POSSIBLE IMPROVEMENTS TO EXISISTING BUS FARE STRUCTURE TO ACHIEVE BETTER SERVICE

MASTER OF SCIENCE IN TRANSPORTATION

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ABSTRACT

The bus transport industry in Sri Lanka has an important role to play as public transport. It's performance affects the economic activity in various ways. Therefore an efficient public transport system is considered a highly required condition for faster economic growth and social progress in the country. However, the public transport sector in Sri Lanka especially the bus transport suffers many deficiencies due to the lack of effective and consistent policy to guide the sector.

Basically bus fare is one of the most important factors regarding profit maximization in the industry as well as providing a quality service to the passengers. If not people are not interested to invest their money and they don't stay in the industry for long. Therefore it needed a policy regarding bus fare which comes to affect a policy for the fare revisions since 2002.This policy has guided the industry to make fare revisions in scientific way. Anyhow there is a question arises that the rate which decided to revise the bus fare earlier and after introducing the policy is comparatively reasonable with other economic indicators. On the other hand it is important to examine that the rate which decided to revise the fare is reasonably applied to the individual fare stages which consist different segment of distance.

Generally the accepted idea is that the short distance fare was overpriced and long distance services were under priced. This situation badly affected to the industry where the quality of the services are not improved comparatively with the increase of bus fare. Before nationalization bus fare was revised few times and available data of that are insufficient to analyze. Therefore this study mainly focused to analyze the existing fare structure which comes from nationalization of the bus transport. The bus fare was revised 25 times since 1958 under the different institutional structure and the analysis further useful to identify the period which mostly affected the collapse the uniformity of the fare structure.

Basically qualities of the services depend on its price level. However the fare level in bus transport also needs to examine how fare structure affects the quality of the services. It is evident that the passenger's views and level of satisfaction on bus transport to be identified by a survey.

This study also emphasizes to recognize certain improvements to the existing fare structure which possible to achieve a better service from the bus industry.

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LIST OF ABBRIVATION

NTC	National Transport Commission
CTB	Central Transport Board
PBOA	Private Bus Owners Association
BCR	Benefit Cost Ratio
MFL	Minimum Fare Level
CCPI	Colombo Consumer Price Index

CHAPTER: 01
INTRODUCTION

1.1 General Introduction

The potential of the bus in shaping the past as well as in the future social economic development of Sri Lanka is an important consideration when defining its role. Bus services were originally provided by the private sector for 50 years then went through 20 years of exclusively nationalized operation before entering the present mix of public and private supply in effect for 30 years. After invitation of the government in 1978 under the open economic policy the private sector invested their money in bus transportation which also came to end the monopoly of state sector bus operation. It gave every encouragement for the unrestricted entry of the private sector.

Both state and private sector have provided the backbone of mobility in Sri Lanka during the last 100 years as the predominant mode of travel. Transport is a day to day essential service of the people and it plays a tremendous role as an infrastructure facility in a country. In other word transport infrastructure facilities are closely associated with human settlements, economic development and social progress. Without a better transport net work a country like Sri Lanka can't achieve its social economic progress with a sustainable economic growth rate.

Public transport in providing access and mobility should therefore be viewed in its wider role as a catalyst of urban and regional growth and hence be effectively used to achieve the wider social, economic and environmental objectives of the society. Sri Lanka's road network made a better relationship to urban and rural areas by improving accessibility and mobility of the people. When considering the bus services, has spread out all over the country where comparatively bus net work system plays a significant role rather than the railway network system.

1.2 Problem Statement

The state and private sector together operate over 20,000 buses in the country which is contributing its model share as 65 %. The daily schedules of these buses are operating under the existing bus fare structure which is fixed by the Government.

One of the main factors for the profit consideration in the bus transport sector is the bus fare. Therefore it is important to accept a proper fare system to the bus industry where it can secure the revenue of the operator. It is known and accepted that bus fares have to keep with rising prices of input to the bus industry and therefore fares have to be revised accordingly from time to time. The fare revisions made earlier have clearly shown that fare revisions were not based on any standardized methods. The absence of proper system to decide the rate for fare revision, introduced a scientific way to decide the rate on the basis of operating cost through the bus fare policy in 2002. (Final Report, Formulation of Fares Policy for Bus Transport, 2001, Ministry of Transport)

In an economic point of view the price of the commodity decided by the market mechanism of demand and supply basis. But in the case of service sector the price deciding approach is different than the market mechanism. Most of the cases service provider decides the pricing according to his cost. But in the case of bus operation the price in terms of fare is decided by the regulatory authority of the Government. Comparing with the structural view of the other service providing sectors such as telecommunication, electricity, water supply and postal are totally different with the transport sector. The bus passenger transport sector in the country consist both private and state sector operator while private sector bus operation consist in highly individual operator where providing a single bus services in most of the occasion.

Generally, the thought and wishes of an organization is totally different from an individual. In the sense the organization has a well structured objective and goals. But in the case the objective of the individual is different and the structure is unorganized. Under this point, the individual operator of bus transport sector is mostly expecting to get a high markup in any condition of operation level. Maximization of the profit is the basic

habit of any private sector organization / person. The advent of more and more private buses operated individually in the profitable routes during the profitable times of the day without considering the quality of the services. When considering the bus operating routes, large numbers of buses was operated in the overpriced routes which bring profit for them .It is a general theory everyone knows in this sector. On the other hand the private bus operators never like to operate under the minimum profit margin.

Another important factor is to be considered, the operating cost of the routes is different from routes to route. In the same way load factor is also an important parameter to decide the revenue level of the buses. Because the load factor is not same at all the time of the journey. Due to this condition certain routes reach the breakeven point of the cost while the revenue of the some routes is under the cost level. But the same fare structure is applied for all routes.

In the same way the passenger travelling pattern in the short distance and long distance also differ. But both long distance and short distance services were priced under the same fare structure.

On the other hand same fare structure is regulated for different types of routes. The demand and supply of the route are different from routes to route. The demand of the route in other words traffic generation of the route is totally different for each route. The buses which operate in urban areas have higher demand than the rural area. In the same way supply level of the routes also differs. The demand of the routes not increases comparatively with the increase of the supply. The demand of the route is in certain level and it distributes to the available buses and demand not increases marginally within the short period of time.

The fare/km in the long distance is much lower than the short distance services. As a result the fare of the long distance is much cheaper to the passengers. In the economic point of view when price of the commodity is cheap the demand will increase. This economic theory has not worked out in bus transportation where passengers travel

according to his necessities. Passengers do not travel longer distances if fare/km is very low unless he has the necessity. The advantage of the low fare/km does not benefit the passenger as well as the operator where passengers travel to their destination only.

If the bus operation can be done as a group, like state sector losses can be minimized with operating both in profitable routes and uneconomical routes which profitable routes bring higher waybill revenue where all the income comes to one place. But in practice it is different in the private sector where most of the operators are providing their services individually. Under this situation the individual operator stimulate to operate without considering the quality of the service.

Therefore the analysis of bus fare structure is very important at the movement to make sure the improvement of operator's revenue as well as the passenger satisfaction.

1.3 Objective of the Study

1. To study the historical view of the bus fare structure and find out whether it has revised in a reasonable manner in the past.

2. To analyze the existing fare structure

3. To observe the passenger attitudes towards bus operation under the present fare structure.

4. To identify the limitation of the existing fare structure which obstruct for a better service quality.

1.4 Organization of the Report

Chapter – 1: General introduction of the bus industry, nature of the problem to address and the objective of the study.

Chapter – 2: Literature review, explain the goal and strategy of the fare system and existing bus fare policy

Chapter – 3: History of the fare structure under different institutional structure

Chapter – 4: Methodology and parameters for the data collection and analysis of the fare structure

Chapter –5: Analysis of service quality under existing fare structure.

Chapter – 6: Possible improvements of existing fare structure and strengthen the operator's revenue to improve the quality of the services.

Chapter – 7: Conclusion and Recommendations

CHAPTER: 02
LITERATURE REVIEW

2.1 Fundamental Parameters for Fare System

Four fundamental parameters related to fare decisions are fare policy, fare strategy, fare structure and fare payment technology and equipment

1. Fare Policy

   A fare policy should identify goals and priorities that will guide bus system in any type of routes such as urban or rural, long distance or short distance are setting through collecting fares.

2. Fare Strategy

   Fare strategy refers to a general fare collection and payment structure approach; possible approaches include flat fare, differential pricing (by distance traveled, time of day, or type of service), market-based or discounted payment option, and transfer pricing. There are various fare collection and payment options which have certain advantages and disadvantages.

3. Fare Structure

   The fare structure is the combination of one or more fares strategies with specific fare travels.

4. Fare payment methods

   Fare payment technology and equipment refers to the type of fare payment media (e.g, cash, token, paper ticket, stored value cards) and the specific fare collection equipment required to distribute and collect a system's various fare media.(Regional Fare Policy white paper, 2003, Manuel Padron and Associates)

2.2 Fare Policy Goals

The following are some goals that are widely used in setting fare policies and it can be discussed under the following sub sectors.

Customer related goals

Increase rider ship:

This goal seeks to maximize rider ship subject to a maximum acceptable reduction in revenue.

Maximize social equity

This goal concerns an agency's ability to ensure equivalent levels of mobility for equivalent fares, as well as ensuring that those riders most in need of the services and with the least ability to pay are not adversely affected by the fare structure.

Increase ease of use:

This goal relates to the convenience of using the system. For instance, does the pricing structure have an inconvenient cash fare and require the payment of exact fare. Are prepaid options available?

Increase fare option

This goal is to improve the ability of customers to choose a fare option that best meets their needs. This is addressed by offering a range of option.

Reduce complexity

This goal emphasizes making the fare system simpler and easily understood and utilized by customers. (Brend area transit fare policy, 2006, Sub Committee draft paper, version 1)

Financial Goals

Increase revenue

This goal seeks to maximize revenue or to obtain a specific revenue target while minimizing the companying ridership loss.

Reduce fare collection costs

These costs include those of selling prepaid fare media and those collecting and counting fare box revenues. Reducing the use of cash can reduce the collecting and counting costs.

Reduce fare abuse

This goal supports increased revenue by making it more difficult for riders to underpay the fare or not pay the fare at all.

2.3 Fare Strategy

There are different types of fare strategies used to collect revenue from the passengers. The different types of fare system in the transport operation are summarized as follows.

2.3.1 Flat Fare

This is the simplest and most common fare strategy in bus transportation. Riders are charged the same fare, regardless of the length of the trip, time of day, or speed or quality of service. The flat fare is easy to understand. Advantages of the flat fare is easy to administrate and easy to understand. Disadvantages are that flat fares place an inequitable burden on those making short trips; fare increases may cause a great loss of riders.

2.3.2 Service based fare

The fares can be charged by the quality of the service and the speed of the mode. Higher fare for express service than, for local services. The services considered as a means to reflect the higher level of service provided and the higher operation cost of providing express services. Advantages of this strategy are relatively easy to understand and are considered equitable in that higher quality service has higher cost. Disadvantage of this strategy may be unpopular among users of the higher cost service and complicated.

2.3.3 Distance-based Zonal fare

Distance based fares are often considered on the basis of travel distance. The riders should pay more fare for long trips. Advantages are that this strategy should produce the greatest revenue and is considered equitable since longer trips have a higher cost. As for the disadvantages of this structure is typically the most complicated for the rider.

2.3.4 Time Base differential

A time based (e.g peak/off peak) method of charging can be considered. In the peak period market is generally less sensitive to price and has a greater ability to pay for fare increases. The cost of providing service and accommodating

additional riders are significantly higher in peak hours than off peak hours. This strategy may increase ridership by encouraging more usage during off peak times. It could be helpful as part of a comprehensive travel demand management programme by shifting some travel demand out of peak periods.

2.3.5 Market based pricing

Another type of differentiated pricing strategy widely used by the transport transit industry is market based, or consumer based pricing. This strategy often is included with the flat fare structure or with any of the other differentiated structure described above. This system offers differential fares according to the frequency of use and willingness to prepay through the offering of passes and discount tickets. This is often seen as a way to discriminate price among the different ridership markets and reduce cash handling requirements by increasing pre-payment.

2.3.6 Discount pricing

Offering significant discount for pre-payment of fares is one of the most important elements of market based pricing. This strategy is commonly referred to as “deep discount” pricing. The deep discount fare strategy motivates riders to increase their usage by providing major saving on purchase of weekly or monthly passes and multi ride tickets.

2.4 What is Policy?

The basic policy or set of policies form the public laws. These laws and regulation will be implemented by the authorized institutes which represent the Government. Public and the private organization have to follow these rules and regulations; no one can go beyond them. The Government has the rights of establishing and replacing the policies time to time when argument comes from related agencies as well as from the general public.

The Government considers following factors when a policy is implemented.

1 The art of science of establishing and promoting a favorable relationship with the public.

2 The methods and activities employed to establish and promote a favorable relationship with the public.

3 The degree of success obtained achieving a favorable relationship with the public.

2.5 Why Need a Policy to Bus Fare?

Public transport is a very important sector in Sri Lankan economy when considering its performance to the economic activities in various ways. Public transport is one of the major infrastructure facilities which accelerate the economic growth of the country. On the other hand it provides the mobility from residence to work place to increase the productivity of the country. However, the public transport sector in Sri Lanka especially the bus transport needs an effective and consistent policy to guide the sector to reach the sustainable economic development in the country. It needed a policy to fixing of bus fares which is the most significant factor to depend on the industry for long. The following paragraphs further discuss the need of a policy for bus fare.

National Transport Commission Act (1991) clearly stated that transportation tariffs to cost of providing the services. However, in a situation where average fare is less than sufficient to cover the average cost of providing services, the need of external financial assistance (subsidies) arise. The treasury continually provided financial assistance to the state sector to cover their financial losses through their income. That means there should be a relationship between the operating cost and revenue. The cost should not be exceeding the income. Therefore the industry needed a policy to protect the private sector sufficient income level with the absence of government subsidies.

Passenger transport bus service becomes a widespread industry in Sri Lanka. In the event of the operators income which brought poor satisfaction to the operator it is difficult to stay in the industry for long. Therefore a framework need to formulate policies to consider commercial viability of the operators in order to ensure they continue in business and to make the passenger transport industry attractive enough for new investors to enter in to the market.

There was a common aspect that could see in the event of early fare revisions is bus strikes. When the diesel price went up the Private Bus Owners Associations (PBOA) agitate to a fare increase. The fare revisions took place with the pressure of private

bus sector and immediate political decision really made anomalies in the fare structure. The fare revision should be reasonable “what the market can bare” and it would be minimum burden to the low and middle income groups who patronize public transport while satisfying the operator objectives even to some extent. Then how can we expect reasonable fare revision without a policy?

2.6 Present Fare Policy

The need of a policy to fixing fares a very essential task for the bus industry. Before implementing the present fare policy there was a committee appointed to formulate a policy for transport fares in March 1995 and the report was submitted to the Ministry of Transport, Environment and Women affairs in August 1995.The Committee of “bus transport policy” also highlighted through their report regarding the essential of a bus fare policy. However this proposal was not implemented.

The committee was appointed by the Ministry of Transport during the period of 2001 for the purpose of implementation of an appropriate fare policy for passenger transport services. This committee consisted of with well experienced specialist in the Transport and economic field.

This policy implemented through the approval of the cabinet in June 2002 with the force of the All Island bus strike. The first fare revision took place under the calculation of new policy in 1st of July 2002.There were thirteen fare revisions done by using fare policy since 2002 to 2009 September.

2.7 Structure of the Policy

The main consideration was given to construct the cost index which represents the cost of bus operation. The fare index constructed using an existing fare structure. The recommendation also provided through this policy to overcome the problem which created the earlier fare revisions and for the healthy implementation in the future. The construction of the cost index and the fare index were done under methodology of 13 steps.

2.7.1 Cost index

This is the most important index which reflects the total cost per kilometer in the bus operation. There are twelve cost components identified to construct the cost index

which represent the overall cost needed for passenger transportation. The cost components can be listed as follows.

1. Fuel cost(Diesel)
2. Crew cost
3. Service & Lubricants
4. Tires &Tubes
5. Air conditioner
6. Repairs
7. Daily overheads
8. Overheads
9. Annual overheads
10. Depreciation of bus
11. Financing of bus
12. Provision for risk

Accordingly a representative cost index is a composite index of all the components of operating cost under different operating condition such as route type, service type, bus size, country of manufacture, age of the bus, speed of the bus, daily operation (trip), kilometer operated per day etc.

Ten typical route types have been identified to examine how different route conditions affect the operating cost. There are several dimensions such as service type, bus type, daily operating distance, speed, age of the bus etc. These dimensions are analyzed under the ten identified routes and the unit cost is calculated for each route.

The cost index must be a single value for representing all ten routes. The single value also was calculated through weighted average of the number of buses which were relevant to particular route type. The base year for the calculation of the cost index was taken as May 2001.

The prices of the cost components collected from the market survey and relevant data collected from the Government authorities such as Central bank, Census & Statistical Department etc.

2.7.2 Fare Index

The fare index is basically constructed with available fare structure when the policy was formulated. Passenger traveling pattern have been considered for constructing this index. The report of bus fare policy further investigates the cost that should be recover from passengers so that the Benefit Cost Ratio (BCR) for different routes is around 1.When considering the Benefit Cost Ratio and the load factor indicators highlight that routes of short distances were over priced and long distance route were under priced.

2.7.3 Recommendation of the Fare Policy

There are several recommendation and guidelines given when implanting the fare index.

(a) Adopts the Fare Index for all future fare revisions from September 2001.

(b) Eliminate existing anomalies as set out in the report submitted by the Committee referred to above, over a four-year period from this date.

(c) Readjust fare stages on all routes in the country over a period of two years from this date.

(d) Adopt the Fares Index to calculate the subsidy for eligible services, routes and schedules determined by the National Transport Commission with the consent of the Minister for the subject of road Transport.

(e) Ensure that all bus regulators adopt demand based scheduling and fleeting so that the oversupply that is prevalent on many routes will be gradually reduced over the next four years.

The following guideline should be applied to the implementation of the Fares Index.

1. Bus fares will hereafter be revised annually and such fares should be published by the 1st of July every year (except this year).

2. The fares so revised should be effective from 1st of August of that year.

3. The application of the percent increase to fares using the Fares Index should be on the weighted average of all fares so that overall revenues of all operators will increase by that percentage.

4. Any annual fare increase shall not exceed 10 percent. If an annual revision calculated using the Fares Index requires an increase of more than 10 percent, such an increase may be given only with the approval of the Minister who is in charge of the subject of Transport.

5. The fares for different sections should increase at different rates during the period of readjustment of anomalies.

6. All fares should be rounded off to the nearest one rupee (exactly 50 cents should be rounded up).

7. No single fare stage should increase by more than 24 percent in any fare increase during the period of adjustment (till 2004) and by more than 18 percent thereafter.

8. In the event of a rapid increase in the price of diesel within the first nine months of the annual period between revisions, whereby the effect of such an increase or increases, contributes to an increase of more than 4 percent to the overall cost index, then an interim fare increase should be allowed within one month of the increase in the price of diesel. The amount of fare increase allowed in such an event however, shall not exceed the increase to the percentage of costs due to the increase in diesel.

9. A fare revision may consider actually giving an increase slightly (say 1 to 2 percent annually) higher than the increase in costs during the period. This should be in anticipation of reduced load factors during the following year. Surveys should be conducted by the National Transport Commission to

monitor the improvements to load factors. Such increases may be withheld or deducted from subsequent fare revisions if actually load factors have not reduced as anticipated.

10. The National Transport Commission and the Provincial Transport Authorities will determine the required number of buses, seats and trips for each route and that all future bus deployments would be on a demand basis.

11. That the National Transport Commission and all Provincial Transport Authorities would reduce the oversupply on each such route as soon as possible, either by freezing new permits or by transferring such buses to other routes or by offering incentives for withdrawal or by any other means as may be suitable for this purpose.

12. All Public Service Obligations should be revised annually and adjustments made in the budget of the following year. These are presently, subsidies for unremunerative rural services and school season ticket subsidy.

13. The National Transport Commission should be entrusted to develop and maintain the Fares Index further and to administer its application as outlined above.

14.The National Transport Commission, with the approval of the Ministry of Transport and in consultation with the private sector bus operator representations, should be the sole authority determining all aspects of the Fares Index and its publication. Any changes however, should be brought to the notice of the operators and the public through the media. (Final Report, Formulation of Fares Policy for Bus Transport, 2001, Ministry of Transport, page no 29 – 31)

CHAPTER: 03
CHANGES IN THE BUS FARE STRUCTURE

3.1 History of the Bus Fare - Before Implementing the Policy

The history of bus fare can be discussed under the three main periods namely early bus company period, CTB period and NTC period. The history and important characteristics of that period will discuss separately in following sub headings.

3.1.1 Early Bus Company Period

When considering the history of bus fare the picture is not clear about fixing fare. That means no uniform system of fixing fares. There had been no attempt until the late thirties made by the operators or Government to regulate the fares payable by passengers. The competition on the road in the early period is same as today. But at that time fares made the competition among the bus operators. The bus operators fixed the fares for their route due to the absence of regulations.

The department of Motor Transport itself was alive to the problem and in 1939 the commission obtained figures of fares charged by the large bus companies and attempted to reach agreement between operators on a uniform system of fare fixation. The rates which were generally acceptable at the time are shown in table 3-1.

Table 3-1 Fares Rate

Distance	Fares
1 to 25 Miles	2½ Cents a Mile
25 to 50 Miles	2 Cents a Mile
50 to 100 Miles	1¾ Cents a Mile
100 Miles and over	1½ Cents a Mile

Source: Report of the Commission on Omnibus service

The fares above which were decided in 1939 really came down from the fares which were charged earlier. The diminishing fares of private buses straightly impacted to the railway department. That means railway passenger traffic was being felt. As a result once again regulations wanted to be framed. Under the section 107 of the motor car ordinance no 45 of 1938, prescribing minimum bus fares eventually in December 1940 the regulations were framed and published in Gazette No 8697 of 20th December 1940 and came in to force on that date, under this identified different their routes categories and decided fare on route basis.

I. A large number of routes in the up country and certain routes in the low country, which were presumably regarded to be on a poor with up country roads as regards operation costs were defined in a schedule to the regulations. The minimum fares fixed for the routes in question were as follows.
   (a) For a distance not exceeding 3 miles, 10 cents
   (b) For a distance exceeding 3 mils but not exceeding 15 miles, 5 cents per mile.
   (c) For a distance exceeding 15 miles but not exceeding 40 miles , 2½ cents per mile
   (d) For a distance exceeding 40 miles, 2 cents per mile

II. The Trincomalee, Batticaloa route was included in a second category where the minimum fare was fixed at 3 cents per mile for distance not exceeding 35 miles and 2½ cents in excess of that distance.

III. The routes in the third category were not specifically defined. They comprised the balance where the minimum fare varied from 2½ to 1 1/3 cents per mile. (page no 92, report of the commission omnibus service)

After the observation of Mr. S.W. Nelson's recommendations also produce for the bus fares. For the fist time fare chargeable on each route was also fixed. Mr. Nelson considered as too low the minimum fare fixed in December 1940 in approving fare table under the 1942 Act., he fixed fares with the range between 2 ½ to cents to 5 cents.

In 1950 fares were slightly changed due to the agitation of the bus owners. As a result fares below 3½ cents a mile should be raised to 10 cent for 3 miles. This decision only affected few routes and up country fares were not altered. The agitations really came out for the following reasons.

i. Bus fares in other countries are higher
ii. The present fare was fixed in 1942 and since then costs have increased considerably, bus fares have remained static.
iii. The present fares are inadequate to meet cost and provide a reasonable return.

During this period of private bus company competitions also were at the road. When more than one company operated a service where it is overlapped the fares had been changed to minimize the competition.

Before the nationalization there were several commissions appointed for the purpose of regularizing of the bus transport, but no commission examined principle for fare fixation.

