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SIGNAGE DESIGN ON MAYOR SURYOTOMO STREET YOGYAKARTA BASED ON VISUAL ASPECT

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Abstract— Yogyakarta is a tourism city with increasing number of tourists. This result to the area surrounds points of interest turning into business and trade area. The growing business and trade sector induces the tendency to use signage for advertisement. The problem is, the existence of that many signages somehow have covered up the face of Yogyakarta as a cultural heritage. There are so many occurrences of misused signage, varied from misplaced signage to installing unauthorized signage. Furthermore, another problem occurs from the visual aspect of the city, because signage instalment affects the aesthetic of the street corridors. Therefore, a research in field of organizing signage must be conducted based on visual aspect. This research is aimed to create an organized design of signage that is appropriate according to visual aspects (colour, form, line, texture, and scale). This research is also using descriptive method in the form of policy analysis and evaluative analysis through Visual Impact Assessment. The result of this study is formed as how much the signage impacts visual aspect and then developed into an input for creating signage design and adapted to the policy.

Key words— Signage, Street Corridor, Visual Impact Assessment.

I. INTRODUCTION

Increased economic in central business district will affect the development in the city such as buildings, facilities and infrastructures. There is a close relationship between the community activities and spaces. Community activities have a role in creating physical element of an area. As the business and trade area in the city, the community will be interested to keep coming. Signage design uses to communicate between community and space.

Signage is an object, tool, action, or media that the shape and pattern are designed to introduce commercial purposes, advocate, promote, or to attract public attention to goods, services, person, or entities which can be seen, read, heard, felt, and/or enjoyed by the public[1]. The types of signages are billboard, megatron/videotron, baliho, light signage, banner, sticker and signage in the air[2]. Signage is one of important element in designing city because it gives the informations such as direction, identity or advertisement. Signage also used for creating image of an area or city.

Along with community activities and increasing number of urban growth, there is more competition on using signage for campaign. Signage design is often neglected so that causes wrong size and location of signage. It causes negative impact, including user safety and visual impact. Things that have to be considered in designing signage are visibility, legibility, and beauty[3].

Signage design that is adapted to the government policy and regarded to environment aesthetic will increase the visual quality of the area. The existence of signage that appropriate with standard will also increase user comfort and optimize the function of signage as an information media. The aesthetic and visual quality of an area will be created along with proper signage arrangement planning.

Yogyakarta is a city that never deserted of tourists visit every day. Yogyakarta is also well known for its strong traditional heritage. Along with the high number of tourists who come to the city of Yogyakarta, the region around the area developed into a tourist destination of business and trade that also trigger the growth rate of installation of signage.

Signage is a part of streetscape. Therefore, signage arrangement has to consider about streetscape concept. One of considered in streetscape concept is putting the main function of space as a network circulation.

One method that can be used to measure the value of the visual arrangement of signage is Visual Impact Assessment. Visual Impact Assessment is using elements of color, form, texture, line and scale then weighted to determine the level of visual impact[4].

Mayor Suryotomo Street is a business and trade area where strategically located near Malioboro, Ngayogyakarta Hadiningrat Palace and Puro Pakualaman Palace. The landmarks on Mayor Suryotomo Street are Melia Purosani – a five-star hotel, and Progo – one of the largest shopping center. The high movements and activities on Mayor Suryotomo Street trigger signage installation regardless the standard, regulation, and visual aspects. Signage arrangement on Mayor Suryotomo Street seems irregular and blocking each other.

The objective of this research is to design and arrange the signage installation on Mayor Suryotomo Street based on visual aspect.

