



AENSI Journals

Australian Journal of Basic and Applied Sciences

ISSN:1991-8178

Journal home page: www.ajbasweb.com



Urban Scenic Assessment of Visual Quality of Urban Landscape: An Approach for Developing Urban-Cultural Tourism Destination

¹Novi Sunu Sri Giriwati, ²Kazuhisa IKI, ³Rikken Homma

¹Kumamoto University, Department of Architecture and Environment Science, GSST, 2-39-1 Kurokami, Chuo-Ku, Kumamoto Shi Japan

²Kumamoto University, Department of Architecture and Environment Science, GSST, 2-39-1 Kurokami, Chuo-Ku, Kumamoto Shi Japan

³Kumamoto University, Department of Education, GSST, 2-39-1 Kurokami, Chuo-Ku, Kumamoto Shi Japan

ARTICLE INFO

Article history:

Received 10 October 2014

Received in revised form

22 November 2014

Accepted 28 November 2014

Available online 1 December 2014

Keywords:

Visual quality, Urban landscape, recreation space

ABSTRACT

With the exploration of urban attractiveness to make better quality for citizen and visitor, this research conducted by analyzing the urban area with limitation on urban quality for the visual quality of city attractiveness. This paper investigates Malang city as historical city in Indonesia and Kumamoto city that has nature-culture attractiveness in South part of Japan. This paper underlining the aesthetic aspect of urban environment in which good landscaping can enhance the urban physical environment based on quantitative research method. The measurement based on element of landscape use scenic beauty analysis according to questionnaire and field survey. The investigation indicates that in Malang city, *Alun-alun Tugu* area has the highest on visual quality according to the scenic beauty of that facade and the arrangement of the site because of good conservation. While in Kumamoto, downtown area especially Kumamoto castle area has the highest visual quality of attractiveness. New planning methods and instruments have to be developed for the growing demand of city.

© 2014 AENSI Publisher All rights reserved.

To Cite This Article: Novi Sunu Sri Giriwati, Kazuhisa IKI, Rikken Homma., Urban Scenic Assessment of Visual Quality of Urban Landscape: An Approach for Developing Urban-Cultural Tourism Destination. *Aust. J. Basic & Appl. Sci.*, 8(23): 231-240, 2014

INTRODUCTION

The visual and aesthetic elements aspects in the city helps to achieve good environment that accommodate space which enhance wellbeing, psychological comfort and recreation activity as well as the visual and aesthetic value which distinguish such elements. Evaluating and assess the visual and aesthetic aspects in cities are considered amongst the important issues which should taking into account on urban planning and urban design aims as part of physical city plans. To improve the quality of the city become place for citizen and destination for visitor, the important thing that should taking into account are: 1). The appropriate of facility, attractiveness, and the access ; 2). The environment consciousness, and the relation with human being; 3). The visual quality of the city. Therefore, it can be accepted that the landscape is not just an economic issue but also an aesthetic one to evaluate and discuss about. "Visual quality assessment" becomes an indispensable research topic when landscape is discussed as an aesthetic entity. Moreover, Kivan Ak (2013) stated that the visual problems, which are the reflection of changes in urban landscape design, causes loss of prestige for many settlements and decreases the values of natural-cultural landscape. Regarding this problem, it is important to take more consideration of urban revitalization by conserve the visual quality.

Perry (2013) describes The term "aesthetics" is commonly used by landscape architects as a synonym for style or form. However, aestheticians, designers and psychologists recognize that aesthetics have the power to change how we perceive the world around us. Therefore, a deeper understanding of aesthetics – its underlying philosophy and its translation into design – has the power to change people's responses to their environment.

