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MEASUREMENT OF TOURISM SENSITIVE COMPACTNESS LEVEL IN KASONGAN TOURISM AREA

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ABSTRACT

Yogyakarta province is currently experiencing an increase in population growth, urbanization and the economy resulting in an increase in the community's need space for work and living space, but not supported by the availability of workspace and occupancy coupled with high land prices. The high vehicle population increases every year reduces the city's comfort level, resulting in people being triggered to choose workspaces and residences in the suburbs of Yogyakarta. Kasongan is a tourism area located in Bangunjiwo Village, Bantul Regency, located in the suburbs of Yogyakarta, being the choice of the community. However, this can trigger urban sprawl because there isn't good regional planning. According to Jenks (2013) Compact City is the solution to overcome the phenomenon of urban sprawl. This study aims to determine the level of compactness Kasongan area. The study was conducted by conducting field observations and interviews to identify land uses, activities within the area, affordability of public facilities, and distribution of public transportation. The results of observations found that the building density is low, affordability of public facilities is not ideal, there are no transit points or regional public transportation.

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1. Introduction

The Province of the Special Region of Yogyakarta, according to Bappeda DIY, from 2011 to 2019 experienced an increase in the rate of population growth with an average value of 1,15% (http://bappeda.jogjaprov.go.id). Meanwhile, the population of Yogyakarta continues to increase with a value of 1,30% in 2017, and a density of 13.153 people per kilometer which according to the WHO value exceeds the ideal density value of 9.600 people per kilometer. Judging from the value of economic growth in the city of Yogyakarta in the publication DIY Economic Growth in the Second Quarter-2019 grew to 6,80% in 2019 (BPS DIY, 2019). The biggest share of economic growth is caused by the construction, information and communication businesses, the provision of food and beverage accommodations. The increase in economic value and the availability of jobs have triggered an increase in urbanization rates.

The high rate of population growth and urbanization because people are looking for work in DIY has an impact on the increasing need for housing. Land prices and housing availability in the city of Yogyakarta are not directly proportional to the growth rate. According to data from the Yogyakarta city transportation agency, the number of two-wheeled vehicles in Yogyakarta increased to 211% from 2016-2017. Four-wheeled vehicles also increased in population reaching 344% from 2016-2017. According to BPPM Balairung UGM (www.balairungpress.com), road capacity in the city of Yogyakarta has now exceeded capacity, and according to a survey conducted by INRIX Research in 2017, Yogyakarta occupies the 60th position as the most populous city in the world and number 4 in Indonesia. This has an impact on the reduced level of comfort for living in the city of Yogyakarta.

According to Hidayati (2019), the city of Yogyakarta spatially experienced fairly rapid development of built land. The urban development of Yogyakarta increased in 1990 since the construction of the Yogyakarta ring road. The most prominent phenomenon is the expansion of urban built land. "This expansion process is very influential on the comfort of the environment in a region. Uncontrolled expansion of developed land also results in loss of urban vegetation land," said Hidayati (2019). Sleman Regency and Bantul Regency are spatially integrated with the city of Yogyakarta (Roychansyah, 2009). Sleman and Bantul districts are alternative choices for residents to get shelter. Bantul Regency is the second regency with the highest population, and the regency with the highest population

growth rate in Yogyakarta province.

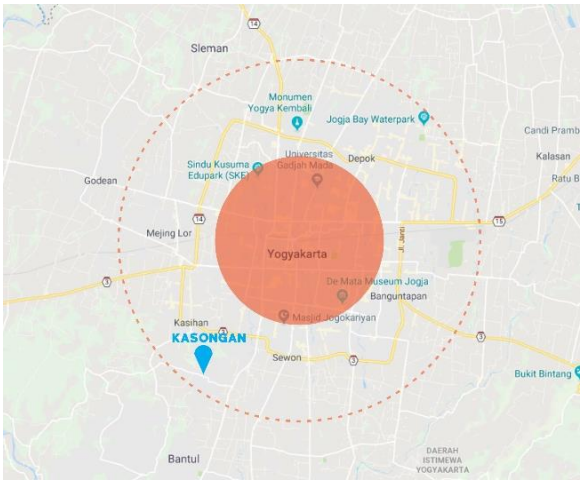

Figure 1. Location of Kasongan Area
Source: Google Maps

In Bantul Regency there is a Kasongan tourism area, which according to the Bantul regency number 04 of 2011 concerning the spatial planning of Bantul Regency in 2010-2030, Kasongan is an area with an allotment of tourism area and strategic area of Bantul Regency (www.bappeda.bantulkab.go.id). Distance Kasongan area, which is only seven kilometers from downtown Yogyakarta, with more affordable land prices and a better level of comfort, is the choice of people to choose housing in the area.

