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Study of User Perceptions of Changes in Pedestrian Path Functions Based on Physical Dimensions and Factors

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ABSTRACT

Pedestrian paths are sidewalks designed to serve as a means of transportation between two locations. One of the cities in Aceh province is Lhokseumawe City, located in the northern part of the province and surrounded by North Aceh district. Along with population growth, more and more street vendors have set up stalls along pedestrian paths. Pedestrians in Lhokseumawe City, especially on Teuku Hamzah Bendahara Street, experience dysfunction. Pedestrian paths should be used by pedestrians to ensure safety and comfort when walking, but currently, the pedestrian path on Teuku Hamzah Bendahara Street is used by street vendors to sell various foods and drinks, filling the entire pedestrian path. The purpose of this study is to determine the causes of changes in the function of pedestrian paths based on physical dimensions and factors. This research method uses descriptive qualitative research. Through the collection and use of data in the form of observation and interviews. The results of the study on the pedestrian path on Teuku Hamzah Bendahara Street in Lhokseumawe City currently show limitations in terms of the intended function of the pedestrian path, which is to be a path specifically for pedestrians. However, the condition of the pedestrian path on Teuku Hamzah Bendahara Street has now changed into a place for commercial activities, generally from noon until night. Overall, the pedestrian path on Teuku Hamzah Bendahara Street has undergone a change in function from being exclusively for pedestrians to a place for food and beverage vendors.

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1. INTRODUCTION

Pedestrian paths are sidewalks designed to serve as a means of transportation between two locations. In the context of urban studies, pedestrians are a key metric and indicator of how a city is developing. Thus, pedestrians represent the face of a city. One of the important aspects of a city is its pedestrian paths, which are necessary for residents to be able to get around the city easily, safely, and comfortably.

According to (H. Shirvani, 1985), Pedestrian paths are an important component of urban planning. Roads or other physical infrastructure features designed for use by humans or pedestrians are known as pedestrian paths. Walking is an important component of the system that connects cities. One way to get around the city and connect with other forms of transportation is by walking (Fruin, 1979). Activities related to walking will form paths and movement patterns throughout the city. Pedestrian path planning guidelines and regulatory requirements must be followed when designing pedestrian paths.

Utterman (1984) emphasizes that a good footpath must meet a number of important requirements, including safety, enjoyment, comfort, and aesthetics. According to Murtomo and Aniaty in (Faisal et al., 2021), pedestrian paths in large cities contribute to the development of urban life.

Aceh is one of the provinces in Indonesia located at the northern tip of Sumatra, with Banda Aceh as its capital. Aceh is a special region granted special autonomy for historical reasons. Many important roads in Aceh province, including city, provincial, and national roads, are not yet fully pedestrian-friendly. In fact, in urban areas, pedestrian paths are a basic necessity for residents and also beautify the city. Pedestrian paths are also not equipped with green corridors, leaving users vulnerable to direct exposure to the sun.

(Fithri et al., 2018) states that the term “pedestrian path” comes from the English term “pedestrian way,” which comes from the Greek word “pedos,” meaning foot, and the English word “way,” meaning road. Therefore, pedestrians or those who walk can be understood as pedestrian paths. Therefore, pedestrian mobility is the movement of individuals or living beings on foot from one point to another. According to Article 131, pedestrians are entitled to the availability of pedestrian paths, sidewalks, crosswalks, and other facilities as supporting infrastructure.

Pedestrians in Lhokseumawe City, especially on Teuku Hamzah Bendahara Street, experience dysfunction. This street should be used by pedestrians to safely and comfortably reach places of worship, museums, and offices along the street, but it is used by street vendors who use it as a place to trade at certain times, from morning until late at night. When ending their trading activities, many vendors leave their stalls on the pedestrian walkway.

The presence of street vendors along the pedestrian walkway on Teuku Hamzah Bendahara Road has not been granted written permission by the Lhokseumawe city government, but there has also been no crackdown on businesses operating along the Teuku Hamzah Bendahara pedestrian walkway. The presence of business operators along the pedestrian path on Teuku Hamzah Bendahara Street has also brought about changes. What was originally an office area has become a commercial area in the afternoon until late at night, while also changing the function of the pedestrian path, which was supposed to be exclusively for pedestrians, into a place for street vendors.