Vining and Stevens (1986) in Ndubisi (2012) explained that visual quality consist of aesthetic quality, like proportion, composition, pattern and arrangement, imageability such quality that relates with image with visual system and differs element in one urban scenery. While Smardon (1986) stated that visual value can be showed by the existence of physical quality that built by the relation of visual elements in one city landscape. Characteristic or specification that most easy to researched is physical shape because visual perception is one thing that easy to absorb and proceed in human memory (Lynch, 1960). As Lynch (1960) stated that to keep the quality of city space, the important thing that must be considered are: 1). Physical units that is building shape, group or row of building, that shape public shape or wall street; 2). Visual units that is visual aspect that can

Corresponding Author: Novi Sunu Sri Giriwati, Kumamoto University, Department of Architecture and Environment Science, GSST, 2-39-1 Kurokami, Chuo-Ku, Kumamoto Shi Japan

Kumamoto city. The other importance of doing this study is there are many research of scenic beauty of the nature landscape and city, but there is no measurement of each element in detail, moreover there is no measurement by visitor and citizen as the people who see, doing activity or have an experience in the case study.

Regarding the assessment model that used in this paper, we modified the Scenic Beauty Estimation. The model of Scenic beauty estimation has been developed in the context of more general landscape assessment methodology, Daniel and Booster (1972). In this paper, we do not used photograph for the measurement but we conduct a survey and questionnaire in the most interesting and full of visitor in city, also in the train station and terminal to get the qualified respondent. Most study using the limit procedure of Scenic Beauty Estimation using photograph that assess by researcher use the respondent preference of different criteria. But this research do not use photograph as it can become the perspective limitation of respondent that forced them to give scores that not sure whether familiar or not. Very little research use the recognition of urban stimuli by user experience. This research develop the evaluation procedure that aimed at identifying of place that have been visited by respondent. By this study, hopefully it can be know the most potential area in each city, the quality and the condition of the element of each area so that it will useful for making the guideline for the conservation and revitalization the landscape, as a historical site and as a visitor destination.

Material and Methodology:

The research method is done by three main step:

a. The survey that is specified on the quality of scenic beauty of tourism attraction based on the visitor preference was researched by questionnaire and interview. The measurements is conducted to 80 respondent that consist of 50 visitor and 30 citizen that consist of student and non student. While in Kumamoto, the survey conducted to 50 international student and 30 family of international student that can represent as visitor. The research was conducted in Malang on March 2013 and in Kumamoto during June-Augustus 2013. The questionnaire was conducted to get the information of quality of several public space in Malang and Kumamoto on different actor perception in quantified perspective in licert scale between 1 until 5. The highest score is 5 and the lowest is 1 in the questionnaire measurements. The evaluation of cityscape is compiled and analysis using Mean score, Z score and Scenic Beauty Aesthetic calculation to know the visual quality of each object. To measure the Scenic Beauty Aesthetic, use Scenic Beauty Estimation (Daniel and Booster, 1972).

$$\text{SBE} = (\text{Zyx} - \text{Zyo}) \times 100.$$

which:

SBE: Value of scenery aesthetic

Zyx: Average Z score of landscape x

Zyo: Average Z score of landscape as a standard

b. Field survey of physical condition of three main site in Malang city and two site in Kumamoto. This field survey to information of condition of city landscape based on several main variable that used : 1). Building Facade, 2). Site furniture and fixture, 3). Outdoor lighting, 4). Vegetation. The field survey conducted during march and august 2013.

c. Define the most potential place in Malang and Kumamoto city that must be developed or improved due to the implementation of cityscape improvement, conservation the heritage area and building and improve the city become destination for visitor. Also a typology of cityscape that must be developed.

RESULT AND DISCUSSION

From the 80 questionnaire in Malang city that have given to respondent, 60 was gave back and 20 was not. While in Kumamoto, also 60 questionnaire given back.

