

# Pedestrian Transparent as One of Education Means and Disable's Friendly: Case Study - Pedestrian's Universitas Budi Luhur

Dody Kurniawan, Farhan Khairillah Zain  
*Universitas Budi Luhur*

**Keywords:** Transparent sidewalks, disable friendliness, Educational facilities

**Abstract:** The existence of sidewalks in the campus environment is the main requirement for pedestrians, especially for the academic community with special needs. The existing condition of the sidewalk in Budi Luhur University campus is still found problems, namely the distribution of pedestrian paths with vehicles is not continuous even at some point the location does not have sidewalks. Another thing that is more important is the design of the sidewalk that can accommodate the safety and comfort of the disabled people and pedestrian groups which can be one of the educational facilities. From the formulation of the problem, descriptive research will be carried out. Descriptive method is carried out to make a description, finding factually and accurately regarding the facts, characteristics, and relationships between the phenomena investigated. This description is obtained through field observations, interviews, and data from relevant agencies. The method of the approach taken to achieve the predetermined goals is the Identification of Design Norms; Identification of Comparative Studies and Identification of Potentials and Problems. The results of this study are in the form of sidewalk redesign that can accommodate the safety and comfort of pedestrians, especially the disable groups and sidewalks that can become educational facilities (transparent sidewalks).

## 1 INTRODUCTION

The existence of sidewalks (pedestrian ways) in the campus environment is the main requirement for pedestrians, especially for academics with special needs (disabled people). The Accessibility of infrastructure in an environment is the most important thing to support the security and comfort of everyone in it [1]. The presence of the campus is the same as the existence of a city, where all campus residents must be able to access existing facilities on campus easily and safely. Every campus citizen has the same right to get the services provided by the campus. This is a manifestation of the sense of responsibility of the campus manager, and the nature of campus facilities is the provision of excellent service to the entire academic community without exception.

The presence of the sidewalk at this time is not only a place to walk but also many benefits that we can take. One of them is how to create sidewalks that can function as educational facilities. Sidewalks are no longer a means that has to be "trampled", but it is a tool that can improve the insight of the knowledge that uses these facilities. Moreover, if the sidewalk is

in the education area, this will be in line with the campus function as an educational institution.

The existing conditions of the University of Budi Luhur campus sidewalk are still found problems. Namely, the distribution of pedestrian paths with vehicles is not continuous even in some locations it does not have sidewalks. A pedestrian lane is a place or space for pedestrian activities safely and comfortably [2]. Another thing that is more important is that sidewalk design has not accommodated the safety and comfort of the disabled group. In addition, sidewalks are expected to provide more value (educational facilities). Based on the above conditions, this study aims to redesign the sidewalks in the UBL campus environment that are suitable for pedestrians and friendly to the disabled group and can be a means of education.

## 2 METHODOLOGY

This study uses a descriptive research method approach. Descriptive method is carried out to make a description systematically, factually, and accurately

regarding the facts, characteristics, and relationships between phenomena investigated [3]. The results of the analysis obtained new concepts and pedestrian design as a means of education and friendly to the disabled. The following are described methods of the approach taken to achieve the predetermined goals:

### 2.1 Identification of Design Norms

The aim is to formulate criteria, indicators, and elements that must be considered in designing pedestrian ways that accommodate the safety and comfort of pedestrians, especially the disabled group. In addition, formulating criteria for sidewalks that function as educational facilities.

### 2.2 Identification of the Comparative Study

Aim to get a comparison of the criteria, indicators, and elements of pedestrian design that are already there and are considered successful.

### 2.3 Identification of potential and problems

This identification aims to determine the condition of the existing research area, both it is potential and problems.

## 3 DISCUSSION

### 3.1 Basic concepts

The basic concept of this study is to redesign the sidewalks in the Budi Luhur University campus that can accommodate the safety and comfort of pedestrians and disabled people. In addition, the sidewalk is also expected to be an educational facility.

### 3.2 The Concept of Safety and Convenience

The safety concept used in this study is sidewalks that prioritize a greater portion of needs for pedestrians, especially the quadriplegic so that they can freely walk. Another concept is that sidewalks are made continuous so that pedestrian circulation can be free from motor vehicle traffic interventions. The presence of shelter to avoid the heat and rain is used as a concept of convenience in this study. This is in line with the tropical climate in Indonesia, where the

weather is divided into 2 seasons. Shade facilities in the form of a canopy will be continuously made to follow the existing pavement. With this pergola, climate problems (heat and rain) are reduced.

