

Pandemic Responsive Spaces for Local Economic Activities in the Old Town of Semarang

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ABSTRACT

The COVID-19 pandemic has changed all aspects of life and order. It has made the Old Town of Semarang experience a decrease in the number of visitors. When the economy is starting and recovering, the pandemic sensitivity space is exercised through strict health protocol. This paper uses direct observation to examine the pandemic responsive space for local economic activities in the Old Town of Semarang. The following procedures were adopted for this study: 1) Defining the potential economic activity space in the Old Town of Semarang; 2) Recognising the presence of pandemic responsive space in location; 3) Analysing the responsive space in relation to pandemic context, and 4) Proposing space pattern that responsive to pandemic context. The study's results are the Old Town of Semarang has three typologies of economic activity spaces, including cafes, restaurants, and street vendors. The economic activity in the form of cafes and restaurants has organised a responsive space to implement the established health protocols. In contrast, street vendors create unresponsive space for economic activity. This is because the street vendors have not been able to provide adequate supporting facilities for health protocols. Therefore, the local government and economic actors need to speed up the process for determining more pandemic responsive urban space that will allow economic activities to be carried out with proper health protocols.

Article History

Received : 29 July 2021

Received in revised form : 22 August 2021

Accepted : 12 September 2021

Published Online : -15 July 2022

Keywords:

COVID-19, pandemic, responsive space, economic activity, heritage sites, old town

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DOI: 10.11113/ ijb.es.v9.n2-2.1020

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1. Introduction

At the beginning of the COVID-19 pandemic, all countries closed domestic and international travel (Lau et al., 2020). Some implemented temporary travel restriction policies on citizens returning to their countries and foreign tourists. According to the World Tourism Barometer's new issue from the United Nations specialised agency, international tourist arrivals dropped by 65% during the year's first half (UNTWO, 2020). This unprecedented decrease was caused by countries worldwide closing their borders and introducing travel restrictions in response to the pandemic. Subsequently, it directly impacts the national economy, including

the tourism industry (Gössling et al., 2021) and communities or organisations that rely on the sector's income (Newsome, 2020). International and domestic tourism dropped instantly for several weeks (Gössling et al., 2021). The COVID-19 pandemic has seriously damaged the tourism sector, with many related businesses laying off employees and temporarily shutting down. Data from the World Travel and Tourism Council shows that at least 50 million workers worldwide have missing their jobs in the tourism sector (WTTC, 2020).

Statistical data on foreign tourists in 2020 dropped drastically compared to 2019 and the previous year. In January 2020, foreign

tourists were relatively high, with 1,272,083 visits (Figure 1) (Kemenparekraf, 2020). This number was higher than in January 2019. However, when World Health Organization (WHO)

declared the COVID-19 a global pandemic, the number of foreign tourist visits significantly decreased in February-March and continued until June 2021.

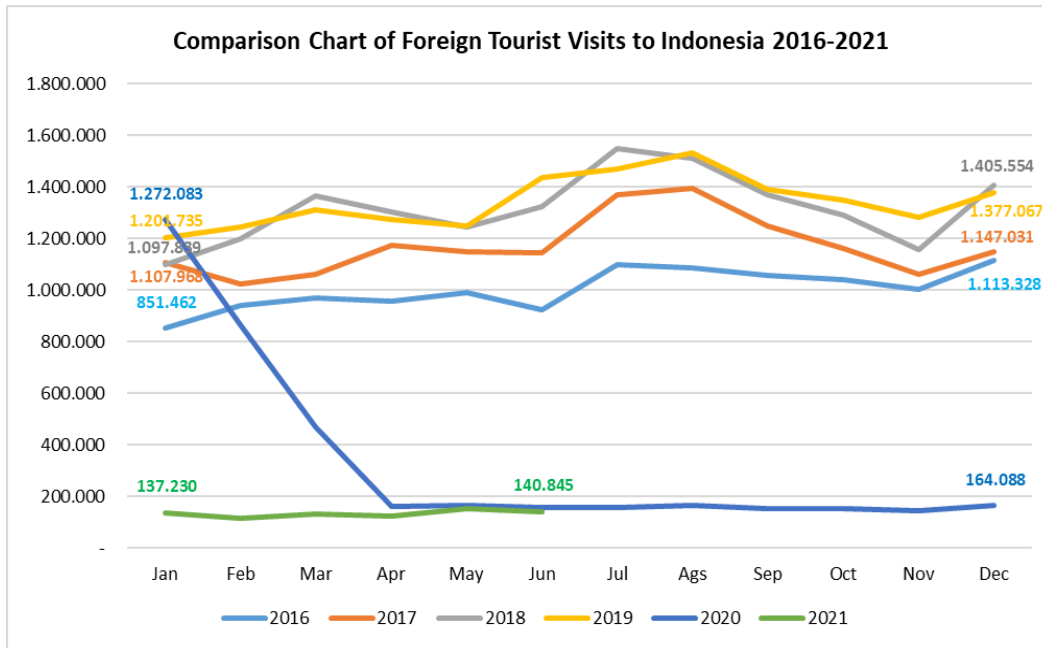


Figure 1 Comparison Chart of Foreign Tourist Visits to Indonesia Before & During Pandemic COVID-19
Source: International Tourist Statistics, Ministry of Tourism and Creative Economy Indonesia (2021)

1.1 Pandemic COVID-19 and implication in Heritage Sites Area

COVID-19 has impacted various activities in tourism heritage sites. According to reports and surveys in several affected countries, the pandemic has impacted all aspects, including tangible, intangible cultural, natural heritage, and community well-being (Kono et al., 2020). The effects on tangible heritage include a sharp decline in tourists and visitors, the temporary closure of heritage buildings and sites, and the imposition of social distancing. Furthermore, it indirectly affects the economic and commercial sectors. Many festivals are forcibly canceled in intangible cultural heritage, and communities in the site area feel the socio-economic impact. They cannot organise large-scale activities to attract tourists and visitors. However, they adapted and switched online. Creating a digital database containing information about heritage sites is an example of adaptation in tourism during a pandemic. This has led people to shift to the digital space. However, these online platforms could cause the loss of a person’s emotional ties to their social space and their area’s physical space.

