

Visual Continuity Evaluation of Transition Space on Shopfront of Shopping Center in Malang, Indonesia

Herry Santosa^{1*}, Nur Fauziah², Wahyuni Eka Sari³

^{1,2,3}*Department of Architecture, Faculty of Engineering, Universitas Brawijaya, Malang, Indonesia*

^{*}*Corresponding author. Email: herrysantosa@ub.ac.id*

ABSTRACT

The expansion of shopping centers has become an issue of interest in the formation of a transitional space between the shop fronts with a public area. Shopping facilities are expected to accommodate the continuity of motion and good visual on spaces that transition with the surrounding environment. The purpose of this study was to determine the typology forms a transitional space in the front area of the shop building in the shopping center as well as knowing the quality of the visual aspects of continuity of motion-transition space in the front area of the shop building in a shopping center in Malang City. Character formation of transitional space in the shop front has encouraged the emergence of various types and scales of territorial between private space and public space, both physically and psychologically. Building frontage or shop fronts have a high degree of transparency to the area of the road, which can present the appearance of the expansion and territorial psychological. A study of motion-visual continuity transition space in the shopfront of the shopping center utilized a field observation and a sequential photo mapping method. This study analyzes the typology of shop front space and the continuity of visual. The results of this study concluded that the typology forms a transitional space in the front area of the shopping building in the shopping center in Malang, and is inserted interface type that has a good quality of motion-visual continuity on aspects of proximity, similarity, continuity, and closure.

Keywords: *Transitional space, shop fronts, shopping center, space continuity, sequential photo mapping*

1. INTRODUCTION

The visual aesthetic experience in city spaces plays a prominent role in creating a good and healthy urban landscape. Therefore, the cityscape should be equipped with a continuously satisfying aesthetic and sensory experience for the city dwellers [1]. There are several studies related to the urban experience and cumulative impact of sequential views of moving observers in a city landscape, such as the theory of urban image [2] and the theory of serial vision [3]. According to Lynch [2], a strong environmental identity that is easily perceived by human memories is shaped by the peculiarities of visual characteristics. It relates to the physical form of the city, which has to be able to satisfy people's emotional values so that citizens can enjoy city space experience physically and psychologically [3]. According to Cullen [3], serial vision, one of the four aspects creating a good quality of urban space, is the aspect consisting of visual photos taken by observers occurring when walking from one place to another in an area. The recording of the scene shapes a unified region image recording, which simultaneously constructs a picture of the distinctiveness of place identity within the observer.

In the beginning, shopping center functioning as a place of trade (the meeting place of sellers and buyers in conducting transactions) in the field of goods and services whose

nature of the activity is to serve the public and the surrounding environment. It can also be interpreted as retail trading whose locations are grouped in one building or complex. The shopping center is not only a place to buy products or services but can also be a place to look around, a place to enjoy, a place of recreation, a place that can lead to encouraging people to buy, a place to relax and socialize. Along with advancements in technology, shopping centers have now evolved from their origins as a consumption center, which has turned into consumers' aspirations and lifestyles, not just a place to buy products, but has turned into an attractive, fun, safe recreation place, comfortable and trustworthy. The growth of shopping center facilities in Malang is increasing rapidly. The growth was driven by the growth and development of housing and educational facilities, which triggered an increase in the need for shopping facilities in Malang. The types and variations in forms of shopping center facilities that develop in Malang are very diverse. The distribution of shopping center facilities, which previously tended to be concentrated around the downtown area, is currently also spreading in the periphery region of the city, including in the educational area.

The spread of shopping centers has become an interesting issue for the formation of transitional spaces between shop fronts and road areas. Shopping facilities are expected to be able to accommodate proper motion and visual continuity in transitional spaces with the surrounding environment.