Growth in the suburban area of Yogyakarta can have an irregular growth effect and have a negative impact on the Kasongan tourism area. Urban sprawl is a phenomenon when urban development extends to suburban areas (Yunus, 2008). Urban sprawl has negative implications such as increased air and water pollution, greenhouse gas emissions, loss of open space and natural habitats, and an exponential increase in the cost of new infrastructure. Social problems are linked to a lack of diversity and health.

2. Literature Review

2.1 Urban Sprawl

Urban sprawl theory is used in the early stages to identify whether future slackers can have implications for areas with random and uncontrolled development. According to Hidajat (2004) there are 3 types of urban sprawl, namely:

1. Centric Development is concentric happening following the outer regions of the city so that eventually it occurs evenly in almost all the outside areas built up. Thus, the addition of new areas appears to be integrated with the old built areas. The role of transportation infrastructure for this type is insignificant, and the spread is slow.
2. Ribbon Development Elongated creep occurs unevenly, tends to develop faster along the transportation corridor so that the distribution of elongated development along the corridor is visible.
3. Leap Frog Development is the growth of the area where it develops sporadically without a clear pattern, so it is considered the most inefficient.

2.2 Compact City

Compact City is an urban planning approach that is based on intensive development in existing urban areas or cities with relatively high density, by limiting its growth (Directorate of spatial planning and land and National, 2012). The Compact City Theory is applied. In the second stage, the principle of the compact city is broken down then the principles are made as an assessment of the existing conditions. According to Roychansyah et al. (2009), important factors as attributes of the compact city include:

1. Density as a parameter to measure the level of density, there are two indicators of assessment, namely population density and building density.
2. Aspects of activity as a parameter of daily activities that occur in the region.
3. The size and access of the area as a parameter of the level of ease of accessing each function in the region and the ease of entering and leaving the area.
4. Transportation as a parameter of the type of transportation used and the choice of transportation modes is available.
5. Social welfare of the economy as an improvement in welfare and the quality of life is getting better.

According to Roychansyah (2006) in the Innovation Magazine "Spatial Planning: The Nation's Journey", the compactness of a region can be assessed from the following aspects:

Table 1. Comparison of the Urban Sprawl Phenomenon and the Compact City Model

Aspect	Urban sprawl phenomenon	Model compact city (anti-sprawl development)
Density	Low	High
Growth pattern	Development on the periphery and green space of the city, widened	Construction on remaining/intermediate, compact spaces
Land use	Homogeneous, fragmented mixed	Tend to blend
Scale	Large scale (larger buildings, blocks, wide streets), lacking detail, articulation for motorists	Human scale, rich in detail, articulation for pedestrians
Community service	Shopping malls, car trips, far, hard to find	Main street, walking, all facilities are easy to find
Community type	Low differences, weak relations between members, loss of community characteristics	High difference with close relationships, community character is maintained
Transportation	Transportation oriented towards private vehicles, lacking respect for pedestrians, bicycles, and public transportation	Multi-facility transportation, awards for pedestrians, bicycles and public transportation
Road design	Roads are designed to maximize vehicle volume and speed (collector roads, cul de sac)	Roads are designed to accommodate a variety of activities (traffic calming, grid streets)
Building design	The building is located far away/pulled back (setback), a scattered dwelling house	The building is very close to the road, the type of residence varies

Public area	Embodiment of personal interests (yards, shopping malls, gated communities, private clubs)	Embodiment of public interest (streetscapes, pedestrian environment, public parks and facilities)
Development costs	High costs for new development and routine public service costs	Low costs for new development and routine public service costs
Planning process	Poorly planned, relations between development actors and rules are weak	Planned and relations of development actors and good rules (community based)

Source: Roychansyah (2006)

2.3 Tourism Area Development

Tourism is an activity carried out by an individual or a group in the form of a trip to fulfill curiosity, as a recreational and educational need (Kodhyat, 1996). The success of a tourism area to the achievement of the tourism industry can be assessed by the principles of three A (3A), namely the availability of attractions (attraction), accessible in access (accessibility), and availability of supporting facilities (amenities) (Yoeti, 1997). According to Spillane (1994) there are five important elements in tourism development:

1. Attraction is the motivation of tourists to visit a destination is to meet or satisfy some needs or requests.
2. Facilities are aspects that support growth and tend to develop at the same time or after attractions develop.
3. Regional infrastructure and everything that makes it easy to access tourist areas.
4. The availability of mass transportation modes to reach the area or within the tourist area, information about transit points, road amenities, and traffic calming.
5. Hospitality or security and services to tourists.

