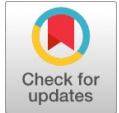


Transportation Service and Student's Satisfaction: A Study on Dhaka University



Nasrin Jabin, Abdullah Al Noman, Saima Parvin, Abdul Kader, Tasfi Aktar, Imdad Uddin

Abstract: This paper attempts to explore the level of satisfaction of the Students of the Dhaka University, Bangladesh regarding the transportation Services provided to them by the university authority. The Study also provides detailed accounts of the transport patterns and transportation services, problems and issues faced by students who commute regularly in university buses. A cross-sectional survey has been conducted to investigate relevant issues of Transportation Services, its barriers and User preferences and explores the main transport challenges faced by the students. Results have been obtained following a survey designed in mix approach of research. A total of 340 respondents were collected following a quota sampling using well designed questionnaire where an equal male-female ratio of the respondents was strictly maintained. Study found that users scored the 'comfort' as the lowest (40%) feature of the university transportation services. Students shared their sufferings as well as positive impacts of University Transportation services in this Study. The saddest part of the findings of this study is that there is no specific provision for the students with special needs in the university transports. Having no 'Transportation Policy' might cause this sort of lacking among all others. So, it can be expected that the university authority will take necessary actions to have a sound transportation policy in near future. At the end, some recommendations have been put here to get these reflected in the policy to make it a sustainable and inclusive one.

Keywords: Transportation, Student Satisfaction, Dhaka University, Authority.

I. INTRODUCTION

Dhaka University being the oldest university in Bangladesh (Est. 1921 during British Regime) has the largest number of student body for any single institution of higher education in the country. The university keeps a large fleet of university buses that ply into the Dhaka city during active academic sessions. Despite having a large University Bus fleet and operating in at least twenty-two routes throughout the city and out of the city, the service has some problems faced by the students who commute on the University buses

[1]. The university itself acknowledges the shortage of buses in the transport system [2].

Currently the university enrolls 5,800 students in the undergraduate course annually.ⁱ Despite its residential nature in its early years, the university keeps a fraction of its total student body inside residential hall buildings.ⁱⁱ The result is a significant number of students residing outside the university campus and travelling with personal, public or university transports [3].

Due to having such high number of students and Dhaka being one of the worst hit cities by traffic jams, the problems associated with the transportation system of the university rings a compounded bell on the students' expense [4]. The double Decker buses and single Decker buses has failed to provide a meaningful service on many ends. It remains a matter of systematic investigation to analyze and explore the grounds of improvement and important issues faced by the university students. Cross sectional survey helps us to capture a snapshot of the real scenario without the factor of change with regard to time [5]. It is a suitable method to explore the satisfaction and issues faced by university students as it is very much cost effective than time series or pooled data collection and compilation. It also helps portray a complete scenario to conduct necessary research work. A study into the satisfaction of university students and the issues faced by University students would help unearth the shortcomings of the transportation system and it would help to provide us with a list issues and overall satisfaction scenario through an evidence-based approach.

A. Study Area: An Introduction to University of Dhaka

University of Dhaka is the oldest university in Bangladesh and one of the largest spanning 275.083 acres. It is located in the heart of Dhaka metropolitan area and in the middle ground between Dhaka South and Dhaka North city corporations.

Despite its autonomous status ensured by 1973 Dhaka University Law, the university has repeatedly adhered to city and national infrastructure development plans. The University hosts few autonomous organizations like Bangladesh Atomic Commission, Bangla Academy and British Council in its premises. At least 30 major roads under Dhaka South City Corporations and is in public use is inside its territory.