Semarang city depends on the tourism sector. Throughout 2020, the tourism sector in Indonesia has slumped, including the city of Semarang (Figure 2). In 2019, the city government of Semarang targeted up to 7.2 million tourist visits, but the target decreased to 3 million in 2020. The old town became one of the

most important business districts in the 19th century. However, over time, it has been experiencing environmental degradation due to flooding, making it be abandoned. Consequently, many cultural heritage buildings are neglected and damaged. However, as one of the city’s socio-cultural strategic regions, the Old Town of Semarang is currently being developed into a central tourist area. This plan is ultimately realised by revitalising the area and preserving, restoring, and rehabilitating existing buildings. The old town with environmental degradation is finally returning to life through increased economic activities, while the old buildings are used to attract visitors and tourists. Moreover, it has become a tentative list of UNESCO’s World Heritage Sites and a national cultural heritage area by the Ministry of Education and Culture.

All economic activities in the Old Town of Semarang stopped during the first time of the COVID-19 pandemic. Furthermore, community mobility has decreased in all locations, such as workplaces, retail, restaurants and cafes, and public spaces (Pepe et al., 2020). This decrease in mobility or local travel is influenced by government intervention in controlling the spread of COVID-19 with stay-at-home orders, travel restrictions, and regional lockdowns (Zhang et al., 2021). Additionally, the pandemic has created public fear of carrying out activities outside the home, which negatively impacts tourism (Zheng et al., 2021).

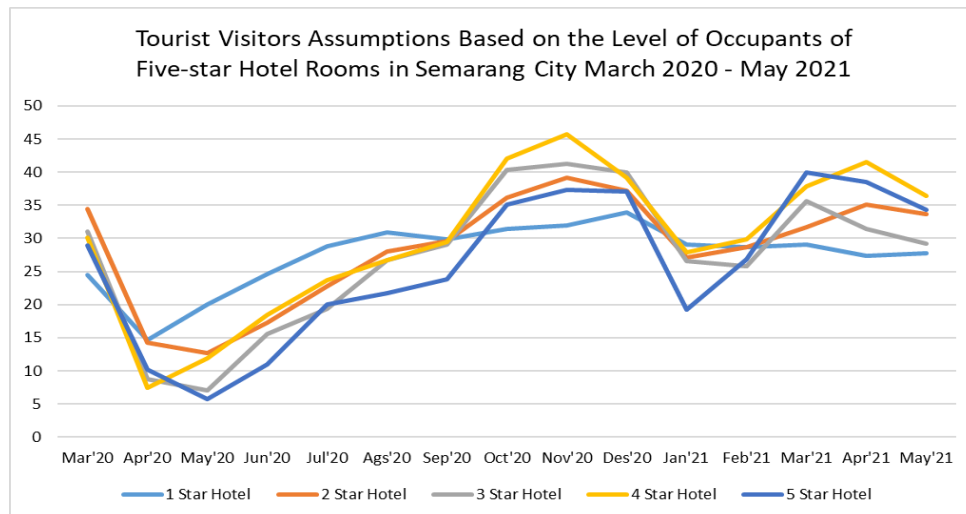


Figure 2 Tourist Visitors Assumptions in Semarang City During The Pandemic
Source: Badan Pusat Statistik Kota Semarang (2021)

1.2 Responsive Space During COVID-19 Pandemic for Economic Activity

During the first three months of the pandemic, almost all activities in the Old Town of Semarang were eliminated. Some business establishments, such as restaurants and cafes, have temporarily closed. In mid-2020, restrictions on large-scale community, economic, and tourism activities would come into effect. The Ministry of Health regulates this new normal implementation with Decree Number HK.01.07/MENKES/382/2020. The decree concerns community health protocols in public places and facilities to prevent and control the coronavirus spread. Moreover, many new normal adjustments have been made, such as providing handwashing stations at the entrances and imposing temperature checks on visitors. The limited and micro-spatial space layout has also been changed. Health protocols in tourist attractions demand to wash hands, check the visitors' body temperature and maintain distance. Also, people use masks, change the limited and spaced micro-layout, and routinely clean with disinfectants.

The COVID-19 pandemic has changed public spaces' design, perception, use, and management paradigm (Honey-Rosés et al., 2020). Health and mitigation protocols against COVID-19 are of great concern to economic actors, especially cafes and restaurants. Based on the COVID-19 operating guidelines issued by the National Restaurant Association (National Restaurant Association, 2020), at least five points should be implemented for restaurants. They include food safety; routine cleaning, sterilisation, and disinfection; monitoring employee health and personal hygiene; maintaining social and physical distance; and adequate ventilation. Not much different from the Mass Design Group's (Mass Design Group, 2020) recommendation, which regulates the restaurant's spatial strategy in response to COVID-19. At least each restaurant and café maintains food safety and sanitation protocols, reconfigures spaces, implements the six feet distance rule, expands tables and seating to the street, and

signs ordering procedures. Therefore, this study examines the response of the economic activity space in tourist areas in the Old Town of Semarang to the pandemic.

