

**IMPROVING THE URBAN TRANSPORTATION SYSTEM: A
ROAD INVENTORY SURVEY AND TRAFFIC COUNT ANALYSIS
FROM BAIPAIL TO DEPZ, BANGLADESH.**

Prepared By

Toufiq Ahsan

ID: 203-47-410

A Thesis Paper Submitted to the Department of Civil Engineering, Daffodil International University, in Partial Fulfillment of the Requirements for the Degree of **Bachelor of Science in Civil Engineering.**

Supervised By

Saurav Barua

Assistant Professor,

Department of Civil Engineering



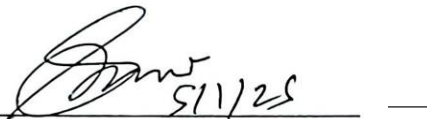
Department of Civil Engineering
Daffodil International University

4 January, 2025

APPROVAL

Towards completing the partially fulfilled requirements of the Bachelor of Science in Civil Engineering degree. This notification certifies that the following students, who are listed below, completed their thesis work on **"IMPROVING THE URBAN TRANSPORTATION SYSTEM: A ROAD INVENTORY SURVEY AND TRAFFIC COUNT ANALYSIS FORM BAIPAIL TO DEPZ, BANGLADESH."** under my direct supervision in the Department of Civil Engineering at Daffodil International University's Faculty of Engineering.

Signature of the Supervisor,



Saurav Barua

Assistant Professor,

Department of Civil Engineering,

Daffodil International University.

This thesis paper titled "**IMPROVING THE URBAN TRANSPORTATION SYSTEM: A ROAD INVENTORY SURVEY AND TRAFFIC COUNT ANALYSIS FORM BAIPAIL TO DEPZ, BANGLADESH.**" is submitted by **Toufiq Ahsan** (ID – 203-47-410), Session Spring 2020 and Fall 2023 has been accepted as satisfactory in partial fulfillment of the requirements for the degree of Bachelor of Science (B.Sc.) in Civil Engineering November -2024.

BOARD OF EXAMINERS



(Supervisor)

Saurav Barua

Assistant Professor, Department of Civil Engineering
Daffodil International University.



(Chairman)

Dr. Mohammad Hannan Mahmud Khan


Assistant Professor and Head, Department of Civil Engineering
Daffodil International University.



(Internal Member-1)

Md. Masud Alom

Assistant Professor, Department of Civil Engineering
Daffodil International University.



(Internal Member-2)

Saurav Barua

Assistant Professor, Department of Civil Engineering
Daffodil International University.



(External Member)

Md. Tanimul Haque

Executive Engineer,
Roads & Highway Department,
Dhaka.

DECLARATION

It is hereby declared that except for the contents where specific reference has been made to the work of others, the design contained in the thesis report is the result of a detailed research work carried out by the authors under the supervision of **Mr. Saurav Barua**, Assistant Professor, Department of Civil Engineering, Daffodil International University.

No part of this report has been submitted to any other university or other educational establishment for a degree, diploma or other qualification.

Signatures of the Candidates:

Toufiq Ahasan

Name: Toufiq Ahasan
ID: 203-47-410

ACKNOWLEDGEMENT

I am deeply grateful to my thesis supervisor, **Mr. Saurav Barua**, Assistant Professor, Department of Civil Engineering, Daffodil International University, for his invaluable guidance and support. His expertise and encouragement were instrumental in completing my research on improving the urban transportation system, including the road inventory survey and traffic count from Baipail to DEPZ. His feedback and mentorship made this work possible, and I am sincerely thankful for his contributions.

I would like to take this opportunity to thank Assistant Professor & Head **Dr. Mohammad Hannan Mahmud Khan** for his invaluable advice, suggestions, and assistance. Lastly, I would like to thank my parents for their support and encouragement, which served as a constant source of inspiration for this effort.

DEDICATION

Dedicated

To

Our Parents & All Teacher

ABSTRACT

This study investigates the problems with urban transportation in Bangladesh and suggests solutions, with a particular emphasis on the vital route connecting Baipail and the Dhaka Export Processing Zone (DEPZ). Congestion on the roads and traffic volume have increased due to the area's growing industrial and urbanization, which has increased the demand for sustainable and effective transportation solutions. This study evaluates the existing road conditions, infrastructure, and transportation capacity along this important industrial route through a thorough road inventory survey. An analysis of traffic counts highlights important problems and operational inefficiencies by offering comprehensive information into vehicle kinds, peak congestion periods, and traffic flow patterns.

