Advances in Social Science, Education and Humanities Research, volume 439
Tarumanagara International Conference on the Applications of Social Sciences and Humanities (TICASH 2019)

Feasibility Study Criteria for Architectural Components of Cipete Raya MRT Station and Haji Nawi Station: Case study Stasiun MRT H. Nawi dan Stasiun MRT Cipete Raya

Wewin Febriana Dewi
Faculty of Architecture
Tarumanagara University
Jakarta, Indonesia
Wewindewi@yahoo.com

Almira Livia
Faculty of Architecture
Tarumanagara University
Jakarta, Indonesia
livia_almira@yahoo.co.id

Fransisca Handayani
Faculty of Architecture
Tarumanagara University
Jakarta, Indonesia
fransiscahpurmawan@gmail.com

Neilsen Yonata
Faculty of Architecture
Tarumanagara University
Jakarta, Indonesia
neilsonmandela@gmail,com

Rudy Trisno
Faculty of Architecture
Tarumanagara University
Jakarta, Indonesia
rudy@ft.untar.ac.id

Djauhari Sumintardja
Faculty of Architecture
Tarumanagara University
Jakarta, Indonesia

Sidhi Wighuna The
Faculty of Architecture
Tarumanagara University
Jakarta, Indonesia

***Abstract*— Recently, Jakarta has built a new transportation, the MRT (Mass Rapid Transit), which is expected to reduce congestion in Jakarta. But the fulfillment and needs of the MRT are not yet known whether it meets the criteria or not, one of the criteria is user access, direction, etc. Therefore the criteria for this criterion will be reviewed and will be compared between the Cipete MRT station and the Haji station nawi which will be discussed in the case study. This research method will be carried out by explaining the theory of accessibility, diffable accessibility and experiential landscape theory. In this theory, it will explain whether effectiveness, accessibility and justice at the Haji Nawi and Cipete stations are fulfilled and also whether this station has considered supporting facilities. Then in this theory the conclusion is where the haji nawi and cipete stations have provided access and diffable facilities. This study found that a station must have access and facilities for disabled people in the form of "tactile" and special elevators then there must be a sign edge at the gate, direction of arrival, or transition area then there must be a waiting facility in the form of seating that can be used by MRT users . Therefore, this research is expected to be useful for readers and other researchers.**

Keywords: MRT station, accessibility, architectural component criteria

1. INTRODUCTION

MRT is becoming the main focus of infrastructure development in Jakarta. Because of this, the MRT station has also become a focus of attention in terms of its architecture. In its construction, the MRT Station has architectural criteria that must befulfilled as the basis for design where this design must pay attention to aspects of effectiveness and justice, where the justice of the MRT Station design also takes into account its use from all aspects and needs. In this study we will focus our analysis on architectural components at Cipete and Haji Nawi Stations, whether these architectural components can meet the eligibility criteria for users.

II. MATERIAL AND METHOD

A. Material

1. Stasiun MRT H. Nawi

Case Study : MRT Station Cipete Raya

Figure 1. Mrt Station Haji Nawi

On March 24, 2019, the Haji Nawi MRT station was officially opened, the MRT Station serves the North Jakarta - South Jakarta station in the area of Jl. Rs Fatmawati no 33,
Gandaria selatan, Cilandak, 12320, South Jakarta.

1. Special specifications, the MRT Station has 2 side platforms and also has 2 rails.
2. The site is located on the edge of a highway and is limited by a fence
3. At this station the roadside is equipped with drop offs of cars and motorbikes
4. The entrance with the escalator has a sealing cover using the Betawi Tooth Balang pattern.

2. MRT Station Cipete Raya

Case Study : Stasiun MRT Cipete Raya

Figure 2. View From Interior MRTT Cipete Raya

This MRT Station is opened simultaneously on March 24 2018 The station is located on Jl. Rs Fatmawati no 15, Gandaria selatan, Cilandak, 12420, south Jakarta.

a. Specifically specific this station has an intermodal integrase in which there are metromini, ppd, kopaja, maya sari bakti, bianglala, seady safe

b. This MRT has 2 stair units, 2 escalator units and access to the platform, passengers can use 6 stair units, 2 escalator units and 2 elevator units.

B. Method

1. Literatur Review

a. **Theory about Accessibility**

According to Margaretta**,** Good transportation will play an important role in regional development, especially in accessibility, while both are easy and easy to use. and indirectly.

City transport for all Effective and equitable transport system must differentiate mobility from equitable access since quantitative measures of transport coverage do not account for the ability of diverse social groups to take advantage of them. [1].