2. Methodology

2.1. Description of Study Area

This research was conducted in the Old Town of Semarang, situated in Tanjung Mas District, North Semarang Regency, and Purwodinatan District, Central Semarang Regency (Figure 3). According to Semarang City Regulation Number 2 of 2020 on Urban Design Guideline of the Old Town of Semarang, this site has around 72 ha, with a composition of 25 ha as the core area and 47 ha as the buffer zone. Based on the 2011-2031 City Spatial Plan, Semarang is one of Indonesia's cities with many cultural heritage in tangible and intangible potential.

This research focuses on the economic activity space located in the core area of the Old Town of Semarang. In the core area, various heritage buildings carry diverse social and cultural functions such as a museum, art gallery, restaurant and cafe, boutique, trade and service centre, office, and public park. The intensification of economic activities in the area knowingly improved between 2015 - 2020. This growth was triggered by the establishment of the Old Town of Semarang as a cultural tourism area. The heritage building preservation and the area revitalisation program attracted more people, communities, and government joined into the town to hold events.

The potential location of economic activities is set on the main roads in the central part of the old town. On this main road, economic activity time starts from 09.00 am – 10.00 pm and is primarily open daily in the non-pandemic situation. But in pandemic conditions, the available time is limited until 8.00 pm. The peak times activities in all corridors are in the weekend, but the ultimate times are every afternoon to evening on the weekdays.

2.2. Data Collection

The purposive sampling method was used to select economic activity spaces based on their typologies. These include economic activities, such as cafes, restaurants, and street vendors or the informal sector. From 177 heritage buildings in this area, the researchers focused on five recognised buildings in restaurants and cafés, one building in a souvenirs market, and two informal fabrics in the form of food stalls and street vendors. The eight samples of economic activities space are selected based on the primary and secondary road location and the continuously open during the pandemic.

The direct observation was carried out in April 2021 before the restrictions on large-scale community activities. It observed how

the implementation of health protocols in eight observation locations.

2.3. Data Analysis

The descriptive qualitative method was used to explain how responsive economic activity deals with a pandemic situation by applying predetermined health protocols. Data from direct observation will be categories as responsive or unresponsive economic space. The economic activity that can implement health protocols will be included in the responsive space category. Meanwhile, those who do not apply the health protocol well will be categorised as unresponsive space.

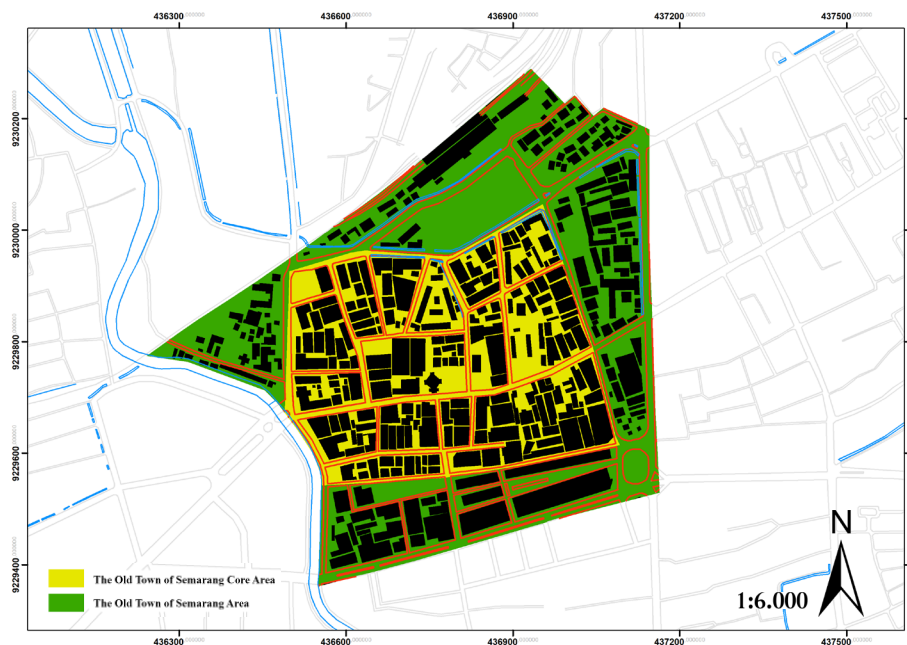


Figure 3 The Old Town of Semarang Map
Source: Semarang Development Planning Agency Map Data (2011)

3. Results and Discussions

3.1 Identifying The Potential Economic Activities Space In The Old Town Of Semarang

Historically, since the 19th century, this old town was an important commercial centre. As the period went by, its business actions declined rapidly due to numerous problems such as degradation of environmental qualities, damaged buildings, and abandoned space. Since the revitalisation program in 2017, the old town has had immense potential economic activities and can continue to grow. Furthermore, more economic spots appear in all corridors in this area with various scales and intensities.

Economic activities in the Old Town of Semarang are initiated in Mpu Tantular Street, Cendrawasih Street, and Letjen Suprpto Street (Figure 4). Secondary economic potential locations are found along the Kepodang and Gelatik Streets (Kurniawati et al., 2020). Each corridor has an attractive value, and economic activity stations are also scattered throughout the old town. This study took samples based on economic activity typologies as restaurants, cafes, and street vendors. Café typology takes the locations of Dolkopi (Cendrawasih Street), Tekodeko (Letjen Suprpto Street), and Tepian Kopi (Kepodang Street). The restaurant typology takes Pringsewu (Kepodang Street) and Monggo Dahar (Letjen Suprpto Street). Typology of street vendors or stalls takes Klithikan Market (Taman Sri Gunting Street), Mbah Di (Branjangan Street), and Fruit/Vegetables Street Vendors (Sendowo Street).

