



**Thesis paper**

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**Thesis topic: Analysis to Road Transport System in Bangladesh**

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**Declaration**

With the exception of references used, for which due acknowledgement has been made I ,Sajal Kanti Roy , do hereby declare that this dissertation is an end product on my own research under the supervision of Md. Safiullah, Senior lecturer, Department of law , Daffodil International University, Dhaka , Bangladesh.

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Md. Safiullah (senior lecturer)

**Dedication**

To the man, whose endless love and support made me who I am today and, who always believed in me, Mr. Adhir Ranjan Roy, world's greatest Baba (My father), I dedicate this work.

## **Acknowledgement**

I am grateful to my supervisor Senior lecturer Md. Safiullah, who enriched my knowledge in transportation and guided me how to prepare a research methodology. He also helped me in Legal research and methodology and I am thankful to him as he gave so much time to supervise this work. I am grateful to my family, who has always been a great support throughout my life.

I am also grateful to my entire classmates of hon's in legal research Studies.

**ABSTRACT:** Transport system have been driven in Dhaka for the most part by contemplations having no express spotlight on future prerequisites and the methods for meeting these necessities on an aggressive and in addition economical premise. The impromptu mix of fast urbanization and mechanization has been a key on account of various transport issues in Dhaka. The issue coming about because of street car crashes, wounds and property lose is a rising, testing and one of the major concerning issues in Dhaka like numerous other creating nations on the planet. In regard to the greatness of the issues, the wellbeing activities are at an extremely newborn child level and the advances in moderate for the reasons for huge requirements at various dimensions in Bangladesh. To be sure, the assignment for street wellbeing exploration and intercession is low in contrast with different illnesses and calamities. At the specific beginning of the paper, the scale and greatness of street security issues in Bangladesh has additionally been featured It has brought about decay detachment, benefit levels, wellbeing, comfort, operational insufficiencies. My primary goal of this exploration is to research the current issues in broad daylight transport framework in Dhaka City from the Passengers point of view considering work trips. To discover how transport experts in Dhaka City evaluate the circumstance of transport framework as a piece of the vehicle framework in the city. To know the use of these laws in legal arrangement of Bangladesh. To know the Role of Judiciary and utilizing strategies for the exploration is a blended methodology with a mix of subjective philosophies and quantitative approaches, with accentuation on the last mentioned. Quantitative strategies have been characterized by scientific argumentations, methods and portrayals in understanding geological relations. My Research for the most part will be rule and worldwide guideline based and furthermore the ebb and flow circumstance of Bangladesh. To finish my examination I require help of books, Scholarly composition, articles, diary, case reports, enactment, arrangements, chronicled records, Some investigations and online web materials. The present inadequacies have created an unsustainable pattern of transport advancement, which is portrayed by misallocation of assets, unfriendly effects on nature and absence of rivalry. In this paper attributes of transportation and ensuing versatility, wellbeing and ecological impacts are talked about. The reason for the present paper is to conceptualized a dream and recognize supporting strategies for practical transport improvement. The creators additionally make a consideration on key transport issues and conceivable alternatives for guaranteeing reasonable transport advancement in Dhaka.

**Table of Content**

**Declaration**.....ii

**Dedication**.....iii

**Acknowledgement**.....iv

**Abstract**.....v

**Chapter 1 Introduction**

    1.1. Background of study.....2

    1.2. Research Objectives.....4

    1.3. Research question.....4

    1.4. Methodology.....4

    1.5. Problem statement.....4

**Chapter 2 Concept of road transport system in Bangladesh**

**2.1 Urban transportation** .....6

    2.1.1. Urban Transport System.....6

    2.1.2. Diagram of Bangladesh Transport System .....7

    2.1.3. Relationship between transportation and urban form Period Transport technology  
.....7

**2.2 Types of urban transportation**..... 9

    2.2.1. Private transportation.....10.

    2.1.2 Types of trips.....10

**2.3 Urban transport problem** .....11.

    2.3.1. Deficiencies in present transport development.....12

    2.3.2. Poor Quality of Transport Services.....13

**2.4 Public transport** .....13

    2.4.1 Bus.....14

**2.5. The Causes and remedies of road accident**.....16

<b>2.6 User behavior, travel pattern and modal shift</b> .....	18
2.6.1. Desired quality and perceived quality.....	20
2.6.2. Consumer satisfaction.....	20.
2.6.3. Involvement.....	20
2.6.4. Attributes.....	21
<b>2.7 Service quality</b> .....	23
2.7.1 Travel behavior.....	24

### **Chapter 3 - Roadmaps in transport system in Bangladesh**

<b>3.1 Highway</b> .....	29
3.1.1. Bangabandhu Bridge.....	29.
3.1.2.Asian Highway (AH) routes in Bangladesh.....	29
3.1.3.Bangladesh Railway (BR).....	30
<b>3.2 Urban</b>	
3.2.1. Lack of Urban Transport Policy.....	30
3.2.2. Institutional Deficiency.....	31
3.2.3. Lack of Vision.....	31
<b>3.3. Growing Issues in Overall Transportation</b>	31
3.3.1. Non integrated transport system .....	31
3.3.2. Only road sectoral basis.....	32
3.3.3.Unsustainable development.....	32
3.3.4. Private Sector’s road undefined.....	32
3.3.5. Lack of Outward Looking Approach.....	32
3.3.6. Serious Institutional Weakness.....	32
3.3.7. Lack of Vision.....	32

<b>3.4. Growing Issues in Urban Transportation.....</b>	<b>32</b>
3.4.1. Traffic Congestion.....	32
3.4.2. Accidents.....	32
3.4.3. Public Transport, the problem of peak period.....	32
3.4.4. Pedestrian.....	32
3.4.5. Parking.....	33
<b>3.5. Prioritizing Dhaka’s Urban Transport System .....</b>	<b>33</b>
<b>Chapter 4 - Role of Judiciary</b>	
4.1 Standing of the Court in Road transport system.....	38
4.2 Punishments given by the Court to road accident.....	39
4.3 In Real Scenario in Dhaka city.....	39
4.4 Tortuous liability in road accident cases.....	41.
4.5 Finding and analysis of objectives.....	42
4.6 Recommendations.....	42
<b>Chapter 5 – Conclusion.....</b>	<b>44</b>
<b>Chapter 6 - Reference/Bibliography.....</b>	<b>45</b>



**Chapter 1 Introduction**

**1.1. Background of study**

**1.2. Research Objectives**

**1.3. Research question**

**1.4. Methodology**

**1.5. Problem statement**

### 1.1 Background

Transportation is a basic land use in masterminding a urban area. A gigantic proportion of land is used for transportation reason and critical organizations. Immense proportion of budgetary resource and land space are connected with this, so the utilization should give a positive outcome therefore. Without a capable transportation system, a city or state can't work properly. Transportation is an essential welfare plot for urban masses since it offers access to money related activity, supports family life and associates in turning casual associations (Wane, 2001). Dhaka, the capital of Bangladesh is one of the base motorized uber urban zones in the world (Hoque et al., 2012). Dhaka is an important interest; people are moving nearer towards Dhaka from various parts of Bangladesh searching for better life, preparing, work, etc. Rural–urban development adds to this high masses advancement for Dhaka. To serve this huge masses, utility organizations were developed and reached out at different events, anyway not at undefined mood from people advancement and demand (Alam and Rabbani, 2007, p. 82). According to Gordon (2012), physical geography of a country accept an immense activity in its transportation structure. Transport structure includes both motorized and non-automated vehicles (Mahmud and Hoque, 2008) . In development mode choice looks at, the connecting with nature of automated travel modes is ordinarily decided as a part of development time and cost (Rodriguez and Joo, 2004). The Strategic Transport Plan (STP) (2005) communicated that the particular offer of trips on open transport in Dhaka is about 44%. Development stop up, poor action the officials, unavailable system transport for most of the all-inclusive community, high disaster rates and extending air pollution issues are ordinary characteristics of Dhaka City's transportation structure (Hasnine, 2011). Brisk improvement in urban people is starting the development in private cars; nonappearance of relationship among transportation and land use plan and mixed development stream with non-automated vehicles conflicting with motorized vehicles; nonattendance of action law approval, etc extending enormous adaptability issues in transport fragment (Khan and Chowdhury, 2014).<sup>3</sup>In extension, Dhaka is standing up to different normal issues. The distinction and the unequal enhancement and the officials of the utility organizations, and improper organization of the customary resources and normal perils have degraded the general state of the city. A vast segment of the normal issues are human incited, coming to fruition either from a nonattendance of uninvolved assent with national courses of action, principles and controls, or from resource necessities to executing unmistakable measures (Alam and Rabbani, 2007, p. 82). Bus organizations are considered as the primary technique for open transport of the city. In any case, open transport is seen as low status and poor organization. The reasons for this condition are separated duty regarding, an over the top number of manager association, poor transport condition, nonattendance of upkeep, augment in private executives, poor accessibility to transport stoppages, nonappearance of passengers information and security makes the vehicle advantage as the most unappealing decision for city occupants (Khan and Chowdhury, 2014). Moreover, there are no settled schedule of landing and flight, which make a huge amount of perplexity among the voyagers. These perplexities now and again result in cruel conflicts between the explorers and the vehicle executives or the chairmen (Hasan et al., 2010). High

## Analysis to Road Transport System in Dhaka

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movement conflicts are made on account of mess up out on the town by transports. Transport drivers stop the vehicle at broadly engaging on explorers" ask. This furthermore causes issues for other the road customers and extended individual by walking setbacks (Mannan, 1999). Among the road incidents data, percent of male abused individuals is 85%. 30% deplorable setbacks are from the ages of 20 to 39 years. Transport and truck incidents involve 5% of the passing caused by city road accidents (Mannan, 1999). Sexual incitement out in the open transport has transformed into another horrible experience which females need to oversee practically reliably in urban networks including Dhaka (The Daily Star, 2015, August). Transport ace Professor Shamsul Hoque said that the game plan lay in a made mass transport structure not in displaying more women just transports or in holding more seats for women (Khan and Chakma, 2015). Even in any case, there are no organization specialists to take control or keep an eye over the whole circumstance. The private regions are making an impressive plan of action, taking direction over individuals as a rule transport and dictator raise in transport sensible (Hasan, et al., 2010). Researchers have attempted precisely the associations between revealed travel lead and neighborhood characteristics. Unmistakable travel rehearses, for instance, repeat of trek and partition and travel time, have been inspected for a grouping of neighborhood types, arrive use plans, street frameworks and streetscape arrangement features (Rodriguez and Joo, 2004). In transport orchestrating, individual by walking needs are the most disregarded one. Walker workplaces and structure for non-automated modes are lacking (Mannan, 1999). Poor establishment powers people to give up walking and cycling and use automated transports. In Surabaya, a city that is only 15 km from north to south, over 60% of treks are under 3 km, yet they are commonly made by motor vehicles, for instance, bicycle mopeds or by para-travel modes (Hook, 2003, as referred to in Leather, et al., 2011). Public care is especially vital to ensure road security. Real movement guidance should be ensured for drivers and other related staffs. The police should be stricter as for the usage of standard and controls (Mannan, 1999).<sup>1</sup> The vehicle division in Bangladesh faces the test of giving fair administrations and openings in a to a great degree thickly populated nation and a domain inclined to fiascos conceivably bothered later on by the effect of environmental change. While the Government of Bangladesh has accomplished quick extension of the street organize, along these lines giving impressive advantages to populace lacking openness, anyway this made a tradeoff with different methods of transport, for example, conduits and railroads, security of transport clients and the earth. Confronting these difficulties requires to reconsider needs and to build up a procedure which takes into consideration a manageable commitment of the vehicle part to the national improvement destinations. This approach note gives a review of the primary attributes of the vehicle area in Bangladesh and the difficulties going ahead. It gives direction to the Bank in its discourse with the Government of Bangladesh on the regions where the Bank can give the most support.<sup>2</sup>

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<sup>1</sup> Moumita sen, The Problems in Public Bus Transportation System in Dhaka, may 2016.p.no.2,3.