3. Research Method

The research approach used is a qualitative method. The research method uses qualitative methods with descriptive explanations. The focus of the study includes two things:

1. What is the condition of the existing Kasongan tourism area by looking at several aspects of function, height of buildings, and activities in the area and how far does the Kasongan tourism area meet the criteria of a compact area?
2. What is the ideal strategy to reduce the gap between existing conditions with the principle of compact city?

Sources of data used in this study include:

1. Primary data in the form of functions, land use, number of building floors, building density, activity in the area obtained by field observations. The base map for the survey reference is made based on the search results of satellite imagery.
2. Secondary data is obtained from literature studies, regional spatial plans, regional development plans, and related digital data.
3. Interview with resource persons (Chairman of Bangunjiwo Village) to obtain data related to the uniqueness of the area. Give questionnaires to respondents (Bangunjiwo village hall and Kasihan sub-district) regarding compact city variables.

The research and discussion stages that will be carried out are as follows:

1. The initial stage is to conduct secondary data observations and field observations to determine existing conditions.
2. The second stage is conducting interviews related to the variable compact city involving 20 respondents from residents or local craftsmen, 20 respondents from Kasongan area visitors, and 20 from the local government (Bangunjiwo village hall and Kasihan sub-district).
3. The third stage is to compile data (land use, building functions, building height, building density, access to activities, supporting facilities, and types of attractions in the area) and the results of field observations and interviews.
4. The fourth stage is to assess the level of compactness of the study area with variables from interviews and observations to determine the gap between the existing conditions and the ideal compact city typology.
5. The fifth stage is about a strategy to reduce the gap between existing conditions and the ideal conditions of compact city by involving the Tourism Area Development theory.

This research was carried out in the Kasongan area with a length of 1,6 kilometers located in the village of Bangunjiwo, Kasihan District, Bantul Regency, Yogyakarta, or approximately 7 kilometers to the south of Yogyakarta City. However, this study will only be limited to the western area with a 400-meter diameter walkable, where this area has many diverse activities and functions and can represent the whole of the small-scale Kasongan industrial area.

Figure 2. Research Locus Delineation
Source: Google Earth (2020)

Existing Urban Sprawl Typology according to theory is Ribbon Development or developing along the main road corridor in Kasongan village. The sprawl process raises 5 impact categories, namely environmental impacts, transportation impacts, land prices, changes in the shape of cities, and social changes (Bourne, 1982). To simplify the calculation of intensity in space utilization, the research locus is divided into 4 blocks as in the following figure:

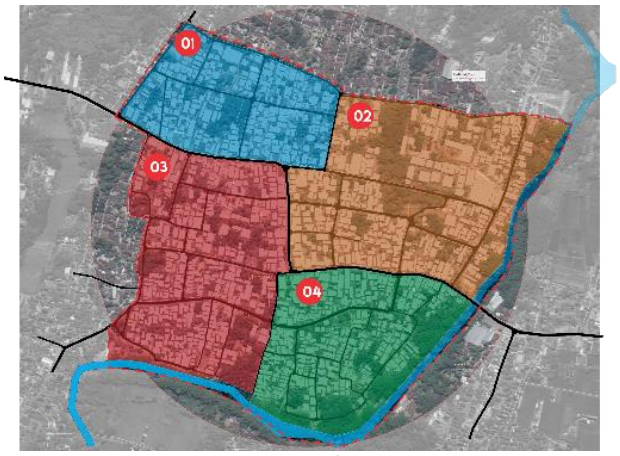

Figure 3. Division of Research Blocks

Table 2. Table of Land Use

Block	Area (Ha)
1	6,63
2	12,54
3	10,27
4	8,18

4. Results and Discussions

4.1 Observation Result

Land use, figure ground map, and number of building floors in study area can be seen in the figure and table below:

