 20,000 people in the New Adaptation Period, only about 2000 – 5000 passengers per day. This situation indicates that the fleet movement increase has not reached 5% of the typical number. The number of passengers has not reached 3% of the typical number in Purabaya Bus Station. The application of active services in Purabaya Bus Station follows transportation policies imposed in Indonesia during the New Adaptation Period, such as implementing health protocols for prospective passengers, bus station officers, and fleet crews. 24 (twenty-four) hours of bus station operation with location sterilization schedule with routine disinfectant spraying, temperature checking with thermal cameras, checking passengers and crew's health documents, provision of handwashing and disinfectant booths, and the application of physical distancing between passengers. However, the purchase of tickets online is only for AKAP Bus, while for AKDP, bus passengers still transact directly on the bus with the bus crew.

## REFERENCES

- Caraka, R. E., Lee, Y., Kurniawan, R., Herliansyah, R., Kaban, P. A., Nasution, B. I., Gio, P. U., Chen, R. C., Toharudin, T., & Pardamean, B. (2020). Impact of COVID-19 large-scale restriction on environment and economy in Indonesia. *Global Journal of Environmental Science and Management*, 6(SI), 65–84. <https://doi.org/10.22034/GJESM.2019.06.SI.07>
- COVID-19 Community Report. (2020). *COVID-19 Community Mobility Reports*. <https://www.google.com/covid19/mobility/?hl=id>. (accessed on October 1st, 2020).
- Director-General of Land Transportation. (2020). *Circular Letter of the Director-General of Land Transportation No.9/AJ.201/DRJD/2020 about Operational Guidelines for Land Transportation for the Implementation of Travel Restrictions of Persons to Accelerate The Treatment of Coronavirus Disease (COVID-19)*. Ministry of Transportation Republic of Indonesia. (in Bahasa). Jakarta.
- Hadiwardoyo, W. (2020). Kerugian Ekonomi Nasional Akibat Pandemi Covid-19. *BASKARA: Journal of Business & Entrepreneurship*, 2(2), 83-92.
- Minister of Transportation Republic of Indonesia. (2020). *Circular Letter No. 11/2020 on Guidelines and Technical Guidelines for The Implementation of Land Transportation during the New Habit Adaptation Period to Prevent the Spread of Corona Virus Disease 2019 (COVID-19)*. Ministry of Transportation Republic of Indonesia. (in Bahasa). Jakarta.
- Minister of Transportation Republic of Indonesia. (2020). *Regulation of the Minister of Transportation of the Republic of Indonesia No. 18/2020 about Transportation Control to prevent the spread of Corona Virus Disease 2019 (COVID-19)*. Ministry of Transportation Republic of Indonesia. (in Bahasa). Jakarta.
- Minister of Transportation Republic of Indonesia. (2020). *Regulation of the Minister of Transportation of the Republic of Indonesia No. 41/2020 on Changes to the Regulation of the Minister of Transportation of the Republic of Indonesia No. 18/2020 on Transportation Control to prevent the spread of Corona Virus Disease 2019 (COVID-19)*. Ministry of Transportation Republic of Indonesia. (in Bahasa). Jakarta.
- Ministry of Finance Indonesia. (2020). Empat Sektor Ekonomi yang Paling Tertekan Pandemi COVID-19. <https://republika.co.id/berita/q83llp409/empat-sektor-ekonomi-yang-paling-tertekan-pandemi-covid19>. (accessed on 29 Mei 2020). (in Bahasa)

- Mogaji, E., 2020. Financial Vulnerability During a Pandemic: Insights for Coronavirus Disease (COVID-19). *Research Agenda Working Papers. Vol 2020 No 5 pp 57-63.*
- Ouhsine, O., Ouigmane, A., Layati, E., Aba, B., Isaifan, R. J., & Berkani, M. (2020). Impact of COVID-19 on the qualitative and quantitative aspects of household solid waste. *Global Journal of Environmental Science and Management, 6(4), 1-12.*
- Pourghaznein, T., & Salati, S. (2020). National approach in response to the COVID-19 pandemic in Iran. *International Journal of Community Based Nursing and Midwifery Vol. 8, Issue 3, pp. 275–276.* Shiraz University of Medical Sciences. <https://doi.org/10.30476/IJCBNM.2020.85928.1308>
- Sánchez, C., Armando, M., Zanuy, C., Tardivo, A., Martín, C. S., Carrillo Zanuy, A., & Zanuy, A. C. (2020). *Alessio Tardivo Covid-19 Impact In Transport, An Essay From The Railways' Systems Research Perspective.* Sage Submissions. <https://doi.org/10.31124/ADVANCE.12204836.V1>
- Soemitro, R.A.A. & Suprayitno, H. (2018). “Preliminary Reflexion on Basic Concept of Facility Asset Management”. *Jurnal Manajemen Aset Infrastruktur & Fasilitas 2(Sup1), Juni 2018, 1-13.*
- Suprayitno, H. & Soemitro R.A.A. (2018), “Preliminary Reflexion on Basic Principle of Infrastructure Asset Management”. *Jurnal Manajemen Aset Infrastruktur & Fasilitas, 2(1), Maret 2018, 1-10.*
- Suprayitno, H., & Soemitro, R. A. A. (2019). “Reflection on Basic View of Public Infrastructure for Infrastructure Asset Management in Indonesia”. *Jurnal Manajemen Aset Infrastruktur & Fasilitas, 3(Sup. 1), 15–24.*
- Surabaya City Transportation Department. (2020). *Policies, Routes, and Number of Passengers and Bus Departures on January - June 2020.* Surabaya: Purabaya Bus Station Office. (in Bahasa). Surabaya.
- Susilawati, S., Falefi, R., & Purwoko, A. (2020). Impact of COVID-19's Pandemic on the Economy of Indonesia. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences, 3(2), 1147-1156.*
- Task Force to Accelerate COVID-19 Handling. (2020). *Circular Letter No. 7/2020 about The Criteria and Requirements of People's Death in the Period of Adaptation of New Habits to a Productive and Safe Society of Corona Virus Disease 2019 (COVID-19).* Jakarta: Government of Indonesia. (in Bahasa). Jakarta.
- Task Force to Accelerate COVID-19 Handling. (2020). *Circular Letter No. 9/2020 about Changes to Circular Letter No. 7/2020 on The Criteria and Requirements of People's Journey in the Period of Adaptation of New Habits to a Productive and Safe Society corona Virus Disease 2019 (COVID-19).* Government of Indonesia. (in Bahasa). Jakarta.
- Task Force to Accelerate COVID-19 Handling. 2020. Daily Case Report of COVID-19 Handling Task Force. <https://covid19.go.id/peta-sebaran>. (accessed on 03 Juli 2020). (in Bahasa)
- Ye, L. X., Wang, H. B., Lu, H. C., Chen, B. B., Zhu, Y. Y., Gu, S. H., Wang, J., M., Pan, X. X., Fang, T., & Dong, H. J. (2020). Investigation of a cluster epidemic of COVID-19 in Ningbo. *Zhonghua Liu Xing Bing Xue Za Zhi = Zhonghua Liuxingbingxue Zazhi, 41(0), E065.* <https://doi.org/10.3760/cma.j.cn112338-20200316-00362>