Table of Contents

CHAPTER I - INTRODUCTION

1.1 General	1
1.2 Background Studies.....	1
1.3 Problem Statement.....	2
1.4 Objectives of the study	2
1.5 Scope of the study	2

CHAPTER II - LITERATURE REVIEW

2.1 Introduction.....	3
2.2 Road Inventory Surveys	3
2.3 Traffic Counting Techniques	5
2.4 Significance of Traffic Analysis in Urban Planning.....	6
2.5 Summary of Key Findings.....	7
2.6 Geographical Location of Baipail to DEPZ Road	8
2.7 Road Network Description	9
2.8 Traffic Demands and Economic Importance of the Area	10
2.9 Economic Importance of the Baipail to DEPZ Area	10

CHAPTER III - METHODOLOGY

3.1 General	11
3.2 Methods I have selected	11
3.3 Survey Period for Data Collection.....	13
3.4 Survey area selection	13
3.5 Survey procedure.....	14
3.6 Data Collection Histories.....	14
3.7 Summary.....	16

CHAPTER IV - RESULT AND DISCUSSION

4.1 General	18
4.2 Data Analysis.....	18
4.3 Summary.....	30

CHAPTER V - CONCLUSION AND RECOMMENDATION

5.1 General	32
5.2 Conclusion.....	32

5.3 Recommendation	32
REFERENCES	33
APPENDIX	34

List of Figures

Figure 2.1: Road Width Measurement	4
Figure 2.2: Traffic Count.....	5
Figure 2.3: Geographical Location (Source: Google Map).....	8
Figure 3.1: Baipail to DEPZ.....	13
Figure 3.2: Traffic Jamm	15
Figure 3.3: Pictures of Data Collection	16
Figure 4.1: Surface type along road chainage	18
Figure 4.2: Carriageway width along road chainage.....	19
Figure 4.3: Repairing year along road chainage	20
Figure 4.4: Road Condition along road length.....	20
Figure 4.5: Shoulder width along road length.....	21
Figure 4.6: Sidewalk type along road chainage	22
Figure 4.7: Sidewalk width along road length	23
Figure 4.8: Traffic variation in Friday and Sunday	24
Figure 4.9: Traffic variation in different times of days	24
Figure 4.10: Modal Share of Baipail-DEPZ, Friday 9:00am-10:00am.....	25
Figure 4.11: Modal Share of DEPZ to Baipail, Friday 9:00am to 10:00am.....	26
Figure 4.12: Modal Share of Baipail to DEPZ, Friday 1:00Pm to 2:00Pm	26
Figure 4.13: Modal Share of DEPZ to Baipail, Friday 1:00pm to 2:00pm.....	27
Figure 4.14: Modal Share of Baipail to DEPZ, Sunday 9:00am to 10:00am.....	28
Figure 4.15: Modal Share of DEPZ to Baipail, Sunday 9:00am to 10:00am.....	28
Figure 4.16: Modal Share of Baipail to DEPZ, Sunday 1:00pm to 2:00pm	29
Figure 4.17: Modal Share of DEPZ to Baipail, Sunday 1:00pm to 2:00pm	30

List of Tables

Table 3.1: Road Inventory Survey Field Sheet	12
Table 3.2: Traffic Count Tally Sheet	12
Table 4.1: Traffic Count Summary	23

CHAPTER I

INTRODUCTION

1.1 General

The city of Dhaka's urban transportation system is essential to boosting accessibility, promoting economic growth, and raising the standard of living for its citizens. Traffic congestion, poor infrastructure, and ineffective public transportation are some of the major issues facing Dhaka, one of the megacities with the highest rate of growth in the world. The main topic of this thesis is the vital road that connects Baipail to the Dhaka Export Processing Zone (DEPZ), a vital corridor that serves both freight and commuter traffic.

The study intends to find operational inefficiencies and create practical suggestions for improvement by examining traffic performance as well as service levels along this route. This entails analyzing the flow of transportation at the moment, evaluating the state of the roads, and looking into alternative transportation options. The information obtained through this study will be useful in developing policies and enhancing infrastructure, which will eventually result in a more environmentally friendly and efficient urban transportation system in Dhaka. This thesis aims to offer a road map for resolving the urgent transportation issues that urban dwellers face and fostering a more livable urban environment through a thorough analysis.

