

Behavioral Aspects of Drivers as Contributing to Traffic Jam: The Case of Dhaka City's Bus Drivers

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Abstract

Traffic congestion is one of Dhaka city's most challenging issues for uninterrupted transportation. Yet many government initiatives have appeared to fail to reduce traffic congestion. As the literature indicates, there are many factors contributing to traffic jams in Dhaka City. Several studies found structural causes behind traffic jams. However, behaviors of bus drivers are always denied in policymaking and implementation and that's why the study was conducted to explore the responsible behavioral aspects of bus drivers contributing to traffic jams. To conduct this study, field-based primary data was collected from the respondents (drivers, pedestrians, hawkers, and traffic police) using interview questionnaires, practical observation, and focus group discussion. Furthermore, journal articles, newspaper reports, books, various reports, previous research papers, and different websites are utilized as the sources of secondary data. The major findings have been identified as drivers violating rules by themselves or by external pressures such as passenger demand, lack of stoppage, more income tendency, and weakness of traffic management, etc. Randomly picking and dropping passengers, randomly breaking and stopping, competition, illegal parking, violating signals, and crossing the line were found as major behavioral aspects of bus drivers that contribute to traffic congestion in city areas. Other reasons found are nonchalant traffic police, poor traffic management, lack of traffic technology, illegal footpath occupying, and untimed development projects on the road. Respondents believe and hope that if the government takes proper policies and steps such as education, training, seminars, proper licensing, social awareness building campaigns, incentives, and strict law enforcement for drivers alongside all stakeholders, then it may be possible to mitigate traffic congestion. Finally, we hope for the best use of this study in future policymaking and in conducting further research.

Keywords: Traffic Jam, Bus driver, Policy, Mitigate, Behavioral Aspects

1. Introduction

Transportation is like a venous system for communication. It works like the blood circulation of the human body. A safe, free transportation system is a daydream in not only developing countries but also in developed countries. If the blood circulation of the human body is interrupted by something or

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being anyway, then the whole human body suffers severely from exposure to many symptoms (Chakraborty, 2010). In comparing blood circulation through the venous system to the transportation system, we can say if the transportation system is interrupted by something or jammed by mismanagement, disorder, or the traditional way of controlling traffic. The whole country suffers from this problem a lot not only economically but also socially (Mahmud et al., 2012). A large number of research revealed that Dhaka is not only a densely populated city but also the worst city for living. There are many harmful factors contributing to making Dhaka city one of the worst cities for living in the world. Traffic congestion is one of these. It is a nightmare for every city dweller for their daily life by facing traffic congestion in every city of Bangladesh (Shamsher & Abdullah, 2013). Urban transportation systems manipulate the movement of passengers and goods; this is indispensable for social and economic activities.

The population of cities increases very quickly due to the opportunities for better education and employment. The growth of the population, the increased number of vehicles, travelers, and freight cars, and the pace of globalization have propelled travel demand in most of the countries of the world. Subsequently, globalization has reshaped the travel patterns of commuters and freight cars in many different ways (Guilano & Wachs, 1992). The failure of the transport system causes several problems, including traffic bottlenecks, delays, and carbon emissions, and it creates a hazardous environment for people living in Dhaka city (Alam & Habib, 2003). Many factors are contributing to traffic jams in Dhaka city. The most blamed issue is the driver's behavior as a great contributor to traffic jams.

It is a matter of concern that the behavioral aspects of bus drivers are largely responsible for traffic congestion in Dhaka city. Due to traffic congestion crores of takas are affected in the economy. The annual rate of congestion is increasing alarmingly. The city continues its growth toward a rich economy, so the population is increasing at double the rate of economic growth. Globally, traffic congestion is one of the severe problems for both developed and developing countries which exerts a negative externality upon society. It raises the threat to the economy alongside to the environment and in 1997; the wastage of the economy annually caused by traffic congestion was US \$75 million" (Meenar, 2000). Traffic congestion is a familiar scenario in many cities of Bangladesh. Due to different types of paratransit vehicles and the consequences of traffic jams, transgressing the limitation of tolerance of mass people (Chowdhury et al., 2018). "Cities of Bangladesh cannot afford

the economic and environmental loss resulting from this severe traffic bottleneck. Dhaka city and also the other cities of Bangladesh, both motorized and non-motorized vehicles play on the same streets” (Jakir, 1997). Today, it has been a great challenge for the transportation sector to deliver a system that should be safe, affordable, and comfortable, available to a large segment of the population. The harmful impacts of traffic congestion in Dhaka city are so intense. People suffer from waiting hours after hours while traveling and lose valuable time and money every day. However, identifying the behavioral aspects of bus drivers is an important issue for traffic congestion in Dhaka city. In this research article, we have tried to find the behavioral factors of bus drivers in contributing to traffic jams in Dhaka city. Due to various contributors to the traffic jam, we developed a logical concept about this difficulty. Besides, we have tried to cover the background of the study, the current scenario, and what’s the rationality of this study.