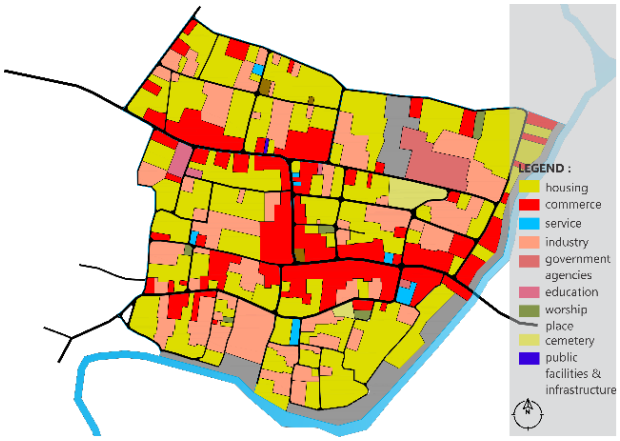

Figure 4. Land Use Research Area

Table 3. Table of Land Use

Land Function	Land use (%)
Housing	42,84
Industry	22,96
Service	0,99
Infrastructure	0,05
Mix	0,18
Government	2,48
Education	0,67
Worship	0,38
Cemetery	1,14
Green space	7,59

Figure 5. Figure Ground Map

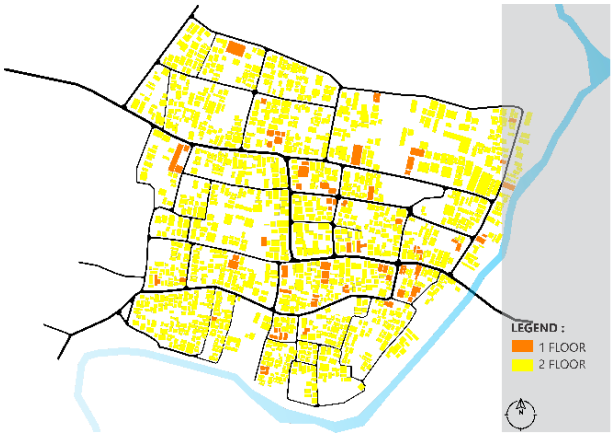

Figure 6. Number of Building Floors

The interview stage is the stage to get the compact city variables that are contextual to the study area. The research question is the result of solving the compact city attributes that affect the locality value in the study area. The research question will be given to several respondents who have links to the research area, including 20 respondents from the Kasongan tourist area, 20 respondents from visitors, and 20 from the local government. Interview interviews given to respondents included:

1. At present the population density of Kasongan tourism area is 78,99 persons/ha. In your opinion, what is the ideal number of residents/ha for the Kasongan area?
   a. <150 persons/ha (Low Density)
   b. 151-200 persons/ha (Medium Density)
   c. 201-400 persons/ha (High Density)
   This question posed to respondents is expected to obtain an ideal population density projection for the Kasongan area based on SNI 03-1733-2004.

2. At this time the land built Kasongan tourism area is 35,84%, in your opinion, what is the ideal built land for Kasongan tourism area?
   a. 50%
   b. 75%
   c. >75%
   This question is useful to find out the ideal developed land for the Kasongan area according to the respondents' point of view.
3. What is the ideal number of vehicles owned in a residential area in Kasongan tourism area, when public transportation facilities are available in the area?
   a. 1 vehicle/1 occupancy
   b. >1 vehicle/1 occupancy
4. What type of housing is suitable for the Kasongan tourism area?
   a. Medium occupancy
   b. Luxurious residence

The following are the results of interviews with residents, visitors, and the relevant government in the study area, to obtain a compact city variable that is contextual to the research locus as an assessment of the compactness level of the research area.

Table 4. Interview Results

Question 1	Answer		
	150 persons/ha	151-200 persons/ha	201-400 persons/ha
Population density	13 respondents (22%)	45 respondents (75%)	2 respondents (3%)
Question 2	**Answer**		
	50%	75%	75%
Building density	34 respondents (57%)	24 respondents (40%)	2 respondents (3%)
Question 3	**Answer**		
	1 vehicle/1 occupancy	>1 vehicle/1 occupancy	
Vehicles density	54 respondents (90%)	6 respondents (10%)	
Question 4	**Answer**		
	Medium occupancy	Luxurious residence	
Type of housing	37 respondents (62% rounded to 60%)	23 respondents (38% rounded to 40%)	

The results of the interview then become a new assessment parameter on the compact city variable in this study. In the first, second, and third questions, the results with the most responses become the new parameters of assessment and the fourth question becomes a question to find out the type of housing that is suitable for the study area.