1.2 Background Studies

Dhaka's urban transportation system faces severe congestion due to rapid urbanization, population growth, and rising vehicle ownership. Studies highlight the need to analyze traffic performance and service levels to address these challenges. Ineffective traffic management, inadequate road networks, and poor infrastructure are major issues, with integrated strategies required to evaluate service levels across different transport modes. The Baipail-DEPZ corridor is vital for daily commutes and goods movement. Previous research suggests improving road conditions, optimizing signal timing, and implementing intelligent traffic systems. Building on this, this study focuses on data-driven analysis of service levels and traffic performance on the Baipail-DEPZ route, aiming to provide actionable solutions for improving Dhaka's transportation efficiency and sustainability.

1.3 Problem Statement

The Baipail-DEPZ road in Dhaka faces severe congestion, poor infrastructure, inefficient traffic control, and limited public transportation, leading to long travel times, increased fuel consumption, and higher pollution levels. This study aims to identify the causes of these issues and recommend targeted actions to improve traffic flow, reduce travel times, and enhance the efficiency of Dhaka's urban transportation system.

1.4 Objectives of the study

The primary objective of this study is to examine and assess the service quality and traffic performance along the route connecting Baipail and the Dhaka Export Processing Zone (DEPZ). The study intends to offer workable ideas to improve traffic flow, lowering congestion, and raising the general standard of the urban transport network in this crucial Dhaka neighborhood by identifying the primary problems and inefficiencies in the current system.

The specific objectives of the study are as follows:

1. Identify traffic flow in different time(peak-off peak hour) and different days (peak-off peak day)
2. To observe road condition.

1.5 Scope of the study

This study examines the transportation corridor from Baipail to the Dhaka Export Processing Zone (DEPZ), a critical route connecting residential and industrial areas in Dhaka. It aims to evaluate traffic performance, assess service levels, identify congestion causes, and analyze the impact on commuters and the environment. The study also provides recommendations for improvement and policy planning.

Although focused on a specific route, the findings have broader relevance for addressing urban transportation challenges in Dhaka and other rapidly growing cities. The conclusions can guide future initiatives to enhance mobility and efficiency in congested corridors.

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

Dhaka's urban transportation system faces significant challenges due to rapid urban growth, increasing vehicle ownership, and overcrowded roads. Previous research has highlighted key issues such as poor traffic management, inadequate infrastructure, and the lack of an integrated transport network. Studies emphasize the importance of evaluating traffic performance, service levels, and road conditions to improve efficiency and reduce congestion.

This literature review examines existing studies on road inventory surveys, traffic management strategies, and service-level assessments, with a focus on improving urban transport systems. By building on previous research, this study aims to provide practical insights and solutions for enhancing the Baipail to DEPZ corridor, which plays a vital role in Dhaka's transportation network.

2.2 Road Inventory Surveys

Road inventory surveys are an important part of transportation management and planning because they give vital information about the state and physical attributes of road infrastructure. Road inventory assessments along the Baipail to Dhaka Export Processing Zone (DEPZ) corridor will be carried out as part of this project in order to evaluate the current road network and pinpoint potential causes of traffic jams, delays, and subpar service levels.

The key objectives of conducting road inventory surveys for this study include:

1. **Road Characteristics Documentation:** This study analyzes the Baipail to DEPZ corridor, focusing on traffic performance and service levels, and its impact on Dhaka's overall transportation efficiency.
2. **Evaluation of Signage and Traffic Control** The survey will assess the effectiveness and placement of traffic signs, signals, and control measures to improve traffic flow, reduce accidents, and ensure smooth operations.
3. **Lane configuration and capacity:** The road inventory survey will assess the number of lanes, their arrangement, and the road's capacity to handle traffic, especially during rush hours.

4. Infrastructure for Public Transport: The survey will also assess the availability and condition of public transportation infrastructure, such as bus stops and lanes, to evaluate service levels and identify areas for improvement.
5. Features for Road Safety: The presence of safety features such as barriers, road markings, lighting, pedestrian crossings, and traffic calming techniques will be evaluated by the inventory.
6. Environmental Considerations: Additionally, environmental factors like road surface conditions and drainage systems will be taken into account.