2. Background of the Study

Though Bangladesh has recently entered into the status phase of developing countries, a huge number of its population is still living below the poverty line. The capital city of Dhaka cannot afford the economic and environmental loss resulting from this severe traffic congestion. The traffic problem has become a very dangerous area and has caused traffic jams intensively in the cities of Bangladesh (K.D.A, 2008). Traffic congestion is a common occurrence in almost all the cities of Bangladesh, including major urban cities like Dhaka, Khulna, Chittagong, and Rajshahi. It creates problems for city dwellers, especially in Dhaka city, along with drainage, housing, water, sewerage, gas, and electricity scarcity (Osman, 2010).

Monayem (2001) revealed that the average speed of the major roads of Dhaka city, named “Mirpur Road”, is 15 to 17 kilometers during peak periods. The traffic congestion cost is USD 03 billion a year and the city loses over 8 million working hours daily. A developing country like Bangladesh really can’t repair such economic and environmental losses resulting from this severe traffic obstruction (Najneen et al., 2010). Limited resources invested for the development of transport facilities, the rapid growth of the population together with limited space available for new roads, coupled with the rapid rise in transport demand, the extent of a huge number of non-motorized vehicles on roads, lack of application of adequate and proper traffic management strategies are producing severe transport

problems in almost all the urban areas of Bangladesh. Worsening situations of traffic congestion in the streets and suffering from the habits of vehicle emissions demand extensive research in this field (Karim, 1997).

Since the traffic problem in Bangladesh is increasing at an alarming rate. Understanding the underlying issues of traffic jams has become an area of interest for both academicians and practitioners. Many factors are contributing to the traffic congestion in Dhaka city. Mismanagement of the system, traditional methods of controlling, unplanned urbanization, unplanned infrastructure, poor signaling, political assembly, illegally occupied business, and above all the behavior patterns of traffic drivers heavily contribute to traffic bottlenecks in Dhaka city (Ali et al., 2023). Now really it is a matter of great public concern to identify the causes of traffic congestion in Dhaka city daily. Day by day, it is becoming an unavoidable threat to the normal life of city dwellers; people are greatly affected by traffic jams (Ali et al., 2022). It is mostly heard and blamed on those behavior patterns of traffic drivers that are massively contributing to traffic jams in Dhaka city. It is interesting that when people discuss this problem and raise their voices against the system of traffic management, some strongly blame the drivers of public and private vehicles as they contribute heavily to traffic jams in Dhaka city. Therefore, it is observed by the public and mass media that bus drivers are rule breakers. They sometimes violate traffic rules heavily during their driving moments. Most often they would prefer to go fast and make them engage in breaking the traffic laws (Haider, 2018). Drivers and other factors are greatly contributing to traffic bottlenecks in Dhaka city, but the most interesting and arguable issue is to find who is contributing more to traffic jams in Dhaka city. If the behaviors of traffic drivers are mostly blamed as a great contributor to traffic congestion, then it should be identified that the behavior patterns of bus drivers contribute to traffic jams.

3. Rationale of the Study

Enhancing the large number of motor vehicles is one of the expected side effects of a nation's growing economy. As a developing country, Bangladesh is one of the few nations that has ensured to maintain a consistent economic growth of 5/6 percent in the past few years, although the global economy was in unrest and turmoil. This is also projected in the growing number of motor vehicles in the country. From 2003 to 2011, the number of registered motor vehicles increased from 59248 to 161178 in 2010. In seven years, the number has become more than

double. Analyzing the data from the past twenty years, it can be seen that congestion has increased (BRTA, 2011).

Sometimes, drivers are almost responsible for breaking rules, and sometimes they do not follow the traffic instructions. They violate traffic laws and like to move like a butterfly as well, and they would prefer to go fast or move faster than other drivers on the same street. That's because congestion has increased as well as traffic accidents. Trucks, buses, motorbikes, and tempo drivers are the main rule breakers and like to do their behavior. At the time, 80 percent of road accidents were pedestrian fatalities (UNESCAP, 2010).