1. Visual quality measurement of several public space as attractiveness of Malang and Kumamoto city:

The result showed that all public space in Malang city obtained mean scores between 3.2 and 3.8. This implicates that the visual quality of each public space is good by the perspective of respondent. Based on the table, *Alun-alun tugu* and Malang city library get the highest mean score and scenic beauty. The mean score indicate the high quality of attractiveness like the facility, the cleanness, the information and other that support its object. *Alun-alun Tugu* also get the highest score of SBE which is, 285.8228 followed by flower and followed by *alun-alun merdeka* or downtown main square which is 276.1122. The high Scenic beauty indicate the good quality in visual perspective or appearance like the arrangement of area or the decoration and shape of the object, the tidiness, and the color.

The result from calculation of Kumamoto city obtained the mean score between 3.8 and 4.4 which indicate the good quality of the object. Kumamoto castle get the highest mean score and scenic beauty value. According to calculation of scenic beauty estimation, Kumamoto castle get the highest score that is 299.9378 followed by Kumamoto craft museum 298.6041. While Shimada art museum is the lowest score of SBE which is 269,3.

Table 1: Mean score and Scenic Beauty score of visual quality of several public space of Malang city.

Tourism attraction	Mean	SD	SBE
Alun-alun merdeka/main square	3.483333	0.449696	276.1122
Alun-Alun Tugu	3.816667	0.49273	285.8228
Alun-alun shopping center	3.3	0.426028	269.9352
Oen Shop	3.383333	0.436786	272.8259
Malang city museum	3.428571	0.409793	296.3171
Malang city library	3.483333	0.449696	276.1122
Flower and bird market	3.33871	0.424017	275.7805
Senaputra park	3.45	0.445393	275.0379
Porcelain craft center	3.383333	0.436786	272.8259
City Park (Tarekot)	3.3	0.426028	269.9352

Table 2: Mean score and Scenic Beauty score of visual quality of several public space of Kumamoto city.

Tourist attraction	Mean	SD	SBE
Kumamoto Castle	4.43333	0.572341	299.9378
Jyou sai en	4	0.516398	290.4738
Suizenji Park	4.35	0.561583	298.2642
Kamitori arcade	4.23333	0.546521	295.8105
shimotori arcade	4.28333	0.552976	296.8785
Kumamoto craft museum	4.36667	0.563734	298.6041
Jane's House	3.81667	0.49273	285.8228
Shimada art museum	3.28333	0.423877	269.3395
Kumamoto craft museum	3.96667	0.512094	289.6601
Perfectural art museum	4.28333	0.552976	296.8785
Modern contemporary art museum	3.96667	0.512094	289.6601
Hozogawa Gyobu house	4.13333	0.533611	293.5971
Jane's House	3.98333	0.514246	290.0686
Natsume soseki's house	4.18333	0.540066	294.7171
Perfectural art museum	4.21667	0.544369	295.4489

According to the supplementary questionnaire survey, the result showed that all visual elements of site I or *alun-alun tugu* obtained mean scores between 3.6 and 4.0. This implicates that the visual quality of each element is good by the perspective of respondent. Based on this result, the facade criteria like facade shape, facade material, facade color, facade detail textures are the important think that should be maintain as the main attractiveness of cityscape. These factor are representing the images of historical building facades for that area. In contrast, site furniture such as trash bin is less on the visual quality measurement. The result of *ijen street* area shows all element obtained mean between 3.6 and 3.94. In this site, the facade element, like facade decoration, color and material are the most high in visual quality measurements as the score is between 3.9 area the factor that need continuous maintain. The last site, *alun-alun merdeka*, all the mean score obtain score between 3.6 and 4.01. The facade element like facade shape, facade color, facade material and facade decoration are the most important aspect that need to be maintain.

Table 3: Measurement result of element of landscape on different site.