Figure 2.1: Road Width Measurement

This project will produce detailed data on the functional and physical characteristics of the Baipail to DEPZ corridor by carrying out exhaustive road inventory surveys. In order to analyze current traffic performance and service levels and to pinpoint important places where infrastructure upgrades or improved management techniques could improve the road network's efficiency and safety, this data will be crucial. Furthermore, the results of the road inventory surveys will help formulate evidence-based suggestions for enhancing Dhaka's urban transportation networks. (Roads and Highways Department (RHD), Bangladesh. (2020). *Annual Report on Traffic Infrastructure Developments.*)

2.3 Traffic Counting Techniques

To gather information on the number, kinds, speeds, and patterns of movement of vehicles on a route, traffic counting is an essential technique. Assessing traffic performance, locating areas of congestion, and analyzing service levels all depend on precise traffic counts. The Baipail to Dhaka Export Processing Zone (DEPZ) corridor will benefit from efficient traffic counting methods since they will give a thorough grasp of traffic dynamics, which is essential for developing plans to enhance urban mobility.



Figure 2.2: Traffic Count

The main traffic counting techniques employed in this study will include:

1. **Manual Traffic Counts** Manual traffic counting involves observing and recording vehicle movements at specific locations over a set period. It is used for short-term data collection at intersections or roads where automation is not feasible. Vehicles are categorized, and counts are recorded per unit of time. While accurate, this method is labor-intensive and prone to human error, making it suitable for short-duration studies or locations needing detailed observations. **(Salari R. & Sharifi M.,2019)**
2. **Automatic traffic counters (ATCs)** are devices that collect traffic data, such as volume and vehicle classification, without human input. Common types

include Inductive Loop Sensors (accurate vehicle detection via magnetic field changes), Infrared Sensors (using light for vehicle detection), and Radar Sensors (measuring speed and count with radio waves). ATCs are efficient for long-term, continuous monitoring, making them ideal for busy routes like Baipail - Depz. **(Fernandes, A. A. & Tavares A. F.,2020)**

3. Video-Based Traffic Counting: Video-based traffic counting systems use cameras along with image processing algorithms to automatically count and classify vehicles. These systems are typically deployed in high-traffic urban areas to provide data for traffic management and planning. The video footage is analyzed in real-time or post-processed to identify vehicles and track their movement. This technique is effective in environments where vehicle types are diverse, such as urban roads in Dhaka. However, video systems can be costly and require good lighting conditions for accurate results. **(Zhang, Let al.,2022)**

2.4 Significance of Traffic Analysis in Urban Planning

Traffic analysis is a cornerstone of urban planning, providing critical data to design sustainable and efficient transportation systems. It examines traffic flow, patterns, congestion, and the impact of various factors on road usage, enabling policymakers and urban planners to make informed decisions. Below are the key reasons for its significance:

1. Improving Infrastructure Design:

Traffic analysis helps determine the capacity and design requirements of roads, intersections, and parking facilities. By analyzing peak-hour traffic volumes and congestion points, urban planners can propose solutions such as widening roads, adding lanes, or reconfiguring intersections. These adjustments directly improve traffic flow and reduce bottlenecks **(Papageorgiou M., et al.,2003)**.

2. Enhancing Public Safety:

Accurate traffic analysis identifies accident-prone areas and high-risk zones. Planners can implement safety measures such as better lighting, signage, speed bumps, and pedestrian crossings in these areas. **(Elvik R. & Vaa T.,2004)**

3. Supporting Urban Development:

Traffic analysis informs zoning decisions and urban development plans. It ensures that new developments like residential areas, shopping centers, or industrial zones are

equipped with adequate road and transportation facilities. **(Rodrigue, J. P., et al. 2020)**

4. Economic Efficiency:

Congestion and poor road design cost cities billions annually in lost productivity and fuel consumption. Traffic analysis provides data to reduce these economic losses through better planning. **(Litman, T.,2021)**

For a case study, traffic analysis is a fundamental tool for creating efficient, safe, and environmentally friendly urban spaces. Its role in modern urban planning is indispensable, particularly in rapidly growing cities like Dhaka, where traffic congestion poses significant challenges. Implementing evidence-based recommendations from traffic analysis can ensure sustainable urban growth and improve the quality of life for residents.

