

# Analysis of modal split for long distance travel behavior

Submitted by

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# **Analysis of modal split for long distance travel behavior**

A Project and Thesis Submitted to Department of Civil Engineering Daffodil International University,  
The purpose of this study is to investigate Modal split for long distance travel in context of  
Bangladesh. Bangladesh in Partial Fulfillment of the Requirements for the Degree of Bachelor of  
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## APPROVAL

The Thesis and Project titled “Analysis of modal split for long distance travel behaviour” Submitted to the Department of Civil Engineering has been examined thoroughly and satisfactorily accepted in partial fulfillment of the requirement for the Degree of Bachelor of Science (B.Sc.) in Civil Engineering on October 2020.

A handwritten signature in black ink, appearing to read 'Saurav Barua', is shown on a light gray background.

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## CANDIDATE’S DECLARATION

This is hereby declared that this thesis or any part of it has not been submitted elsewhere and any degree.

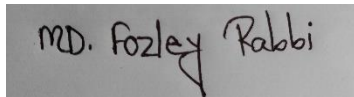
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## DEDICATION

This thesis dedicated to our honorable thesis supervisor Sourav Borua. His continuous inspirations made this effort possible.

A rectangular box containing a handwritten signature in black ink that reads "MD. Fozley Rabbi".

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October 2020.

## Abstract

Mode choice or modal split is the fourth step of transportation planning. The step discuss with the mode choice behavior of road user for a particular set of origin and destination node specified to particular route. Modal split depends on travel cost, travel time, convenience and comfort. There are some other factors which may influence mode choice behavior of road users. Mode choice for long distance travel is different than daily short distance trip. Long distance trips are conducted by the road users for once or twice a week or month and it is not frequent. On contrary, short distance trips are regular and road user do the trips once or more than twice sometimes in a day. Few previous studies have been performed on long distance modal split behavior of trips. No prior studies have been conducted in context of Bangladesh. Our study is unique in this point of view. We have considered four routes around Dhaka city. We have done questionnaire survey for Dhaka to Chittagong route, Dhaka to Sylhet route, Dhaka to Khulna route and Dhaka to Rajshahi route. We have done stated preference survey on 302 respondents. The respondents are of several age group, income level, occupation and gender group. The independent variables of our study are, Travel time, Travel cost, Comfort, Safety, Reliable Journey time, Stop/station closer from origin, Stop/station closer to destination, Availability of tickets and Flexibility of schedule. The dependent variable is mode choice preference. In this study our alternative modes are intercity bus and intercity train. We developed artificial neural network (ANN) model to rank the importance of the variables. The variables ranking and its importance will be used by the city transportation planner for policy making.

# **Chapter-1**

## **INTRODUCTION**

### **1.1 Background of the Study**

As environmental impacts of auto and air long-distance travel have received more attention over the last couple of years, a new interest in long-distance mode choice analysis has arisen. Analysis tools, however, have not caught up with this new demand in transportation modeling. The vast majority of mode choice models developed over the last few decades have been implemented for urban models with a focus on short-distance travel, where modal availability is different from long-distance travel. The travel behavior in long-distance travel is quite different, too, as people tend to be more familiar with modal options for short-distance travel than for long-distance travel. In addition, the trip purposes differ. While short-distance transit ridership is dominated by commute trips, long distance transit modes (particularly rail and air) are heavily used for pleasure trips as well as by business travelers. Because long-distance travelers tend to stay longer at their destination, travel time tends to be a less dominating factor in long-distance mode choice than in short-distance travel.

Trip which has distance more than 50 miles is considered as long distance travel (NHTS, 2001). Trip is movement of people or goods from one place (origin) to another (destination). Short

distance travels are daily trips and long distance travel are occasional trips. Both short and long distance travel can be made by personal cars, bus, train, airplane, ships.

The purposes of long distance trip can be work, business, personal, pleasure and etc. In this study, we considered intercity bus and intercity train as alternative mode choice preference survey. Selected different routes in Bangladesh are considered for survey data collection.

Usually, investments for improving long-distance travel are highly cost-intensive. Adding a lane to an existing highway, not to mention building a new highway, may cost millions of dollars, just as adding a new rail line or improving the speed on an existing rail line tends to be very expensive. Environmental impacts may be serious, as growing auto traffic or air travel may increase gaseous emissions and noise levels substantially. Finally, the economic impact may be significant as well. As more accessible regions tend to be economically more successful (Button, 2010: 419–460, Banister and Berechman, 2001; Krugman, 1991), long-distance infrastructure may facilitate economic growth. Given the impacts on travel demand, congestion, the environment, and the economy, changes to long-distance infrastructure ought to be analyzed carefully before investment decisions are made.

A key element of transportation planning is the evaluation of alternative operating and capital investment strategies. This process requires estimates of current and forecasts of future travel on the surface transportation system, including highway, transit, non-motorized, and freight modes. These travel forecasts are generally accomplished through computerized network simulations of

the transportation system, known as travel demand forecasting models. Travel forecasting models are used to study proposed investments in the transportation system and to determine which of those investments will best serve the public's needs for future travel and economic development. The models are also used to evaluate the travel impacts of alternative land use scenarios (TRB, 2007). In this way, travel modeling or forecasting is an important task to identify needs for the improvement of the city's infrastructure (Chen, 2007). Mode choice analysis is one of the most important and challenging components of the conventional four step travel demand modeling process.

Many practical transportation policy issues are concerned with mode choice. For example, the gain or loss in transit revenues caused by a fare increase depends on how travelers' mode choices are affected by the increase. Similarly, the effects of changes in transit routes and schedules on ridership, revenues, and traffic congestion all depend on how the changes affect individual travelers' mode choices. An understanding of the separate and combined effects of these decisions on travel mode choice is essential to selection of the best plan to meet specific transportation objectives (Horowitz et al., 1986).

The issue of mode choice, therefore, is probably the single most important element in transport planning and policy making. It affects the general efficiency with which we can travel in urban areas, the amount of urban space devoted to transport functions, and whether a range of choices is available to travelers. It is important then to develop and use models which are sensitive to those attributes of travel that influence individual choices of mode (Ortúzar & Willumsen, 2001).

## **1.2 Problem Statement**

Dhaka is one of the rapidly growing mega cities in the world but it experiences a serious lack of transport facilities for its dwellers. Dhaka's transport system is predominately road based. Traffic system in Dhaka is known as heterogeneous traffic system due to wide variation in the operating and performance characteristics of motorized, nonmotorized, slow-moving or fast-moving etc. vehicles sharing the same road space (Karim et al., 1998).

Although several transport related studies have been conducted for Dhaka city, none has achieved the desired success. The single common reason behind this may be due to the misrepresentation or failure to embody the behavior of the city's traffic pattern as well as its users. Dhaka Master Plan (1959) by the erstwhile Dhaka Improvement Trust (DIT) is the first study concerning transport development followed by Dhaka Metropolitan Area Integrated Urban Development Plan (DMAIUDP) in 1979, Greater Dhaka Metropolitan Area Integrated Transport Study (DITS) in 1994; Dhaka Urban Transport Project (DUTP) in 1997; Dhaka Metropolitan Development Plan (DMDP) in 1995 by RAJUK. As a part of DUTP, a Strategic Transport Plan was prepared for the Dhaka Metropolitan Area (DMA) that establishes a multi-modal transport plan based upon an assessment of the inter-relationship between land use and transportation (STP, 2005). At present, a project titled, "Dhaka Urban Transport Network Development Study" (DHUTS) undertaken by Dhaka Transport Coordination Board (DTCB) with technical cooperation from Japan International Cooperation Agency (JICA) has been going on with the

major objective of formulating the basic concept of urban development plan in DMA (JICA, 2009).

In STP, an urban transport planning model (UTP model) has been developed and used to forecast future travel demand resulting from different future land use scenarios and transport improvement strategies and to predict the performance of the existing, committed and alternative development strategies for Dhaka's urban transport network infrastructure, services and policies. In the UTP model, only two modes - transit and motorized (non-transit) - have been taken into consideration ignoring the significant portion of trips made by non-motorized mode. Also, presence of wide difference in the socio-economic level of the people in the model produces absurd results, for example, probability of choosing auto by Lower Income Group (LIG) is 90%.

Several other individual researches have been done on different aspects of Dhaka's transport. Among those, Ahsan (1990) investigated the status of public transport systems in Metropolitan Dhaka. Alam (1992) developed a traffic assignment model for simulation and optimization of road network for Dhaka city. Habib (2002) developed a transport planning model through which he evaluated the planning options to alleviate traffic congestion and resulting air pollution in Dhaka city. Hasan (2007) developed a travel demand model for Dhaka city segregating pre-distribution walk and intra zonal trips and personal motorized trips with post-distribution transit, rickshaw and auto-rickshaw trips. Both Habib and Hasan used only the multinomial logit (MNL) model for mode choice; neither hierarchical logit model had been examined to analyze choice

behavior nor was the influence of exogenous variables on mode choice behavior demonstrated in the model.

With rapidly expanding urban growth and hence increasing travel demand of Dhaka city, extensive investments are expected for the development of urban transport infrastructures in future years. This can be manifested from STP study which recommended the introduction of Metro, Bus Rapid Transit (BRT), Elevated Express Way etc. which requires huge investment and infrastructure development. Therefore, a proper understanding of choice of travel mode of individuals whether and by how much they shift to the new modes is imperative for the decision-makers.

In the pursuit of developing a comprehensive mode choice model with appropriate approach based on locally dominating factors that were mostly deficient in the above studies by the foreign consultants, this study intends to show the effects of the exogenous variables, e.g. age, sex, income on choice of travel mode with the data available through the Household Interview Survey (HIS) conducted in the STP study (2005). The proposed model will be a disaggregate model, that is, the model works on individual level to replicate its choice behavior in trip making and mode selection. The disaggregate approach is better able to reflect changes in choice behavior due to changes in individual characteristics and attributes of alternatives. Additionally, the approach is more suited for proactive policy analysis since it is causal, less tied to the estimation data and more likely to include a range of relevant policy variables (Koppelman and Bhat, 2006).



The mode choice model for different trip purposes will be estimated using JICA STRADA (System for TRAffic Demand Analysis) 3.0 software. The STRADA is developed by Intel-Tech Institute Inc., Japan as a tool for transport planning and to build up common database thereof, for the technical assistance program of JICA in the transport sector for developing countries. It consists of 17 programs among which ‘Disaggregate Model’ module will be used to perform model building by the multinomial logit (MNL) and the two-level nested logit (NL) structure. The model will be able to provide useful information for evaluation of alternative transport strategies in terms of future investment, travel and economic development.

### **1.3 Objectives of the Study**

The purpose of this study is to investigate Modal split for long distance travel in context of Bangladesh.

### **1.4 Scope of the Study**

The possible outcome of this research will be the development of an analytical tool which will be able to simulate the complex travel behavior. The model will be helpful to be applied to support the planner in the process of planning and decision making about which of the investments or policy measures in the transportation system will best serve the public’s need for future travel and economic development.

### **1.5 Organization of the Thesis**

The thesis consists of six chapters including the present one. The first chapter deals with the introduction, research motivation, objectives and scope. Chapter 2 presents a brief overview on travel behavior and theoretical purview of mode choice model. It also reviews the related literatures about mode choice behavior and model in developing countries and similar transport studies in Dhaka. Chapter 3 gives insight into the relevant background information of the study area, transportation network and data set. Chapter 4 is devoted to the analysis of mode choice behavior in respect of different socio-economic characteristics. It also presents the results of multinomial logistic regression models developed. Chapter 5 deals with development of the mode choice model. The chapter starts with the discussion of modeling principles and methodology; then it describes the modeling development and calibration procedures with the specification of the preferred model. Summary, conclusions and future research scope are presented in Chapter 6.

## **1.6 Summary**

The review of the literature revealed important benefits of a nested logit model compared to a traditional multinomial logit model to overcome the IIA problem. The relevance of selecting the most likely transit station, which may not be the closest station, became apparent. Most existing models, however, do not take into account special attributes of long-distance travel, such as specific long-distance travel purposes, severe travel time extensions by check-in or security procedures for some transit modes, or travel times from the trip origin to a transit stop as well as from another transit stop to the final destination. The review also showed the limited transferability of existing models to other study areas without recalibrating the model. Finally, the vast majority of studies deal with very specific corridors or regions as big as states or

countries, providing a model for only very specific problem sets. The model developed in this paper aims at surpassing most of these limitations.

## **Chapter-2**

### **Literature Review**

#### **2.1 General**

Human activities are spatially separate, and travel is needed because of that separation. Travel consumes time, money, and resources, but it is necessary because of the need to reach activities that are not close by (Stopher and Meyburg, 1975). Demand for travel is, thus, “derived.” Except for certain recreational purposes, people do not demand travel for its own sake. Rather, they demand such daily activities as work, shopping, recreation, and education, and travel allows them to reach these activities (Meyer and Miller, 2001).

Therefore, travel behavior is the study of what people do over space, and how people use transport. But this is a complex phenomenon which largely depends on a number of factors such as travelers personal/household attributes, socioeconomic characteristics, purposes of trips, the places of origin-destination and the medium of transport under the constraints of time, cost, comfort, availability and so on. (Takyi, 1990).

#### **2.2 Factors that Influence Choice of Travel Mode**

The choice of travel mode is affected by a great many factors, everything from transport-specific factors (describing the various components of the transport system) to individual-related factors such as a person's attitudes and habits. These factors are classified in many different ways by Olsson (2003). Some of these are described below:

### **2.3 Hard and soft factors**

Hard factors are normally found in the traditional travel mode choice models that are based on maximization of utility. Examples of hard factors are traveling time, waiting time and ticket price (fare). Soft factors are things like comfort, service and information. Soft factors may also be psychological, for example flexibility, ease of orientation etc.

### **2.4 Internal and external factors**

Factors that control choice of travel mode can also be divided into internal and external factors. Internal factors include attitudes, socio-economic and demographic factors, habits and perceived level of control. External factors include such things as traveling time and the cost of the journey.

### **2.5 Subjective and objective factors**

The objective factors are normally based on objective measures and are easy to measure and quantify. The alternative's so-called hard standard factors such as traveling time, fare etc. as well as soft standard factors such as comfort, information etc. are grouped as objective factors. The objective factors also include socio-economic factors such as gender and age, and also trip-related factors such as purpose. Examples of other objective factors are weather, topography, security and environment. Subjective factors include valuations of the alternative's

characteristics, attitudes and lifestyle. These factors are based on the individual's perception and are often more difficult to quantify. Olsson (2003) further grouped the factors that affect mode choice into the following specific categories:

## **2.6 Transport-specific factors**

Transport specific factors are related to the various parts of the transport system, for example timetables, proximity to stops and stations, congestion charges, service level, proximity to the cycle-way network and accessibility. In addition to traveling time, fare, comfort and information, transport-related factors also include station-related factors such as the general appearance of stations and stops. These factors are mainly affected by the local authority, companies, operators, and the individual's home and work locations, and choice of travel mode.

## **2.7 Environment-specific factors**

Environment-specific factors describe the environment of the route traveled, i.e. the things that are not part of the transport system; the topography, the weather access to shops and schools etc. Some of the factors have been predetermined for a long time and are thus difficult to influence. Others can be influenced in the long term, e.g. through physical planning.

## **2.8 Individual-specific factors**

Individual-specific factors consist of factors that describe not only the individual and the individual's characteristics, but also to a certain degree the whole household. Such factors include socio-economic factors such as age and gender, and also attitudes, status and habits. A

person's lifestyle is also an individual-related factor. Gender and age are predetermined, while attitudes and lifestyle can be influenced more easily.