Furthermore, the creation of transitional spaces in the shopfront area is also expected to be able to contribute a positive and efficient visual-motion for the image of the regional city. On the other hand, the rapid development of these shopping facilities also led to a diversity of shapes, styles, and visual displays, especially in the facade of the shop front. The diversity of the visual appearance of the facade of the shopping center building is undoubtedly expected to be able to maintain the continuity of the visual quality of the road corridor (area). Therefore, it is necessary to control the quality of the visual appearance of the building and create a continuity of visual appearance and support a good image of the city. One form of control lies in the physical form of the building that forms the city corridor space. The physical formation of this building is then defined in the characteristics of the visual appearance of the building facade, which is bound in a unified visual fabric of the architectural style of the regional or city corridor. At the level of the research procedure or methods, research on the building facades in the corridor can be divided into each building facade. Efforts to control the continuity of the visual-motion of the transitional space in the shop front area of shopping center buildings can be assisted by the method of serial vision, city image, and the aspect of the building's appearance quality. Kinesthetic experience, which is crucial in the visual dimension of the urban environment, is defined as the aesthetic experience obtained through moving observations. The sequential view analysis technique for Kinesthetic Experience is called serial vision. According to reference [4], there is a method to analyze relevant visual experiences in the sequential view method, which is investigated from many observation pathways integrated into the urban region node. The analysis technique is to conduct the building silhouette extraction and building appearance segmentation of each building sample from different observation areas. Some researches related to the visibility evaluation have been performed, such as the visibility evaluation on historical buildings [4,5], urban environments [6], and indoor environment [7]. There are various methods used in such studies such as taking a photo of each building and examine the architectural elements affecting visual perception through an empirical analysis, using a visibility analysis tool for 3D urban environments to analyze the visibility of facade surfaces [6], implementing isovist method [5,7] and conducting a sequential photo mapping [4]. Lastly, the evaluation of visual continuity executes the sequential photo mapping due to having the several benefits such as only capture a shorter period of data collecting and analysis since the technique does not need complicated phases and specific computational skills. This traditional method still more powerful and effective, especially for the speed and accuracy of field observation data.

2. RESEARCH METHODS

Two approaches are performed in this study, namely, survey and field observation methods, and sequential

photo mapping methods. Survey and field observation methods are the main methods used for primary research data collection. This method is used to map the field data related to visual-motion continuity studies in the front area of a shopping mall in Malang. Meanwhile, the sequential photo mapping method is used to assess the level of quality of the visual-motion continuity of the appearance of shopping center buildings on a city scale.

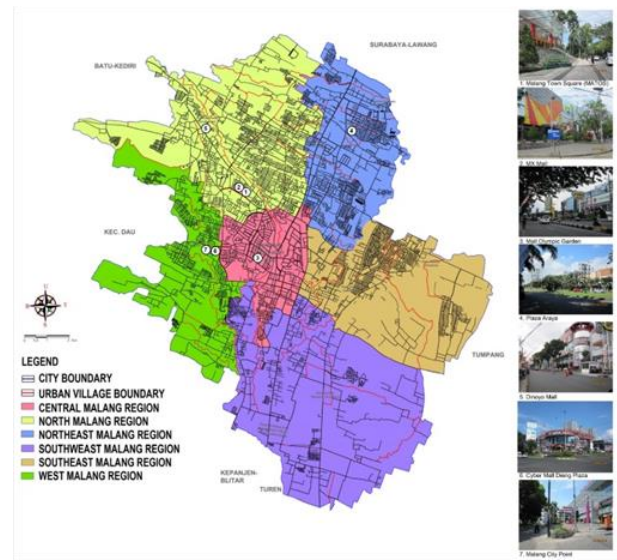


Figure 1 Research object location of the shopping center in Malang

The research of the continuity of the visual-motion transitional space in the shop front area of the shopping center is focused on Malang. The type of shopping center chosen as the research sample is a stand-alone shopping center building, not attached to other building functions. From the results of preliminary observations, there is 14 population of shopping center buildings in Malang. The research area can be seen in Figure 1.

The total population of shopping centers in Malang is 14 buildings that will be selected again to get da representative samples to be the object of research studies. In this study, the sample selection criteria are limited and focused on shopping center buildings outside the CBD area of Malang. So, from the 14 shopping center buildings, there are seven selected buildings, namely: Malang Town Square, MX Mall, Malang Olympic Garden (MOG), Araya Plaza, Dinoyo City Mall, Dieng Plaza, and Malang City Point.

The variables that will be observed in this study are divided into two parts. First is the Transitional Space Typology variable in the Shop Front Area, which consists of dimensions and area, utilization of the function of the transitional space, transitional space forms, and transitional space elements. Second is the Visual-Motion Space Continuity Pattern variable consisting of dimensions and extent of path space or route of visual experience, utilization of path space functions or visual experience routes, path patterns or visual experience routes, forms of

path space or visual experience routes, elements forming pathways or visual experience routes, the serial vision of path space or visual experience routes.