### 3.3 Concept of Education

The concept of education used in this study is the sidewalk will be made transparent so as to provide a translucent effect. Pedestrians can see anything under the sidewalk. During this time the existing sidewalks seemed closed, dirty and hidden. Apart from functioning as an educational facility, this transparent sidewalk can be a means of entertainment. The location of the study in the University of Budi Luhur Jakarta (entrance campus, building units 1, 2, 3, 4, 5 and 6).

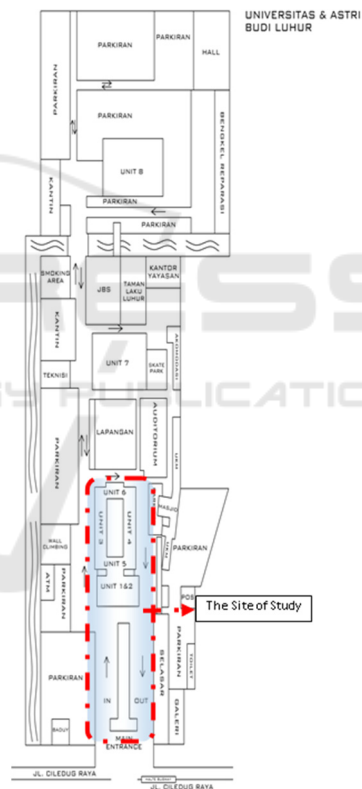


Figure 1: The Siteplan of Universitas Budi Luhur Jakarta.

The location of study is divided into several segments. This aims so that all potentials and problems can be identified properly. The division of the study location segments are:

- Segment 1 = Main gate
- Segment 2 = Building Unit 1, 2, 5
- Segment 3 = Building Units 3, 4 and 6

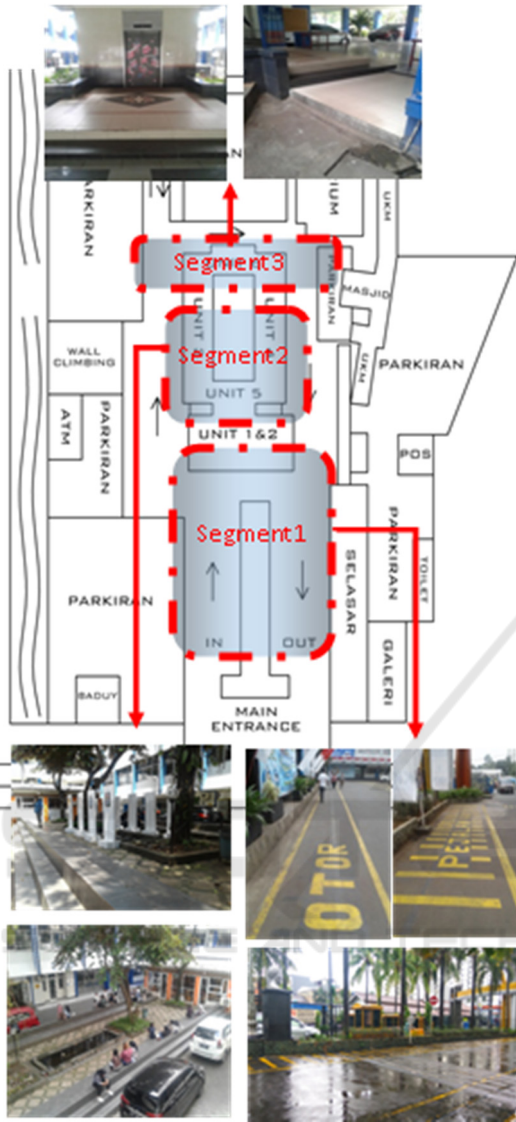


Figure 2: The location of the study.

#### 4 THE RESULT OF STUDY

The main gate of the Budi Luhur University campus has been equipped with the vehicle and pedestrian access. However, the pedestrian condition is not free from the vehicle. The existing condition of pedestrians can only be seen in the form of yellow markers parallel to vehicle access.



Figure.3. The existing condition of the sidewalk is not free from the vehicle - Before (Segment 1).



Figure 4: The existing condition of the lobby lift has not been accessible to the disabled. Before (Segment 3).

For this purpose, a design that provides safety and comfort for pedestrians, especially the physically disabled, is created. Security aspects can be obtained from the difference in height between the sidewalk line and the vehicle lane. The sidewalk is made continuous and is equipped with a guardrail to make the sidewalk area free from the vehicle. The comfort aspect of pedestrians is obtained from the presence of steel construction roofs covered with spandek. The main pillar of the roof using H-Beam Roll with the cantilever system gives a strong and modern impression. The choice of style and construction is in accordance with the existing and existing conditions of the main gate of the Budi Luhur University.