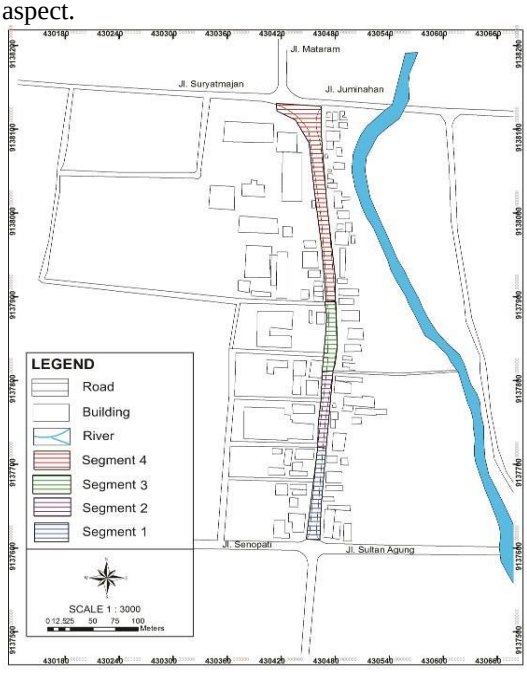

Fig. 1. **Mayor Suryotomo Street's Map**

II. RESEARCH METHOD

A. Sample

Samples in this research were experts who work in signage sector or the government, and also academician. The list of respondents in this research were as follow:

TABLE I . RESPONDENTS IN RESEARCH

No	Name	Position/Instance
1	Prof. Ir. Bakti Setiawan, MA., Ph.D	The Head of Architecture and Planning Department, Engineering Faculty, Gadjah Mada University.
2	RM. Kisbiantoro, SH.	The Head of Registration and Data Collection Section, Department of Revenue and Finance Management of Yogyakarta
3	Subakat, SE.	The Staff of Registration and Data Collection Section, Department of Revenue and Finance Management of Yogyakarta
4	Tuparman	The Staff of Registration and Data Collection Section, Department of Revenue and Finance Management of Yogyakarta
5	Slamet Sudiyono	The Staff of Registration and Data Collection Section, Department of Revenue and Finance Management of Yogyakarta

B. Analysis Method

1) Policy Analysis

The analysis was utilized by comparing the existing installed signage in the area with the government policy about regulation of signage instalment in Yogyakarta. The policy used in this research is Yogyakarta Major Regulation No. 26 Year 2010 About Masterplan of Signage and Viewer Tool in Yogyakarta. That policy was regulated about the size, height, and location of signage. The analysis was used to see the suitability of signage instalment in the area. The analysis was done through primary survey by making note of existing size, height and location from each signage, then compare them to the policy in order to know the suitability of signage.

2) Visual Impact Assessment

Visual Impact Assessment is an analysis method to know the visual impact of signage instalment in the area. The analysis was used by giving rate from the experts. Visual Impact Assessment consists of five elements, as follows[4]:

a) Color

Color is the property of reflecting light of a particular intensity and wavelength (or mixture of wavelengths), to which the eye is sensitive. It is the major visual property of surfaces.

b) Form

Form is the mass or shape of an object or of objects which appear unified.

c) Line

Line is the path, real or imagined, that the eye follows when perceiving abrupt differences in form, color, or texture or when objects are aligned in a one-dimensional sequence usually evident as the edge of shapes or masses in the landscape.

d) Texture

Texture is the aggregation of small forms or color mixtures into a continuous surface pattern; the aggregated parts are enough that they do not appear as discrete objects in the composition of the scene.

e) Scale

Scale is the proportionate size relationship between an object and the surroundings in which it is placed.

Visual Impact Assessment analysis was done through following steps:

- Classifying the study area into 4 segments (each segments had 2 sides, east and west)
- Taking picture of signages in study area for each segment and side.
- The respondents evaluate the signage installment in study area based on the pictures and fill the form.

III. RESULT

A. Suitability of Signage Installment on Mayor Suryotomo Street

The suitability of signage installment on Mayor Suryotomo is based on the government regulation, in this case is Yogyakarta Major Regulation No. 26 Year 2010 About Masterplan of Signage and Viewer Tool in Yogyakarta.

1) Size

The size of signage usually influences to the size of text that is used to give information to user (pedestrian and motorized) about the content of signage. Size of signage also influences to user's view and the utilities around. The following table describes suitability of signage size on Mayor Suryotomo Street.

