

Mapping the Alternative Locations of Street Vendor Stabilization in Surakarta, Indonesia

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Abstract: *The arrangement of street vendors is continuously undertaken by the government of Surakarta City for the sake of attaining the city order and public welfare. The inclination of Stabilization success level in achieving the goal of street vendor arrangement strategy indicates that the location characteristics conforming to the street vendors' preferences become one of the determinations in terms of the arrangement success. This article aims at mapping the alternative locations of street vendor Stabilization in Surakarta by applying the spatial analysis resting upon Geographic Information System (GIS) by means of two stages. They encompass: 1) identifying the conditions of the existing street vendor Stabilization locations, and 2) formulating the alternative locations of street vendor Stabilization based on the criteria which entail the proximate main activities, the crowds of environment, and the availability of state-owned land. The result of spatial analysis indicates that there are 19 alternative locations in Surakarta which are aligned with the criteria and can be utilized for new street vendor Stabilization locations.*

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1. INTRODUCTION

The growth of street vendors in several cities in the world continuously occurs. As a sub-sector, the number of street vendors is the most dominant, and they occupy public spaces in the city without necessity to pay rent as the formal-sector traders do (Cross & Karides, 2007). The cheap prices of commodities become the main attraction for the customers of street vendors. Street vendors play an important role because they provide appropriate consumption for the poor and having contribution for local economic growth especially in developing countries (Bhowmik, 2007).

The supply and demand concept of street vendors' activities is one of the factors that support this sub-sector to flourish in Surakarta as a medium-sized city in Indonesia. Surakarta has not managed to achieve zero growth of street vendors although the efforts of arrangement in the form of relocation and Stabilization have been carried out for 18 years (Rahayu, et al., 2013). Relocation is an effort of arrangement by means of moving street vendors to traditional markets (McGee & Yeung, 1977). The relocation as such is also called formalization. Formalization, besides locating street vendors in traditional markets, also provides them with trading places in the existing malls or modern markets through a system of rental (Sarjono, 2005). Nonetheless, as the case encountered in the USA, when the government attempted to encourage street vendors to enter the market areas, with the aim of avoiding their presence around the streets and sidewalks, this effort even had an impact on the destruction of their profits (Cross &

Karides, 2007). Likewise in Uganda, street vendors preferred to go back to streets after being arranged to trade in markets (Lince, 2011).

The arrangement in the form of Stabilization locates street vendors in public spaces such as in the parts of sidewalks, parks, and fields (Adedeji, et al., 2014; McGee & Yeung, 1977; Rahayu et al., 2013; Rukmana, 2016). The form of Stabilization is in fact favored by street vendors if compared to that of relocation (Cross & Karides, 2007; Lince, 2011; Rahayu, et al., 2016). In Surakarta, the designation of public spaces for street vendors is determined by the government (Surakarta Regional Regulation, 2008) Stabilization can make an urban area become more organized, not chaotic and beautiful, and street vendors become more interesting to be visited (Henderson, 2012; Werdingtyas, et al., 2012). In addition, Stabilization can make street vendors more secured while doing their businesses because they are not worried about being evicted at any time (Rahayu, 2016). The placement of street vendors in public spaces indicates that Stabilization requires the availability of state-owned land as the public spaces which are prepared to be used by street vendors (Blackburn, 2011). Besides, the public space locations given to street vendors should not be far from their previous locations before being arranged because those locations are also close to where they live (Rahayu, et al., 2018) . This is aligned with the point elucidated by (McGee & Yeung, 1977; Werdingtyas et al., 2012). In principle, although street vendors occupy legal locations, their activities are still categorized into informal ones (Kettles, 2007; Puspitasari, 2010; Tualeka, 2013).

In 2018, Surakarta has had 25 locations of Stabilization (Rahayu et al., 2018). The locations of street vendor Stabilization are mostly proximate to productive activities in the crowded areas of the city. This is in line with the viewpoint given by several previous researcher (Bromley, 1978; Chandrakirna & Sadoko, 1994; De Soto, 1991; Haryanti, 2008; Kadir, 2010; McGee & Yeung, 1977; Rahayu et al., 2016; Sari, 2003; Werdingtyas et al., 2012; Widjajanti, 2009). Besides being in the most profitable areas in the city center, while trading, street vendors also choose the places which are easily accessible or those such as roadsides (Hanifah & Mussadun, 2014; Novelia & Sardjito, 2015; Werdingtyas et al., 2012), and those which are strategic in terms of being nearby and seen by consumers (Rahayu et al., 2016; Werdingtyas et al., 2012). The criteria of places that are reachable, nearby, and visible conform to most people's needs, wherein street vendors manage to overcome the conditions of society movements that are often in a hurry from home to work for the sake of fulfilling their needs or getting tired on their way home as well as getting entertainment (Cross & Karides, 2007; Kettles, 2007). For a few shop owners doing businesses around street vendors, the presence of street vendors is regarded as providing informal security, reducing the number of other shops in the sense of reducing competition, and minimizing common crimes that often occur on the streets (Cross & Karides, 2007). The aforementioned criteria become the characteristics of street vendors' locations that must be taken into account when choosing the targeted locations of Stabilization.

The efforts to stabilize street vendors are expected to capably decrease the street vendors' rejections in light of the arrangement that does not conform to their chosen locations (Rahayu et al., 2018). Stabilization is also believed to be able to control the increasing number of street vendors. Furthermore, Stabilization is capable of reducing litter previously caused by the existence of street vendors before being arranged, and it is also able to avoid congestion because the Stabilization executed in public spaces only uses a part of the sidewalks so that pedestrians still get their rights pertinent to the sidewalk use (Kettles, 2007). Appertaining to coping with waste disposal and fulfilling other basic needs, through Stabilization the government will provide basic facilities including rubbish bins, parking area, water, and electricity (Chandrakirna & Sadoko, 1994; Kettles, 2007; Novelia & Sardjito, 2015; Werdingtyas et al., 2012).