3.1.2 CTB Period

The new government in 1956 decided on nationalization, which was carried out trough the Ceylon Transport Board Act No 48 of 1957.This event made a monopoly in passenger transportation which made easy for the fixing of bus fares. The affordability of bus travel was sustained by the Government's implied low fare policy, where the fare were kept constant at 2.5 cents, 3.3 cents and 4 cents depending on the routes from 1958 to 1971.The first fare revision in CTB period took place on 1st June 1971 at the rate of 18 percent. During the CTB period a socially oriented and implicit low fare policy was adopted by successive governments. This helped the social and economic development of the country significantly.

There were few structural changes took place in the state sector while the responsibility of fixing fares went to the CTB till the establishment of NTC which was setup in

1991.There were seven fare revisions took place within the period of 1958-1991,but a proper fares support policy was never formulated by the CTB period. When CTB revises the fares they considered only about their overall cost and recovered some percentage from that. Actually the second fare revision in the CTB period which came to force due to the increase of diesel prices and increased cost of imports. As result of this fares were increased by 69 percent which was the highest percentage of fare increase ever in the history.

Another common aspect of the fare revisions in the CTB period was fare revision took place marginally in higher percentage which shows in the table 3-2.

Table 3-2 Fare Increases in the CTB Period

Year & Month	% of Fare Increase
1971 June	18
1974 Feb	69
1978 July	16
1980 March	31
1980 November	61
1983 August	16
1990 August	50

Source: NTC (Published Annual Fare Revisions Rate)

Under the monopoly of the CTB period the fare stages where passengers traveled more increased marginally at a higher percentage. In other words first few sections were increased with higher percentage. The table 3-3 and figure 3-1 shows it clearly with the comparison of other selected fare sections

Table 3-3 Fare Increase in Selected Sections 1971-1990

section no	1971	1978	1980	1983	1990
	Fare %	Fare %	Fare %	Fare %	Fare %
1	100	0	50	100	50
2	50	20	67	50	33
3	33	33	75	33	50
4	50	25	60	29	56
5	40	20	50	25	60
6	33	17	43	22	64
20	15	15	30	17	44
50	8	12	23	15	39
75	8	11	23	15	36
100	10	11	22	19	36
150	9	11	21	18	28
200	10	10	21	19	26

Source: NTC (Fare Revisions 1971, 1978, 1980, 1983, 1990)

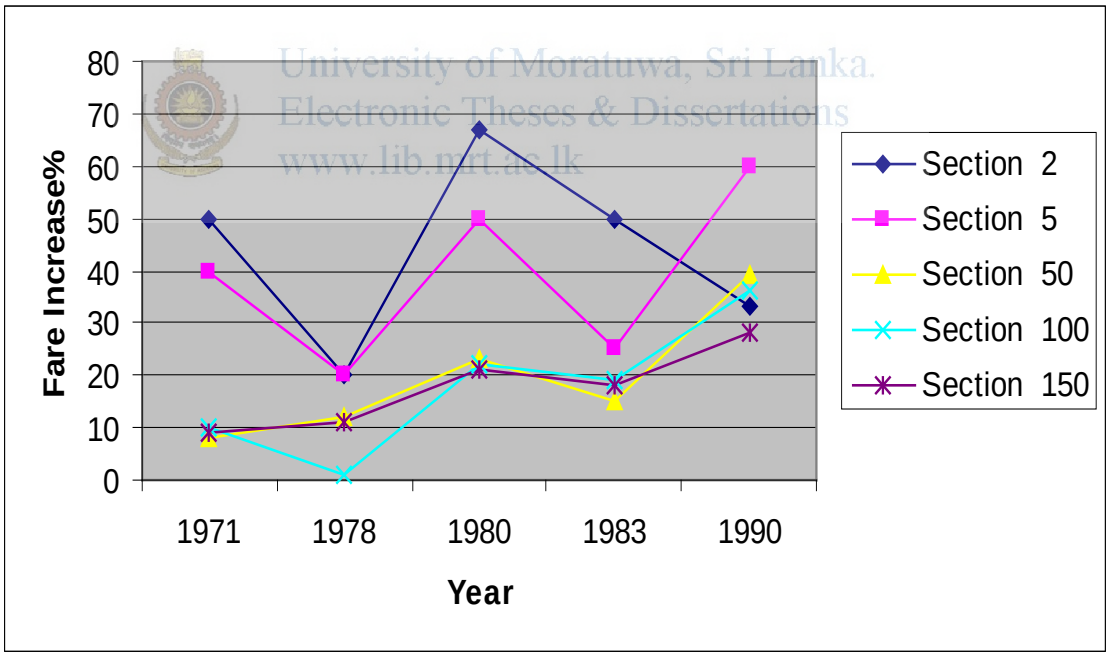


Figure No 3-1 Fare Increase in Selected Sections 1971-1990

The first revision of the CTB period took place by 18 percent in 1971, but the first six sections increased with the range of 33-100 percent and in some sections that is two times

the actual fare increase. When considering other fare sections in the same year had increased minimum level of percentage which was almost under the actual rate.

When examine the above table it shows clearly that first six sections in many years like 1971,1978,1980February , 1983 August and 1990 except 1974 had increased marginally high rates while other sections increased by under the actual fare increase rate. During the CTB period except fare revision in 1974 have followed the similar technique of increasing first few sections which they aimed to earn more income from more traveling passengers in the first few sections.

During this period there were so many commissions appointed to discuss the bus transport problem. But no commission examined to principle for fare fixation.

3.1.3 NTC Period.

After establishment of the National Transport Commission in 1991 under the Act No 37,The subject of the fare revisions came under this Authority which ended the monopoly of increasing fares by the CTB.NTC needn't consider whether private or CTB in the event of fare revision.

Diesel price is the main factor to decide the fare revision before implementing the fare policy. When diesel prices gone up, bus operators agitated to increase the bus fares. There were four fare revisions in 1996, 1999, 2000 and 2001 done by the NTC before implementing the fare policy. The percentage of the increases during this period was something reasonable when compare with fare revisions in CTB period which shows by the following table 3.4

Table 3-4 Fare Revisions in NTC Period (Before Implementing the Policy)

Year	Fare Revision %
1996 July	14
1999 September	15
2000 January	15
2001 January	15

Source: NTC (Fare Revisions 1996, 1999, 2000, 2001)

Due to the ad hoc fare revisions in the earlier period created anomalies in the fare structure. As a result some fare sections were repeated the same fare. This anomaly was taken off during the NTC period significantly. The anomalies in the fare structure and its changes can be shown in the table 3-5.

Table 3-5 Selected fare Anomalies in the fare structure.

Fare Section	Fare Anomaly 2001 Fare revision	Rectified Anomaly 2002 Fare Revision	Fare Section	Fare Anomaly 2001 Fare revision	Rectified Anomaly 2002 Fare Revision
13	12.00	14.50	170	103.00	117.50
14	12.00	15.00	171	103.00	118.00
15	13.00	15.50	172	103.00	119.00
16	13.00	16.00	173	103.00	119.50
114	73.00	81.00	243	141.00	166.00
115	73.00	81.50	244	141.00	166.50
124	80.00	88.00	245	141.00	167.00
125	80.00	88.50	246	141.00	167.50
126	80.00	89.00	252	145.00	171.50
127	80.00	89.50	253	145.00	172.00
129	82.00	90.50	254	145.00	173.00
130	82.00	91.00	255	145.00	173.50
131	82.00	92.00	261	150.00	177.50
134	84.00	94.00	262	150.00	178.00
135	84.00	94.50	263	150.00	179.00
136	84.00	95.00	264	150.00	179.50
137	84.00	96.00	265	150.00	180.00
144	90.00	100.50	274	153.00	186.00
145	90.00	101.00	275	153.00	187.00
146	90.00	101.50	276	153.00	187.50
147	90.00	102.00	277	153.00	188.00

Source: NTC (Fare Revision 2001, 2002)

During the NTC period fare revisions were done through the negotiation with the private bus operators. There were several discussions and bus strikes in the most of the cases for the negotiation of fare increase percentage, but we have to think how far reasonable that negotiated percentage?

CHAPTER: 04

DATA COLLECTING METHODOLOGY AND ANALYSIS OF THE FARE STRUCTURE

4.1 Plans of the Study

The existing bus fare structure is basically based on the graduated fare system where fare decides on the distance basis. This structure was implemented in the nationalization period of early 1958.Since than that it was revised 25 times in the bus fare history.

According to that 22 times bus fares were increased and only three times it was reduced. When evaluate the changes of the bus fare since 1958 to date. It is important to compare with the changes of other socio economic indicators to get the correct picture on the reasonability of the fare increases. The data for analysis of fare structure and other socio economic indicators are available with the respective agencies.

Some of these data are already published and some of these data are collected from the relevant agency for the purpose of this study. The existing bus fare structure was implemented in 1958 and relatively that other socio economic indicators also collected from that date.

One of the key parameter to analyze the fare structure is fare/km. At the movement bus fare structure consist with 305 fare stages representing different segment of distances. The emphasis of using, this parameter is trying to evaluate the spread out the fare/km allover 305 fare sections. The fare for respective fare stages are published by NTC in each fare revisions. Using certain assumption the average fare/km has been calculated and the practical situation of the fare/km in long distance a short distance also analyzed.

The approved fare policy by the government has shown how to calculate the bus operating cost. The bus operating cost/km calculates under different types of routes where it is possible to evaluate with the revenue/km. In the sense the data of bus cost calculation can be taken from NTC data base while there are some difficulties to collect data regarding revenue of the bus transportation due to unavailability of the data records in the private sector. Therefore certain assumptions used to measure the revenue in the

bus operation by selecting two main routes namely Colombo-Badulla and Colombo-Matara.

To achieve better services, the components should be identified separately. The required components and level of the services for better services are needed to identify from the passengers who are the consumer of the bus transport. Therefore it is important to identify the passenger behavior on available bus services under the existing fare structure. The attitudes of the passengers can be collected from a survey. The NTC had done a baseline survey with the participation of the University of Peradeniya to collect the views of the passengers and the crews. This survey was done in selected five districts representing a majority of bus operation and passenger distribution.

Another important parameter for analysis of quality of the services and revenue of the bus is load factor. To analysis this parameter the data are collected from the onboard survey done by the NTC and ticket detailing of the private bus operators where now the detailing ticket information can be taken from the electronic ticket machines. These data also collected from the same routes which selected to calculation of revenue.

4.2 Changes in the Bus Fare Structure and Other Socio Economic Indicators

Since 1958, 25 fare revisions took place in the bus industry. The comparison with other socio economic indicators relative with the year of fare revisions are selected to analyze here. These indicators illustrate under the following sub headings. The main expectation of this analysis is the bus fare revision all over the past 50 years of time period, has increased in the reasonable way comparatively with other recognized social and economic indicators.

4.2.1 Bus Fare Revisions Since 1958

The bus fare revision were took place under different institutional structure. The changes of the fare structure through the fare revision are discussed in detail in the third chapter of this report. The fare revisions were caused directly to make the changes in the structure. When we analyze the fare structure under the different fare revisions it can be seen clearly. Therefore the studying

of fare revisions in the past 50 years is important. The table 4 -1 shows the history of fare revisions

Table 4-1 Bus Fare Revisions

Year	Month	Percentage
1971	June	18
1974	Feb	69
1978	July	16
1980	March	31
1980	Nov	61
1983	March	24
1983	Aug	16
1990	Aug	50
1996	July	14
1999	Sep	15
2000	June	15
2001	7-Jan	15
2002	1-Jul	15
2002	1-Aug	-2.5
2003	1-Jul	8.5
2004	1-Sep	9
2004	1-Oct	5
2005	10-Jun	13.8
2006	Aril 24	16
2007	4-Jul	17.5
2008	1-Feb	4.6
2008	27-May	Private-27.2,CTB-17.4
2008	12-Nov	-11.6
2009	6-Jan	-4.3
2009	22-Sep	5.3

Source NTC (Published Fare Revisions)

According to the information given in the table the first fare revisions since nationalization took place after a long period of time. This is the longest period of time in the fare history taken for the next fare revision. The highest percentage of fare increase in a single time took place as the rate of 69% in 1974.The second highest increase was done in 1980 which is recorded as 61%.

Another important factor can be realized that, during the state sector operation of 20 years period bus fare revised only three times. After commencing of the private bus operation since 1978, there were 22 fare revisions during the 30 years of period.

The fare reduction of ever in the bus transport history took place in 2002 reducing by 2.5%.This benefit was gone to the passengers after implementation of the bus fare policy which was approved by the government in the same year. The first fare revision under the fare policy was taken place in July 2002.After the implementation of the fare policy. The fare structure was annually revised after implementing the fare policy.

4.2.2 The Changes of Bus Fare Revisions Vs Per Capita Income

The changes of fare increase comparatively to the increase of per capita income shows in the table 4 -2 and figure 4 -1 respectively. The selection of the per capita income for this analysis mainly concerned the ability of the expending money for the travel purposes.

Table 4 -2 Changes of bus fare Revision and Per Capita Income (Cumulative %)

Year	Cumulative Fare Increase (%)	Cumulative Increase of Per Capita Income (%)
1958	0.00	0.00
1972	18.00	91.45
1974	87.00	133.15
1978	103.00	230.00
1980	195.00	277.41
1983	235.00	340.77
1990	285.00	483.91
1996	299.00	610.59
1999	314.00	652.49
2000	329.00	664.98
2001	344.00	678.35
2002	356.50	691.38
2003	365.00	701.99
2004	379.00	715.38
2005	392.80	731.19
2006	408.80	749.50
2007	426.30	770.87
2008	458.10	770.87
2008	446.50	770.87
2009	442.20	770.87

Source: Central Bank

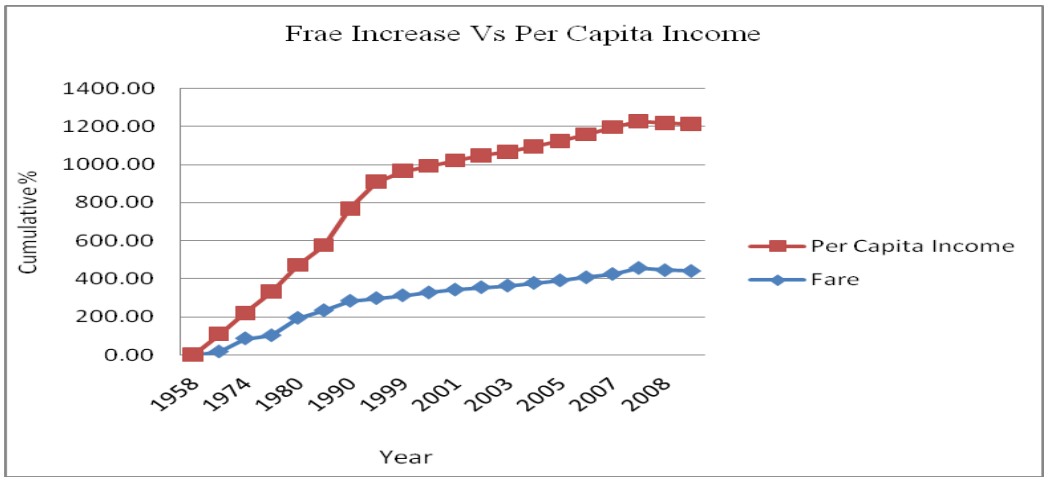


Figure 4 -1 Changes of bus fare Revision and Per Capita Income (Cumulative %)

The shape of both lines of fare increase and increase of per capita income shows a similar appearance. Up to 1980 both lines spread with keeping same distance of gap between the two lines and beyond that point the gap between both lines are considerably higher than before 1980.During that period a significant event took place in the country. The open economy policy was introduced to Sri Lanka as well as the private bus operation also came to effect. After introducing the open economy policy the per capita income went up due to the increase of economic activities. This reason causes to change the shape of the graph suddenly making with the huge gap between fare increases after 1980. Anyhow the fare increase line plotted in a systematic way has not increased unusually.

4.2.3 The Changes of Bus Fare Revisions Vs Cost of Living

Another important indicator of Colombo Consumer Price Index (CCPI) has selected where it shows the living condition of people. On the other hand it shows the inflation situation in the country.

The transport cost of a household also included in the CCPI index as sub sector. According to the CCPI on base year 2002 the transport cost for a household calculated as Rs 1703.83 which is 9.5% of the total cost. The cost index for transport at the base year is 100 has increased to 239.9 in 2010 January. That means transport cost has increased by 139.9% within the eight years of period. The fare increases within same period is only 96% which is less than the transport cost of the CCPI. When considering the transport cost in the CCPI, different type of cost such as purchase of motor vehicle and spare parts and payments for transport services of railway and road transport also were included. But allocated cost of a household for road transport service is only 0.73% of the total cost of the CCPI index.

When examine the table 4-3 and figure 4-2, the graph shows that the both lines plotted unsystematically up to 1990 where most of that time bus fare increases were higher than the increase of cost of living. During that period bus fare revisions were done by state sector operator known as CTB were aimed to get higher revenue to recover their operating cost. This situation created an unsystematic fare structure.

Table 4 -3 Changes of bus fare Revision and CCPI (Cumulative %)

Year	Cumulative Fare Increase (%)	Cumulative Increase of Cost Of Living (CCPI) %
1958	0.00	0.00
1972	18.00	43.71
1974	87.00	66.84
1978	103.00	89.45
1980	195.00	129.13
1983	235.00	178.16
1990	285.00	290.85
1996	299.00	379.90
1999	314.00	405.35
2000	329.00	411.53
2001	344.00	425.69
2002	356.50	435.24
2003	365.00	441.03
2004	379.00	450.04
2005	392.80	461.02
2006	408.80	471.05
2007	426.30	486.88
2008	458.10	509.45
2008	446.50	509.45
2009	442.20	509.45

Source: Census and Statistics Department

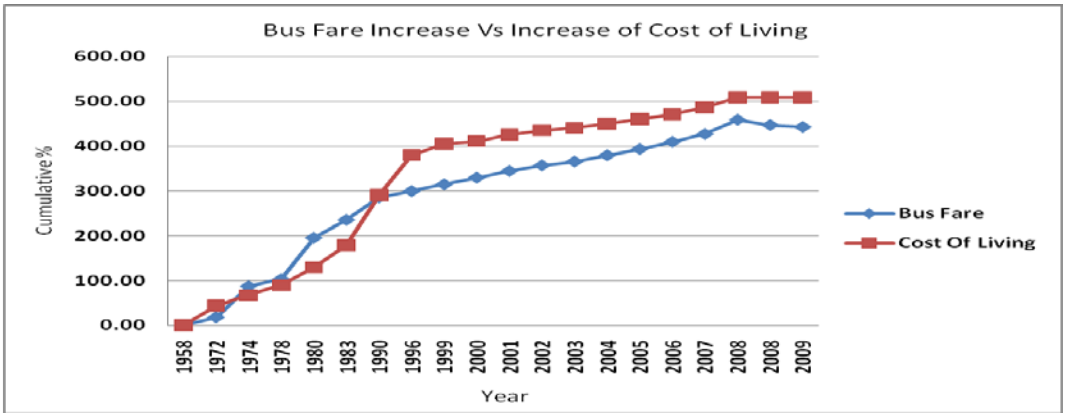


Figure 4 -2 Changes of bus fare Revision and CCPI (Cumulative %)

4.2.4 The Changes of Bus Fare Revisions Vs Diesel Price

The diesel cost is one of the key components of the bus operating cost. Diesel is the single component where it's competition to the bus operation cost is very high nearly 1/3 of total cost. The changes of diesel price comparatively to the increase of bus fare have been shown in the table 4-4 and figure 4-3.

Table 4- 4 Changes of bus fare Revision and Diesel Price (Cumulative %)

Year	Cumulative Fare Increase (%)	Cumulative Increase of Diesel Price (%)
1958	0.00	0.00
1972	18.00	33.33
1974	87.00	198.33
1978	103.00	316.26
1980	195.00	544.83
1983	235.00	640.88
1990	285.00	614.80
1996	299.00	634.80
1999	314.00	648.44
2000	329.00	678.44
2001	344.00	704.08
2002	356.50	716.32
2003	365.00	725.41
2004	379.00	765.41
2005	392.80	784.46
2006	408.80	800.46
2007	426.30	822.88
2008	458.10	877.81
2008	446.50	850.53
2009	442.20	838.03

Source: Ceylon Petroleum Corporation

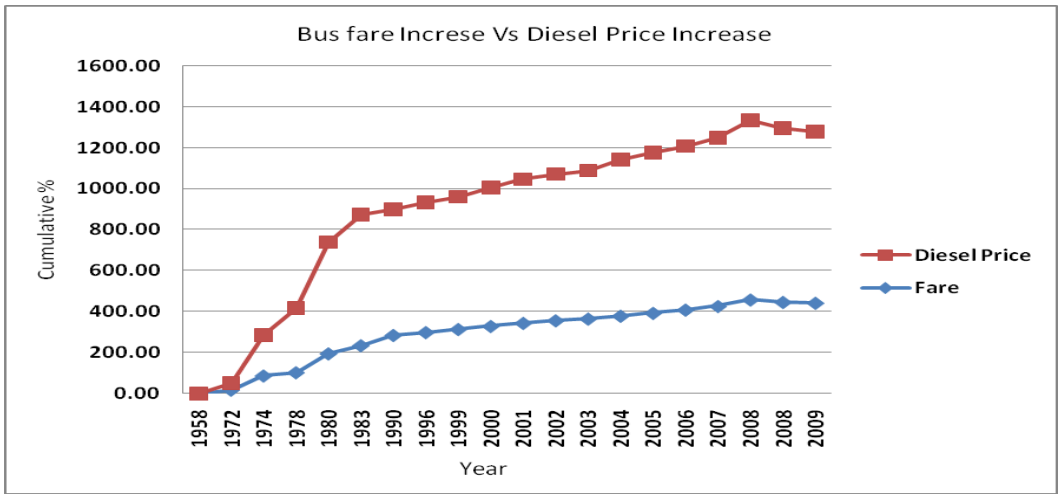


Figure 4- 3 Changes of bus fare Revision and Diesel Price (Cumulative %)

According to the above graph the diesel price increase line and fare increase line are not plotted systematically with same distance of gap up to a certain period. It is plotted systematically with same distance gap in the latter part of the graph where the bus fare revisions were implemented under the policy guide line.

In a summary selected indicators and bus fare, the revisions of the bus fare can be justified most of the occasions with changes of other indicators. But the question arises whether this bus fare revisions were systematically applied to the individual fare stages in the structure? It also discussed in the next heading of "Evaluation of the fare structure".

4.3 Analysis of the Bus Fare Structure

The existing bus fare structure consist with 305 individual fare stages and it consisted of 238 fare stages up to1990.The percentage of fare revision data was given a general picture of fare history. To get an accurate picture it needs to analyze the fare structure in deeply.

The changes in the individual fare stages during the period of 1958-2009 are as follows. Examining the table 4-5 it can be identified whether individual fare stages are also revised by the same rate.

Table 4 -5 Fare Changes (Selected Sections) 1958 -2009

Fare Stage	Bus Fare (Rs)		Fare Change (Rs)	Fare Change %
	1958	2009	1958 - 2009	1958 - 2009
1	0.05	6.00	5.95	11900
2	0.10	9.00	8.90	8900
3	0.15	12.00	11.85	7900
4	0.20	15.00	14.80	7400
5	0.25	18.00	17.75	7100
10	0.50	26.00	25.50	5100
15	0.75	37.00	36.25	4833
20	1.00	45.00	44.00	4400
25	1.25	54.00	52.75	4220
50	2.50	95.00	92.50	3700
75	3.75	136.00	132.25	3527
100	5.00	177.00	172.00	3440
125	6.25	218.00	211.75	3388
150	7.50	259.00	251.50	3353
175	8.75	300.00	291.25	3329
200	10.00	341.00	331.00	3310
225	11.30	382.00	370.70	3281

Source: NTC (Fare Revisions 1958, 2009)

According to the above analysis, the first section of the fare structure has increased two times more than the 10th section and three times more than the 75th section. On the other hand the first section increased marginally very higher percentage like 11900% and next four section from 2-5 increased little less than the first section. The increase beyond the 50th section shows that the amount revised in the history affected in a equal manner. However comparing with the first few sections there is a big difference which made the fare structure unsystematic. This clearly pointed out that the fares revisions were not

applied equally to every single section where it highlight further the income was not distributed equally among the industry.