TABLE II . SUITABILITY OF SIGNAGE SIZE

No	Segment	Number of Signages	Standard	Suitability
1	I – East	8	On sidewalk and outdoors: ▪ 4 m x 8 m (vertical) or 8 m x 4 m (horizontal) for maximum On building's wall: ▪ The length (horizontal) for maximum is along the front side of the right/left of the building. ▪ The height (vertical) for maximum is 4 m. ▪ Height is determined by a 2/3 high walls of the building	100% suitable
2	I – West	9		100% suitable
3	II – East	10		100% suitable
4	II – West	14		100% suitable
5	III – East	2		100% suitable
6	III – West	2		100% suitable
7	IV – East	16		100% suitable
8	IV – West	26		100% suitable
Total		87		100% suitable (87 signages)

Table II shows that size of signages on Mayor Suryotomo Street is 100% suitable with the standard. It can be said that there is no need to improve the existing signages. That suitable signages have to be defended on the next signage instalment so that there will be no violation. Figure 2 below shows the

variety of signages size on Mayor Suryotomo Street, varied from the small size to the large size.

Fig. 2. **The Size of Signages on Mayor Suryotomo Street**

2) Height

Regulation about the height of signage is made to help user finding signage easily and clearly. The height standard is adapted to the type and location of the signage. The appropriate height of signage will simplify user to find and understand the information contained on the signage. Otherwise, signage that is put too low or too high will bother user's view. The following table describes suitability of signage height on Mayor Suryotomo Street.

TABLE III . SUITABILITY OF SIGNAGE HEIGHT

No	Segment	Number of Signages	Standard	Suitability
1	I – East	8	On sidewalk: ▪ Bottom field of small and medium sized signage at least 2,5 m from the surface of the sidewalk, and 5 m for big sized signage. Outdoors: ▪ The bottom field is at least 5 m for big sized signage, 3 m for medium sized signage, 2.5 m for small sized signage, and should not be indented on the road. On building's wall: ▪ Adjusting to the height of building	100% suitable
2	I – West	9		100% suitable
3	II – East	10		100% suitable
4	II – West	14		100% suitable
5	III – East	2		100% suitable
6	III – West	2		100% suitable
7	IV – East	16		100% suitable
8	IV – West	26		96% suitable 4% not suitable (1 signage)
Total		87		99% suitable (88 signages) 1% not suitable (1 signage)

Table III shows that there is still 1 signage having height that is not suitable with the standard. This case can be an evaluation for the government to improve the size of existing signages and the signages that are going to be installed on the corridor. Figure 3 below shows the variety of signages height on Mayor Suryotomo Street.

Fig. 3. **The Height of Signages on Mayor Suryotomo Street**

3) Location

Location of signage needs to be noted in signage arrangement and design because it is related to user comfort. In general, signage has to put on a place where it is not adjacent to range of user and also not bothering the utilities around. The following table describes suitability of signage location on Mayor Suryotomo Street.

TABLE IV . SUITABILITY OF SIGNAGE LOCATION

No	Segment	Number of Signages	Standard	Suitability
1	I – East	8	▪ Signage should not be placed on the sidewalk with a width of less than 1 m. ▪ The location of signage does not interfere with the existing infrastructure and road users. ▪ Signage of business name text: a. Placed in front of the building b. Placed on the outer side of the sidewalk	88% suitable (7 signages) 12% not suitable (1 signage)
2	I – West	9		100% suitable
3	II – East	10		90% suitable (9 signages) 10% not suitable (1 signage)
4	II –West	14		100% suitable
5	III –East	2		50% suitable (1 signage) 50% not suitable (1 signage)
6	III–West	2		100% suitable
7	IV –East	16		81% suitable (13 signages) 19% not suitable (3 signages)
8	IV–West	26		85% suitable (22 signages) 15% not suitable (4 signages)
Total		87		89% suitable (77 signages) 11% not suitable (10 signages)

Figure 4 below shows the variety of signages location on Mayor Suryotomo Street, varied from on the sidewalk, outdoors, on building's wall, and on the roof.