Every vital place such as Shabag, Mirpur, Farmgate, Nilkhet, and Gabtoli intersection is the main point of traffic congestion. Many people conducted various researches at different times and many studies and papers were published in different media. They have tried to focus their views and recommendations in many ways, but it seems to have not worked on behavioral aspects of drivers that contribute to traffic jams in Dhaka City. Many factors contribute to traffic jams in Dhaka. There are several factors, but most researchers work on the same topic or work on the same issue. There is no vital work on the behavioral aspects of traffic drivers. These are mostly blamed for contributing to traffic jams in Dhaka city. So, we just wanted to construct a figure that explains why people are blaming bus drivers. So, it will be helpful to draw up a recommendation to reduce the congestion in Dhaka city.

Research objectives

The following are the broad objectives for the research:

1. To identify the behavioral aspects of bus drivers contributing to traffic jams in Dhaka city.
2. To find out the reasons for such behaviors of bus drivers.

Specific objectives

1. To find out who are the major contributors among drivers (bus, car, rickshaw, and CNG tempo) to traffic congestion in Dhaka city.
2. To find out the gaps among previous policies.
3. To find out measures to amend the behaviors of bus drivers.

4. Important Terminologies

Traffic jam

A traffic jam is a situation when a block system is made by various factors (infrastructural factors, behavioral factors, policy factors, and different groups of people such as drivers, pedestrians, hawkers, traffic police, etc.). It affects and hinders regular traffic flow for a long time. It has a great impact on our daily lives, and it affects our economy, kills our precious time, creates psychological impact as well as physical hazards, increases fuel consumption, and pollutes the city environment.

Drivers

Different studies have shown that drivers are increasing day by day in Dhaka city. Drivers are individuals who mainly drive different types of cars, buses, trucks, and other types of vehicles. But in this study, drivers are defined as car drivers, bus drivers, CNG-tempo drivers, and rickshaw pullers who are considered vital players for driving on Dhaka City's roads.

Pedestrians

Pedestrians are mostly related to traffic jams and road accident issues in Dhaka city. Pedestrian refers to the various groups of people who mainly use roads for different purposes. They use the road for walking to reach their work or expected destinations. They often use the main roads, footpaths, over bridges, and zebra crossings. Pedestrians may be anyone, including students, workers, business persons, males, females, and officials; and passengers can also be pedestrians at different times.

Hawkers

These are denoted or defined as 'hawkers' who sell their goods and products on the roads and footpaths. Sometimes they use vans and other types of *Thelagari*³ to sell their goods and utensils. They usually sit on the roadsides, on footpaths to continue fixed businesses or short-term businesses. Hawkers can be both mobile and immobile. Different types of good sellers are interconnected with hawkers' business.

Traffic police

Traffic police mainly work with road traffic management. In Dhaka city, DMP is working to maintain the traffic rules and regulations as well as traffic control.

³ *Thelagari* is a vehicle without an engine to carry goods by using the hand's pushing

5. Literature Review

Traffic congestion is a major problem in Dhaka City. It is not only an irregular scene, but also a daily figure. People are suffering from traffic jams. Usually, it may be an absurd sentence that we have adapted to traffic jams now, but it is a pity for us that we have adapted. We have taken this problem as an easy matter. Transportation is a big problem not only for developing countries but also for developed countries. Zohir (2003) explained that there are several problems related to gender. Transportation problems have appeared as a vital problem in Dhaka city. City dwellers & women passengers are suffering a lot from traffic congestion in Dhaka city. Vehicles, private cars, rickshaws, illegal parking, occupied footpaths, etc. are accelerating the state of traffic jams in Dhaka City and these are impacting the economy, on human health and raising psychological problems (Rahman & Hoque, 2018). A few possible solutions to reduce the traffic jams problem as emphasizing walking, reducing rickshaws, increasing public transport, introducing new technology for traffic control, establishing mega projects, feasibility studies, introducing route tendering, and developing compressive traffic management. Therefore, possible solutions should be taken by the authority (Noor et al., 2021). Dhaka, as a city in a developing country, is a densely populated city in Bangladesh. Here traffic congestion is increasing day by day. Sharma (2009) has pointed out some logical factors in the paper titled “Dhaka City’s Transportation Problem: Is There Any Solution?” that are contributing to traffic congestion in Dhaka City. The most important factors are low infrastructure, pressure from an increased population, unplanned urbanization, limited resources, mismanagement of resources, disorder in traffic control, political bias, etc. Besides, some other familiar factors are illegal parking, increased numbers of private cars, the project falls, random parking of rickshaws, etc. Alam (2014) described some other reasons for illegal parking, careless passenger dropping & picking, human haulers, and the use of crossroad hookers. Other subordinate causes are competition for getting more passengers among the drivers, more fuel stations around Dhaka city, large garbage containers fixed here and there, and footpath shops. These are the main reasons behind the congestion in Dhaka city.