## **2.9 Trip-specific factors**

This category includes the factors that have to do with the trip itself. These can be the reason for the trip and the type of luggage the traveler is carrying on the trip. The individual can also affect these factors.

## **2.10 Quality factors**

Quality factors are factors that have to do with the individual's perception of the journey and the standard of the transport system. The safety and security factor is an example of a quality factor. Both the individual and central government can affect these factors.

## **2.11 What is SPSS?**

SPSS is short for Statistical Package for the Social Sciences, and it's used by various kinds of researchers for complex statistical data analysis.

The SPSS software package was created for the management and statistical analysis of social science data. It was originally launched in 1968 by SPSS Inc., and was later acquired by IBM in 2009. Officially dubbed IBM SPSS Statistics, most users still refer to it as SPSS. As the world

standard for social science data analysis, SPSS is widely coveted due its straightforward and English-like command language and impressively thorough user manual.

## **2.12 Activation function in Neural Network**

Activation function is a mechanism which use to obtain the results of output node. It is often called as transfer function as well.

The activation function works a key mechanism in classification problem solution of Neural Network. For example, it is adopted to estimate the output result of the ANN like yes (1) or no (0) for binary classification type problem. Activation function works to map the output values within the range of -1 to 1 or 0 to 1, based upon the function type involved in the neural network. Broadly, activation function of neural network can be of two types—Linear activation function and Non-linear activation function.

Linear activation function is line or linear share. The output of the linear activation function is not bond to any set of range. It changes over the input  $x$  value varies. The equation for linear or identity function is  $y = f(x) = x$ . The boundary of linear aactivation function is  $-\alpha$  (negative infinity) to  $+\alpha$  (positive infinity). Linear activation function is less likely adopted in neural network classification problem. Because of complexity of several parameters and unusual pattern dataset higher dimensionality of regression problem also produce complex shape rather than linear one. Therefore, even in regression problem linear activation function is not applicable in artificial neural network.

Widely used activation functions in neural network is Non-linear activation functions. It fits with both classification type and regression type problem solution. It is adaptable for variety of data and applicable for analysis of models with higher dimensionality. It can capture shape of dataset

under various scenarios. Most importantly, nonlinear activation function are generalized and easily differentiable between the ranges of output values.

Differential or derivative of activation functions are vital feature to get the output results in a neural network. Derivative means the change of dependent variable ( $y$ ) or  $f(x)$  with respect to change of independent variable ( $x$ ). It is also the slope of dataset. There is another term associated with the activation function. Activation function can be monotonic. It means the function is entirely either have not any increasing or any decreasing shape in the graphical plot. There are several types of non-linear activation functions, such as, sigmoidal, hyperbolic tangent, RELU etc.

Hyperbolic tangent function is another type activation function which is similar to logistic sigmoidal function. The output of hyperbolic tangent ranges from -1 to 1. It is also s- shaped and look alike to sigmoidal function. The benefits of  $\tanh$  i.e. hyperbolic tangent is—it can map negative input to negative output value strongly. Similarly, it maps zero input value to near to zero output value strongly. The  $\tanh$  function is differentiable which makes it popular for using in neural network. Also the  $\tanh$  function is monotonic however its derivative will not produce monotonic, it is non-monotonic in nature. For binary classification problem of two classes hyperbolic tangent function is very effective.  $\tanh$  and sigmoidal activation functions both are widely adopted in the feed forward type neural network.

Rectified linear unit also known as RELU type activation function is most popular in neural network now-a-days. Especially for convoluted neural network and deep learning RELU is most common type activation function. It is half rectified from bottom. The value of output  $f(x)$  is zero when value of input  $x$  is less than 0 and it is equal to  $x$  when the value of  $x$  is greater than 0. The range of RELU is 0 to 1. The advantage of RELU is both the function and the derivative of the



function are monotonic. There is no increasing or decreasing shape. The expression of RELU can be define as:  $f(x) = 0$ , when  $x \leq 0$

And  $f(x) = x$ , when  $x > 0$

The problem of RELU is, it will map all input negative value to 0 rather than mapping it properly. Therefore, RELU is not suitable activation function which have negative values and do not able to fit those type of dataset in the neural network properly. Graphically, we can see that the negative value of input variables value zero output value. It does not map or interpret the dataset output adequately. It will provide same output values as in input data for the positive values.

In order to solve the problems of RELU, leaky RELU function was introduced. It has wider range than RELU function. The range of Leaky RELU is negative infinity to positive infinity.

When the value input is close to zero i.e. 0.01 it produces randomized RELU function data. both the function and derivative of the function in RELU are monotonic.

## 2.13 Sigmoidal function

Sigmoidal function is an S-pattern curve in the graphical plot. It is popularly used for the classification problem of neural network. The output values of sigmoidal function ranges in between 0 to 1 that is  $y = f(x) = (0, 1)$ . The values have open boundary set between 0 and 1. It means that the value of  $y$  can be 0 and 1 also. The function is a continuous function and there are value of  $f(x)$  for every independent  $x$  value. The sigmoidal function can estimate the probability of output values and provide powerful solution to the model. We know that the probability lies between 0 and 1. Therefore if there is a mathematical problem which comes to get the chance or opportunity to find the solution for output, sigmoidal function can do the solution in terms of

showing the probability of occurrence. Another advantages of sigmoidal function is—it is easily differentiable that is, it can find slope between two points or find the rate of change.

One of the properties of sigmoidal function is that the function is monotonic, there is continuous increasing or decreasing pattern. However, the derivative of sigmoidal function is non-monotonic. It does not either have continuous increasing or decreasing shape at all.

## 2.14 Hyperbolic Tangent

An alternative of sigmoidal function is hyperbolic tangent function, which is used as activation function in Artificial Neural Network (ANN). When user adopt back propagation in ANN, the derivate of hyperbolic tangent activation function get involved to estimate the errors based on weights. The derivative of hyperbolic tangent is a simple form similar to sigmoidal function.

This is one of the reason that hyperbolic tangent activation functions are widely used in ANN.

Hyperbolic tangent function is also known as tanh function.

Hyperbolic tangent activation function is expressed as

$$y = f(x) = \tanh(x) = (e^x - e^{-x}) / (e^x + e^{-x})$$

The range of the output (y) of hyperbolic tangent is -1 to +1,  $y = [-1, +1]$ . It is a continuous function and the output result of the function generates values for every independent x values.

The derivative of hyperbolic tangent function can be expressed as:

$$d/dx [f(x)] = 1 - [f(x)]^2$$

## 2.15 Softmax

Logistic type sigmoidal function often stuck in the training time of a neural network, due to its monotonous shape. To solve this problem, softmax activation functions are introduced. It is more

generalized logistic activation function for problem solving. Multi-classification problem can be easily solved through using softmax activation function.

## 2.16 SPSS interface

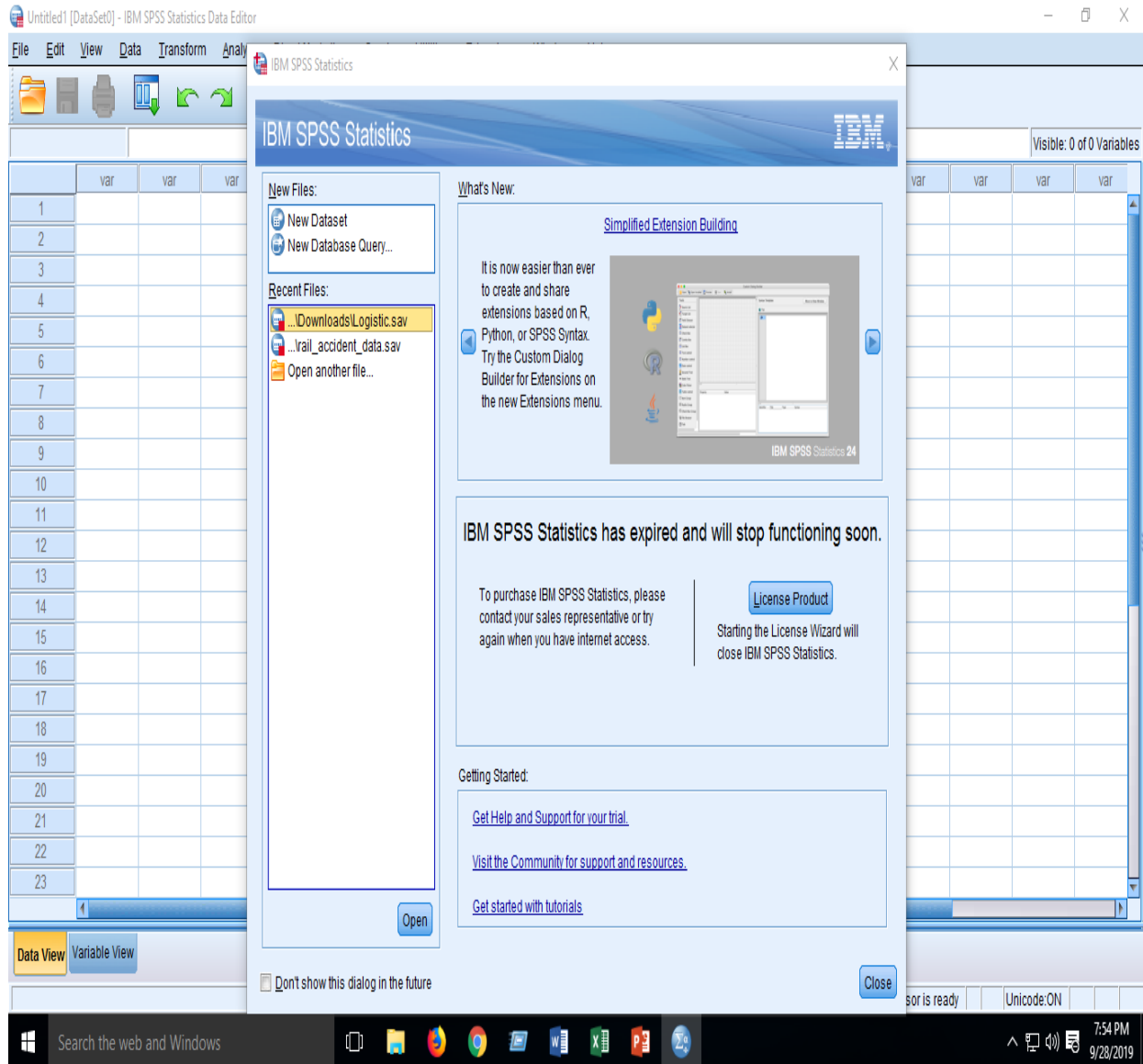


Figure: Interface of SPSS statistical software

raw1.sav [DataSet1] - SPSS Data Editor

File Edit View Data Transform Analyze Graphs Utilities Add-ons Window Help

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure
1	TT	Numeric	20	0		None	None	13	Left	Nominal
2	TC	Numeric	20	0		None	None	13	Left	Nominal
3	C	Numeric	20	0		None	None	15	Left	Nominal
4	S	Numeric	20	0		None	None	13	Left	Nominal
5	RJT	Numeric	20	0		None	None	13	Left	Nominal
6	AT	Numeric	20	0		None	None	13	Left	Nominal
7	FS	Numeric	20	0		None	None	13	Left	Nominal
8	CO	Numeric	20	0		None	None	8	Left	Nominal
9	CD	Numeric	20	0		None	None	8	Left	Nominal
10	OverAll	Numeric	20	0		None	None	13	Left	Nominal
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Data View Variable View

Figure: Dataset in the SPSS variable view

## 2.17 The Benefits of Using SPSS for Survey Data Analysis

Thanks to its emphasis on analyzing statistical data, SPSS is an extremely powerful tool for manipulating and deciphering survey data. Fun fact: The data from any survey collected via Survey Gizmo can be exported to SPSS for detailed analysis. Exporting survey data to SPSS's proprietary. SAV format makes the process of pulling, manipulating, and analyzing data clean and easy. By doing so, SPSS will automatically set up and import designated variable names, variable types, titles, and value labels, meaning that minimal legwork is required from

researchers. Once survey data is exported to SPSS, the opportunities for statistical analysis are practically endless. In short, remember to use SPSS when you need a flexible, customizable way to get super granular on even the most complex data sets. This gives you, the researcher, more time to do what you do best and identify trends, develop predictive models, and draw informed conclusions.

## **2.18 Model used in the Study**

Dargay and Clark (2012) considered long distance travel is a function of income, age, gender, employment type, household characteristics and area of residence. Holz-Rau et al. (2014) found that land use pattern, socio-demographics, population density effects long distance travel pattern. Wang et al. (2017) revealed that modal split of long distance trip depends on performance evaluation of mode, personal attributes and service demand. Mallett (2001) investigated mode choice behavior on low income people for long distance trip. He divided respondents based on geographic and age group. So we use it to Neural Network method.

## **2.19 Summary**

Service quality is satisfaction level of expectations. This chapter in the beginning defined service quality and tried to find relation between service quality and satisfaction. The role of service quality for attracting and retaining ridership is also a significant topic. The chapter presented various factors and dimensions related to service quality by various organizations such as TCRP, European Standards of public transport, SERVQUAL etc. A brief description about public transport in Bangladesh and sufferings of women in buses has also been presented in this chapter.

# **Chapter-3**

## **Methodology**

### **3.1 Introduction**

This chapter of the thesis deals with the method that has been applied in preceding with the thesis objectives. The chapter discusses the questions that were raised during performance of the study. The chapter also provides an overview of the research approach and explanation of specific terms that were used reaching the study goals. Based on the descriptive analysis presented earlier, this paper proposes a choice set formation methodology that considers two important factors of personalized travel time/cost as well as resource constraints in mode choice modeling.

### **3.2 Research Design**

The research identifies and valuation of the important attributes using logit model and compares data obtained from residential and commercial area.

Attributes are—

- ⦿ Independent variables are:
  - Travel time
  - Travel cost
  - Comfort
  - Safety
  - Reliable Journey time

- Stop/station closer from origin
  - Stop/station closer to destination
  - Availability of tickets
  - Flexibility of schedule
- ⊙ Dependent variable is:
- Mode choice preference

A question on overall quality of bus service is included in the questionnaire survey form for cross validation of the proposed logit model. All eight attributes and overall rating are converted to numerical dummy variables using Likert scale (1-5) A question on overall quality of bus service is included in the questionnaire survey form for cross validation of the proposed logit model. General information is collected for evaluating homogeneity of data size, which included–

- Age,
- gender,
- Occupation,
- Monthly income

### **3.3 Evaluation of the Questionnaire**

After preliminary design, the questionnaire was examined from the other sides. Consideration was given so that all encompassing questionnaire do not have an extra length. Whether all

questions were necessary was a valid question. Questions that divert the attraction of the respondents were tried to avoid.

### **3.4 Questionnaire Pretesting**

After a preliminary design of questionnaire, it is necessary to test the usefulness of the questionnaire. For this purpose, pre- testing is performed. Pretesting involves taking surveys to a limited number of potential respondents. The selection procedure may be based on convenience sampling but it is to ensure that the selected respondents are not too divergent from the target population. A statistical sample for pre-testing is not required. The pretesting reveals the scope for improvements to the questionnaire. The pre-testing process allows a researcher to see whether the respondents have any difficulty in understanding any questions in the questionnaire. The researcher needs to understand which questions are proving difficult to the respondents to answer. Ambiguous questions are to be made clear. Pretesting helps to understand whether, the researcher can find meaningful outcome from the answers. It is wise to tabulate the results of the pre-test and to perform a pre analysis to ensure that desired research goal is likely to be achieved. The questionnaire designed for the study included closed format questions. The closed format included liker questions, dichotomous questions and rating questions. The liker questions provided options from Strongly Agree to Strongly Disagree. The rating questions included options from Very Good to Very Poor to differentiate even slight variations. Many questions were used to get the maximum out of the respondents. The questionnaire also included demographic questions to relate demographic features with the responses. The questionnaire was originally designed in English. Later it was translated to Bengali with intense effort to express the same meanings as the English version. The pretesting of questionnaire often plays a significant role in deciding the appropriateness of the questions and their styles.