3. RESULT AND DISCUSSION

The shop front transition room in Malang Town Square is used for outdoor cafes. The rest is only in the form of a corridor that functions as a circulation path. The shop front type of Malang Town Square building is a type of inserted interface. The transition space in Malang Town Square is quite wide and representative to create a clear separation between private space and public areas. The influencing factors will regulate the closeness level between the public and the private areas; first is the depth of transition area; second is the distance between building and sidewalk. The configuration of the motion path in the shopfront area is linear, with long corridors on the left and right that lead to the main entrance.

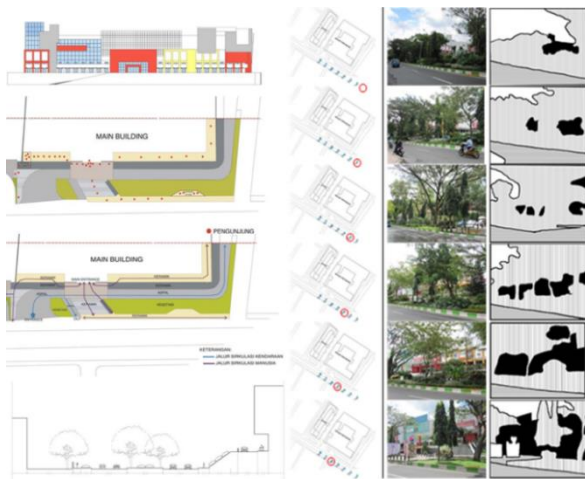


Figure 2 Typology space of shopfront and segmented visual analysis view on one of the observation path in Town Square shopping center

The shop front transition space on MX Mall is used for outdoor cafes. The rest is only in the form of a corridor that functions as a circulation path. It can be observed in the mapping of the utilization of functions and transitional space activities in the building. Based on the building profile shape, it can be seen that the MX Mall building front shop type is a type of inserted interface. The creation of the distance between building and public spaces, which is quite far, can make this transition space function properly; in fact, space can be used for building expansion if needed. The influencing factors will regulate the closeness level between the public and the private areas; first is the depth of transition area; second is the distance between building and sidewalk. The configuration of the motion path in the shopfront area is linear, with long corridors on the left and right that lead to the main entrance.

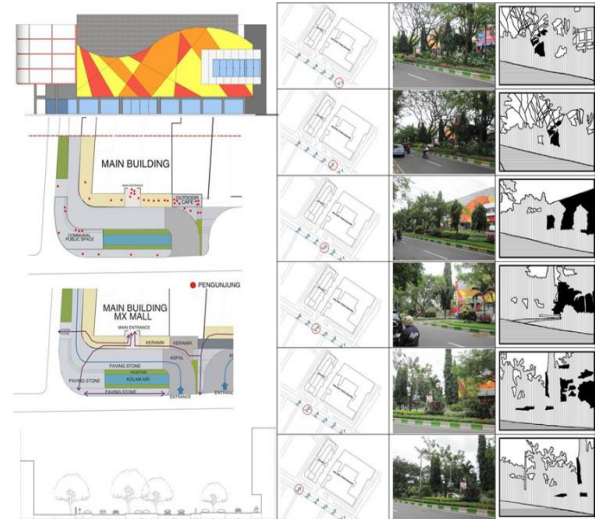


Figure 3 Typology space of shopfront and segmented visual analysis view on one of the observation path in MX Mall shopping center

The shop front transition space in Olympic Garden Mall is used for outdoor sitting. The rest is only in the form of a corridor that functions as a circulation path and parking area. It can be observed in the mapping of the utilization of functions and transitional space activities in the building. The front shop type of the Olympic Garden Mall building is the inserted interface. There is a clear separation between buildings and public spaces, with a considerable distance. This transition space can be used for building expansion if needed. The depth of the transition area and the distance between the building and the sidewalk, provide a reasonably vast distance between the public and private areas. The configuration of the motion path in the shopfront area is linear, with long corridors on the left and right that lead to the main entrance.



Figure 4 Typology space of shopfront and segmented visual analysis view on one of observation path in Mall Olympic Garden shopping center

The Plaza Araya shopping center is located in Araya Malang Housing. The shop front transition space in Plaza Araya is used for outdoor cafes, parking areas, and exhibition areas located on the main terrace of the building. The rest is in the form of a corridor that functions as a circulation path. It can be observed in the mapping of the functions and activities of the transitional space in the building. The type of shop front in this building is the inserted interface. There is a clear separation between buildings and public spaces, with a considerable distance. This transition space can be used for building expansion if needed. The depth of the transitional area and the distance between buildings and public spaces provide a reasonably vast distance between public and private areas. The configuration of the motion path in the shopfront area is linear, with long corridors on the left and right that lead to the main entrance.