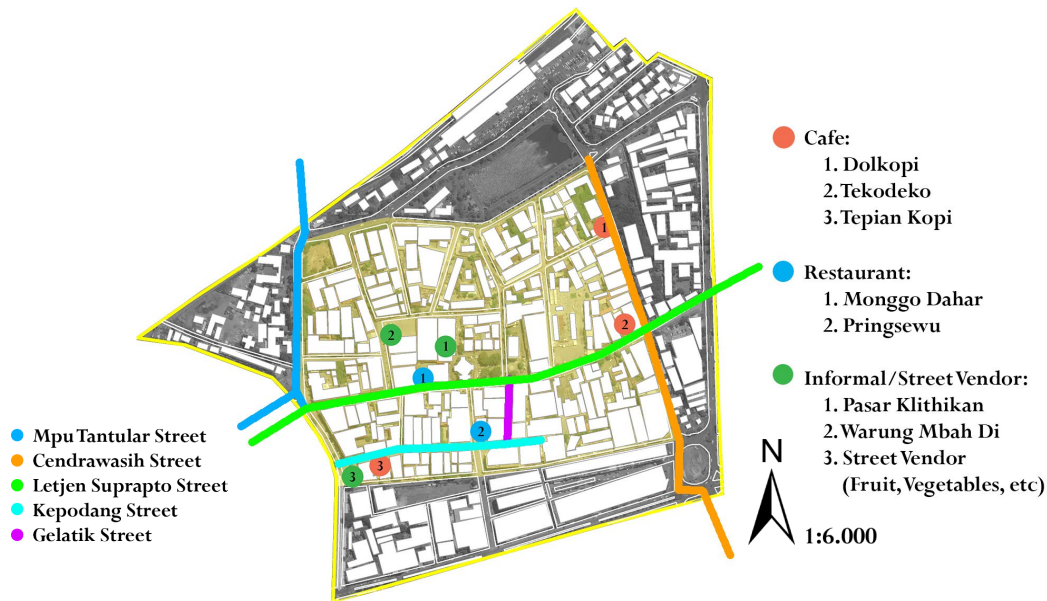


Figure 4 Economic Activities Spots Based on Typology
Source: Semarang Development Planning Agency Map Data (2011)

3.2 Recognising the presence of pandemic responsive space in the location

Regulations were put regarding community health protocols in public places and facilities (Kemenkes, 2020). Economic activity places, including restaurants, cafes, and street vendors, pay attention to these protocols. They provide handwashing facilities with soap or hand sanitiser at the entrance and requiring workers to wear masks. Furthermore, they conduct body temperature checks for visitors at the entrance, maintain air circulation, and ensure the cleanliness of the business environment using disinfectants. They also implement a minimum distance of 1 meter, do not share tableware, and install information media about health protocols. These points indicate whether economic activity space in the Old Town of Semarang is responsive. According to Jain (Jain & others, 2020), in the post-COVID-19 period, restaurants would be required to maintain table distances, increase food hygiene and safety, and train workers in modern sanitation procedures.






Field observations show that economic activity typologies are entirely distinguished in the application of health protocols. Cafes and restaurants have minimum health protocols standards set by the government. When these standards are not implemented, cafes and restaurants could be subject to strict sanctions, such as business closures. Although cafes and restaurants have implemented fairly good health protocols, some are not strict with non-compliant visitors. They have a handwashing or sanitiser area, maintain distance, and require workers and visitors to wear masks. However, the crowd was still clustered though they were limited to one table for two people and took off their masks while in the café and restaurant. This is very dangerous because it increases the risk of contracting COVID-19.

Economic activities in public spaces are very important to implement social distancing. The practice of physically distancing six feet away from other people to establish a safe space between families or groups is known as social distancing. It has been adopted as a critical intervention to mitigate the COVID-19 pandemic and minimise virus transmission (Zolnikov & Furio, 2020). Although it is challenging to implement, social distancing is effective because it is heavily influenced by personal initiative (Moosa, 2020). However, only a few people apply health protocols when in a cafe or restaurant by only taking off their masks when drinking or eating. In contrast to the informal sector's typology in public spaces, street vendors do not have specific rules regarding health protocols. Therefore, buyers or visitors should be self-aware of health protocols when purchasing from street vendors.

The presence of pandemic responsive space in the centre of economic activities is an obligation today. Several kinds of research was done in the pandemic era regarding the type of responsive space. People try to adapt to health protocol implementation by making an adjustment (Table 1). Fast responses at numerous scales tended to be only temporary adjustments and partial thinking, though also realised as control and assortment mechanism.

In restaurants and cafes, the capacity and layout of work and dining spaces are limited to a certain number that physical distances can be maintained (Bahadursingh, 2020 in Putra, 2021). So, future changes in the layout of restaurants and offices must count the problems of health and well-being, adaptation and adoption in crises (Maturana et al., 2021 in Putra, 2021). Urban planning and design are crucial in preparing emergency conditions to start thinking about a holistic design approach (Hercules et al., 2020 in Putra, 2021).

Table 1 Health Protocols Implementation

Health Protocols Indicators	Observation Results
Handwashing/hand sanitiser facilities	
Rules for wearing masks (workers & visitors)	
Body temperature checks	
Implementing a minimum distance	
Installation of information media	

Source: Direct Observation (April 2021)

3.3 Analysing the Responsive Space

The Indonesian Ministry of Health has established health protocols in public places and facilities to prevent and control Corona Virus Disease 2019. The regulations are the basis for all people, including business actors, managers, workers, and visitors that carry out public space activities. Public spaces include markets, shopping centres, inns, restaurants and cafes, tourist spots, and modes of transportation. The field observations results show that those responsive and non-responsive spaces are divided into two health protocol applications. These are the economic activities spaces inside and outside the building. Activity spaces that are highly responsive to health protocols are cafes and restaurants. In comparison, the

spaces unresponsive to health protocols are street vendors and non-permanent stalls. Responsive economic activity spaces consists of Dolkopi, Tekodeko, Tepian Kopi, Pringsewu, Monggo Dahar, Pasar Klithikan. Meanwhile, the unresponsive activity space consists of street vendors and food stalls.