The street vendors' locating characters become the typical of their ways in choosing trading locations which can be viewed from the conditions of either location or non-location including the proximity to the center of productive activities, crowded locations, the proximity to their houses, the ease of accessibility, grouping, security, comfort, the needs of infrastructure such as (clean water, lighting, rubbish bins, and parking area), and cleanliness (Bromley, 1978; Chandrakirna & Sadoko, 1994; De Soto, 1991; Haryanti, 2008; McGee & Yeung, 1977; Novelia & Sardjito, 2015; Rahayu et al., 2016; Sari, 2003; Werdingtyas et al., 2012; Widjajanti, 2009). In this study, the effort to map the alternative locations of street vendor Stabilization is made by considering the spatial criteria which entail the proximity to main activities / land use, the degree of crowds and road activities, and the availability of state-own land as prerequisites for Stabilization.

Considering the growth of street vendors in Surakarta that continuously occurs; the condition in which not all of the illegal street vendors can be organized; the Stabilization resting upon the street vendor preferences; and the need to maintain public order, the authors believe that it is important to map the alternative locations for the new street vendor Stabilization in Surakarta based on the potency of Stabilization locations which have been well-established. The prior studies addressing this issue are still very few. Hence, the results of this study are expected to be a sort of input for Surakarta government, especially in directing the selection of street vendors' Stabilization locations which are in accordance with the location characteristics and their activities. Directing the selection of arrangement locations for street vendor Stabilization as such has not also been widely carried out in other cities though those cities are very friendly to street vendors.

2. DATA AND METHOD

2.1 Data

The Government of Surakarta has executed the strategy for handling street vendors by means of Stabilization at 25 street vendors' locations. The aforementioned 25 locations encompass: (1) Pasar Notohardjo Shelter, (2) Silir Notoharjo shelter, (3) Galabo Malam shelter, (4) Mojosongo shelter, (5) Komplang shelter, (6) Timur PDAM shelter, (7) Kolang Kaling shelter, (8) Sekartaji shelter, (9) Pedaringan shelter, (10) Timur Jurug shelter, (11) Galabo Pucang Sawit shelter, (12) Pasar Pucang Sawit shelter, (13) Urban Forest shelter, (14) Solo Square shelter, (15) Buah Purwosari shelter, (16) Supomo shelter, (17) Sriwedari shelter, (18) Timur Telkom shelter, (19) Galabo Siang shelter, (20) KS Tubun shelter, (21) Menteri Supeno shelter, (22) SD Kristen Manahan shelter, (23) Hasanudin shelter, (24) Arcade at Kotta Barat, and (25) Wahidin shelter (see figure 1).

2.2 Method

This article aims at mapping the alternative locations of street vendor Stabilization in Surakarta which is attained through two stages:

A. *Identifying the condition of the existing street vendor Stabilization locations in Surakarta*

The Identification is undertaken at 25 locations of the existing street vendor Stabilization in Surakarta, and it is executed by using spatial criteria which entail the proximate main activities, traffic crowds, and the availability of the state-owned land (Blackburn, 2011; Ray Bromley, 1991; Chandrakirna & Sadoko, 1994; De Soto, 1991; Haryanti, 2008; McGee & Yeung, 1977; Novelia & Sardjito, 2015; Rahayu et al., 2016; Sari, 2003; Werdingtyas et al., 2012; Widjajanti, 2009). Thus, what is meant by the characteristics of street vendor locations in the present study is the potency of street vendor arrangement locations resting upon the above criteria.

The conformity between the location characteristics of street vendor Stabilization and the street vendors' needs in carrying out their trading activities has an impact on the success of the street vendor arrangement in the form of Stabilization in Surakarta, where in it is indicated by their consistency in continuously trading at the Stabilization locations (Rahayu et al., 2016). This point leads the Stabilization areas to be harmonious and livelier so that street vendors' incomes after Stabilization increase (Rahayu et al., 2016). Therefore, the location characteristics of the existing street vendor Stabilization are used to identify the alternative potential locations for further Stabilization as a way to provide the government with a solution with respect to the arrangement of locations for street vendors who have not yet been stabilized.

B. *Identifying the alternative locations for street vendor Stabilization*

The alternative locations for street vendor Stabilization are formulated based on the potency of the existing Stabilization locations encompassing the proximate main activities, the traffic crowds, road activities, and the availability of the state-owned land. The technique of analysis which is applied refers to the superimpose analysis of GIS-based maps for each criterion. Those criteria are assumed to have been aligned with the needs of the locations that accommodate the street vendors' trading activities. Thus, the replica of success can be realized.

3. RESULTS AND DISCUSSION

The results and discussion are split into two parts, namely the location conditions of the existing street vendor Stabilization in Surakarta, and the alternative potential locations for street vendor Stabilization.

3.1 The Location Conditions of the Existing Street Vendor Stabilization in Surakarta

The strategy of street vendor arrangement by means of Stabilization has a higher success rate compared to relocation (Rahayu et al., 2016). This is because Stabilization establishes trade facilities and locating street vendors at their previous locations or at the places close to their previous ones. Stabilization minimizes the changes of street vendors' locating characteristics so that they do not need to adapt while doing their trading activities at the post-arrangement locations. With similar characteristics to the prior locations but with better conditions, the increase in street vendors' welfare as the goal of arrangement can more easily be attained (Rahayu et al., 2016).

According to (Rahayu et al., 2016), the street vendors' locating characteristics have a large influence on the success of the street vendor arrangement strategy applied in Surakarta. It is indicated by the harmony established in the Stabilization areas, some street vendors that do not move to other places while carrying out trading activities, and most of the street vendors' incomes that increase. Therefore, identifying the potency / conditions of street vendor Stabilization locations are essential to be done. Furthermore, seeking new locations resting upon the identified potency of locations can give the bases for mapping the alternative Stabilization locations especially for the street vendors who have not yet been arranged. The following map displays the distribution of street vendor Stabilization locations in Surakarta shown in Figure 1.