It is completely an urban campus being situated very close to the old Dhaka. It is surrounded by major places of mass gatherings. Few notable important installations in and around the campus are Sohrawardy Uddyan, Dhaka National Museum, Bangladesh Secretariat, Bangladesh Supreme Court, Dhaka New Market and other educational institutions. The Image below shows the detail of the University of Dhaka at a glance:

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B. Statement of the Problem

Dhaka has a population of 21.5 million inhabitants. The Campus of University of Dhaka is situated at the heart of the City. The fact is that Dhaka is the economic and administrative hub of the country and a major traffic generator. The historical first city in the region and the center of all the important businesses and government institutions makes the status of Dhaka a crowded city. Non-Residential students of the university who are around 30,000 in number, commute on a daily basis from home to campus using University Buses through different routes of Dhaka Metropolitan area. This study has been designed to draw out the current service condition of the University Transportation, Students perception to this service i.e. their satisfaction and dissatisfaction towards the service and to recommend necessary steps to solve our existing challenges that students are facing while using University transports. At the end, this study finding will help the concerned authority to make the service far better and to make students' demand be heard. Also, it will help maintaining a good relationship between the University administration and regular students that often turns into protest and conflict.

C. Objectives of the Study

The Study has three specific objectives. Those are:

- i. to draw out the Present Condition of the Transportation Services of the University of Dhaka.
- ii. to explore the users' satisfaction of the Transportation Services of the University of Dhaka.
- iii. to recommend demand-basis future way-out of solving the challenges found in this study.

II. CONCEPTUAL FRAMEWORK

A. Existing Transportation policy

To describe the merits and demerits of Dhaka University Transportation policy under which, services are given to the current students in the highest academic echelon of Bangladesh. It is the policy which functions the University Transportation Program i.e. Number of Vehicles & Routes, Service Rules, Guideline for students and overall analysis of the document.

B. Students' Transport satisfaction

This research investigates the extent of students' satisfaction for users of University transport services in the University of Dhaka. University transport users obviously have needs and preferences, including reliability, convenience, safety, comfort, accessibility, and affordability, that affect their satisfaction with the services provided. In order to measure the satisfaction level of a student transport system, there is provision to collect ratings on specific operational aspects, such as network coverage, waiting time, availability of service, comfort, convenience and safety etc. This comprehensive list of travel attributes influencing 'student-transport-user' satisfaction has been derived from the literature.

III. LITERATURE REVIEW

[Miralles-Guasch and Domene, 2010] [6] dives deep into the transport patterns of Autonomous University of Barcelona (UAB). The study on the suburban university students

analyses the challenges faced by the university campus and transport patterns. The paper extends further to examine the transport demand of the students and suggests few alternatives. [Balsas, 2003] [7] studies the shift from motorized vehicles for the university students to bicycling and walking. The study analyses sustainable transportation methods for eight US university campuses. The analysis provided in the paper along with the broad discussion separates seven key areas to improve sustainable campus transportation system. [Checkoway, 1997] [8] dives deep into the question of reinventing universities for public service. This paper argues in favor of change and new initiatives for research universities. [Shanon, et al., 2006] [9] with the help of online survey examined the transport patterns and factor affecting transport decisions. The study stretches itself into suggesting strategies for improvement. [Mullan, 2003] [10] studies the young peoples' view on effects of traffic and car parking. The study on young people of Wales revealed that the young are vulnerable to the negative sides of traffic. [Hine, 1996] [11] uses qualitative research tool, in-depth interview technique, to assess the impact of traffic on behavior and perceptions of safety. The people's objective perception of traffic conditions and its impact on the three age group's behavior has been recorded by the paper. [Van weenen, 2000] [12] argues that the current universities are running unsustainably. The paper enlists transportation as a way to become more sustainable for the university. [Duque, Gray, Harrison and Davey, 2014] [13] also investigates the case for eco-friendly sustainable transport policies of the university. [Altintasi, 2013] [14] and [Bertolin, et al., 2018] also study the case for sustainable transportation for universities. [Moniruzzaman and Farber, 2018] [15] also studies ways to increase sustainable transport choices among students. And again [Iturrate, et al., 2015] [16] studies way to increase the mobility patterns in favor of more sustainable transport methods. [Azzali and Sabour, 2018] [17] presents framework for sustainable mobility for students of Qatar University. [Göçer and Göçer, 2019] [18] with the aid of statistical analysis measures the effect of transportation on suburban university environment. The study also tries to find answers to questions about sustainable transport solutions for a suburban university. Sustainability being a major topic of transportation policy, we have found little to no literature that studies the issues with the transportation system of a university. [Romanowska, Okraszewska and Jamroz, 2016] [19] studies the problems arising from the existence of university in an urban setting in context of Poland. The study finds that the university generating several dozens of thousands of trips is an important traffic generator of the city. The study furthers investigates into pedestrian trips, bicycle and car trips. [Popovich, 2014] [20], the campus travel survey report of University California, Davis studies the overall travelling scenario of the university. The study shows the total share of each transportation methods and possible alternative travelling methods with an emphasis on conversion to more environment friendly transport methods. [Danaf, Abou-Zeid and Kaysi, 2014] [21] studies the difference between the mode choice pattern of the students of the American University of Beirut (AUB) and rest of the population of the greater Beirut area.