This category appears based on several things. The formal economy dominates responsive space in the form of cafes and restaurants due to the availability of space, the capability to manage existing layouts, the ability to provide health protocol facilities (Thermo guns, hand sanitisers, hand washing facilities, signs to comply with health protocols), compliance with regulations especially on capacity and open time due to avoiding the sanction from the regulators, and the readiness of delivery service innovations. Besides, their customers for cafes and

restaurants are individuals or groups who want to enjoy food and beverages. It is a risk for coronavirus spreading due to the long time interaction and face-covering opening. So, applying the responsive space is a must for café and restaurants in order to maintain all customers and employees.

Meanwhile, the informal economy dominates the unresponsive space in the form of street vendors and food stalls due to the inability of the informal economy actors to provide space and health protocol facilities (Figure 5). The limited space that does not allow physical distancing is one of the reasons for not

implementing the protocol. Street vendors are usually in public spaces, so they cannot expand their reach because other activities limit them. The inability to provide health protocol facilities is also the reason for not implementing health protocols in the informal economy. Consumers in the informal economy also tend to be more ignorant of health protocols because fruit buyers tend to make transactions quickly. Meanwhile, the food buyers at the food stalls are customers who work in this area, they are used to meeting each other, so they are not worried about the spread of the virus.



Figure 5 Responsive & Non-Responsive Space
Source: Semarang Development Planning Agency Map Data (2011)

3.3 Figure Out The Space Pattern Arrangements In Responding To Pandemic

During the pandemic, cafes and restaurants were the most responsive economic activity spaces in the Old Town of Semarang. They are among the community's social spaces pretty vulnerable to the coronavirus spread. Regulations regarding health protocols are a reference that all business actors must implement. This is also one factor for visitors to feel safe and comfortable while participating in the Old Town of Semarang (Zheng et al., 2021). The economic activity space that does not apply health protocols is street vendors or informal traders' typology. The street vendors are less responsive in implementing the health protocol because they have not been able to provide adequate supporting facilities for health protocols.

Based on the direct observation, it is true that this COVID-19 pandemic reshapes space use. In the past, the success story of public space, restaurants, café, and other economic activities were recognised by their crowded. But now, the crowd is

abandoned. The fear of the virus could change and regulate the safe measurement in economic activities space. It means that people try to adapt to the situation and adjust by following the health protocol. This adjustment is applied in reshaping and arranging space use.

In cafes and restaurants in the Old Town of Semarang, the layout arrangement is executed to follow the maximum capacity of customers. There is no precise regulation in informal sectors that could be tracked quickly and cheaply for street vendors in this location. In several cases in some traditional markets in Indonesia, the regulator created temporary distance space for each seller to maintain the physical distancing. And there is a plastic barrier between the seller and buyer to minimise the coronavirus spreading. But, this phenomenon is not visible on site. Due to street vendors are unregistered activities in this location, the regulator could not facilitate their activities there. Make a space design for them, although temporary means legalise their presence in this area.

Regarding the space pattern concerning the pandemic context, several responsive innovations are created to adjust the protocol. Most of the responsive innovations are temporary and use non fix elements, such as placing the signs, expanding the dining space into the terrace by arranging the table set, and putting portable hand washing facilities. It is appropriate with the tactical urbanism concept, pop-up urbanism, do it your self idea, as a responsive and the cheapest solution for mitigating immense wave of virus spreading. Tactical urbanism contains low-priced, momentary changes to the built environment to improve gathering places such as public space, sidewalks, and cafes and restaurants. Tactical urbanism is habitually citizen-led but can also be introduced by the government (Pfeifer, 2013).

Continuous innovations and using fixed elements in mitigating the coronavirus spreading is better absolutely. Based on history, urban planning, architecture, and public health fields have been partners in mitigating epidemics waves (Guenther & Vittori, 2014 in Putra, 2021). In the past, pandemics reform our city design. Victoria Embankment that stands in an area of 2.4 kilometres along the Thames River, is a product of the 19th-century pandemic. A cholera epidemic destroyed the world, claimed more than 10,000 lives, and made necessary a new and modern sewerage system. One of the civil engineers named Joseph Bazalgette finally succeeded in designing a wastewater disposal system that is safe and far from drinking water supplies. Without the pandemic, the sewerage system may never have existed (Shenker, 2020).

As well as the fatal epidemic in 1832 shaped today Paris. Paris transformation in the early 1850s was initiated by Baron Georges Haussmann as part of the city’s infrastructure


reconstruction during the Second Empire of Napoléon III due to responding to that epidemic.

But, using fixed elements and government initiation are not accessible in today’s pandemic. Massive design in one city or country is impossible due to the limited time compared to the fast-spreading of coronavirus mutation. Today’s logical response is to do it by yourself, partially, on a small scale, but together in all lines, so each city’s space can mitigate the pandemic with its own pattern.

Especially in the urban heritage area, recognising heritage as evidence of the ancient and cultural, social and economic assets leads to a particular communication and negotiation between the past and the present (Sowińska-Heim, 2020). In this pandemic context, the new contemporary function for heritage building plays a significant role. Most of colonial heritage buildings in the Old Town of Semarang have high ceilings, large windows, and wide spaces that support good air circulation in the room. In addition, they have a terrace or connection with a sidewalk that allows for expanding outdoor dining room activities. So that the existing colonial buildings have made it easier to arrange the layout of the interior space to mitigate the virus spreading.