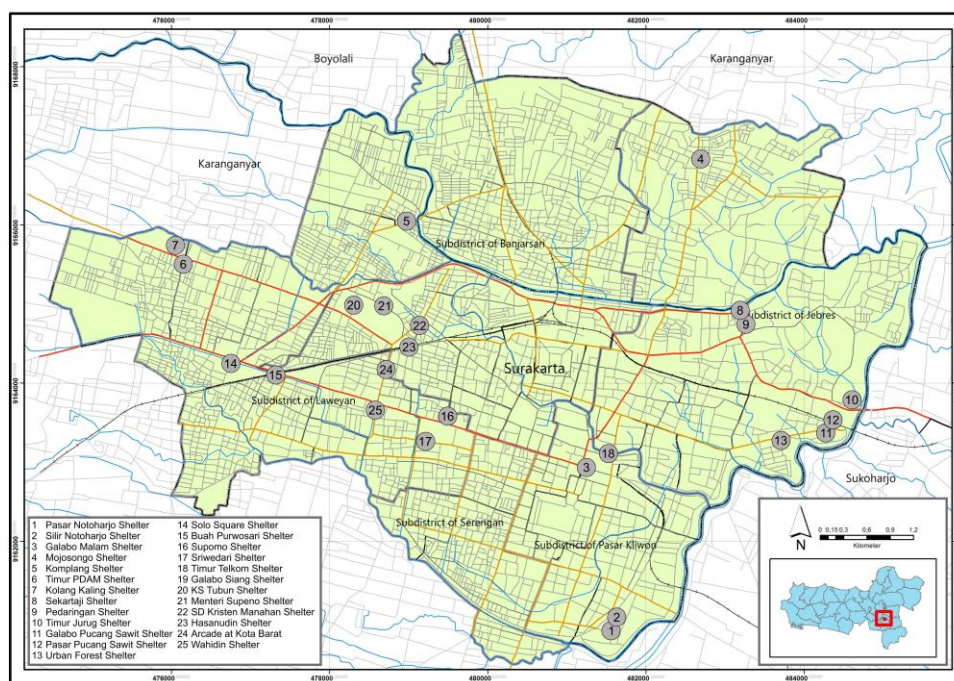


Figure 1. The Map of the Distribution of Street Vendor Stabilization Locations in Surakarta (Source: Observation Results, 2017)

Anchored in the results of identifying the characteristics of the existing street vendor Stabilization locations in Surakarta, it is known that the Stabilization locations tend to approach consumers with settled services. The approach to consumers is done by taking the locations which are proximate to the main productive activities such as trade and services, settlements, offices, education, and recreation. This is aligned with the opinion conveyed by (R Bromley, 1978; Chandrakirna & Sadoko, 1994; De Soto, 1991; Haryanti, 2008; Kadir, 2010; Sari, 2003; Werdingtyas et al., 2012; Widjajanti, 2009, 2016), whereby the main characteristics of street vendors' locations are close to the main productive activities in the crowded areas of the city center. The areas having productive activities will offer the presence of respective customers to street vendors, so they do not have to worry about the market segment of their commodities.

Besides being located in the most profitable areas in the city center, while trading, street vendors will choose the places that are easily accessible or near the roads (Hanifah & Mussadun, 2014; Novelia & Sardjito, 2015; Werdiningtyas et al., 2012), so that their positions are strategic, or in other words, they are nearby and seen by the consumers (Werdiningtyas et al., 2012). The criteria that extend to being easily accessible, nearby, and visible conform to the people's needs in that street vendors are able to cope with the conditions of people who are often in a hurry from home to work, to get entertainment, or to fulfill their needs (Cross & Karides, 2007; Kettles, 2007). Therefore, the strategic locations are those near the roads/sidewalks/pedestrian paths on the collector and local road corridors with the traffic conditions that are commonly crowded to very crowded. Thus, crowded areas also become the potential locations of the existing street vendor Stabilization in Surakarta. Grounded in the 25 Stabilization locations, the characteristics of the Stabilization locations on the state-owned land can be shown as follows.

- The locations that are proximate to trading activities and are on local roads with crowded up to very crowded traffic conditions can be seen at the locations of Galabo Malam shelter, Galabo Siang shelter and Timur Telkom shelter. The locations that are proximate to trading activities and are on the collector roads with crowded up to very crowded traffic conditions are those of Komplang shelter, Galabo Pucang Sawit shelter, Pasar Pucang Sawit shelter, arcade of Kotta Barat, and Wahidin shelter. The Locations that are close to trading activities and are on neighborhood roads with quite crowded to crowded traffic conditions are those Pasar Notoharjo shelter, Silir Notoharjo shelter, Solo Square shelter, Sekartaji shelter, Buah Purwosari shelter, and Pedaringan shelter.
- The location that is proximate to residential activities and is on the collector road with a very crowded traffic condition is that of Mojosongo shelter. The locations that are close to residential activities and are on neighborhood roads with quite crowded up to crowded traffic conditions are those of Timur PDAM shelter, Kolang Kaling shelter, Urban Forest shelter, and SD Kristen Manahan. The locations that are proximate to residential activities and are on local roads with quite crowded up to crowded traffic conditions are those of Supomo and Hasanudin Stabilization.
- The location which is proximate to recreational activities and is on the neighborhood road is KS Tubun shelter. The locations which are close to recreational activities and are on local roads are those of Menteri Supeno shelter and Timur Jurug shelter. The location that is close to recreational activities and is on the collector road with crowded traffic condition is Sriwedari shelter.