<sup>2</sup> Bangladesh transport policy notice, April-2009

## **1.2. Objectives of the study**

**There are four objectives of this research.**

1. To research the current issues out in the open transport framework in Dhaka City from the Passengers point of view considering work trips.
2. To discover how transport experts in Dhaka City evaluate the circumstance of transport framework as a piece of the vehicle framework in the city.
3. To know the application of these laws in Legal system of Bangladesh.
4. To know the Role of Judiciary.

## **1.3. Research questions**

To fulfill the two objectives the research questions are as below:

**To explore the current issues openly transport administrations from the travelers' viewpoint**

1. What are the fundamental issues out in the open transport segment?
2. What are the most vital variables influencing the administration quality?
3. Do the statistic attribute impact travelers inclinations?

**To discover how transport experts survey the circumstance of transport benefit as a piece of the vehicle framework in the city**

1. What are the reasons that make transport benefit is an ugly option?
2. Whatever degree is the expert in charge of this circumstance?

## **1.4. Research Strategies**

The exploration is a blended methodology with a mix of subjective systems and quantitative strategies, with accentuation on the last mentioned. Quantitative strategies have been characterized by numerical argumentations, methods and portrayals in understanding geological relations. My Research mainly will be statute and international principle based and also the current situation of Bangladesh. to complete my research i need help of books, Scholarly writing, articles, journal, case reports, legislation, treaties, historical records, Some studies and online web materials.

## **1.5. Statement of Problem**

It will reveal the actual situation of the legal system and the applicability of the consistent with the national laws and the role of judiciary concerning road transport in Bangladesh. Study will also give some recommendation if there is any needed to make the applicability more stronger and to make judiciary more diverted to natural justice.

## **Chapter 2 Concept of Road Transport System in Bangladesh**

### **2.1 Urban transportation**

2.1.1. Urban Transport System

2.1.2. Overview of Bangladesh transport system

2.1.3. Relationship between transportation and urban form Period Transport technology urban form

### **2.2 Types of urban transportation**

2.2.1. Private transportation

2.1.2 Types of trips

### **2.3 Urban transport problem**

2.3.1. Deficiencies in present transport development

2.3.2. Poor Quality of Transport Services

### **2.4 Public transport**

2.4.1 Bus

### **2.5. The Causes and remedies of road accident**

### **2.6 User behavior, travel pattern and modal shift**

2.6.1. Desired quality and perceived quality

2.6.2. Consumer satisfaction

2.6.3. Involvement

2.6.4. Attributes

### **2.7 Service quality**

2.7.1 Travel behavior

### 2.1 Urban Transportation

Since the 1970s the interdependencies between populace structure, urban frame and travel created as an exploration field in spatial sciences and transport sciences (Scheiner and Holz-Rau, 2007, p. 487). There is a cozy connection between urban transport and urban structure and land utilize. At the point when the vast majority can be doing their basic every day undertakings through strolling, this infers the city structure is smaller. This likewise implies residents live near their work places (Pacione, 2001,p. 248). Interest for transport in urban areas, is resolved to a great extent by the spatial courses of action of various land utilizes, as local locations, business zones, recreational spaces, working spots and so on. Amid nineteenth century, the advancement of rail ways and cable cars was activated in isolating home and work environments. It likewise empowered utilitarian specialization of land utilize. After the World War II, in USA, far reaching vehicle possession prompted individual portability and huge development of developed zones (Pacione, 2001, p. 248)<sup>3</sup>.

#### 2.1.1. Urban Transport System

The urban transport issues of portability, blockage, security and ecological viewpoints are getting to be expanding imperative and basic in Bangladesh. The fast urbanization process, high vehicular populace development and that of the versatility, deficient transport offices and strategies, changed movement blend with over grouping of non-mechanized vehicles, nonattendance of reliable open transport framework and lacking activity the executives practices and stopping offices have made a critical declining of activity and natural issues in the major urban focuses, Dhaka specifically. The urban transport framework centers around versatility and access inside the fundamental urban areas and towns. The fundamental key issue identified with urban transport is the proficiency of intra-urban transport in the primary urban focuses. Fast urban development and its commitment to the national economy should be deliberately tended to. Transport's job in the urban economy and development of this division has been exceptional (e.g. singular portability and new work openings in the vehicle benefit segment). This job should be fortified and subjectively enhanced in the coming years, while the administration of the urban framework has turned into a basic issue. The board issues are required to compel the

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<sup>3</sup> Moumita sen, The Problems in Public Bus Transportation System in Dhaka, may 2016.p.no.9,10.

development of the division, opposite, the national economy, except if obviously characterized strategy and vital activities are started immediately.

### **2.1.2. Diagram of Bangladesh Transport System**

The vehicle arrangement of Bangladesh comprises of streets, railroads, inland conduits, two seaports, oceanic delivery and common flying cooking for both household and worldwide movement. Advancement and upkeep of transport foundation in the area is basically the obligations of general society segment. General society part is associated with transport activities in street, inland water transport (IWT) and sea dispatching close by the private segment. In the street transport and IWT sub-areas, the private segment is predominant. In sea shipping, be that as it may, open part still prevails, despite the fact that the private division has impressively expanded its job in this segment lately. As of late private part has additionally been engaged with local air transport and railroad in an extremely restricted scale. Bangladesh saw quick development of transport since freedom. The general yearly development rate has been about 8.2 percent for cargo transport and 8.4 percent for traveler transport. And still, at the end of the day, the vehicle force of the Bangladesh economy is impressively lower than that of many creating nations. Anticipated Transport Demand and Allocation of Resources the general yearly rates of development for transport request with reference to the assessed benchmark year of 1997 are thought to be 7.5 percent and 8 percent for traveler and cargo movement separately for the year 2002.<sup>4</sup>

### **2.1.3. Relationship between Transportation and Urban Form Period Transport Technology**

Pre industrial Pedestrian, draught animal Compact Early industrial Electric tram, street car, public transport High density suburbanization, satellite form, especially in developed countries Industrial Motor bus, public transport, early cars Lower density suburbanization, industrial Postindustrial Towards universal car ownership Low density suburbanization, widespread functional decentralization.

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<sup>4</sup>Moumita sen, The Problems in Public Bus Transportation System in Dhaka, may 2016.p.no,11.

**Source:** (*Herbert & Thomas, 1997*) Income differences largely determine vehicle ownership. In developing countries, the rate of increase in the road infrastructure is slower rate than vehicle ownership (Gwilliam, 2010, p. 197). In third world cities rapid urban expansion driven by immigration leads to many new arrivals in cities. They are being forced to live at distant areas from work places. The real meaning of mobility or the true goal of transport is access (Tolley & Turton, 2014). But, the land space devoted to circulation was below average in proportion with rapid population growth (Gwilliam, 2010, p. 197). Hundreds of millions of people in the region do not have access to basic social and economic services only due to poor access to transport infrastructure and services (Jain, 2013, p.1). In South Asia, new urban territories are for the most part commanded by casual private and business premises and advancements, which are produced with no arranging. Indeed, even in South Asian super urban communities, where numerous monetary exercises are situated in casual repayments, urban organizers still depend on conventional ace arranging approaches, which serve the minority, high society occupants (Tiwari, 1999). In many creating nations of Africa, Asia, and the Middle East, the market for urban traveler transport has encountered real change towards private mechanization because of an assortment of financial, political, and societal reasons. With quickly rising populaces and the in parallel developing transport request, urban regions in Asian nations, to be specific India, Sri Lanka, Bangladesh, Nepal, Afghanistan, Iran, Maldives and Bhutan today confront an extraordinary transport and versatility challenge (Jain, 2013). Open transport is wasteful, stuffed. Still it is to a great extent observed as a vehicle mode for poor people (Jain, 2013, p. 1). This enormous ascent and expanding shift in mechanized method of transport in megacities of the creating nations is adding to expanded dimensions of air poisons, credited to vehicular sources (Jain and Khare, 2008; Kumar et al., 2013, as referred to in Jain et al., 2014). In South Asia, urban transport is portrayed by some social and financial difficulties, similar to high rate of mishaps, eve prodding, wrongdoings and avoidance of the crippled. What's more, urban transport is additionally the objective of strikes and vandalism (Jain, 2013, p. 2-3). Macario (2001) proposes that there is no ideal transportation framework. Along these lines, the second best arrangement lies in setting up exchange offs between the vehicle measurement (satisfactory harmony among modes and methods for transport), natural measurement, monetary measurement and 8 social measurements as indicated by the financial and social truth of every explicit condition. In China, there is a noteworthy issue in transport area because of central political and financial change



(Finn and Mulley, 2011). National and nearby administrations of China are giving open transport the need to take care of the vehicle issues. They thought open transport (PT) can be the best decision in urban communities (State Council of the People's Republic of China, 2012, as referred to in Liu and Ceder, 2015). Motorization in South Asia is adding to an expansion in transportation vitality force and utilization of petroleum products. The effects of oil-put together transport vitality with respect to the common habitat like vitality and mineral extraction and utilize, water quality impacts, diminished horticultural land, air contamination, commotion, contamination, auto collisions are huge. Amid 1980– 1990, vehicle use in Asian urban areas developed by 67 percent though, in USA and Europe, the sum is 12 to 29 percent (Jain, 2013). 72 percent of emanations in Delhi are because of mechanized vehicles (Central Roads Research Institute, 2002). In Dhaka, the grouping of oxides of nitrogen, oxides of sulfur, carbon monoxide and suspended particulate issue are 500, 1200, 7500 and 2500  $\mu\text{gm}/\text{m}^3$  separately which far surpass as far as possible set by WHO. The conveys the essential patron of sulfur, nitrogen and carbon monoxide discharges in the city (Hoque et al., 2005). As indicated by the Department of Environment and the Bangladesh Road Transport Authority, more than 90 percent of the vehicles in Dhaka are defective and radiate smoke far surpassing as far as possible. The Bangladesh Atomic Committee reports that vehicle sin Dhaka discharge 100 kg lead, 3.5 tones suspended particulate issue, 1.5 tones sulfur dioxide, 14 tones hydrocarbon and 60 tones carbon monoxide yearly (Ferdous, 1997, as cited in Dhaka Air, n. d.)<sup>5</sup>.