Figure 5 Typology space of shopfront and segmented visual analysis view on one of the observation path in Plaza Araya shopping center

Dinoyo Mall shopping center is located in an area that is not included in the Central Business District in Malang. The shop front transition space in this building is used for parking areas and circulation paths. It can be observed in the mapping of the functions and activities of the transitional space in the building. The form of the Dinoyo Mall building front shop type is a type of inserted interface. The creation of the distance between buildings and public space is quite far to make this transition space function properly; in fact, space can be used for building expansion if needed. The influencing factors will regulate the closeness level between the public and the private areas; first is the depth of transition area; second is the distance between building and sidewalk. The configuration of the motion path in the shopfront area is linear, with long corridors on the left and right that lead to the main entrance.

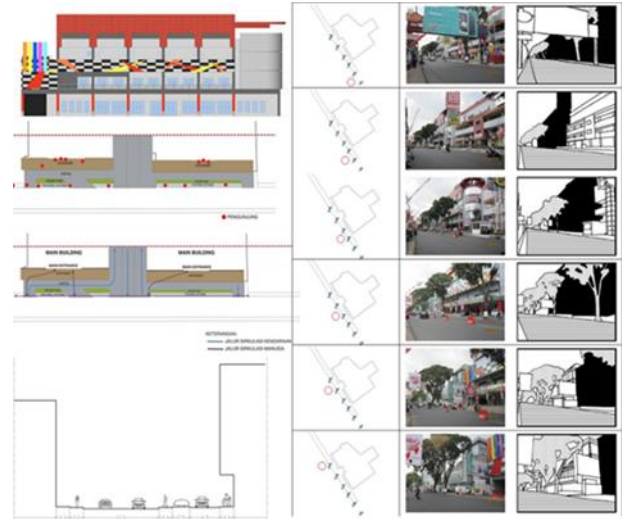


Figure 6 Typology space of shopfront and segmented visual analysis view on one of the observation path in Dinoyo Mall shopping center

Dieng Plaza shopping center is located in Malang, in an area that is not included in the Central Business District. The shop front transition space in Dieng Plaza is used for parking areas. The rest is in the form of a corridor that functions as a circulation path. The form of the Dieng Plaza shop front type is a type of inserted interface. There is a clear separation between buildings and public spaces, with a considerable distance. This transition space can be used for building expansion if needed. The depth of the transitional area and the distance between buildings and public spaces provide a reasonably vast distance between public and private areas. The configuration of the motion path in the shopfront area is linear, with long corridors on the left and right that lead to the main entrance.

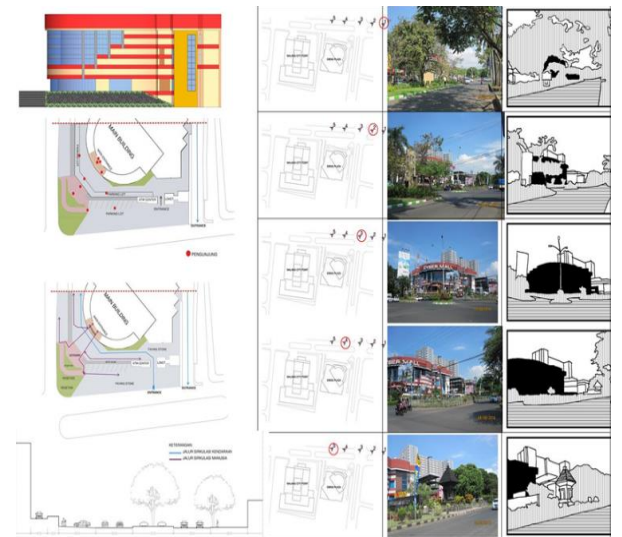


Figure 7 Typology space of shopfront and segmented visual analysis view on one of observation path in Dieng Plaza shopping center

Malang City Point shopping center is located in an area that is not included in the Central Business District in Malang. The shop front transition space in Malang City Point is used for parking areas and dining areas. The rest is in the form of a corridor that functions as a circulation path. The quality of the visual-motion continuity aspect of the transitional space in the front area of this building on the aspect of reaching towards the main door of the mall is the type of direct achievement, which makes it easier for visitors to enter the building. The shop front type in Malang City Point building is the inserted interface. The creation of the distance between buildings and public space is quite far to make this transition space function properly; in fact, space can be used for building expansion if needed. The influencing factors will also regulate the closeness level between the public and the private areas; first is the depth of transition area; second is the distance between building and sidewalk. The configuration of the motion path in the shopfront area is linear, with long corridors on the left and right that lead to the main entrance.