3.2 Alternative Locations for Street Vendor Stabilization in Surakarta

The placement of street vendors in the locations chosen by the Government in an effort to execute the strategy of Stabilization arrangement has to adjust to the environment and the characteristics (Dimas & others, 2008; McGee & Yeung, 1977). The conformity between the Stabilization locations and the street vendors' locating characters has a major influence on the success of Stabilization arrangement which has been carried out in Surakarta. It is manifested by the Stabilization areas which seem to have been harmonious, some of the street vendors who consistently stay in their Stabilization areas, and the incomes of some street vendors that increase (Rahayu et al., 2016). Hence, the results of spatial identification as regards the location characteristics of the existing street vendor Stabilization become the staple criteria for mapping the alternative Stabilization locations which are potential in Surakarta. This mapping can be utilized as a strategy of arranging street vendors who have not been managed. The aforementioned criteria entail the availability of the state-own land, the proximity to main activities, and crowds as well as road activities.

3.2.1. The proximity to productive main activities

The proximity to productive main activities is really important for the presence of street vendors as to provide the supporting activities in an area. The presence of street vendors is capable of strengthening the function of a public space (Shirvani, 1985). The aforementioned productive main activities are the commercial ones such as trade, offices, and recreation (Widjajanti, 2009). Other activities encompass settlements, education, sports and culture-related activities. The locations which are close to the main activities become the most interesting locations for street vendors, and this also refers to their preferences in selecting locations considering that productive activities encourage high movements (M. Rahayu, Putri, & Andini, 2015). Thus, it is suitable for street vendors in that in selling their commodities they directly face the potential consumers who are passing (McGee & Yeung, 1977; Widjajanti, 2012).

The Locations encouraging vast social movements as such are expected to be able to attract consumers to come around because their locations are proximate. The people's arrival to the Stabilization locations will indirectly be able to attract them to become the street vendors' consumers, and the street vendors' incomes can increase. People come to visit the Stabilization locations at some point because they have particular interests in those locations, and also because they are near the main activities. However, some consumers come to visit the Stabilization locations as the main destination because of particular needs, or the presence of street vendors with their attractiveness become the people's tourism destination (Henderson, 2012). For this reason, the criteria with regard to the existence of these main activities are important to identify, so the designation of new alternative Stabilization locations results in good market potency. The following is a map displaying the distribution of land uses in Surakarta.

The distribution of land uses in Surakarta manifests the existence of productive activities (see Figure 2). The map displayed below depicts the land uses in Laweyan, Serengan and Pasar Kliwon sub-districts, which are dominated by settlements with the percentage of 90% and the rest referring to trade and services, education, health, open spaces, and offices. In Jebres sub-district, land uses are dominated by settlements along with industry, trade and services, education, open spaces, warehousing, and health. In Banjarsari sub-district, the land uses are dominated by settlements, trade and services, open spaces, offices, and education. The dominance of successive land uses in Surakarta extends to settlements, trade and services, education, health, offices, and open or recreational spaces.

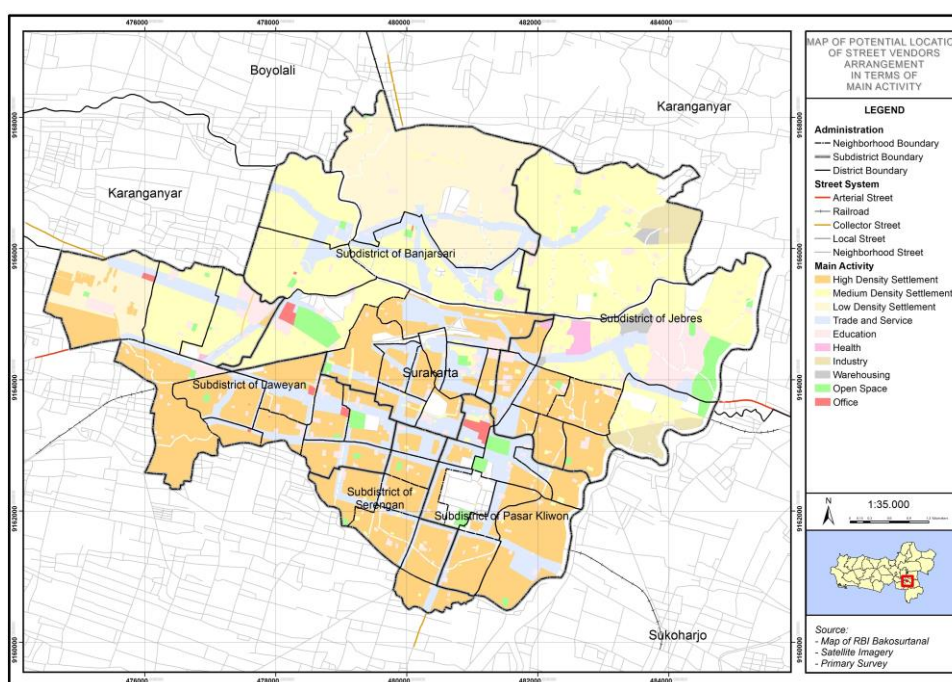


Figure 2. The Map of Land Uses in Surakarta (Source: Development Planning Agency at Sub-National Level and observation, 2017)

3.2.2. The crowded traffic conditions and road activities

Street vendors trade their commodities by making use of the opportunities around them. For this reason, street vendors do their businesses close to the road and the crowded environment with activities, so street vendors have opportunities to get consumers (Chandrakirna & Sadoko, 1994; De Soto, 1991; McGee & Yeung, 1977; Novelia & Sardjito, 2015; Rahayu et al., 2016; Widjajanti, 2009). The Crowded arrangement locations are usually near the roads with heavy traffic but with medium speeds.