The public transportation system usually prioritizes pedestrian needs. According to a good pedestrian path can be created by taking into account several criteria in the design, including:

2. Security, the pedestrians must be caused by motorized vehicles, besides the problem that must be considered.
3. a good pedestrian path is the shortest and is the base for reach and free of obstacles.
4. The pedestrians must be able to feel comfortable in the pedestrian area.
5. Attractiveness, attraction can come from pedestrian paths, pedestrian supporting elements and lighting.

b. **Access for people with Disabilities.**

Pedestrians are a group with a variety of characteristics, abilities and needs. The special needs of children, the elderly and disabled people must be considered and prioritized when designing pedestrian safety measures. [2]. The world report on disability underlines the importance of accessibility. [2]

The types of diffable facilities are: [3]

a. Ram (ramp) is placed at each intersection, pedestrian space infrastructure enters the building enterance, and at crossing points.
b. Diffable lines are placed along the pedestrian network infrastructure. Standards for people with disabilities can be used to provide pedestrian facilities for persons with disabilities.
c. Avoid various hazards that have the potential of being harmed by safety, such as bars, holes and others that don't have to be placed on the road they are passing.

d. the sidewalk level must be adjusted so that they are easy to pass through.
e. If the road is used by blind people various changes in the texture of the sidewalk can be used as practical signs.
f. The road must not have a slippery surface.
g. Other requirements are adjusted to the Minister of Public Works Regulation No. 30 / PRT / M / 2006 concerning Facility Technical Guidelines and Accessibility in Building Buildings and the Environment

c. Theory of Experimental Landscape (CDTA)

The MRT is expected to bring 200,000 thousand people every day. Many will make the MRT as their daily transportation. People who commute using MRT are called commuters. Commuting is someone who travels to a city to work and return to the city where he lives every day, usually from a place of residence that is quite far from his place of work. [4]. Because of this, MRT stations can meet the needs of many people who are active and indirectly experience station space every day. This theory aims to meet the needs of the MRT station.

According to the book Experiential Landscape [5] the existence of components, the direction of the road, circulation, transition space, and areas can suggest space experience and how all of the components can jointly give rise to taste. The most felt phenomenon is a phenomenon that moves like a strong sense of direction because of the sound. Sound can bring out something invisible, like the noise of a car outside the area, even though it's not visible but we know it.
These are some concept indicators in one area according to Thwaites, [6]:

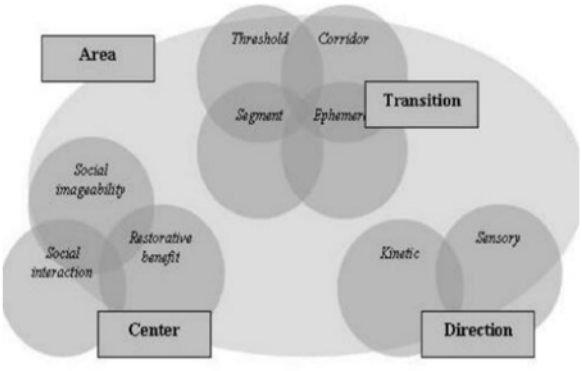


Figure 3. Concept Indicators in One Area

i. Center / center

According to Kevin Thwaites and Ian Skimins [5], the first element is center or push. Humans tend to expand a center, such as the MRT station which is the center of TOD. A center is a place where people usually gather, socialize, a comfortable place.

A public place needs a place to socialize things that people must do, a place for social interaction needs the following:

a. Seat.
b. There are facilities for waiting.
c. Arrival area.

ii. Direction / direction

The direction is an element that connects one center to another. Direction usually has a sense of feeling during the trip, so the sense of direction arises, it can arise when we see the direction of the movement of people around every day.

You can make a person unconsciously remember these areas because of that movement and visual phenomena can create coolies and images of the environment.

Usually the center of a human activity is also available in environmental facilities such as:

a. Shop
b. Direction of the route that helps
c. There are scenes that don't make the atmosphere boring
d. Easy to remember the facilities (the existence of trees, a road marker to remember)

iii. Transition / transition

It is space or area, changes that give rise to a sense of transformation, atmosphere of space, or function that results from a sense of direction. A transition can be in the form of moving from one room to another, such as the presence of openings, open spaces, views that can affect human feelings.

iv. Area

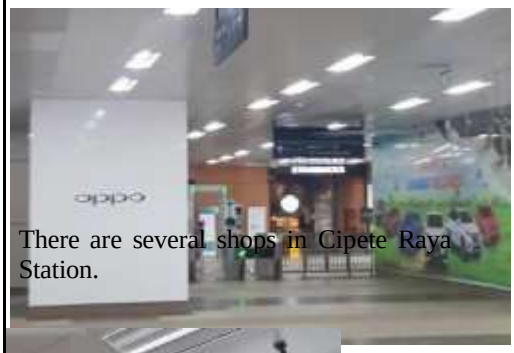
The last element is the area. An area is closed space that has a central element, directions and transitions. From the theoretical description that we have presented, then this research method, the case studies of the MRT H. Nawi Station and Cipete Raya MRT Station, can be done through the following material tests:

a. Stations must have accessibility that is easy to access or reach.
b. Stations must be effective and fair for pedestrians or diffability
c. MRT waiting facilities such as seating, waiting area
d. There are shops
e. Signage, to facilitate human mobility
f. Transition space towards the MRT
g. Sights around the station.