Element of urban landscape	Alun-Alun Tugu (Monument square area)		Ijen area		Alun-alun merdeka (merdeka square area)	
	Mean	SD	Mean	SD	Mean	SD
Façade						
Architecture style	4.293	6.223123594	3.69333	6.57187	3.92	6.440119
Façade shape	4.04	6.370370603	3.56	6.64936	4.013333	6.38587
Façade Material	4.0933	6.339371233	3.93	6.44012	3.893333	6.455619
Façade decoration	3.8933	6.455618872	3.94667	6.42462	3.84	6.486618
Façade color	4.133	6.316121705	3.65333	6.59512	4.08	6.347121
Façade dimension	4.16	6.30062202	3.44595	6.59941	3.786667	6.517618
Façade detail texture	4.1067	6.33162139	3.68	6.57962	3.666667	6.587366
Site furniture and fixture						
Bench/seating	3.6933	6.57186651	3.74667	6.54087	3.763889	6.182114
Trash bin	3.6	6.626115408	3.68	6.57962	3.6	6.626115
Outdoor lighting	3.6133	6.618365566	3.6	6.62612	3.64	6.602866
Vegetation	3.8143	5.920326173	3.70667	6.56412	3.733333	6.548617

2. Field survey result:

Field survey that conducted in this research focused on three main area in Malang city and two main area on Kumamoto city. The site that have chosen in Malang city are 1). Alun-alun merdeka, 2) Ijen area, 3) Alun-alun tugu. Alun-alun merdeka consist of Alun-alun tugu area and surrounding like alun-alun tugu park, bird market, station. Ijen area consist of ijen boulevard street, city museum, city library, church. Alun-alun merdeka area consist of main square, masjid Jami', City church, Oen Restaurant, shopping center.

The first site has character as colonial park. The site consist of various function, there are monument park of the area, head of region (*Bupati* office), high school area that has colonial style, and Malang city station. The Second site is the center of Malang city which is characterized by Holland style Church or Kayutangan church, Oean shop, and Sarinah. In the center of the site, there is main public space as main park or *Alun-Alun*. This site is characterize as multi function area with commercial, government and religious building. These arrangement was start from the first development step of Malang city with the combination of colonial history and the *Javanese* philosophy of urban center. Based on *Javanese* philosophy, the city center must occupied by square in center, and the surrounding of the square are Masjid/ mosque, government, *pendopo*, and shop. The third site *Ijen* street area. *Ijen* street is a complex of residential that mostly of the buildings are dominated by colonial style and until now, its conserve as the existing condition. The *Ijen* street is connected between Malang city center on the east and west part of Malang as educational area.