Then regarding to that historical buildings in the Old Town of Semarang must be preserved, can not change the form and shape, accordingly the layout arrangement solution, temporary changes, using non-fix elements is the most appropriate choice for local conditions in mitigating the virus and following the health protocol. Finally, it can be concluded that the responsive space created by cafes and restaurants in the Old Town of Semarang is a fast response space that suits their capability (Table 2, Table 3 and Table 4).

Table 2 Responsive Space Pattern of Café

Responsive Space of Dolkopi Café	Descriptions
	<ul style="list-style-type: none"> • Available hand sanitiser in the cashier area • Every visitor must check their body temperature using a digital thermometer • The room capacity in Dolkopi during the COVID pandemic remained ± 90 seats • Implementation of keeping a distance of less than 1 meter between tables & restrictions to 2 people per table from the previous four people. However, the table is not entirely orderly for two people. • Addition of tables and chairs on the terrace of the café • Employees are very strict about implementing health protocols by wearing masks and face shields



Responsive Space of Tekodeko Café	Descriptions
	<ul style="list-style-type: none"> • There is a hand washing area in front of the café and a hand sanitiser in the cashier area • The room capacity at Café Tekodeko during the COVID pandemic changed to \pm 31 seats or capacity reduction by 50% (1st floor) • Implementing 1-2m distance between tables & limitation to 2 people per table from the previous four people • There is signage on each table for two people • There is signage about health protocols at the entrance • Addition of tables and chairs on the terrace of the café • Employees and visitors are required to apply health protocols
Responsive Space of Tepian Kopi Café	Descriptions
	<ul style="list-style-type: none"> • Available hand sanitiser in the cashier area & handwashing at the toilet • The room capacity at Tepian Kopi Cafe during the COVID pandemic changed to \pm 37 seats indoor & 18 seats outdoor or capacity reduction by 40% • Implementing 1-2m distance between tables & limitation to 2-3 people per table from the previous four people • There is signage about health protocols at the entrance • Addition of tables and chairs on the outdoor of the café • Employees and visitors are required to apply health protocols

Table 3 Responsive Space Pattern of Restaurant

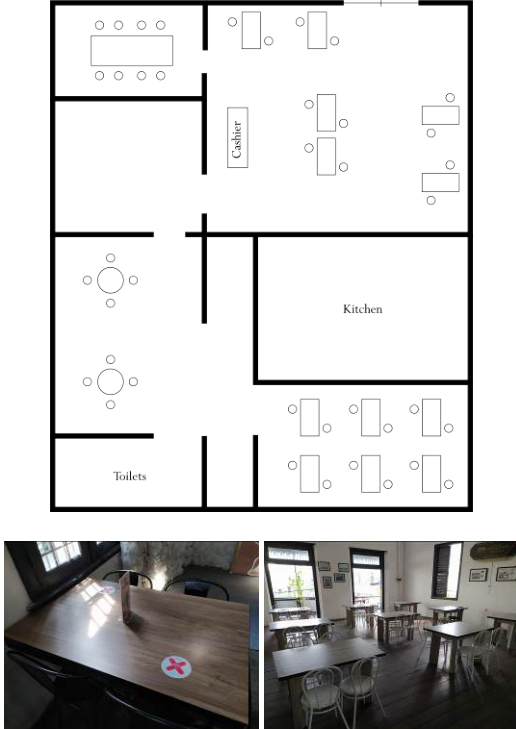
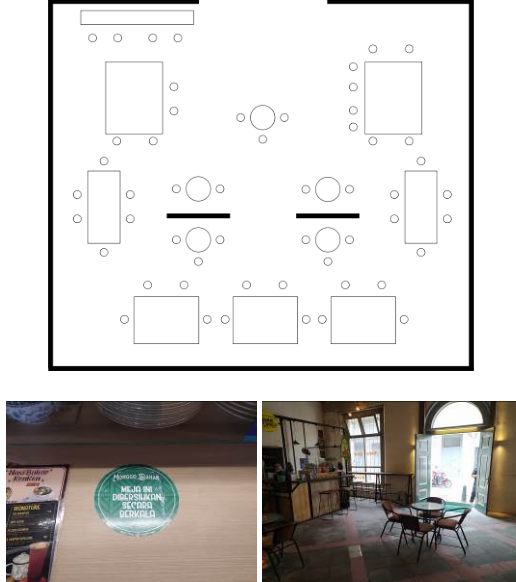
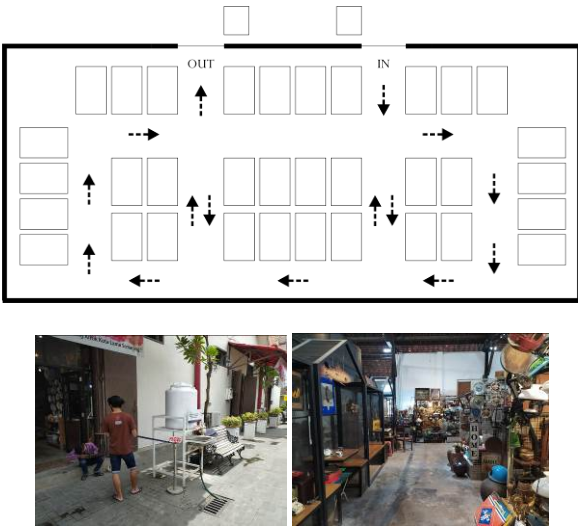