### 2.2 Types of urban transportation

Urban transportation comprises of a group of modes, which extend from strolling and bicycling to urban interstates, metro and provincial rail frameworks. As per Vuchic (2002, p. 4), the essential arrangement of these modes, in light of the kind of their task and utilize, is into three classes.

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<sup>5</sup> Dr. Jean-Paul Rodrigue, Transportation and the Urban Form, p no.6

### 2.2.1. Private transportation

This category consists of personal vehicles owned and operated by owners for personal use. Such as: bicycle, private car. *Para-transit (for-hire transportation)*: This category is operated by sometimes owners or operators, but can be hired by individuals and groups for trips. Such as: taxi, auto rickshaw.

**Public transportation:** This is a system of operating mode on fixed routes with fixed schedules and prefixed fare for general people. Such as: bus, light rail transit, metro, regional rail are the most popular public transport (Vuchic, 2002, p. 4). In numerous South Asian urban communities because of the absence of open transport and the powerlessness of the majority to claim private vehicles, casual transport gives a neighborhood answer for portability needs. Such transport modes incorporate smaller than usual transport, contracted transport, taxi, non-mechanize transport (NMT), cruisers, get vans, and so forth. (Jain, 2013). Auto rickshaws can be found in numerous nations, for example, Bangladesh, Cambodia, India, Laos, the Philippines, Sri Lanka, and Thailand, also a transgression Guatemala, Ethiopia, Sudan and Egypt, which are less uproarious, not so much contaminating but rather more agreeable (Jain, 2013).

### 2.1.2 Types of trips

Journeys made by individuals and groups are important in travel pattern in urban areas. Deciding on the nature of particular journey can involve several considerations. Trip purpose and mode of travel are the main basis of differentiating journeys. People move from one place to another by using combined means (Tolley & Turton, 2014, p. 14). —Journey to Work, trip has gotten the most consideration from urban transportation specialists. Because of its fleeting topping, work trips put most noteworthy strain on the urban transportation framework (Hanson, 1980). In investigations of urban movement designs (Chapin, 1974, as referred to in Tolley and Turton, 2014) work has been distinguished as a non-optional action. The work trip has been separated from different sorts of intra-urban travel by the absence of decision related with the planning of the excursion and the goal visited. There are three types of trips based on their purpose: Extrinsic trips, intrinsic trips and transport generated trips (Schaeffer & Sclar, 1975, as cited in Tolley & Turton, 2014). Extrinsic trips are those made to fulfill definite objective, such as journey from

home to work place. Work trip is a highly repetitious and therefore highly predictable trip (Hanson, 1980). Walking, cycling and car trips carried out for recreational or leisure activities where no real purpose can be identified are described as intrinsic. The third category comprises transport generated trips, such as car journey to filling station and repair garages, bus or train to depots during off peak period (Tolley & Turton, 2014, p. 15). As of late the analysts expressly perceived the voyage to function as a feature of a various reason trip or tended to the subject of trek structure. For instance, one individual can shop while returning home. All things considered, this refinement between required or non-optional travel and discretionary travel is counterfeit and that a progressively productive methodology is see "work" as a prevailing excursion reason (as far as time spent) to which other subordinate "optional" exercises might be connected over the span of a solitary voyage (Westelius, 1973, as cited in Hanson, 1980)<sup>6</sup>.

### 2.3 Urban transport problem

According to Liu and Ceder (2015), the blend of urbanization and mechanization has been setting a consistently expanding measure of weight on the present transportation infrastructure. In this way, it is noteworthy in such boundless issues as movement blockage, activity fatalities and wounds, activity contamination and expanded vitality utilization. In numerous nations of South Asia, urban development has been energized by the extension of transport framework, for example, a railroad station, expressway or transport terminal. The nearness of blended land utilize, high populace and work thickness along transport hubs and passages confirm a cozy connection among transport and land utilize (Jain, 2013). Providing versatility for individuals is the key capacity of a urban transport inside the city. Be that as it may, portability is hindered by clog. Activity blockage is one of the real issues in transportation division. Urban transport issues of the creating nations vary from the industrialized nations (Gwilliam, 2010). The most noticeably awful activity clog happen at morning surge hour, when everybody is making a beeline for work environments (Quarmby, 1967). The principle purpose for blockage is expanding number and use of vehicles, centralization of movement stream at certain time amid the day, commonplace twofold pinnacle conveyance of day by day trips being the voyage to and from the work. Despite the fact that, distinctive parts of city encounter blockage at various

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<sup>6</sup> Moumita sen, The Problems in Public Bus Transportation System in Dhaka, may 2016.p.no,116.

occasions, however increase of substantial urban communities, they confront it the focal parts (Pacione, 2001, p. 251). The customary answer for activity clog has been to manufacture more and more extensive streets. Street building is certifiably not a possible long haul answer for little nations (Goh, 2002, p. 29). As per Dutzik and Pregulman (2003), extension of more streets builds the dimension of clog. Late patterns in Washington State recommend that extended interstate limit is related with increments in per capita vehicle miles voyaged, which adds to expanded blockage. As per Goh (2002, p. 30) there are different enemy of clog approaches like vehicle charges, fuel charges, parking charges, region authorizing plan (ALS), electronic street valuing plan (ERPS), off-crest vehicle plan and vehicle quantity framework (VQS). Diminishing private vehicle is a The people on foot are significantly more in danger to endure brutal assault than the general population transport traveler. This may happen after dim as a major aspect of a burglary or, on account of ladies, rape, regularly by transport staffs and male co-travelers (Gwilliam, 2010, p. 207). Transport arranging and basic leadership are not sexual orientation touchy, bringing about arrangements and speculations unseemly to the separated needs of ladies and youngsters. In South Asian urban areas where eve prodding and pushing ladies in swarmed open transports are normal. In Dhaka, amid the 1980s five percent of the seats on transports were held for ladies, which were in this manner pulled back (Jain, 2013). As per an administration choice taken in 2008, all the city transports should have nine assigned seats for ladies, kids and individuals with a handicaps while mini buses should have six such seats (Hossain, 2015). An assessment of Bangladesh Road Transport Corporation transports in Dhaka uncovered that ladies' sdignity and security are in danger going on swarmed transports as they confront the perils of physical contacting and gross bad conduct (Lennat and Thynell, 2004, as refered to in Jain, 2013). To stay away from such states of movement, ladies either need to walk long separations or pay high admissions in procuring rickshaws. This obliges ladies' entrance to work, training and vital social administrations (Jain, 2013, p. 26)<sup>7</sup>.

### **2.3.1. Deficiencies in present transport development**

The transport development in Bangladesh has taken place within the context of a low level of overall national development and essentially with an inward looking policy. Until now, the development and maintenance of transport infrastructure has remained the responsibility of the

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<sup>7</sup> Moumita sen, The Problems in Public Bus Transportation System in Dhaka, may 2016.p.no,18.

public sector. In addition, public sector is the main provider of rail and air services and is also involved in providing services in road, inland water transport and shipping along with the private sector. An overview of the main features of the existing transport situation in Bangladesh, deficiencies, trends on transport development is presented in this section<sup>8</sup>.

### 2.3.2. Poor Quality of Transport Services

The vehicle segment in Bangladesh is described by powerless open and private foundations, and low dimension of venture. It works in a physical situation of large amounts of hazard, and socio-political setting of extraordinary destitution and successive man-made interruptions. The general nature of administrations at all dimensions and by the sum total of what modes has been poor. The packed transports, prepares and water transports, with poor wellbeing and security records, and inconsistent administration tasks are very regular in Bangladesh. In cargo transport, unnecessary cost, time, pilferage, and so forth., are a portion of the regular issues. These issues are additionally muddled by personal stakes from both inside and outside the vehicle area itself and the socio-political condition of the nation. Street mishaps, air contamination because of vehicle emanations, risky vehicle driving/tasks, over-burdening, and so on are the absolute most basic wonders, in transport division, especially in the urban territories. These marvels have really created because of absence of authorization of existing tenets and controls with respect to transport activity in the nation. While over-burdening of transports, rash driving of trucks, contemptible vehicles should be halted by law upholding organizations viz, movement police, next to no compelling measures are really taken in such manner<sup>9</sup>.

### 2.4 Public Transport

Open transport (otherwise called open transportation, open travel, or mass travel) is transport of travelers by gathering travel frameworks accessible for use by the overall population, commonly oversaw on a timetable, worked on built up courses, and that charge a posted expense for each excursion. Instances of open transport incorporate city transports, trolleybuses, cable cars (or

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<sup>8</sup> Maher Niger, Deficiencies of existing public transport system and a proposal for integrated hierarchical transport network as an improvement options: a case of Dhaka city, *IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE)* e-ISSN: 2278-1684 Volume 5, Issue 5 (Mar. - Apr. 2013), PP 42-53.

<sup>9</sup> Moumita sen, The Problems in Public Bus Transportation System in Dhaka, may 2016.p.no,32.

light rail) and traveler trains, fast transit(metro/metro/underground, and so on.) and ships. Open transport between urban areas is commanded via aircrafts, mentors, and intercity rail. Rapid rail systems are being created in numerous parts of the world.

Most open transport frameworks keep running along settled courses with set embarkation/disembarkation focuses to a prearranged timetable, with the most successive administrations hurrying to a progress (e.g.: "at regular intervals" rather than being planned for an explicit time). In any case, most open transport trips incorporate different methods of movement, for example, travelers strolling or getting transport administrations to get to prepare stations.[4]Share taxis offer on-request benefits in numerous parts of the world, which may contend with settled open transport lines, or compliment them, by conveying travelers to trades. Paratransit is once in a while utilized in territories of low interest and for individuals who require a way to-entryway benefit.

Urban open travel contrasts unmistakably among Asia, North America, and Europe. In Asia, benefit driven, exclusive and traded on an open market mass travel and land aggregates transcendently work open travel frameworks [6][7] In North America, metropolitan travel experts most generally run mass travel activities. In Europe, both state-possessed and privately owned businesses dominantly work mass travel frameworks, Public transport administrations can be benefit driven by utilization of pay-by-the-separate passages or financed by government sponsorships in which level rate tolls are charged to every traveler. Administrations can be completely productive through high user ship numbers and high fare box recuperation proportions, or can be controlled and perhaps financed from nearby or national duty income. Completely sponsored, complimentary administrations work in a few towns and urban communities.<sup>10</sup>

### 2.4.1 Bus

Transports speak to the most generally utilized travel innovation. Transport benefit is anything but difficult to present or alter: essential administration requires just buy of vehicles, carport and support offices, and association of administration. Stops along the lines can be basic. Substantial

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<sup>10</sup>Moumita sen, The Problems in Public Bus Transportation System in Dhaka, may 2016.p.no,39.