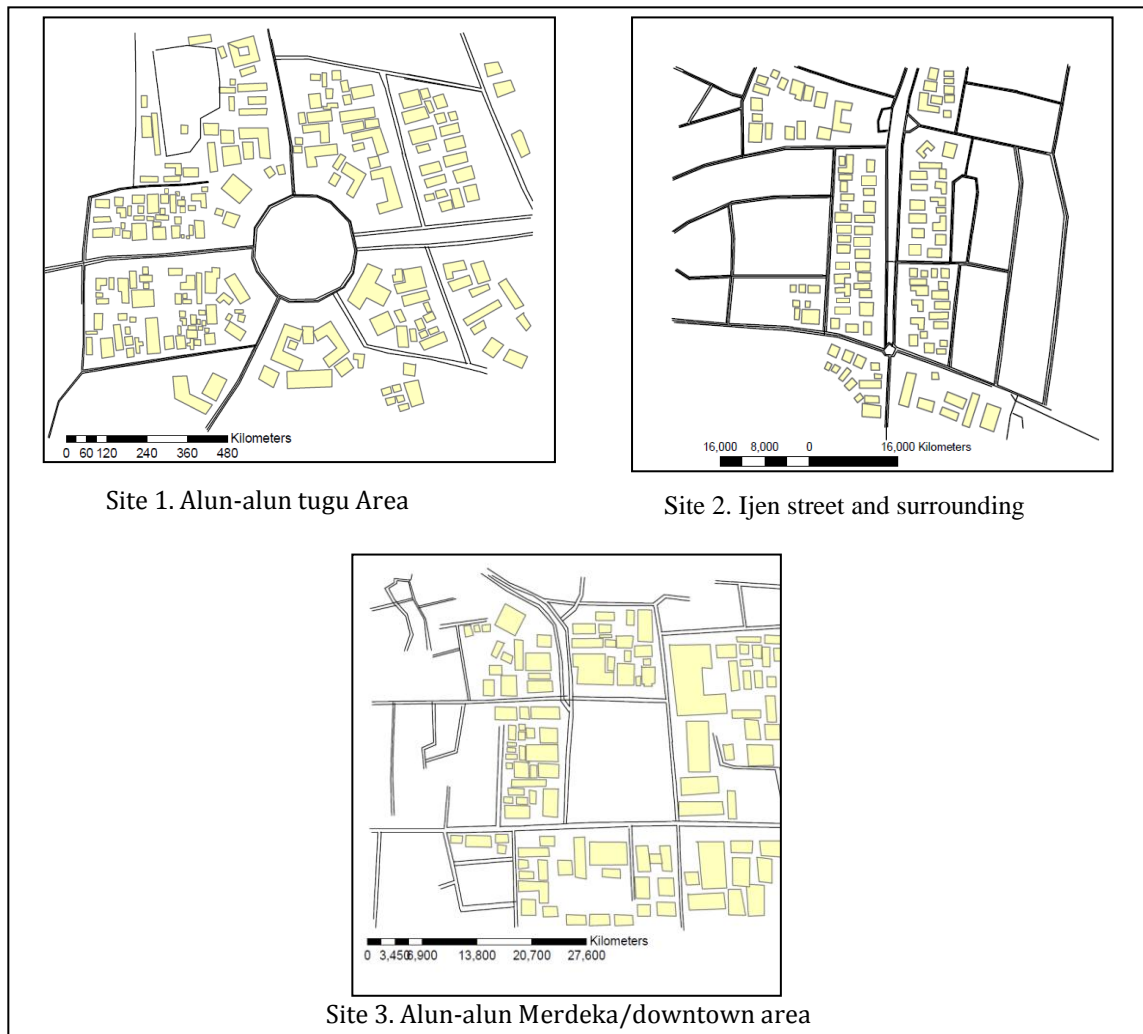


Fig. 1: Three site of Malang city; a). Alun-alun tugu area, b). Ijen street area, c) Alun-alun merdeka area.

Alun-alun tugu (Monument square park area)