### **3.5 Reaching the Respondents**

Designed questionnaire are required to reach the desired population. There are various methods available to do the job. Self-stamp envelopes, distributing forms to boarding passengers, by mail, by telephone etc. options are available to use. But in this survey the respondents were reached personally by the surveyor. This is because it gives chance for clarifying some questions that may arrive unclear to the respondents and also surveyor can feel the respondent about selecting an option.

### **3.6 Summary**

This chapter gives Pretesting Research Design Evaluation of the Questionnaire. Questionnaire. Each intersection has been briefly described along with geometric configuration. This method is much more superior to manual data collection. Methodology of measurement of saturation flow and delay in the field is discussed in detail. Next chapter has deals with data collection.

## **Chapter-4**

### **Data Collection & Data Analysis**

#### **4.1 Introduction**

This chapter of the thesis deals with the data collection part of the study. Data collection is a very significant step for any research study. Data collection is a dutiful task demanding planning, effort and patience and perseverance. Study area, data sites, type of data required, data collection ways, and various other things are presented in this chapter.

#### **4.2 Survey Design**

Alternative modes are:

- Intercity Bus
- Intercity Train

#### **4.3 Survey Routes**

Selected routes for survey are:

- Dhaka-Sylhet route
- Dhaka-Chittagong route
- Dhaka-Rajshahi route
- Dhaka-Khulna route

## 4.4 Data Sheet

A Questionnaire on mode choice preference in-between Intercity bus and train service for Long Distance Trip (LDT)				
<p>Thank you for taking part in this survey. This is a volunteer questionnaire survey about the alternative mode choice preference in-between intercity bus and train service on long distance trip (LDT). We have consider four routes for the study, select anyone of those route for sharing your experience. A set of questions are presented in this survey, where respondents are requested to answer all of the question based on their judgment. The identity of the respondents are kept anonymous as per the policy of the survey and the questionnaire of this survey form is solely created for research purpose only.</p>				
<b>General Questions</b>				
Name your journey location (OD)		Select anyone of the following route, which you want to consider for evaluation		
		<input type="checkbox"/> Dhaka –Sylhet Route <input type="checkbox"/> Dhaka –Chittagong Route <input type="checkbox"/> Dhaka –Rajshahi Route <input type="checkbox"/> Dhaka –Khulna Route		
Frequency of travel on the route		<input type="checkbox"/> Regularly (Atleast once in two months) <input type="checkbox"/> Occasionally		
Age (year)	<input type="checkbox"/> < 18 <input type="checkbox"/> 18-40 <input type="checkbox"/> 40-60 <input type="checkbox"/> >60			
Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female			
Monthly household income (BDT)	<input type="checkbox"/> <20,000 <input type="checkbox"/> 20,000-50,000 <input type="checkbox"/> 50,000-100,000 <input type="checkbox"/> >100,000			
Occupation	<input type="checkbox"/> Student <input type="checkbox"/> Service holder <input type="checkbox"/> Business <input type="checkbox"/> Others/ Housewife			
<b>Preference choices</b>				
Please tick the close ended questions based on your experience and judgment for choice in-between intercity bus and train service for Long Distance Trip (LDT). Usually, a trip takes more than 50 mile distance are considered LDT based on Bureau of Transportation Statistics, USDOT.				
1.	Which mode does take less Travel Time (TT)?	<input type="checkbox"/> Intercity Bus	<input type="checkbox"/> Intercity Train	
2.	Which mode does take more Travel Cost (TC)?	<input type="checkbox"/> Intercity Bus	<input type="checkbox"/> Intercity Train	
3.	Which mode is more Comfortable (C)?	<input type="checkbox"/> Intercity Bus	<input type="checkbox"/> Intercity Train	
4.	Which mode is Safer (S)?	<input type="checkbox"/> Intercity Bus	<input type="checkbox"/> Intercity Train	
5.	Which mode have more Reliable Journey Time (RJT)? RJT in terms of departure and arrival time is On-time.	<input type="checkbox"/> Intercity Bus	<input type="checkbox"/> Intercity Train	
6.	Which station/stop is closer come from your home/Origin (CO)? CO in terms of access distance from origin to station/stop.	<input type="checkbox"/> Bus stop	<input type="checkbox"/> Train Station	
7.	Which station/stop is closer to your Destination (CD)? CD in terms of egress distance from station/stop to destination	<input type="checkbox"/> Bus Stop	<input type="checkbox"/> Train Station	
8.	Which mode have easier availability of tickets (AT)?	<input type="checkbox"/> Intercity Bus	<input type="checkbox"/> Intercity Train	
9.	Which mode have flexible schedule for passenger demand (FS)?	<input type="checkbox"/> Intercity Bus	<input type="checkbox"/> Intercity Train	
<b>Overall</b>				
10.	Which mode do you prefer?	<input type="checkbox"/> Intercity Bus	<input type="checkbox"/> Intercity Train	

## 4.5 Data Analysis

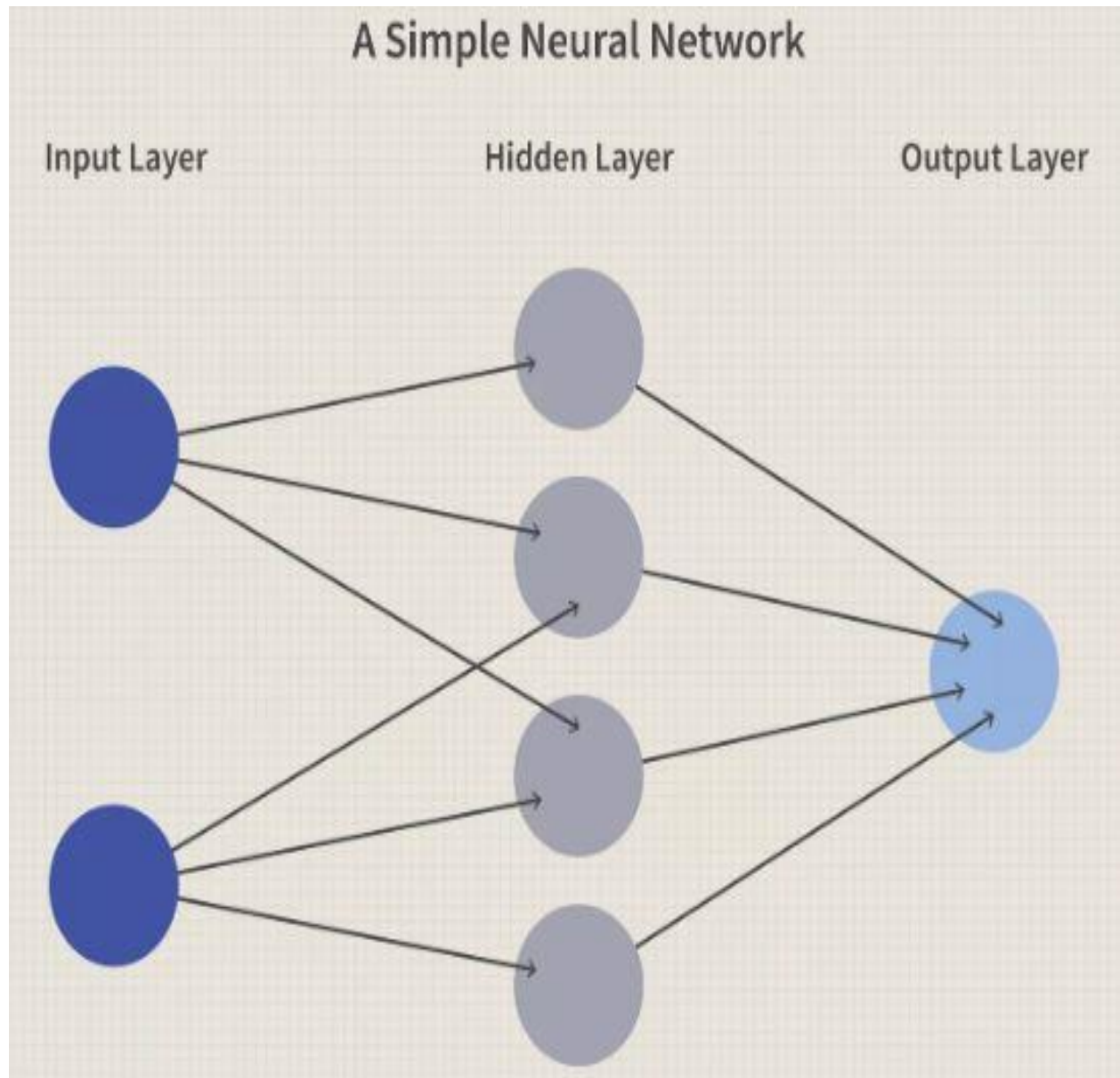


Figure: Simple Neural Network model

**SPSS v. 24.0 has been used to develop Neural Network for Long distance travel behavior modal split model.**

raw1.sav [DataSet1] - SPSS Data Editor										
File Edit View Data Transform Analyze Graphs Utilities Add-ons Window Help										
	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure
1	TT	Numeric	20	0		None	None	13	Left	Nominal
2	TC	Numeric	20	0		None	None	13	Left	Nominal
3	C	Numeric	20	0		None	None	15	Left	Nominal
4	S	Numeric	20	0		None	None	13	Left	Nominal
5	RJT	Numeric	20	0		None	None	13	Left	Nominal
6	AT	Numeric	20	0		None	None	13	Left	Nominal
7	FS	Numeric	20	0		None	None	13	Left	Nominal
8	CO	Numeric	20	0		None	None	8	Left	Nominal
9	CD	Numeric	20	0		None	None	8	Left	Nominal
10	OverAll	Numeric	20	0		None	None	13	Left	Nominal
11										
12										
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18										
19										
20										
21										
22										
23										
24										
25										
26										
Data View Variable View										

Figure: variable view tab in the SPSS

Network Information			
Input Layer	Covariates	1	Travel time (TT)
		2	Travel Cost (TC)
		3	Comfort (C)
		4	Safety (S)
		5	Reliable Journey Time (RJT)
		6	Availability of tickets (AT)
		7	Flexibility of Schedule (FS)
		8	Stop/Station Closer to Origin (CO)
		9	Stop/Station Closer to Destination (CD)
	Number of Units <sup>a</sup>		9
	Rescaling Method for Covariates		Standardized
Hidden Layer(s)	Number of Hidden Layers		1
	Number of Units in Hidden Layer 1		5
	Activation Function		Hyperbolic tangent
Output Layer	Dependent Variables	1	Mode choice preference (Over All)
	Number of Units		2
	Activation Function		Softmax
	Error Function		Cross-entropy
Optimization			Gradient decent method