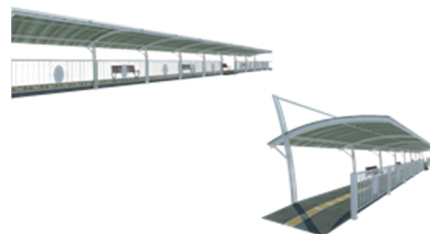




Figure 5: Perspective of redesigning the main gate sidewalk - After (Segment 1).

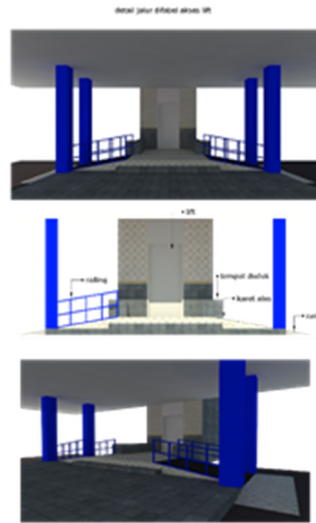


Figure 7: Details of redesigning the lobby lift-After (Segment 3)

For educational facilities, the location of the park is made of transparent sidewalks. The sidewalk is made of special material so that the bottom surface of the pavement can be seen from above. People can see the condition of the sidewalk so that it becomes an educational facility.

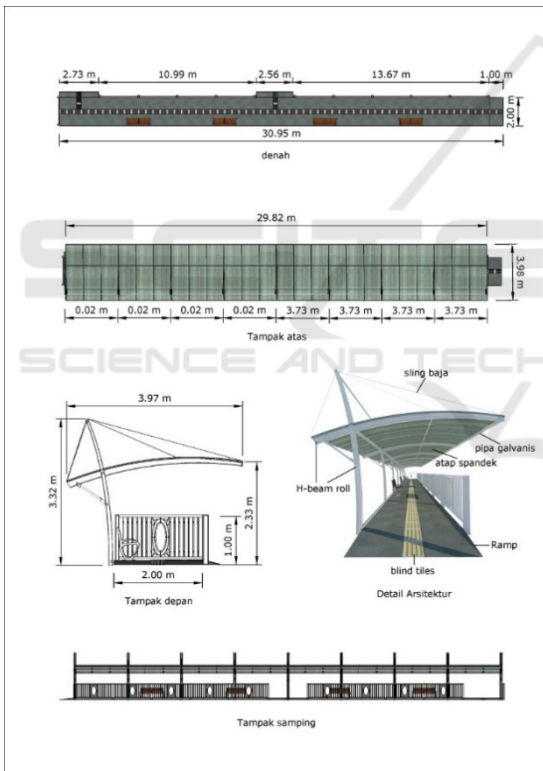


Figure 6: Sidewalk Redesigning Details (Segment 1)

To accommodate comfortable, the sidewalk is equipped with ramps and blind tiles. The sidewalk is made continuously. This sidewalk lane is parallel to the vehicle lane according to existing conditions. The safety fence is made of galvanized pipe. The pedestrian will be equipped with wooden chairs and lighting as well as signs/disability markers as the main ornament.



Figure 8: The existing condition of the courtyard sidewalk has not been accessible to the disabled. Before (Segment 2).

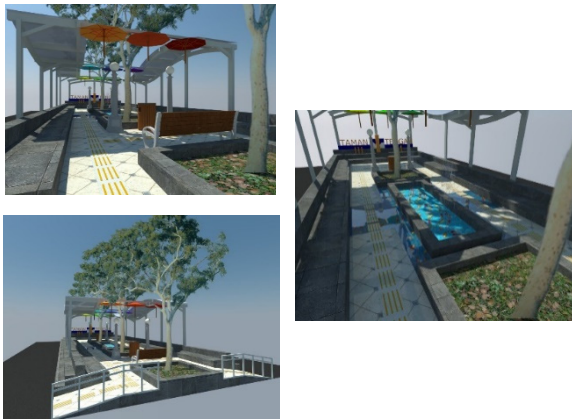


Figure 9: Details of redesigning the courtyard. After (Segment2)