Khan (2007) has described the scenario of traffic jams in Dhaka city in the Daily Star with the title “When shall we get rid of Dhaka city traffic jams”. According to him, with a huge fleet of cars, buses, and

rickshaws, and huge road intersections like Shahbag intersection, hotel Sonargaon intersection, Tejgaon, Khamar Bari intersection, and Mirpur 10 intersections, there are a great number of intersections in Dhaka city create puzzle and bothered environment, and millions rickshaw are playing on the same street besides public transport. That's why traffic speeds are getting lower day by day. Traffic is still as bad now as it was before the Rickshaws were banned on major roads. And now the situation is quite different for so many reasons. Day by day there has been an increase in so many *votvoties*, *leguna*⁴, auto rickshaws, and vans, so that is why congestion is now an annoying condition for every city person. So, respective authorities should take the right steps as soon as possible to solve the problem. Till now, we haven't witnessed any empirical idea of how Dhaka city can be decentralized in mitigating traffic jams.

The previous research and literature have chiefly focused on the reasons behind traffic jams and solutions to traffic congestion in Bangladesh. Most of the researchers have done their study within limited boundaries (covering so many areas of traffic jams except behavioral aspects of bus drivers). It seems that all of them have focused on the same problem (they have focused on so many structural and economic causes behind traffic jams, ignoring other social causes like behavioral aspects of drivers) and recommended the same solutions as structural solutions, and economic solutions, but less focused on the education, behavioral management knowledge, skills of drivers for mitigating traffic congestion in Dhaka city. Even these previous studies have not been done comprehensively. Previous researchers haven't covered all the relevant issues behind traffic jams in Dhaka city and are less focused on exploring effective solutions to reducing traffic jams. All the literature and previous studies expressed the gap by ignoring the great social and behavioral causes behind traffic jams in Dhaka City. Drivers are the biggest contributors to improving traffic bottlenecks in Dhaka city, and the behavior of drivers may shape their contribution to traffic jams in Dhaka city. The findings of this new study may reveal landmark opportunities to work with behavioral management, skills, and training of dividers in future policymaking to lessen traffic jams in Dhaka City. This research may persuade us to conduct new research to explore the other different social reasons behind traffic jams in Bangladesh.

⁴ *Votvoti* and *leguna* are medium types of vehicles for local transportation.

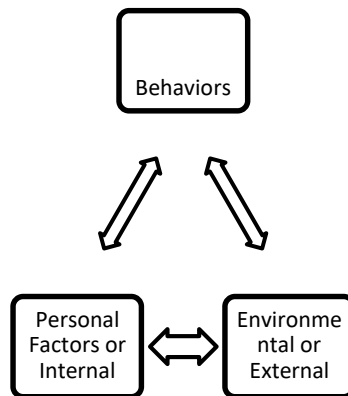
6. Theoretical Framework

It is important to know, over time, how the behavior of bus drivers changes through different causes and situations. The study related this theory with traffic drivers in knowing why they are engaged in unexpected behaviors that contribute to traffic jams. The study revealed the pertinence of the Social Cognitive Model with findings.

Through this model, it is mentioned that drivers' behaviors are not only responsible for increasing traffic jams, but environmental factors are also responsible for changing driver's behavior to contribute to traffic jams. There are some internal factors as well as external factors. External factors may refer to environmental factors that influence driver's behavior that increases traffic congestion in Dhaka city.