Figure: Network information developed in SPSS

## 4.6 Framework of Proposed Neural Network

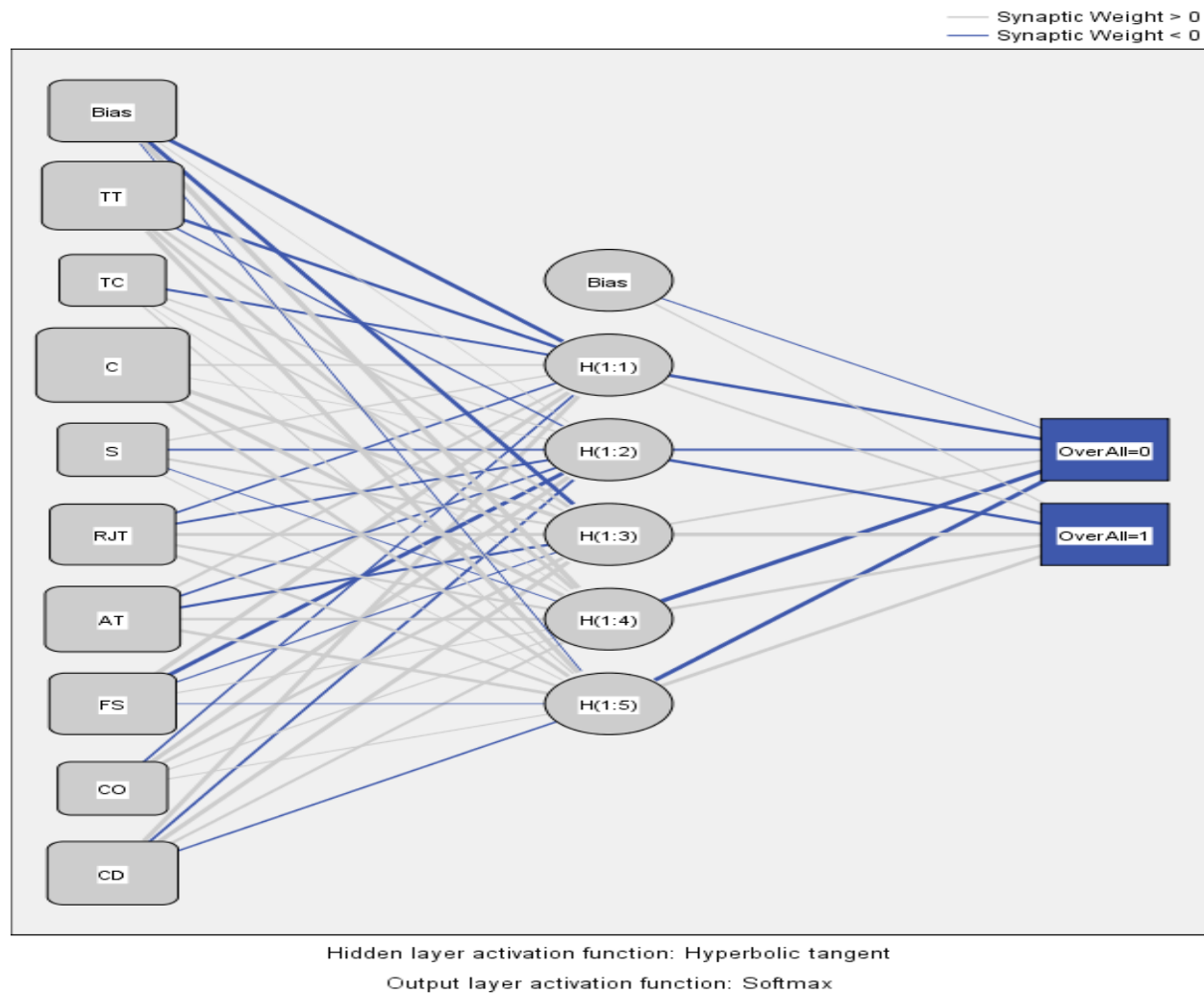


Figure: Proposed Neural Network model

## 4.7 Respondents' characteristics

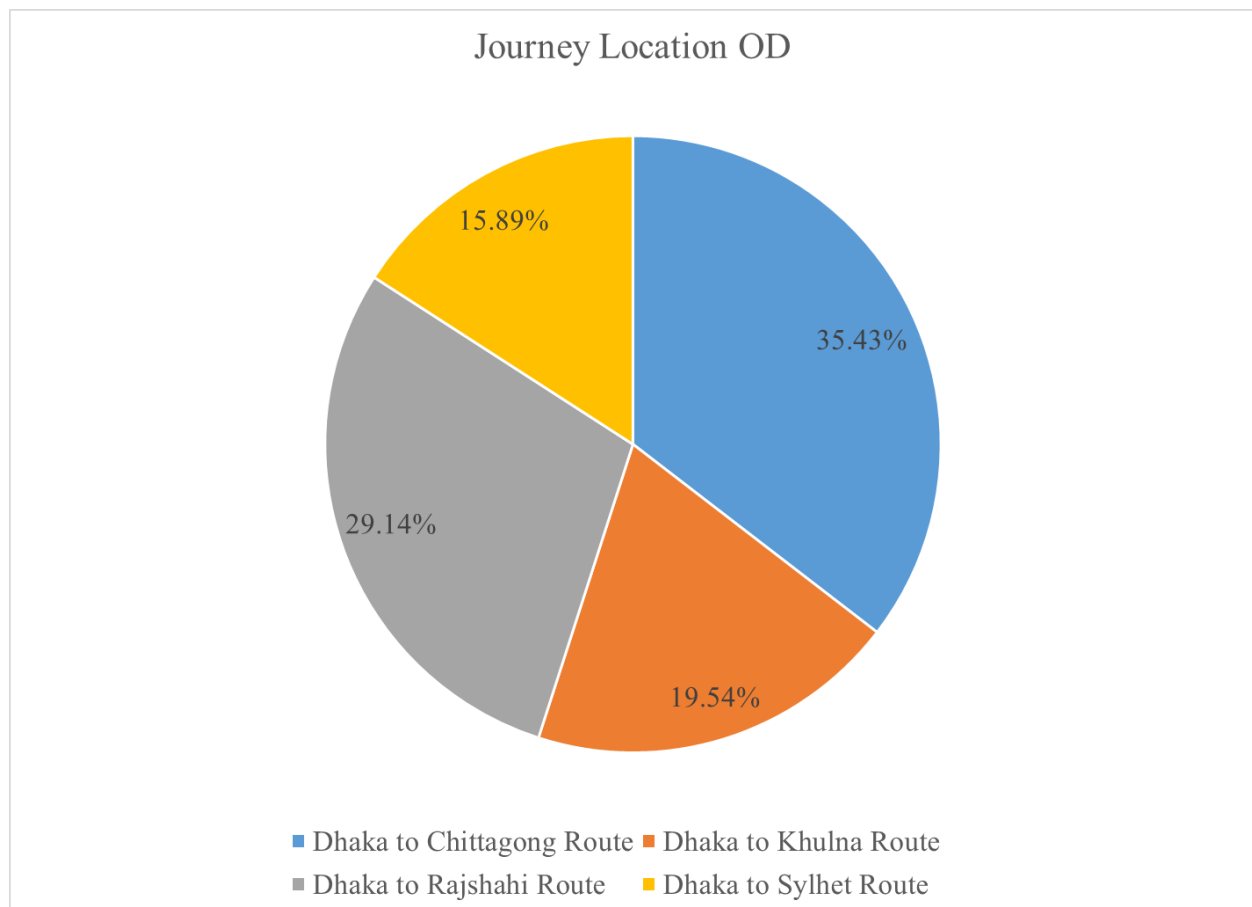


Figure: Routes in the survey study



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## FREQUENCY OF TRAVEL

■ Occasional ■ Regular

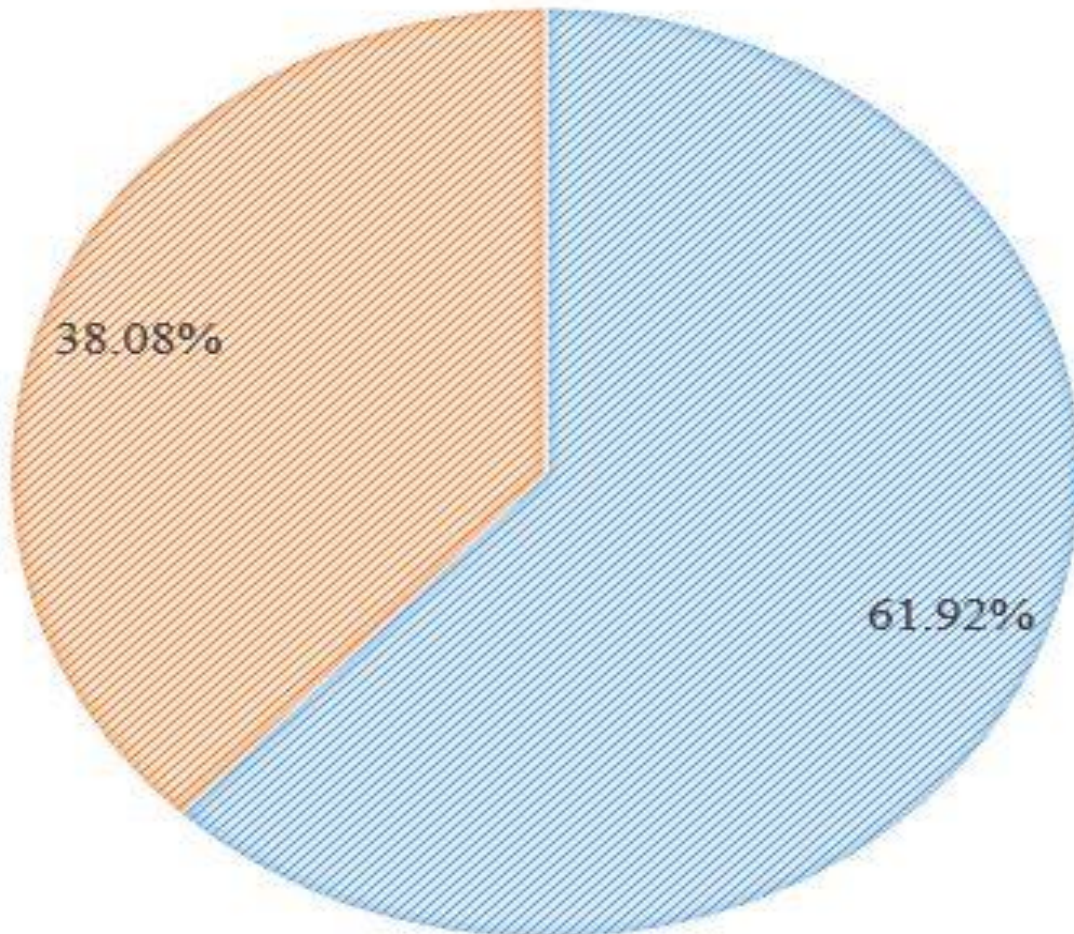


Figure: Frequency of travel among passengers

- ✓ 61.92% respondents were regular travelers and 38.08% were occasional travelers. The person who traveled long distance less than once per months were considered occasional traveler.

✓

#### 4.8 Respondents' characteristics

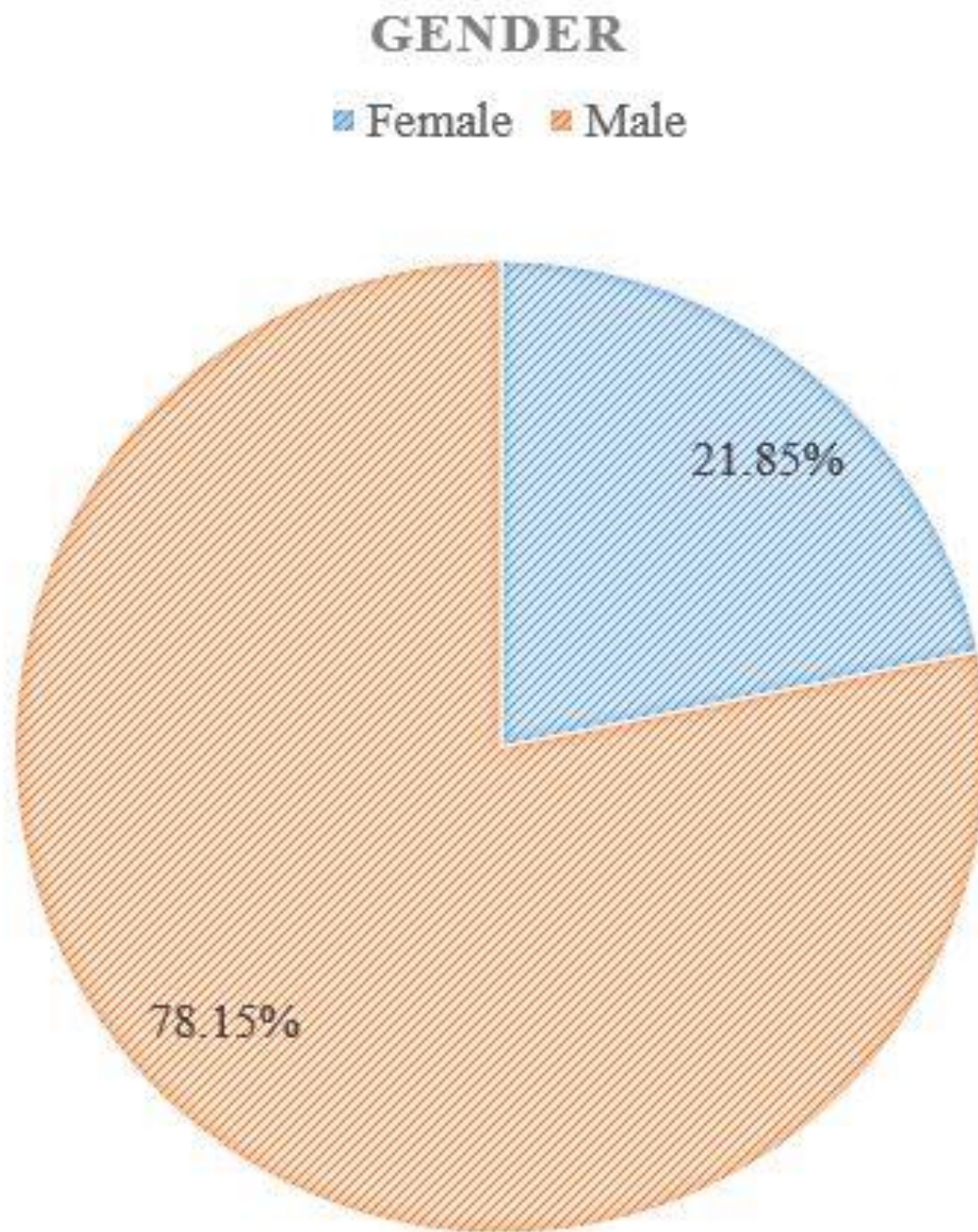


Figure: Gender demographics among passengers

### HOUSEHOLD INCOME (BDT)

■ <20,000 BDT ■ >1,00,000 BDT ■ 20,000-50,000 BDT ■ 50,000-1,00,000 BDT

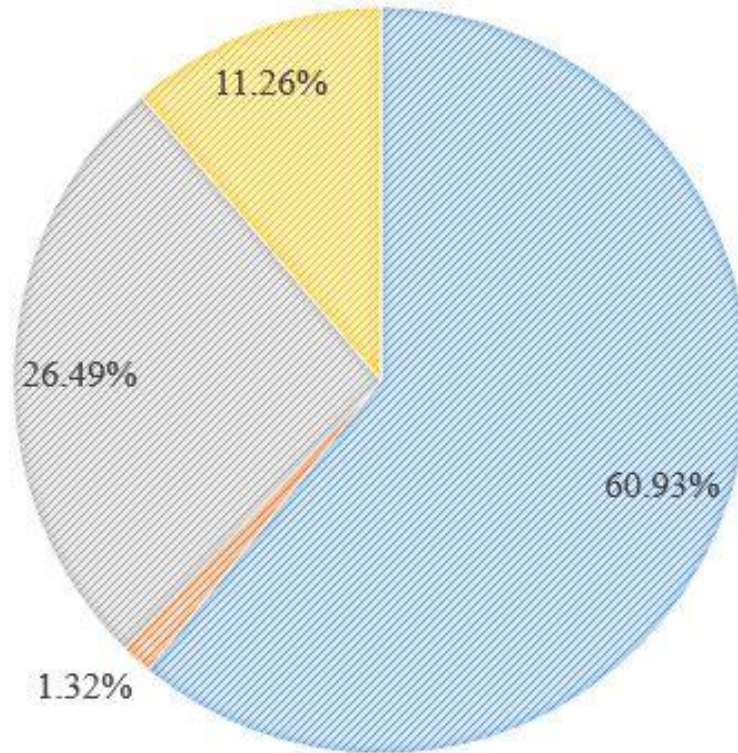


Figure: different income group among passengers

- ✓ 60.93% had household income less than 20000BDT/month
- ✓ Male and female respondents were 78.15% and 21.85% respectively.



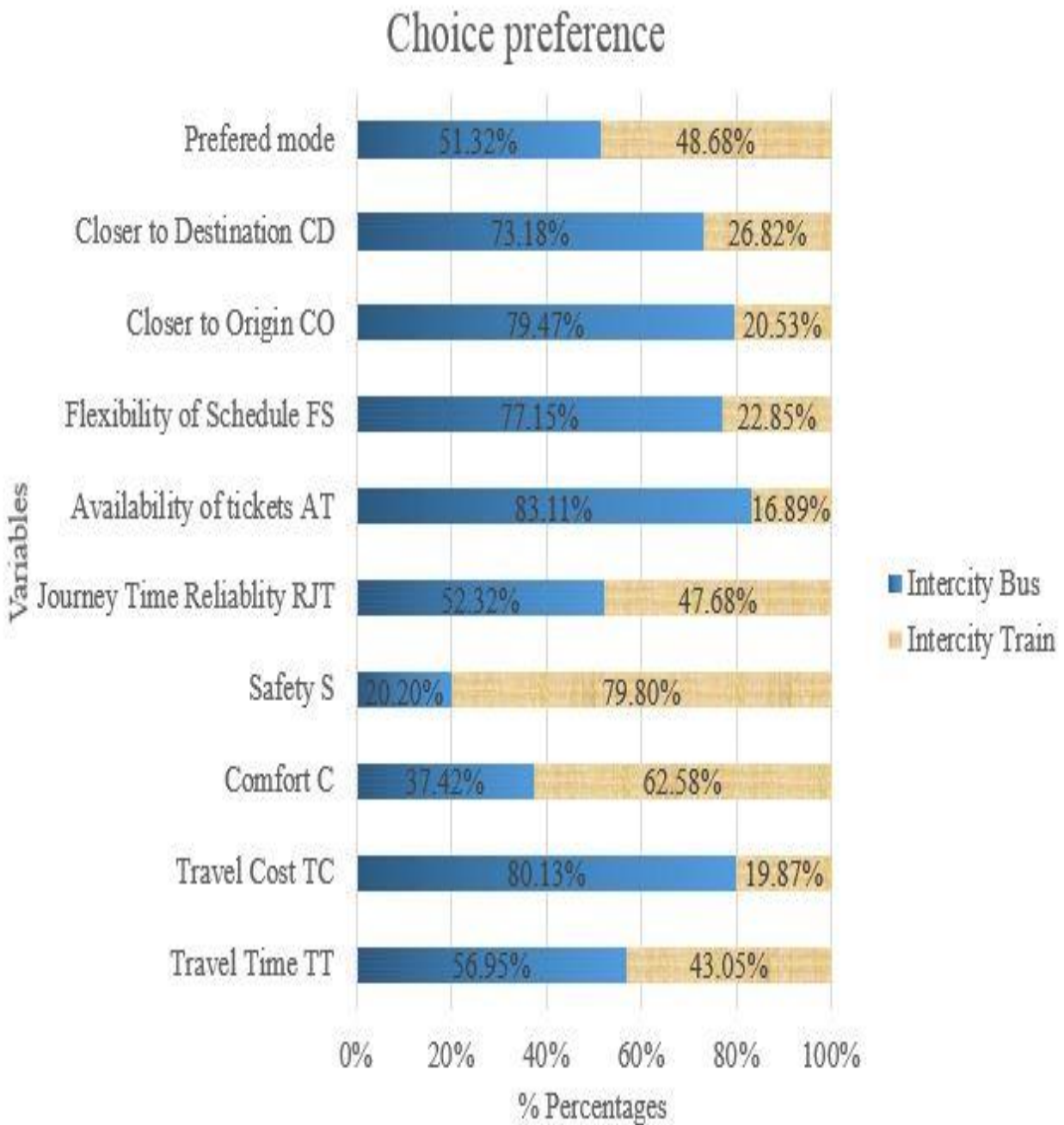


Figure: choice preference among the road users

Respondents' choice to prefer intercity bus and intercity train were 51.32% and 48.68% respectively.