Based on the background of the problem described above, the issues to be discussed in this paper are the factors that influence changes in pedestrian function. Factors that include changes in the function of pedestrian paths are dimensions and physical factors.

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2. RESEARCH METHOD

This study was conducted on Teuku Hamzah Bendahara Street, Banda Sakti District, Lhokseumawe City, Aceh Province. The researcher chose this location because this pedestrian path is directly adjacent to the Islamic Center Mosque, an iconic building in Lhokseumawe City, where the path should function efficiently as a pedestrian walkway but has been converted into a place for trading. This pedestrian path is also located in the office center of Lhokseumawe City, which connects pedestrians to various offices and several buildings along this pedestrian path.

Figure 1. Location Of Teuku Hamzah Bendahara Street
(Sourch: Google Maps, 2024)

The research subjects in this study were users of the Teuku Hamzah Bendahara pedestrian walkway in Lhokseumawe City, particularly pedestrians and business owners who use the walkway as a place to sell their goods. There are 12 outlets on the left side and 24 outlets on the right side, with a total of 36 outlets located along the Teuku Hamzah Bendahara Pedestrian Path in Lhokseumawe City.

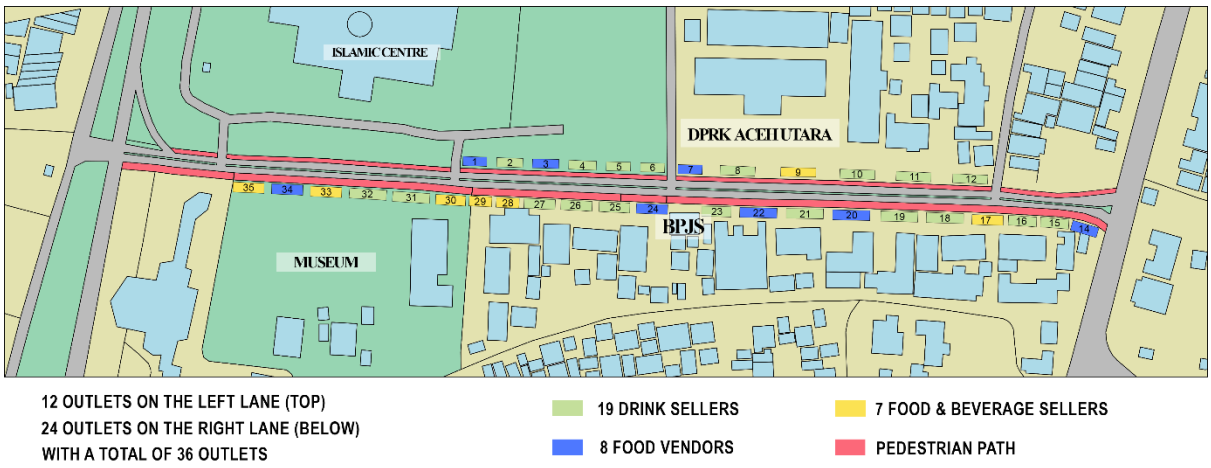

Figure 2. Research Object Map
(Sourch: Author Data, 2024)

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Tabel 1. Research variables

Teori	Variables	Indikator	Teknik
Danoe Iswanto (2006)	Physical Dimensions or Factors	1. Functional Zoning 2. Length and Width 3. Elevation Height 4. Damage 5. Material 6. Obstacle	Observation and Interviews

Sourch: Author Data, 2024

3. RESULTS AND DISCUSSION

3.1 Physical Dimensions or Factors

In this study, the author will examine two sides of the pedestrian path, namely the left side and the right side. The existing conditions of the pedestrian path will be observed in several aspects, ranging from the type of material used on the pedestrian path, damage, elevation height, and conditions that occur on the pedestrian path at different times of the day, namely morning, afternoon, and night.

1. Functional Zoning on Pedestrian Paths
   At this research location, there are several different zoning functions at different times of the day, namely morning to afternoon, evening, and night. The image below shows the zoning of pedestrian paths at night. The blue line represents a dedicated pedestrian path used by businesses to sell various drinks and food at night, while the red line represents a pedestrian path that can be used by pedestrians because it has no other function at night.