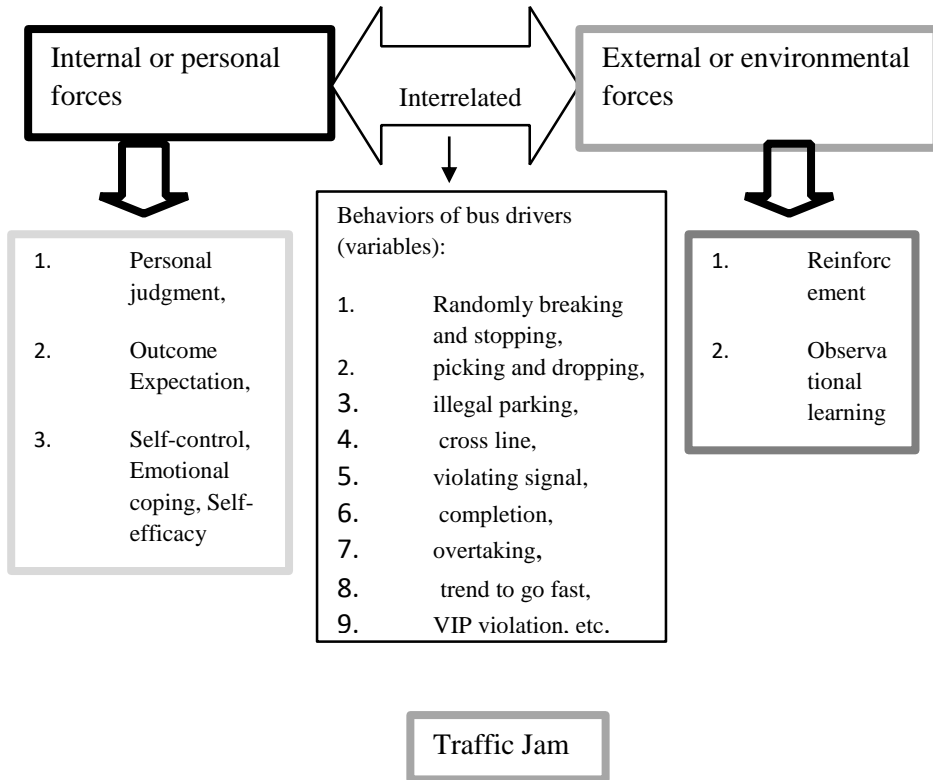
Rather, Bandura's theory can be applied to amend their behaviors. It will work if personal factors and environmental factors work together for better and positive behavioral changes.

Figure 1: Social Cognitive Model



Source: Bandura, 1986

Figure 2: Theoretical framework



Source: Developed by the authors

7. Research Methodology

7.1 Methodology

In conducting this research the study is carried out in a qualitative nature. It has covered the required steps to gather the data from the study areas.

7.2 Study Areas

The study was conducted at Shahabag and Mirpur 10 intersections. Instead of having so many intersections and traffic jam-prone areas in Dhaka City, we have selected these two mentioned areas. These two areas are most vital for interconnecting Dhaka City with different universities, government offices, and other business organizations. Time, budget, and information availability led us to consider these two areas for completing our study.

7.3 Respondents

In the field, qualitative data is collected from the respondents mainly bus drivers, car drivers, drivers of motorcycles, pedestrians, hawkers, experts (university teachers), and traffic police.

7.4 Sampling

The sample size is fixed by 70 in number. A purposive sampling technique has been followed in collecting data from different respondents.

7.5 Methods

Data was collected through an interview questionnaire. Twenty-five interviews with bus drivers, five interviews with car drivers, five interviews with drivers of motorcycles, five interviews with pedestrians as well as hawkers, five interviews with universities, and teachers, and five interviews with traffic police have been completed to gather the primary data.

7.6 Practical Observation

Researchers practically have observed these two study areas several times to capture the causes behind the real scenario of traffic jams in Dhaka City.

7.8 Focus Group Discussion

Two focus group discussions have been arranged. Each group contains ten people. First FGD covers different types of drivers and second FGD covers different types of passengers.

7.9 Secondary Data

Different journal articles, newspaper reports, books, various reports, previous research papers, and different websites have been utilized as the sources of secondary data.

7.10 Data Analysis

Data has been analyzed and adopted through qualitative processes with descriptive analysis. In this study, it is presented that the field realities of respondents, their comments, and different perceptions through a narrative approach.

8. Findings and Discussions

Random braking and stopping

Almost all respondents say that the drivers sometimes like to brake to stop the buses here and there. As a result, it creates a roadblock. When drivers brake on a running road, other vehicles behind them also need to brake suddenly to avoid any kind of bad incidents or road accidents. Therefore, the result is unexpected traffic blocking the road and thus the passengers as well as the mass people suffer much.

Omar states that:

“We have to stop the bus here and there for certain reasons. Most of the time we have to carry over passengers from the road because the car is not for general people, they use car of five sits for only one person” (Mirpur 10)⁵

Sazzad also discloses the same opinion:

“Most often the drivers create a block by cross standing on the road through random braking and stopping. They make jam by braking suddenly and make a joint blocking on the road” (Shabag)⁶

Therefore, it can be another important behavioral aspect of drivers that contributes to traffic congestion in this city. According to the explained social cognitive theory, we can categorize it into internal and external forces. Because it mentioned both self-reason as well as external pressure from outside. So sometimes he must be bound to break randomly where they (passengers, pedestrians, and people) want to get on and get off.