Figure 8 Typology space of shopfront and segmented visual analysis view on one of the observation path in Malang City Point shopping center

4. CONCLUSIONS

The typology form of transitional space in the front area of a shopping center buildings in Malang is a type of inserted interface. The creation of the distance between buildings and public space is quite far to make this transition space function properly; in fact, space can be used for building expansion if needed. The depth of the transition area and the distance between the building and the sidewalk will regulate the level of closeness between the public and private areas. The quality of the visual-motion continuity aspect of the transitional space in the front area of the shopping center on the aspect of achievement towards the main door of the mall is the type of direct achievement, making it easier for visitors to enter the building. The type of circulation path in the shopfront area is divided into the

circulation path for vehicles and humans, making it easier for visitors to cross the circulation path following the transmission mode used (by foot or driving a vehicle). Meanwhile, the configuration of motion paths in the shopfront area is linear, with long corridors on the left and right that lead to the main entrance.

The quality of visual continuity based on Gestalt theory, which includes visual organization theory and being a benchmark for aspects of legibility in urban areas is as follows:

1. Proximity: In a sequence of sequential photos, it can be seen that each photo presents a heterogeneous composition consisting of groups of vegetation and observation object buildings, which form a group that provides visual aesthetics to the observer.
2. Similarity: The similarity element is seen in the differentiation of vegetation groups and building groups in each photo.
3. Continuity: Rows of photos taken along each observation line show a close visual continuity between one photo and another, which is seen from the rows of vegetation (trees) on the boulevard as well as elements of observation object buildings that represent a good visual continuity.
4. Closure: The closure aspect represents the unity of complete picture on each photo, even though there are visual elements truncated in each scene. The building elements that are truncated on each photo can still provide the building identity wholly.

Research related to the visual-motion continuity of the transitional space in the front area of the shopping center buildings is significant to control and maintain the visual continuity of urban space and ensure an enjoyable and comfortable aesthetic experience of urban space for the community, especially in the road corridors that have shopping center buildings. Therefore, the establishment and enforcement of visual regulations for urban space, especially for the corridors of shopping center areas, required the active role of the government and urban planning experts.

ACKNOWLEDGMENT

The authors delightedly acknowledge that Research and Community Service Board of the Engineering Faculty of Brawijaya University (BPPM FTUB) had supported this research.

REFERENCES

- [1] Porteous, J.D., *Environmental Aesthetic: Ideas, Politics, and Planning*, London & New York: Routledge, 1996.
- [2] Lynch, Kevin., *The Image Of The City*, Massachusetts: The MIT Press, Cambridge, 1960.

[3] Cullen, Gordon, *Townscape*, London: Architectural Press, 1961.

[4] Kalin, A. and Yilmaz, D.A. A Study On Visibility Analysis of Urban Landmarks: The Case of Hagia Sophia (Ayasofya) in Trabzon, *METU Journal of the Faculty of Architecture*, 29 (1) (2012) 241-271.
doi:10.4305/METU.JFA.2012.1.14.

[5] Leduc, T. et al., Towards a Spatial Semantics to Analyze the Visual Dynamics of the Pedestrian Mobility in the Urban Fabric, Marco Painho; Maribel Yasmina Santos; Hardy Pundt. *Geospatial Thinking*, Springer Berlin Heidelberg, pp. 237-257, 2010, 978-3-642-12325-2. doi:10.1007/978-3-642-12326-9_13,.

[6] Koltsova, A. et al., Visibility Analysis for 3D Urban Environments: Research development and practical application, *Models of Computation: Human Factors*, 2, (2013) 375-383.

[7] Lu, Y. *Directed Visibility Analysis: Three Case Studies On The Relationship Between Building Layout, Perception And Behaviour*, Georgia Institute of Technology, Dissertation, 2011, Unpublished.