Responsive Space of Pringsewu Restaurant	Descriptions
 <p>The floor plan for Pringsewu Restaurant shows a layout with a 'Cashier' area, a 'Kitchen', and 'Toilets'. Tables are arranged with 1-2m spacing. Below the plan are two photos: one showing a table with a red 'X' marking a restricted area, and another showing the overall dining area with spaced-out tables.</p>	<ul style="list-style-type: none"> • There is a hand sanitiser in front of the restaurant • The room capacity at Pringsewu Restaurant during the COVID pandemic changed to ± 40 seats or capacity reduction by 50% (1st floor) • Implementing 1-2m distance between tables & limitation to 2 people per table from the previous four people • There is signage on each table for two people • There is signage about health protocols at the entrance • Employees and visitors are required to apply health protocols
Responsive Space of Monggo Dahar Restaurant	Descriptions
 <p>The floor plan for Monggo Dahar Restaurant shows a layout with various table arrangements. Below the plan are two photos: one showing a green circular sign on a table with text in Indonesian, and another showing the dining area with spaced-out tables.</p>	<ul style="list-style-type: none"> • There is no hand sanitiser or handwashing area • The room capacity at Monggo Dahar Restaurant during the COVID pandemic changed to ± 40 seats or capacity reduction by 30% • Implementing 1-2m distance between tables & limitation to 2 people per table from the previous four people • There is signage on each table for two people • There is signage about health protocols at the entrance • Employees and visitors are required to apply health protocols

Table 4 Responsiveness Space Pattern of Souvenirs Market and Street Vendors

Responsive Space of Pasar Klithikan	Descriptions
	<ul style="list-style-type: none"> • There is a hand washing area in front of the building • Implement different entrances and exits • There is no sign of distancing for the visitors
Responsive Space of Fruits & Vegetables Street Vendors	Descriptions
	<ul style="list-style-type: none"> • Not implementing minimum 1 meter distance between stalls • There is no sign of distancing for the buyer • Not available a place to wash hands • A place to sell that is not sterile
Responsive Space of Street Vendors	Descriptions
	<ul style="list-style-type: none"> • There is no sign of distancing for the buyer • Not available a place to wash hands • A place to sell that is not sterile

4. Conclusion

The Old Town of Semarang has three typologies of economic activity spaces, including cafes, restaurants, and street vendors. In the pandemic that rages the city, economic activity and urban spaces in this area must be highly adaptive and responsive to

changes and comply with the highest standards of health protocols to prevent further spreading COVID-19. This study shows that most economic activities in the Old Town of Semarang are categorised as responsive to the established health protocols. Cafes and restaurants have responsive activity spaces by providing handwashing facilities with soap or hand sanitiser at

the entrance and requiring workers to wear masks. Also, they conduct body temperature checks for visitors, maintain air circulation, and ensure the cleanliness of the business environment using disinfectants. They also ensure a minimum distance of one meter, do not share tableware, and install information media about health protocols. However, not all cafes and restaurants have implemented health protocols orderly because visitors still flock without warnings.

Street vendors are classified as the unresponsive space for economic activity in the Old Town of Semarang. This is because they have not provided adequate supporting facilities for health protocols. Therefore, the government needs to make strict regulations and provide more supporting facilities for street vendors in this area based on the rule.

Social distancing has been previously used as an effective method of dealing with and reducing infection transmission during pandemics (Andersen, 2020). However, social distancing guidelines alone may not contain the spread of the coronavirus (Khorram-Manesh et al., 2020). Other safety measures should accompany those preventive measures (Goniewicz et al., 2020). One of the potential solutions is providing more outdoor sidewalk space for pedestrians and customers. This solution is effective for cafes and restaurants that cannot increase their capacity to implement social distancing.

Implementing health protocols that have been carried out in places of economic activity can indirectly solve the impact of the pandemic on the Old Town of Semarang. More than that, the sustainability of this area as a cultural heritage area needs to be considered through appropriate and adaptive strategic policies. The government and community involvement require genuine efforts to save the Old Town of Semarang during and after this pandemic.

Acknowledgements

This research was financially supported by “Direktorat Riset dan Pengabdian Masyarakat, Deputi Bidang Penguatan Riset dan Pengembangan, Kementerian Riset dan Teknologi/Badan Riset dan Inovasi Nasional” through Penelitian Dasar Grant 2021.

References

Andersen, M. (2020). Early evidence on social distancing in response to COVID-19 in the United States. *Available at SSRN 3569368*. [\[crossref\]](#)
 Bahadursingh, N. (2020). *8 Ways COVID-19 Will Change Architecture*. <https://architizer.com/blog/inspiration/industry/covid19-city-design/>. Retrieved on 20 August 2021.
 Goniewicz, K., Khorram-Manesh, A., Hertelendy, A. J., Goniewicz, M., Naylor, K., & Burkle, F. M. (2020). Current response and management decisions of the European Union to the COVID-19 outbreak: a review. *Sustainability*, 12(9): 3838.
 Gössling, S., Scott, D., Hall, C. M., Gössling, S., Scott, D., & Pandemics, C. M. H. (2021). Pandemics, tourism and global change: a rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 29(1): 1–20. <https://doi.org/10.1080/09669582.2020.1758708>