III. DISCUSSION AND RESULTS

A. Discussion

INDICATOR	**ST. H. NAWI**	**H. CIPETE RAYA**
1. Stations must have accessibility that is easy to access or reach out.	 At Haji Nawi Station it is very easy to access and also has a central center such as a place to eat, and also shops.	 Cipete Raya Station is a transportation that is easily accessed and the access from the regional activity centers within a 400 m radius.
2. Stations must be effective and fair for pedestrians or diffability	 There is an elevator for priority needs  There is tactile for disability.	  There are facilities for pedestrians.

3. MRT Station waiting facilities such as: a. seating b.Waiting area	 There is a waiting area that serves as a gathering point for passengers who want to enter the train.	 Area waiting on the platform Serves as a passenger gathering point
4. Have shops area	There are no shops on Hj. Nawi Station.	 There are several shops in Cipete Raya Station.
5. Signage, to facilitate human mobility	 Entrance sign  Signage for train schedules.	 Signage for the ditection.  Signage to show public facilities.

	 Signage for the ditection.	 Entrance sign
6. Transition space towards the MRT	 The arrival area is a gate which is continued with open space as a transition area.	 The MRT arrival area is a gate that serves to card tapping.
7. The view around the station	 A view that can be seen from the Haji Nawi station is a line of 2 to 3 level old shop houses that spread along with the station sides.	 A line of 2 to 3 storey old shop houses that spread along the Cipete Raya road.

B. Result

Based on the description above then:

- Ease of access and need for this station is available to be selected from the map around this station
- The Haji Nawi Station and Cipete provide access and facilities for disabled people in the form of "tactile" and special elevators
- Support facilities consist of waiting or sitting places available in both of these stations, except for shops, there are no shops at the Haji Nawi Station.
- Shops in the two majority stations specifically take and open such as mini markets and coffee shops
- At Cipete Raya and Haji Nawi stations come under the MRT platform and are exposed to many edge signs that make it easier for users to get directions
- Clarity of access at the second station is marked by the help of the edge mark on the gate, the direction of arrival, or the transfer area at the station.
- Available route directions and markers that clarify visitors to get positions such as platform positions and supporting facilities such as toilets
- At this second station, the surrounding display consists of a range of old shop houses and has a height of 2 to 3 floors.

IV. CONCLUSION

- The haji nawi and cipete stations in terms of accessibility and fairness effectiveness have been fulfilled because they consider access for disability in the form of "tactile" and special lifts that can be reached from pedestrian lines outside the station to continue into the MRT station
- In the MRT stations Cipete raya and Haji Nawi have considered the existence of supporting facilities spread in several places. Support facilities are in the form of seating in the shopping area and waiting area.

V. FINDINGS

So in this study, we found that these two stations in terms of access and supporting facilities had met the needs but there were some aspects that were still lacking such as the view on both stations was very minimal because the distance of the building to the station was so close that the view displayed was not good. then at the Cipete station, there is a clash that grabs and go while there is no haji station. There is only a cafe. Because of the high mobility of the MRT users, they want to do "all-fast" things including the needs of boarding clothing, the food so the existence of shops in the station can benefit and accelerate the needs of commuter communities.

BIBLIOGRAPHY

[1] Levy. (1992). In J. Beall, *City For All* (p. 166).
[2] World Health Organization. (2013). *Pedestrian safety: a road safety manual for decision-makers and practitioners.* Switzerland: World Health Organization.
[3] Harsono, S. (2016). Persepsi Pejalan Kaki Terhadap.*Repositori Institusi USU*
[4] wikipedia. (2018). *Wikipedia*. Retrieved 05 18, 2019, from https://id.wikipedia.org/wiki/Komuter
[5] Kevin Thwaites dan Ian Skimins . (2007). The Vocabulary of Experiential Landscape. In *Experiential Landscape* (pp. 53-77). New York : Routledge.
[6] Thwaites, K. (2007). *experiential landscape.* New York : Routledge.
[7]. Andriansyah. (2015). STUDI TENTANG TRANSPORTASI. In M. Dr. Andriansyah., *Manajemen Transportasi Dalam Kajian dan Teori* (p. 1). Jakarta: Fakultas Ilmu Sosial dan Ilmu Politik Universitas Prof. Dr. Moestopo Beragama.