It investigates the factors affecting mode choice of the general students and wealthy students. With the suggestions of few interventions, the study suggests increase both parking fees and public transport facilities for the students. [Gurrutxaga, Iturrate, Oses and Garcia, 2017] studies the modal choice difference of the students with an aim to improving the mobility patterns of the university. [Aoun, Abou-Zeid, Kaysi and Mynntti, 2013] [22] as part of the study suggests designing a public transportation targeted for the student use. [De Guzman Diaz and City, 2005] [23] is an addition to the literature studying the mode choice behavior of the students. It recommends establishing public transportation system for the students as the mode choice of transport of the students are cars. [Khattak, Wan, Son and Agnello, 2011] [24] studies the difference between travel patterns of university students and the general population. The internet based survey found that university students making more trips especially in the weekdays and the usage of public transport for the students are significantly higher. [Lavery., Pérez and Kanaroglou, 2013] [25] with the help of ordered probit model studies the modality choice of the students of McMaster University in Canada. [Mohammed and Shakir, 2013] [26] studies the perceptions and preferences about transport choice of students of National University of Malaysia. The logit model study stresses on the positive sides of public transportation for the students. [Whalen, Pérez and Carrasco, 2013][27] also studies the mode choice of McMaster University Students. The study identifies costs, personal attitudes and environmental factors as the influential factors of mode choice. [Limanond, Butsingorn and Chermkhunthod, 2011] [28] unlike the majority of the studies in the field studies a case study from a university in Asia. The study is also exceptional because it studies students who live on campus. The study lists public transport as one of the three main sources of travel for students with personal vehicles. [Ripplinger, et al., 2009] [29] with the help of longitudinal survey finds aspects students finds the positive sides of public transport. Also it finds that the benefits from improving transit services for the students do not outweigh the benefits from other services. [Daggett, and Gutkowski, 2003] [30] with the available data from twenty-three universities and transit agencies, studied the relationship between transit performance and university policies. [Sánchez-Soriano, et al., 2002] [31] designs an integrated transport system for the university students in the province of Alacant[sic]. [Brown, Hess and Shoup, 2003] [32] studies the fare-free transportation system for the university students implemented in few universities across United States. The before-and-after study suggests that free model of transport works. [Toit, 2013] [33] also tried to find the same answers in context of University of Pretoria, South Africa. It tried to examine the reasons behind the students' choice to use the "Unlimited Access" policy for the students. [Hancock and Nuttman, 2014] [34]'s approach to case study for an Australian university program for sustainable transport system for the students provided a number of facilitators to change including practices of networked ecological citizenship. [Akar, Flynn and Namgung, 2012] [35] [36] studied transportation choices of the students of Iowa State University. The paper found out the proximity to transportation modes plays important roles in decision

making of the students. [Rotaris, L. and Danielis, R., 2015] [37] studies the effectiveness of hypothetical transport policies of University of Trieste, Italy with an empirical approach. However, the paper emphasizes more on economic policies for implementation. [Zhou, 2014] [38] tries to explain the university students' behavior associated with commute to and from the university. The paper deeply analyses the difference in behavior of male, female, graduate and undergraduate students.