## Analysis to Road Transport System in Dhaka

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urban areas with rail travel additionally work broad transport systems, as a rule on lines with lower traveler volumes (Vuchic, 2002). A ongoing examination led by Dhaka Transport Coordination Authority (DTCA), found that according to the records of the Bangladesh Road Transport Authority (BRTA), the quantity of transport courses in Dhaka is 160. Transport courses are exceptionally packed in high limit supply routes. The normal transport supply in a motorway interface is 2,384 transports for every day/bearing, which implies that there are 2.5 transports at consistently. In primary avenues, there are 2.15 transport/min and in nearby lanes 0.67 transport/min on a normal (DTCA, 2014, Ch. 2). Therefore, transports are considered as the most sparing travel mode for delicately voyage lines. This adaptability of transport courses is leverage for any essential changes. The inconvenience for real transport lines are they need lastingness, proficiency in conveying substantial traveler volumes, and picture of changeless, physically settled courses wanted by travelers. Contrasted with para-travel and rail travel modes, transport travel is extremely work effective and has no economy of scale: on intensely voyage lines for each extra 40-120 traveler, one transport and one driver must be added to benefit (Vuchic, 2002). In Accra and Tbilisi, the vehicle specialist or government procured vehicles for people in general area transport administrators that had everything except stopped to have the operational limit. The vehicles were initially second-hand transports that had constrained advantage and a significant number of these vehicles before long wound up out of administration. This enabled them to restore substantial transport activities (Finn, 2008, as referred to in Finn and Mulley, 2011, p. 95). In Sri Lanka, in 2005, the 11 territorial state open claimed and worked transport organizations were transformed into a solitary national element, SLTB (Sri Lanka Transport Board). There are additionally around 19,000 private transport administrators also (Finn and Mulley, 2011, p. 95). In Dhaka (Senegal), the vehicle expert utilized government-arranged credits to build up an extraordinary reason organization to obtain vehicles and rent them to private area administrators who consented to be controlled and to work under contract (IBIS 2008) consequently (Finn and Mulley, 2011, p. 95). Numbers of factor decide operational viability of urban transport armadas. The power of activity, high loadings, blocked street and ecological factors, for example, precipitation, dust temperature, street harm all expansion operational and support costs. Moreover, Labor costs are low, but fuel costs are a high proportion of total cost. Sometimes, it takes months or year in obtaining essential spares and equipment, which should be ready within a week or day (Pacione, 2001). In third world cities,

shortage of public transportation is minimized by para-transits. These transports provide door to door mobility and services. Women take their majority of the users of para-transit. These also connect inaccessible and congested neighborhoods (Jain, 2013)<sup>11</sup>

### **2.5. The causes and remedies of Road accident.**

Bangladesh is beset with many problems and the root cause of all problems is over population. Road accident is one of them and nowadays it has become national catastrophe or crisis for Bangladesh. Everyday road accident is taking away enormous innocent lives ruthlessly. Whenever we turn over the newspaper pages every day, we find such types of unexpected road crashes news. Day after day we are becoming helpless to the street accidents. Now it is the greatest concern for Bangladesh to reduce death tolls and injured people which are being occurred for sudden road accidents. It has even become dreadful to walk on the busiest roadside in the urban areas. Now I am trying to depict some causes of occurring road crashes briefly. No individual is responsible for causing road accidents singly. There are various reasons for occurring road crashes in Bangladesh.

1. The carelessness and inexperience of Drivers.
2. Most of the drivers have no driving license.
3. Defective and obsolete vehicles.
4. Paucity of roads and narrowed roads.
5. The trend of competing while driving.
6. The overtaking tendency of injudicious drivers.
7. The scarcity of required number traffic police.
8. Violating the traffic rules by both drivers and mass people.
9. Spurious oil used in vehicles.
10. The lack of dividers in the roads.
11. The lack of over-bridges.
12. The extreme carelessness of crossing roads.
13. The lack of knowing the rules of crossing the roads.
14. The excessive plying of rickshaws and vans in the urban areas.

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<sup>11</sup> Moumita sen, The Problems in Public Bus Transportation System in Dhaka, may 2016.p.no,41.



## **Analysis to Road Transport System in Dhaka**

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15. The illegal occupying of footpath by the hawkers.
16. The illegal constructions and markets closing with roads.
17. Lack of knowledge about traffic rules by the rickshaw pullers and van drivers.
18. The carelessness and irresponsibility of traffic police.
19. Political instability, strikes, protests or hartals force to occur traffic congestion and sometimes this congestion turns into accidents.
20. The lack of adequate plans by the government to reduce road casualties.
21. The lack of implementation of strict traffic laws.
22. The reckless driving by the careless drivers.

Road accidents are snatching our valuable lives and property merciless. We the mass people along with government should be aware of assuaging street accidents and the government should take cautionary, effective and prompt actions to reduce this problem. In recent time the government has become initiated bring it under control but those steps are not enough to face this challenge. I am delineating some remedies of reducing this problem in brief.

1. The drivers should be inspired to drive consciously.
2. The plying of illegal rickshaws should be banned in urban areas and in highway roads.
3. The parking of vehicles in unscheduled places should be prohibited.
4. The expertness and qualification of drivers should be cautiously looked over before offering licenses.
5. The drivers without license should be brought into trial.
6. The drivers should check their vehicles carefully before stepping down on the roads.
7. The indicted drivers of occurring accidents should be brought into trial and the punishment should be ensured by forming quick trail.
8. The spurious driving licenses offered by some dishonest officials of BRTC should be investigated neutrally and the detected perpetrators should be ensured stern punishment.
9. The illegal occupancy of footpath by the hawkers should be evicted.
10. The strict traffic laws should be followed by everyone.
11. The required number of traffic police should be appointed.

12. The vigilance on the activities of traffic police should be increased to boost the services.
13. The overtaking tendency must be stopped.
15. The illegal crossing by the general people must be stopped.
16. The required number of over-bridges must be built.
17. The alternative roads should be constructed to stop the plying of people and rickshaws in the highway roads.
18. Illegal extortion must be stopped on the streets.
19. Mass awareness is the very crucial fact for reducing this problem.
20. Defective and obsolete vehicles should be vanished from the roads.
21. The hastiness of getting down and into the buses by the people must be stopped.
22. The prevailing traffic laws need to be reformed.
23. The services of public buses should be promoted.

The unconditional remedy of reducing this problem is to stop the excessive flow of population. The excessive population is the main cause of making our country crippled. Road accident should be declared as the national disaster and the prompt and effective actions are much needed to mitigate this problem. The more delay to take actions, the more death tolls to be brought<sup>12</sup>.

### **2.6 User behavior, travel pattern and modal shift**

Asian urban communities are creating urban mass fast travel frameworks to draw in an extraordinary number of bike and vehicle clients. Notwithstanding, there may be vulnerabilities in modular move, in this manner taking a chance with the adequacy of open transport ventures. This investigation means to investigate examples of individuals' movement conduct and foresee mode decision changes under intercession situations. Hanoi City is a contextual analysis. An expressed inclination review is directed and SP/RP mode decision models are assessed for various populace sections. It is discovered that countless vehicle clients may even now adhering to their vehicles, trip binding and nearness of children matured 11 or more youthful in the family

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<sup>12</sup>Search English, Link: <http://writing.searchenglish.com/the-causes-and-remedies-of-road-accident/>

may keep its individuals from moving to open transport. Longer travel separations may not really prompt a higher modular move proportion.<sup>13</sup>

In Germany, dispositions are primarily talked about under the premises ways of life or versatility styles, which depend on the expanding degree of opportunity of activity of portable people. This methodology contended for movement request to be clarified in social terms of emotional mentalities, points and inclinations instead of as far as demography and social structures (Scheiner and Kasper2005, as refered to in Scheiner and Holz-Rau, 2007, p. 488).Travel is currently progressively deciphered as identified with private portability. It is expected that spatial contrasts in movement request were not so identified with contrasts in urban frame but rather to emotional area demeanors of some specific migration of certain populace gatherings (the self-selection17hypothesis, Handy et al., 2005; Scheiner, 2005; Schwanen and Mokhtarian, 2005; Scheiner,2006b, as refered to in Scheiner and Holz-Rau, 2007, p. 488).Reducing private transport utilize and expanding the utilization of open transport are two basic however difficult errands for managing the issue of urban transport. Client steadfastness is viewed as a prime determinant of a framework's long haul execution and is viewed as a noteworthy wellspring of upper hand. So understanding the dependability of open travel travelers is important.(Lam et al., 2004, as refered to in Lai and Chen, 2011, p. 318). Administration quality, purchaser fulfillment, and esteem are much of the time seen as key building squares of client steadfastness (Chen, 2008, as citedin Lai and Chen, 2011, p. 319). These elements can decide the client's aim to pick a specific mode. Worldwide writing gives much research on client \_perceived quality' (Dell'Olio et al.,2010, as refered to in Dell'Olio et al., 2011, p. 217) of an open transport administration or framework. Customary research on apparent quality furnishes the working organizations with information on the effect their choices have on their customers<sup>14</sup>

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<sup>13</sup> Vu Anh Tuan, Mode Choice Behavior and Modal Shift to Public Transport in Developing Countries, December 2015

<sup>14</sup> Moumita sen, The Problems in Public Bus Transportation System in Dhaka, may 2016.p.no,41

### **2.6.1.Desired quality and perceived quality**

The concept of desired quality ‘must be differentiated from that of perceived quality’. The concept of desired quality ‘defines what they want to obtain to be fully satisfied with the service offered’ (Dell’Olio et al., 2011, p. 218). It reflects the maximum level of utility. It can vary with user category. Perceived quality refers to —what the users have experienced and perceived on public transport (Dell’Olio et al., 2011, p. 218). For example quality of bus stops, protection from weather (rain, sun), rate of unpleasant episodes, timetables, electronic screens, behavior of driver and conductor of bus are considered for public bus. Desired quality provides valuable information for planning personalized marketing policies directed at different user categories to improve the quality of service and attract more people to public transport and move towards more sustainable mobility (Dell’Olio et al., 2011). Perceived value pertains to a consumer’s overall assessment of the utility of a product (or service) based on perceptions of what is received and what is given ‘‘ (Zeithaml, 1988, as cited in Lai & Chen,2011, p. 319)<sup>15</sup>.

### **2.6.2.Consumer satisfaction**

Fulfillment is considered as the primary driver of customer reliability and conduct (Olsen, 2007, as referred to in Lai and Chen, 2011). It is shut related with apparent administration quality and value(Chen, 2008; Jen and Hu, 2003; Petrick, 2004, as referred to in Lai and Chen, 2011). Fulfillment is a generally speaking emotional reaction to an apparent inconsistency between earlier desires and saw execution after utilization (Oliver, 1980 and Oliver, 1999, as referred to in Lai and Chen, 2011, p.319). Past investigations have demonstrated that consumer loyalty altogether change client reliability and conduct goals in different ventures including open transport administrations (Lai & Chen,2011).