It can be classified further dividing the last fifty years period in to equal time periods to get a closer picture of the bus fare structure. The first half of 25 years can be taken from 1958 to 1983 while the next half can be taken from 1983 to 2009.

Table 4 -6 Fare Changes in Equal Time Period (Selected Sections)

Fare Stage	**Period – 1**			**Period - 2**		
	Bus Fare (Rs)		**Change %**	Bus Fare (Rs)		**Change %**
	1958	1983 (Aug)	**1958-1983 (Aug)**	1983 (Aug)	2009	**1983(Aug)-2009**
1	0.05	1.00	**1900.00**	1.00	6.00	**500.00**
2	0.10	1.50	**1400.00**	1.50	9.00	**500.00**
3	0.15	2.00	**1233.00**	2.00	12.00	**500.00**
4	0.20	2.25	**1025.00**	2.25	15.00	**566.67**
5	0.25	2.50	**900.00**	2.50	18.00	**620.00**
10	0.50	3.75	**650.00**	3.75	26.00	**593.33**
15	0.75	5.00	**567.00**	5.00	37.00	**640.00**
20	1.00	6.70	**570.00**	6.70	45.00	**571.64**
25	1.25	8.00	**540.00**	8.00	54.00	**575.00**
50	2.50	16.00	**540.00**	16.00	95.00	**493.75**
75	3.75	22.50	**500.00**	22.50	136.00	**504.44**
100	5.00	30.75	**515.00**	30.75	177.00	**475.61**
125	6.25	38.00	**508.00**	38.00	218.00	**473.68**
150	7.50	45.25	**503.00**	45.25	259.00	**472.38**
175	8.75	52.50	**500.00**	52.50	300.00	**471.43**
200	10.00	60.75	**508.00**	60.75	341.00	**461.32**
225	11.30	68.00	**502.00**	68.00	382.00	**461.76**

Source: NTC (Fare Revisions 1958, 1983Mar, 1983Aug, 2009)

The above table is given a clear picture of the fare structure of two time periods. In the first 25 years period the first few sections were increased marginally in a higher percentage. The increases in the first part of the fare stages increased by 1900% while the later part of the stages in the structure increased around 500%.In other words the first few sections increased four times than the later part of the sections. This also pointed out that the fare revisions were not applied equally to each section during this period and it creates the anomalies in the fare structure.

When analyzing the second period which is from 1983 to 2009 it shows a different picture than the first period. In this case the fare changes of the first section and later stage of the section are comparatively very small than the first period. The percentage changes between first section and the 225th section of the second period is only 38% while in the first period the difference shows within the same fare stages is 500% which very high.

The fare revisions in the first period were exclusively done by the CTB who was the state sector operator who tried to get higher revenue in the first few sections where most of the commuters travel a short distance. This is the reason for overpricing the short distance services while long distance was under priced.

4.4 Fare/km in existing fare structure

According to the present fare structure the fare /km for the selected fare stages are shown in the table 4-7. The current fare structure consist 305 stages and for the analysis purposes selected few of the stages representing different segment of distance.

Table 4 – 7 Existing Fare/km

Fare Stage	Distance Km	Fare Rs	Fare/km
1	2	6.00	3.00
2	4	9.00	2.25
3	6	12.00	2.00
4	8	15.00	1.88
5	10	18.00	1.80
6	12	20.00	1.67
7	14	23.00	1.64
8	16	25.00	1.56
9	18	26.00	1.44
10	20	28.00	1.40
15	30	37.00	1.23
20	40	45.00	1.13
25	50	54.00	1.08
50	100	95.00	0.95
75	150	136.00	0.91
100	200	177.00	0.89
125	250	218.00	0.87
150	300	259.00	0.86
175	350	300.00	0.86
200	400	341.00	0.85

Source: NTC (Fare Revision 2009)

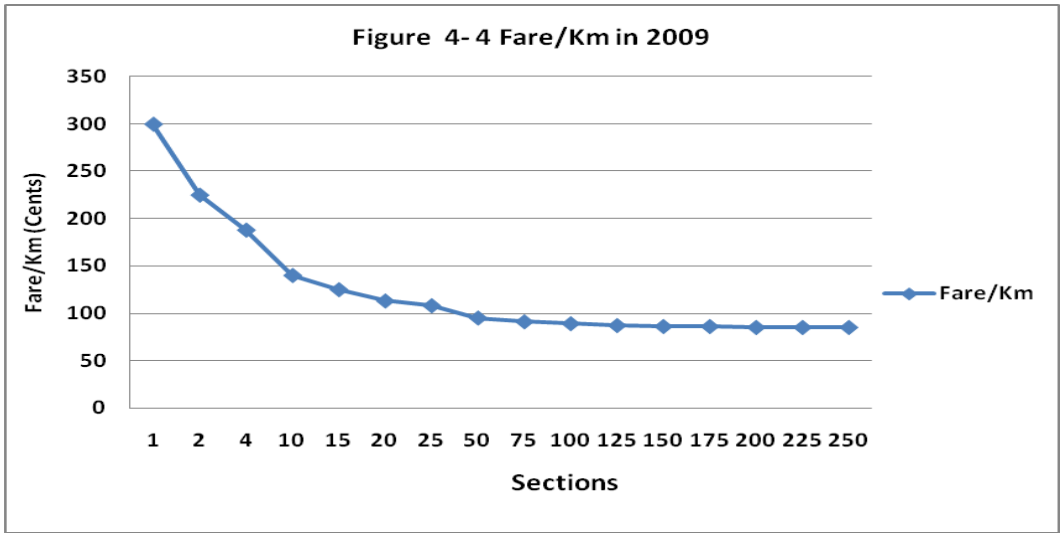


Figure 4-4 Fare/km in 2009

When examining the above table and graph it shows the fare per km is gradually diminished when traveling distance is increased. According to the table the fare/km in first 10 sections which the traveling distance is less than 20 km is at a very high level. The difference between 1 -10 sections are 160 cents/km. The next 15 sections from 11 – 25 also is considerably higher rate of fare/km which the table shows from 140 to 108 cents. The fare/km 25th section is 108 cents while 200 section 0.85 cents. That means after the 25th section the difference of the fare/km is only 23 cents which is very low. It also point out that difference of fare/km in long distance is marginally very small.

Analysis of fare/km in past few years shows in the figure 4-5 which pointed out that fare/km in 1958 and 1972 equally spread out all over the sections and it became to change unfairly in 1983 fare revision. The analysis of fare/km in 305 fare stages is shown in the Annex A for more information.

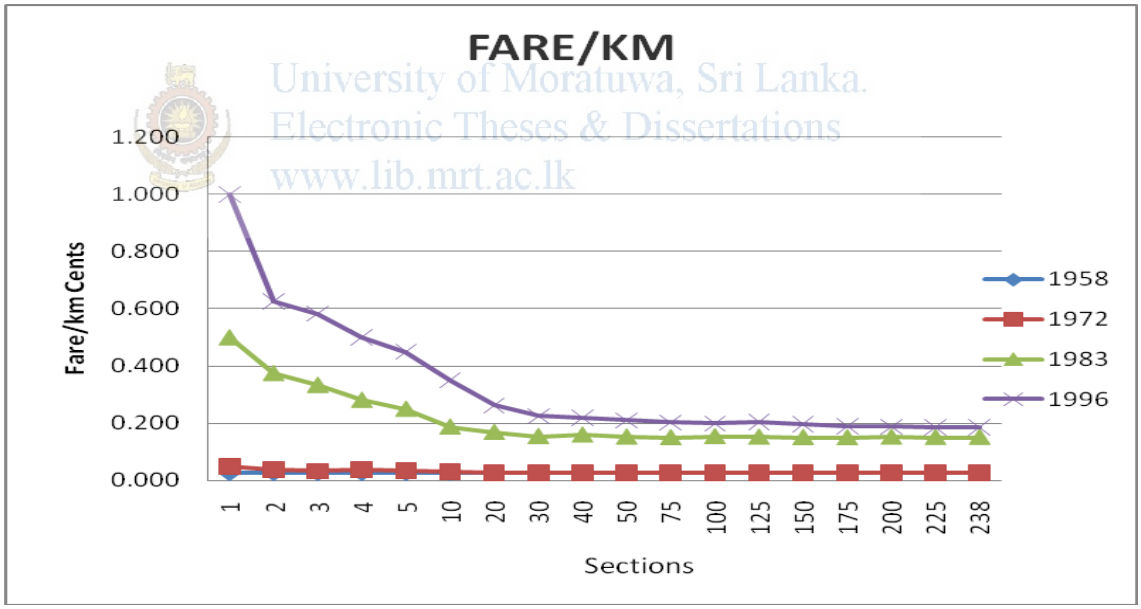


Figure 4-5 Fare/km in 1958, 1972, 983, 1996

4.5 Bus operating Cost in Different Routes

The bus operating cost is calculated by the NTC under the guide line of the national bus fare policy. According to the fare policy the cost index was constructed representing different cost components under the different operating condition. The latest cost index which used for the annual bus fare revisions in 2009 is shown in the table 4-8.

Table 4-8 Bus operating Cost Index 2009

Cost Components	Cost Rs/Km
Fuel cost	22.48
Crew cost	16.61
Service &Lubricants	2.49
Tires & Tubes	6.96
Air conditioner	0.11
Repairs	6.95
Daily overheads	0.56
Overheads	3.64
Annual overheads	0.77
Depreciation of bus	6.00
Financing of bus	5.09
Provision for risk	1.28
Total cost	70.92

Source: NTC (Cost Formulation 2009)

The above cost index is based on ten representative routes categorized under the operating condition which shows in the table 4-9. (See Annex B for detail cost in route wise)

Table 4 -9 Bus Operating Route Category and Operating Cost

Bus Operating Route Category	Operating Cost/Km (Rs)
Long distance low country	60.03
Long distance low country (A/C)	75.19
Long distance up country	67.75
Long distance up country (A/C)	84.46
Regional	63.93
Urban line haul	74.86
Urban line haul (A/C)	74.29
Urban cross town	80.87
Urban feeder	89.27
Rural	66.39

Source: NTC (Fare Policy)

The bus operating cost is different from routes to route. According to the above table the operating cost of the urban feeder route is the highest as Rs 89.27 per kilometer. The lowest operating cost of Rs 60.03 is recorded to the long distance low country routes. In the same way the costs of the routes like long distance as well as urban routes also are different and higher than the rural routes.

When analyzing the present cost of normal service of long distance and short distances separately, the average operating cost in the long distance services are Rs 63.89 (Average cost of long distance low country and long distance up country routes) while in the short distance services are Rs 81.66 (Average cost of Urban line haul, Urban cross town, Urban feeder routes). It pointed out clearly that the operating cost in the short distance services is higher than the long distance services. But in the case of fare revisions the fare structure was revised by the equal rate and implemented the same fare structure for both short and long distance services.

The fare revision which was done in the past, the first few sections had revised in a higher percent. Actually the fare increasing rate should be higher percent for short distance services where operating cost is higher than the long distance services. But in the sense, first few sections in the fare structure was marginally revised previously by a higher percent and should be justified the structure before implementing a separate fare structure for short and long distance services.

4.6 Unit Fare per Kilometer

The changes of the cost index can be calculated by taking the difference of current cost index and the previous cost index. The difference is the amount takes in to account for the bus fare revisions. The percentage which decided through cost index is matched with fare structure. The fare structure is manipulated under five categories of different segment of distances and manipulation done through considering existing far\km of relevant categories. In other words the combination of the different fare stage categories can be adjusted till suite with the fare revision percentage. That means fare/km can be adjusted according to the policy requirements. The fare/km for different fare stages are called Unit fares per km. The table 4-10 has given some information about unit fare/km.

Table 4 – 10 Unit Fare/Km in 2002, 2005, 2009

Section Stages	Distance Kms	Fare/km (Cents) 2002	Fare/km (Cents) 2005	Fare/km (Cents) 2009
1 - 3	0 – 6	64	90	142
4 – 7	8 – 14	58	82	143
8 – 15	16 – 30	32	50	87
16 – 60	32 – 120	33	48	83
61 Up	120 Up	33	47	82

Source: NTC (Fare Formulation 2002, 2005, 2009)

The first fare revision using the fare index under the fare policy was done in 2002. The fare/km in different stages for the year 2002 shows the difference between first category

of 1 – 3 sections and last category of over 60th section is nearly two times. This clearly states that short distance was overpriced and long distance was under priced.

The bus fare policy recommended minimizing the difference between fare/km of the long distance with short distance. The following table explains how far this recommendation is considered in the fare revisions of the last 8 years.

Table 4 -11 Unit Fare/km Changes 2002 - 2009

Section Stages	Fare/Km (Cents) 2002	Fare/Km (Cents) 2009	Change % 2002 - 2009
1 – 3	64	142	121
4 – 7	58	143	146
8 – 15	32	87	171
16 – 60	33	83	151
61 Up	33	82	148

Source; NTC (Fare Formulation 2002, 2009)

When considering the changes between 2002 2009 there were no significant changes that took place since implementing the fare policy. All the categories mentioned in table have increased with the same range of percentage except the first category. The last two categories should increase in higher margin than the first three categories where can minimized fare /km difference between short distance and long distance. But it has not happened marginally in the last 8 years of implementing the fare policy.

4.7 Simple Analysis of Cost/km and Revenue/km

The calculation of revenue of the bus is little difficult task due to the unavailability of the information. Under the certain assumption revenue can be estimated by using published data .The cost can be calculated through the cost index published by the NTC for the purposes of fare revisions. There are two main services such as Colombo- Matara and Colombo – Badulla are selected for this analysis .

E.g 01 Route No : 02 Colombo-Matara (Normal Service)

Route length	=160Km
Bus fare	=Rs 142.00
Operating cost	=Rs 70.92 Per/km

Cost calculation

Total cost for one way	=70.92*160
	=Rs 11,347.00

Revenue calculation

Revenue of 52 seated buses	=142*52
	=Rs 7384.00

(Assumed all the seats were occupied at the origin and all the passenger travel to destination)

Revenue for additional passengers	=7384.00*20/100
	=Rs 1477.00

(Add 20%, to the above revenue, according to the CTB manual allowed load factor for normal services is 120)

Total revenue	=7384+1477
	=Rs 8861.00

E.g 02 Route No : 99 Colombo-Badulla (Normal Service)

Route length	=236Km
Bus fare	=Rs 226.00
Operating cost	=Rs 70.92 Per/km

Cost calculation

Total cost for one way	=70.92*236
	=Rs 16737.00

Revenue calculation

Revenue of 52 seated buses =226*52

=Rs 11,752.00

(Assumed all the seats were occupied at the origin and all the passenger travel to destination)

=11752.00*20/100

=Rs 2350.00

(Add 20%, to the above revenue, according to the CTB manual allowed load factor for normal services is 120)

Total revenue =11752+2350

=Rs 14,102.00

Summary of the Cost and Revenue

Service	Total Revenue (Rs)	Total Cost (Rs)	Deficit (Rs)
Colombo- Matara	8,861.00	11,347.00	2,576.00
Colombo - Badulla	14,102.00	16,737.00	2,635.00

The information of the simple calculation above highlights that both routes are operating under the cost level. According to the practical situation most of the services are running under the profitable level. Any how we have to get an idea about that how they recover the deficit. In this case most of the buses are in overloading and scouting the short distance passengers to get higher revenue which we can observe practically. How this situation practically affects the quality of bus industry will be discussed in the next chapter.

CHAPTER: 05

ANNALYSIS OF SERVICE QUALITY UNDER EXSISTING FARE STRUCTURE

The passenger is the consumer of bus transportation, and expected a quality of services for the payment made by them as bus fare. Therefore it is important to identify the requirement of the quality of the services and the fare structure. The absence of the quality measurement parameter it needs to rank the passenger satisfaction level under the certain assumption.

For the purpose of this, the survey data collected from the report of the Baseline survey. NTC decided to undertake a baseline survey in order to understand the present status of the road based public transport service in Sri Lanka with respect to the views of the passenger. The survey data of passengers are taken to identify the satisfaction level of passenger in relevant quality aspects. The sample size of the survey is 2490 passengers which show in the table 5-1.

Table 5 – 1 Sample Size District Wise

District	Sample Size (Passengers)
Colombo	473
Matara	519
Monaragala	504
Anuradapura	510
Kandy	484
Total	2490

Source: NTC (Baseline Survey 2004)

The questionnaire for the passenger's interview survey was designed to cover ten main aspects that determine the passenger satisfaction of the quality of the bus services such as travel time, loading condition, bus fare, comfort and condition of the bus etc.

This chapter under the sub headings discusses how bus fare structure affected the passenger's satisfaction of these aspects.

5.1 Over Loading and Fare Structure

Generally the fare/km in the short distance services are higher than the long distance services. Under this situation short distance services were overpriced while long distance services were under priced.

The fare level in the long distance buses are not in the viable level to recover the bus operating cost. With respect to the practical situation long distances passengers do not like to travel without a seat. Such a situation operating with seat level in other word load factor is 100 not quite enough to make the service profitable where most of the buses operating under normal service. In the same way all the passengers do not travel from origin to destination while all the seats are not occupied at the origination terminal. Due to this situation long distance buses are scouting the short distance passengers to recover their cost where fare/km is also very high.

According to the data of onboard survey done by the NTC shows clearly the situation explained above. The survey data of two main routes are shown in the table 5-2,5-3 and 5-4 and figures 5-1,5-2 and 5-3 to get an actual picture on the real situation in the bus transport.

Route 01:

Table 5 -2 Lord factor in the Route No 450 : From Ratnapura To Panadura

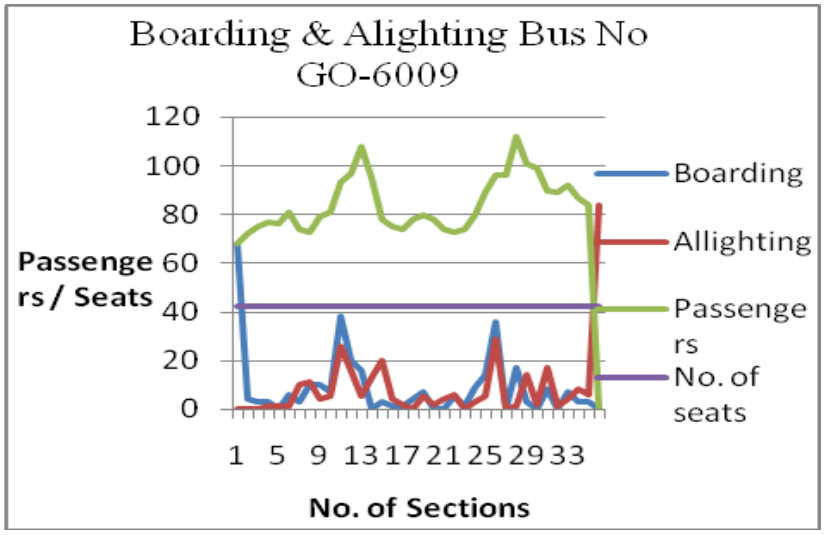
Route No 450 : From Rathnapura to Panadura					
Bus No GO-6009					
Section	Boarding	Alighting	Passengers	No. of seats	Avg Load factor
0	68	0	68	42	1.619
5	6	1	81	42	1.929
10	38	26	93	42	2.214
15	1	4	75	42	1.786
20	0	4	74	42	1.762
25	36	29	96	42	2.286
30	8	17	90	42	2.143
33	3	8	87	42	2.071
34	3	6	84	42	2.000
35	0	84	0	42	0.000
					2.005
Bus No GI-0127					
Section	Boarding	Alighting	Passengers	No. of seats	Avg Load factor
0	42	0	42	42	1.00
5	5	0	49	42	1.17
10	8	3	70	42	1.67
15	8	5	90	42	2.14
20	6	9	94	42	2.24
25	40	47	78	42	1.86
30	10	19	69	42	1.64
34	13	3	62	42	1.48
35	0	62	0	42	0.00
					1.70
Bus No GX-5187					
Section	Boarding	Alighting	Passengers	No. of seats	Avg Load factor
0	49	0	49	42	1.17
5	0	0	47	42	1.12
10	8	4	63	42	1.50
15	4	5	57	42	1.36
20	1	0	60	42	1.43
25	17	35	53	42	1.26
30	10	12	55	42	1.31
34	0	0	55	42	1.31
35	0	55	0	42	0.00
					1.34

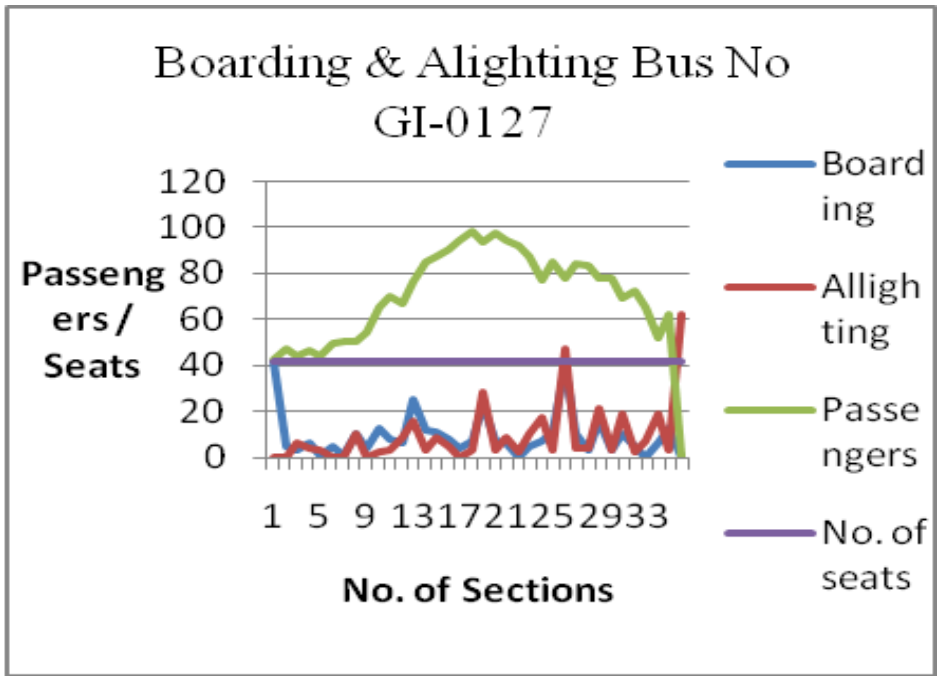
Source: NTC (Survey Data)

Table 5 -3 Lord factor in the Route No 450 : From Panadura To Ratnapura

Route No 450 : From Panadura to Rathnapura					
Bus No : NA-2692					
Section	Boarding	Alighting	Passengers	No. of seats	Avg Load factor
0	58	0	58	42	1.38
5	37	17	82	42	1.95
10	56	26	104	42	2.48
15	0	0	117	42	2.79
20	10	19	76	42	1.81
25	6	17	76	42	1.81
30	3	33	51	42	1.21
34	0	13	40	42	0.95
35	0	40	0	42	0.00
					1.90
Bus No : NC-7995					
Section	Boarding	Alighting	Passengers	No. of seats	Avg Load factor
0	119	0	119	42	2.83
5	4	5	118	42	2.81
10	37	24	126	42	3.00
15	0	8	95	42	2.26
20	3	8	73	42	1.74
25	0	2	47	42	1.12
34	0	0	36	42	0.86
35	0	36		42	0.00
					1.95

Source: NTC (Survey Data)