IV. METHODOLOGY

The study has been designed in a mixed approach of research i.e. Both quantitative and qualitative ways as per the study objectives. Both Primary and Secondary sources of data have been collected for this study. To collect the primary sources of data, social science team of Dhaka University Research Society (DURS) has conducted a field survey upon the student users of the University Transports. A total of 340 (17*20) students were surveyed based on the quota sampling. Quota of 10 Male and 10 Female respondents were ensured in the survey from each of 17 major routes of university transportation system. The Survey used a structured paper-based questionnaire to collect primary data from the respondents. The Questionnaire kept the provision for open ended question as well to pull out qualitative data from the respondents. Collected data were then analyzed using Microsoft Excel and SPSS 22 Version. Research Ethics were strictly maintained during the Data Collection.

V. FINDINGS AND DISCUSSION

A. Transportation Policy of the University of Dhaka

Study found that the University of Dhaka lacks a specific set of transportation policies. There has been no consistent set of rules and practices. The system operates on ad-hoc basis office orders of the Transportation sector of the University of Dhaka. The study also found that the majority of the students who commute on the university transportation are not aware of the university transportation policy. A very significant portion 95.81% of respondents answered that they did not think anything about the University transportation policy. The negligence of users and their indifferent attitude towards the Transportation Policy make the Sector Authority turn a blind eye towards having a sustainable and Inclusive Transportation Policy to offer a far better Transportation Service.

B. Transportation Services of Dhaka University

The Table below shows the Scenario of the Transportation Services of the University of Dhaka. It is seen in the table that University Buses travel 17 different routes in the City as well as it covers some districts outside Dhaka like Narsingdhi, Narayanganj etc. The highest distance covered is University Campus to Narsingdhi (49.1 km) that takes estimated time of 1 hr 32 mins to travel. Around 50 Buses are regular in these routes and make more than 150 trips a day transporting University students. The University charge 1080 BDT annually to its students as Transportation Fees.



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Half of the University Buses are owned by the University itself and the rest belong to Bangladesh Road and Transport Corporation (BRTC), operate on the basis of annual agreement with the University. The Table below shows the Picture of Transportation services of the University of Dhaka:

Table 01- Shows the existing Transportation services of the University of Dhaka

SL	Name of Bus Routes	Up-Down Destination of Each Route	Travel Distances (km)	Estimated Travel Time (min)
01	Choitali	University Campus to Mirpur	13.8	38
02	Baishakhi	University Campus to Kachukhet	11.3	31
03	Taranga	University Campus to Mohammadpur	6.9	21
04	Khanika	University Campus to Tangi/Gazipur	34.9	1 hr 23 min
05	Wari-Botessor	University Campus to Narsingdhi	49.1	1 hr 32 min
06	Boshonto	University Campus to Rampura	7.5	21
07	Srabon	University Campus to Mughda	8.6	21
08	Falguni	University Campus to Gulshan	10.1	25
09	Hemanto	University Campus to Savar	16.5	33
10	Ullash	University Campus to Postogola	9.2	21
11	Anando	University Campus to Narayanganj	19.5	37
12	Maitri	University Campus to Chittagong Road	14.2	27
13	Kinchit	University Campus to Kamalapur	6.4	16
14	Isa Kha	University Campus to Meghna Ghat	30.1	43
15	Leather Institutions	University Campus to Institute of Leather Engineering and Technology	03	14
16	IBA Hostel	University Campus to DU IBA Hostel	3.7	13
17	Mawa	University Campus to Mawa/Bikrampur	23.9	33

Source: Transportation Section of the University of Dhaka (2019)

C. Preparations of students for getting University Bus Services

There are five University Bus Stoppages in the University Campus; those are Curzon Hall Gate, Shahid Minar, University Teacher Student Centre (TSC), Institute of Modern Language (IML) gate & V.C Chatter. There are only two waiting arrangements for passengers; one in TSC & another is in IML gate, rest three have no passenger waiting arrangements. The data obtained from the field survey

portray a range of activities as a preparation to board onto the buses. A significant number of students have to keep waiting for the transports. The use of linking transports, walking to catch the transports, Seat Bookings in the buses are also been identified as the major preparations involved with availing the bus services. Each of these have some material and non-material costs for the Students. We also observe considerable differences in preparations for each gender.