Table 5. Compact City Variable

Research question	Variable	Indicator	Compact city	Parameter
How compact the Kasongan Region is	Density	Population density	Total population/ha	151-200
		Building density	Land built	50%
	Activity	Economic activity	Land use functions of commercial land	30%
			Land use mixed function	40%
		Social activity	Provision of public open space	30%
	Size/access	Access to various activity/activity functions	Mileage reaches needs (social and economic) The lower the mileage, the better the value	400 m
		Access in and out of the area	Mileage in and out of the area (The lower the mileage, the better the value)	800 m
	Transportation	Transportation use	Use of personal transportation (The lower the value of using a private vehicle, the better the value)	<25%
		Facilities for public transportation	Provision of public transportation modes (The higher the use of public transportation modes, the better)	>30%
	Social welfare	Residential types	Luxury residential type	40%
			Medium type of occupancy The more balanced, the better	60%

4.2 Analysis and Assessment of Research Sites

1. Density

The existing condition of the building is dominated by a one-story building with a considerable distance from one building to another. The function of the existing building is dominated by residential function which is spread out one layer from the main road (local road). On the main road or local road class, the building is dominated by commercial functions with the dominance of the sale of pottery and other handicrafts. Buildings with dual functions, namely residential and small industries as centers of pottery producers, are scattered in the middle of the region. Building density and population density can be calculated based on a map of the function and map of the number of building floors in the study area. By looking at the function and number of building floors, the total floor area can be calculated to calculate the building density and population density. The building function at the research locus is shown in the following figure:

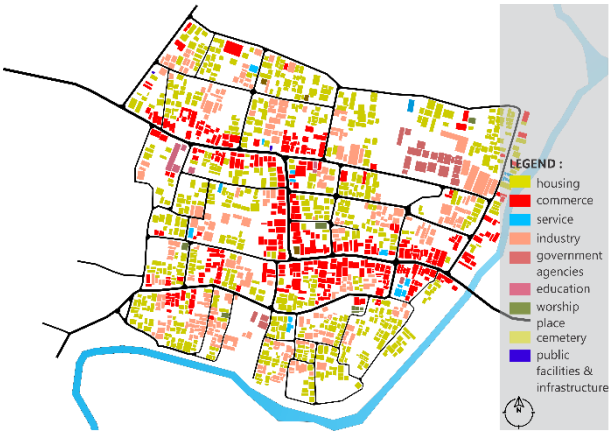

Figure 7. Layout of Existing Building Functions

Building density and population density can be seen in the following table:

Table 6. Table of Population Density Value

Block	Total area (ha)	Total population	Population density	Value of population density (151/ha) (%)	Land built up	Building density	Value of building density (50%/ha) (%)	Density value (%)
1	6,63	544	76,90	54,33	2,64	39,82	79,63	66,98
2	12,54	808	61,86	43,10	3,86	30,77	61,53	52,32
3	10,27	868	79,07	56,21	4,50	43,84	87,68	71,95
4	8,18	756	88,31	61,20	2,86	34,97	69,93	65,56
						Average value		64,20

Based on the table above can explain that the value of population density in the Kasongan tourism area is fair, with an average value of 64,20%, with average building density value of 74,70%, the dominance of buildings in the study area is residential houses, and the average population density is 53,71%.

2. Activity

Activities at the research locus include commercial activities such as trading pottery products and various other handicrafts produced by craftsmen in the area. Social activities such as interactions with neighbors, sports activities, play, and so on only occur in people's home yards. There are no social facilities such as parks or other sports facilities in the study area. Educational activities, religious activities, and services are spread quite evenly in the research area. In evaluating the activities, this study groups several building functions into three categories of activities, including commercial activities, mixed activities, and social activities. The distribution of commercial activities in the study area can be seen in the following figure:

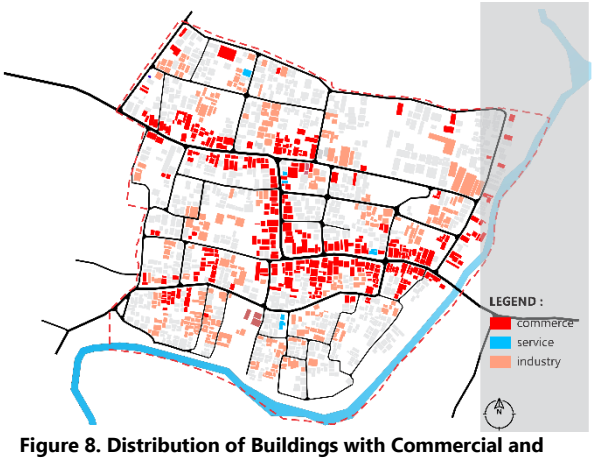

Figure 8. Distribution of Buildings with Commercial and Industrial Functions

The value of activities in the study area can be seen in the following table:

Table 7. Table of Activities Value

Block	Commercial land (ha)	Value of commercial activity (min 30%)	Land-use mixed function (ha)	Value of mixed function (min 40%)	Social facilities land (ha)	Social activity value (min 30%)	Activity value
1	1,60	80,54	4,96	100	0,02	0,92	60,49
2	2,34	62,29	8,31	100	0,5	13,27	58,52
3	2,11	68,40	7,43	100	0,28	9,18	59,19
4	1,64	66,85	5,04	100	0,41	16,66	61,17
					Average value		59,84

From the table above, it can be seen that the mixed activity in the study area has a high enough value. The unavailability of public space in the study area affects the small value of social activities in the research area. There are a lot of unbuilt lands in the residential area and along the river that can be utilized as a space for social interaction or as a container of supporting facilities, such as parking bags and a space for area contraction.