Case Processing Summary			
Sample	Training	N	Percent
	Testing	210	69.5%
Total		92	30.5%
		302	100.0%

Classification				
Sample	Observed	Predicted		
		0	1	Percent Correct
Training	0	81	21	79.4%
	1	10	98	90.7%
	Overall Percent	43.3%	56.7%	85.2%
Testing	0	42	11	79.2%
	1	6	33	84.6%
	Overall Percent	52.2%	47.8%	81.5%
Dependent Variable: Over All				

Neural Network (NN) model

Training Accuracy: 85.2%

Testing Accuracy: 81.5%

Independent Variable Importance		
	Importance	Normalized Importance
Travel Time (TT)	.178	76.9%
Travel Cost (TC)	.020	8.5%
Comfort (C)	.232	100.0%
Safety (S)	.035	15.0%
Reliability of Journey Time (RJT)	.107	46.1%
Availability of Tickets (AT)	.151	65.0%
Flexibility of Schedule (FS)	.112	48.4%
Stop/Station closer to Origin (CO)	.036	15.4%
Stop/Station closer to Destination (CD)	.129	55.8%

Ranking of features: Comfort (C)>Travel time (TT)> Availability of tickets (AT) > Station/stop closer to destination (CD)> flexible schedule (FS) > Reliable journey time (RJT) > Station/stop closer to origin (CO)> safety (S) > Travel cost (TC)

Most important feature: Comfort (C)

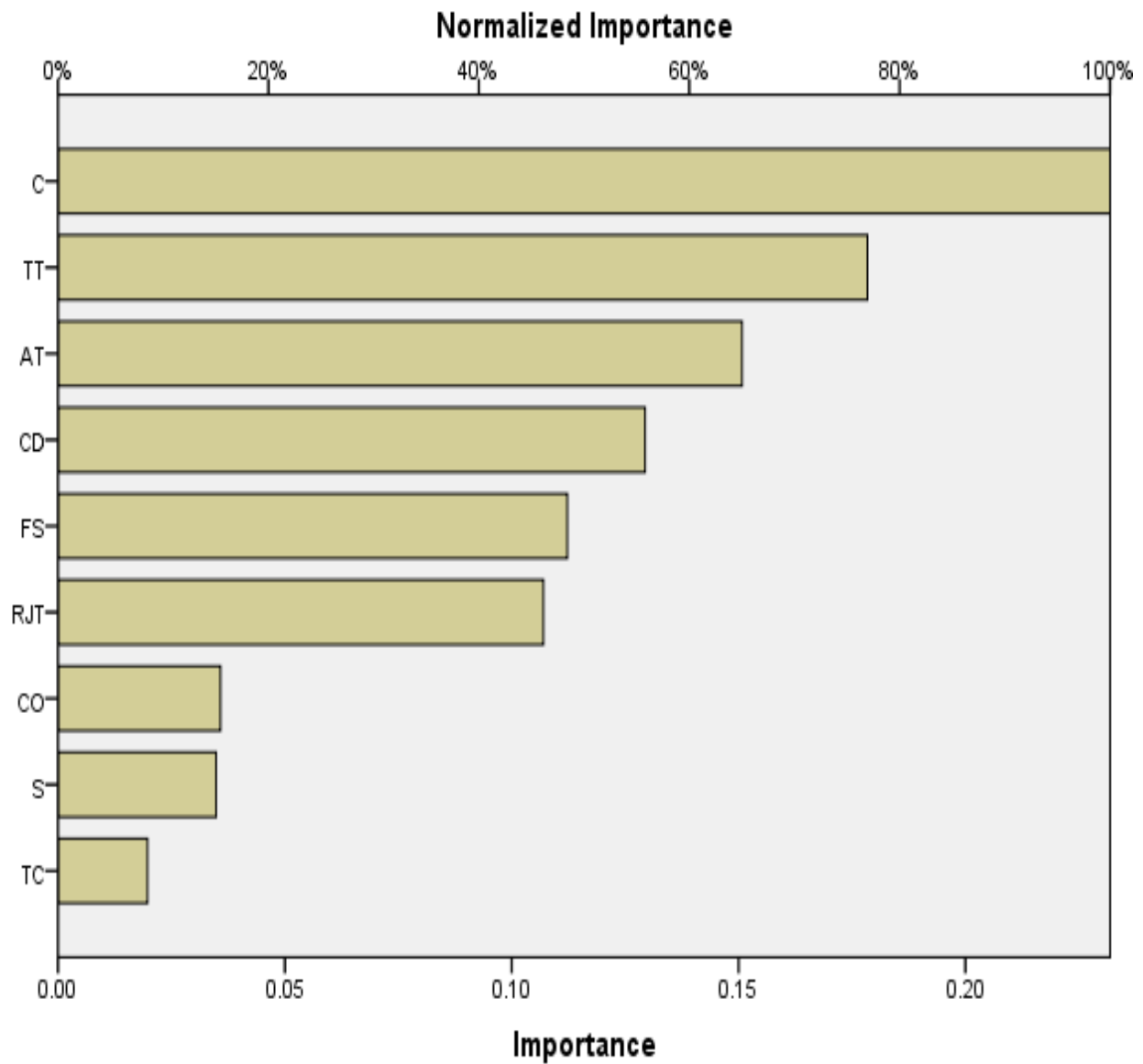


Figure: Ranking and importance of variables

- ✓ Comfort is the most important feature considering it 100%
- ✓ Travel cost and safety are least important feature relatively.

## 4.9 Result

- 35.43% and 29.14% were responses to Dhaka to Chittagong and Dhaka to Rajshahi route among respondents. Dhaka to Sylhet and Dhaka to Khulna were 15.89% and 19.54% respectively.
- 79.8% respondents believed that intercity train are safer than alternative intercity bus mode.
- 83.11% respondents opinioned that ticket in intercity bus are more easily available than train.
- More than 70% respondents prefer bus, because bus stops are closer to their either origin or destination compare to train station.
- 62.58% respondents supported trains are more comfortable than bus.
- The proposed Neural Network models have 85.2% accuracy in training and 81.5% accuracy in testing.



## **Chapter 5**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 General**

Mode choice behavior is a fundamental element of travel behavior that has significant implications for transportation planning. Along with estimates of public transit ridership and the use of alternative modes of transportation, the effectiveness of policies regarding introduction of a new transit system or improvement of the existing one depends on studies of mode choice behavior and modal split models. These are the critical determinants of the probability of what factors will act behind the shifting of people from one mode to the other and also the probability of the number of people may actually change their travel mode. The dual concern of this study is with the identification of mode choice determinants and the formulation of a mode choice model. The data available to BUET from the household interview survey (HIS) conducted for Strategic Transport plan (STP) in 2004 is used in the study material. Mode choice behavior is analyzed with respect to users' socioeconomic characteristics. In this regard, modal share is demonstrated in bar graphs to draw a comparative figure in the use of modes among the different sets of attributes. Modal share of individual group is illustrated in pie charts to determine the use of modes by each group. A multinomial logistic regression is applied to show the overall effects of the selected attributes on mode selection. The mode choice model is developed based on two approaches- multinomial logit (MNL) and nested logit (NL) for each of the four trip purposes, home based work (HBW), home based education (HBE), home based other (HBO) and non

home based (NHB). The development of the MNL model starts with a basic specification of utility function which includes travel time, travel cost and household income. The impact of the generic variables as well as specific variable to the utility equation is shown to verify the suitability of their incorporation in the utility specification. Two alternative specifications of the utility function based on interaction of travel cost with income such as cost/income and cost/Ln(income) are explored. The underlying principle behind this formulations is that a unit of cost is less important with increasing income. The NL model is developed to overcome the limitation of the IIA (independence from Irrelevant Alternatives) property of MNL model. The NL model is aimed at to examine whether people's choice vary over one particular alternative or the same group of alternatives. In this regard, six different nested structures are considered in the study to check their reasonableness and find the most significant and best-fitted one in context of the travelers of Dhaka.

## **5.2 Major Findings of the Study**

- The highest proportion of trips made by the residents of Dhaka are for home based other purpose such as shopping, medical, social, recreational etc. The major portion of trips for all purposes is made by households consisting four members. Women usually take part in more education and home base other trips.
- Rickshaw is the most significant mode of transport. It shares 36% of trips for all purposes. Major portion of rickshaw trips are attributed to home based education and home base other non-work trips. Public bus is also significant mode of transport contributed to 32% of trips for all purposes among which 38% bus trips are taken up for

HBW trip purpose and 35% for HBO trip purpose. Motorized para transit services such as CNG and taxi are most frequently used for HBO trips.

- Household income is the most important factor which influences choice of travel mode. People of all groups except high income group mostly use public bus for HBW trips and rickshaw for HBE trips, where the use of CNG for HBO trips increase with income. The share of walk trips is mostly attributed to people under low income group. The use of car/jeep is naturally credited to people with high income level.
- Gender has also significant effect on mode choices – women are more likely to use rickshaws whatever be the purpose of the trip, while men highly use rickshaw for education trips. Women show much less propensity to use public bus and strongly disagree in using motor cycle.
- Travel cost interacted with household income is found to have better goodness-of-fit rather than travel cost or income considered alone in the utility equation of mode choice model.
- The characteristics of the same group of vehicles such as private transport, para transit and public transit act primarily behind the choice of modes as compared to the choice of mode considering individual characteristics which is evident from the nested logit model.

### **5.3 Limitations of the Study**

- The study considers the data of 4,825 households from the STP HIS data set of 6,035 households. Both the numbers are lacking representative samples because it is a usual practice to collect survey data from 1% households in the study area which would be more than 10,000 HHs in the DCC area during the period the survey was conducted.

- The survey data is taken from 19 wards of DCC. This obviously does not represent equal proportion of socio-economic groups in the study area.
- A more logical approach for model development in the context of developing country where socio-economic profile varies widely is to segregate the trips first by income group and then by purpose. Because of small number of data to represent all socio-economic groups, we have developed the model based on trip purpose only.
- In the present study, HH income is grouped based on STP and DHUTS studies. But there was no guideline or procedure as to how to define income groups as low, middle and high and this is reflected between the differences in selecting income ranges in both the studies.
- Detail information on travel cost by different modes of transport is not available in the data set. Other information such as comfort level, possibility of choice of other modes etc., if included in the survey data, can be applied in the mode choice model which will increase its power of applicability in different situations.

## 5.4 Recommendation

- Almost 62% respondents were occasional traveler, which influenced results of the output. Therefore, opinion of regular traveler may be suppressed.
- Only 12% have monthly household income more than 50k BDT, hence travel cost would play crucial decision making feature for mode choice. However, travel cost (TC) or fare rate between intercity bus and intercity train have less influence due to their low differences.

- Overall mode choice preference showed that both intercity bus and intercity train have similar preference.
- It is recommended to make train ticket more easily available in order to increase intercity train ridership.
- Travel time and comfort are the most important feature to improve level of service of long distance transportation mode.

## 5.6 Conclusion

- The study limited to the long distance travel (LDT) behavior responses of the Capital Dhaka city to major three other cities of Bangladesh. Responses of other origin-destination for LTD behavior may vary from the results of this study.
- Demographics and availability of long distance transport mode play significant role in mode choice decision making.
- LDT behavior differs from short distance daily travel pattern, because large percentage of Long distance traveler used to travel occasionally.
- The study ranked several features based on their influence or importance on mode choice behavior. Concerned authority can take appropriate transportation planning and policy based on the importance of the features.
- Since train have exclusive right of way and high ridership potential, proper steps are required to switch intercity train for long distance travel.

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## Appendix

### Gender

		Valid Percent
Valid	Female	21.85%
	Male	78.15%
	Total	100

### Houesehold\_Income

		Valid Percent
Valid	<20,000 BDT	60.93%
	>1,00,000 BDT	1.32%
	20,000-50,000 BDT	26.49%
	50,000-1,00,000 BDT	11.26%
	Total	100

Hidden layer no.	Hidden layer func	Output layer func	% accuracy
1	1	1	98.8
1	1	2	98.2
1	1	3	97.6
2	1	1	96.1
2	1	2	99.4
2	1	3	98.7

Name	Fr		M		Wh	Wh	W	W	Which	Wh	Whi	Which	Which	W
your	eq		on		ich	ich	hic	hi	mode	ich	ch	station/s	station/s	hic
journey	ue		th		mo	mo	h	c	have	mo	mod	top is	top is	h
location	nc		ly		de	de	m	h	more	de	e	closer	closer to	m
(OD):	y	A	ho		do	do	od	m	Reliable	hav	have	come	your	od
Select	of	g	us	O	es	es	e	o	Journey	e	flexi	from	Destinati	e
anyone	tra	e	eh	c	tak	tak	is	d	Time	easi	ble	your	on	do
of the	vel		ol	c	e	e	m	e	(RJT)?RJ	er	sche	home/Or	(CD)?CD	yo
followin	on	(	G	d	u	les	mo	or	T in	ava	dule	igin	in terms	u
g route,	th	y	e	in	p	s	re	e	S	ilab	for	(CO)? CO	of egress	pr
which	e	e	n	co	a	Tra	Tra	Co	af	ility	pass	in terms	distance	efe
you	ro	a	d	m	ti	vel	vel	mf	e	of	enge	of access	from	r
want to	ut	r	e	e	o	Ti	Cos	ort	r	tick	r	distance	station/s	for
consider	e	)	r	(B	n	me	t	ab	(S	arrival	ets	dem	top to	th



for evaluati on				D (T)	(TT )?	(TC )?	le (C) ?	)? time is On- time.	(AT )?	and (FS)?	origin to station/s top.	destinati on	e ro ute?	
				50,000-1,000										
Dhaka â€”Rajsh ahi Route	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o	1 8 - 4 0	M a l e	00 B D T	Int erc ity Bu s	Int erc ity Bus	Int erc ity Tr ai n	Int erc ity Bus	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s
Dhaka â€”Chitt agong Route	om th s) Re gu lar y (A tle ast on ce in tw o	4 0 - 6 0	M a l e	00 B D T	Int erc ity Tra in	Int erc ity Bus	Int erc ity Tr ai n	Int erc ity Train	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Tr ain
Dhaka â€”Chitt agong Route	om th s) Re gu lar y (A tle ast on ce in tw o	1 8 - 4 0	M a l e	00 B D T	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Train	Inte rcit y Bus	Inter city Bus	Train Station	Bus Stop		Int erc ity Bu s

[illegible]

s)

Route	Frequency	Days	Start Time	End Time	Type	Category	Status	Remarks	Intercity	Inter-city	Train Station	Train Station	Intercity
Dhaka →“Khulna Route	1 8 4 0	M a l e	00 0 0 0	0 0 0 0	u d e t	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in
Dhaka →“Sylhet Route	1 8 4 0	M a l e	00 0 0 0	0 0 0 0	u d e t	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus
Dhaka →“Rajshahi Route	1 8 4 0	M a l e	00 0 0 0	0 0 0 0	u d e t	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus
Dhaka →“Sylhet Route	1 8 4 0	M a l e	00 0 0 0	0 0 0 0	u d e t	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus

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	(At least once in two months)	0	B D T	e n t	s		B s	i t B u s									s
Dhaka â€“Khulna Route	Ocasional Regular y (At least once in two months)	1840	F e m a l e	<2 0, 00 B D T	S u d e n t s	Intercity Bus	Intercity Bus	Tran Inter city	Intercity Bus	Intercity Bus	Inter city Bus	Bus Stop	Bus Stop			Intercity Buses	
Dhaka â€“Rajshahi Route	Monthly Regular y (At least once in two months)	1840	M a l e	<2 0, 00 B D T	S u d e n t s	Intercity Bus	Intercity Bus	Bus Inter city	Intercity Bus	Intercity Bus	Inter city Bus	Bus Stop	Bus Stop			Intercity Buses	
Dhaka â€“Chittagong Route	Weekly (At least once in two months)	1840	M a l e	<2 0, 00 B D T	S u d e n t s	Intercity Bus	Intercity Bus	Tran Inter city	Intercity Bus	Intercity Bus	Inter city Bus	Bus Stop	Bus Stop			Intercity Buses	

Route	City	Type	Frequency	Distance (km)	Duration (min)	Vehicle Type	Operator	Remarks	Fares (Tk)				Remarks
									Adult	Child	Senior	Student	
Dhaka - Khulna	Dhaka	Inter-city	Regular	150	4-5	Bus	Govt	Non-stop	100	50	75	50	Inter-city Bus
Dhaka - Chittagong	Dhaka	Inter-city	Regular	200	5-6	Bus	Govt	Non-stop	120	60	90	60	Inter-city Train
Dhaka - Khulna	Dhaka	Inter-city	Regular	150	4-5	Bus	Govt	Non-stop	100	50	75	50	Inter-city Bus

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“Khulna Route	ca sionally	8 4 0	a - e	0, 00 B D T	t u d e n t	erc ity Bus	erc ity Bus	er cit y Bus	t e rc it y B u s	y Bus	rcit y Bus	city Bus				erc ity Bus
	Re gu lar y (A tle ast on ce in tw o m on th s)															
Dhaka “Chittagong Route		1 8 4 0	M - a l e	0 0 B D T	S t u d e n t	Int erc ity Bus	Int erc ity Bus	Int er cit y Bus	Int er cit y B u s	Intercit y Bus	Inte rcit y Bus	Inter city Trai n	Bus Stop	Bus Stop		Int erc ity Bus
	Re gu lar y (A tle ast on ce in tw o m on th s)															
Dhaka “Chittagong Route		1 8 4 0	M - a l e	0 0 B D T	S e r v i c e h o	Int erc ity Trai n	Int erc ity Bus	Int er cit y Trai n	Int er cit y T r a i n	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Train Station		Int erc ity Tr ain
Dhaka “Chittagong Route		1 8 4 0	M - a l e	0 0 B D T	S t u d e n t	Int erc ity Bus	Int erc ity Trai n	Int er cit y Trai n	Int er cit y T r a i n	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop		Int erc ity Tr ain

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				B D T		h o  l d e r S e r v i c e h			r ai n									
Dhaka â€“Chitt agong Route	Oc ca sio na lly	1 8 - 4 0	e m a l e	20 ,0 00 - 50 ,0 00	o l d e r S e r v i c e h	Int erc ity Tra in	Int erc ity Bus	Int er cit y Tr ai n	In t e rc it y Tr ai n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Tr ain	
Dhaka â€“Khul na Route	Oc ca sio na lly	1 8 - 4 0	M a l e	20 ,0 00 - 50 ,0 00	o l d e r S e r v i c e h	Int erc ity Bu s	Int erc ity Bus	Int er cit y Bu s	In t e rc it y Tr ai n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Bu s	
Dhaka â€“Rajsh ahi Route	Oc ca sio na lly	1 8 - 4 0	M a l e	<2 0, 00	S t u d e n t	Int erc ity Bu s	Int erc ity Bus	Int er cit y Bu s	In t e rc it y B u s	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Bu s	
Dhaka â€“Rajsh ahi Route	Oc ca sio na lly	1 8 - 4 0	M a l e	<2 0, 00	S t u d e n t	Int erc ity Bu s	Int erc ity Bus	Int er cit y Bu s	In t e rc it y B u s	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Bu s	

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				00 B D T					r ai n									
	Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	M a l e	00 B D T	S e r v i c e h o l d e r s	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Bus	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Bus	
Dhaka â€”Khul na Route	Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	M a l e	00 B D T	S e r v i c e h o l d e r s	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Bus	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Bus	
	Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	M a l e	00 B D T	S e r v i c e h o l d e r s	Int erc ity Tra in Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Train	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Tr ain	
Dhaka â€”Rajsh ahi Route	Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	M a l e	00 B D T	S e r v i c e h o l d e r s	Int erc ity Tra in Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Train	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Tr ain	
	Oc ca sio na lly Re	< 1 8 1	M a l e F	00 B D T	S e r v i c e h o l d e r s	Int erc ity Tra in S	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Bus	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Bus	
Dhaka â€”Chitt agong Route	Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	M a l e	00 B D T	S e r v i c e h o l d e r s	Int erc ity Tra in S	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Bus	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Bus	
Dhaka	Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	M a l e	00 B D T	S e r v i c e h o l d e r s	Int erc ity Tra in S	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Bus	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Bus	

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Dhaka â€“Khulna Route	gu- lar (A tle ast on ce in tw o m on th s)	840	a-l-e- 050, 000 B D T	,000 t n	t ercity Tra in	ercity Bus	er cit y Tr ai n	t e rc it y T r ai n	y Bus	rcit y Bus	city Bus					erc ity Bu s
Dhaka â€“Khulna Route	Oc ca sio na lly	1840	e-m-a-l-e 0840 B D T	<2 0, 000 t S	Int erc ity Tra in	Int erc ity Bus	Int er cit y Bu s	In t e rc it y B u s	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Bu s
Dhaka â€“Rajshahi Route	Oc ca sio na lly	1840	e-m-a-l-e 0840 B D T	<2 0, 000 t S	Int erc ity Bu s	Int erc ity Tra in	Int er cit y Tr ai n	In t e rc it y B u s	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Bu s
Dhaka â€“Sylhet Route	Oc ca sio na lly	1840	e-m-a-l-e 0840 B D T	<2 0, 000 t S	Int erc ity Bu s	Int erc ity Bus	Int er cit y Tr ai n	In t e rc it y T r ai n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Bu s
Dhaka â€“Rajshahi Route	Re gu lar (A	1840	<2 0, 000 B	S 0, 000 t S	Int erc ity Tra in	Int erc ity Bus	Int er cit y Tr	In t e rc it y	Intercit y Train	Inte rcit y Trai n	Inter city Bus	Bus Stop	Bus Stop			Int erc ity Tr ain

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ah Route	sio na lly	- 4 0	l e 0	00 - 50 ,0 00 B D T	u d e n t	ity Tra in	ity Bus	cit y Tra in	e rc it y Tra in	y Bus	Trai n	ity Tr ain			
Dhaka â€”Khul na Route	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	M a l e T	0 B D T	u d e n t	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Bus	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop	Interc ity Bus
Dhaka â€”Chitt agong Route	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	F a l e T	<2 0, 00 B D T	S t u d e n t	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Intercit y Train	Intercit y Train	Inter city Trai n	Train Station	Train Station	Interc ity Tr ain
Dhaka â€”Sylhe t Route	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	M a l e T	<2 0, 00 B D T	S t u d e n t	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Intercit y Train	Intercit y Train	Inter city Trai n	Bus Stop	Train Station	Interc ity Tr ain
Dhaka â€”Sylhe t Route	Oc ca sio na lly	1 8 - 4 0	M a l e T	<2 0, 00 B D T	S t u d e n t	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Intercit y Train	Intercit y Train	Inter city Trai n	Bus Stop	Train Station	Interc ity Tr ain

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Dhaka → Rajshahi Route	Regular (At least once in two months) Regular (At least once in two months)	8 - 4 0	a l e 0	0, 0 B D T	t u d e n t	erc ity Tra in	erc ity Bus	er cit y Tra in	t e rc it y Tra in	y Train	rcit y Bus	city Trai n			erc ity Tr ain
Dhaka → Khulna Route	Regular (At least once in two months) Regular (At least once in two months)	1 8 - 4 0	M a l e	20, 0 00 - 50 0	S t u d e n t	Int erc ity Bus	Int erc ity Bus	Int er cit y Bus	Int er cit y Tra in	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bus s
Dhaka → Rajshahi Route	Regular (At least once in two months) Regular (At least once in two months)	1 8 - 4 0	M a l e	<2 0, 00	S t u d e n t	Int erc ity Tra in	Int erc ity Bus	Int er cit y Tra in	Int er cit y Tra in	Intercit y Train	Inte rcit y Trai n	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Tr ain
Dhaka		4	M	50	S	Int	Int	Int	Int	Intercit	Inte	Inter	Bus Stop	Bus Stop	Int

“Sylhet Route	ca sionally	0 - 6 0	a l e - 1, 00 ,0 00 B D T	,0 - 1, 00 ,0 00 B D T	e r v i c e h o l d e r	erc ity Bus	erc ity Bus	er cit y Bus	t e rc it y Train	y Train	rcit y Bus	city Bus				erc ity Bus
Dhaka “Chittagong Route	Oc ca sionally	1 8 - 4 0	M a l e	00 B D T	u d n t	Int erc ity Train	Int erc ity Bus	Int erc ity Bus	Int erc ity Train	Intercit y Train	Intercit y Bus	Inter city Bus	Train Station	Train Station		Int erc ity Train
Dhaka “Chittagong Route	Oc ca sionally	1 8 - 4 0	M a l e	00 B D T	u d n t	Int erc ity Train	Int erc ity Bus	Int erc ity Bus	Intercit y Bus	Intercit y Bus	Inter city Bus	Inter city Bus	Bus Stop	Bus Stop		Int erc ity Train
Dhaka “Rajshahi Route	Oc ca sionally	1 8 - 4 0	M a l e	00 B D T	u d n t	Int erc ity Train	Int erc ity Bus	Int erc ity Bus	Intercit y Bus	Intercit y Bus	Inter city Bus	Inter city Bus	Bus Stop	Bus Stop		Int erc ity Bus
Dhaka “Rajshahi Route	Re gu lar y (A tle	1 8 - 4 0	F m a l e	<2 0, 00 B D	S t u d n	Int erc ity Train	Int erc ity Bus	Int erc ity Bus	Intercit y Train	Intercit y Train	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop		Int erc ity Train



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Dhaka â€”Rajshahi Route	Oc ca sio na lly	1 8 - 4 0	M a l e	<2 0, 00 B D T	S t u d e n t O t h e r s / h o u s e T r a i n e	Int erc ity Bu s	Int erc ity Bus	Int er cit y Bu s	Int er cit y T r a i n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s
Dhaka â€”Chittagong Route	Oc ca sio na lly	1 8 - 4 0	M a l e	<2 0, 00 B D T	S t u d e n t O t h e r s / h o u s e T r a i n e	Int erc ity Tra in	Int erc ity Bus	Int er cit y Tr a i n	Int er cit y T r a i n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Train Station	Train Station	Int erc ity Bu s
Dhaka â€”Chittagong Route	Oc ca sio na lly Re gu lar y (A st on	1 8 - 4 0	M a l e	<2 0, 00 B D T	S t u d e n t O t h e r s / h o u s e T r a i n e	Int erc ity Tra in	Int erc ity Bus	Int er cit y Tr a i n	Int er cit y T r a i n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Train Station	Train Station	Int erc ity Bu s
Dhaka â€”Chittagong Route	Oc ca sio na lly	1 8 - 4 0	M a l e	<2 0, 00 B D T	S t u d e n t O t h e r s / h o u s e T r a i n e	Int erc ity Bu s	Int erc ity Bus	Int er cit y Tr a i n	Int er cit y T r a i n	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Train Station	Int erc ity Bu s

ce in tw o m on th s)															ai n									
															In t e rc it									
Dhaka â€”Chitt agong Route	Oc ca sio na lly	1 8 - 4 0	M a l e	0 B D T	<2 0, u	S t d e n t s	Int erc ity Bu s	Int erc ity Bus	Int cit y Bu s	T r ai n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s								
Dhaka â€”Rajsh ahi Route	Oc ca sio na lly	1 8 - 4 0	e m a l e	0 B D T	<2 0, u	S t d e n t s	Int erc ity Bu s	Int erc ity Bus	Int cit y Bu s	T r ai n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s								
Dhaka â€”Rajsh ahi Route	Oc ca sio na lly	1 8 - 4 0	M a l e	0 B D T	20 ,0 00 - 50 ,0 00	S t u d e n t s	Int erc ity Tra in	Int erc ity Bus	Int cit y Tr ai n	T r ai n	Intercit y Train	Inte rcit y Trai n	Inter city Trai n	Train Station	Train Station	Int erc ity Tr ain								
Dhaka â€”Chitt agong Route	Oc ca sio na lly	1 8 - 4 0	M a l e	0 B D T	<2 0, u	S t d e n t s	Int erc ity Bu s	Int erc ity Bus	Int cit y Bu s	T r ai n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s								

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agong Route	sio na lly	- 4 0	m a l	00 - 50 e 00 B D T	u d e n t	ity Bu s	ity Tra in	cit y Bu s	e rc it y T r ai n In t e rc it y B u s In t e rc it y B u s	y Bus	Bus				ity Bu s
Dhaka â€“Chitt agong Route	Oc ca sio na lly	1 8 4 0	e m a l e	00 0 B D T	u d e n t	Int erc ity Bu s	Int erc ity Bus	Int erc ity Bu s	Int erc ity B u s In t e rc it y B u s	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s
Dhaka â€“Chitt agong Route	Oc ca sio na lly	1 8 4 0	M - a l e	00 0 B D T	u d e n t	Int erc ity Bu s	Int erc ity Tra in	Int erc ity Tra in	Int erc ity B u s In t e rc it y B u s	Intercit y Bus	Inte rcit y Trai n	Inter city Trai n	Bus Stop	Train Station	Int erc ity Trai n
Dhaka â€“Khul na Route	Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 4 0	F - a l e	00 0 B D T	u d e n t	Int erc ity Bu s	Int erc ity Bus	Int erc ity Bu s	Int erc ity B u s In t e rc it y B u s	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s
Dhaka â€“Rajsh ahi Route	Oc ca sio na lly	< 1 8	a l e	00 0 B D	u d e n	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Int erc ity B u s In t e rc it y B u s	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s

Table 1: Summary of the bus routes in Dhaka															
Route	Origin	Destination	Frequency	Departure Time	Arrival Time	Travel Time	Distance	Mode	Remarks	Notes	Remarks	Notes	Remarks	Notes	Remarks
Dhaka â€”Rajshahi Route	Dhaka Station	Rajshahi	Daily	18:00	20:00	2h	100 km	Bus	Intercity	Train	Intercity	Train	Intercity	Train	Intercity
Dhaka â€”Khulna Route	Dhaka Station	Khulna	Daily	18:00	20:00	2h	100 km	Bus	Intercity	Train	Intercity	Train	Intercity	Train	Intercity
Dhaka â€”Sylhet Route	Dhaka Station	Sylhet	Daily	18:00	20:00	2h	100 km	Bus	Intercity	Train	Intercity	Train	Intercity	Train	Intercity
Dhaka â€”Rajshahi Route	Dhaka Station	Rajshahi	Daily	18:00	20:00	2h	100 km	Bus	Intercity	Train	Intercity	Train	Intercity	Train	Intercity
Dhaka â€”Chittagong Route	Dhaka Station	Chittagong	Daily	18:00	20:00	2h	100 km	Bus	Intercity	Train	Intercity	Train	Intercity	Train	Intercity