2.5 Summary of Key Findings

The examination of traffic flow and service quality along the Baipail to Dhaka Export Processing Zone (DEPZ) corridor provides important new information on Dhaka's urban transportation situation today. These conclusions are supported by a thorough analysis of the traffic numbers, patterns of congestion, road infrastructure, and service quality along this important road segment. The study's main conclusions are as follows:

1. **Severe Traffic Congestion:** The Baipail-DEPZ corridor experiences heavy traffic congestion, particularly during peak hours, with bottlenecks at major intersections reducing overall road efficiency.
2. **Inadequate Road Infrastructure:** The Baipail-DEPZ corridor's road system is inadequate, with limited lane capacity, poor road conditions, and poorly designed junctions, leading to accidents, delays, and safety concerns.
3. **Ineffective Traffic Management** the Baipail-DEPZ corridor faces inadequate traffic management, with mismatched signal timings and insufficient control measures, especially during peak hours.
4. **Effect on Fuel Consumption and Travel Time:** Traffic jams in the Baipail-DEPZ corridor cause delays, longer commutes, reduced quality of life, increased fuel consumption, and greater environmental impact.

5. Safety Issues: The study identifies frequent traffic accidents in the Baipail-DEPZ corridor, particularly at poorly designed crossings, with inadequate traffic calming, lighting, and signage compromising road safety.
6. Economic and Environmental Impact: Inefficient traffic flow in the Baipail-DEPZ corridor leads to air pollution and economic losses, highlighting the need for measures to reduce congestion and improve transportation sustainability.

In conclusion, the study's main conclusions highlight the serious problems with traffic congestion, poor infrastructure, and ineffective traffic control that the Baipail-DEPZ corridor faces. The results offer a solid basis for suggesting focused measures meant to enhance safety, improve traffic flow, lessen congestion, and encourage sustainable urban transportation.

2.6 Geographical Location of Baipail to DEPZ Road

A crucial transit route in the western region of Dhaka, Bangladesh, is the Baipail to Dhaka Export Processing Zone (DEPZ) road. This section of road is essential for simplifying travel between Dhaka and the surrounding areas as well as linking the city's main commercial, residential, and industrial districts.

1. Overview of the Route: The Baipail-DEPZ road, a crucial 1.5-kilometer corridor, connects Dhaka to the DEPZ and other industrial zones in Savar.

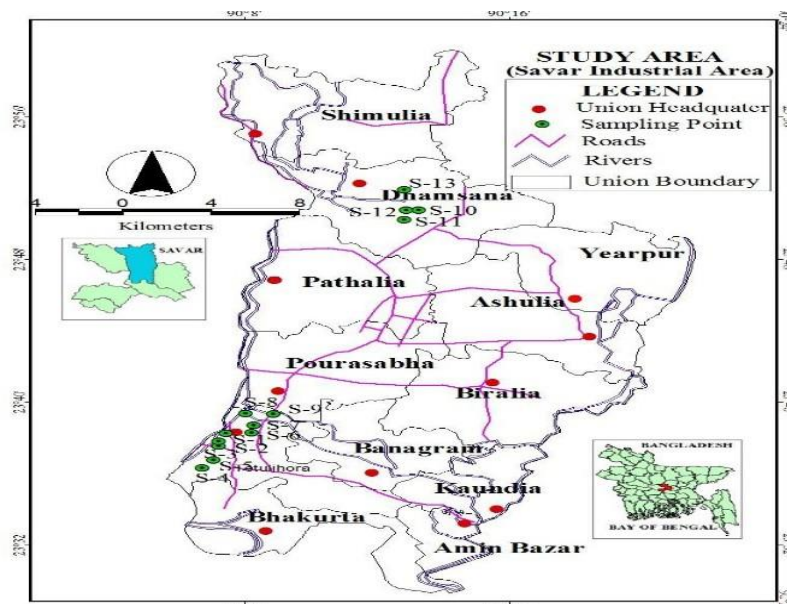


Figure 2.3: Geographical Location (Source: Google Map)

2. **Geographical Context:** Baipail, located near Dhaka's northwest border, is a heavily industrialized area with a high concentration of manufacturers, warehouses, and commercial buildings, serving as a major transit hub.
3. **The Significance of Strategy:** The Baipail-DEPZ road is strategically important for transporting goods to Savar's industrial zones and facilitating commuter traffic between Dhaka and its industrial suburbs, supporting local social and economic activity.