Guenther, R., & Vittori, G. (2014). *Sustainable Healthcare Architecture*.
 Hercules, F., Anderson, D., & Sansom, M. (2020). *Architecture Is a Critical Ingredient of Pandemic Medicine*. https://www.architectmagazine.com/practice/architecture-is-a-critical-ingredient-of-pandemic-medicine_o. Retrieved on 20 August 2021.
 Honey-Rosés, J., Anguelovski, I., Chireh, V. K., Daher, C., van den Bosch, C., Litt, J. S., Mawani, V., McCall, M. K., Orellana, A., Oscilowicz, E., & others. (2020). The impact of COVID-19 on public space: an early review of the emerging questions--design, perceptions and inequities. *Cities & Health*, 1–17.
 Jain, D., & others. (2020). Effect of COVID-19 on restaurant industry--how to cope with changing demand. *Effect of COVID-19 on Restaurant Industry--How to Cope With Changing Demand (April 16, 2020)*.
 Kemenparekraf. (2020). *Statistik Kunjungan Wisatawan Mancanegara 2020*. Pusat Data Dan Sistem Informasi. <https://www.kemenparekraf.go.id/statistik-wisatawan-mancanegara/Statistik-Kunjungan-Wisatawan-Mancanegara-2020>. Retrieved on 30 March 2021.
 Khorram-Manesh, A., Carlström, E., Hertelendy, A. J., Goniewicz, K., Casady, C. B., & Burkle, F. M. (2020). Does the prosperity of a country play a role in COVID-19 outcomes? *Disaster Medicine and Public Health Preparedness*, 1–10.
 Kono, T., Adetunji, O., Jurčys, P., Niar, S., Okahashi, J., & Rush, V. (2020). *The Impact of COVID-19 on heritage: an Overview of Responses by ICOMOS National Committees (2020) and Paths Forward*.
 Kurniawati, W., Kurniati, R., Soetomo, S., Rahmat, R. R. B., & Firdaus, A. S. (2020). Mapping the Potential Economy in The Old Town of Semarang to Support Its Sustainability. *Jurnal Teknik Sipil Dan Perencanaan*, 22(2): 110–116.
 Lau, H., Khosrawipour, V., Kocbach, P., Mikolajczyk, A., Ichii, H., Schubert, J., Bania, J., & Khosrawipour, T. (2020). Internationally lost COVID-19 cases. *Journal of Microbiology, Immunology and Infection*, 53(3): 454–458.
 Mass Design Group. (2020). *Spatial Strategies for Restaurants in Response to COVID-19*. <https://massdesigngroup.org/COVIDRESPONSE>. Retrieved on 30 March 2021.
 Maturana, B., Salama, A. M., & McInnelly, A. (2021). Architecture, urbanism and health in a post-pandemic virtual world. *Archnet-IJAR: International Journal of Architectural Research*. 15(1): 1-9.
 Moosa, I. A. (2020). The effectiveness of social distancing in containing. *Applied Economics*, 52(58): 6292–6305. <https://doi.org/10.1080/00036846.2020.1789061>
 National Restaurant Association. (2020). *COVID-19 Operating Guidance: A Guide for The Restaurant Industry*. <https://restaurant.org/articles/news/download-latest-covid-19-safe-operating-guidance> Retrieved on 30 March 2021.
 Newsome, D. (2020). *The collapse of tourism and its impact on wildlife tourism destinations*. <https://doi.org/10.1108/JTF-04-2020-0053> Retrieved on 1 April 2021.
 Pepe, E., Bajardi, P., Gauvin, L., Privitera, F., Lake, B., Cattuto, C., & Tizzoni, M. (2020). COVID-19 outbreak response, a dataset to assess mobility changes in Italy following national lockdown. *Scientific*

Data, 7(1): 1–7.

Pfeifer, L. (2013). *The Planner's Guide to Tactical Urbanism*. <https://reginaurbanecology.wordpress.com/projects/tactical-urbanism-guide/>. Retrieved on 20 August 2021.

Putra, I. N. G. M. (2021). Analysis of Proposed Adaptation of Fostered Environment and Evaluation of Built Environment in Bali in Facing Covid-19. *Architectural Research Journal (ARJ)*, 1(1): 26–34.

Shenker, J. (2020). *Cities after coronavirus: how Covid-19 could radically alter urban life*. <https://www.theguardian.com/world/2020/mar/26/life-after-coronavirus-pandemic-change-world>. Retrieved on 20 August 2021.

Sowińska-Heim, J. (2020). Adaptive Reuse of Architectural Heritage and Its Role in the Post-Disaster Reconstruction of Urban Identity: Post-Communist Łódź. *Sustainability*, 12(19): 8054. <https://doi.org/10.3390/su12198054>.

UNTWO. (2020). *International Tourist Numbers Down 65% in First Half of 2020*. Unwto Reports. [https://www.unwto.org/news/international-](https://www.unwto.org/news/international-tourist-numbers-down-65-in-first-half-of-2020-unwto-reports)

[tourist-numbers-down-65-in-first-half-of-2020-unwto-reports](https://www.unwto.org/news/international-tourist-numbers-down-65-in-first-half-of-2020-unwto-reports). Retrieved on 30 March 2021.

WTTC. (2020). *Coronavirus puts up to 50 million Travel and Tourism jobs at risk says WTTC*. <https://wtcc.org/News-Article/Coronavirus-puts-up-to-50-million-Travel-and-Tourism-jobs-at-risk-says-WTTC>. Retrieved on 30 March 2021.

Zhang, N., Jia, W., Wang, P., Dung, C., Zhao, P., Leung, K., Su, B., Cheng, R., & Li, Y. (2021). Changes in local travel behaviour before and during the COVID-19 pandemic in Hong Kong. *Cities*, 112(January), 103139. <https://doi.org/10.1016/j.cities.2021.103139>

Zheng, D., Luo, Q., & Ritchie, B. W. (2021). Afraid to travel after COVID-19? Self-protection, coping and resilience against pandemic 'travel fear'. *Tourism Management*, 83(April 2020): 104261. <https://doi.org/10.1016/j.tourman.2020.104261>

Zolnikov, T. R., & Furio, F. (2020). First responders and social distancing during the COVID-19 pandemic. *Journal of Human Behavior in the Social Environment*, 31(1-4): 244-253