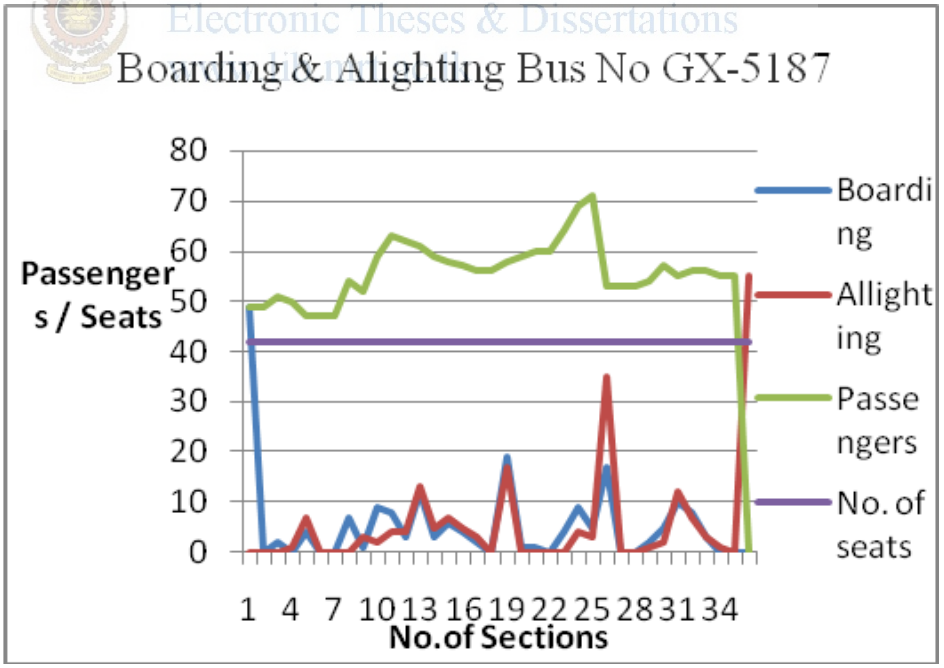
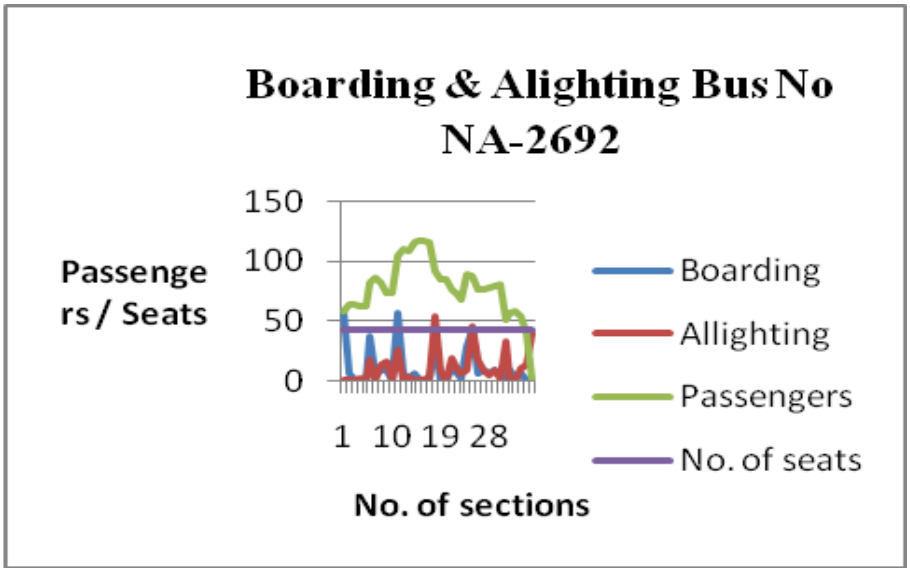


Figure 5-1 Lord Factor in the Route No 450: From Ratnapura To Panadura



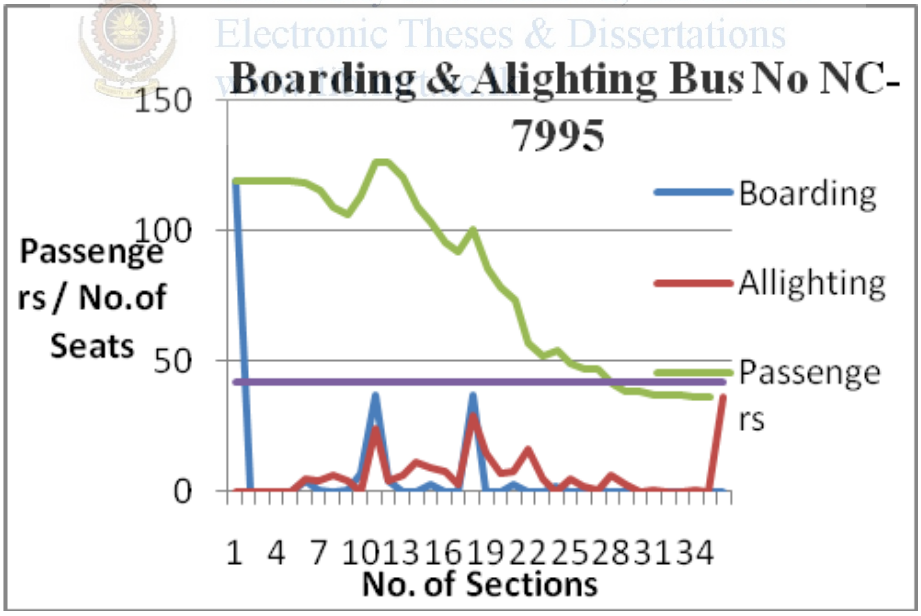


Figure 5-2 Lord Factor in the Route No 450: From Panadura To Ratnapura

Route 2:

Table 5 – 4 Lord Factors in Route No: 02 Colombo - Matara

Section No	BUS-1	BUS-2	BUS-3
0	0.87	0.75	0.92
1	0.92	0.81	0.98
2	1.00	0.90	1.08
3	1.06	0.98	1.19
4	1.15	1.06	1.31
5	1.23	1.17	1.46
6	1.33	1.23	1.58
7	1.42	1.27	1.65
8	1.50	1.40	1.75
9	1.56	1.50	1.85
13	1.58	1.60	1.85
16	1.60	1.63	1.85
21	1.62	1.77	1.81
23	1.58	1.73	1.81
25	1.56	1.69	1.79
27	1.52	1.62	1.75
30	1.56	1.60	1.79
33	1.54	1.58	1.77
36	1.56	1.60	1.79
37	1.62	1.54	1.85
39	1.58	1.50	1.81
42	1.56	1.46	1.79
48	1.56	1.42	1.79
50	1.52	1.38	1.75
52	1.58	1.37	1.77
57	1.63	1.25	1.73
59	1.60	1.21	1.69
63	1.62	1.15	1.63
67	1.58	1.12	1.69
71	1.46	1.00	1.56
76	1.37	0.90	1.46

Source : Matara Bus Company (Ticket Machine Data)

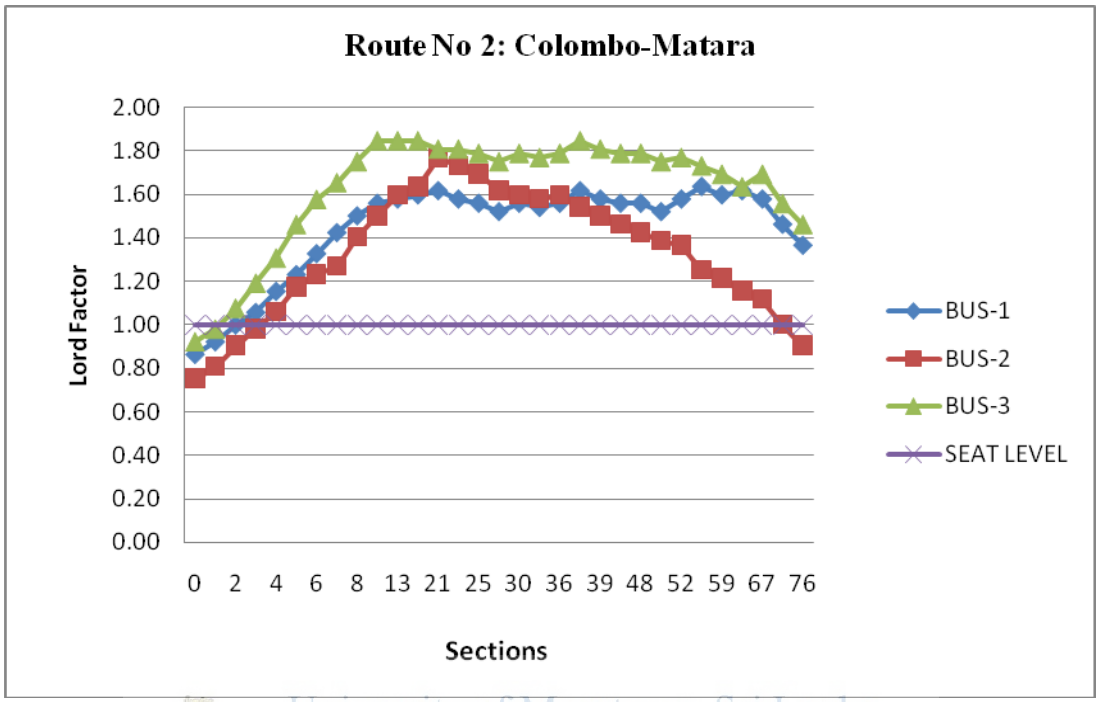


Figure 5 – 3 Lord Factor in Route No: 2 Colombo-Matara

Load Factor is one of the parameters for examining the quality of the services. When load factor is 100 it is benefited for the passengers point 0f view to make a comfortable journey. With respect to the above tables and figures are given the picture of that load factor situation in a two routes namely Colombo-Matara and Ratnapura –Pandura. In both cases it highlights the lord factor is more than 100.

The bus operation in the Panadura – Ratnapura route are always overloaded. That is common aspects for both directions. According to the graphs plotted for each routes indicate for the entire route load factor line upper than the seating capacity level. The Matara-Colombo route also in the same situation and slightly different with the Panadura –Ratnapura route, In Colombo-Matara route the load factor is little low where the starting time of the journey. Soon passing first few sections it also becomes an overloading situation.

Another important aspects illustrate in the 5-2 and 5-3 tables are that boarding and alighting were taking place within very short period of times. In other words it indicates that most of the operators are interesting to take the short distance passengers where they

can earn higher profits. In other words long distance buses scout the short distance passengers where that revenue originally should go to the short distance buses. Such a situation short distances buses also try to overload in the peak were utilizing their opportunity. However in passenger's point of view overloading is not accepted by them.

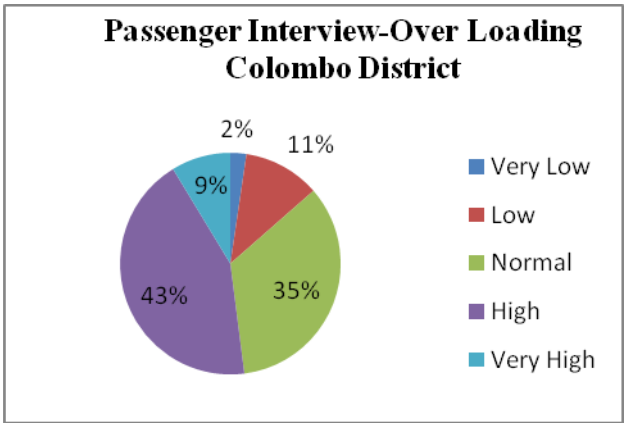
The data is shown in the table 5-4 highlights that the Colombo – Matara buses have stopped in 30 places within the journey distance of 160km.In other words the average trip length from one boarding to another boarding in this route is only 5.3km.

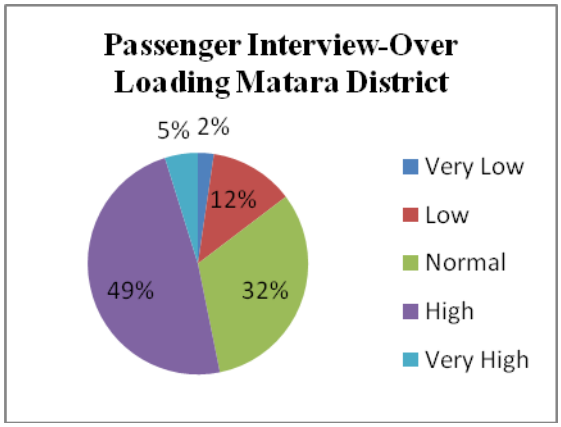
The passenger's views in the baseline survey regarding overloading is showing in the table 5-5 and figures 5-4,5-5.

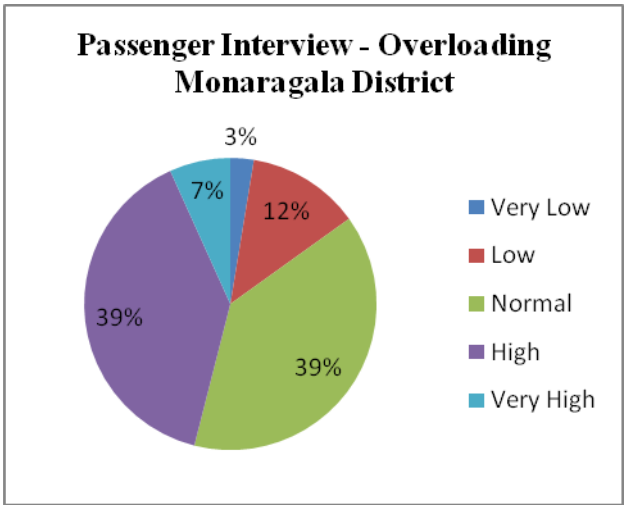
Table 5 – 5 Passenger Interview –Over loading

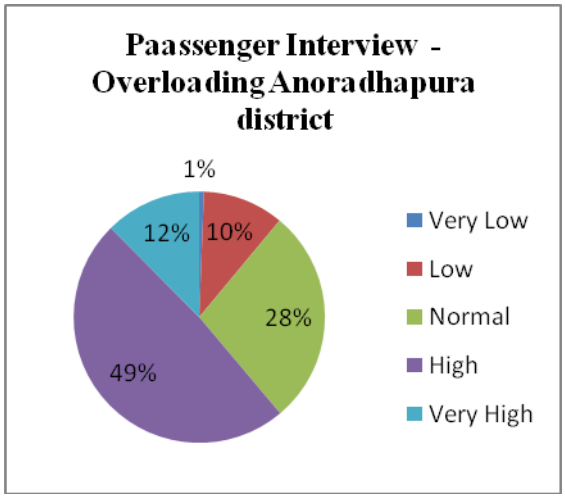
Districts	Very Low	Low	Normal	High	Very High	Total
Colombo	11	53	163	205	41	473
Matara	12	64	167	251	25	519
Monaragala	13	63	196	198	34	504
Anuradhapura	3	53	141	247	63	507
Kandy	17	82	112	230	43	484
All	56	315	779	1133	206	2490

Source : NTC (Baseline Survey 2004)









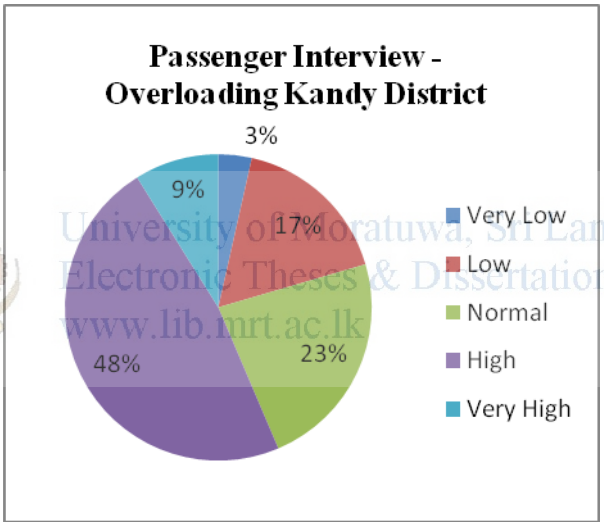


Figure 5 – 4 Passenger interview – Overloading (District Wise)

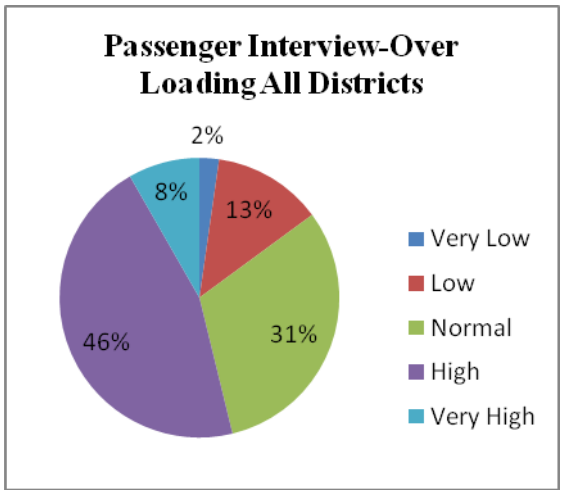


Figure 5 -5 Passenger Interview – Overlaoding (All Districts)

The above information is giving the real picture of passenger satisfaction level regarding the overloading. 2490 passengers were interviewed and more than 1339 of them expressed that overloading is high in the bus operation. In other words 54% of passengers are not satisfied with present overloading situation. Only 15% of the passengers pointed out that present load factor are low and 31% of passenger's satisfaction level is normal.

When analyzing the overloading condition in District wise the result is almost same in all districts where more than 50 percent of passenger pointed out that the overloading condition in the bus services is very high. The data pointed out that 61% and 57% of passengers in Anuradapura and Kandy district respectively expressed overloading condition in the bus services are very high. According to the onboard survey data and passenger interview data which analyzed above pointed out that the load factor is at a high level under existing fare structure.

5.2 Travel Time and Fare Structure

In the point of view the excess of a commodity can be stored for the future usage. In the sense the bus operation produce seats in terms of seat/km as their production. The production in the bus industry are needed to sell in same time where cant store for future usage. Therefore all the operators are trying to sell their seats to passengers whatever it is short distance or long distance. On the other hand selling seats to short distance passengers are very profitable than long distance passenger where fare/km is very high in the short distance. When selling to short distance passenger the opportunity is high to sell the same seat again to another passenger while in the long distance the seat can be sold at a single time. This is one of the prime reasons to increase travel time of the passenges,as mentioned earlier, where the existing fare structure is stimulate scouting the short distance passenger.

The data of the travel time survey conducted by the NTC point out that the travel time of the journey is higher than the standard time. For an example the travel time in route no 2 Matara- Colombo service is summarized in the 5-6 table.

Table 5 – 6 Average Travel Time, Route No: 02 Colombo - Matara

Travel Point	Journey Time mnt	Distance from Colombo	Avg Speed km/hr	Speed km/hr (within the sections)
Pettah	0	0	0	
Aluthgama	130	60	27	
Galle	225	115	32	Aluthgama- Galle 41
Matara	300	160	32	Galle- Matara 45

The total travel time for the journey takes nearly five hours and the average speed of the journey is 32km/hr. According to the above information the speed from Colombo to Aluthgama is 27km/hr where beginning of the journey while average speed at the end of the journey is over 40 km/hr likes Aluthgama-Galle and Galle-Matra are 41 km/hr and 45 km/hr respectively. The bus operators are trying to scout more short distance passengers at the beginning where they can earn more and hope to sell the seat again. Due to this reason the speed is low in the beginning of the journey where it causes to increase the travel time of the entire journey.

In the same way short distance services lingering on the road to pickup passengers stopping every bus halt are increase the travel time unusually. The short distance services are losing the revenue due to the scouting passengers by long distance buses where this revenue should go to short distance operator.

The passengers who used any mode of transport wish to end their journey with a short period of time. The base line survey data help to understand the satisfaction level of the passengers regarding the travel time which shown in the table 5-7 and figure 5-6,5-7.

Table 5 – 7 Passenger Interview –Travel Time

Districts	Excellent	Good	Normal	Unsatisfied	Verse	Total
Colombo	37	110	128	182	16	473
Matara	44	164	177	119	15	519
Monaragala	38	179	145	125	17	504
Anuradhapura	3	53	141	247	63	507
Kandy	17	82	112	230	43	484
All Disricts	139	588	703	903	154	2487

Source: NTC (Baseline Survey 2004)

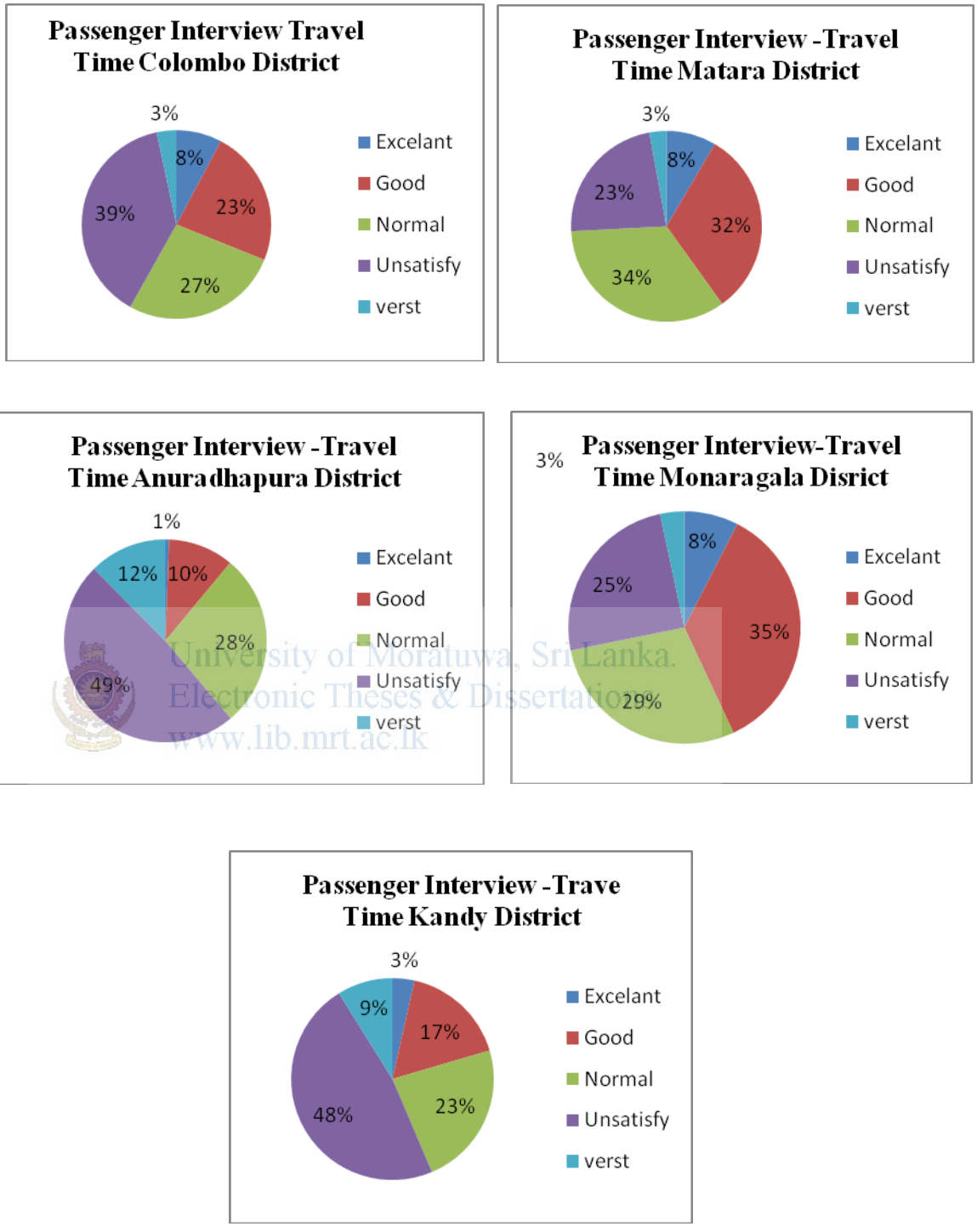


Figure 5 -6 Passenger Interview – Trave Time (Districts wise)

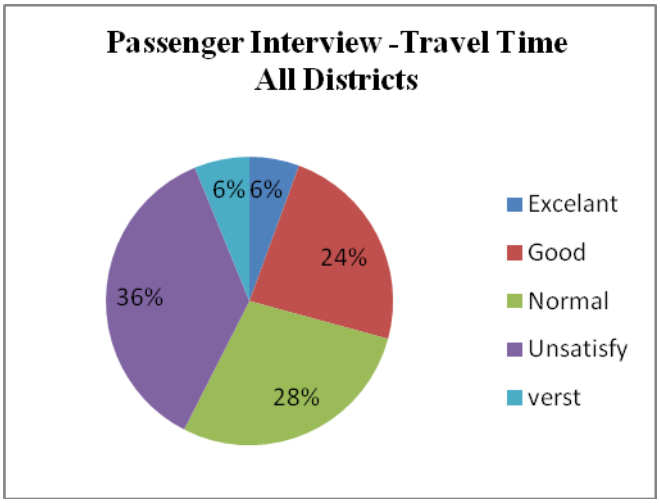


Figure 5 -7 Passenger Interview – Trave Time (All Districts)

The baseline survey data where graphically ilustrated above shows that 42% of passengers are totally unsatisfid with the travel time of the bus operation and another 28% of the passengers are in the normal position where they also do not agreed to the present travel time of the bus services.