	Destination	Frequency	Mode	Distance (km)	Travel Time (min)	Transfer	Notes
Dhaka - Rajshahi Route	Dhaka	1800	Bus	200	2	Intercity Train	Intercity Train
	Rajshahi	400	Bus	200	2	Intercity Train	Intercity Train
	Intercity Train	400	Bus	200	2	Intercity Train	Intercity Train
	Intercity Train	400	Bus	200	2	Intercity Train	Intercity Train
Dhaka - Sylhet Route	Dhaka	1800	Bus	200	2	Intercity Train	Intercity Train
	Sylhet	400	Bus	200	2	Intercity Train	Intercity Train
	Intercity Train	400	Bus	200	2	Intercity Train	Intercity Train
	Intercity Train	400	Bus	200	2	Intercity Train	Intercity Train
Dhaka - Sylhet Route	Dhaka	1800	Bus	200	2	Intercity Train	Intercity Train
	Sylhet	400	Bus	200	2	Intercity Train	Intercity Train
	Intercity Train	400	Bus	200	2	Intercity Train	Intercity Train
	Intercity Train	400	Bus	200	2	Intercity Train	Intercity Train



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Route	Regular (At least once in two months)	1840	M	a	B	D	T	r	S	Intercity Bus	Intercity Train	Intercity Bus	Intercity Train	Intercity Train
Dhaka "Sylhet" Route	Regular (At least once in two months)	1840	M	a	B	D	T	r	S	Intercity Bus	Intercity Train	Intercity Bus	Intercity Train	Intercity Train
Dhaka "Chittagong" Route	Regular (At least once in two months)	1840	M	a	B	D	T	r	S	Intercity Bus	Intercity Train	Intercity Bus	Intercity Train	Intercity Train
Dhaka "Sylhet" Route	Regular (At least once in two months)	1840	M	a	B	D	T	r	S	Intercity Bus	Intercity Train	Intercity Bus	Intercity Train	Intercity Train
Dhaka "Rajshahi" Route	Regular (At least once in two months)	1840	M	a	B	D	T	r	S	Intercity Bus	Intercity Train	Intercity Bus	Intercity Train	Intercity Train

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Dhaka â€”Chitt agong Route	Oca sionally	1840	Ma lde	<20,00	St udent	Inter city Train	Inter city Bus	Inter city Train	Intercity Train	Intercity Bus	Intercity Train	Bus Stop	Bus Stop	Intercity Train
Dhaka â€”Sylhe t Route	Oca sionally	1840	Ma lde	<20,00	St udent	Inter city Train	Inter city Bus	Inter city Train	Intercity Train	Intercity Bus	Intercity Train	Bus Stop	Bus Stop	Intercity Train
Dhaka â€”Chitt agong Route	Oca sionally	1840	Ma lde	50,000	St udent	Inter city Train	Inter city Bus	Inter city Train	Intercity Train	Intercity Bus	Intercity Train	Bus Stop	Bus Stop	Intercity Bus
Dhaka â€”Rajsh ahi Route	Oca sionally	1840	Ma lde	50,000	St udent	Inter city Train	Inter city Bus	Inter city Train	Intercity Train	Intercity Bus	Intercity Train	Bus Stop	Bus Stop	Intercity Bus

Dhaka â€“Chitt agong Route	Oca sionally	1840	M-a-l-T	00B-D-T	u-d-e-n-t	Intercity Trains	Intercity Trains	Intercity Trains	Inter city Train	Intercity Train	Inter city Train	Bus Stop	Bus Stop	Intercity Train
Dhaka â€“Sylhe t Route	Oca sionally Regular y (At least once in two months)	1840	M-a-l-T	00B-D-T	u-d-e-n-t	Intercity Buses	Intercity Buses	Intercity Buses	Inter city Bus	Intercity Bus	Inter city Bus	Bus Stop	Bus Stop	Intercity Buses
Dhaka â€“Khul na Route	Oca sionally	1840	M-a-l-T	00B-D-T	u-d-e-n-t	Intercity Buses	Intercity Buses	Intercity Buses	Inter city Bus	Intercity Bus	Inter city Bus	Bus Stop	Bus Stop	Intercity Buses
Dhaka â€“Chitt agong Route	Oca sionally	1840	M-a-l-T	00B-D-T	u-d-e-n-t	Intercity Trains	Intercity Trains	Intercity Trains	Inter city Train	Intercity Train	Inter city Train	Bus Stop	Bus Stop	Intercity Train
Dhaka â€“Chitt agong Route	Oca sionally	1840	M-a-l-T	00B-D-T	u-d-e-n-t	Intercity Buses	Intercity Buses	Intercity Buses	Inter city Bus	Intercity Bus	Inter city Bus	Bus Stop	Bus Stop	Intercity Trains

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Dhaka	m	8	M	00	d	erc	erc	cit		Inte						erc
â€“Khul	on	-	a	B	e	ity	ity	y		rcit	Inter					ity
na	th	4	I	D	n	Bu	Tra	Bu	Intercit	y	city					Bu
Route	s)	0	e	T	t	s	in	s	y Bus	Bus	Bus	Bus Stop	Bus Stop			s
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Dhaka	ca	8	M	00	d	erc	Int	Tr		Inte						erc
â€“Khul	sio	-	a	B	e	ity	erc	ai		rcit	Inter					ity
na	na	4	I	D	n	Bu	ity	n	Intercit	y	city					Tr
Route	lly	0	e	T	t	s	Bus	n	y Bus	Bus	Bus	Bus Stop	Bus Stop			ain
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	lar			00	S			e								
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	(A	1	50	u	Int	Int	cit	it		Inte						Int
Dhaka	tle	8	M	,0	d	erc	erc	y		rcit	Inter					erc
â€“Rajsh	ast	-	a	00	e	ity	ity	Tr		y	city					ity
ahi	on	4	I	B	n	Tra	Tra	ai	Intercit	Trai	Trai	Train	Train			Tr
Route	ce	0	e	D	t	in	in	n	y Train	n	n	Station	Station			ain



		in two months)		T				n									
Dhaka â€”Sylhet Route	Oc ca sio na lly	1 8 - 4 0	M a l e	,0 00 - 1, 00	B u s i n e s m a n	Int erc ity Tra in	Int erc ity Tra in	Int er cit y Tra in	In t e rc it y Tra in	Intercit y Train	Inte rcit y Bus	Inter city Trai n	Bus Stop	Train Station		Int erc ity Tra in	
Dhaka â€”Rajshahi Route	Oc ca sio na lly	1 8 - 4 0	M a l e	,0 00 - 20, 00	S t u d e n t s	Int erc ity Bu s	Int erc ity Bus	Int er cit y Bu s	In t e rc it y Bu s	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop		Int erc ity Bu s	
Dhaka â€”Khulna Route	Oc ca sio na lly	1 8 - 4 0	M a l e	,0 00 - 50	u d e n t s	Int erc ity Bu s	Int erc ity Bus	Int er cit y Tra in	In t e rc it y Tra in	Intercit y Train	Inte rcit y Trai n	Inter city Trai n	Train Station	Bus Stop		Int erc ity Tra in	
Dhaka â€”Chittagong Route	Oc ca sio na lly	1 8 - 4 0	M a l e	,0 00 - 20, 00	S t u d e n t s	Int erc ity Tra in	Int erc ity Bus	Int er cit y Tra in	In t e rc it y Tra in	Intercit y Train	Inte rcit y Bus	Inter city Bus	Train Station	Train Station		Int erc ity Tra in	

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Route	Frequency (At least once in two months)	0	B	D	T	e	n	in	Tr	ai	n	it	y	T	r	ai	n	ain
Dhaka –Rajshahi Route	Regular (At least once in two months)	1840	M	a	B	D	T	e	n	in	Bus	Intercity	Intercity Train	Intercity Train	Intercity Train	Intercity Train	Intercity Train	Intercity Train
Dhaka –Chittagong Route	Regular (At least once in two months)	1840	M	a	B	D	T	e	n	in	Bus	Intercity	Intercity Train	Intercity Train	Intercity Train	Intercity Train	Intercity Train	Intercity Train
Dhaka –Rajshahi Route	Regular (At least once in two months)	1840	M	a	B	D	T	e	n	in	Bus	Intercity	Intercity Train	Intercity Train	Intercity Train	Intercity Train	Intercity Train	Intercity Train

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Dhaka â€“Rajsh ahi Route			<2 F 0, 00	S t u d e r c	Int erc ity Tra in	Int erc ity Bus	Int erc ity Tr ai n	Int erc ity Tr ai n	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Tr ain
Dhaka â€“Rajsh ahi Route	Oc ca sio na lly	1 8 - 4 0	<2 M 0, 00 a B D T	S t u d e r c	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tr ai n	Int erc ity B u s	Intercit y Train	Inte rcit y Bus	Inter city Trai n	Train Station	Train Station	Int erc ity Tr ain
Dhaka â€“Rajsh ahi Route	Oc ca sio na lly	1 8 - 4 0	<2 M 0, 00 a B D T	S t u d e r c	Int erc ity Bu s	Int erc ity Bus	Int erc ity Tr ai n	Int erc ity Tr ai n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Tr ain
Dhaka â€“Chitt agong Route	Oc ca sio na lly	< 1 8	<2 a B D T l e	S t u d e r c	Int erc ity Bu s	Int erc ity Bus	Int erc ity Bu s	Int erc ity B u s	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s

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Dhaka â€”Rajsh ahi Route	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o m on th s) Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	e a l e	,000 B D T 20 ,000 - 50 ,000	u d e n t	Int erc ity Bu s	Int erc ity Bus	Int er cit y Tra in	T r ai n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Train Station		Train Station			Int erc ity Tr ain
Dhaka â€”Khul na Route	Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	e a l e	,000 B D T 20 ,000 - 50 ,000	u d e n t	Int erc ity Bu s	Int erc ity Tra in	Int er cit y Tra in	T r ai n	Intercit y Train	Inte rcit y Bus	Inter city Tra in	Bus Stop		Bus Stop			Int erc ity Tr ain
Dhaka â€”Chitt agong Route	Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 - 4 0	e a l e	,000 B D T 20 ,000 - 50 ,000	u d e n t	Int erc ity Bu s	Int erc ity Tra in	Int er cit y Bu s	B u s	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop		Bus Stop			Int erc ity Bu s

Route	Type	Days	Frequency		Distance		Time		Speed		Cost		Service		Remarks
			Per Week	Per Day	km	mi	hr	min	km/hr	mi/hr	TK	BDT	Intercity	Local	
Dhaka - Chittagong	Regular	Mon-Fri	1	1	100	62	2	10	50	31	1000	1000	1000	1000	Intercity Bus
Dhaka - Sylhet	Regular	Mon-Fri	1	1	100	62	2	10	50	31	1000	1000	1000	1000	Intercity Train
Dhaka - Sylhet	Regular	Sat	1	1	100	62	2	10	50	31	1000	1000	1000	1000	Intercity Train
Dhaka - Khulna	Regular	Mon-Fri	1	1	100	62	2	10	50	31	1000	1000	1000	1000	Intercity Bus

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Dhaka	m	8	M	00	d	erc	Int	cit	T		erc
â€“Khul	on	-	a	B	e	ity	erc	y	r		ity
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â€“Khul	ca	8	m	0	d	erc	erc	y	u		ity
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â€“Chitt	ca	8	M	-	d	erc	Int	Tr	it		ity
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Route	na	4	I	,0	n	Bu	ity	n	T		s
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		B D T		r ai n													
Re gu lar y (A tle ast on ce in tw o m on th s)		<2 0, 00		S t u d e n t s		Int erc ity Bus		Int erc ity Bus		Int erc ity Train		Int erc ity Bus		Int erc ity Bus		Int erc ity Bus	
Dhaka â€“Chitt agong Route		1 8 4 0	M a l e	0 B D T	u d e n t s	Int erc ity Bus	Int erc ity Bus	Int erc ity Train	Int erc ity Train	Int erc ity Train	Int erc ity Train	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus
Dhaka â€“Rajsh ahi Route		1 8 4 0	M a l e	0 B D T	u d e n t s	Int erc ity Bus	Int erc ity Bus	Int erc ity Train	Int erc ity Train	Int erc ity Train	Int erc ity Train	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus
Dhaka â€“Rajsh ahi Route		1 8 4 0	M a l e	0 B D T	u d e n t s	Int erc ity Bus	Int erc ity Bus	Int erc ity Train	Int erc ity Train	Int erc ity Train	Int erc ity Train	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus
Dhaka â€“Sylhe t Route		1 8 4 0	M a l e	0 B D T	u d e n t s	Int erc ity Bus	Int erc ity Bus	Int erc ity Train	Int erc ity Train	Int erc ity Train	Int erc ity Train	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus

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D n ai y T t n T r ai n														
Re gu lar y (A tle ast on ce in tw o m on th s)														
Dhaka â€“Sylhe t Route		<2	S											
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	8	M	B	e	ity	erc	ity	Bus	u	y Bus	y Bus	city	Bus Stop	Bus Stop
	4	I	D	n	Bus	ity	Bus	s	s					s
	0	e	T	t	s	Bus	s							
Dhaka â€“Khul na Route		<2	S											
	1	F	00	u	Int		Int	er	cit	y	Intercit	Inter		Intercit
	8	M	B	e	ity	erc	ity	Tr	r		y	city		Intercit
	4	I	D	n	Bus	ity	ai	ai	ai	Intercit	y	Train	Train	Train
	0	e	T	t	s	Bus	n	n	n	y Bus	Bus	n	Station	Station
Dhaka â€“Khul na Route		<2	S											
	1	M	00	u	Int		Int	er	cit	y	Intercit	Inter		Intercit
	<	a	B	e	ity	erc	ity	y	B		y	city		ity
	8	I	D	n	Bus	ity	Bus	s	s	Intercit	Bus	Bus	Bus Stop	Bus Stop
														s
Dhaka â€“Rajsh ahi Route		<2	S											
	1	F	00	u	Int		Int	er	cit	rc				Intercit
	8	M	B	e	ity	erc	ity	Tr	y		Intercit	Inter		ity
	4	I	D	n	Tra	ity	ai	T		Intercit	y	city		Tr
	0	e	T	t	in	Bus	n	r		y Bus	Bus	Bus	Bus Stop	Bus Stop
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“Khulna Route	ca sionally	18	e m a l e	0, 00 0 B D T	t u d e n t	erc ity Tra in	erc ity Bus	er cit y Tra in	t e rc it y T r ai n In t e	y Bus	rcit y Bus	city Bus			erc ity Bus
Dhaka “Chittagong Route	Oc ca sionally	18 - 4 0	M a l e	0 0 B D T	u d e n t	Int erc ity Bus	Int erc ity Tra in	Int er cit y Bus	rc it y B u s	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bus
Dhaka “Rajshahi Route	Oc ca sionally	18 - 4 0	e m a l e	,0 00 B D T	u d e n t	Int erc ity Bus	Int erc ity Bus	Int er cit y Tra in	rc it y T r ai n In t e	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Train Station	Train Station	Int erc ity Train
Dhaka “Sylhet Route	Oc ca sionally	18 - 4 0	M a l e	0 0 B D T	u d e n t	Int erc ity Bus	Int erc ity Bus	Int er cit y Tra in	rc it y T r ai n In t e	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Train Station	Int erc ity Train
Dhaka “Sylhet Route	Oc ca sionally	18 - 4 0	M a l e	0 0 B D T	u d e n t	Int erc ity Bus	Int erc ity Bus	Int er cit y Tra in	rc it y T r ai n	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Train Station	Int erc ity Train

