



**6th UNDERGRADUATE  
SEMINAR ON BUILT  
ENVIRONMENT  
AND TECHNOLOGY  
(USBET) 2023**

**SUSTAINABLE BUILT  
ENVIRONMENT**

**25 - 27 SEPTEMBER 2023**

**E-PROCEEDING**



**USBET 2023**



# e-Proceeding

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**Published by,**

Department Of Built Environment Studies And Technology  
Faculty Of Architecture, Planning & Surveying  
Universiti Teknologi MARA Perak Branch, Seri Iskandar Campus  
*usbet.fspuperak@gmail.com*

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eISSN 2821-3076



02 October 2023 | Perak, Malaysia  
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## A STUDY ON THE USER SATISFACTION WITH FACILITIES AND SERVICES PROVIDED AT SERI ISKANDAR BUS TERMINAL

Nur Iffah Mohd Isa<sup>1</sup>, Norehan Norlida Haji Mohd Noor<sup>1\*</sup>

<sup>1</sup>Department of Built Environment Studies and Technology,  
College of Built Environment, Universiti Teknologi MARA Perak  
Branch, Seri Iskandar Campus, 32610, Seri Iskandar Perak, Malaysia

iffah.28.6@gmail.com, \*noreh625@uitm.edu.my

### ABSTRACT

*Facilities are essential in assisting the building to be more useful based on its function, statutory requirements, user requirements, and performance. The facilities are provided to ensure that the building's users are completely satisfied. All facilities must be properly maintained to ensure that they function properly and can be used for an extended period while incurring some maintenance costs. A building has its own lifespan in which it performs its actual function, but it can also deteriorate over time, reducing the performance of the building, especially in its structure, services, and facilities. In this regard, any defective or broken facilities or services may pose a problem for the user's policy requirements. According to Suffian (2013), a building that is poorly managed with a poor method of maintenance for the facilities will face more damage and cost some expensive repair work if it is left unattended for a longer period, which may affect the occupants' safety and health. The purpose of this research is to identify the user satisfaction on the facilities and services provided at the case study which located at Seri Iskandar bus terminal. Next, the study aims to classify the major factor that affecting the user satisfaction towards the facilities and services provided at the case study. Lastly, the recommendation or suggestion of the 'added value' criteria to improve the facilities and services at the bus terminal based on data analysis and research findings.*

**Keywords:** *Facilities and Services, User Satisfaction, Seri Iskandar Bus Terminal*

## **INTRODUCTION**

Facilities are essential in assisting the building to be more useful based on its function, statutory requirements, user requirements, and performance. All facilities must be properly maintained to ensure that they well function, and can be used for an extended period of time. According to Wood (1991), facilities management is a combination of all specialized and management features, including supervisory activities to ensure the facility works and can be used properly. Furthermore, facilities can be an important aspect of a building, particularly a bus terminal with many people inside. A high level of satisfaction with the user's requirements and needs can be ensured by high-quality facility or maintenance management. Kamarudin et al. (2015) stated bus terminals should be integrated as open structures were providing access and facilities to everyone is critical. Where both the inside and outside situations must be suitable within the structures and moods of people who want to make a journey.

A building has its own lifespan in which it performs its actual function, but it can also deteriorate over time, reducing the performance of the building, especially in its structure, services, and facilities. In this regard, any defective or broken facilities or services may pose a problem for the user's policy requirements. Suffian (2013) highlight that a building that is poorly managed with a poor method of maintenance for the facilities will face more damage and cost some expensive repair work if it is left unattended for a longer period of time, which may affect the occupants' safety and health. This study is focusing on identifying user satisfaction with facilities and services provided at bus terminals. It is also an effort to improve the quality of existing facilities and services provided at the bus terminals, this research will specifically investigate the main factors that affect user satisfaction with the facilities provided. Next, it is known that the quality performance of the bus terminal is achieved when the user is satisfied with the overall rating performance of the building. In addition, this research will provide recommendations to be made to the buildings so that the user is satisfied with the facilities and services provided. For the case study approach, the bus terminal that has been selected is the Seri Iskandar Bus Terminal.