5.3 Condition of the Bus (Comfort)

The fare structure is directly affects to the revenue of the bus.If the fare /km is equaly spreaded out over all the fare stages, the revenue also distributed equally among the operators.In the absence of equity in the fare structure the benefit cost ratio bocomes less than 100.In a situation the operator is not interested to provide a comfortable service where needs certain amount of money from the revenue to maintain the bus.On the other hand if revenue is under the profit margine the operator is not intrested to replace the bus and this may cause an increase of old age buses in the fleet.Finally the passenger could not get a comfortable service under this curcumstance.

The passengers views regarding the comfortable of the bus services are shown in the table 5-8 and figure 5-8.

Table 5 – 8 Passenger Interview- Comfort

Districts	Excellent	Good	Normal	Unsatisfied	verse	Total
Colombo	25	97	181	128	42	473
Matara	50	166	179	94	30	519
Monaragala	31	170	119	137	47	504
Anuradhapura	11	131	209	144	15	510
Kandy	35	160	120	145	24	484
All District	152	724	808	648	158	2490

Source: NTC (Baseline Survey 2004)

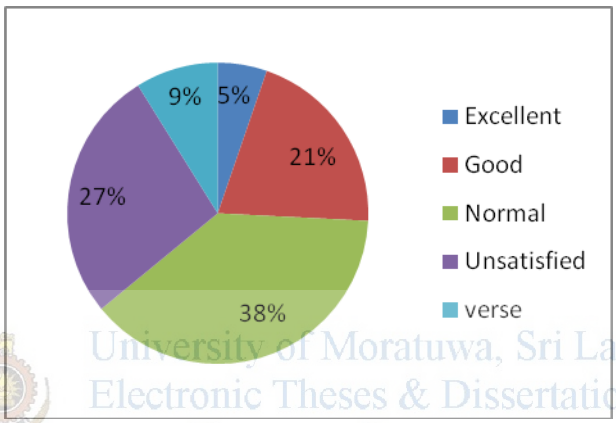


Figure 5 -8 Passenger Interview – Comfortable (All Districts)

5.4 Through Services and Fare Structure

One of the characteristic of the existing fare structure is the transferring fare is high. As a result the operator wishes to break the service by reducing the travel distance while increasing the revenue due to the higher fare/km in the shortest distance operation. In this situation operators are not interesting in providing straight services where passengers are highly needed.

The few routes in the earlier period operate the straight services now become to two services which shows the following examples

Earlier:	Route No 138 Kadawtha – Homagama	Fare/km Rs	1.26
Now:	Route No 138 Pettah – Homagama	Fare/km Rs	1.53
	Route No 138 Pettah –Kadawatha	Fare/km Rs	**1.06**

Earlier:	Route No 145	Angoda – Mattakkuliya	Fare/km Rs	1.57
Now:	Route No 166	Angoda – Slave Island	Fare/km Rs	1.76
	Route No 145	Slave Island –Mattakkukiya	Fare/km Rs	**1.32**

The above examples highlight that operating short distance is highly profitable for operator where fare/km in the short distance is very high. When operating length increase the fare/km decrease. The networking of new routes for through services is difficult to implement due to the short distance operator of the same routes.

CHAPTER: 06

POSSIBLE IMPROVEMENTS TO EXSISTING BUS FARE STRUCTURE AND STRENGTHEN THE OPERATORS REVENUE

The fare structure is the combination of one or more fare strategies with specific fare levels. It is often helpful to examine the strategies and current pricing levels are important when developing a new fare structure. Generally in the case of fare revisions the fare stages are revised equally and it does not make any strategic improvements.

The observation drawn from the existing fare structure has been used as a starting point for designing the new fare structure where it will be able to provide better services to the passengers. This chapter has been focused on improving the fare structure. At the same time organizational structure in the bus transport should be changed and policy decisions are needed to strengthen the operator's revenue through a better fare collection system in the industry.

According to the data analysis of the existing fare structure in previous chapters, it is pointed out that it was unable to protect the quality in the bus transport. It has encouraged both commuter and operator to make decisions according to their willingness which is harmful for the quality of the industry. Therefore several changes should be discussed to treat the fare structure to control the passengers and operators by them self automatically.

6.1 Boarding Fare for Long Distance Services

At present the step on fare is Rs 6.00 where the fare/km is 300 cents. The increase in the step on fare and first few sections have increased with higher percentage than the middle order fare stages .Typically the fare/km in the first few sections in the fare structure is higher than the latter part of the fare sections in the structure.

The bus fare policy report pointed out that 47 percent of passengers buy tickets for the first four sections only. According to the report the weighted average of passengers travelling is shown in the table 6-1.

Table 6-1 Profile of Ticket Issuing

.Fare Stage	Distance Km	Fare/km	% of Ticket Issue
1	2	3.00	16.0
2	4	2.25	18.0
3	6	2.00	13.0
4	8	1.88	10.0
5	10	1.80	8.0
6	12	1.67	5.0
7	14	1.64	4.0
8	16	1.56	4.5
9	18	1.44	4.3
10	20	1.40	2.6
11	22	1.36	1.0
12	24	1.38	0.9
13	26	1.31	0.9
14	28	1.25	0.8
15	30	1.23	0.8
16	32	1.19	0.5
17	34	1.18	0.5
18	36	1.14	0.5
19	38	1.13	0.5
25	50	1.08	1.0
35	70	1.00	1.2
45	90	0.97	2.0
60	120	0.93	4.0

Source: NTC(Fare Policy)

Due to the higher fare/km in the first four fare sections, the long distance buses are really interesting in scouting short distance passengers. Both passengers and operators are subject to the scouting of short distance passengers. From the operators point of view the

higher fare in the short distance tends to scout the short distance passengers' .In the passenger's point of view they tend to get on due to the speed of the bus where travel time low in the long distance buses than the short distance buses.

For the purpose of boarding and alighting, the traffic generated places have given as limited stop for long distance buses where should stop. But due to higher fare/km in short distance and inefficient monitoring system, most of the buses stop each bus halt to pick up passengers to maximize the revenue. Therefore it is important to work out a boarding fare as a step on fare for the long distance buses to preventing the boarding of short distance passengers. The boarding fare can be determined as the cumulative fare of the first four sections where the higher percentage of passengers traveling. Then the boarding fare point become as Rs 42.00 (6.00 + 9.00+12.00+15.00) which is the first fare in the long distance buses .In the sense the fare structure can be developed for consecutive sections following the first section. To make a smooth flow in the fare structure the fares for the different section can be calculated as using the following formula.

Fare for section 01 = Boarding Fare + Existing Fare (section 1)/ 2

Fare for section 02 = Boarding Fare + Existing Fare (section 2)/ 2

This formula can be used up to the existing fare levels where it meets the new fare levels and beyond that point existing fare structure implement as usual. The developed fare structure under this criterion is shown in the table 6-2.

Table 6 – 2 Proposed Boarding Fare and Other Fare Levels for Long Distance Services

Fare Stage	Existing Fare Rs	Proposed Fare Rs
1	6.00	48.00
2	9.00	50.00
3	12.00	51.00
4	15.00	53.00
5	18.00	54.00
6	20.00	55.00
7	23.00	57.00
8	25.00	58.00
9	26.00	58.00
10	28.00	59.00
12	33.00	62.00
14	35.00	63.00
16	38.00	64.00
18	41.00	66.00
20	45.00	68.00
22	48.00	69.00
24	52.00	71.00
26	56.00	73.00
28	59.00	75.00
30	61.00	76.00
32	64.00	77.00
34	68.00	79.00
36	71.00	81.00
38	75.00	83.00
40	79.00	85.00
47	91.00	91.00
48	92.00	92.00
50	95.00	95.00
75	136.00	136.00
100	177.00	177.00
150	259.00	259.00
200	341.00	341.00
250	423.00	423.00
305	513.00	513.00

The developed fare table above shows clearly that the changes in the first few sections are increased in higher percentage where the first section increased exactly by eight times and the second stage was increased by five times than the existing fares. The third and fourth sections are increased by more than four and three times respectively than the existing fare. In other words first four sections increased from 253% to 700% where most of the passengers are travelling. In the same way other fare stages up to 47th section also increased with a declining rate.

After implementing the boarding fare, fare level for local services and interprovincial services will be differ. The maximum route lengths of the intra provincial (local) services are limited to distance between 40- 60km, in other words 20- 30 sections. For example the routes in western province which starts from Pettah and operates through the main corridors such as Pettah-Nigombo, Pettah-Aluthgama, Pettah-Nittambuwa, Pattah-Awissawella belongs to the distance of 40-60km. For instance passengers who travels from Pettah to Nittambuwa have to pay Rs 45.00 for local services meanwhile Rs 68.00 to be paid for inter provincial services. The additional fare which should paid for long distance services will be discouraged the local passengers who are trying to get in to long distance services.

The higher fares in the first few sections may discourage the short distance passengers while long distance passengers will be benefited by reducing the travel time and overloading. In the same way the revenue of the long distance services could be reduced by reducing the short distance passengers under the proposed boarding fare system. Therefore the consideration should focus to improve the revenue of long distance services by increasing fare/km where it is very lower at present.

When implementing this boarding fare for long distance services it is important to give a time frame to charge from short distance passengers. Because most of the local services are not operating in the night time and short distance passengers have to use the long distance services at that time. On the other hand the revenue of the long distance services can be reduced due to the discouragement of short distance passengers. Therefore the improvements of the fare structure for long distance services are highly needed to implement parallel with the implementation of proposed boarding fare.

6.2 Increasing Fare/km in the Long Distance Services

The fare/km it is the key parameter used as the analysis criteria of the fare structure. The analysis clearly pointed out that the fare/km in the long distance is in a very low position. It needs to identify how it causes the quality of the services. Therefore it is important to consider the changes in the fare structure in the long distance services by considering revenue and cost basis.

Considering certain assumptions the required fare/km for long distance services can be calculated. The manual of the CTB explains that the long distance services are referred where operating more than 60 miles (96 km) in a one way journey trip.

Assumptions

1.Cost Calculation

Bus operating cost/km was taken from Bus Operating Cost Index for last fare revisions as Rs 70.92 which is assumed operating cost is equal in all types of routes.

Eg: Cost for 100km operating buses

*Cost/km * operating km*

*70.92*100*

7092.00

2. Revenue Calculation

The average seating capacity of a B type bus taken as 55 seats (CTB O-51 Report)

Assumed all the passengers are travelling from origin to destination.

The average Load Factor of the route taken as 120 (CTB Manual)

Eg: Revenue for 100km operating buses

*Seating capacity*Load Factor*Bus fare*

*55*120/100*95*

6270.00

According to the assumptions the revenue and cost can be calculated for different segment of distances in long distance services.

The required fare/km to meet the cost level can be calculated under the assumption that, the profit margin for bus operation is included in the cost index and an assumed level of operating cost equal to the revenue level.

The required fare/km can be taken from following formula.

*Fare/km = Total cost/Capacity (Seat capacity*Load factor) /Distance*

Eg 01 100km operating bus

*Frae/km = 7092/(55*120/100*100)*

= 1.07

Eg 02 50 km operating bus

*Fare/km = 3546/55*120/100/50*

= 1.07

The required fare/km in long distance (normal services) buses is calculated as 107 cents.

The required fare/km is equal to each sections and matching with existing fare/km, can be identified what are the percentages should needed to recognized by the table 6-3.

Table 6-3 Proposed Fare Increasing Percentage

Fare Stage	Distance Km	Fare Rs	Fare/Km Cents	Total Cost Rs	Total Revenue Rs	Required Fare/km	Difference Fare/km Cents	Difference Fare/km %
48	96	92.00	0.96	6808	5060	1.07	0.12	12.1
49	98	93.00	0.95	6950	5115	1.07	0.13	13.2
50	100	95.00	0.95	7092	5225	1.07	0.12	13.1
75	150	136.00	0.91	10638	7480	1.07	0.17	18.5
100	200	177.00	0.89	14184	9735	1.07	0.19	21.4
125	250	218.00	0.87	17730	11990	1.07	0.20	23.2
150	300	259.00	0.86	21276	14245	1.07	0.21	24.5
176	352	301.00	0.86	24964	16555	1.07	0.22	25.7
200	400	341.00	0.85	28368	18755	1.07	0.22	26.0
226	452	383.00	0.85	32056	21065	1.07	0.23	26.8
250	500	423.00	0.85	35460	23265	1.07	0.23	27.0
275	550	464.00	0.84	39006	25520	1.07	0.23	27.4
305	610	513.00	0.84	43261	28215	1.07	0.23	27.8

The calculation workout above shows that the exiting fare/km is needed to increase to meet operating cost level. The current average fare/km in long distance services are 85 cents which recommended increasing up to 107 cents. Therefore present fare structure should be increased for long distance services from 12 percent to 28 percent where the fare section from 48 to 305.It is also recommended to increase fare /km by 107 cents from section 27 where the existing fare/km is 108 cents in the 26th section for a smooth and systematic flow in the fare structure. The developed fare structure for the selected few sections are shown in the table 6-4 and the fare for entire sections are shown in the table of annex C.

Table 6-4 Improved Fare structure for Long Distance Services

Fare Stage	Distance Km	Existing Fare Rs	Proposed Fare Rs
1	2	6.00	6.00
5	10	18.00	18.00
10	20	28.00	28.00
20	40	45.00	45.00
30	60	61.00	64.00
40	80	79.00	85.00
50	100	95.00	107.00
60	120	111.00	128.00
70	140	127.00	150.00
80	160	144.00	171.00
90	180	160.00	193.00
100	200	177.00	214.00
125	250	218.00	268.00
150	300	259.00	322.00
175	350	300.00	376.00
200	400	341.00	429.00
225	450	382.00	483.00
250	500	423.00	537.00
275	550	464.00	591.00
305	610	513.00	655.00

The fare increase in the long distance services may be helpful to the operator to improve the revenue and avoiding the collecting of short distance passengers. On the other hand this may improve the revenue of short distance services too where the possibility to collect short distance passengers actually belongs to them.

6.3 Proposed Fare Structure for Long Distance Services

According to the calculated boarding fare and identified fare/km, the summarized fare structure for long distance services can be shown in the table 6-7.The boarding fare was calculated up to 47th section where the fare level of boarding fare equal with existing fare. In the same way proposed improvement of fare/km was calculated from the 48th section where considered as long distance services. The proposed fare for 47th section becomes Rs 91.00 as well as fare foe 48th section becomes Rs 103.00.The fare gap between section

no 47 and 48 is Rs 12.00 and it needs to minimize the gap for smooth flow in the fare structure. Therefore it is better to taper the fare stages from 40 to 48 and selected sections of the improved fare for long distance services are shown in the table 6-5 and improved fare structure consisting with all fare stages are shown in the Annex D.

Table 6-5 Proposed Fare Structure for Long Distance Services

Fare Stage	Existing Fare Rs	Proposed Fare Rs
1	6.00	48.00
2	9.00	50.00
3	12.00	51.00
4	15.00	53.00
5	18.00	54.00
10	28.00	59.00
20	45.00	68.00
35	70.00	80.00
39	77.00	84.00
40	79.00	85.00
41	80.00	88.00
42	82.00	90.00
43	83.00	92.00
44	85.00	95.00
45	87.00	97.00
46	88.00	99.00
47	91.00	101.00
48	92.00	103.00
49	93.00	105.00
50	95.00	107.00
60	111.00	129.00
70	127.00	150.00
80	144.00	172.00
90	160.00	193.00
100	177.00	215.00
150	259.00	322.00
200	341.00	430.00
250	423.00	537.00
300	505.00	645.00
305	513.00	655.00

6.4 Improve the Fare Collection Methods

The improvement of the fare structure is one of the ways to increase the revenue of the operator to recover the operating cost. In the same way it is essential to ensure the revenue in terms of collecting way bill revenue properly. There should be a proper method to collect the fare from the passengers. If couldn't collect the fare from passengers no meaning of increasing the fare.

Another important aspect of the bus industry is that the considerable amount of waybill revenue does not go to the operator. Therefore it is important to introduce new technology for collecting money by issuing tickets. The ticket machine is one of the ways to improve the way bill collection where operator can get the information of the ticket issuing. In developed countries, electronic machine and electronic card system are being using in the transport industry.

The flexibility and information storage ability of the electronic machine and card system offer the opportunity to increase the revenue where revenue can be lost from bus crews.

6.5 Structural Changes in the Industry

The structural changes in the industry also needed to provide a better service and improve the revenue under any fare level. Because the individual operators in the industry are always thinking only about their revenue. On the other hand operating under an organization in terms of a company where there is an opportunity to operate together and improve the revenue sharing among the shareholders.

6.6 Direct Benefit to the Operator

In the case of fare increase the benefit are not go straightway to the operator. The fare increases are taking place comparatively with the increase of the cost component. Therefore additional revenue coming from fare increases goes to the price increases of the cost component. In this case the operator's revenue might not be improved.

Therefore it is important to provide direct benefit to the operator where it straightly goes to his pocket. This kind of benefit can be provided through a government policy concept.

At present government offer VAT free facility to purchase brand new buses. Under this the operator can be benefited 15% from the bus value which is considerable relief for bus operator where the market price of the buses now is expensive.

On the other hand passengers also benefited through this by replacing a new bus for older one consuming a high quality service.

6.7 Subsidiary for Uneconomic Services

On the other hand same fare structure is regulated for different types of routes. The demand and supply of the route are different from routes to route. The demand of the route in other words traffic generation of the route is totally different for each route. The buses which operate in the urban areas have higher demand than the rural area.

The bus operating in the rural area is highly essential services to the rural people who want to link with urban cities. The passenger demand of the rural routes is in very low level and even the journey trip has to be operated with a few passengers. According to the fare policy report the benefit cost ratio of the rural routes is nearly 65%.This is less than the operating cost level. In such a situation the operating cost cannot be recovered by increasing the fare level where most of the people living in the rural area is poor. The government intervention is needed in this situation to provide a subsidiary to operator and overcome from unprofitable operation.

CHAPTER: 07

CONCLUTION AND RECOMMENDATIONS

7.1 CONCLUTION

In the economic point of view the price of the commodity will be decided by the market mechanism of demand and supply basis. But in the case of service sector the price deciding approach is different than out of the market mechanism. Most of the cases service provider decides the price according to his cost. But in the case of bus operation the price in terms of fare is decided by the regulatory authority. In this situation the daily schedules of these buses are operating under the existing bus fare structure which is fixed by the Government.

The changes of the bus fare structure took place comparatively with bus fare revisions. Since 1958, the bus fare was revised 25 times under the different organizational structure. When considering the history of fare revisions there are not a clear picture about fixing fares. That means no uniform system to fixing fare. The bus fare policy was introduced in 2002 due to the absence of proper methods to decide the fare revising rate.

As mentioned earlier bus fare is the most important factor in the bus industry which decide the revenue of the bus, and also it is the key factor in the industry for new investment as well as for protecting the current investor. Therefore it is important to consider the bus fare revisions since nationalization which has revised comparatively with other socio economic indicators such as CCPI (cost of living), per capita income and price revisions of the diesel. Comparing bus fare revisions since nationalization with other indicators, in most of the occasions bus fare were revised more fairly with other indicators.

Another important factor to discuss this matter is that bus fare revisions in the all occasions has applied correctly to the bus fare structure which consist separate fares level. The analysis of the fare structure from 1958 to current fare revision on 2009, highly pointed out that first section of the fare structure has increased at a very higher percentage than other fare stages .The first section has increased two times than the 10th

section and three times than the 75th section. The next four section from 2-5 also increased little less than the first section. The increase beyond 50th section shows that the amount which revised in the history affected in the equal manner, but comparing with the first few section there is a big difference which made the fare structure unsystematic. This clearly pointed out that the fares revisions were not applied equally to every single section where it highlights further the income was not distributed equally among the industry.

The fare per kilometer is one of the key parameter used to analyze the fare structure also highlights that the fare/km in the short distance is higher than the long distance. The difference of fare/km between first fare stage and the last fare stage is 215 cents. This situation creates an unsystematic structure in the bus fare. The main reason for this, the bus fare revision was taking place under different institutional structure. The analysis pointed out that the first few sections were increased unfairly during the period of CTB who was also an operator. The CTB really understood according to their statistics which were the sections highly traveled by passengers. And these sections were revised in higher margin to recover the operating cost. Finally it creates an unbalance structure which makes a big gap between the fare stages.

The fare structure what we use presently has to be changed according to the cost and revenue basis. Because short distance were over priced and long distance were under priced. It is difficult to estimate the revenue of the bus operation due to the failure of the collecting important bus operating information and statistics from private bus operators, especially revenue information.

Today most of the passengers complain that fares always go up while quality of the service remains at an unsatisfactory level. The passengers who pay for their journey are expecting quality services more than getting a seat. Long distance buses scout for shorter distance passengers thus slowing down the service provided. They also over load to make up for the loss incurred in the carriage of long distance passengers. In the short distance, the surplus profits have attracted a surplus of buses which have reduced productivity and increased traffic congestion.

The report of the passenger interviewed surveys also pointed out the more than 50% of passengers totally unsatisfied with the quality of the services including the aspects of travel time, over loading, comfortable and condition of the bus etc.

7.2 RECOMENDATION

When considering the quality of services it should be prioritized in long distance services where a passenger has to travel a long journey. If expecting a better service from the industry it needs to make certain improvements to the fare structure. If not changed the fare structure by discouraging the short distance passenger who is traveling in long distance buses and by improving the revenue of long distance buses to prevent scouting short distance passenger, it is unable to expect a better service from the bus industry.

The revenue of any industry should be attractive to its existence in the field. It is very important to consider the revenue in the bus operation where still operating as an individual. Therefore the conformation of the revenue is very important to further investment for the industry. Anyhow present fare structure does not equally treat bus operators where that indicates the fare per kilometer in the short distance is at a higher level and long distance were in a very low level. The adjustment for the fare structure is highly needed to ensure the quality of the bus services. Therefore introduced a boarding fare for long distance services to discourage the travelling of short distance passenger in the long distance buses and also developed the fare structure matching with boarding fare. The boarding fare for long distance services is proposed Rs 48.00 instead of Rs 6.00 which is charging now in the short distance as well as long distance services. The higher fares in the first few sections may discourage the short distance passengers while long distance passengers will be benefited by reducing the travel time and overloading. In the same way the revenue of the long distance services could be reduced by reducing the short distance passengers under the proposed boarding fare system. Therefore the consideration should focus to improve the revenue of long distance services by increasing fare/km where it is very lower at present.

When implementing a boarding fare for long distance services it is important to give a time frame to charge from short distance passengers. Because most of the local services are not operating in the night time and short distance passengers have to use the long distance services at that time.