The kinds of arterial and primary collector roads have a high speed of traffic so that the possibilities of the traffic users to stop incline to be small. The kinds of secondary collector, local, and neighborhood roads have a medium and low speed, so people's possibilities to stop at the street vendor Stabilization locations are greater (Rahayu et al., 2018). The more consumers come, the greater their commodities are sold. Thus, their opportunities to earn increasing incomes are also greater. Resting upon this highlight, the potential locations for street vendor Stabilization are those close to the high level of crowds and those having a medium traffic speed, such as the locations near the secondary collector, local, or neighborhood roads.

Anchored in the map of crowds and road activities, it can be viewed that the highest level of crowds is found in Banjarsari, Jebres, and Laweyan sub-districts, and followed by Pasar Kliwon and Serengan sub-districts (see Figure 3). Specially, among them entail Tentara pelajar street, Letjen Suprpto street, Ki Mangun Sarkoro street, Sumpah Pemuda street, Kaptan Mulyadi street, Brigjen Sudiarto street, Ronggowarsito street, Dr. Soepomo street, Adi Sucipto street, MT Haryono street, Dr. Setiabudi street, Colonel Sugiyono street, Kaptan Piere Tendean street, Ir. Juanda street, Brigjen Katamso street, Major Ahmadi street, Tangkuban Perahu street, Letjen Sutoyo street, Adi Sucipto street, Sri Rejeki Dalam 7 street, Dr. Moewardi street, Kebangkitan Nasional street, Bhayangkara street, Honggowongso street. The more crowded the conditions of environment and traffic, the greater the consumers' possibilities to come around.

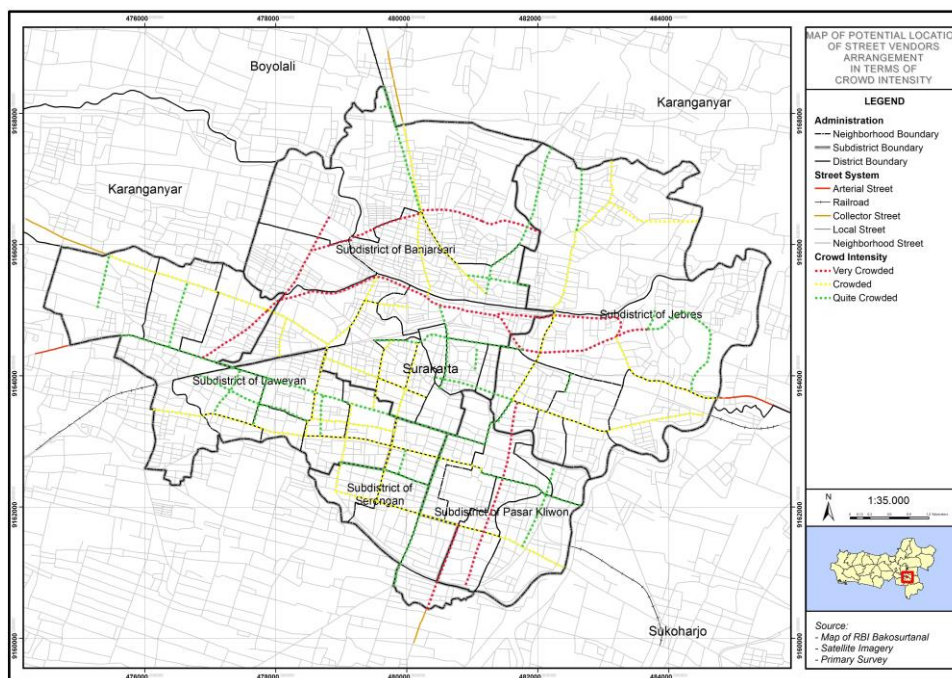


Figure 3. The Map of the crowded level of traffic in Surakarta (Source: Development Planning Agency at Sub-National Level and observation, 2017)

3.2.3. The availability of the land for public facilities or state-owned land

The street vendors' role that can strengthen the function of public spaces (Shirvani, 1985) also make their position stronger to obtain their rights in the public spaces. In addition, the nature of public spaces is open and can be shared for a variety of activities (Carr & Lynch, 1981). This condition is supported by the street vendor arrangement in public spaces in the form of Stabilization (McGee & Yeung, 1977), Hence, the presence of public spaces owned by the government becomes a key requirement for this (Blackburn, 2011; De Soto, 1991).

The distribution of land-owned government in Surakarta becomes one of the criteria for identifying the alternative to new Stabilization locations (see Figure 4). Usually, in these locations, there have already been the street vendors who trade their commodities without regulation. The existence of the public facility owned by the government / state-owned land is mostly found in Banjarsari and Laweyan sub-districts and followed by Jebres, Serengan, and Pasar Kliwon sub-districts. The following is the distribution of state-owned land as a public facility spread throughout the city of Surakarta.