2.7 Road Network Description

An integral part of Dhaka's urban transportation system, the road network along the Baipail to Dhaka Export Processing Zone (DEPZ) corridor acts as a vital conduit between the capital city and Savar's industrial districts. This network is an essential conduit for social and economic activity in the area since it makes it easier for commuters, workers, and goods to move around.

1. **Important Road Segments:** The main components of the Baipail to DEPZ road network are:
 - i. **Baipail to Amin Bazar Road:** This section, starting at Baipail, connects to the Dhaka-Aricha Highway, serving as a major route for both local and long-distance transportation.
 - ii. **Amin Bazar to DEPZ route:** This route connects Amin Bazar to the Dhaka Export Processing Zone, serving as a key commuting path for workers and facilitating the movement of goods to and from the DEPZ.
2. **Road width and lane configuration:** The Baipail-DEPZ corridor features a mix of narrow and wider 2-4 lane sections, with lane restrictions near key areas like crossroads and the DEPZ causing bottlenecks and hindering efficient traffic flow.
3. **Junctions and Intersections:** The Baipail-DEPZ corridor has key crossroads at Baipail, Amin Bazar, and near the DEPZ entrance, where poor design and ineffective traffic control cause heavy congestion during peak hours.
4. **The condition and surface of the road:** Along the route, the road surfaces' condition varies. Some sections are prone to wear and tear, resulting in potholes, uneven surfaces, and sporadic flooding during the rainy season.

5. Facilities for Non-Motorized and Pedestrian Transportation: There is little infrastructure for bikes, pedestrians, and other non-motorized transport users along the Baipail-DEPZ corridor, which is primarily built for motorized cars.

The Baipail to DEPZ road is crucial for connecting Dhaka and Savar's industrial zones, but issues like poor traffic control, lack of non-motorized transportation facilities, and inadequate infrastructure hinder its efficiency, requiring targeted improvements and planning.

2.8 Traffic Demands and Economic Importance of the Area

The Baipail-DEPZ corridor is a crucial economic and transit hub, with high traffic demand due to its proximity to industrial areas and daily commuter and cargo flow.

Traffic Demands along the Corridor:

1. High Commuter Traffic
2. Freight and Goods Transportation
3. Seasonal and Event-based Fluctuations
4. Public Transport Demand

2.9 Economic Importance of the Baipail to DEPZ Area

1. The Export Processing Zone (DEPZ) and Industrial Hub: The DEPZ, a key industrial zone in Bangladesh, plays a vital role in the country's export revenue and economic growth, particularly in the clothing and textile industries.
2. The Creation of Employment: Many workers, both directly and indirectly employed by industries along the Baipail-DEPZ route, commute to factories, warehouses, and service industries, primarily from Dhaka and nearby cities.
3. Connectivity of the Local and Regional Economy: The Baipail-DEPZ corridor is crucial for linking Dhaka with western regions like Bogura and Rajshahi, especially for industrial logistics and goods transportation.

In conclusion: The Baipail-DEPZ corridor is a key economic area with high demand for freight and commuter transportation, and effective planning is essential to improve urban mobility, ease traffic, and support regional and national economic growth.

CHAPTER III

METHODOLOGY

3.1 General

An important instrument for comprehending the physical features of a road network and collecting information for evaluating the level of service, infrastructure condition, and traffic flow is a road inventory survey. A thorough road inventory survey is an essential first step in evaluating the current condition of the road network for the investigation on enhancing urban transportation systems in Dhaka city, with an emphasis on the Baipail to Dhaka Export Processing Zone (DEPZ) corridor. The physical characteristics of the road, traffic control systems, safety features, and other pertinent elements that affect traffic flow and service quality are all methodically documented as part of this survey approach.

3.2 Methods I have selected

I have carefully selected a combination of quantitative and qualitative research approaches to gather and analyze data for this study on enhancing the urban transportation system and carrying out a road inventory survey along the Baipail to DEPZ corridor. The following describes the main techniques I used:

1. **Data Collection Survey Form:** I used standardized survey forms to collect data on traffic volume, road conditions, vehicle types, and traffic flow, gathering insights from drivers, pedestrians, and municipal authorities to identify key issues and potential improvements for the transportation system. **(Source: Roads and Highways Department, Bangladesh)**
2. **Road Inventory Survey:** A road inventory survey along the Baipail-DEPZ route assessed road markings, drainage, pavement quality, signs, and pedestrian facilities, helping identify infrastructure issues that cause traffic inefficiencies and safety concerns.