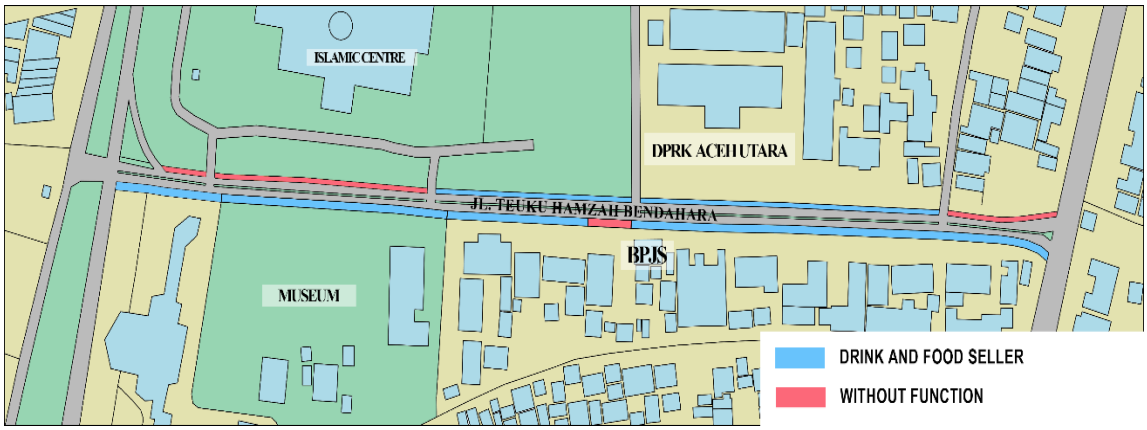

Figure 3. Pedestrian Function Zoning at Night
(Sourch: Author Data, 2024)

2. Length and Width of Pedestrian Paths
   From the results of observations on the pedestrian path, which include length, width, and height, there are differences between the left and right sides of the pedestrian path. The left side of the path is 150 cm wide, while the right side is 380 cm wide. Due to these differences, the left side feels narrower and less spacious when in use, while the right side allows pedestrians to feel more comfortable and spacious when walking on it, even when it is crowded. The image below shows the total length of the pedestrian path

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studied from point A to point B, which is 535 meters, and the width of both paths, with the left side measuring 150 cm and the right side measuring 380 cm.

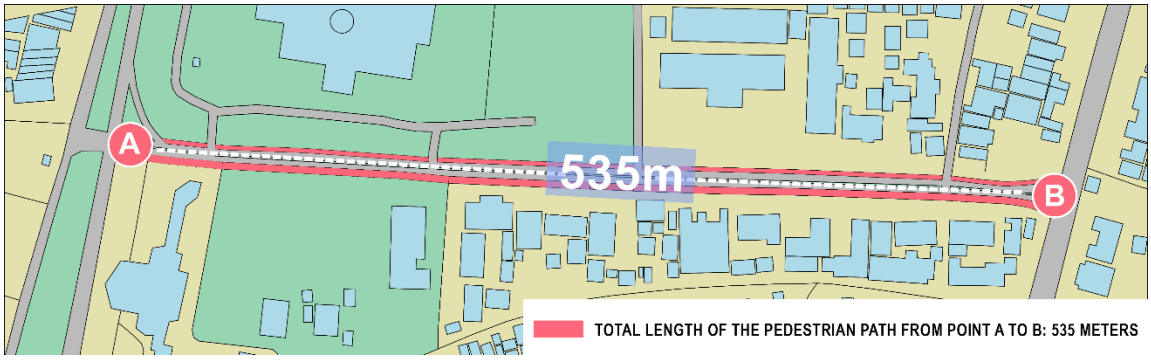

Figure 4. Total Length of the Teuku Hamzah Bendahara Pedestrian Path from Point A to Point B
(Sourch: Author Data, 2024)