Balaikota office



Malang station



Senior high school



Monument and park

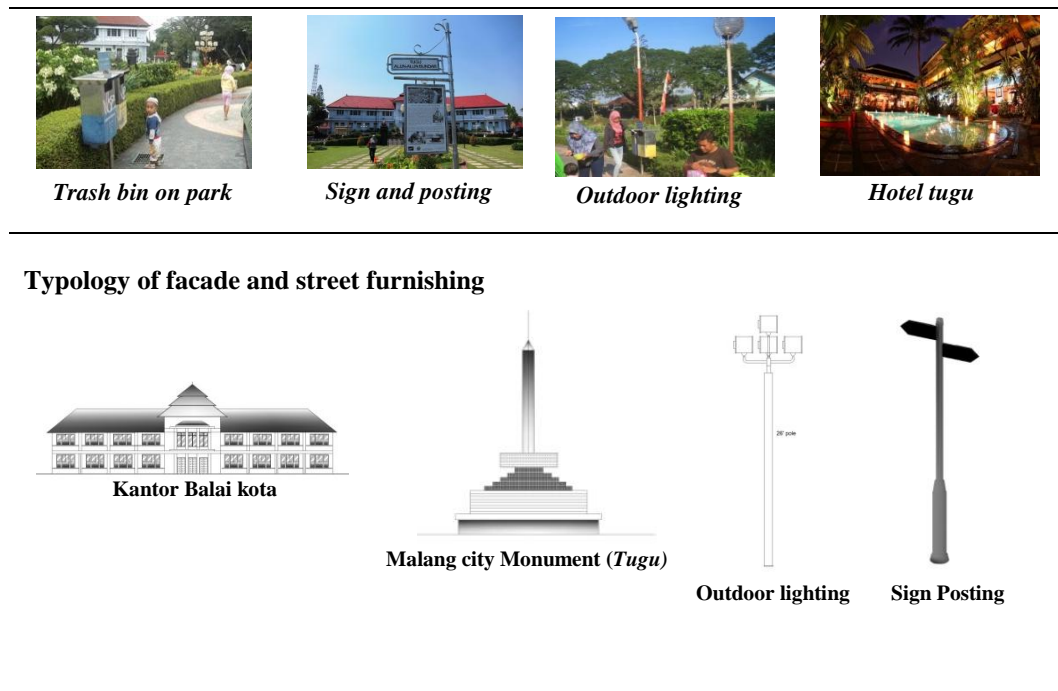


Fig. 2: Alun-alun tugu Landscape characteristic and its element.

The third site, *ijen street*, still conserve the existing shape of facade and if there were a change its only a color or finishing.

Ijen street area



Typology of facade and street furnishing on Ijen street



Fig. 3: Ijen street Landscape characteristic and its element.

While on *Alun-alun merdeka*, the area has various style of building. Commercial building like shopping street has modern style, religious building such as church still preserve colonial style.

Alun-alun merdeka



Alun-alun park



Masjid jami

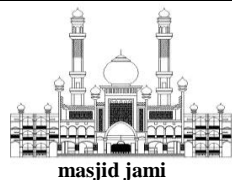


Sarinah mall

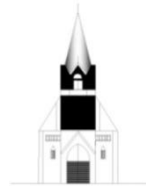


Alun-alun church

Typology of facade and street furnishing in Alun-alun merdeka area



masjid jami



Alun-alun church



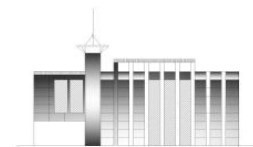
Outdoor lighting



Sign Posting



Trash bin



Sarinah shopping center

Fig. 4: Alun-alun merdeka Landscape characteristic and its element.

Kumamoto city center:

The part of Kumamoto city that become the case study is around downtown area especially area of shopping center until Kumamoto castle which is the several main public space as tourism attractiveness of the city is concentrated. This area is mix used function site which is heritage and historical building located also contemporary modern building, which has mix style between traditional Japanese style, modern, and eclectic style, from the sacral function, contemplation place, cultural-historical place, until commercial and hospitality function.

3. The element of cityscape in Malang and Kumamoto city based on field survey:

Based on the physical characteristic, the cityscape is group in to Facade, site furniture and fixture, Outdoor lighting and vegetation. Facade characteristic is consist of several criteria that are architecture style, facade shape, facade material, facade decoration, facade color, facade detail texture. City ambience could not be far from architecture style of its building. Based on the field survey, *Alun-alun tugu* is dominated by colonial style building for head of government office, Malang city station, senior high school building, hotel and also commercial and residential. While on *Alun-alun merdeka*, the area has various style of building. Commercial building like shopping street has modern style, religious building such as church still preserve colonial style. The third site, *ijen street*, still conserve the existing shape of facade and if there were a change its only a color finishing.