## **LITERATURE REVIEW**

### **Public Facilities and Services**

Public facilities are defined as those basic services which cannot be supplied directly to the individual dwelling unit and as a result are utilized away from the residential unit within the public environment. Public facilities satisfy specific individual or community needs including safety and security, communication, recreation, sport,

education, health, public administration, religious, cultural and social. (American Public Health Association (1960). It is also those areas of a building providing shared amenities that typically do not change over time, such as circulation areas, stairs, escalators, lifts/elevators and motor rooms, toilets, cleaners' cupboards, plant rooms, fire refuge areas, maintenance areas, and so on (International Property Measurement Standards (IPMS): Residential Buildings, published by the International Property Measurement Standards Coalition (IPMSC) in September 2016).

## **Customer's Satisfaction Towards Public Transportation.**

The perceptions and expectations of customers can be used to assess the quality of the services offered (Eboli & Mazulla, 2011). Hayes (2008) classified customers as a 'soft index', which is subjective in nature and can be used as a gauge of effectiveness when it comes to products or services that are directly targeted at them. The success of service-based industries largely depends on the client themselves, unlike more traditional businesses where the difference between operating and production costs and sales costs (the profit margin) is fairly indicative of a particular agency's managerial effectiveness. To put it another way, it must be customer-focused and cater to their needs and preferences. The final arbiter of whether or not a service is of high calibre is the client (Schiefelbusch & Dienel, 2009). Customers' perspective is measured using the Customer Satisfaction Survey (CSS), which will assist the authorities in improving the quality of services and increasing the number of people using public transport. Through the questionnaire, the authorities will be able to identify all elements of public transport that should be addressed. Previous studies by Mohd Noor, Nasrudin, and Foo (2019) revealed the determinant of customer satisfaction is service quality. Their study at Kota Kinabalu, Sabah, Malaysia succeeded in developing three dimensions of public bus service attributes satisfaction namely comfort, accessibility, and safety. In opposite, users agreed that being jammed or overcrowded and feeling unsafe during the night were among the most significant attributes that affect their satisfaction.

## **METHODOLOGY**

The main purpose of this study is to identify the critical facilities and services provided at the bus terminal in Seri Iskandar. Then, to classify the main factors that affect user satisfaction with the facilities and services provided at the bus terminal. Further, to recommend the improvements to the premises selected as a case study. There are several issues related to satisfaction with the facilities and services of this bus terminal, namely;

Issue 1- The most serious failure of public transport seems to be its inability to attract private car users. As public transport cannot meet current demand, residents must rely on private vehicles (Rakesh & Shweta, 2010). One of the most common reasons given for refusing to use public transport is that it is often late or cancelled, dirty and

unattractive stations, rude drivers, and lack of provision for people with disabilities (Bunting, 2004).

Issue 2 - Issues related to public transport services such as facility limitations, use of public transport facilities and low-quality intersections, fleet discomfort, low passenger journeys and long waiting times (Kenworthy, 2006, Christy & Adjo, 2005, Zegras, 2005, Abd. Rahim and Nor-Ghani, 2004 & Litman, 2007).

Issue 3 - Steg & Gifford (2005) in their research have found a negative effect of increasing the number of cars on the road. (Bunting, 2004; Shamsuddin et al, 2012) states that if a society prioritizes vehicles for personal use only, this will result in an increase in demand, for cars. The resulting effects are widespread traffic congestion, air and noise pollution, unsociable communities and exposing pedestrians and cyclists to danger.

At the end of the survey period, a total of 25 responses were received, providing a response rate of 54.5%. Tan et al.(2014) emphasize a response rate of 10%–20% is acceptable in a research survey.

## **FINDING AND ANALYSIS**

First section of the questionnaire contains the relevant background of respondents who numbered 25. The selection of respondents was from among users and staff working in Bus Terminal Seri Iskandar. Users are selected by random choice that they are willing and agreed to be respondents.