Another proposal made to adjust the fare structure by increasing the fare/km in the long distance services. As identified earlier fare/km in the long distance is very low comparing with short distance services. The fare/km in the 50th section is 95 cents and it further declines to 85 cents when reach the 200th section. Comparing with cost and revenue basis it identified require fare/km for long distance services. As a result of this it proposes to increase fare/km from 85 cents to 107 cents in the long distance services to ensure the revenue of long distance services. Due to the unavailability of the revenue information hypothetical values with reasonable assumptions have used to identify the required figure of the fare/km.

The proposed fare structure for long distance services will be increased from 12.63% in the 50th section to 27.8% in the 305th section. If implementing the proposed fare structure along with annual fare revisions it will be a burden for long distance passengers where the increasing percentages are very high in the latter part of the fare stages. Therefore it is better to implement the proposed fare structure separately within the period of December-January where annual fare revision is scheduled to be implemented in July of each year.

The changing of fare structure is one of the ways to ensure the revenue to improve the quality of services while it is possible further to ensure the revenue of the operator, by introducing different electronic methods to collect the fare properly from the passenger and protect the waybill revenue from the crew.

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FARE/KM 1958,1972,1983,1996,2002,2009

ANNEX A

Fare	Avg Distanc	1958		1972		1983		1996		2002		2009	
Stage	Km	Fare Rs	Fare/km	Fare Rs	Fare/km Cen	Fare Rs	Fare/km Cen	Fare Rs	Fare/km Ce	Fare Rs	Fare/km Cent	Fare Rs	Fare/km Cen
1	2	0.05	0.025	0.10	0.05	1.00	0.50	2.00	1.00	3.00	1.50	6.00	3.00
2	4	0.10	0.025	0.15	0.04	1.50	0.38	2.50	0.63	4.00	1.00	9.00	2.25
3	6	0.15	0.025	0.20	0.03	2.00	0.33	3.50	0.58	6.00	1.00	12.00	2.00
4	8	0.20	0.025	0.30	0.04	2.25	0.28	4.00	0.50	7.00	0.88	15.00	1.88
5	10	0.25	0.025	0.35	0.04	2.50	0.25	4.50	0.45	8.00	0.80	18.00	1.80
6	12	0.30	0.025	0.40	0.03	2.75	0.23	5.00	0.42	9.00	0.75	20.00	1.67
7	14	0.35	0.025	0.45	0.03	3.00	0.21	5.50	0.39	11.00	0.79	23.00	1.64
8	16	0.40	0.025	0.50	0.03	3.25	0.20	6.50	0.41	11.50	0.72	25.00	1.56
9	18	0.45	0.025	0.55	0.03	3.50	0.19	7.00	0.39	12.00	0.67	26.00	1.44
10	20	0.50	0.025	0.60	0.03	3.75	0.19	7.00	0.35	13.00	0.65	28.00	1.40
11	22	0.55	0.025	0.65	0.03	4.00	0.18	7.50	0.34	13.50	0.61	30.00	1.36
12	24	0.60	0.025	0.70	0.03	4.25	0.18	7.50	0.31	14.00	0.58	33.00	1.38
13	26	0.65	0.025	0.75	0.03	4.50	0.17	8.00	0.31	14.50	0.56	34.00	1.31
14	28	0.70	0.025	0.80	0.03	4.75	0.17	8.00	0.29	15.00	0.54	35.00	1.25
15	30	0.75	0.025	0.85	0.03	5.00	0.17	8.50	0.28	15.50	0.52	37.00	1.23
16	32	0.80	0.025	0.90	0.03	5.25	0.16	8.50	0.27	16.00	0.50	38.00	1.19
17	34	0.85	0.025	0.95	0.03	6.00	0.18	9.00	0.26	17.00	0.50	40.00	1.18
18	36	0.90	0.025	1.00	0.03	6.25	0.17	9.50	0.26	17.50	0.49	41.00	1.14
19	38	0.95	0.025	1.05	0.03	6.50	0.17	10.00	0.26	18.00	0.47	43.00	1.13
20	40	1.00	0.025	1.15	0.03	6.75	0.17	10.50	0.26	19.00	0.48	45.00	1.13
21	42	1.05	0.025	1.20	0.03	7.00	0.17	10.50	0.25	19.50	0.46	47.00	1.12
22	44	1.10	0.025	1.25	0.03	7.25	0.16	11.00	0.25	20.00	0.45	48.00	1.09
23	46	1.15	0.025	1.30	0.03	7.50	0.16	11.50	0.25	21.00	0.46	50.00	1.09
24	48	1.20	0.025	1.35	0.03	7.75	0.16	12.00	0.25	21.50	0.45	52.00	1.08
25	50	1.25	0.025	1.40	0.03	8.00	0.16	12.00	0.24	22.00	0.44	54.00	1.08
26	52	1.30	0.025	1.45	0.03	8.25	0.16	12.50	0.24	23.00	0.44	56.00	1.08
27	54	1.35	0.025	1.50	0.03	8.50	0.16	12.50	0.23	23.50	0.44	57.00	1.06
28	56	1.40	0.025	1.55	0.03	8.75	0.16	13.00	0.23	24.00	0.43	59.00	1.05
29	58	1.45	0.025	1.60	0.03	9.00	0.16	13.00	0.22	25.00	0.43	60.00	1.03
30	60	1.50	0.025	1.65	0.03	9.25	0.15	13.50	0.23	25.50	0.43	61.00	1.02
31	62	1.55	0.025	1.70	0.03	9.50	0.15	14.00	0.23	26.00	0.42	63.00	1.02
32	64	1.60	0.025	1.75	0.03	9.75	0.15	14.50	0.23	27.00	0.42	64.00	1.00
33	66	1.65	0.025	1.80	0.03	10.00	0.15	15.00	0.23	27.50	0.42	67.00	1.02
34	68	1.70	0.025	1.85	0.03	10.25	0.15	15.50	0.23	28.00	0.41	68.00	1.00
35	70	1.75	0.025	1.90	0.03	10.50	0.15	15.50	0.22	29.00	0.41	70.00	1.00
36	72	1.80	0.025	1.95	0.03	10.75	0.15	16.00	0.22	29.50	0.41	71.00	0.99
37	74	1.85	0.025	2.00	0.03	12.00	0.16	16.00	0.22	30.00	0.41	73.00	0.99
38	76	1.90	0.025	2.05	0.03	12.25	0.16	16.50	0.22	31.00	0.41	75.00	0.99

FARE/KM 1958,1972,1983,1996,2002,2009

ANNEX A

Fare	Avg Distanc	1958		1972		1983		1996		2002		2009	
39	78	1.95	0.025	2.10	0.03	12.50	0.16	17.00	0.22	31.50	0.40	77.00	0.99
40	80	2.00	0.025	2.20	0.03	12.75	0.16	17.50	0.22	32.00	0.40	79.00	0.99
41	82	2.05	0.025	2.25	0.03	13.00	0.16	17.50	0.21	32.50	0.40	80.00	0.98
42	84	2.10	0.025	2.30	0.03	13.25	0.16	18.00	0.21	33.00	0.39	82.00	0.98
43	86	2.15	0.025	2.35	0.03	13.50	0.16	18.50	0.22	34.00	0.40	83.00	0.97
44	88	2.20	0.025	2.40	0.03	13.75	0.16	19.00	0.22	34.50	0.39	85.00	0.97
45	90	2.25	0.025	2.45	0.03	14.00	0.16	19.50	0.22	35.00	0.39	87.00	0.97
46	92	2.30	0.025	2.50	0.03	14.25	0.15	20.00	0.22	36.00	0.39	88.00	0.96
47	94	2.35	0.025	2.55	0.03	14.50	0.15	20.00	0.21	36.50	0.39	91.00	0.97
48	96	2.40	0.025	2.60	0.03	14.75	0.15	20.50	0.21	37.00	0.39	92.00	0.96
49	98	2.45	0.025	2.65	0.03	15.00	0.15	20.50	0.21	38.00	0.39	93.00	0.95
50	100	2.50	0.025	2.70	0.03	15.25	0.15	21.00	0.21	38.50	0.39	95.00	0.95
51	102	2.55	0.025	2.75	0.03	15.50	0.15	21.00	0.21	39.00	0.38	96.00	0.94
52	104	2.60	0.025	2.80	0.03	15.75	0.15	21.50	0.21	40.00	0.38	98.00	0.94
53	106	2.65	0.025	2.85	0.03	16.00	0.15	21.50	0.20	40.50	0.38	99.00	0.93
54	108	2.70	0.025	2.90	0.03	16.25	0.15	22.00	0.20	41.00	0.38	101.00	0.94
55	110	2.75	0.025	2.95	0.03	16.50	0.15	22.00	0.20	42.00	0.38	103.00	0.94
56	112	2.80	0.025	3.00	0.03	16.75	0.15	22.50	0.20	42.50	0.38	105.00	0.94
57	114	2.85	0.025	3.05	0.03	18.00	0.16	23.00	0.20	43.00	0.38	107.00	0.94
58	116	2.90	0.025	3.10	0.03	18.25	0.16	23.50	0.20	44.00	0.38	108.00	0.93
59	118	2.95	0.025	3.15	0.03	18.50	0.16	24.00	0.20	44.50	0.38	110.00	0.93
60	120	3.00	0.025	3.30	0.03	18.75	0.16	24.50	0.20	45.00	0.38	111.00	0.93
61	122	3.05	0.025	3.35	0.03	19.00	0.16	25.00	0.20	46.00	0.38	113.00	0.93
62	124	3.10	0.025	3.40	0.03	19.25	0.16	25.50	0.21	46.50	0.38	115.00	0.93
63	126	3.15	0.025	3.45	0.03	19.50	0.15	26.00	0.21	47.00	0.37	117.00	0.93
64	128	3.20	0.025	3.50	0.03	19.75	0.15	26.50	0.21	48.00	0.38	118.00	0.92
65	130	3.25	0.025	3.55	0.03	20.00	0.15	27.00	0.21	48.50	0.37	120.00	0.92
66	132	3.30	0.025	3.60	0.03	20.25	0.15	27.50	0.21	49.00	0.37	121.00	0.92
67	134	3.35	0.025	3.65	0.03	20.50	0.15	28.00	0.21	50.00	0.37	122.00	0.91
68	136	3.40	0.025	3.70	0.03	20.75	0.15	28.50	0.21	50.50	0.37	124.00	0.91
69	138	3.45	0.025	3.75	0.03	21.00	0.15	29.00	0.21	51.00	0.37	125.00	0.91
70	140	3.50	0.025	3.80	0.03	21.25	0.15	29.50	0.21	52.00	0.37	127.00	0.91
71	142	3.55	0.025	3.85	0.03	21.50	0.15	29.50	0.21	52.50	0.37	129.00	0.91
72	144	3.60	0.025	3.90	0.03	21.75	0.15	30.00	0.21	53.00	0.37	131.00	0.91
73	146	3.65	0.025	3.95	0.03	22.00	0.15	30.00	0.21	54.00	0.37	133.00	0.91
74	148	3.70	0.025	4.00	0.03	22.25	0.15	30.50	0.21	54.50	0.37	134.00	0.91
75	150	3.75	0.025	4.05	0.03	22.50	0.15	30.50	0.20	55.00	0.37	136.00	0.91
76	152	3.80	0.025	4.10	0.03	22.75	0.15	31.00	0.20	56.00	0.37	138.00	0.91
77	154	3.85	0.025	4.15	0.03	24.00	0.16	31.50	0.20	56.50	0.37	139.00	0.90

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Fare	Avg Distanc	1958		1972		1983		1996		2002		2009	
78	156	3.9	0.025	4.20	0.03	24.25	0.16	32.00	0.21	57.00	0.37	141.00	0.90
79	158	3.95	0.025	4.25	0.03	24.50	0.16	32.50	0.21	58.00	0.37	142.00	0.90
80	160	4.00	0.025	4.40	0.03	24.75	0.15	33.00	0.21	58.50	0.37	144.00	0.90
81	162	4.05	0.025	4.45	0.03	25.00	0.15	33.50	0.21	59.00	0.36	145.00	0.90
82	164	4.10	0.025	4.50	0.03	25.25	0.15	34.00	0.21	60.00	0.37	147.00	0.90
83	166	4.15	0.025	4.55	0.03	25.50	0.15	34.00	0.20	60.50	0.36	149.00	0.90
84	168	4.20	0.025	4.60	0.03	25.75	0.15	34.50	0.21	61.00	0.36	150.00	0.89
85	170	4.25	0.025	4.65	0.03	26.00	0.15	34.50	0.20	62.00	0.36	152.00	0.89
86	172	4.30	0.025	4.70	0.03	26.25	0.15	35.00	0.20	62.50	0.36	154.00	0.90
87	174	4.35	0.025	4.75	0.03	26.50	0.15	35.00	0.20	63.00	0.36	155.00	0.89
88	176	4.40	0.025	4.80	0.03	26.75	0.15	35.50	0.20	64.00	0.36	157.00	0.89
89	178	4.45	0.025	4.85	0.03	27.00	0.15	36.00	0.20	64.50	0.36	158.00	0.89
90	180	4.50	0.025	4.90	0.03	27.25	0.15	36.50	0.20	65.00	0.36	160.00	0.89
91	182	4.55	0.025	4.95	0.03	27.50	0.15	37.00	0.20	65.50	0.36	162.00	0.89
92	184	4.6	0.025	5.00	0.03	27.75	0.15	37.50	0.20	66.00	0.36	163.00	0.89
93	186	4.65	0.025	5.05	0.03	28.00	0.15	38.00	0.20	67.00	0.36	165.00	0.89
94	188	4.70	0.025	5.10	0.03	28.25	0.15	38.50	0.20	67.50	0.36	166.00	0.88
95	190	4.75	0.025	5.15	0.03	28.50	0.15	38.50	0.20	68.00	0.36	168.00	0.88
96	192	4.80	0.025	5.20	0.03	28.75	0.15	39.00	0.20	69.00	0.36	170.00	0.89
97	194	4.85	0.025	5.25	0.03	30.00	0.15	39.00	0.20	69.50	0.36	172.00	0.89
98	196	4.90	0.025	5.30	0.03	30.25	0.15	39.50	0.20	70.00	0.36	174.00	0.89
99	198	4.95	0.025	5.35	0.03	30.50	0.15	39.50	0.20	71.00	0.36	175.00	0.88
100	200	5.00	0.025	5.50	0.03	30.75	0.15	40.00	0.20	71.50	0.36	177.00	0.89
101	202	5.05	0.025	5.55	0.03	31.00	0.15	40.50	0.20	72.00	0.36	178.00	0.88
102	204	5.10	0.025	5.60	0.03	31.25	0.15	41.00	0.20	73.00	0.36	179.00	0.88
103	206	5.15	0.025	5.65	0.03	31.50	0.15	41.50	0.20	73.50	0.36	181.00	0.88
104	208	5.20	0.025	5.70	0.03	31.75	0.15	42.00	0.20	74.00	0.36	183.00	0.88
105	210	5.25	0.025	5.75	0.03	32.00	0.15	42.50	0.20	75.00	0.36	185.00	0.88
106	212	5.30	0.025	5.80	0.03	32.25	0.15	43.00	0.20	75.50	0.36	187.00	0.88
107	214	5.35	0.025	5.85	0.03	32.50	0.15	43.50	0.20	76.00	0.36	188.00	0.88
108	216	5.40	0.025	5.90	0.03	32.75	0.15	44.00	0.20	77.00	0.36	190.00	0.88
109	218	5.45	0.025	5.95	0.03	33.00	0.15	44.50	0.20	77.50	0.36	191.00	0.88
110	220	5.50	0.025	6.00	0.03	33.25	0.15	45.00	0.20	79.00	0.36	193.00	0.88
111	222	5.55	0.025	6.05	0.03	33.50	0.15	45.50	0.20	79.50	0.36	195.00	0.88
112	224	5.60	0.025	6.10	0.03	33.75	0.15	46.00	0.21	80.00	0.36	196.00	0.88
113	226	5.65	0.025	6.15	0.03	34.00	0.15	46.50	0.21	80.50	0.36	198.00	0.88
114	228	5.70	0.025	6.20	0.03	34.25	0.15	47.00	0.21	81.00	0.36	199.00	0.87
115	230	5.75	0.025	6.25	0.03	34.50	0.15	47.00	0.20	81.50	0.35	201.00	0.87
116	232	5.80	0.025	6.30	0.03	34.75	0.15	47.50	0.20	82.00	0.35	203.00	0.88

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Fare	Avg Distanc	1958		1972		1983		1996		2002		2009	
117	234	5.85	0.025	6.35	0.03	36.00	0.15	47.50	0.20	83.00	0.35	204.00	0.87
118	236	5.90	0.025	6.40	0.03	36.25	0.15	48.00	0.20	83.50	0.35	206.00	0.87
119	238	5.95	0.025	6.45	0.03	36.50	0.15	48.50	0.20	84.00	0.35	207.00	0.87
120	240	6.00	0.025	6.60	0.03	36.75	0.15	49.00	0.20	85.00	0.35	209.00	0.87
121	242	6.05	0.025	6.65	0.03	37.00	0.15	49.50	0.20	85.50	0.35	211.00	0.87
122	244	6.10	0.025	6.70	0.03	37.25	0.15	50.00	0.20	86.00	0.35	213.00	0.87
123	246	6.15	0.025	6.75	0.03	37.50	0.15	50.50	0.21	87.00	0.35	215.00	0.87
124	248	6.20	0.025	6.80	0.03	37.75	0.15	51.00	0.21	88.00	0.35	216.00	0.87
125	250	6.25	0.025	6.85	0.03	38.00	0.15	51.00	0.20	88.50	0.35	218.00	0.87
126	252	6.30	0.025	6.90	0.03	38.25	0.15	51.50	0.20	89.00	0.35	220.00	0.87
127	254	6.35	0.025	6.95	0.03	38.50	0.15	51.50	0.20	89.50	0.35	221.00	0.87
128	256	6.40	0.025	7.00	0.03	38.75	0.15	52.00	0.20	90.00	0.35	223.00	0.87
129	258	6.45	0.025	7.05	0.03	39.00	0.15	52.00	0.20	90.50	0.35	224.00	0.87
130	260	6.50	0.025	7.10	0.03	39.25	0.15	52.50	0.20	91.00	0.35	226.00	0.87
131	262	6.55	0.025	7.15	0.03	39.50	0.15	52.50	0.20	92.00	0.35	227.00	0.87
132	264	6.60	0.025	7.20	0.03	39.75	0.15	53.00	0.20	92.50	0.35	229.00	0.87
133	266	6.65	0.025	7.25	0.03	40.00	0.15	53.00	0.20	93.00	0.35	231.00	0.87
134	268	6.70	0.025	7.30	0.03	40.25	0.15	53.50	0.20	94.00	0.35	232.00	0.87
135	270	6.75	0.025	7.35	0.03	40.50	0.15	53.50	0.20	94.50	0.35	234.00	0.87
136	272	6.80	0.025	7.40	0.03	40.75	0.15	54.00	0.20	95.00	0.35	236.00	0.87
137	274	6.85	0.025	7.45	0.03	42.00	0.15	54.00	0.20	96.00	0.35	237.00	0.86
138	276	6.90	0.025	7.50	0.03	42.25	0.15	54.50	0.20	96.50	0.35	239.00	0.87
139	278	6.95	0.025	7.55	0.03	42.50	0.15	55.00	0.20	97.00	0.35	241.00	0.87
140	280	7.00	0.025	7.70	0.03	42.75	0.15	55.50	0.20	98.00	0.35	243.00	0.87
141	282	7.05	0.025	7.75	0.03	43.00	0.15	56.00	0.20	98.50	0.35	245.00	0.87
142	284	7.10	0.025	7.80	0.03	43.25	0.15	56.50	0.20	99.00	0.35	246.00	0.87
143	286	7.15	0.025	7.85	0.03	43.50	0.15	57.00	0.20	100.00	0.35	248.00	0.87
144	288	7.20	0.025	7.90	0.03	43.75	0.15	57.50	0.20	100.50	0.35	249.00	0.86
145	290	7.25	0.025	7.95	0.03	44.00	0.15	57.50	0.20	101.00	0.35	251.00	0.87
146	292	7.30	0.025	8.00	0.03	44.25	0.15	58.00	0.20	101.50	0.35	253.00	0.87
147	294	7.35	0.025	8.05	0.03	44.50	0.15	58.00	0.20	102.00	0.35	254.00	0.86
148	296	7.40	0.025	8.10	0.03	44.75	0.15	58.50	0.20	103.00	0.35	256.00	0.86
149	298	7.45	0.025	8.15	0.03	45.00	0.15	58.50	0.20	103.50	0.35	257.00	0.86
150	300	7.50	0.025	8.20	0.03	45.25	0.15	59.00	0.20	104.00	0.35	259.00	0.86
151	302	7.55	0.025	8.25	0.03	45.50	0.15	59.00	0.20	105.00	0.35	260.00	0.86
152	304	7.60	0.025	8.30	0.03	45.75	0.15	59.50	0.20	105.50	0.35	262.00	0.86
153	306	7.65	0.025	8.35	0.03	46.00	0.15	59.50	0.19	106.00	0.35	264.00	0.86
154	308	7.70	0.025	8.40	0.03	46.25	0.15	60.00	0.19	107.00	0.35	265.00	0.86
155	310	7.75	0.025	8.45	0.03	46.50	0.15	60.00	0.19	107.50	0.35	267.00	0.86