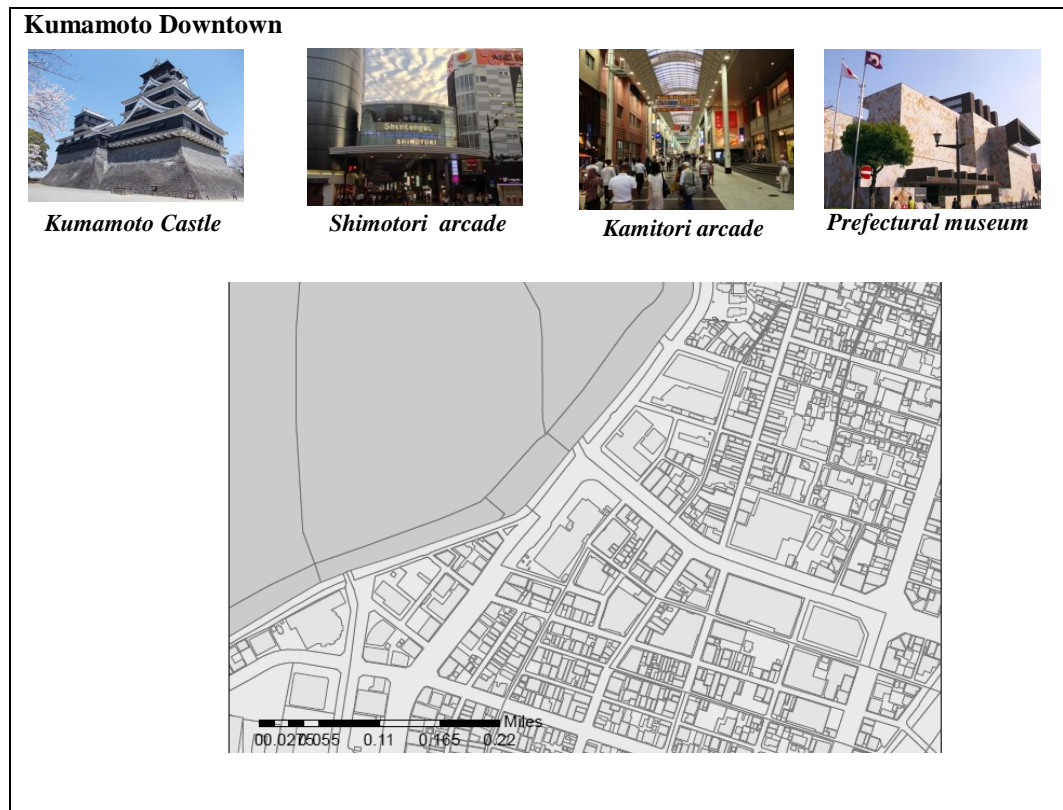


Fig. 5: Kumamoto city Landscape characteristic and its element.

Table 4: Element of landscape on different site.

Element of urban landscape	Malang City			Element of urban landscape	Kumamoto city
Façade	Alun-alun merdeka	Ijen street	Alun-alun tugu	Façade	Kamitori cho-Honmaru
Architecture style		●		Architecture style	
Indonesian	●			Japanese	
Colonial	●		●	European style	
Eclectic				Eclectic	●
Façade shape				Façade shape	
Variati	●	●	●	Variatif	
Monotonous	●			Monotonous	●
Formal				Formal	
Informal				Informal	
Linier-cubicus	●	●	●	Linier-cubicus	●
Circle	●			Circle	
	●				
Façade Material				Façade Material	
Painted	●	●	●	Painted	
Cladding	●			Cladding	●
Glass	●	●	●	Glass	●
Stone				Stone	
Ceramic				Ceramic	
Façade decoration	●			Façade decoration	
Simple		●	●	Simple	
Various décor				Various décor	
Façade color	●			Façade color	

One				One	
Two	●	●	●	Two	●
Three	●		●	Three	●
More	●			More	
Façade detail texture	●		●	Façade detail texture	
Smooth	●	●	●	Smooth	
Rough	●		●	Rough	●
Site furniture and fixture		●	●	Site furniture and fixture	●
Bench/seating		x	●	Bench/seating	
Trash bin	●	●	●	Trash bin	●
Outdoor lighting				Outdoor lighting	●
Outdoor stand lighting	●	●	●	Outdoor stand lighting	
Wall/built in lighting	●	●		Wall/built in lighting	●
Vegetation			●	Vegetation	●
<i>Tree height</i>				<i>Tree height</i>	●
Small				Small	●
Medium	●	●		Medium	
High			●	High	
				High	●