### **2.6.3.Involvement**

Inclusion is characterized as the dimension of intrigue or significance that a question has for an individual, or the centrality of a protest a person's self image structure (Zaichkowsky, 1994, as

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<sup>15</sup> Dhaka Transport Coordination Authority (DTCA) (2014). Dhaka Bus Network and Regulatory Reform Implementation Study and Design Work (Unpublished report), Dhaka, Bangladesh.

referred to in Lai and Chen, 2011, p. 318). Inclusion is expected to cover a person's emotional feeling of the worry, care, significance, individual pertinence, and hugeness joined to a frame of mind, a man's persuasive perspective as to a question or action, or the assembly of conduct assets for the accomplishment of pertinent objectives (Thomsen, Borgida, and Lavine, 1995; Zaichkowsky, 1985; B. Mittal and Lee, 1989; Poiesz and de Bont, 1995 as referred to in Olsen, 2007). Involvement alludes to a man's emotions about the significance or significance of a question dependent on their innate needs, qualities, and interests (Zaichkowsky, 1985). Since an individual can be included with commercials, items, or acquiring choices, the idea of association with these distinctive articles prompts different reactions. Association which can be utilized crosswise over different research studies may incorporate three classifications: individual which alludes to the inborn interests that propel a person's sentiments toward the question, physical, which alludes to the attributes of the protest and situational which alludes to factors that incidentally increment or diminishing enthusiasm for the question (Lai & Chen, 2011, p. 320)<sup>16</sup>.

### **2.6.4. Attributes**

Quality of service may be defined by a wide range of attributes which can be influenced by planning authorities and transport operators (Paulley et al., 2006). Respondents or passengers evaluate some attributes according to their preferences. Depending on these attributes they choose a particular mode. Travel time is considered an important indicator of public transport and one of the important reasons for mode choice (Beirão & Cabral, 2007). Previous studies of 26 BRT project worldwide showed that, frequency is an often targeted quality attribute. 75% of BRT programs offering full day non-stop services increases ridership. Impressively, with daily ridership of over 40,000, the Los Angeles Metro Rapid bus service achieved increases of approximately 30%. In Vancouver 8000 new riders were added, among 20% of whom previously used automobiles, and 5% of whom were making new trips (Levinson et al., 2003, as cited in Redman et al., 2013, p. 122). Another important aspect is comfort. Having a comfortable journey is very important for all the respondents. Comfort means soft clean seats, a pleasant temperature, preferably having air conditioning and not many people on the vehicle. This aspect is evaluated differently across different groups (Beirão & Cabral, 2007). In developing countries, comfort meant by public transport passenger is clean pleasant seat, not too

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<sup>16</sup> Dhaka Transport Co-Ordination Authority (DTCA) (2010), "Dhaka Urban Transport

much people in bus and absence of unpleasant situations etc. Fare is considered as an important determinant. A variety of PT pricing mechanisms attempt to combine price attributes with convenience, customer loyalty and service provider co-operation. These include integrated tariff systems, seasonal passes, and transferrable passes and automated ticketing (Redman et al., 2013, p. 123). Webb et al. (2006) found that the introduction of a Senior Sunday and a Sunday Saver offer rapidly received a positive customer reaction and increase ridership. In a study on public transport showed that free PT services offered in a medium-sized transit service in Austin, Texas, USA that the free fares encouraged a 75% increase of ridership. However, the free fares attracted a considerable amount of ‘disruptive’ riders, that is, riders that annoyed the regular PT users (Perone & Volinski, 2003, as cited in Redman et al., 2013, p. 123). Public transport is acknowledged as cheaper than car even by car users, but it does not appear as a key factor for changing to public transport, when considered in isolation from other factors which restrict that choice (Beirão & Cabral, 2007). Speed is also critical in affecting customer satisfaction with the perceived quality of PT services. A rail service improvement reduced commuting time by 15 min each way between central New York stations. 24.5% of ridership was increased by over one year (Pucher et al., 2005, as cited in Redman et al., 2013, p. 123). The new lanes increased the average PT speeds from 11km/h to 22 km/h and 700,000 additional bus passengers was increased a day on a daily ridership (Redman et al., 2013. P. 123). The implementation of priority bus lanes in Seoul, Korea also aimed at improving the speed of PT in a city with high congestion due to private vehicle use (Pucher et al., 2005, as cited in Redman et al., 2013, p. 123). Improved accessibility encouraged increased ridership, but relatively few of the reviewed studies addressed effects on access. A study examined ridership changes in Melbourne, Australia, where accessibility was improved by extending PT routes to the outer, lower-income suburbs and by providing weekend and evening PT services (Loader & Stanley, 2009, as cited in Redman et al., 2013, p. 123). A previous study found that a common determiner of accessibility in PT is the density and locations of PT nodes (bus stops) along routes. In their attempt to model the optimal number of PT nodes along a hypothetical three mile bus route, the authors found that the optimal number and locations of PT stops is chiefly affected not by route length, but by users’ valuation of time, speed of accessing the node, and demand (Chien & Qin, 2004, as cited in Redman et al., 2013, p. 123). A project in Norwich, England provided new, covered bus shelters with 15 seated spaces at the rail station and throughout the region’s bus routes. An on-street survey

subsequently found that 98% of respondents were at least satisfied with the quality of the new facilities (Redman et al., 2013, p. 124). Convenience is defined here as level of simplicity of using the PT service. While it relates closely to other PT quality attributes already discussed. Introducing integrated ticketing systems is considered a key strategy aimed at improving convenience of PT services (Redman et al., 2013, p. 124). Safety and security are two most important attributes in order to increase service quality of public bus. Accidents are unfortunate occurrence of an urban transport system (Pacione, 2001). According to Gwilliam (2010, p. 207), Public transport passengers are generally more vulnerable to physical attack than private car users. In the case of women, sexual assault, often by transport staff and male co-passengers are very common<sup>17</sup>.

### 2.7 Service quality

The measurement of service quality remains a challenging and important research area with practical implications for service providers (Hensher et al., 2003, as cited in Beirao & Cabral, 2007, p. 479). Considering public transport, both operators and authorities need to understand how consumers evaluate the quality of the service. However, consumer evaluation of quality is an abstract and elusive concept to measure (Parasuraman et al., 1985, as cited in Beirao & Cabral, 2007), complicating the development of valid and accurate constructs of service quality. It deals with abstract and intangible attributes, such as safety and comfort, which are not easily measured. PT suppliers systematically overestimate the quality of service provided compared to customer evaluations (Rietveld, 2005, as cited in Redman et al., 2013, p. 121). A focus group discussion was conducted in Porto to discuss bus and car travel. Study found that the respondents, whether they were users or non-users, evaluate each mode and viewed them differently based on different criteria (Guiver, 2007, as cited in Beirao & Cabral, 2007, p. 480). In a previous study showed elements of performance can be different in different geographical and socio economic condition. Some elements of performance are service frequency, operating speed, reliability, safety, line capacity, productive capacity, productivity, and utilization (Vuchic, 1981). In another study on measuring the service quality of Indonesian para-transit systems nine factors with 54 attributes were used. The nine factors are as follows: availability,

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<sup>17</sup> Dhaka Air. (n. d.). Retrieved December 15, 2015, from <http://www.sosarsenic.net/english/environment/1.html>

accessibility, reliability, information, customer service, comfort, safety, fare, and environmental impact (Joewono & Kubota, 2007, as cited in Lai & Chen, 2011, p. 319). A study on bus service in Taipei, Taiwan, proposed a scale of bus service quality with 20 items under four dimensions – interactions with passengers refers to respect and care for passengers, tangible service equipment refers to level of comfort of the facilities, convenience of service refers to accessibility and provided information, and operating management support refers to bus schedules, service periods, number of staff (Hu & Jen 2006, as cited in Lai & Chen, 2011, p.319).<sup>22</sup> Andaleeb et al. (2007) worked on bus system of Dhaka city and found five most important indicator of bus service are comfort, need to change buses, behavior of the staff, government supervision, waiting facilities. In another study on bus service of Dhaka city, Rahman and Nahrin (2012) found five most important indicators are availability of bus and less time (traveling and waiting), confirmed seat, interior environment, and staffs behavior. For an efficient public transport system, terminals & stops, vehicles, and transport points are also very important in improving service quality (Tyrinopoulos & Antonious, 2008, as cited in Lai & Chen, 2011, p. 319). In addition, many studies have concluded that service quality positively affects perceived value (Cronin et al., 2000; Zeithaml, 1988, as cited in Lai & Chen, 2011, p. 319). Satisfaction is an overall affective response to a perceived discrepancy between prior expectations and perceived performance after consumption (Oliver, 1980, 1999, as cited in Lai & Chen, 2011, p. 319). No declared schedule, risk of arriving too late, delay of next bus, uncertain waiting period, unpleasant event for female passengers etc can lower the satisfaction level of passengers of public bus. Based on above studies done on service quality of bus service, eight attributes has been chosen in this study. These are, frequency, travel time, safety, accessibility, availability, security, comfort and economy<sup>18</sup>.

### **2.7.1 Travel behavior**

Lifestyles always include behavioral aspects like leisure behavior, consuming behavior, social networks, etc. The realization of lifestyles specifically relates individuals to their spatial environment, specific needs and preferences which are reflected by residential location choice (Scheiner & Holz-Rau, 2007, p. 490). People move from one place to another. They

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<sup>18</sup> Development Study (DHUTS)", Final Report, Bangladesh University of Engineering and Technology (BUET) and Japan International Cooperation Agency (JICA) Study Team.



choose the most convenient means. For every trip the traveler weighs the expected benefits to be gained at the destination against the costs of getting there one of which is time, a scarce and finite resource<sup>23</sup> for most people (Tolley & Turton, 2014). Studies revealed that there are complex interdependencies between various causes of travel behavior. In this context individual personal circumstances can be distinguished from external conditions. In particular, personal circumstances are usually described by socio-demographic variables on the individual level. External conditions are often studied with respect to urban form and transport system (Scheiner & Holz-Rau, 2007, p. 489). Evaluation of possible measures is difficult because very little is known quantitatively about what influences people's choices of travel mode for the journey to work (Quarmby, 1967, p. 273-274). Residential location choice can change or influence passengers' travel behaviors (Choocharukulet al., 2008). In case of daily urban trips like work trips, passengers' mode choice is dependent on socioeconomic characteristics (Limtana kool et al., 2006). Transport patterns and choice also vary with person characteristics such as age, gender and monthly income (Stradling et al., 2007, as cited in Yaakub & Napiyah, 2011). Previous studies found that women consistently have shorter work trips than men. The reasons are lower income, restricted accessibility, bound to give more family time (Gordon et al., 1989). Previous studies were done in order to explain modal choice, or levels of usage of different modes of travel. Different studies carried out in the United States. A study was carried out, which relates the use of public transport throughout a city to such characteristics as size, density and age of the city, and to population characteristics such as income, car ownership, and so on. North American transportation consultants developed models of mode choice. The point is anticipate open transport and private vehicle use for all treks made between any match of the zones into which the urban zone is partitioned. Factors, for example, relative travel times and expenses for sets of zones are frequently considered. At that point, a few analysts have created models to clarify and anticipate singular decision of mode, assessing singular travel and family unit qualities (Quarmby, 1967, p. 275).<sup>24</sup> The issues of activity can't be seen as far as movement framework and vehicle developments alone. Driving, the human conduct engaged with movement to and from work (and so far as that is concerned, other travel) is vital both in portraying the idea of the issues, and for seeing how individuals' decisions and changes of time, mode, separation and bearing add to activity designs (Punpuing and Ross, 2001). In Netherland, from 1962 to 1972, number of outings per individual and travel time every years has scarcely changed, however add