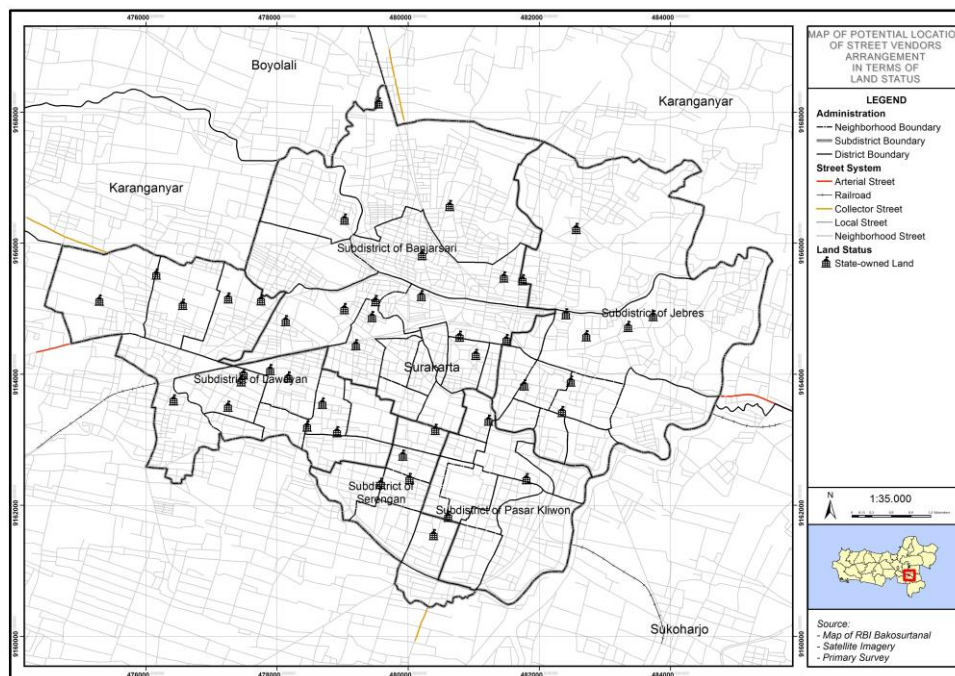


Figure 4. The map of the existence of state-owned land as a public facility (Source: Development Planning Agency at Sub-National Level and observation, 2017)

Resting on the result of superimposing the maps of 3 criteria for street vendor Stabilization throughout the areas of Surakarta, it is found 19 alternative locations which are potential to be used as street vendor Stabilization (see Figure 5). The first essential criterion for enabling the strategy of Stabilization arrangement to be carried out is the availability of government or state-owned land, so that an additional effort to do land acquisition is not necessary. The formulated alternative locations for Stabilization are those near the roads or on the sidewalks (which are permitted) and the park which is as a public facility. This point conveys the essence that the locations must be state-owned land. This is in line with the opinion given by (Blackburn, 2011) stating that the placement of street vendors in public spaces (Adedeji et al., 2014; McGee & Yeung, 1977; Rahayu et al., 2013; Rukmana, 2016) indicates that Stabilization demands the availability of state-owned land the subsidy in the form of public spaces that will be used by street vendors. The availability of land becomes important to avoid conflict and chaos as well as becomes subsidized spaces from the government to street vendors.

The alternative of potential locations also meets the criterion for being proximate to the main activities that have already existed such as offices, education, and trade. This point conforms to the opinion stated by (Rachbini & Hamid, 1994) in that anytime a new building is established; it is always followed by the emergence of street vendors, so that it does not change the basic characteristic of street vendors pertinent to the activities becoming the attracting factors. Street vendors seek strategic places that have high population densities at the crossing points of public spaces, or the places adjacent to the economic activities which have already existed (McGee & Yeung, 1977). The same perspective is conveyed by (Haryanti, 2008) who elucidates that there are a number of factors that influence the locations of street vendors' trading activities. They consist of the crowds of locations which mean to be proximate to consumers, and the high possibility of consumers in shopping. With being adjacent to productive activities or using locations having high possibilities of consumers, street vendors can get the benefit from the products supporting activities and consumers who need them (Widjajanti, 2016).

The criterion of location that is on the corridor of collector, local, or neighborhood roads that have a medium speed of transportation along with heavy traffic also becomes an important criterion. The spread of street vendor Stabilization locations must be able to capture the consumers whose movements pass through the street vendors for instance the movements from home to the destination places (Widjajanti, 2016). In addition, the fulfillment of criterion for the ease of accessibility signified by crowded road activities and busy traffic is also important to capture the consumers who make the street vendors' locations as their main goal (not just passing through).

Based on the result of superimposing the maps as regards the 3 criteria, 19 alternative/potential locations scattered throughout the city of Surakarta are found. The highest number of alternative locations is in Laweyan sub-district with the percentage of 37% (7 locations), 32% of the locations (6 locations) are in Banjarsari sub-district, 21% of the locations are in Jebres sub-district, and the rest 5% of the locations are respectively in Serengan and Kliwon sub-districts. Hence, with the fulfillment of all criteria of street vendors' locating characteristics in the 19 alternative Stabilization locations, it can be said that those locations have been able to fulfill the street vendors' needs to operate their trading activities if discerned from the location-related point of view. The fulfillment of street vendors' needs for the locations is expected to enhance the chances of success in respect of the strategy handled through Stabilization, whereby street vendors will not move to other locations considered capable of fulfilling their needs.