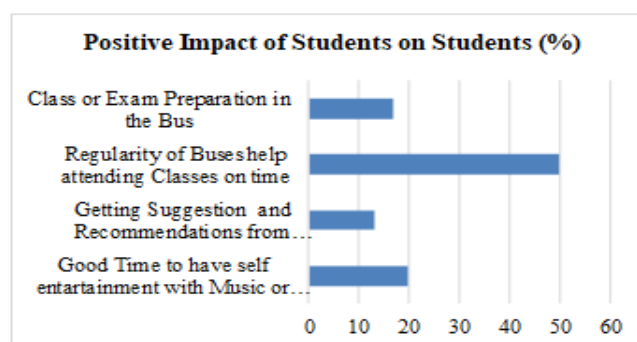
Table 02: Preparations that Dhaka University students need to take for getting university bus

Students' preparation to get the University Bus Services	Male (%)	Female (%)
Wait standing in Bus Stoppages	38.7	18.9
Advanced Seat Booking in Buses	11.9	9.83
Leave the House Early	21.5	33.6
Walking around 20 Minutes	1.07	9.83
Use of Linking Transports	2.1	9.83
Nothing Much Preparation	24.73	18.01
Total	100	100

Source: Field Survey-2021

D. Positive Impacts of Transportation among Students

Study found that the highest number, 50% of respondents think regularity of University Buses help them attending their Classes on Time. 17% Respondents takes class or exam preparation in the Bus that means University Buses keeps its inner environment congenial for Study. This finding would really make anybody feel happy, but the Percentage is not satisfactory. Very few students, 13% have noted that travelling with Students from multidiscipline help them getting advices and other helpful suggestions in the Bus. A portion of Students, 17% enjoy University Bus Travelling by listening to the Favorite Music or scrolling the Social Media on board. Simply, this states us some positive Impacts of University Transportation Services.



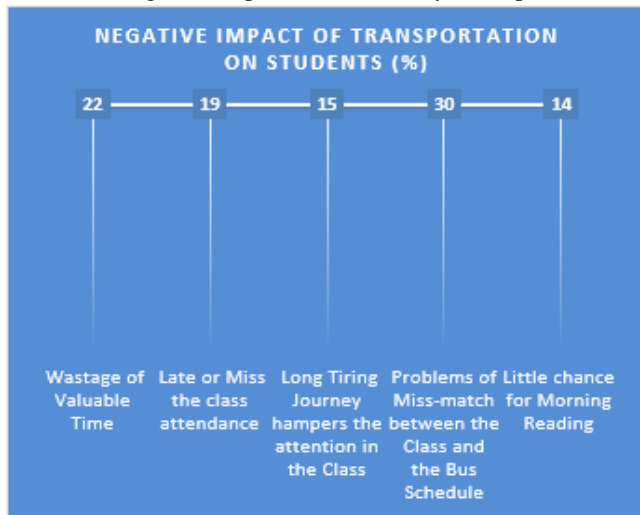
Graph 01: Shows the Positive Impact of Transportation among Students

Source: Field Survey-2021

E. Negative Impact of Transportation among students

University students responded to the negative impacts of the University Transportation in a way that explains the causes of quality degradation of Higher Education. More than 20% of students sees the Bus Journey of University Transportation simply as a wastage of Time.

So, a very large portion of students marked wastage of time, becoming late in the classes or missing class attendance or mismatch between class and bus schedule are some negative effects of University Bus Transportation. However, we have observed a slight gender gap between male and female students on aspects of negative impacts of University Transportation. Female students are more likely to get tired due to long journeys than the Male Students. The Table shows the Negative impacts of University Transportation.