Competition

Most of the respondents blamed the drivers for usually creating traffic jams by competing with the drivers of other vehicles. They demand it as there are more vehicles in Dhaka city, so they have to compete among them in case to get more passengers. Every driver wants more passengers as they can earn a lot by carrying more passengers. To get more passengers, drivers like to compete with each other to secure the front position because most of the passengers want to get into the first vehicle as it reaches them quickly to their destination. The following quotation could be a good example of explaining this term. According to Kasem

⁵Author interview with Omar.

⁶Author interview with Sazzad.

“To get more passengers, we need to go fast, and we need to compete with other drivers. We acknowledge that sometimes we are also responsible for traffic jams. Listen, Brother, even the majority of drivers don’t know about traffic rules and management systems properly” (Mirpur10)⁷

So, this can be a major behavioral aspect that is responsible for causing traffic jams and this term can be explained by both external and internal forces.

Illegal parking

Illegal parking or random parking is defined as one of the vital behavioral aspects of driving that contributes to traffic jams in these two areas regularly. Most of the respondents said that illegal or random parking (done by the drivers of cars, buses, rickshaws, CNGs, and tempos) is gradually curtailing the road spaces and increasing traffic jams. But the driver community used to blame one another. Some respondents directly blame drivers of private cars because most of the time illegal parking is done by the drivers of private cars, which shortens the road spaces.

“Due to the lack of parking spaces, we have to do illegal parking and lane violate” (respondent, Shabag)⁸

“Mama, we are rickshaw pullers. We know nothing legal or right for us. Whatever we do, everything is illegal. There are no specific parking or rickshaw spaces for us, so we are bound to do illegal parking. If we don’t get enough passengers, then what will we eat? What will we feed our family? The government doesn’t hear our crying.” (respondent, Mirpur10)⁹

“Punishments don’t work for them; how many cases will they carry as poor drivers? Yet in this city, there is a severe lack of parking spaces. We have nothing to do” (respondent, Shabag)¹⁰

Sometimes, illegal parking seems to be unavoidable due to the lack of sufficient parking spaces asked by a stranger during the interview period. To explain this fact, the following quotation could be a good example –

“Brother, first you have to ensure the availability of parking spaces, most of the building owners do not emphasize and care for parking

⁷Author interview with Kasem.

⁸Author interview with MD.Sirazul Islam.

⁹Author interview with MD.Sirazul Islam.

¹⁰Author interview with MD. Amin

spaces in front of their buildings, but sometimes we are also responsible for random parking” (respondent, Shabag)¹¹

According to the explained theory or proposed theoretical framework, this behavioral aspect can be categorized into external forces and internal forces but external forces put pressure on it much.

Crossing line

A large half of the respondents claimed that crossing lines by driver is a very common figure on the roads in Dhaka city. They blamed it for violating the lane and crossing the lane only to go fast. They blamed local buses, public buses, CNGs, or rickshaws cross the lane or crossing the line without thinking or caring about the real fact of traffic jams. The selected opinions are as follows-

“Mama, motorcycles, rickshaws (sometimes the buses of universities) and private cars are violating lanes or crossing the line” (respondent, Shabag).¹²

This term can be categorized into internal forces, because of personal judgments; outcome expectations, and emotional coping. Therefore, we can say that crossing lane is considered one of the important behavioral aspects of drivers contributing to traffic jams.

Violating or avoiding signal

Half of the respondents considered that a very familiar scenario in this city is to violate rules or to avoid traffic signals by drivers. As a result, when they violate traffic signals to gain their interest, it causes traffic blocking on roads. The following quotations can be significant to understand the real reflection of traffic problems.

“Mama (a so-called addressed word used by drivers), most often we avoid signals but there are some basic reasons behind this such as sometimes we have to pay to traffic police without any excuse, sometimes they deliberately stop us, so we want to avoid that condition” (respondent, Mirpur10)¹³

Signal avoidance or rule violation can be categorized by external and internal forces because when drivers avoid traffic signals for their purpose, it is considered internal pressure. On the other hand, drivers are forced by

¹¹ Author interview with Sumon.

¹² Author interview with Razon.

¹³ Author interview with Zabed.

some external pressures such as the pressure of vehicles and observational habits. That's why violating signals and rules can be considered as one of the important behavioral aspects of drivers' growing traffic problem.