up to remove ascended from 7156 to 11487km. People like to go further by utilizing the speed and spared time (Tolley and Turton, 2014). This implies individuals are moving much of the time with short travel time however a further separation. These ended up workable for expanded speed of vehicles. The requirement for versatility is a result of the spatial partition of various kinds of land utilizes in the city. The expanded partition of urban land utilizes enhanced transportation offices and coming about empower individuals to travel further in a given measure of time than they could previously (Pacione, 2001). There are numerous individuals that utilization both open transport and private autos. Along these lines, so as to diminish vehicle utilization it is important to comprehend the hidden examples of movement conduct. All in all, the vehicle is the most alluring method of transport. Accommodation, speed, solace and individual opportunity are outstanding contentions (Anable, 2005; Hagman, 2003; Jensen, 1999, as referred to in Beirao and Cabral, 2007). The specific impression of helplessness impacts the movement designs. Individuals endeavor to maintain a strategic distance from helpless modes, for example, cycling or powerless occasions of movement (Gwilliam, 2010, p. 200). Understanding travel conduct and the purposes behind picking one method of transport over another is a basic issue. Individuals settle on decision between various transport modes, contingent upon their attributes. The decision of one explicit transport mode can fluctuate after some time and with the sort of voyage. Low wage specialists may want to live (have their abode and houses) close to the production line/organization where they work, so they don't have burn through cash transport. Srinivasan (2002) in computing person on foot condition factors for Boston, found that walker characteristics of the course among home and work, instead of the properties of the endpoints themselves, seem to issue most in the choice to stroll for work trips. In an examination on 12 neighborhoods in the Puget Sound territory of Washington, proposed that, given the suitable land-utilize conditions and person on foot offices, rural territories can bolster passerby travel and impact mode decision (Moudon et al., 1997, as referred to in Srinivasan, 2002, p. 2005).<sup>25</sup> In US based examinations demonstrated that organizers in Montgomery County, Maryland found that person on foot kind disposition depends on building difficulties and the accessibility of walkways, ways, and transport asylums to movement zones in the locale. Then again, organizers in Portland, Oregon created factor scores estimating the person on foot condition dependent on walkway coherence, simplicity of road intersections, road qualities, and geography (Rodriguez and Joo, 2004). Behavioral goals, as an avowed probability to participate in a specific conduct,

are imperative pointers of clients 'future practices. As indicated by the Theory of Planned Behavior (TPB), conduct expectations trigger future practices (Ajzen and Fishbein, 1980, as referred to in Lai and Chen,2011). Administration quality is seen as an essential determinant of clients ' travel request (Prioniand Hensher, 2000, as referred to in Beirao and Cabral, 2007, p. 479).Favorable conduct aims lead to client unwaveringness, which is characterized as —a profoundly held pledge to repurchase a favored item or administration later on" (Oliver, 1997, as referred to in Lai and Chen, 2011, p. 319). Conduct aims can be considered as sign whether a client will keep on using an organization's administrations or change to an alternate supplier (Zeithamlet al., 1996, as referred to in Lai and Chen, 2011, p. 319). Open transport needs to alter the support of the characteristics required by purchasers so as to end up increasingly alluring and impact a modular move (STIMULUS, 1999, as referred to in Beirao and Cabral, 2007, p. 479).Travel conduct may be an impact of specific area choices of people or house hold, who rule for a specific area type that addresses their issues and their conduct. Urban frame likewise influences travel conduct. On the off chance that individual moves to another place, he attempts to modify his movement conduct as indicated by the spatial structures at the new place of living arrangement (Handy et al. 2005; Scheiner 2005, as cited in Scheiner & Holz-Rau, 2007, p. 492)<sup>19</sup>.

### Chapter 3 - Roadmaps in transport system in Bangladesh

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<sup>19</sup> Dhaka Transport Co-ordination Authority (DTCA) and Advanced Logistics Group (ALG) (2011), "BRT and Corridor Restructuring Implementation Study and Preliminary Design Work for the Uttara–Mohakhali–Ramna Sadar Ghat Corridor in Dhaka", Contract for Consultants Services between DTCA and ALG.

#### **4.1 Highway**

4.1.1. Bangabandhu Bridge

4.1.2. Asian Highway (AH) routes in Bangladesh

4.1.3. Bangladesh Railway (BR)

#### **4.2 Urban**

4.2.1. Lack of Urban Transport Policy

4.2.2. Institutional Deficiency

4.2.3. Lack of Vision

#### **4.3. Growing Issues in Overall Transportation**

4.3.1. Non integrated transport system

4.3.2. Only road sectoral basis

4.3.3. Unsustainable development

4.3.4. Private Sector's road undefined

4.3.5. Lack of Outward Looking Approach

4.3.6. Serious Institutional Weakness

4.3.7. Lack of Vision

#### **4.4. Growing Issues in Urban Transportation**

4.4.1. Traffic Congestion

4.4.2. Accidents

4.4.3. Public Transport, the problem of peak period

4.4.4. Pedestrian

4.4.5. Parking

#### **4.5. Prioritizing Dhaka's Urban Transport System**

### 4.1 Highway

The aggregate cleared street length under Roads and Highways Department (RHD) has extended from a negligible 600 km in 1947 to around 4,265 km in 1973 and to around 21,000 km in 2001. Another 1,83,354 km of street existed under LGED, as of December 1998, which connect rustic development focuses with the blood vessel courses. A large portion of the overwhelming vehicles in Bangladesh are of 2-hub arrangement, with two wheeled front pivot and 4-wheeled back hub. The pivot stack limit is 18,000 lbs or 8.2 tons, contrasted with 10.2 tons in India.

#### 4.1.1. Bangabandhu Bridge

Development of the Bangabandhu Bridge has been finished in June, 1998. For the usage of the scaffold venture, an association named Jamuna Multi-Purpose Bridge Authority (JMBA) was set up. Along these lines, a different Division, titled Jamuna Bridge Division (JBD), was made under the Ministry of Communication for checking, supervision and reviving the basic leadership process in regard of various exercises and issues of this goliath venture. A short depiction of the extension, is given beneath :

The scaffold is a 4.8 km long and 18.5 meter wide, 4 path multipurpose extension; it is a street connect with arrangements to convey a power entomb connector, gas pipeline and media transmission joins. The establishment/sub structure of the scaffold has been reinforced in order to convey a double check rail line (both meter and wide measure).

Development of the scaffold began in October, 1994 and it was opened to movement in June 1998. The venture was financed together by IDA, ADB and the Government of Japan each with an offer of US \$ 200 million. The last expense of the undertaking including the resettlement part was Tk. 36,036.90 million.

#### 4.1.2. Asian Highway (AH) courses in Bangladesh

As per the new criteria, the accompanying highways (1695 km) of Bangladesh have been incorporated into the Asian Highway organize.

Highway A-1: Benapole - Jessore – Narail - Bhanga – Mawa – Dhaka – Katchpur - Comilla - Chittagong - Cox's Bazar (561.50 km)

Highway A-2: Banglabandh - Rangpur-Hatikamrul – (Bangabandhu Bridge) - Tangail – Dhaka – Katchpur – Sarail – Sylhet – Tamabil (829.70 km)

Highway A-1(b): Hatikamrul – Bonpara – Jessore – Mongla port (304 km) Out of this mileage, 92% are 2-path thruway of AH class II standard, and 3.7% are single path which are beneath AH standard. Out of another 81 km missing or rock street, development of 51 km (Hatikamrul – Bonpara) and 30 km (Bhanga-Narail) is currently on-going.

### 4.1.3. Bangladesh Railway (BR)

Toward the west of Jamuna it is overwhelmingly BG with a little MG arrange in the north-west. Toward the east of Jamuna it was all MG. The BG parcel was a piece of the principle Indian Railway organize arranged towards Calcutta and the MG divide was mostly a piece of the system interfacing northeastern Indian states with Chittagong port.

The system is physically separated by the stream Jamuna. Ship administrations work at two areas. BR has an aggregate course kilometer of 2734, of which 901 km is Broad Gauge (BG) and 1833 km is Meter Gauge (MG). The BR is at present taking into account traveler and cargo administrations at 489 stations spread over the whole nation. Arrangement has now been made for BG and MG on Bangabandhu connect.

Bangladesh Railway has additionally presented electronic wagon control framework (RAILWICS) in 1999-2000. UNESCAP helped program, would now be able to be utilized for following and checking development and status of all moving stock, compartments and load. Framework can be incorporated for worldwide following. The framework is currently completely worked by BR<sup>20</sup>.

## 4.2 Urban

### 4.2.1. Lack of Urban Transport Policy

Bangladesh has no urban transport policy as yet. As such there is no clear decision as to which modes of transport and facilities, the urban areas should encourage. In the past urban transport received little attention, as investment went more in infrastructure development for inter-urban linkages and for opening up links to rural growth centres. The 4th Five Year Plan of Bangladesh (1990-95) indicated that urban transport problems, will be tackled, particularly in the metropolitan areas with emphasis on land use and water management system. Government therefore, undertook a study “the Greater Dhaka Metropolitan Area Integrated Transport Study (DITS) (1992-94), funded by UNDP. In line with the findings of the study, World Bank formulated a project – “Dhaka Urban Transport Project”, to address in the short-term, urgent policy issues, infrastructure bottlenecks and traffic management constraints, and in the longer term, to focus on planning, institutional and policy action. Based on another recommendation of the World Bank for strengthening coordination mechanism, Greater Dhaka Transport Planning and Coordination Board (GDTPCB) was established. The Board has recently been renamed as Dhaka Transport Coordination Board. While efforts are underway to improve urban transport situation in Dhaka, similar initiatives need to be taken to address urban transport problems in other cities, and before that there is an urgent need for setting urban transport policies of Bangladesh. Generally speaking such a policy should aim at developing an integrated, balanced and environmentally sound urban transport system in which all modes (motorized and nonmotorized) can play their roles efficiently.

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<sup>20</sup> .Road Transportation of Bangladesh, <http://www.assignmentpoint.com>

### 4.2.2. Institutional Deficiency

The Bangladeshi institutions which are linked to transport sector, in general, have weak and outdated structure. Their lack of capacity and shortage of resources seriously undermine their capability for good governance, sound policymaking and public management. Powerful vested interests and legal constraints further compound the problem. The manifestations of all these are reflected in the poor- and mal governance of the transport sector, the outcomes of which are loss-making state enterprises, lack of investments in transport infrastructure, breeding corruption, deterioration in the institutions of law and order, weak law enforcement impacting on safety, security, environment, private sector participation, etc. Different ministries and government agencies responsible for transport sector development are currently following a sectoral approach with no or very little coordination among themselves. The basic problem here is the lack of coordination among various government agencies and the absence of a clear policy framework with regard to transport sector of the country. Inter-modal priority that is essential for efficient resource use and for avoiding duplications and minimizing wastage of resources is hardly found in practice. Instead, some non-economic factors such as political considerations get prominence in many instances in connection with inter modal as well as intra-modal transport allocation in the country. In the past, the Planning Commission used to play a major coordinating role in the allocation of resources for development based on detailed analysis of economic costs and externalities. This has diminished over the years.