The aspect of social activity is influenced by the higher density (according to its threshold capacity), and the availability of public spaces in an area. According to Roychansyah (2009), high density will lead to an aspect of social intimacy (social cohesiveness, intimacy).

3. Size and Access

In the existing condition of the road, either the neighborhood road or the local road is sufficient as access to various activities in the area, but the size of the road is not sufficient to be accessible by various types of vehicles. This variable discusses the ease of access in and out of the area. The ideal access is the ease of accessing various functions in the area with various modes of transportation, whether car, motorcycle, bicycle, and on foot. According to Gideon (1977), the average distance of a person in one trip is 1 kilometer and the ideal distance of a pedestrian in an area is 400 meters. The ideal distance for a pedestrian to walk into the city center or in and out of an area is 800 meters. The size and access value of this research area can be seen in the following figure and table:

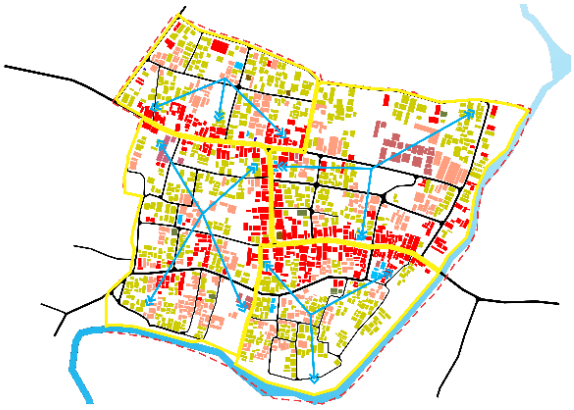

Figure 9. Access Within the Region

Table 8. Tables of Size and Access in and Out of the Region Value

Block	Distance to occupancy center various functions (meters)	Value of distance to various functions in the region (max 400 m)	Distance to residential center exit the area (meters)	Distance value from residential center to exit the area (max 800 m)	Size and access value
1	223	100	400	100	100
2	265	100	365	100	100
3	271	100	509	100	100
4	295	100	448	100	100
				Average value	100

Figure 10. Section of Local Roads

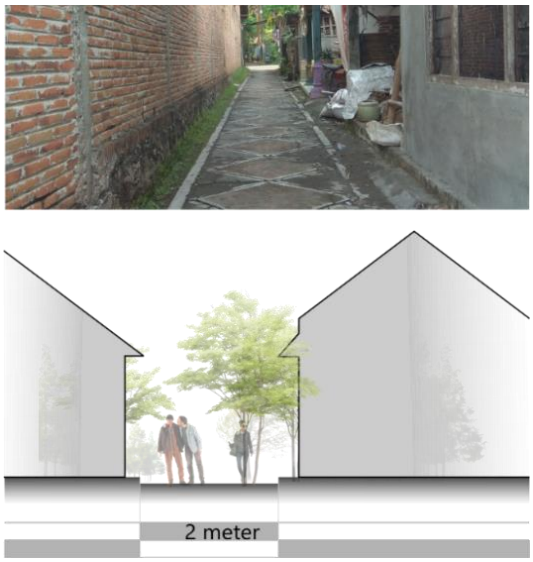

Figure 11. Section of Neighborhood Road

The road network is quite good, easy to access by pedestrians, and with a walkable distance with an average distance of 263 meters and a sufficient number of intersections so that the permeability of the area is quite good, but in some blocks, there is a dead end. The dimensions of the existing main road (local road) are 5 meters. This dimension is less ideal to be passed by 4-wheeled vehicles and vehicles with large dimensions such as buses and others, while the environmental roads have dimensions of 2 to 4 meters with concrete and hot-mix material.