4. Methods of Data Analysis: Statistical analysis and geographical mapping of survey, traffic count, and road inventory data helped identify key issues such as traffic jams, accident hotspots, and poorly maintained infrastructure.

3.3 Survey Period for Data Collection

Field surveys were conducted on Fridays and Sundays during peak hours (9:00-10:00 AM and 1:00-2:00 PM) to capture typical traffic patterns and road conditions along the Baipail-DEPZ corridor, accounting for variations between weekdays and weekends.

3.4 Survey area selection

The study focuses on the Baipail to DEPZ corridor in Dhaka, a critical transit route connecting urban and suburban areas with key industrial zones, including the Dhaka Export Processing Zone (DEPZ). This area was chosen due to its strategic importance, high traffic volume, and frequent congestion, making it an ideal location for assessing urban transportation challenges.

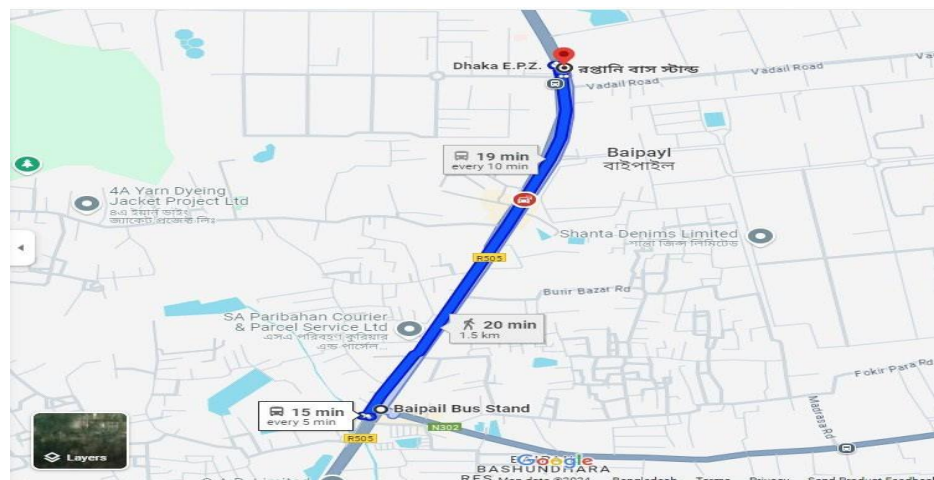


Figure 3.1: Baipail to DEPZ

The Baipail-DEPZ route, with heavy traffic from private and commercial vehicles, serves as a key example of urban transportation challenges like congestion, road safety, and infrastructure limitations. The study aims to provide recommendations to improve transportation safety, efficiency, and system performance in similar urban areas.

3.5 Survey procedure

The survey procedure for this study was designed to ensure systematic and accurate data collection related to the urban transportation system, road inventory, and traffic counts along the Baipail to DEPZ corridor. The procedure involved the following steps:

1. **Survey Design and Preparation:** A structured survey form was developed and pre-tested to gather data on traffic volume, road conditions, vehicle types, congestion patterns, and infrastructure quality.
2. **Survey Timing:** Surveys were conducted on Friday and Sunday, during two specific time slots: 9:00 AM to 10:00 AM and 1:00 PM to 2:00 PM. These periods were selected to capture peak traffic conditions in both the morning and afternoon, reflecting typical commuter traffic patterns.
3. **Data Collection Process:** The survey team collected data through direct observation, traffic counts, and feedback from drivers, pedestrians, and local stakeholders at key locations along the Baipail-DEPZ corridor.
4. **Survey Execution:** A trained survey team conducted on-site observations, recording data on traffic flow, road conditions, signage, pedestrian infrastructure, and any unusual traffic incidents.
5. **Post-Survey Data Analysis:** After the survey, the collected data was compiled and analyzed using appropriate statistical and spatial analysis tools. This helped identify traffic patterns, congestion hotspots, and infrastructural deficiencies that could be addressed to improve the urban transportation system.

3.6 Data Collection Histories

During the data collection phase of this study, several environmental and operational challenges were encountered that impacted the survey process. These challenges included:

1. **Severe Weather Conditions (High Sunlight):** Data collection during peak hours was challenging due to high temperatures and sun glare, which affected accuracy and caused discomfort for the survey team and participants.