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Fare	Avg Distanc	1958		1972		1983		1996		2002		2009	
156	312	7.80	0.025	8.50	0.03	46.75	0.15	60.50	0.19	108.00	0.35	269.00	0.86
157	314	7.85	0.025	8.55	0.03	48.00	0.15	60.50	0.19	109.00	0.35	270.00	0.86
158	316	7.90	0.025	8.60	0.03	48.25	0.15	61.00	0.19	109.50	0.35	272.00	0.86
159	318	7.95	0.025	8.65	0.03	48.50	0.15	61.00	0.19	110.00	0.35	273.00	0.86
160	320	8.00	0.025	8.80	0.03	48.75	0.15	61.50	0.19	111.00	0.35	275.00	0.86
161	322	8.05	0.025	8.85	0.03	49.00	0.15	61.50	0.19	111.50	0.35	277.00	0.86
162	324	8.10	0.025	8.90	0.03	49.25	0.15	62.00	0.19	112.00	0.35	278.00	0.86
163	326	8.15	0.025	8.95	0.03	49.50	0.15	62.50	0.19	113.00	0.35	280.00	0.86
164	328	8.20	0.025	9.00	0.03	49.75	0.15	63.00	0.19	113.50	0.35	282.00	0.86
165	330	8.25	0.025	9.05	0.03	50.00	0.15	63.50	0.19	114.00	0.35	284.00	0.86
166	332	8.30	0.025	9.10	0.03	50.25	0.15	64.00	0.19	115.00	0.35	285.00	0.86
167	334	8.35	0.025	9.15	0.03	50.50	0.15	64.50	0.19	115.50	0.35	287.00	0.86
168	336	8.40	0.025	9.20	0.03	50.75	0.15	65.00	0.19	116.00	0.35	288.00	0.86
169	338	8.45	0.025	9.25	0.03	51.00	0.15	65.00	0.19	117.00	0.35	290.00	0.86
170	340	8.50	0.025	9.30	0.03	51.25	0.15	65.50	0.19	117.50	0.35	291.00	0.86
171	342	8.55	0.025	9.35	0.03	51.50	0.15	65.50	0.19	118.00	0.35	293.00	0.86
172	344	8.60	0.025	9.40	0.03	51.75	0.15	66.00	0.19	119.00	0.35	295.00	0.86
173	346	8.65	0.025	9.45	0.03	52.00	0.15	66.00	0.19	119.50	0.35	296.00	0.86
174	348	8.70	0.025	9.50	0.03	52.25	0.15	66.50	0.19	120.00	0.34	298.00	0.86
175	350	8.75	0.025	9.55	0.03	52.50	0.15	66.50	0.19	121.00	0.35	300.00	0.86
176	352	8.80	0.025	9.60	0.03	52.75	0.15	67.00	0.19	121.50	0.35	301.00	0.86
177	354	8.85	0.025	9.65	0.03	54.00	0.15	67.00	0.19	122.00	0.34	303.00	0.86
178	356	8.90	0.025	9.70	0.03	54.25	0.15	67.50	0.19	123.00	0.35	305.00	0.86
179	358	8.95	0.025	9.75	0.03	54.50	0.15	68.00	0.19	123.50	0.34	306.00	0.85
180	360	9.00	0.025	9.90	0.03	54.75	0.15	68.00	0.19	124.00	0.34	308.00	0.86
181	362	9.05	0.025	9.95	0.03	55.00	0.15	68.50	0.19	125.00	0.35	309.00	0.85
182	364	9.10	0.025	10.00	0.03	55.25	0.15	68.50	0.19	125.50	0.34	311.00	0.85
183	366	9.15	0.025	10.05	0.03	55.50	0.15	69.00	0.19	126.00	0.34	313.00	0.86
184	368	9.20	0.025	10.10	0.03	55.75	0.15	69.50	0.19	127.00	0.35	314.00	0.85
185	370	9.25	0.025	10.15	0.03	56.00	0.15	70.00	0.19	127.50	0.34	316.00	0.85
186	372	9.30	0.025	10.25	0.03	56.25	0.15	70.50	0.19	128.00	0.34	318.00	0.85
187	374	9.40	0.025	10.30	0.03	56.50	0.15	71.00	0.19	129.00	0.34	319.00	0.85
188	376	9.45	0.025	10.35	0.03	56.75	0.15	71.50	0.19	129.50	0.34	321.00	0.85
189	378	9.50	0.025	10.40	0.03	57.00	0.15	72.00	0.19	130.00	0.34	323.00	0.85
190	380	9.55	0.025	10.45	0.03	57.25	0.15	72.50	0.19	131.00	0.34	324.00	0.85
191	382	9.60	0.025	10.50	0.03	57.50	0.15	72.50	0.19	131.50	0.34	326.00	0.85
192	384	9.65	0.025	10.55	0.03	57.75	0.15	73.00	0.19	132.00	0.34	327.00	0.85
193	386	9.70	0.025	10.60	0.03	58.00	0.15	73.00	0.19	133.00	0.34	329.00	0.85
194	388	9.75	0.025	10.65	0.03	58.25	0.15	73.50	0.19	133.50	0.34	331.00	0.85

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Fare	Avg Distanc	1958		1972		1983		1996		2002		2009	
195	390	9.80	0.025	10.70	0.03	58.50	0.15	73.50	0.19	134.00	0.34	332.00	0.85
196	392	9.85	0.025	10.75	0.03	58.75	0.15	74.00	0.19	134.50	0.34	334.00	0.85
197	394	9.90	0.025	10.80	0.03	60.00	0.15	74.00	0.19	135.00	0.34	336.00	0.85
198	396	9.95	0.025	10.85	0.03	60.25	0.15	74.50	0.19	136.00	0.34	337.00	0.85
199	398	10.00	0.025	11.00	0.03	60.50	0.15	75.00	0.19	136.50	0.34	339.00	0.85
200	400	10.05	0.025	11.05	0.03	60.75	0.15	75.00	0.19	137.00	0.34	341.00	0.85
201	402	10.10	0.025	11.10	0.03	61.00	0.15	75.50	0.19	138.00	0.34	342.00	0.85
202	404	10.15	0.025	11.15	0.03	61.25	0.15	75.50	0.19	138.50	0.34	344.00	0.85
203	406	10.20	0.025	11.20	0.03	61.50	0.15	76.00	0.19	139.00	0.34	346.00	0.85
204	408	10.25	0.025	11.25	0.03	61.75	0.15	76.00	0.19	140.00	0.34	347.00	0.85
205	410	10.30	0.025	11.30	0.03	62.00	0.15	76.50	0.19	140.50	0.34	349.00	0.85
206	412	10.35	0.025	11.35	0.03	62.25	0.15	77.00	0.19	141.00	0.34	350.00	0.85
207	414	10.40	0.025	11.40	0.03	62.50	0.15	77.00	0.19	142.00	0.34	352.00	0.85
208	416	10.45	0.025	11.45	0.03	62.75	0.15	77.50	0.19	142.50	0.34	354.00	0.85
209	418	10.50	0.025	11.50	0.03	63.00	0.15	78.00	0.19	143.00	0.34	355.00	0.85
210	420	10.55	0.025	11.55	0.03	63.25	0.15	78.50	0.19	144.00	0.34	357.00	0.85
211	422	10.60	0.025	11.60	0.03	63.50	0.15	79.00	0.19	144.50	0.34	359.00	0.85
212	424	10.65	0.025	11.65	0.03	63.75	0.15	79.50	0.19	145.00	0.34	360.00	0.85
213	426	10.70	0.025	11.70	0.03	64.00	0.15	80.00	0.19	146.00	0.34	362.00	0.85
214	428	10.75	0.025	11.75	0.03	64.25	0.15	80.50	0.19	146.50	0.34	364.00	0.85
215	430	10.80	0.025	11.80	0.03	64.50	0.15	80.50	0.19	147.00	0.34	365.00	0.85
216	432	10.85	0.025	11.85	0.03	64.75	0.15	81.00	0.19	148.00	0.34	367.00	0.85
217	434	10.90	0.025	11.90	0.03	66.00	0.15	81.00	0.19	148.50	0.34	368.00	0.85
218	436	10.95	0.025	11.95	0.03	66.25	0.15	81.50	0.19	149.00	0.34	370.00	0.85
219	438	11.00	0.025	12.10	0.03	66.50	0.15	82.00	0.19	150.00	0.34	372.00	0.85
220	440	11.05	0.025	12.15	0.03	66.75	0.15	82.00	0.19	150.50	0.34	373.00	0.85
221	442	11.10	0.025	12.20	0.03	67.00	0.15	82.50	0.19	151.00	0.34	375.00	0.85
222	444	11.15	0.025	12.25	0.03	67.25	0.15	82.50	0.19	152.00	0.34	377.00	0.85
223	446	11.20	0.025	12.30	0.03	67.50	0.15	83.00	0.19	152.50	0.34	378.00	0.85
224	448	11.25	0.025	12.35	0.03	67.75	0.15	83.00	0.19	153.00	0.34	380.00	0.85
225	450	11.30	0.025	12.40	0.03	68.00	0.15	83.50	0.19	154.00	0.34	382.00	0.85
226	452	11.35	0.025	12.45	0.03	68.25	0.15	83.50	0.18	154.50	0.34	383.00	0.85
227	454	11.40	0.025	12.50	0.03	68.50	0.15	84.00	0.19	155.00	0.34	385.00	0.85
228	456	11.45	0.025	12.55	0.03	68.75	0.15	84.50	0.19	156.00	0.34	387.00	0.85
229	458	11.50	0.025	12.60	0.03	69.00	0.15	84.50	0.18	156.50	0.34	388.00	0.85
230	460	11.55	0.025	12.65	0.03	69.25	0.15	85.00	0.18	157.00	0.34	390.00	0.85
231	462	11.60	0.025	12.70	0.03	69.50	0.15	85.00	0.18	158.00	0.34	391.00	0.85
232	464	11.65	0.025	12.75	0.03	69.75	0.15	85.50	0.18	158.50	0.34	393.00	0.85
233	466	11.70	0.025	12.80	0.03	70.00	0.15	86.00	0.18	159.00	0.34	395.00	0.85

FARE/KM 1958,1972,1983,1996,2002,2009

ANNEX A

Fare	Avg Distanc	1958		1972		1983		1996		2002		2009	
234	468	11.75	0.025	12.85	0.03	70.25	0.15	86.50	0.18	160.00	0.34	396.00	0.85
235	470	11.80	0.025	12.90	0.03	70.50	0.15	87.00	0.19	160.50	0.34	398.00	0.85
236	472	11.85	0.025	12.95	0.03	70.75	0.15	87.50	0.19	161.00	0.34	400.00	0.85
237	474	11.90	0.025	13.00	0.03	72.00	0.15	88.00	0.19	162.00	0.34	401.00	0.85
238	476	11.95	0.025	13.05	0.03	72.25	0.15	88.50	0.19	162.50	0.34	403.00	0.85

ANNEX B

BUS OPERATING COST/KM -2009

	A Long Distance (Low C)	B Long Distance (Low C) (AC)	C Long Distance (Up C)	D Long Distance (Up C) (AC)	E Regional	F Urban Line Haul	G Urban Line Haul (AC)	H Urban Crosstown	I Urban Feeder	J Rural	(A-J) Weighted Composite
OPERATIONAL COST											
C1. Fuel Cost (Diesel)	19.63	21.83	20.73	22.85	20.41	22.76	23.11	24.65	25.68	22.46	**22.48**
C2. Crew Cost	8.13	7.84	11.05	10.77	10.96	17.14	13.79	20.68	25.13	13.77	**14.61**
C3. Service & Lubricants	2.52	2.83	2.65	2.96	2.59	2.56	2.27	2.51	2.47	2.55	**2.49**
C4. Tires & Tubes	7.04	7.04	9.43	9.43	7.87	7.00	4.75	7.07	7.11	7.08	**6.96**
C5.Air Conditioner (maintenece+ overhaul)	0.00	0.99	0.00	1.03	0.00	0.00	0.74	0.00	0.00	0.00	**0.11**
C6. Repairs	6.91	10.96	6.91	10.96	6.91	6.91	8.39	6.91	6.91	6.38	**6.95**
C7. Daily Overheads	0.22	0.21	0.23	0.22	0.28	0.47	0.39	0.63	1.67	0.64	**0.56**
C8. Monthly Overheads	2.16	2.19	2.42	2.45	2.58	3.99	3.45	5.29	6.23	3.68	**3.64**
C9. Annual Overheads	0.71	1.03	0.79	2.19	0.63	0.84	0.95	0.96	0.96	0.51	**0.77**
C10. Depreciation of Bus	5.96	9.46	5.99	9.50	5.99	5.93	7.17	5.98	6.02	5.47	**6.00**
C11. Financing of Bus	5.38	8.64	6.03	9.67	4.57	5.81	7.42	6.20	5.66	3.09	**5.09**
C12. Provision for Risk	1.35	2.17	1.52	2.43	1.15	1.46	1.87	1.56	1.42	0.78	**1.28**
Total Cost	**60.03**	**75.19**	**67.75**	**84.46**	**63.93**	**74.86**	**74.29**	**80.87**	**89.27**	**66.39**	**70.92**

ANNEX C

PROPOSED BUS FARE FOR LONG DISTANCE SERVICES

Fare Stage	Distance Km	FARE RS	Exsisting Fare/Km	Total Cost	Total Revenue	Require Fare/km	Difference Fare/km Rs	Difference Fare/km %	Proposed Fare Rs
1	2	6.00	3.00	141.84	330.00	1.07			6.00
2	4	9.00	2.25	283.68	495.00	1.07			9.00
3	6	12.00	2.00	425.52	660.00	1.07			12.00
4	8	15.00	1.88	567.36	825.00	1.07			15.00
5	10	18.00	1.80	709.20	990.00	1.07			18.00
6	12	20.00	1.67	851.04	1100.00	1.07			20.00
7	14	23.00	1.64	992.88	1265.00	1.07			23.00
8	16	25.00	1.56	1134.72	1375.00	1.07			25.00
9	18	26.00	1.44	1276.56	1430.00	1.07			26.00
10	20	28.00	1.40	1418.40	1540.00	1.07			28.00
11	22	30.00	1.36	1560.24	1650.00	1.07			30.00
12	24	33.00	1.38	1702.08	1815.00	1.07			33.00
13	26	34.00	1.31	1843.92	1870.00	1.07			34.00
14	28	35.00	1.25	1985.76	1925.00	1.07			35.00
15	30	37.00	1.23	2127.60	2035.00	1.07			37.00
16	32	38.00	1.19	2269.44	2090.00	1.07			38.00
17	34	40.00	1.18	2411.28	2200.00	1.07			40.00
18	36	41.00	1.14	2553.12	2255.00	1.07			41.00
19	38	43.00	1.13	2694.96	2365.00	1.07			43.00
20	40	45.00	1.13	2836.80	2475.00	1.07			45.00
21	42	47.00	1.12	2978.64	2585.00	1.07			47.00
22	44	48.00	1.09	3120.48	2640.00	1.07			48.00
23	46	50.00	1.09	3262.32	2750.00	1.07			50.00
24	48	52.00	1.08	3404.16	2860.00	1.07			52.00
25	50	54.00	1.08	3546.00	2970.00	1.07			54.00
26	52	56.00	1.08	3687.84	3080.00	1.07			56.00
27	54	57.00	1.06	3829.68	3135.00	1.07	0.02	1.80	57.00
28	56	59.00	1.05	3971.52	3245.00	1.07	0.02	1.99	60.17
29	58	60.00	1.03	4113.36	3300.00	1.07	0.04	3.87	62.32
30	60	61.00	1.02	4255.20	3355.00	1.07	0.06	5.69	64.47
31	62	63.00	1.02	4397.04	3465.00	1.07	0.06	5.75	66.62
32	64	64.00	1.00	4538.88	3520.00	1.07	0.07	7.45	68.77
33	66	67.00	1.02	4680.72	3685.00	1.07	0.06	5.85	70.92
34	68	68.00	1.00	4822.56	3740.00	1.07	0.07	7.45	73.07
35	70	70.00	1.00	4964.40	3850.00	1.07	0.07	7.45	75.22
36	72	71.00	0.99	5106.24	3905.00	1.07	0.09	8.97	77.37
37	74	73.00	0.99	5248.08	4015.00	1.07	0.09	8.93	79.52
38	76	75.00	0.99	5389.92	4125.00	1.07	0.09	8.89	81.67
39	78	77.00	0.99	5531.76	4235.00	1.07	0.09	8.85	83.81
40	80	79.00	0.99	5673.60	4345.00	1.07	0.09	8.81	85.96
41	82	80.00	0.98	5815.44	4400.00	1.07	0.10	10.14	88.11
42	84	82.00	0.98	5957.28	4510.00	1.07	0.10	10.08	90.26
43	86	83.00	0.97	6099.12	4565.00	1.07	0.11	11.34	92.41
44	88	85.00	0.97	6240.96	4675.00	1.07	0.11	11.25	94.56

ANNEX C

PROPOSED BUS FARE FOR LONG DISTANCE SERVICES

Fare Stage	Distance Km	FARE RS	Exsisting Fare/Km	Total Cost	Total Revenue	Require Fare/km	Difference Fare/km Rs	Difference Fare/km %	Proposed Fare Rs
45	90	87.00	0.97	6382.80	4785.00	1.07	0.11	11.16	96.71
46	92	88.00	0.96	6524.64	4840.00	1.07	0.12	12.34	98.86
47	94	91.00	0.97	6666.48	5005.00	1.07	0.11	11.00	101.01
48	96	92.00	0.96	6808.32	5060.00	1.07	0.12	12.13	103.16
49	98	93.00	0.95	6950.16	5115.00	1.07	0.13	13.23	105.31
50	100	95.00	0.95	7092.00	5225.00	1.07	0.12	13.11	107.45
51	102	96.00	0.94	7233.84	5280.00	1.07	0.13	14.17	109.60
52	104	98.00	0.94	7375.68	5390.00	1.07	0.13	14.03	111.75
53	106	99.00	0.93	7517.52	5445.00	1.07	0.14	15.05	113.90
54	108	101.00	0.94	7659.36	5555.00	1.07	0.14	14.90	116.05
55	110	103.00	0.94	7801.20	5665.00	1.07	0.14	14.76	118.20
56	112	105.00	0.94	7943.04	5775.00	1.07	0.14	14.62	120.35
57	114	107.00	0.94	8084.88	5885.00	1.07	0.14	14.48	122.50
58	116	108.00	0.93	8226.72	5940.00	1.07	0.14	15.41	124.65
59	118	110.00	0.93	8368.56	6050.00	1.07	0.14	15.27	126.80
60	120	111.00	0.93	8510.40	6105.00	1.07	0.15	16.17	128.95
61	122	113.00	0.93	8652.24	6215.00	1.07	0.15	16.01	131.09
62	124	115.00	0.93	8794.08	6325.00	1.07	0.15	15.86	133.24
63	126	117.00	0.93	8935.92	6435.00	1.07	0.15	15.72	135.39
64	128	118.00	0.92	9077.76	6490.00	1.07	0.15	16.56	137.54
65	130	120.00	0.92	9219.60	6600.00	1.07	0.15	16.41	139.69
66	132	121.00	0.92	9361.44	6655.00	1.07	0.16	17.22	141.84
67	134	122.00	0.91	9503.28	6710.00	1.07	0.16	18.02	143.99
68	136	124.00	0.91	9645.12	6820.00	1.07	0.16	17.85	146.14
69	138	125.00	0.91	9786.96	6875.00	1.07	0.17	18.63	148.29
70	140	127.00	0.91	9928.80	6985.00	1.07	0.17	18.45	150.44
71	142	129.00	0.91	10070.64	7095.00	1.07	0.17	18.28	152.59
72	144	131.00	0.91	10212.48	7205.00	1.07	0.16	18.12	154.73
73	146	133.00	0.91	10354.32	7315.00	1.07	0.16	17.96	156.88
74	148	134.00	0.91	10496.16	7370.00	1.07	0.17	18.68	159.03
75	150	136.00	0.91	10638.00	7480.00	1.07	0.17	18.52	161.18
76	152	138.00	0.91	10779.84	7590.00	1.07	0.17	18.36	163.33
77	154	139.00	0.90	10921.68	7645.00	1.07	0.17	19.05	165.48
78	156	141.00	0.90	11063.52	7755.00	1.07	0.17	18.89	167.63
79	158	142.00	0.90	11205.36	7810.00	1.07	0.18	19.56	169.78
80	160	144.00	0.90	11347.20	7920.00	1.07	0.17	19.39	171.93
81	162	145.00	0.90	11489.04	7975.00	1.07	0.18	20.05	174.08
82	164	147.00	0.90	11630.88	8085.00	1.07	0.18	19.88	176.23
83	166	149.00	0.90	11772.72	8195.00	1.07	0.18	19.71	178.37
84	168	150.00	0.89	11914.56	8250.00	1.07	0.18	20.35	180.52
85	170	152.00	0.89	12056.40	8360.00	1.07	0.18	20.18	182.67
86	172	154.00	0.90	12198.24	8470.00	1.07	0.18	20.01	184.82
87	174	155.00	0.89	12340.08	8525.00	1.07	0.18	20.63	186.97
88	176	157.00	0.89	12481.92	8635.00	1.07	0.18	20.46	189.12

ANNEX C

PROPOSED BUS FARE FOR LONG DISTANCE SERVICES

Fare Stage	Distance Km	FARE RS	Exsisting Fare/Km	Total Cost	Total Revenue	Require Fare/km	Difference Fare/km Rs	Difference Fare/km %	Proposed Fare Rs
89	178	158.00	0.89	12623.76	8690.00	1.07	0.19	21.06	191.27
90	180	160.00	0.89	12765.60	8800.00	1.07	0.19	20.89	193.42
91	182	162.00	0.89	12907.44	8910.00	1.07	0.18	20.72	195.57
92	184	163.00	0.89	13049.28	8965.00	1.07	0.19	21.30	197.72
93	186	165.00	0.89	13191.12	9075.00	1.07	0.19	21.13	199.87
94	188	166.00	0.88	13332.96	9130.00	1.07	0.19	21.70	202.01
95	190	168.00	0.88	13474.80	9240.00	1.07	0.19	21.53	204.16
96	192	170.00	0.89	13616.64	9350.00	1.07	0.19	21.36	206.31
97	194	172.00	0.89	13758.48	9460.00	1.07	0.19	21.20	208.46
98	196	174.00	0.89	13900.32	9570.00	1.07	0.19	21.04	210.61
99	198	175.00	0.88	14042.16	9625.00	1.07	0.19	21.58	212.76
100	200	177.00	0.89	14184.00	9735.00	1.07	0.19	21.42	214.91
101	202	178.00	0.88	14325.84	9790.00	1.07	0.19	21.94	217.06
102	204	179.00	0.88	14467.68	9845.00	1.07	0.20	22.46	219.21
103	206	181.00	0.88	14609.52	9955.00	1.07	0.20	22.30	221.36
104	208	183.00	0.88	14751.36	10065.00	1.07	0.19	22.13	223.51
105	210	185.00	0.88	14893.20	10175.00	1.07	0.19	21.98	225.65
106	212	187.00	0.88	15035.04	10285.00	1.07	0.19	21.82	227.80
107	214	188.00	0.88	15176.88	10340.00	1.07	0.20	22.32	229.95
108	216	190.00	0.88	15318.72	10450.00	1.07	0.19	22.16	232.10
109	218	191.00	0.88	15460.56	10505.00	1.07	0.20	22.64	234.25
110	220	193.00	0.88	15602.40	10615.00	1.07	0.20	22.49	236.40
111	222	195.00	0.88	15744.24	10725.00	1.07	0.20	22.33	238.55
112	224	196.00	0.88	15886.08	10780.00	1.07	0.20	22.81	240.70
113	226	198.00	0.88	16027.92	10890.00	1.07	0.20	22.65	242.85
114	228	199.00	0.87	16169.76	10945.00	1.07	0.20	23.11	245.00
115	230	201.00	0.87	16311.60	11055.00	1.07	0.20	22.96	247.15
116	232	203.00	0.88	16453.44	11165.00	1.07	0.20	22.81	249.29
117	234	204.00	0.87	16595.28	11220.00	1.07	0.20	23.26	251.44
118	236	206.00	0.87	16737.12	11330.00	1.07	0.20	23.10	253.59
119	238	207.00	0.87	16878.96	11385.00	1.07	0.20	23.55	255.74
120	240	209.00	0.87	17020.80	11495.00	1.07	0.20	23.39	257.89
121	242	211.00	0.87	17162.64	11605.00	1.07	0.20	23.24	260.04
122	244	213.00	0.87	17304.48	11715.00	1.07	0.20	23.09	262.19
123	246	215.00	0.87	17446.32	11825.00	1.07	0.20	22.95	264.34
124	248	216.00	0.87	17588.16	11880.00	1.07	0.20	23.37	266.49
125	250	218.00	0.87	17730.00	11990.00	1.07	0.20	23.23	268.64
126	252	220.00	0.87	17871.84	12100.00	1.07	0.20	23.08	270.79
127	254	221.00	0.87	18013.68	12155.00	1.07	0.20	23.50	272.93
128	256	223.00	0.87	18155.52	12265.00	1.07	0.20	23.36	275.08
129	258	224.00	0.87	18297.36	12320.00	1.07	0.21	23.76	277.23
130	260	226.00	0.87	18439.20	12430.00	1.07	0.21	23.62	279.38
131	262	227.00	0.87	18581.04	12485.00	1.07	0.21	24.02	281.53
132	264	229.00	0.87	18722.88	12595.00	1.07	0.21	23.88	283.68