4. Transportation

The research area does not currently have a public transportation mode, either bus or train. The current mode of transportation to reach the research area is using only private vehicles and online transportation, such as four- and two-wheeled vehicles. The quality of roads in the study area is not ideal to be passed by various modes of transportation. Roads that can be passed by major highways can only be passed along local roads (Jalan Kasongan). The amount of transportation is calculated from the number of available housing assuming 3 vehicles per 1 occupancy. Road class and type of transportation can be seen in the figure and table below:

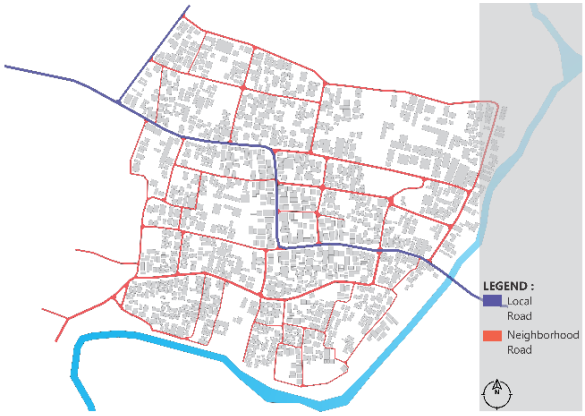

Figure 12. Road Classes in the Study Area

Table 9. Table of Public Transportation Value

Block	Total public transportation	Public transportation/total population	Value of public transportation (30%)	Number of private vehicles	Private vehicles/number of residents	Value accumulation of public and private transportation (25%)	Transportation value (%)
1	0	0	0	1.632	0,5	0	0
2	0	0	0	2.448	0,5	0	0
3	0	0	0	2.616	0,5	0	0
4	0	0	0	2.268	0,5	0	0
						Average value	0

5. Value of Social Welfare

Socioeconomic welfare can be assessed from the types of occupancy contained in the research area and the quality of social welfare of an area can be assessed with the diversity of types of occupancy that are spatial in an area. The research area is dominated by simple dwellings and luxury buildings which are positioned along the local road in the study area. Social relations in the study area only occur in the majority of blocks and occur on the home yard because of the unavailability of adequate social facilities. The value of regional social welfare can be seen in the following table:

Table 10. Table of Social Welfare Values

Block	Land awakened	Luxury building type (ha)	Value of luxury buildings type (40%)	Medium building type (ha)	Value of medium building type (60%)	Welfare value (%)
1	2,64	0,71	67,39	1,92	82,14	74,77
2	3,86	1,56	100,00	2,29	100,00	100,00
3	4,50	0,95	52,77	3,55	76,05	64,41
4	2,86	0,90	79,08	1,95	87,76	83,42
					Average value	80,65

6. Compactness Value of the Research Area

The compactness value for each block can be seen in the following chart image:

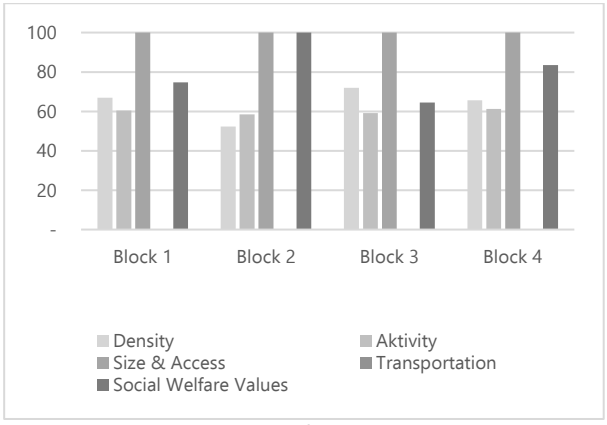

Figure 13. Compactness Value for Each Block in the Kasongan Tourism Area

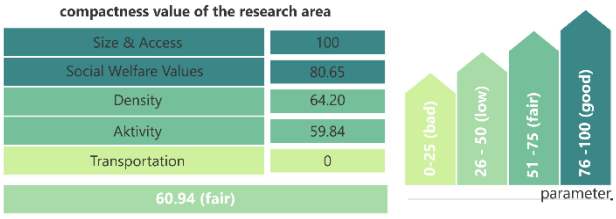

Figure 14. The Overall Compactness Value in the Kasongan Tourist Area

The average value of compactness of the study area is 60,94, included fair in the category of compactness. An area that has a high value of compactness or good can avoid the development of random areas. Areas that have low compactness values are very vulnerable to uncontrolled or random development. At this stage, a strategy is needed to make a direction for the research area in order to increase the value of the compactness of the area and avoid uncontrolled development so that the research area becomes a sustainable area.