### 4.2.3. Lack of Vision

It is vital for any country to have a vision for transport development. Without a vision, development efforts become ad-hoc, and remain unguided. A vision sets the direction for development and guides the formulation of policy measures and strategies to attain certain objectives. Unfortunately, no such vision for transport development exists in Bangladesh. Consequently, our development efforts have resulted in situations such as sectoral imbalance leading to inefficient utilisation of scarce resources, adverse environmental impacts, development of a system having little focus on any regional role, etc. A vision is therefore, needed for a long-term balanced and integrated system development, which can address the present deficiencies and at the same time meets the future requirements. A vision is needed which is realistic and is based on recognizing current development, potentials of growth, and global trend. This should also take into account the changing needs of the people, their aspirations, wellbeing and affordability, system efficiency, effective utilisation of the existing facility, technological development, and minimisation of resource (physical and financial) consumption which is of vital importance. Our actions in transport development cannot deliver the social benefits we are looking for without having such a vision and accompanying broad strategies.

## 4.3. Growing Issues in Overall Transportation•

**4.3.1. Non integrated transport system :** Road, water and water are act separately and on is developing but other deteriorating.

**4.3.2. Only road sectoral basis:** road transport is comparative advantage than other competing modes. Investment, resource allocation, maintenance and management is very much questionable

**4.3.3. Unsustainable development:** It requires progressively delicate to condition and social imperatives including aberrant and long haul impacts with less vitality utilization and decrease of outside expenses. For this situation, rail and water is more productive than street.

**4.3.4. Private Sector's street indistinct:** Absence of administrative foundations, a fitting legitimate structure and insufficiency of proficient and instructed transport suppliers, bureaucratic methodology and practices and so on are a portion of the components which are functioning as the impediment to private part inclusion.

**4.3.5. Absence of Outward Looking Approach:** Transport division consider essentially national setting not cross outskirts issues. It might turn out to be amazingly expensive for Bangladesh to give between nation transport administrations when circumstance request except if similarity with neighboring transport frameworks.

**4.3.6. Serious Institutional Weakness:** weak and outdated structure. Lack of resources, capacity to good governance, sound policy making and public management . Lack of coordination in different institution.

**4.3.7. Lack of Vision:** Long term vision is vital for transport development. But, for the lack of vision development efforts become ad-hoc and remain unguided.

Inappropriate Modal mix

Neglect of Intentional Surface Transport

### **4.4. Growing Issues in Urban Transportation•**

**4.4.1. Traffic Congestion:** Movement blockage implies delay caused by one vehicle to other people. It results when the quantity of vehicles is high to the limit of the street organize.

**4.4.2. Accidents:** on the streets mishaps comprise one of the significant social issues. The most elevated rate of street mishaps happens ,of course ,in those urban areas with most elevated rate of vehicle proprietorship.

**4.4.3. Public Transport:** the issue of pinnacle period: In for all intents and purposes each city the utilization of open transport is packed in the first part of the day and night and surge hours. Whatever the volume of interest, there is perpetually too little ability to allow happy with voyaging condition at these conditions

**4.4.4. Pedestrian:** there is lack of accessibility and facilities for the pedestrians• Environment: air pollution, noise pollution are associated with increased road traffic.



**4.4.5. Parking:** in many cities parking difficulties are deliberately created by removal of parking space and refusal to allow the provision of new car parks. Never the less from the consumer's point of view, the shortage of parking space, the regulations and charges applying to it, are another source of dissatisfaction and complaint.<sup>21</sup>

### 4.5. Prioritising Dhaka's Urban Transport System

Thought about one of the quickest developing urban areas on the planet, Dhaka's metropolitan populace has developed exponentially amid the previous four and a half decades, from 3 million out of 1971 to around 18 million today. The populace thickness of the city is currently twofold or treble than that of Tokyo, London or Shanghai, and is 33% higher than even Kolkata and Mumbai. Over a twenty-year time-range starting from 2015, Dhaka's populace is relied upon to hop by another half, achieving an achievement of 26 million of every 2035.

Movement blockage has turned into a noteworthy issue in Dhaka city in the course of recent decades. Too many engine vehicles endeavoring to proceed onward the accessible streets and jams going on for quite a long time are presently very normal. The two central points distinguished as contributing most to Dhaka's movement blockages are absence of satisfactory arranging and planning over the earlier decades, and inordinate dependence on private autos because of a lacking open transport framework. Incidentally, despite the fact that there are multiple times a larger number of autos than transports in the city, vehicles represent only 13 percent of traveler transportation, while transports are in charge of 49 percent. The normal activity speed in Dhaka is right now just 6.4 kph (kilometers every hour). Yet, in the event that vehicle development proceeds at the present pace without significant interests out in the open transports, the normal speed may tumble to 4.7 kph by 2035—nearly as moderate as strolling.

The Government of Bangladesh charged a Revised Strategic Transport Plan (RSTP) in 2014-15, which proposed constructing five metro railroad lines, two fast transport courses, and 1,200 kilometers of new roadways. The aggregate proposed open expense in the Plan remained at about Taka 351,000 crore over a 20-year time frame. Basically, it visualized building five raised interstates and three ring-streets, five MRTs (mass fast travel or metro-rail travel) and two BRTs (transport quick travel).

The examination supported by the Copenhagen Consensus Center and driven by Robert Gallagher found that private interest in Dhaka's vehicle framework .

People in general use proposed in the RSTP is anticipated to help improve Dhaka's activity stream, both as far as upgraded road limit and extra metro rail. Demonstrating has demonstrated that it could raise Dhaka's movement accelerate to a dimension of 13.7 kph — the speed that was most recently seen in around 2010. The greatest piece of these advantages would radiate from the

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<sup>21</sup> S.M. Sohel Mahmud<sup>1</sup>, Mohammad, Wahidur Rahman<sup>1</sup>, Shahnewaz Hasanat-E- Rabbi<sup>1</sup>, Transport System in Bangladesh: Issues and Options for Sustainable Development

## Analysis to Road Transport System in Dhaka

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movement time spared. In general, the examination demonstrated that contrasted with a 'Do Nothing' situation, every Taka spent under the RSTP situation would yield about Taka three of future advantages.

Transportation results, be that as it may, to a great extent rely upon the blend of vehicles possessing the new streets. The extra 360,000 vehicles expected in the draft RSTP will involve a monstrous scope of spaces in Dhaka city. In the event that RSTP proposition were completely executed, the five metro railroad lines may convey about 12% of Dhaka's aggregate traveler request in 2035, with transports (counting Bus Rapid Transit or BRT) conveying a further 40%. The commitment from cars (autos, jeeps, auto-rickshaws) would be just around 15% of aggregate traveler kilometers, in spite of the fact that they would possess almost half (44%) of the aggregate street space.

Gallagher investigated an elective situation that concentrated on more noteworthy interests in transport framework and foundation, which could relieve the requirement for such a large number of room serious private cars – cruisers, auto-rickshaws and cycle-rickshaws. The situation expected indistinguishable measure of open cost from under the draft RSTP, however with 9,000 extra transports. This situation would result likewise of just 100,000 vehicles by 2035, not exactly 33% of the number expected under the RSTP system. This elective alternative would possess impressively less street space, decrease movement blockage, and lead to a normal activity speed of 14.4 kph, sparing more opportunity for the workers. It would prompt decrease in expense of in general speculation by about US\$ 17 billion, 16% higher traveler yield and about 20% lesser necessity for streets.

This elective situation would likewise spare significant private speculations on vehicles, drivers, save parts, and fuel. Over a 20-year time frame, the more space-productive transports could give a lot more noteworthy transport limit while sparing aggregate private transport venture of about Taka 132,600 crore contrasted with the RSTP situation—a 15-percent cost decrease, equal to the expense of four and a half Padma Bridges. The consolidated advantages from diminished activity clog and decreased transport framework expenses would imply that every Taka spent would yield about Taka 6 of advantages, or twofold the normal advantages from RSTP.

(a) Giving best need to building up the city's open transport framework, not at all like the instance of 2005 Strategic Transport Plan (STP) where general society transport recommendations were not actualized.

(b) Reduce the liberal endowments given to private motoring, i.e. vehicles, jeeps and engine cycles; their fast development is ascribed not exclusively to rising earnings and constrained open transport choices, yet additionally to considerable sponsorships, especially in fuel and stopping and in addition expansion of simple bank credits.

## Analysis to Road Transport System in Dhaka

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(c) Undertake explicit measures to support transports by: giving them activity need through committed transport paths, need signals at intersections, 'line hops' and different measures to guarantee they are not backed off by blockage; making an incorporated and between associated organize; raising transport framework quality through superb transports, great safe houses, very much overseen terminals, traveler data frameworks, coordinated ticketing and so forth.; giving administrations on the primary streets, as well as inside neighbor hoods.

(d) Developing the open doors for strolling in Dhaka, as strolling is a basic and solid piece of a city's vehicle framework; 20-30% of all excursions are made by walking in urban areas like Tokyo, London, Berlin and Singapore. 'People on foot first' is a maxim all around drilled by city experts everywhere throughout the world. As great footways/trails and safe street intersections can change a city, individuals ought to be urged to walk more and utilize vehicles less, in this way opening up street space; it would spare individuals' cash, make the city wonderful and liveable, and help up individuals' wellbeing and prosperity.

(e) Cycling ought to be organized in Dhaka, as it is a standout amongst the most productive and condition agreeable transport modes accessible and has an extraordinary potential to make an unmistakable commitment to support Dhaka's vehicle framework. Contrasted with Dhaka's 2%, cycling represents 10-30% of all outings in urban communities like Berlin (13%), Tokyo (16%), Shanghai (20%), Amsterdam (28%) and Beijing (32%) .

(f) Measures in the zone of movement the board and control may include: increasingly one-way boulevards, stopping controls, better activity signals, transport stop discipline and so on. The normal movement speed in Dhaka city could be expanded by almost 33% just through after great activity the board rehearses.

(g) The under-staffed establishments in charge of city movement and transportation ought to be fortified, as legitimate administration of activity is unimaginable without adequate staffs and assets in important open organizations. Enrolling able staffs for bodies like Dhaka Transport Coordination Authority (DTCA) ought to in this way be a need for Dhaka's vehicle improvement.

(h) Mobilizing assets for upgrades in Dhaka's urban transport framework ought to be sped up, for instance, by diverting a portion of the current assets previously created by the vehicle division and by tackling different sources with high possibilities like property assessments and land improvement.

The above investigation by Robert Gallagher obviously shows what can be accomplished by putting more accentuation on open transports and by backing off the development of low-limit private transports like vehicles, engine cycles, auto-rickshaws and cycle rickshaws. He closes his monograph by citing from the vehicle visionary Enrique Penalosa, who guaranteed that the proportion of a cultivated city was whether it was ok for its youngsters to stroll in.