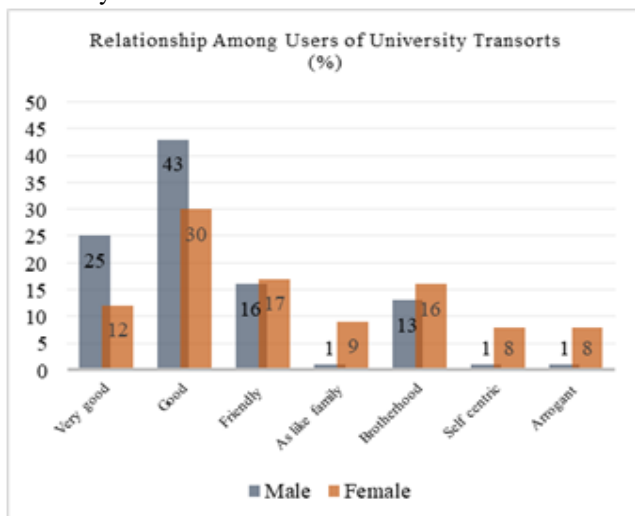


Graph 02: Shows the Negative Impact of Transportation among Students

Source: Field Survey-2021

F. Relationship among passengers of university buses

On the question of relationship, Users of the University Transports recorded an overall positive response. They maintain such a good and healthy relationship in the Bus. Both Male and Female respondents describe their relationship as a passenger as very good, good, friendly, as like family, brotherhood with some variation in percentages. However, the rate of female students being self-centered and being arrogant is very much higher (8:1%) than that of male students. Perhaps, the innate nature of two different genders can never be expected to go in the same direction and that is the beauty of life.



Graph 03: Relationship among Passengers of University Buses

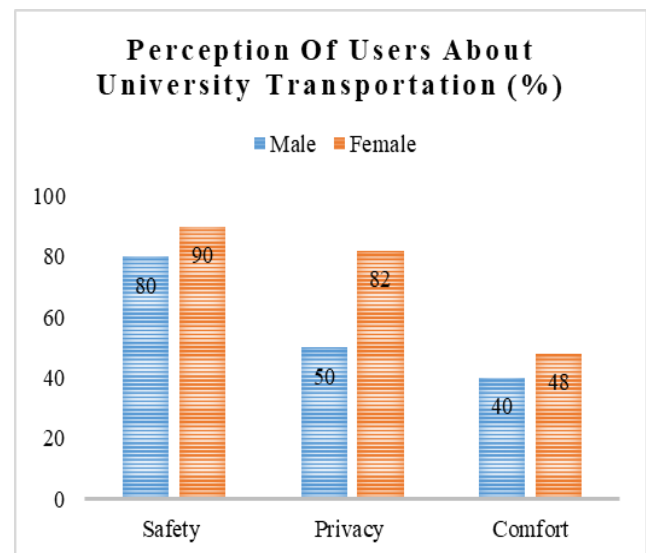
Source: Field Survey-2021

G. Perception of Users about University Transportation

The Users were asked to score their experience of University Transportation in terms of Safety, Privacy and Comfort. The result shows that Comfort gets the lowest score both from male and female.

Though safety and Privacy are in a good position. It depicts us that The University students face various types of challenges in their day to day journey with university transportation. The most pressing issues they face are cramped condition inside buses, traffic jam on roads, seat unavailability and hassle to have updates about bus schedules. As the growing Demand of Transports is much higher than its existing supplies, this situation exists in the University of Dhaka.

The additional challenges faced are mental pressure, Reckless Driving, Road Conditions and theft from the Buses. Considering the traffic situation in Dhaka city, few issues may have an explanation but issues like Theft, Harassment and Teasing demands further and prompt investigation.



Graph 04: Perception of Users about University Transportation

Source: Field Survey- 2021

H. Types of accidents Users Experienced in University Transports

The study incorporated questions to analyze the accidents of University Buses. The nature and number of accidents in the buses show that a relatively high number of respondents did not face any kind of accidents. However, our study shows collision with other buses and roadside trees sometimes causes accidents.

Also, a number of accidents originated from the University Bus itself. Theft inside and outside the University Buses remain a key issue for the students. Surprisingly, an outstanding number of Students have experienced the sudden fall out from the University Bus door due to the Huddling position inside the Bus.