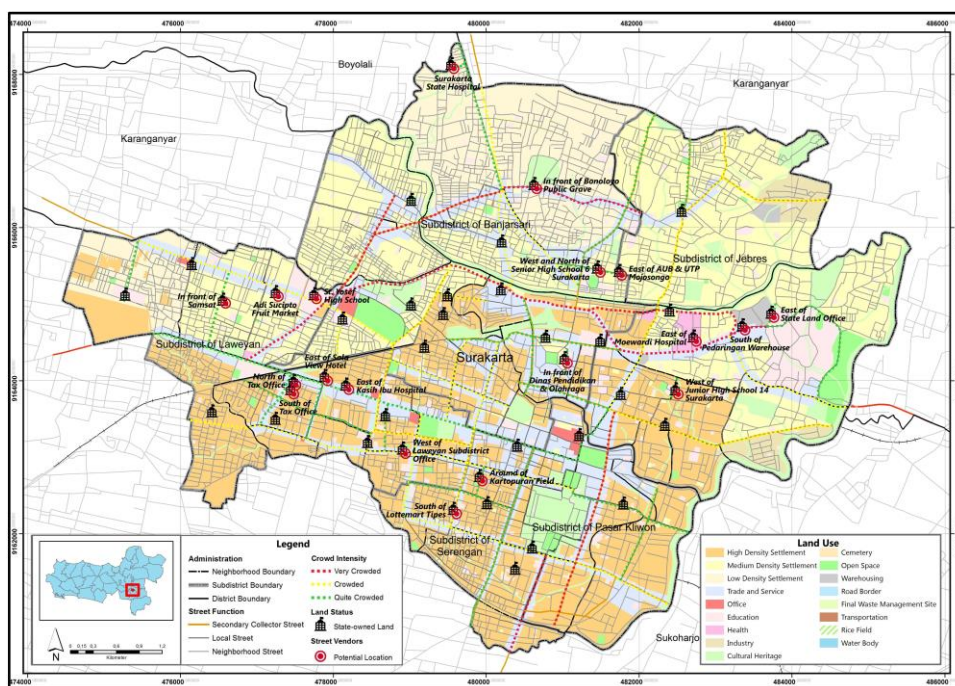


Figure 5. The Distribution Map of Street Vendor Stabilization Alternative Locations based on the result of Superimposing the Location Criteria of the existing Street Vendor Stabilization in Surakarta (Source: Development Planning Agency at Sub-National Level and observation, 2017)

The nineteen (19) locations were the east of Sala View Hotel (near trading activities on the local road), the east of Kasih Ibu Hospital (close to residence and health on the neighborhood road), the north of Tax Office (proximate to offices and residential activities on the neighborhood road), the south of Tax Office (near offices and residential activities on the neighborhood road), the west of Laweyan Sub-District Office (close to office activities on the neighborhood road), the south of Lotte Mart Tipes (near trade and service activities on the local road), Yosef High School (near settlement and education activities on the neighborhood road), Adi Sucipto Fruit Market (proximate to trade and service activities on the collector road), the front of Bonoloyo Public Grave (near residential activities on the arterial road), the east of AUB and UTP Mojosongo (close to trade and education activities on the local road), the east of Moewardi Hospital (proximate to health activities on the neighborhood road), the west of Junior High School 4 (adjacent to educational and office activities on the collector road), the front of the Education Office (near office activities on the local road), the front of Samsat (near office and residential activities on the collector road), the South of Pedaringan Warehouse (near trade and service activities on the local road), the east of State Land Office (close to office and education activities on the neighborhood road), the west and north of Senior High School 6 (adjacent to educational and residential activities on the collector and local roads), the south of Kartopuran Field (proximate to recreational and settlement activities on the neighborhood road), and the front of Surakarta Hospital (close to health and residential activities on the neighborhood road).

4. CONCLUSION

The effectiveness of street vendor arrangement is greatly affected by the efficacy of locations to meet the street vendors' basic needs in carrying out their trading activities. The inconformity of arrangement location characters will only be a temporary arrangement strategy because street vendors tend to move to other locations that possibly meet their needs. Therefore, the street vendor Stabilization strategy inclines to have a higher success rate compared to relocation. This is because street vendors do not need to adapt to their new location characteristics, so the trading activities will continuously run as they were before, along with the added value of the physical arrangement of the areas.

The obtained alternative locations based on the 3 criteria gained from the characteristics of the existing Stabilization locations entail: (1) the proximate main activities such as trade and services, settlements, offices, education, and recreation; (2) Traffic conditions and the proximity to roads; and (3) the availability of state-owned land. By fulfilling the three location characteristics of street vendor Stabilization, the 19 alternative Stabilization locations which are mapped can prevent street vendors from space conflicts (the spaces refer to the state-owned land), are able to capture consumers around the nearby productive activities, have good accessibility to capture the needs of consumers that pass the street vendors or the consumers who indeed make the street vendors as their main goal, and enable consumers to have alternative choices and to obtain their complementary needs from the provided agglomerations because the street vendors' locations are adjacent to the productive main activities.

The street vendors' alternative locations which have been formulated are based on the criteria of the existing street vendors' locations, so that these findings are expected to capably be a sort of input and be considered by the government in making decisions for arranging street vendors by means of Stabilization. In addition, the criteria utilized in formulating the alternative locations can also be applied as the bases of consideration to designate the alternative locations for street vendor relocation because those criteria have accommodated the street vendors' locating characteristics as the subjects of arrangement.

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6. REFERENCES

- Adedeji, J. A., Fadamiro, J. A., & Adeoye, A. O. (2014). Spatial implications of street trading in Osogbo traditional city centre, Nigeria. *Architecture Research*, 4(1A), 34–44.
- Bhowmik, S. K. (2007). Street Vending in Urban India: The Struggle for Recognition. In *2Street Entrepreneurs People, Place, and Politics in Local and Global Perspective* (pp. 114–129). New York.
- Blackburn, S. (2011). *Jakarta: sejarah 400 tahun*. Masup Jakarta.
- Bromley, R. (1978). *Organisasi, Peraturan dan perusahaan Sektor Informal Kota PKL di Colombia*. Pegamon Press.
- Bromley, Ray. (1991). *Organisasi, Peraturan, dan Perusahaan Sektor Informal di Kota: Pedagang Kaki Lima di Cali Colombia. Urbanisasi, Pengangguran, Dan Sektor Informal Di Kota*. Jakarta: Yayasan Obor Indonesia.
- Carr, S., & Lynch, K. (1981). *Open Space: Freedom and Control*. London: The Smithsonian Institution.
- Chandrakirna, K., & Sadoko, I. (1994). *Dinamika Ekonomi Informal di Jakarta*. Jakarta: UI-Press.
- Cross, J., & Karides, M. (2007). Capitalism, Modernity, and The "Appropriate" Use of Space. In *Street Entrepreneurs People, Place, and Politics in Local and Global Perspective* (pp. 19–35). New York.
- [Crossref]
- De Soto, H. (1991). *Masih Ada Jalan Lain, Alih Bahasa Masri Maris*. Yayasan Obor Indonesia.
- Dimas, H., & others. (2008). *Street Vendors: urban problem and economic potential*. Fakultas Ekonomi Universitas Padjajaran. Bandung.