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		Re gu lar y (A tle ast on ce in tw o m on th s) Re gu lar y (A tle ast on ce in tw o m on th s)														
Dhaka "Rajshahi Route	Regular (At least once in two months)	20,000 - 50,000														
		1840	M	a	B	e	D	n	T	u	Intercity	Intercity	Intercity	Intercity	Intercity	Intercity
Dhaka "Khulna Route	Regular (At least once in two months)	<20,000 - 50,000														
		1840	F	a	B	e	D	n	T	u	Intercity	Intercity	Intercity	Intercity	Intercity	Intercity
Dhaka "Rajshahi Route	Regular (At least once in two months)	50,000 - 1,00,000														
		1840	M	a	B	e	D	n	T	u	Intercity	Intercity	Intercity	Intercity	Intercity	Intercity
Dhaka "Rajshahi Route	Regular (At least once in two months)	50,000 - 1,00,000														
		1840	M	a	B	e	D	n	T	u	Intercity	Intercity	Intercity	Intercity	Intercity	Intercity
Dhaka "Rajshahi Route	Regular (At least once in two months)	50,000 - 1,00,000														
		1840	M	a	B	e	D	n	T	u	Intercity	Intercity	Intercity	Intercity	Intercity	Intercity
Dhaka "Rajshahi Route	Regular (At least once in two months)	50,000 - 1,00,000														
		1840	M	a	B	e	D	n	T	u	Intercity	Intercity	Intercity	Intercity	Intercity	Intercity

Chittagong	ca	8	a	0,	t	erc	erc	er	t	y Train	rcit	city	Station	Station	erc
Route	sio	-	l	00	u	ity	ity	cit	e		y	Trai			ity
	na	4	e	0	d	Tra	Bus	y	rc		Trai	n			Tr
	lly	0		B	e	in		Tr	it		n				ain
				D	n			ai	y						
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				50	t			Int	rc						
				,0	u	Int		er	it						Int
Dhaka	Oc	1		00	d	erc	Int	cit	y		Inte				erc
Chittagong	ca	8	M	B	e	ity	erc	y	B		rcit	Inter			ity
Route	sio	-	a	D	n	Bu	ity	Bus	u	Intercit	y	city	Bus Stop	Bus Stop	Bu
	na	4	l	T	t	s	Bus	s	s	y Bus	Bus	Bus			s
	lly	0	e						In						
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									ai	Intercit	y	Inter			Int
									n	y Train	Trai	city	Train	Train	erc
									In		n	Bus	Station	Station	ity
									t						Tr
									e						ain
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									r						
									ai	Intercit	y	Inter			Int
									n	y Train	Trai	city	Bus Stop	Bus Stop	erc
									In		n	Bus			ity
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									r						
									ai	Intercit	y	Inter			Int
									n	y Train	Bus	city	Train	Train	erc
									ai			n	Station	Station	ity
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									ai						ain

[illegible]



Dhaka â€”Rajshahi Route	s)  Re gu lar y (A tle ast on ce in tw o m on th s)	180400	M - l D e T	<2 0, 00	S t u d en t	Int erc ity Tra in	Int erc ity Bus	Int er cit y Tr ai n	In ter city B us	Inter city Bus	Inter city Train	Inter city Train	Bus Stop	Train Station	Int erc ity Tr ain
Dhaka â€”Khulna Route	s)  Re gu lar y (A tle ast on ce in tw o m on th s)	180400	F e l D e T	<2 0, 00	S t u d en t	Int erc ity Bu s	Int erc ity Tra in	Int er cit y Tr ai n	In ter city T r ai n	Inter city Train	Inter city Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Tr ain
Dhaka â€”Chittagong Route	s)  Re gu lar y (A tle ast on ce in tw o m on th s)	180400	M - l D e T	>1 ,0 ,0 ,00	S t u d en t	Int erc ity Bu s	Int erc ity Bus	Int er cit y Tr ai n	In ter city T r ai n	Inter city Bus	Inter city Train	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s
Dhaka â€”Chittagong Route	s)  Re gu lar y (A tle ast on ce in tw o m on th s)	180400	M - l D e T	<2 0, 00	S t u d en t	Int erc ity Bu s	Int erc ity Bus	Int er cit y Tr ai n	In ter city T r ai n	Inter city Bus	Inter city Train	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s

agong Route	sio na lly	- 4 0	l e 0 B D T	00 0 B D T	u d e n t	ity Tra in	ity Bus	cit y Bu s	e rc it y T r ai n	y Trai n	Trai n				ity Tr ain
				20 ,0 00											
				- 50	S t			Int er cit y	rc it y T r ai n						
Dhaka â€“Chitt agong Route	Oc ca sio na lly	1 8 4 0	M a l e	00 B D T	u d e n t	Int erc ity Tra in	Int erc ity Bus	Tr ai n	Int erc ity Bus	Intercit y Train	Inte rcit y Trai n	Inter city Trai n	Bus Stop	Bus Stop	Int erc ity Tr ain
	Re gu lar y (A tle ast on ce in tw o m on th s)														
				<2 0, 00	S t			Int er cit y	rc it y T r ai n						
Dhaka â€“Sylhe t Route	on th s)	1 8 4 0	M a l e	00 B D T	u d e n t	Int erc ity Tra in	Int erc ity Bus	Tr ai n	Int erc ity Bus	Intercit y Train	Inte rcit y Trai n	Inter city Bus	Train Station	Train Station	Int erc ity Tr ain
	Re gu lar y (A tle ast on ce in tw o m on th s)														
				<2 0, 00	S t			Int er cit y	rc it y T r ai n						
Dhaka â€“Sylhe t Route	on th s)	1 8 4 0	M a l e	00 B D T	u d e n t	Int erc ity Tra in	Int erc ity Bus	Tr ai n	Int erc ity Bus	Intercit y Train	Inte rcit y Trai n	Inter city Bus	Train Station	Train Station	Int erc ity Tr ain

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â€“Rajshahi Route	ca sionally	8 -40	a l e B D T	0, 00 0 B D T	t u d e n t	erc ity Tra in	erc ity Bus	er cit y Tra in	t e rc it y Tra in	y Bus	rcit y Bus	city Bus				erc ity Tr ain
				<2 0, 00	S t u d e n t			Int er cit y Tra in								
Dhaka â€“Sylhet Route	Oc ca sionally	< 18	a l e T	M 0 B D T	Int erc ity Tra in	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Train	Intercit y Train	Inter city Trai n	Inter city Trai n	Bus Stop	Train Station	Int erc ity Tr ain
				<2 0, 00	S t u d e n t			Int er cit y Tra in								
Dhaka â€“Sylhet Route	Oc ca sionally	< 18	a l e T	M 0 B D T	Int erc ity Tra in	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Train	Intercit y Train	Inter city Trai n	Inter city Trai n	Bus Stop	Train Station	Int erc ity Tr ain
				<2 0, 00	S t u d e n t			Int er cit y Tra in								
Dhaka â€“Sylhet Route	Oc ca sionally	< 18	a l e T	M 0 B D T	Int erc ity Tra in	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Train	Intercit y Train	Inter city Trai n	Inter city Trai n	Bus Stop	Train Station	Int erc ity Tr ain
				<2 0, 00	S t u d e n t			Int er cit y Tra in								
Dhaka â€“Sylhet Route	Oc ca sionally	< 18	a l e T	M 0 B D T	Int erc ity Tra in	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Int erc ity Bus	Intercit y Train	Intercit y Train	Inter city Trai n	Inter city Trai n	Train Station	Bus Stop	Int erc ity Tr ain
				<2 0, 00	S t u d e n t			Int er cit y Tra in								
Dhaka â€“Sylhet Route	Oc ca sionally	< 18	a l e T	M 0 B D T	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Int erc ity Tra in	Intercit y Train	Intercit y Train	Inter city Trai n	Inter city Trai n	Train Station	Bus Stop	Int erc ity Tr ain

n															
	Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 4 0	M a l e	20 ,0 00 - 50 ,0 B D T	S t u d e n t s	Int erc ity Bus	Int erc ity Bus	Int er cit y Tr ai n	Int er cit y Tr ai n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s
Dhaka â€”Rajsh ahi Route															
				<2 0, 00	S t u d e n t s	Int erc ity Bus	Int erc ity Bus	Int er cit y Tr ai n	Int er cit y Tr ai n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s
Dhaka â€”Sylhe t Route	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 4 0	M a l e	20 ,0 00 - 50 ,0 B D T	S t u d e n t s	Int erc ity Bus	Int erc ity Bus	Int er cit y Tr ai n	Int er cit y Tr ai n	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s
Dhaka â€”Rajsh ahi Route															
Dhaka â€”Rajsh ahi Route	Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 4 0	M a l e	20 ,0 00 - 50 ,0 B D T	S t u d e n t s	Int erc ity Bus	Int erc ity Bus	Int er cit y Tr ai n	Int er cit y Tr ai n	Intercit y Train	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Tr ain Int erc ity Bu s
Dhaka â€”Rajsh ahi Route	gu lar y (A	8 4 0	M a l e	20 ,0 00 - 50 ,0 B D T	S t u d e n t s	Int erc ity Bus	Int erc ity Bus	Int er cit y Bu	Int er cit y rc	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s

	Dhaka - Sylhet Route	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o m on th s)	18040	M a i D T	<20,000	S t u d e n t B u s	Intercity Buses	Inter city Bus	Intercity Train	Intercity Bus	Inter city Train	Train Station	Train Station	Intercity Buses
	Dhaka - Chittagong Route	omonths) Regular y (Atleast once in two months) Regular y (Atleast once in two months)	18040	M a i D T	<20,000	S t u d e n t B u s	Intercity Buses	Inter city Bus	Inter city Bus	Intercity Bus	Inter city Bus	Bus Stop	Bus Stop	Intercity Buses
	Dhaka - Rajshahi Route	once in two months) Regular y (Atleast once in two months)	18040	M a i D T	20,000 - 50,000	S t u d e n t B u s	Intercity Buses	Inter city Bus	Inter city Bus	Intercity Bus	Inter city Bus	Bus Stop	Bus Stop	Intercity Buses

Dhaka ↔Chittagong Route	omonths) Regulary (Atleast once in two months)	1800	M0B D T	<20, t	S d e r c it y r ai n	Intercity Tra in Bus	Inter city Bus s	Intercit y Bus	Inter city Trai n	Bus Stop	Bus Stop	Intercity Bu s
Dhaka ↔Chittagong Route	omonths) Regulary (Atleast once in two months)	1800	M0B D T	<20, t	S d e r c it y r ai n	Intercity Tra in Bus	Inter city Bus s	Intercit y Bus	Inter city Trai n	Bus Stop	Bus Stop	Intercity Bu s
Dhaka ↔Chittagong Route	omonths) Regulary (Atleast once in two months)	1800	M0B D T	<20, t	S d e r c it y r ai n	Intercity Tra in Bus	Inter city Bus s	Intercit y Train	Inter city Bus	Bus Stop	Bus Stop	Intercity Bu s

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Route	na lly	4 0	e - 50,000 BDT	d e n t S e r v i c e h o l d e r	Bu s	Bus	y Tr a i n	rc it y T r a i n	Bus	Tr a i n
Dhaka –Chitt agong Route	Oc ca sio na lly	1 8 4 0	e m a l e	,0 00 B T	o l d e r	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n
Dhaka –Khul na Route	Oc ca sio na lly	1 8 4 0	e m a l e	,0 00 B T	o l d e r	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n
Dhaka –Rajsh ahi Route	Oc ca sio na lly	1 8 4 0	e m a l e	,0 00 B T	o l d e r	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n
Dhaka –Rajsh ahi Route	Oc ca sio na lly	1 8 4 0	e m a l e	,0 00 B T	o l d e r	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n	Int e r c i t y T r a i n

Dhaka - Khulna Route	Occasionally	1840	Monthly	D	Monthly	Intercity Buses	Intercity Trains	Intercity Train	Intercity Train	Intercity Bus	Intercity Bus	Bus Stop	Bus Stop	Intercity Train
				T										
				20,000										
				-50										
Dhaka - Rajshahi Route	Occasionally	1840	Monthly	D	Monthly	Intercity Trains	Intercity Buses	Intercity Train	Intercity Train	Intercity Bus	Intercity Bus	Bus Stop	Bus Stop	Intercity Buses
				T										
				20,000										
				-50										
Dhaka - Khulna Route	Occasionally	1840	Monthly	D	Monthly	Intercity Buses	Intercity Trains	Intercity Train	Intercity Train	Intercity Bus	Intercity Bus	Bus Stop	Bus Stop	Intercity Buses
				T										
				20,000										
				-1,000										
Dhaka - Rajshahi Route	Occasionally	1840	Monthly	D	Monthly	Intercity Buses	Intercity Trains	Intercity Train	Intercity Train	Intercity Bus	Intercity Bus	Bus Stop	Bus Stop	Intercity Buses
				T										
				20,000										
				-1,000										
Dhaka - Rajshahi Route	Occasionally	1840	Monthly	D	Monthly	Intercity Buses	Intercity Trains	Intercity Train	Intercity Train	Intercity Bus	Intercity Bus	Bus Stop	Bus Stop	Intercity Buses
				T										
				20,000										
				-1,000										
Dhaka - Rajshahi Route	Occasionally	1840	Monthly	D	Monthly	Intercity Buses	Intercity Trains	Intercity Train	Intercity Train	Intercity Bus	Intercity Bus	Bus Stop	Bus Stop	Intercity Buses
				T										
				20,000										
				-1,000										
Dhaka - Rajshahi Route	Occasionally	1840	Monthly	D	Monthly	Intercity Buses	Intercity Trains	Intercity Train	Intercity Train	Intercity Bus	Intercity Bus	Bus Stop	Bus Stop	Intercity Buses
				T										
				20,000										
				-1,000										

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	on th s) Re gu lar y (A tle ast on ce in tw o m on th s)			20 ,0 00 - 50 ,0 00 D T	S t u d e n t S e r v i c e h o l d e r	Int erc ity Bus	Int erc ity Bus	Int cit y Bus	T r ai n	Intercit y Bus	Inte rcit y Bus	Inter city Trai n	Bus Stop	Bus Stop	Int erc ity Bu s
Dhaka â€“Chitt agong Route															
	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o m on th s)	1 8 4 0	M a l e	0 B D T	l d e r	Int erc ity Bus	Int erc ity Bus	Int cit y Bus	u s	Intercit y Bus	Inte rcit y Bus	Inter city Bus	Bus Stop	Bus Stop	Int erc ity Bu s
Dhaka â€“Chitt agong Route															
					S e r v i c e h o l d e r	Int erc ity Bus	Int erc ity Bus	Int cit y Tr ai n	T r ai n	Intercit y Train	Inte rcit y Bus	Inter city Trai n	Train Station	Bus Stop	Int erc ity Tr ain

Dhaka â€”Chitt agong Route	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o m on th s)	1	8	M	0	u	Int	Int	Int	Intercit y Bus	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop	Interc ity Tr ain	
		0	4	l	D	T	e	erc	erc							erc
		<2 0,	S t	Int	Int	Int										
Dhaka â€”Rajsh ahi Route	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o m on th s)	1	8	M	0	u	Int	Int	Int	Intercit y Bus	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop	Interc ity Tr ain	
		0	4	l	D	T	e	erc	erc							erc
		<2 0,	S t	Int	Int	Int										
Dhaka â€”Rajsh ahi Route	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o m on th s)	1	8	M	0	u	Int	Int	Int	Intercit y Bus	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop	Interc ity Bus	
		0	4	l	D	T	e	erc	erc							erc
		<2 0,	S t	Int	Int	Int										
Dhaka â€”Chitt agong Route	Oc ca sio na lly Re gu lar y (A tle ast on ce in tw o m on th s)	1	8	M	0	u	Int	Int	Int	Intercit y Bus	Intercit y Bus	Inter city Bus	Bus Stop	Bus Stop	Interc ity Bus	
		0	4	l	D	T	e	erc	erc							erc
		<2 0,	S t	Int	Int	Int										

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