Blaming dilemma

During the interview, the most interesting thing was that most of the respondent groups blamed each other for violating traffic rules, avoiding signals, and creating traffic jams in Dhaka city. Pedestrians blamed local buses, private cars, public buses, CNGs, rickshaws, and motorcycles which are responsible for traffic jams in this city. Public drivers blamed private cars, rickshaws, and CNG drivers for violating rules and regulations. Private car drivers blamed local bus drivers, rickshaw pullers, and CNG tempo for violating traffic management. Rickshaw pullers blamed the drivers of local buses, private cars, and CNG tempo motorcycles for traffic rules violations. CNG tempo and motorcycles are strongly blamed the private cars and local buses, rickshaws are responsible for traffic jams in Dhaka. The most interesting thing is traffic police were blamed for creating traffic jams according to fewer respondents. Hawkers are also responsible for traffic jams according to bus drivers, car drivers, and pedestrians. Hawkers also blamed bus drivers, car drivers, and rickshaw drivers for traffic jams in these areas. Therefore, it can be considered as the most controversial discussion for explaining the real scenario of traffic jams in the context of behavioral aspects of drivers.

Overtaking

Overtaking is considered as one of the vital behavioral aspects of drivers that are contributing to traffic jams in Dhaka. Some respondents said that drivers are mostly likely to overtake each other. So, they do not care about others' considerations. The following quotation can be a good example of that.

“It is a tradition for every driver in Bangladesh that drivers like overtaking. During the overtaking moment, it is seen that unnecessary and sudden overtaking tendency creates roadblock and it is a common feature in Dhaka city” (respondent, Mirpur10)¹⁴

This term is also categorized into internal forces according to the explained theoretical framework, because drivers reflect their internal wishes by overtaking another, it is their demand.

¹⁴Author interview with Suraiya.

The trend to go fast

Some respondents said that the trend to go fast is a common behavioral aspect of drivers considered a vital contributor to road accidents as well as traffic jams. The following quotation can be important to understand.

“They not only like to go fast but it is also a tradition in Bangladesh to go fast, sometimes it causes severe road accidents as well as cause traffic jams” (respondent, Mirpur10)¹⁵

VIP (High Govt officials, political leaders, ministers, and others) for making sudden traffic jam

Some respondents used to criticize and strongly blame VIP people as major traffic laws and rules violators. They come suddenly on the road, and then the road and the intersection need to be clear for them for smooth going and that's why the opposite lane needs to stop for driving on the road for a short time either for a few minutes or more, which causes heavy traffic jams sometimes in this capital. The following statement can be ideal in terms of understanding the described context.

“Oh mama, most often they (VIP, elected persons, political persons and high officials) come on the road along with their car fleet that causes the traffic jam” (respondent, Shabag)¹⁶

This term is as named as external forces for those drivers who are driving VIP cars according to social cognitive theory. So, this type of behavioral aspect can be considered for sudden traffic problems in this capital.

U-turn

Fewer respondents said that sometimes drivers make U-turns to go soon and to save time. As a result, it can be considered as one kind of behavioral aspect of drivers. So, we can consider it as an internal force for traffic drivers.

Some major behavioral aspects of drivers were identified through conducting the research through questionnaire interviews and FGD, personal observations, etc. These are randomly picking and dropping, randomly breaking and stopping, competition, illegal parking, crossing lines, and avoiding signals are the major behavioral aspects of drivers contributing to traffic jams.

¹⁵Author interview with Zalal.

¹⁶Author interview with Khalil

Table: Explaining behavioral aspects of drivers through table analysis

All Respondents	randomly picking and dropping, randomly breaking and stopping
Most respondents	driving competition and illegal parking
Larger half of the respondents	sudden crossing line
Half of the respondents	avoiding signals by drivers
Few respondents	U-turns

Source: Developed by the authors

This figure shows us approximately all respondents said about two behavioral aspects of driving – randomly picking and dropping, randomly breaking and stopping. Most of the respondents talked about two behavioral aspects of drivers’ driving competition and illegal parking. A larger half of the respondents expressed that sudden crossing line behavioral aspects of drivers are responsible for traffic jams. Half of the respondents described that avoiding signals by drivers is responsible for traffic jams and a few respondents said that the U-turns are contributing to traffic jams.

Ranking of the behavioral aspects of drivers

A large portion of the respondents blamed highly random passenger taking and dropping, randomly breaking and stopping as the worst behavior of bus drivers. These are contributing to traffic jams in Dhaka city. Half of the respondents gave a ranking blamed on competition and illegal parking of the drivers as it is the worst behavior. Crossing the line and violating the signals are kinds of bad behaviors of bus drivers, defined by almost half of the respondents. According to some of the respondents, avoiding signals is the common bad behavior of bus drivers. All the respondents expressed their opinions in different contexts. Most of the opinions are against the recent traffic conditions in Dhaka. Most of the respondents expressed some basic problems with traffic drivers. That means behavioral problems of drivers are contributing to traffic jams in Dhaka city. Almost the entire number of respondents said that randomly breaking and stopping, randomly picking and dropping are two prominent familiar behaviors of traffic drivers in this city. Most of the respondents blamed the drivers for their competition and illegal parking behavior. A larger half of the respondents said that crossing lines is a big behavioral problem of traffic drivers, and half of the respondents elucidated that most of the time drivers