Robert Gallagher, a British transport organizer, had worked in Bangladesh for quite a bit of his vocation. He addressed in the Department of Urban and Regional Planning at BUET for a long time, and later completed an examination investigation of the rickshaw part as a Visiting Fellow at the Bangladesh Institute of Development Studies (BIDS). He has chipped away at an extensive variety of urban transport extends in South Asia and the UK, including a joint coordinated effort between the Copenhagen Consensus Center and BRAC under the 'More intelligent Solutions for Bangladesh: Bangladesh Priorities' undertaking<sup>22</sup>.

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<sup>22</sup>.**Book Review** ,*Publisher: Wiley, USA ,December, 2016 ,E-book Published by the Copenhagen Consensus Center and BRAC, 2016*

**Chapter 4- Role of Judiciary**

- 6.1 Standing of the Court in Road transport system
- 6.2 Punishments given by the Court to road accident
- 6.3 In Real Scenario in Dhaka city
- 6.4 Tortuous liability in road accident cases
- 6.5 Finding and analysis of objectives
- 6.6 Recommendations

### 6.1 Standing of the Court in Road transport system

Streets and Railways Division administers the accompanying Departments/Organizations:

- Roads and Highways Department (RHD)
- Bangladesh Railways (BR)
- Bangladesh Road Transport Authority ( BRTA)
- Bangladesh Road Transport Corporation (BRTC)
- Office of the Government Inspector of the Bangladesh Railways (GIBR) and
- Dhaka Transport Co-appointment Board (DTCB)

Streets and Highways Department (RHD): Responsible for development and upkeep of streets and scaffolds on the primary street system of the nation.

Bangladesh Railways (BR): Responsible for all parts of railroad advancement, activity and upkeep in Bangladesh.

Bangladesh Road Transport Authority (BRTA): Responsible for street transport issues on all streets of Bangladesh.

Bangladesh Road Transport Corporation (BRTC): Responsible for activity of armada of transports and trucks, especially on courses of social significance.

Office of the Government Inspector of the Bangladesh Railways (GIBR): Responsible for examinations for Bangladesh Railway.

Dhaka Transport Co-appointment Board (DTCB): Responsible for coordination of the arranging and execution of transport plots in DhakaCity and its environs.

BRTC, the sole State Owned Enterprise (SOE) in street transport segment, should be implanted with ability, reasonable feeling of control and dynamism for its productive administration to play more grounded and progressively vital job.

Arranging and coordination of transport framework offices and activity the executives mediations crosswise over more prominent Dhaka are the center duties of Dhaka Transport Coordination Board (DTCB). The Government through DTCB has propelled Strategic Transport Plan (STP) for more secure and progressively productive Transportation System.<sup>23</sup>

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<sup>23</sup> Road Transportation of Bangladesh, <http://www.assignmentpoint.com>

## 6.2 Punishments given by the Court to road accident

According to ROAD TRANSPORT AND TRAFFIC ACT, 2011 , 147. Punishment for abetment of certain offences

Whoever abets the commission of an offence under section 143, or 145, shall be punishable with the punishment provided for the offence.

## 6.3.Real Scenario in Dhaka city

### Dhaka: Capital City of Bangladesh

Population : 17 million  
Population density : 29069/ km<sup>2</sup>  
Road length : 1286 Km  
Road Density : 9.01 %  
Car density : 15/1000

### Road based public transport



# Rail and Water Based Public Transport



Railway



Water bus



Demo train



Water taxi





### 6.4. Tortious liability in road accident cases

As of late a milestone judgment was given by the Appellate Division of the Supreme Court of Bangladesh including a full seat headed by the Chief Justice Md Muzammel Hossain. The request maintaining the judgment of the High Court Division to repay the unfortunate casualty's family for a situation including the passing of Mozammel Hossain Montu, a previous News Editor of the "Every day Sangbad," in a street mishap over two decades back. For this situation, a truck possessed by Bangladesh Beverage Industries Limited (BBIL) had kept running over Mozammel Hossain before Ananda Bhaban in Dhaka's Kakrail on December 3, 1989. He passed on following couple of days around the same time while experiencing seven days in length treatment.

On January 1, 1991, Mantu's significant other recorded a case with a Dhaka court, looking for Tk3.52 crore as remuneration from BBIL. The lower court in its decision on March 20, 2005, guided the organization to pay the sum to the spouse and two children of Mantu. BBIL engaged the High Court against the decision, saying the organization couldn't be held at risk for the driver's error. The High Court, be that as it may, rejected the supplication in 2010, saying the organization could undoubtedly be requested to pay, and settled the aggregate at Tk20mn. At last, the Appellate Division of the Supreme Court discarded an intrigue recorded by the BBIL testing the decision given by the High Court Division.

Khalilur, the insight for Mantu's better half called attention to that the Supreme Court decision was a milestone one, saying that the proprietor of the vehicle had been coordinated to make up for the offense of the careless driver. In the thinking of the choice, the preliminary court thought about convoluted risk based on the principle of vicarious obligation. The premise of the regulation is a proverb that says, *Nam qui facit per alium facit* essentially which implies he who completes a demonstration through another is considered in law to have done it without anyone's help. This is a proverb frequently expressed in talking about the risk of a business for the demonstration of his/her worker.

Truly, tort has its underlying foundations in criminal method. Indeed, even today there is correctional component in a few parts of the standards of harms. Considering civil wrong, the court made BBIL liable and ordered to pay compensation. Now, this judgment will be a precedent and as a result victim's family will be able to seek compensation in similar cases in the future.

Road accident is a common phenomenon in Bangladesh. A recent report published by Bangladesh Jatri Kallan Somity shows that nearly 4,000 people died of road accident in the last six months from January to July. Most of the victims' families took legal action but no proper remedy was given except for few circumstances. The questions are, under which law were the cases filed and what relief was sought in those cases?

It can clearly be mentioned here that the victims' families tend to file criminal cases under penal code as the offences are of criminal in nature and their ultimate demand is to put the offenders behind bars. However, that hardly helps victim's families to survive in society since in some cases the victims of the road accidents are the only earning members of their families. Therefore, tortuous liability should be invoked more often in these cases to seek compensation from the perpetrators for the family members as they are tertiary victims of the incidents.<sup>24</sup>

### **6.5. Finding and analysis of objectives**

In charge of generally speaking administration, control and supervision of street transports.

To help Government in confining engine vehicles laws, rules, controls, strategies, and so forth and execution of this laws and guarantee implementation against infringement.

To manage security of street clients and taking of healing measures for avoidance of street mishaps . Enlistment of engine vehicles, engine fixing workshops and school of motoring .

To issue permit in the wake of leading competency test for drivers, conductors and driving educators and to take measures for reestablishment of the equivalent .

To issue and recharge roadworthiness authentication of engine vehicles .

To discover the reason for mishaps, investigating the vehicles include with mishap.

To issue and reestablish course allow for traveler and merchandise vehicles .

To review the Govt. vehicles for fixing, upkeep and judgment revelation and to guidance Govt. offices in such manner .

Accumulation and bookkeeping of duties and expenses because of engine vehicles .

To gather and keep up the insights identified with engine vehicles, and street mishaps, to lead exercises for the advancement of street transport framework, usage of improvement plans and so forth.

To comprise and control of Regional Transport Committee (RTC) for each region and metropolitan zone, coordination between offices, associations furnishing transport administrations and manages the issues identifying with street transport proprietors and laborers to recommend suitable measures in this way.

### **6.6. Recommendations**

- Including road safety issue in textbooks

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<sup>24</sup> Dhaka tribune, Md safiullah, Published at 06:22 pm August 13th, 2014

## **Analysis to Road Transport System in Dhaka**

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- Finding alternatives to road transportation and emphasizing on waterways and rail communication
- Constructing new rail lines connecting different regions
- Developing better traffic system and introducing mass transportation
- Banning local transports on highways
- Turning all highways into four-lane roads
- Developing improved road network and repairing and maintaining them properly
- Banning use of mobile phones while driving
- Introducing technology to control speeding on roads
- Stopping unlawful car parking
- Examining drivers' qualification and ability before issuing licence
- Synchronizing the activities of BRTA and police
- Making footpaths occupancy-free
- Introducing dope test system for drivers
- Preventing competition between drivers on roads and highways
- Putting an end to extortion in transport sector
- Recruiting drivers with fixed salaries instead of the current trip-based agreement. In order to prevent overwork and fatigue of the drivers
- Empowering city mayors and getting city corporations and ministries concerned to work together to ameliorate traffic congestion in the capital
- Training highway police, sergeants, and drivers to bring order on the streets
- Introduction of bus route franchise system as a possible solution to the crisis
- Holding not only drivers accountable, but also commercial vehicle owners and police who enforce laws, who should also work together.

### Chapter 5 – Conclusion

Bangladesh must have a productive and feasible transport framework to guarantee proceeded monetary advancement and prosperity of the general population. Be that as it may, the present pattern of improvement gives off an impression of being all the more specially appointed having no unequivocal spotlight on future prerequisites and the methods for meeting these headings on an aggressive and additionally maintainable premise. The need to address the insufficiencies with proper approaches, techniques and activities as demonstrated in part V are of foremost significance with regards to new condition of expanded globalization, regionalization and privatization.

To confront the difficulties of intensity and supportability, Bangladesh must have a dream for future transport improvement with supporting wide approaches, techniques and activities, which are to be sought after by the vehicle organizations of the nation. In this specific situation, institutional advancement is an issue of significant significance. The administration has now embraced the general strategy of private division drove advancement. In this specific situation, a proper institutional and legitimate system reliable with the changing financial condition is yet to be set up. The current foundations ought to be made prepared to expect their re-imagined jobs in the new condition.

There is additionally an incredible need to change the present way to deal with arranging. The arranging organizations, be focal, sectoral, or neighborhood must search for another strategy to actualize a coordinated and complete methodology that would guarantee coordinate association of all partners in managing the multi-dimensional issues of transport advancement in Bangladesh.

Concerning the potential job of Bangladesh transport framework to take into account the sub-local/global requirements, political duty would be of vital significance. Physical joining of the framework would really include a reintegration of existing foundation requiring least financial assets, with the exception of limit development in specific stretches and the board enhancement for larger amount of productivity. The consciousness of the common society for expanded sub-local participation on an equivalent balance, could thusly influence the political initiative to approach with their approval, which is of critical significance .

The real perspectives considered in this paper are issues/issues of present transport advancement and approach activity for practical improvement in Bangladesh. The objectives of an effective transport framework must be connected with cultivating monetary advancement, upgrading the nature of the earth, decreasing vitality utilization, advancing transportation-accommodating improvement designs and empowering reasonable and fair access and safe versatility to inhabitants of various financial gatherings. The current organization ought to be characterized jobs and make prepared in the new condition. Coordinated and far reaching approach would guarantee with all partners. The paper specifically centers around the components requiring quick consideration. Best practices in the creating nations need to consent to a bundle of measures for accomplishing supportable portability.<sup>25</sup>

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<sup>25</sup> S.M. Sohel Mahmud1, Mohammad Wahidur Rahman1, Shahnewaz Hasanat-E- Rabbi1, Transport System in Bangladesh: Issues and Options for Sustainable Development

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