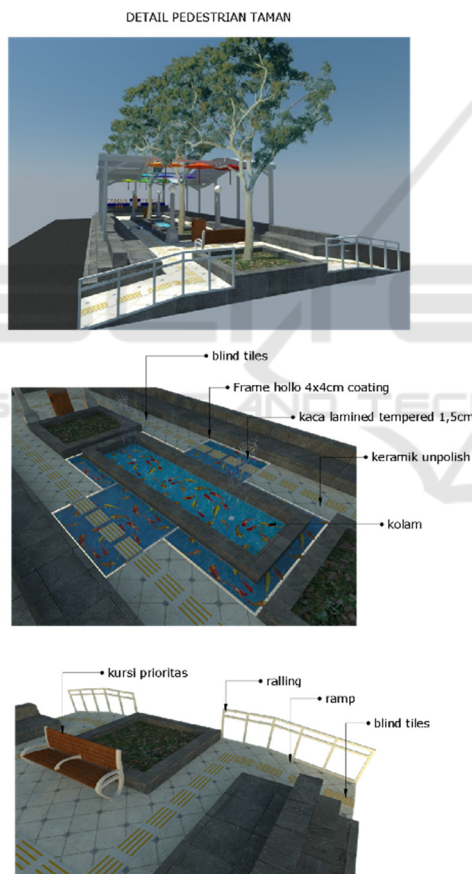


Figure 10: The perspective of redesigning the courtyard sidewalk (Segment 2).

## 5 CONCLUSIONS

After analyzing the aspects that affect the redesign of the Budi Luhur University campus sidewalk obtained:

5.1. Security aspects can be obtained from the difference in height between the sidewalk line and the vehicle lane. The sidewalk is made continuous and is equipped with a guardrail to make the sidewalk area free from the vehicle.

5.2. The comfort aspect of pedestrians is obtained from the presence of steel construction roofs covered with spandex. To accommodate comfortable comfort, the sidewalk is equipped with ramps and blind tiles. The sidewalk is made continuously and equipped with a safety fence. The pedestrian will be equipped with wooden chairs and lighting as well as signs/disability markers as the main ornament.

5.3. The educational aspect is obtained from transparent sidewalks, where pedestrians can see the bottom conditions of the sidewalk. During this time, the sidewalk seemed closed, dirty, and not maintained. With the application of transparent sidewalks, pedestrians can learn and know what systems/networks are under the sidewalk. In addition, the sidewalk will always be neat and clean.

## REFERENCES

- Dharmadiatmika, I Made Agus., 2012. Desain Aksesibilitas Penyandang Tuna Daksa dan Tuna Netra di Kawasan Wisata Hutan Bakau Denpasar Selatan. E-JURNAL AGROEKOTEKNOLOGI TROPISKA, 1 (1), 24-33
- Hasanah, Budi., 2017. Pelayanan Aksesibilitas Jalan Umum (Jalur Pedestrian) Bagi Penyandang Disabilitas (Studi Kasus Di Kota Serang). IJTIMAIYA, 1 (1), 60-78
- Kaliongga, Feybe G., 2014. Kajian Aspek Kenyamanan Jalur Pedestrian Jl. Piere Tendean Di Kota Manado. SABUA, 6 (2), 243-252
- Mauliani, Lily., 2015. Menciptakan Lingkungan Yang Lebih Baik Dengan Penyediaan Jalur Pedestrian Bagi Pejalan Kaki. NALARs, 14 (1), 47-58
- Nazir., 2005. Metode Penelitian. Ghalia Indonesia. pp. 48.
- Niko, Nikodemus., 2016. Menilik Ruang Terbuka Bagi Difabel: Problematika Keadilan Di Kota Bandung. JOURNAL OF SPECIAL EDUCATION, II (2), 95-106
- Purnomo, Adi., 2015. Tingkat Kenyamanan Jalur Pedestrian Di Kawasan Simpang Lima Kota Semarang Berdasarkan Persepsi Pengguna. JURNAL, 17 (2), 131-138
- Soleh, Akhmad., 2014. Kebijakan Perguruan Tinggi Negeri Yogyakarta Terhadap Penyandang Disabilitas. JURNAL PENDIDIKAN ISLAM, IIII (1), 1-30

- Tamba, Jefri., 2016. Aksesibilitas Sarana dan Prasarana Bagi Penyandang Tunadaksa di Universitas Brawijaya. IJDS, 3 (1), 16-25.
- Utami, Ezza Oktavia., 2018. Aksesibilitas Penyandang Tunadaksa. JURNAL PENELITIAN & PPM, 5 (1), 83-101.
- Wibowo, Sony Sulaksono., 2011. Ruang Pejalan Kaki Yang Nyaman Untuk Kawasan Perkotaan. SEMINAR NASIONAL APLIKASI TEKNOLOGI PRASARANA WILAYAH, C39-C44