4.3 Strategy of Compact City

1. Density

In the research area, the density value has not yet reached the ideal value of compact city because it is an ineffective land use, and quite a lot of lands have not been developed in the research area. Increasing building density and population density in the study area can be done with:

a. Utilizing the remaining and unused land as space for new dwellings.
b. Utilizing or rebuilding old and abandoned buildings.
c. Expansion of the building with 1 floor into a multi-story building, according to the spatial plan of Bantul Regency for the years 2010-2030 for the allotment of urban settlements permitted building heights of more than 3 (three) floors, the intensity of the medium-high density of the building.

2. Activity

The value of commercial activities is still in a reasonable assessment and more attention is social activity whose value is very agile. As a tourist area, the research area only has shops displaying handicrafts. To increase the commercial and social values, strategies that can be applied to the research area include:

a. Adding supporting economic buildings such as minimarkets, restaurants, traditional stalls, cafes, and lodging facilities.
b. Utilizing land that has not yet been developed in each block as social space.
c. Utilizing the space along the river into a container for regional tourism attractions and as a space for interaction and green open space.
d. Providing spaces as social activities, this strategy can be implemented by utilizing residual spaces and vacant land that have not been used as public open spaces and utilizing riverfront spaces along block 2, block 3, and block 4 as parks and spaces social interactions. As a tourist area, Kasongan tourism area can present periodic performances as a forum for social interaction and also as an area contractor such as carnivals, music shows, art exhibitions, which are spread at certain points in each block of Kasongan research area so that social activities can be spread evenly and have a variety of activities on each block.

3. Size and Access

The size and access of the research areas have met the value of compactness, but still require further strategies to increase the size and ideal access and achieve sustainability areas. Strategies for increasing size and ideal access include:

a. Widening the size of the road on the local road to facilitate public transportation to cross the area and add special lanes for cyclists and pedestrians to increase comfort. This is in line with the government's plan in articles 30 and 31 detailed spatial planning and zoning regulations for the urban areas in pity 2018-2038 regarding road development and development of public transportation modes.
b. Widening the size of the road on the neighborhood road so that it is easy to access by various types of vehicles.

4. Transportation

Existing conditions when there is no public transportation to access the tourist area Kasongan and private vehicle population is quite high, where each house

has two or more motorized vehicles, and almost every citizen of Kasongan area uses private vehicles to carry out daily activities. Strategies to increase the value of Kasongan tourism area transportation include:

a. Providing public transportation that can cross the Kasongan area and be integrated with the Giwangan terminal, and providing a transit point with a distance that is easily reached by pedestrians (400 meters).
b. Bringing transportation such as trams, tour buses, etc. to surround the Kasongan area, in addition to increasing the choice of mass transportation mode, can also be used as a tourist support facility.
c. Providing a special lane for pedestrians and cyclists to get to the transit point of public transportation and providing greenery along the road corridor to increase comfort levels.

5. Value of Social Welfare

The average value of social welfare is quite good with a compactness value of 76%. To improve social welfare can tie the middle building type with blocks 1 and block 2 and simple building types or change one-story or non-residential buildings into multi-level dwellings and increase the diversity of residential types.

a. Changing the type of building to become a luxury building or building on land that has not been built with a luxury type.

5. Conclusion

The existing condition of the Kasongan area can be seen from sharing aspects of the compact city getting a poor rating. This happens because there is a gap between existing conditions and ideal conditions found in aspects of building density, population density, economic and social activities, transportation, and social welfare values. While the aspects of size and access get good grades, this aspect still requires further handling to make the Kasongan area becomes sustainable.

The function of the research area is dominated by occupancy with medium building density and medium population. Increasing density values to achieve ideal density values can be done by maximizing land availability, utilizing vacant land, and directing buildings in residential areas to vertical buildings.

The compactness value of activities in the Kasongan area is classified as bad because of the unavailability of public open space and economic activities which only occur on the main road. Increasing the value of activities can be implemented by providing public open spaces, playgrounds, and various art or carnival activities that are carried out regularly. The size and access aspects have a good value in the Kasongan area. However, it is still needed to improve the amenities detail of the road corridor, provide special lanes for cyclists and pedestrians, and adjust the width of the road so that it is easily accessible by sharing vehicles so this aspect becomes more ideal. The modes of public transportation that can access is only online transportation, while mass transportation modes are not yet available in this region, there is a need for mass transportation modes in this area that can be integrated with various regions. The distribution of transit points needs to be easily reached with an ideal radius.

The social welfare aspect gets a pretty good rating, but to achieve the ideal value can maximize the residential area to become a vertical type of dwelling with various types of dwelling within an area.

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