ANNEX C

PROPOSED BUS FARE FOR LONG DISTANCE SERVICES

Fare Stage	Distance Km	FARE RS	Exsisting Fare/Km	Total Cost	Total Revenue	Require Fare/km	Difference Fare/km Rs	Difference Fare/km %	Proposed Fare Rs
133	266	231.00	0.87	18864.72	12705.00	1.07	0.21	23.74	285.83
134	268	232.00	0.87	19006.56	12760.00	1.07	0.21	24.13	287.98
135	270	234.00	0.87	19148.40	12870.00	1.07	0.21	23.99	290.13
136	272	236.00	0.87	19290.24	12980.00	1.07	0.21	23.85	292.28
137	274	237.00	0.86	19432.08	13035.00	1.07	0.21	24.23	294.43
138	276	239.00	0.87	19573.92	13145.00	1.07	0.21	24.09	296.57
139	278	241.00	0.87	19715.76	13255.00	1.07	0.21	23.95	298.72
140	280	243.00	0.87	19857.60	13365.00	1.07	0.21	23.82	300.87
141	282	245.00	0.87	19999.44	13475.00	1.07	0.21	23.68	303.02
142	284	246.00	0.87	20141.28	13530.00	1.07	0.21	24.05	305.17
143	286	248.00	0.87	20283.12	13640.00	1.07	0.21	23.92	307.32
144	288	249.00	0.86	20424.96	13695.00	1.07	0.21	24.28	309.47
145	290	251.00	0.87	20566.80	13805.00	1.07	0.21	24.15	311.62
146	292	253.00	0.87	20708.64	13915.00	1.07	0.21	24.02	313.77
147	294	254.00	0.86	20850.48	13970.00	1.07	0.21	24.38	315.92
148	296	256.00	0.86	20992.32	14080.00	1.07	0.21	24.24	318.07
149	298	257.00	0.86	21134.16	14135.00	1.07	0.21	24.60	320.21
150	300	259.00	0.86	21276.00	14245.00	1.07	0.21	24.46	322.36
151	302	260.00	0.86	21417.84	14300.00	1.07	0.21	24.81	324.51
152	304	262.00	0.86	21559.68	14410.00	1.07	0.21	24.68	326.66
153	306	264.00	0.86	21701.52	14520.00	1.07	0.21	24.55	328.81
154	308	265.00	0.86	21843.36	14575.00	1.07	0.21	24.89	330.96
155	310	267.00	0.86	21985.20	14685.00	1.07	0.21	24.76	333.11
156	312	269.00	0.86	22127.04	14795.00	1.07	0.21	24.63	335.26
157	314	270.00	0.86	22268.88	14850.00	1.07	0.21	24.97	337.41
158	316	272.00	0.86	22410.72	14960.00	1.07	0.21	24.84	339.56
159	318	273.00	0.86	22552.56	15015.00	1.07	0.22	25.17	341.71
160	320	275.00	0.86	22694.40	15125.00	1.07	0.22	25.04	343.85
161	322	277.00	0.86	22836.24	15235.00	1.07	0.21	24.91	346.00
162	324	278.00	0.86	22978.08	15290.00	1.07	0.22	25.23	348.15
163	326	280.00	0.86	23119.92	15400.00	1.07	0.22	25.11	350.30
164	328	282.00	0.86	23261.76	15510.00	1.07	0.21	24.98	352.45
165	330	284.00	0.86	23403.60	15620.00	1.07	0.21	24.86	354.60
166	332	285.00	0.86	23545.44	15675.00	1.07	0.22	25.18	356.75
167	334	287.00	0.86	23687.28	15785.00	1.07	0.22	25.05	358.90
168	336	288.00	0.86	23829.12	15840.00	1.07	0.22	25.36	361.05
169	338	290.00	0.86	23970.96	15950.00	1.07	0.22	25.24	363.20
170	340	291.00	0.86	24112.80	16005.00	1.07	0.22	25.55	365.35
171	342	293.00	0.86	24254.64	16115.00	1.07	0.22	25.42	367.49
172	344	295.00	0.86	24396.48	16225.00	1.07	0.22	25.30	369.64
173	346	296.00	0.86	24538.32	16280.00	1.07	0.22	25.61	371.79
174	348	298.00	0.86	24680.16	16390.00	1.07	0.22	25.48	373.94
175	350	300.00	0.86	24822.00	16500.00	1.07	0.22	25.36	376.09
176	352	301.00	0.86	24963.84	16555.00	1.07	0.22	25.66	378.24

ANNEX C

PROPOSED BUS FARE FOR LONG DISTANCE SERVICES

Fare Stage	Distance Km	FARE RS	Exsisting Fare/Km	Total Cost	Total Revenue	Require Fare/km	Difference Fare/km Rs	Difference Fare/km %	Proposed Fare Rs
177	354	303.00	0.86	25105.68	16665.00	1.07	0.22	25.54	380.39
178	356	305.00	0.86	25247.52	16775.00	1.07	0.22	25.42	382.54
179	358	306.00	0.85	25389.36	16830.00	1.07	0.22	25.71	384.69
180	360	308.00	0.86	25531.20	16940.00	1.07	0.22	25.60	386.84
181	362	309.00	0.85	25673.04	16995.00	1.07	0.22	25.89	388.99
182	364	311.00	0.85	25814.88	17105.00	1.07	0.22	25.77	391.13
183	366	313.00	0.86	25956.72	17215.00	1.07	0.22	25.65	393.28
184	368	314.00	0.85	26098.56	17270.00	1.07	0.22	25.93	395.43
185	370	316.00	0.85	26240.40	17380.00	1.07	0.22	25.82	397.58
186	372	318.00	0.85	26382.24	17490.00	1.07	0.22	25.70	399.73
187	374	319.00	0.85	26524.08	17545.00	1.07	0.22	25.98	401.88
188	376	321.00	0.85	26665.92	17655.00	1.07	0.22	25.87	404.03
189	378	323.00	0.85	26807.76	17765.00	1.07	0.22	25.75	406.18
190	380	324.00	0.85	26949.60	17820.00	1.07	0.22	26.03	408.33
191	382	326.00	0.85	27091.44	17930.00	1.07	0.22	25.91	410.48
192	384	327.00	0.85	27233.28	17985.00	1.07	0.22	26.19	412.63
193	386	329.00	0.85	27375.12	18095.00	1.07	0.22	26.07	414.77
194	388	331.00	0.85	27516.96	18205.00	1.07	0.22	25.96	416.92
195	390	332.00	0.85	27658.80	18260.00	1.07	0.22	26.23	419.07
196	392	334.00	0.85	27800.64	18370.00	1.07	0.22	26.11	421.22
197	394	336.00	0.85	27942.48	18480.00	1.07	0.22	26.00	423.37
198	396	337.00	0.85	28084.32	18535.00	1.07	0.22	26.27	425.52
199	398	339.00	0.85	28226.16	18645.00	1.07	0.22	26.16	427.67
200	400	341.00	0.85	28368.00	18755.00	1.07	0.22	26.05	429.82
201	402	342.00	0.85	28509.84	18810.00	1.07	0.22	26.31	431.97
202	404	344.00	0.85	28651.68	18920.00	1.07	0.22	26.20	434.12
203	406	346.00	0.85	28793.52	19030.00	1.07	0.22	26.09	436.27
204	408	347.00	0.85	28935.36	19085.00	1.07	0.22	26.34	438.41
205	410	349.00	0.85	29077.20	19195.00	1.07	0.22	26.24	440.56
206	412	350.00	0.85	29219.04	19250.00	1.07	0.23	26.49	442.71
207	414	352.00	0.85	29360.88	19360.00	1.07	0.22	26.38	444.86
208	416	354.00	0.85	29502.72	19470.00	1.07	0.22	26.27	447.01
209	418	355.00	0.85	29644.56	19525.00	1.07	0.23	26.52	449.16
210	420	357.00	0.85	29786.40	19635.00	1.07	0.22	26.42	451.31
211	422	359.00	0.85	29928.24	19745.00	1.07	0.22	26.31	453.46
212	424	360.00	0.85	30070.08	19800.00	1.07	0.23	26.56	455.61
213	426	362.00	0.85	30211.92	19910.00	1.07	0.22	26.45	457.76
214	428	364.00	0.85	30353.76	20020.00	1.07	0.22	26.35	459.91
215	430	365.00	0.85	30495.60	20075.00	1.07	0.23	26.59	462.05
216	432	367.00	0.85	30637.44	20185.00	1.07	0.23	26.49	464.20
217	434	368.00	0.85	30779.28	20240.00	1.07	0.23	26.73	466.35
218	436	370.00	0.85	30921.12	20350.00	1.07	0.23	26.62	468.50
219	438	372.00	0.85	31062.96	20460.00	1.07	0.23	26.52	470.65
220	440	373.00	0.85	31204.80	20515.00	1.07	0.23	26.76	472.80

ANNEX C

PROPOSED BUS FARE FOR LONG DISTANCE SERVICES

Fare Stage	Distance Km	FARE RS	Exsisting Fare/Km	Total Cost	Total Revenue	Require Fare/km	Difference Fare/km Rs	Difference Fare/km %	Proposed Fare Rs
221	442	375.00	0.85	31346.64	20625.00	1.07	0.23	26.65	474.95
222	444	377.00	0.85	31488.48	20735.00	1.07	0.23	26.55	477.10
223	446	378.00	0.85	31630.32	20790.00	1.07	0.23	26.78	479.25
224	448	380.00	0.85	31772.16	20900.00	1.07	0.23	26.68	481.40
225	450	382.00	0.85	31914.00	21010.00	1.07	0.23	26.58	483.55
226	452	383.00	0.85	32055.84	21065.00	1.07	0.23	26.81	485.69
227	454	385.00	0.85	32197.68	21175.00	1.07	0.23	26.71	487.84
228	456	387.00	0.85	32339.52	21285.00	1.07	0.23	26.61	489.99
229	458	388.00	0.85	32481.36	21340.00	1.07	0.23	26.84	492.14
230	460	390.00	0.85	32623.20	21450.00	1.07	0.23	26.74	494.29
231	462	391.00	0.85	32765.04	21505.00	1.07	0.23	26.97	496.44
232	464	393.00	0.85	32906.88	21615.00	1.07	0.23	26.87	498.59
233	466	395.00	0.85	33048.72	21725.00	1.07	0.23	26.77	500.74
234	468	396.00	0.85	33190.56	21780.00	1.07	0.23	26.99	502.89
235	470	398.00	0.85	33332.40	21890.00	1.07	0.23	26.89	505.04
236	472	400.00	0.85	33474.24	22000.00	1.07	0.23	26.80	507.19
237	474	401.00	0.85	33616.08	22055.00	1.07	0.23	27.02	509.33
238	476	403.00	0.85	33757.92	22165.00	1.07	0.23	26.92	511.48
239	478	405.00	0.85	33899.76	22275.00	1.07	0.23	26.82	513.63
240	480	406.00	0.85	34041.60	22330.00	1.07	0.23	27.04	515.78
241	482	408.00	0.85	34183.44	22440.00	1.07	0.23	26.94	517.93
242	484	409.00	0.85	34325.28	22495.00	1.07	0.23	27.16	520.08
243	486	411.00	0.85	34467.12	22605.00	1.07	0.23	27.06	522.23
244	488	413.00	0.85	34608.96	22715.00	1.07	0.23	26.97	524.38
245	490	414.00	0.84	34750.80	22770.00	1.07	0.23	27.18	526.53
246	492	416.00	0.85	34892.64	22880.00	1.07	0.23	27.09	528.68
247	494	418.00	0.85	35034.48	22990.00	1.07	0.23	26.99	530.83
248	496	419.00	0.84	35176.32	23045.00	1.07	0.23	27.20	532.97
249	498	421.00	0.85	35318.16	23155.00	1.07	0.23	27.11	535.12
250	500	423.00	0.85	35460.00	23265.00	1.07	0.23	27.01	537.27
251	502	424.00	0.84	35601.84	23320.00	1.07	0.23	27.22	539.42
252	504	426.00	0.85	35743.68	23430.00	1.07	0.23	27.13	541.57
253	506	428.00	0.85	35885.52	23540.00	1.07	0.23	27.04	543.72
254	508	429.00	0.84	36027.36	23595.00	1.07	0.23	27.24	545.87
255	510	431.00	0.85	36169.20	23705.00	1.07	0.23	27.15	548.02
256	512	432.00	0.84	36311.04	23760.00	1.07	0.23	27.35	550.17
257	514	434.00	0.84	36452.88	23870.00	1.07	0.23	27.26	552.32
258	516	436.00	0.84	36594.72	23980.00	1.07	0.23	27.17	554.47
259	518	437.00	0.84	36736.56	24035.00	1.07	0.23	27.37	556.61
260	520	439.00	0.84	36878.40	24145.00	1.07	0.23	27.28	558.76
261	522	441.00	0.84	37020.24	24255.00	1.07	0.23	27.19	560.91
262	524	442.00	0.84	37162.08	24310.00	1.07	0.23	27.39	563.06
263	526	444.00	0.84	37303.92	24420.00	1.07	0.23	27.30	565.21
264	528	446.00	0.84	37445.76	24530.00	1.07	0.23	27.21	567.36

ANNEX C

PROPOSED BUS FARE FOR LONG DISTANCE SERVICES

Fare Stage	Distance Km	FARE RS	Exsisting Fare/Km	Total Cost	Total Revenue	Require Fare/km	Difference Fare/km Rs	Difference Fare/km %	Proposed Fare Rs
265	530	447.00	0.84	37587.60	24585.00	1.07	0.23	27.41	569.51
266	532	449.00	0.84	37729.44	24695.00	1.07	0.23	27.32	571.66
267	534	450.00	0.84	37871.28	24750.00	1.07	0.23	27.51	573.81
268	536	452.00	0.84	38013.12	24860.00	1.07	0.23	27.42	575.96
269	538	454.00	0.84	38154.96	24970.00	1.07	0.23	27.34	578.11
270	540	455.00	0.84	38296.80	25025.00	1.07	0.23	27.53	580.25
271	542	457.00	0.84	38438.64	25135.00	1.07	0.23	27.44	582.40
272	544	459.00	0.84	38580.48	25245.00	1.07	0.23	27.35	584.55
273	546	460.00	0.84	38722.32	25300.00	1.07	0.23	27.54	586.70
274	548	462.00	0.84	38864.16	25410.00	1.07	0.23	27.46	588.85
275	550	464.00	0.84	39006.00	25520.00	1.07	0.23	27.37	591.00
276	552	465.00	0.84	39147.84	25575.00	1.07	0.23	27.56	593.15
277	554	467.00	0.84	39289.68	25685.00	1.07	0.23	27.47	595.30
278	556	469.00	0.84	39431.52	25795.00	1.07	0.23	27.39	597.45
279	558	470.00	0.84	39573.36	25850.00	1.07	0.23	27.57	599.60
280	560	472.00	0.84	39715.20	25960.00	1.07	0.23	27.49	601.75
281	562	473.00	0.84	39857.04	26015.00	1.07	0.23	27.67	603.89
282	564	475.00	0.84	39998.88	26125.00	1.07	0.23	27.59	606.04
283	566	477.00	0.84	40140.72	26235.00	1.07	0.23	27.50	608.19
284	568	478.00	0.84	40282.56	26290.00	1.07	0.23	27.69	610.34
285	570	480.00	0.84	40424.40	26400.00	1.07	0.23	27.60	612.49
286	572	482.00	0.84	40566.24	26510.00	1.07	0.23	27.52	614.64
287	574	483.00	0.84	40708.08	26565.00	1.07	0.23	27.70	616.79
288	576	485.00	0.84	40849.92	26675.00	1.07	0.23	27.62	618.94
289	578	487.00	0.84	40991.76	26785.00	1.07	0.23	27.53	621.09
290	580	488.00	0.84	41133.60	26840.00	1.07	0.23	27.71	623.24
291	582	490.00	0.84	41275.44	26950.00	1.07	0.23	27.63	625.39
292	584	491.00	0.84	41417.28	27005.00	1.07	0.23	27.81	627.53
293	586	493.00	0.84	41559.12	27115.00	1.07	0.23	27.72	629.68
294	588	495.00	0.84	41700.96	27225.00	1.07	0.23	27.64	631.83
295	590	496.00	0.84	41842.80	27280.00	1.07	0.23	27.82	633.98
296	592	498.00	0.84	41984.64	27390.00	1.07	0.23	27.74	636.13
297	594	500.00	0.84	42126.48	27500.00	1.07	0.23	27.66	638.28
298	596	501.00	0.84	42268.32	27555.00	1.07	0.23	27.83	640.43
299	598	503.00	0.84	42410.16	27665.00	1.07	0.23	27.75	642.58
300	600	505.00	0.84	42552.00	27775.00	1.07	0.23	27.67	644.73
301	602	506.00	0.84	42693.84	27830.00	1.07	0.23	27.84	646.88
302	604	508.00	0.84	42835.68	27940.00	1.07	0.23	27.76	649.03
303	606	510.00	0.84	42977.52	28050.00	1.07	0.23	27.68	651.17
304	608	511.00	0.84	43119.36	28105.00	1.07	0.23	27.85	653.32
305	610	513.00	0.84	43261.20	28215.00	1.07	0.23	27.77	655.47

Annex D

Proposed Fare Structure for Long Distances Services

Fare Stage	Exsisting Fare Rs	Proposed Fare Rs
1	6.00	48.00
2	9.00	50.00
3	12.00	51.00
4	15.00	53.00
5	18.00	54.00
6	20.00	55.00
7	23.00	56.00
8	25.00	57.00
9	26.00	58.00
10	28.00	59.00
11	30.00	60.00
12	33.00	61.00
13	34.00	62.00
14	35.00	62.00
15	37.00	63.00
16	38.00	64.00
17	40.00	65.00
18	41.00	66.00
19	43.00	67.00
20	45.00	68.00
21	47.00	69.00
22	48.00	69.00
23	50.00	70.00
24	52.00	71.00
25	54.00	72.00
26	56.00	73.00
27	57.00	74.00
28	59.00	75.00
29	60.00	75.00
30	61.00	76.00
31	63.00	77.00
32	64.00	77.00
33	67.00	78.00
34	68.00	79.00
35	70.00	80.00
36	71.00	81.00
37	73.00	82.00
38	75.00	83.00
39	77.00	84.00
40	79.00	85.00

41	80.00	88.00
42	82.00	90.00
43	83.00	92.00
44	85.00	95.00
45	87.00	97.00
46	88.00	99.00
47	91.00	101.00
48	92.00	103.00
49	93.00	105.00
50	95.00	107.00
51	96.00	110.00
52	98.00	112.00
53	99.00	114.00
54	101.00	116.00
55	103.00	118.00
56	105.00	120.00
57	107.00	123.00
58	108.00	125.00
59	110.00	127.00
60	111.00	129.00
61	113.00	131.00
62	115.00	133.00
63	117.00	135.00
64	118.00	138.00
65	120.00	140.00
66	121.00	142.00
67	122.00	144.00
68	124.00	146.00
69	125.00	148.00
70	127.00	150.00
71	129.00	153.00
72	131.00	155.00
73	133.00	157.00
74	134.00	159.00
75	136.00	161.00
76	138.00	163.00
77	139.00	165.00
78	141.00	168.00
79	142.00	170.00
80	144.00	172.00
81	145.00	174.00
82	147.00	176.00
83	149.00	178.00
84	150.00	181.00

85	152.00	183.00
86	154.00	185.00
87	155.00	187.00
88	157.00	189.00
89	158.00	191.00
90	160.00	193.00
91	162.00	196.00
92	163.00	198.00
93	165.00	200.00
94	166.00	202.00
95	168.00	204.00
96	170.00	206.00
97	172.00	208.00
98	174.00	211.00
99	175.00	213.00
100	177.00	215.00
101	178.00	217.00
102	179.00	219.00
103	181.00	221.00
104	183.00	224.00
105	185.00	226.00
106	187.00	228.00
107	188.00	230.00
108	190.00	232.00
109	191.00	234.00
110	193.00	236.00
111	195.00	239.00
112	196.00	241.00
113	198.00	243.00
114	199.00	245.00
115	201.00	247.00
116	203.00	249.00
117	204.00	251.00
118	206.00	254.00
119	207.00	256.00
120	209.00	258.00
121	211.00	260.00
122	213.00	262.00
123	215.00	264.00
124	216.00	266.00
125	218.00	269.00
126	220.00	271.00
127	221.00	273.00
128	223.00	275.00

129	224.00	277.00
130	226.00	279.00
131	227.00	282.00
132	229.00	284.00
133	231.00	286.00
134	232.00	288.00
135	234.00	290.00
136	236.00	292.00
137	237.00	294.00
138	239.00	297.00
139	241.00	299.00
140	243.00	301.00
141	245.00	303.00
142	246.00	305.00
143	248.00	307.00
144	249.00	309.00
145	251.00	312.00
146	253.00	314.00
147	254.00	316.00
148	256.00	318.00
149	257.00	320.00
150	259.00	322.00
151	260.00	325.00
152	262.00	327.00
153	264.00	329.00
154	265.00	331.00
155	267.00	333.00
156	269.00	335.00
157	270.00	337.00
158	272.00	340.00
159	273.00	342.00
160	275.00	344.00
161	277.00	346.00
162	278.00	348.00
163	280.00	350.00
164	282.00	352.00
165	284.00	355.00
166	285.00	357.00
167	287.00	359.00
168	288.00	361.00
169	290.00	363.00
170	291.00	365.00
171	293.00	367.00
172	295.00	370.00

173	296.00	372.00
174	298.00	374.00
175	300.00	376.00
176	301.00	378.00
177	303.00	380.00
178	305.00	383.00
179	306.00	385.00
180	308.00	387.00
181	309.00	389.00
182	311.00	391.00
183	313.00	393.00
184	314.00	395.00
185	316.00	398.00
186	318.00	400.00
187	319.00	402.00
188	321.00	404.00
189	323.00	406.00
190	324.00	408.00
191	326.00	410.00
192	327.00	413.00
193	329.00	415.00
194	331.00	417.00
195	332.00	419.00
196	334.00	421.00
197	336.00	423.00
198	337.00	426.00
199	339.00	428.00
200	341.00	430.00
201	342.00	432.00
202	344.00	434.00
203	346.00	436.00
204	347.00	438.00
205	349.00	441.00
206	350.00	443.00
207	352.00	445.00
208	354.00	447.00
209	355.00	449.00
210	357.00	451.00
211	359.00	453.00
212	360.00	456.00
213	362.00	458.00
214	364.00	460.00
215	365.00	462.00
216	367.00	464.00

217	368.00	466.00
218	370.00	469.00
219	372.00	471.00
220	373.00	473.00
221	375.00	475.00
222	377.00	477.00
223	378.00	479.00
224	380.00	481.00
225	382.00	484.00
226	383.00	486.00
227	385.00	488.00
228	387.00	490.00
229	388.00	492.00
230	390.00	494.00
231	391.00	496.00
232	393.00	499.00
233	395.00	501.00
234	396.00	503.00
235	398.00	505.00
236	400.00	507.00
237	401.00	509.00
238	403.00	511.00
239	405.00	514.00
240	406.00	516.00
241	408.00	518.00
242	409.00	520.00
243	411.00	522.00
244	413.00	524.00
245	414.00	527.00
246	416.00	529.00
247	418.00	531.00
248	419.00	533.00
249	421.00	535.00
250	423.00	537.00
251	424.00	539.00
252	426.00	542.00
253	428.00	544.00
254	429.00	546.00
255	431.00	548.00
256	432.00	550.00
257	434.00	552.00
258	436.00	554.00
259	437.00	557.00
260	439.00	559.00

261	441.00	561.00
262	442.00	563.00
263	444.00	565.00
264	446.00	567.00
265	447.00	570.00
266	449.00	572.00
267	450.00	574.00
268	452.00	576.00
269	454.00	578.00
270	455.00	580.00
271	457.00	582.00
272	459.00	585.00
273	460.00	587.00
274	462.00	589.00
275	464.00	591.00
276	465.00	593.00
277	467.00	595.00
278	469.00	597.00
279	470.00	600.00
280	472.00	602.00
281	473.00	604.00
282	475.00	606.00
283	477.00	608.00
284	478.00	610.00
285	480.00	612.00
286	482.00	615.00
287	483.00	617.00
288	485.00	619.00
289	487.00	621.00
290	488.00	623.00
291	490.00	625.00
292	491.00	628.00
293	493.00	630.00
294	495.00	632.00
295	496.00	634.00
296	498.00	636.00
297	500.00	638.00
298	501.00	640.00
299	503.00	643.00
300	505.00	645.00
301	506.00	647.00
302	508.00	649.00
303	510.00	651.00
304	511.00	653.00

305	513.00	655.00