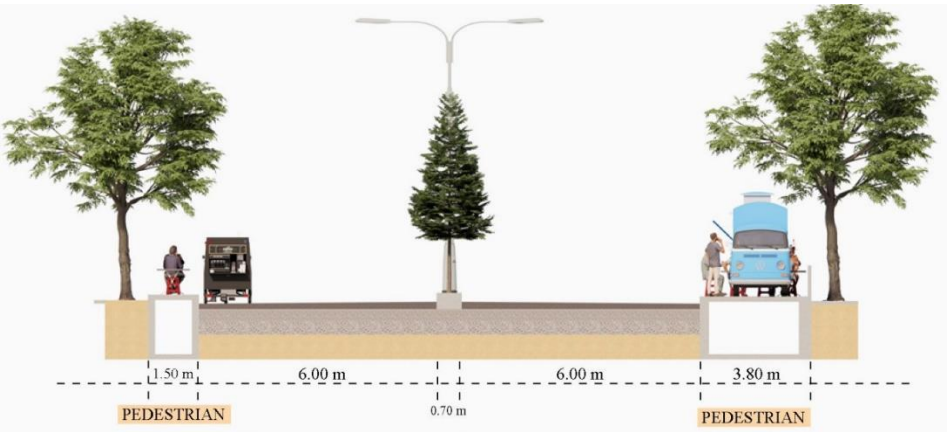

Figure 5. Wide Pedestrian Path Layout on Teuku Hamzah Bendahara Street
(Sourch: Author Data, 2024)

3. Elevation Height on Pedestrian Walkways
   Observations on the pedestrian path show a striking difference in elevation between the left and right sides of the path, with the left side reaching an elevation of 25 cm and the right side reaching an elevation of 10 cm to 15 cm. Below is an image showing the difference in elevation between the left and right sides of Teuku Hamzah Bendahara Road in Lhokseumawe City.

Figure 6. Elevation Height on the Left and Right Lanes
(Sourch: Author Data, 2024)

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4. Damage to Pedestrian Paths
   Observations at the research site show that damage to the pedestrian path on Teuku Hamzah Bendahara Road is generally found on the left side of the path, while the right side of the pedestrian path shows no damage. The damage on the left side of the path consists of potholes caused by broken covers, but this damage has been covered with wooden boards by businesses located above the pedestrian path for the safety of their customers. The following shows the points of damage along the left side of the pedestrian path.

Figure 7. Damage Point on the Left Lane
(Sourch: Author Data, 2024)

5. Materials On Pedestrian Paths
   Materials play a major role in the construction of a building. Most buildings, whether small or large, are sure to be used for a very long time, one of which is the material used on the Teuku Hamzah Bendahara pedestrian path. Therefore, the materials and types of materials must be considered when building.
   In terms of material usage, there is a difference in the type of concrete used on the left and right sides of this pedestrian path. The author's observations show that the left side of the pedestrian walkway uses concrete materials that are shaped according to size, then placed tightly and neatly arranged to cover the ditch underneath. Meanwhile, the right side uses a type of concrete material that is cast directly over the ditch, making the right side look more sturdy, neat, and less prone to damage.

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Figure 8. Differences in Material Form on Both Pedestrian Paths
(Sourch: Author Data, 2024)

6. Obstacle On Pedestrian Paths
   The images below show obstacles on pedestrian paths. The first image shows a pedestrian path being used as a parking lot by office workers located next to the pedestrian path. The second image shows a business kiosk that completely blocks pedestrians from using the pedestrian path. This kiosk was not moved after business hours. The third image shows the same problem as the second image, but in this image there is still a little space for pedestrians.

Figure 9. Obstacle Above the Pedestrian Path
(Sourch: Author Data, 2024)

4. CONCLUSION

The pedestrian walkway on Teuku Hamzah Bendahara Street in Lhokseumawe currently shows limitations in terms of its intended function as a pedestrian walkway, which is a road reserved exclusively for pedestrians. However, the pedestrian walkway on Teuku Hamzah Bendahara Street has now become a place for commercial activities, generally from noon until night. Business operators on this pedestrian path use various types of outlet models and place their business outlets directly on the pedestrian path. This has turned the pedestrian path,

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which was originally intended for pedestrians, into a place for placing commercial outlets and leaving them directly on the pedestrian path after trading activities have finished.

The Teuku Hamzah Bendahara pedestrian path is 535 meters long with a width of 150 cm on the left side and 380 cm on the right side. However, there is minor damage to the 150 cm wide path on the right side, and there are two different types of materials used on the left and right sides of the pedestrian path. This path also has varying functional zoning from morning to night. Overall, the pedestrian path on Teuku Hamzah Bendahara Road has undergone a change in function from being intended solely for pedestrians to becoming a place for food and beverage vendors, Because of this some users feel cramped when using the pedestrian path, and some pedestrians who should be using the pedestrian path are forced to walk on the road instead. This is because pedestrians feel obstructed by business owners who use the Teuku Hamzah Bendahara pedestrian path.

EXPRESSION OF GRATITUDE

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