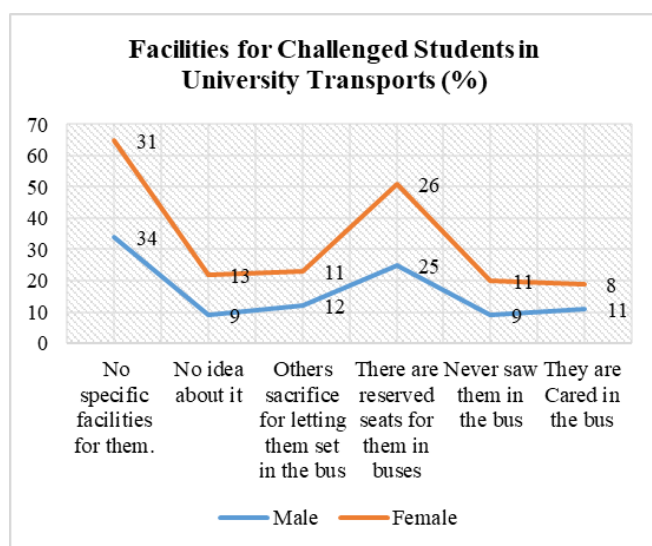
Table 03: Shows the Types and Frequencies of Accidents in the University Transports.

Types of Accident in University Transports	Male (Frequency)	Female (Frequency)
Got wounded while catching a thief.	4	3
Got hands cut	8	6
Got tired of hard break	4	3
Collision with other Buses	5	4
Sudden fallout from Bus doors	4	4
Clash of buses with Roadside trees	4	1
Pick pocketing & snatching of mobile phone in Buses	3	4
No, did not face any accident	13	22
Total	45	47

Source: Field Survey 2021

I. Facilities for challenged students in the University Transports

The saddest picture of this study findings where it is shown that almost half of the respondents said that there are no specific facilities for the students with special needs. Only 25% Male and 26% Female responded that there is reservation for the challenged students. But our observation did not find anything in written document that attests this claim. It has been clear that challenged students have to rely on the compassion of others. This fortifies the demands of having a good Transportation Policy for the University.



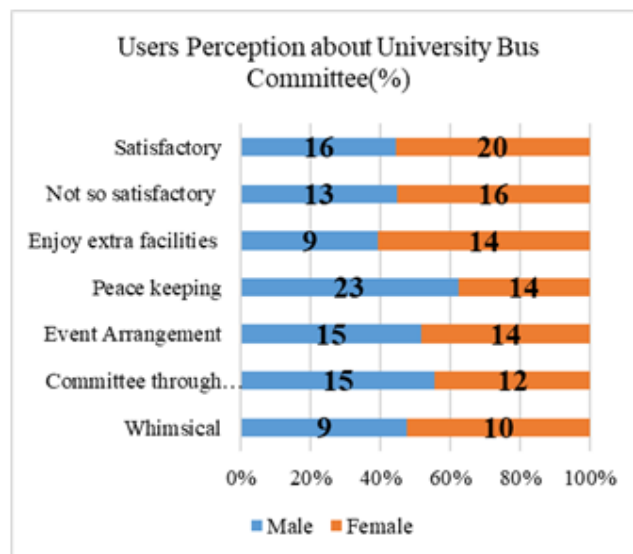
Graph 05: Shows the Facilities for the Challenged Students in the University Transports

Source: Field survey 2021

J. Perception about the University Student Bus Committee

The questionnaire incorporating questions about Bus Committees run by students has helped the survey to capture an interesting view of frequent traveler students. The study has portrayed students as both satisfied and dissatisfied with the committees. The students marked some positive sides of as having regular meeting, arranging picnic and Fresher's Reception, providing guidelines, having Democratic Elections for Every Committee, peace keeping etc. that

makes them satisfied. On the other hand, the participants also marked some issues of the committees like being totally inactive, whimsical, Coercion for donations etc. The responses about Student Bus Committee activities are truly mixed.