- Hanifah, U., & Mussadun. (2014). Penilaian Tingkat Keberhasilan Relokasi PKL di Kawasan Pasar Waru dan Simpang Lima. *Jurnal Perencanaan Wilayah Dan Kota SAPPK ITB Dan IAP*, 25(3), 228–242. [Crossref]
- Haryanti, D. T. (2008). Kajian Pola Pemanfaatan Ruang Terbuka Publik Kawasan Bundaran Simpang Lima Semarang. Program Pascasarjana Universitas Diponegoro.
- Henderson, J. C. (2012). Hawker Centers as Tourist Attractions: The Case of Singapore. *International Journal of Hospitality Management*, 849–855. [Crossref]
- Kadir, I. (2010). Studi Karakteristik Penggunaan Ruang Pedagang Kaki Lima (PKL) di Kawasan Eks Pasar Lawalata Studi Kasus Jalan Taman Surapati Kota Kendari. *Metropilar*, 8(1), 108–116.
- Kettles, G. W. (2007). Legal responses to sidewalk vending: The case of Los Angeles, California. *Street Entrepreneurs: People, Place and Politics in Local and Global Perspective*, 58–78. [Crossref]
- Lince, S. (2011). The informal sector in Jinja, Uganda: implications of formalization and regulation. *African Studies Review*, 54(2), 73–93. [Crossref]
- McGee, T. G., & Yeung, Y. (1977). *Hawkers in Southeast Asian Cities: Planning for The Bazaar Economy*. Ottawa: International Development Research Centre. [Crossref]
- Novelia, A. S., & Sardjito, S. (2015). Kriteria Penentuan Lokasi Pedagang Kaki Lima Berdasarkan Preferensi Pedagangnya Di Kawasan Perkotaan Sidoarjo. *Jurnal Teknik ITS*, 4(1), C28–C32.
- Pemerintah Kota Surakarta. (2008). *Peraturan Daerah Kota Surakarta Nomor 3 Tahun 2008 tentang Pengelolaan Pedagang Kaki Lima*.
- Puspitasari, D. E. (2010). Penataan Pedagang Kaki Lima Kuliner untuk Mewujudkan Fungsi Tata Ruang Kota di Kota Yogyakarta dan Kabupaten Sleman. *Mimbar Hukum-Fakultas Hukum Universitas Gadjah Mada*, 22(3), 588–606.
- Rachbini, D. J., & Hamid, A. (1994). *Ekonomi informal perkotaan: gejala involusi gelombang kedua*. Pustaka LP3ES Indonesia.
- Rahayu, M. J. (2016). Perubahan Kondisi Pkl Setelah Penataan, Stabilisasi, dan Relokasi di Kota Surakarta.
- Rahayu, M. J., Buchori, I., & Widjajanti, R. (2018). Study of locations' characteristics for stabilization of street vendors in Surakarta City. In IOP Conference Series: Earth and Environmental Science (p. 106(1)). [Crossref]
- Rahayu, M. J., Werdiningtyas, R., & Musyawaroh. (2013). Stabilisasi Sebagai Bentuk Penataan PKL Makanan Siap Saji di Kota Surakarta. *Jurnal Tata Loka*, 15(1), 39–52. [Crossref]
- Rahayu, M. J., Werdiningtyas, R., & Musyawaroh. (2016). Faktor-Faktor yang Mempengaruhi Keberhasilan Penataan PKL sebagai Strategi Penataan Ruang Kota Surakarta. *Region*, 6(3), 109–122. [Crossref]
- Rahayu, M., Putri, R. A., & Andini, I. (2015). *Model Lokasi PKL yang Berkelanjutan dalam Mendukung Pengentasan Kemiskinan di Kota Surakarta*. Surakarta: UNS Surakarta.
- Rukmana, D. (2016). Pedagang Kaki Lima dan Informalitas Perkotaan.
- Sari, A. P. (2003). Studi Aspek yang diprioritaskan pada Faktor Ekonomi, Sosial, dan Fisik dalam Penentuan Lokasi Pedagang Kaki Lima di Kota Mataram. Program Pascasarjana Universitas Diponegoro.
- Sarjono, Y. (2005). *Pergulatan pedagang kakilima di perkotaan: pendekatan kualitatif*. Muhammadiyah University Press, Universitas Muhammadiyah Surakarta.
- Shirvani, H. (1985). *The Urban Design Process*. New York: Van Nostrand Reinhold Company. Inc.
- Tualeka, B. A. (2013). Memahami Kebijakan Pembinaan PKL Surabaya, Kajian Terhadap Perda Kota Surabaya No.17 Tahun 2003. *DIA Jurnal Administrasi Publik*, 11(1), 149–159.
- Werdiningtyas, R., Rahayu, M. J., & Musyawaroh. (2012). Hawkers Behaviour and Characteristic As An Important Factor To Empower Local Economy. In 2nd CONVEESH & 13th SENVAR International Conference (pp. 1–9). Yogyakarta: Architecture Department DWCU.
- Widjajanti, R. (2009). Karakteristik Aktivitas Pedagang Kaki Lima Pada Kawasan Komersial Di Pusat Kota Studi Kasus: Simpang Lima, Semarang. *Teknik*, 30(3), 162–170.
- Widjajanti, R. (2012). Karakteristik Aktivitas Pedagang Kaki Lima di Ruang Kota (Studi Kasus: Kawasan Pendidikan Tembalang, Kota Semarang). *Jurnal Pembangunan Wilayah & Kota*, 8(4), 412–424. [Crossref]

Widjajanti, R. (2016). The space utilization by street vendors based on the location characteristics in the education area of Tembalang, Semarang. *Procedia-Social and Behavioral Sciences*, 227, 186–193. [[Crossref](#)]