avoid the traffic signals; respondents indicated some certain kinds of vehicles are responsible for that. Some respondents opined that overtaking, the trend to go fast, and VIP rule violations are vital behavioral problems of drivers that often contribute to the city's traffic jams. Fewer respondents said that U-turns are one of the vital problems of drivers contributing to traffic jams. Though this research was conducted to identify the behavioral aspects of drivers that are contributing to traffic jams, most of the respondents opined against the behavioral problems of drivers responsible for increasing traffic jams, but they also think that there are other huge infrastructural reasons behind traffic jams in Dhaka City. So, we can say that most of the findings will be beneficial in promoting future traffic management policies.

9. Recommendations

From the above discussion, it has appeared to us that some important suggestions are identified through different respondents' proposals. Some proposed recommendations could be helpful for future research along with taking proper steps to change bus driver's behaviors to mitigate traffic congestion in Dhaka city. They need to be trained in various ways, which are as follows.

Education

Education is mostly needed for every driver. If drivers are at least educated, then we can hope for betterment, and they will be able to identify what is wrong and right. Education can enhance their thinking ability and make them polite to behave in a manner. They will be able to know the traffic rules and management system.

Training

Training should be compulsory for every driver. It should be ensured that drivers have to pass the training course. That will help them to know traffic rules and regulations properly and make them skilled at driving.

Proper licensing system

Typically, a proper licensing system is needed to control their behavior first. No license should be issued for helpers and unskilled drivers; minimum requirements must have to be filled up by the drivers. In this situation, BRTA and the government have to play a strict and tight role.

Absorbing traffic rules and laws

Traffic laws and regulations must be followed and learned by all concerned. Traffic rules should be equally imposed for every concern and traffic police should be honest in their duty.

Seminars and symposiums

Seminars and symposiums may play a vital role in bringing drivers in a mannerly behavior. That may contribute to reducing traffic jams in Dhaka city. These seminars and symposiums may be arranged by the government and different NGOs as well as organizations.

Public awareness

Public awareness should be increased and the public needs to become conscious of traffic jams as well as have to help drivers to drive politely. Public awareness is very important to mitigate traffic congestion in Dhaka.

Moral responsibility

The moral responsibility of drivers needs to improve in different ways, such as personal mode, observational learning, etc. Therefore, we can easily take these recommendations as the proper step for lessening traffic jams in Dhaka City.

10. Conclusions

Traffic jams are the outcome of different reasons, like road structure, unplanned urbanization, overpopulation problems, weak traffic management, misuse of roads and footpaths, and behavioral reasons of bus drivers and these are contributing to traffic jams. In the past, most of the research and initiatives only focused on the structural causes of traffic jams. This study is mainly conducted to identify the behavioral aspects of bus drivers that contribute to traffic jams. This research was conducted at Mirpur 10 and Shahabag areas in Dhaka. For identifying the bus driver's behavioral aspect, the most interesting thing is the blaming dilemma; each group of respondents blames each other. So, it was quite difficult to draw exact answers to the research questions. Some important behavioral aspects have been identified, such as randomly picking and dropping, randomly braking and stopping, competition, crossing the lines, illegal parking, signal and rules violating, overtaking, etc. All these behavioral aspects of bus drivers and other factors are responsible for increasing traffic jams in Dhaka city. Several reasons behind their behavior have been blamed, such as more income, more passengers picking, ensuring

fixed trips, pressure from the vehicle's owner, and to save time, etc. These are the reasons for the drivers to do the mentioned behaviors. Most of the respondents suggest some possible way to control the driver's behavior, which has been discussed in the above recommendation part. This study found many strong opinions about traffic jams during the study. Each group blames others for contributing to traffic jams. Beyond these findings, some important findings have been mentioned in this study as follows –unplanned development, over-dependence on Dhaka, overpopulation, infrastructural problems, low enforcement of traffic law, unplanned urbanization, rules violation by VIP, and lack of better traffic management technology, etc. The reality is, that traffic jams are accelerating in Dhaka City rapidly. Various factors are boosting traffic jams in Dhaka city. So, we can't emphasize only one factor. Rather, we should concentrate on every factor to improve the traffic conditions in Dhaka city. But we can be sanguine that shortly everyone will be conscious of solving this problem and the government will bring good projects for reducing traffic jams. If we can do it together, then Dhaka will be turned into an eligible city for living.

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