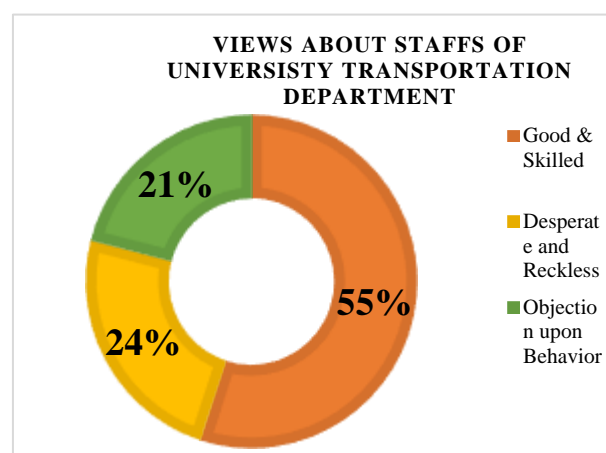


Graph 06: Perception about the University Student Bus Committee

Source: Field Survey 2021

K. Views about behavior & skills of Staffs of University transportation department

Although the majority of students, 55% reported good and skilled behavior of the Drivers, Staffs or Employees of the transportation department, the study has unearthed few very alarming aspects. 21% responses were about the Objection upon their Behavior that farther includes teasing students, misbehaving with the students are subject to investigation on by the university authority. In addition, 24% students said about the recklessness and desperateness of the Staffs that are driving recklessly, going for other local trips, having no helpers or supervisor for buses full of students etc.



Graph 07: Views about behavior & skills of Staffs of University transportation department

Source: Field Survey 2021

VI. CONCLUSION

In this article we began by acknowledging that sustainable transportation is one of the main challenges faced by universities due to the growing repercussions for the environment and society resulting from the daily mobility of their population.

This paper has examined the transport challenges faced by the students of Dhaka University and has tried to shed some light on the reasons in favor or against using a given means of transport. The structural aim of this study was to describe the existing transportation service policy of Dhaka University, to find out the level of satisfaction of students regarding Transportation services, and further to find out the ways to solve the identified problems.

Though many areas of problem faced by the students in university buses have been identified like- remaining in huddling position, journey in standing position, scarcity of seats, sufferings from craggy roads, loses of bags and purses, pick-pocketing, ill-manner, accidents, bad behaviors from seniors and bus committee members. Having all of these problems, there are also positive responses from the students regarding the impact of transportation on their study. A good number of students are very concerned about the caring of physically challenged students. There remain some seats for them also. Since a large number of students use university buses for daily basis, the authority should immediately pay a good attention in this arena to solve the existing problems regarding transportation in Dhaka University. If it can be done and necessary steps can be taken immediately for the comfort of students, this will bring a revolution in this ancient famous university.

RECOMMENDATIONS

Recruiting more skilled drivers and repairing the existing buses both came after the increase the number of buses and trips as the most frequent recommendations from the students who regularly commute in university buses or admit the transportation facilities provided by the university authority. Scaling the facilities & the bus environment up as well as widening the activities of bus committees are crucial in this regard because bus committee can play very important role. Also increasing the facilities for physically challenged students in buses, Wi-Fi access, opening up new bus routes, maintaining the strict prohibition upon wrong route tendency, ensuring the selection of bus committee members through fair election are some basic recommendations that came from the students.

Moreover, the apt spending of allocated transportation budget, creating a culture of respect towards traffic rules, directing the drivers and staffs for behaving with students in a right manner, extending seat facilities for women & differently able students, and putting the bus name plates accurately and accordingly, are some important points raised by some students.

If these points can be addressed properly, the level of satisfaction of the students upon transportation facilities will increase and students will feel safer, more comfort and satisfied using the university buses and can properly concentrate on their study. Since there is a direct relationship between good transportation facilities and students'

psychological satisfaction, the necessary actions should be taken immediately to ensure a good transportation services by the university authority.

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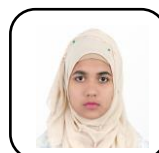
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