Fig. 4. **The Location of Signages on Mayor Suryotomo Street**

Table IV shows that 77 signages on Mayor Suryotomo Street have suitable location and 10 signages with the location that are not suitable with the standard.

The previous explanations show that 87% (76 signages) is suitable with the standard and 13% (11 signages) is not suitable with the standard. It can be said that signage instalment on Mayor Suryotomo Street still need to be evaluated, especially on location aspect.

B. Interpretation of Visual Impact Assessment Analysis Result

Fig. 5. **Montage of Segment I-East**

Fig. 6. **Montage of Segment I-West**

Fig. 7. **Montage of Segment II-East**

Fig. 8. **Montage of Segment II-West**

Fig. 9. **Montage of Segment III-East**

Fig. 10. **Montage of Segment III-West**

Fig. 11. **Montage of Segment IV-East**

Fig. 12. **Montage of Segment IV-West**

In Visual Impact Assessment analysis that had been done before, it was known that each element and each segment had different result number. The result turned up improvement priority element. The following table describes the result of Visual Impact Assessment analysis of signage design on Mayor Suryotomo Street.

TABLE V . RESULT OF VISUAL IMPACT ASSESSMENT

No	Segment	Number of Visual Contrast Rating	Category	Explanation
1	I – East	32,6	Strong	• First Priority: Form • Second Priority: Color, line, texture, scale
2	I – West	29,2	Strong	• Second priority for all elements
3	II – East	30,8	Strong	• First Priority: Form • Second Priority: Color, line, texture, scale
4	II– West	29,6	Strong	• Second priority for all elements
5	III– East	24,6	Moderate	• Texture element didn't need to be fixed • Second priority: Color, form, line, scale
6	III–West	26,4	Moderate	• Texture element didn't need to be fixed • Second priority: Color, form, line, scale
7	IV– East	30,6	Strong	• Second priority on all elements
8	IV-West	28,6	Strong	• Second priority on all elements

Based on Visual Impact Assessment result, it can be described that:

a. Each element had become the priority for several segments because of the highest value.
   - Color: Segment I-East and Segment I-West
   - Form: Segment I-East and Segment II-East
   - Line: Segment I-East, Segment II-West, and Segment IV-East
   - Texture: Segment IV-East
   - Scale: Segment I-West and Segment IV-East

b. Segment I-East is the priority segment because it had the highest number of assessment.

C. Signage Design and Arrangement on Mayor Suryotomo Street

1) Color

The color concept for designing signage on Mayor Suryotomo Street is using colors that are not easily reflected by the sunlight as the basic color of signage, with the aim that signage still easily visible at daylight. The basic color of signage is also adjusted or not using colors that are too contrast to the buildings around. The color concept for the text on signage is using primary colors (red, yellow, blue).

2) Form

The form concept for designing signage on Mayor Suryotomo Street is using strict, simple, and avoid the complicated form. The concept for signage form is also using traditional ornaments on each signage to show the cultural heritage of Yogyakarta.

3) Line

The line concept for designing signage on Mayor Suryotomo Street is using simple line, avoid the complicated line that covers each other so that users can see the information in the signage clearly.

4) Texture

The texture concept for designing signage on Mayor Suryotomo Street is using soft texture (simple materials and simple text)

5) Scale

The scale concept for designing signage on Mayor Suryotomo Street is regarding the size of signage to the street corridor and buildings around.

The following pictures show the existing signages on Mayor Suryotomo Street and signage design that has been adapted with the standard and Visual Impact Assessment.

Fig. 13. **Montage of Segment IV-West**

IV. CONCLUSION

1. In designing signage, it is important to adapt the design with government regulation. The total number of signage on Mayor Suryotomo Street is 87 signages, which is 87% (76 signages) suitable with the government regulation and 13% (11 signages) not suitable.
2. The first priority in designing signage based on Visual Impact Assessment on Mayor Suryotomo Street Yogyakarta is Segment I-East.

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