### **An Investigation into the Types of Critical Facilities and Services That Affect the Level Of User Satisfaction at The Bus Terminal.**

Findings from Table 1 show the type of facilities and services that need to be provided at the bus terminal. This set of facilities and services is filtered and abstracted from past research and literature review. A total of 9 facilities criteria and 12 service criteria must be provided at the bus terminal to satisfy customers. The findings from Table 1 reveal 5 types of facilities that are chosen by the respondents are 'Waiting Areas' (68%); 'Restrooms' (65%); 'Ticketing Counters' (87%); 'Information Boards' (87) and 'Prayer Rooms' (65%). The highest frequency scores for these 5 types of facilities show that users value comfort, cleanliness, and safety compared to 'Food/Beverage Outlets', 'Parking Facilities', 'Baggage Handling' or 'Wi-Fi Connectivity'.



**Table 1: Identifying Critical Types of Facilities That Should Be Provided at The Bus Terminal.**

	The Essential <b>Facilities</b> Must be Provided at The Bus Terminal.	Frequency (%)
1	Waiting Area	68%
2	Restrooms	55%
3	Ticketing Counters	50%
4	Information Boards	36%
5	Prayer Rooms	23%
6	Food/Beverage Outlets	23%
7	Parking Facilities	18%
8	Baggage Handling	14%
9	Wi-Fi Connectivity	14%

Table 2 displays the findings from the respondents' choice of the set of crucial services that Must be Provided at The Bus Terminal. After analyzing the data with IBM SPSS-V23 software, the mean was calculated for each factor. Also, the frequency score of importance ranking was calculated. The highest mean score of 4.91 shows the level of user satisfaction towards bus terminal's services are 'cleanliness and Hygiene', 'Safety and security measures', and 'Availability of Information and Announcements'. While 'Cleanliness and Maintenance of Facilities' obtained a mean of 4.86 level of satisfaction, followed by a mean score of 4.82 ranked 5 to 8 which are 'Efficient ticketing system', 'Exact Bus Departure and Arrival Time According to the Schedule', 'Availability of comfortable seating at the waiting area', and 'Timeliness and reliability of bus terminal

**Table 2: The Essential Services Must be provided at The Bus Terminal**

	The Essential <b>Services</b> Must be Provided at The Bus Terminal.	Mean
1	Cleanliness and Hygiene	4.91
2	Safety and security measures	4.91
3	Availability of Information and Announcements	4.91
4	Cleanliness and Maintenance of Facilities	4.86
5	Efficient ticketing system	4.82
6	Exact Bus Departure and Arrival Time According	4.82
7	Availability of comfortable seating at the waiting a	4.82
8	Timeliness and reliability of bus terminal	4.82
9	Staff Courtesy and Helpfulness	4.77
10	Adequacy of Seating and Waiting Areas	4.77
11	Types of Facilities and Store Provided	4.73
12	Accessible facilities for people with disabilities	4.68

## Recommend Improvements to Bus Terminal Facilities and Services to Achieve Customer Satisfaction Levels.

The main objective of the study is to recommend improvements to the features of the bus terminal's facilities and services to achieve a level of customer satisfaction in Seri Iskandar. The responses shown by the respondents are quite surprising because the answers are quite different from the selection of the ranking in Tables 1 and 2 that were suggested previously. Table 3 records the responses to the selection criteria set of facilities at the Seri Iskandar bus terminal. In the first ranking, respondents chose the 'Waiting Area' must be sufficient, safe, comfortable and must be equipped with air conditioning. The second satisfaction criterion is 'Parking Facilities' with the comment that parking space needs to be increased, upgraded, and should be equipped with security guards. The third criterion is 'Restrooms' - need to be upgraded and kept clean. While the 4th facility is 'Information Boards' which need to be activated with the latest travel map and bus timetable to be more effective. Other criteria are in a somewhat backward position, complying with the choices in Tables 1 and 2. But there is a new proposal which is that bus platforms need to be provided so that passengers do not take the wrong bus as 10th rank.