Conclusion:

To make the good urban image for tourism destination purpose, the important thing that should develop is good urban landscape. Good urban landscape can draw the people to come and provide good urban space for citizen. According to analysis of urban landscape, three of site has different tourism potential. The site that has highest visual quality is *alun-alun tugu* area in Malang city and Kumamoto castle. The reason is because this area still preserve the historical and the building still in good condition. The highest score of scenic beauty estimation is *alun-alun tugu*, followed by *alun-alun merdeka*. The high Scenic beauty indicate the good quality in visual perspective or appearance like the arrangement of area or the decoration and shape of the object, the tidiness, and the color. While in Kumamoto, according to calculation of scenic beauty estimation, Kumamoto castle get the highest followed by Kumamoto craft museum. From the result we know that the height of SBE is depend on the value of mean score.

Furthermore, the scores that each object obtained regarding the visual landscape attributes included this study demonstrated the suitability of visual preferences and together with mean score that indicated the attractiveness of the object, constitute the important criteria for determining scenic quality. Given the exploratory of element of cityscape through filed survey, it may be premature to venture an explanation but it should greater influence on the evaluation of a place as a restorative setting. Future research along this line may clarify its hypothesis. Through this research, we know that *alun-alun tugu* and Kumamoto which get the highest score on mean score can give the opportunity and challenge for revitalization the area become more attractive for visitor. Also those object get the highest score of scenic beauty estimation that it may improve the quality of facility.

The strategy that Malang city should take regarding the development is increasing the quality of facility of each public space, maintain the cleanness and tidiness, giving good sign and posting, maintain the building and conserve the socio-culture value within the place and keep the image of the place so that can sustain the good image of the city. On the other side, as the strategy for improving the quality of each public space for resident and visitor, several main object should improve the sign and posting not only in Japanese written but also English alphabet to make the information easy to understand by various visitor for different country.

REFERENCE

- Daniel, T.C. and R.S. Booster, 1972. Measuring Landscape Aesthetic: The Scenic Beauty Estimation Method. USDA Forest Service Research Paper RM/167.
- Hadinoto, K., 1996. Perencanaan Pengembangan Destinasi Pariwisata. UI Press. Jakarta.
- Kıvanç Ak, Mehmet, 2013. Visual Quality Assessment Methods in Landscape Architecture Studies, Creative Commons Attribution License.
- Lynch, K., 1960. The Image of the City, MIT Press, Cambridge, MA.

Lynch, K., 1984. Reconsidering the image of the city, in Rodwin, L. and Hollister, R.M. (eds.), *Cities of the Mind: Images and Themes of the City in the Social Sciences*, Plenum Press, New York, pp: 151-161.

Mohammed Rehan, R., 2013. Sustainable streetscape as an effective tool in sustainable urban design. HBRC journal: Housing and Building National Research Center.

Ndubisi, F., 2002. *Ecological Planning: A Historical and Comparative Synthesis*. The Jop Hapkins University Press, Baltimore, Maryland.

Perry, S., 2012. Aesthetics in the landscape. 8November2014.<http://architectureau.com/articles/understanding-aesthetics/>.

Santosa, H., S. Ikaruga, T. Kobayashi, 2013. Visual Evaluation of Urban Commercial Streetscape Through Building Owner Judgement. Japan: *Journal of Architecture and Planning, AIJ*.

Patricia, H., D.K. Wardhani, Sudikno, 2012. Elemen Pembentuk Citra Kawasan Bersejarah di Kota Malang. *Jurnal RUAS*, Volume 12 No 1, Jun2 2014. ISSN 1693-3702.

Sardon, R.C., J.F. Palmer and L.P. Felleman, 1986. *Foundations for visual project analysis*. New York: Wiley.