**Table 3: To Recommend Improvements to Bus Terminal Facilities To Achieve A Level Of Customer Satisfaction.**

	Facility	Facilities in Bus Terminal Seri Iskandar	Ranking
1	Waiting Area	Should be safe, indoor, sufficient, comfortable & equipped with an air conditioning system	1
2	Restrooms	Upgrading & make clean	3
3	Ticketing Counters		7
4	Information Boards	Upgrading with current map & bus timetable to be more effective	4
5	Prayer Rooms	Should always be clean.	5
6	Food/Beverage Outlets	Food/Beverage Outlets	8
7	Parking Facilities	More parking spaces, upgraded facilities and should be equipped with security guards	2
8	Baggage Handling	Baggage Handling	9
9	Wi-Fi Facilities		6
10		Bus platform so the passengers does not take the wrong bus	10

Table 4 records the responses to the selection criteria set of services at the Seri Iskandar bus terminal. Respondents focused on six criteria services that were recommended as 'must' be provided immediately at the bus terminal, namely 'easy access to Wi-Fi Connectivity' in the first rank. Followed by the criteria 'Availability of Information and Announcements' - this facility is important to implement to be aware of the bus arrival and departure time from the terminal.

The third ranking is the 'Efficient ticketing system' by providing an information board with a current Map for the location of the bus & Informative value. Users also chose 'Exact Bus Departure and Arrival Time According to the Schedule' as the fourth rank, while 'Timeliness and reliability of bus terminal' and 'Safety and security measures - in fifth and sixth position respectively. While other criteria ranked seventh to twelfth are considered unimportant criteria by respondents to meet their satisfaction. However, there are two new proposals which are 'Need Charge plug at the waiting area space' and 'CCTV for the user safety during night trip' in the 13th and 14th rankings.

**Table 4: To Recommend Improvements To Bus Terminal Services To Achieve A Level Of Customer Satisfaction.**

	Services	Services in Bus Terminal Seri Iskandar	Ranking
1	Cleanliness and Hygiene		7
2	Safety and security measures		6
3	Availability of Information and Announcements	Implement bus arrival and departure announcement	2
4	Cleanliness and Maintenance of Facilities		9
5	Efficient ticketing system	Provided information board with current Map for the location of the bus & Informative value.	3
6	Exact Bus Departure and Arrival Time According to the Schedule.		4
7	Availability of comfortable seating at the waiting area		8
8	Timeliness and reliability of bus terminal	Timeliness and reliability of bus	5
9	Staff Courtesy and Helpfulness		10
10	Types of Facilities and Store Provided		12
11	Accessible facilities for people with disabilities		11
12	Wi-Fi Connectivity	Easy access to Wi-Fi Connectivity	1
13		Charge plug at the waiting area space	13
14		CCTV for the user safety during night trip	14



## **CONCLUSION**

This study attempted to provide valuable insights into the critical factors that influence user satisfaction with bus terminal facilities and services. Several areas for future research can be investigated to further expand knowledge in this field. To begin, a comparative analysis of multiple bus terminals could be performed to identify best practices and areas for improvement in terminal management. This comparative approach would allow researchers to assess the effectiveness of various strategies and policies implemented at various terminals, providing a broader understanding of the factors that contribute to user satisfaction. Second, conducting a user experience study would look deeper into passengers' subjective perceptions and levels of satisfaction. In-depth interviews or focus group discussions would be used in this qualitative research approach to investigate passengers' experiences, preferences, and expectations. Researchers would gain insights into specific aspects of the terminal experience that have a significant impact on user satisfaction if they understood the users' perspectives. This research could identify additional areas for improvement and innovative solutions to improve the overall user experience.

Third, future research could look into the integration of advanced technologies in bus terminals. It would be beneficial to investigate the implementation and impact of smart ticketing systems, real-time information displays, or mobile applications for improved passenger communication and convenience. Such research would evaluate the effectiveness of these technologies in improving operational efficiency, reducing wait times, and providing passengers with seamless travel experiences. Furthermore, researching the feasibility and challenges of implementing these technologies in various contexts would aid in the development of practical terminal management guidelines. Finally, investigating stakeholder engagement strategies and the involvement of various stakeholders such as terminal operators, transportation authorities, passengers, and local communities would contribute to a comprehensive understanding of the complex dynamics involved in bus terminal management. This study could look into effective communication channels, collaborative decision-making processes, and mechanisms for incorporating various stakeholder perspectives in terminal planning and management.

## **ACKNOWLEDGEMENT**

The author would like to express special gratitude to sr. Dr. Norehan Norlida binti haji mohd noor for her support and encouragement in completing this research study. The author also would like to convey a special thank you for participants that involved directly and indirectly throughout this research

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