2. Traffic Smoke and Air Pollution: High traffic and vehicle emissions along the Baipail-DEPZ corridor, especially during rush hour, negatively affected air quality and impacted the survey team's health and the surrounding environment.



Figure 3.2: Traffic Jamm

3. Traffic Congestion: The high traffic volume along the Baipail-DEPZ corridor made data collection challenging, with congestion hindering the ability to travel between survey locations and accurately record real-time traffic data, leading to data gaps.

SOME PICTURES DURING DATA COLLECTION



Figure 3.3: Pictures of Data Collection



Figure 3.4: Picture of Data Collection

3.7 Summary

This study aims to assess the road system, traffic patterns, and transportation dynamics along the Baipail-DEPZ corridor through a road inventory survey and traffic count analysis. Data will be collected on vehicle types, peak-hour trends, and traffic volume to identify bottlenecks and infrastructure issues. The findings will

provide insights for future transportation improvements and help plan more efficient solutions. The study focuses on both qualitative and quantitative aspects of the transportation system. Ultimately, the project seeks to enhance traffic management and promote safer, more efficient travel in the area.

CHAPTER IV

RESULT AND DISCUSSION

4.1 General

In order to collect both qualitative and quantitative data about the urban transportation system along the Baipail to DEPZ corridor, an exhaustive approach was taken for this study. Road inventory assessments, traffic counts, and field surveys were the main sources of data. Several points along the road were used to gather traffic count data in order to evaluate vehicle classification, peak-hour traffic patterns, and vehicle numbers. This information sheds light on traffic patterns, areas of congestion, and the demand for transportation as a whole.

A thorough road inventory assessment was carried out to record the current infrastructure, including intersections, road conditions, signage, and other pertinent elements, in addition to traffic counts. In addition to the technical information obtained from the field, photographic evidence and observational data were also gathered.

4.2 Data Analysis

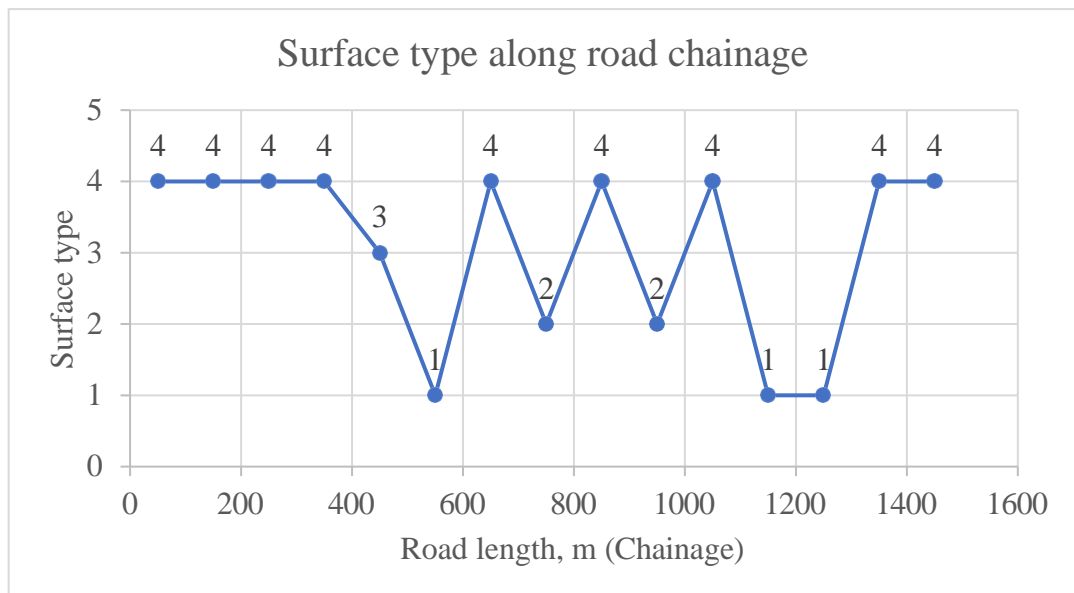


Figure 4.1: Surface type along road chainage

Surface type	Dummy variable
Asphalt Concrete	4
Surface Treatment	3
Seal Coat	2
Herringbone Brick Bond	1

Findings:

- Surface Type 4 is predominant at the start and end of the chainage.
- This variation suggests differences in road construction quality or materials along the route.

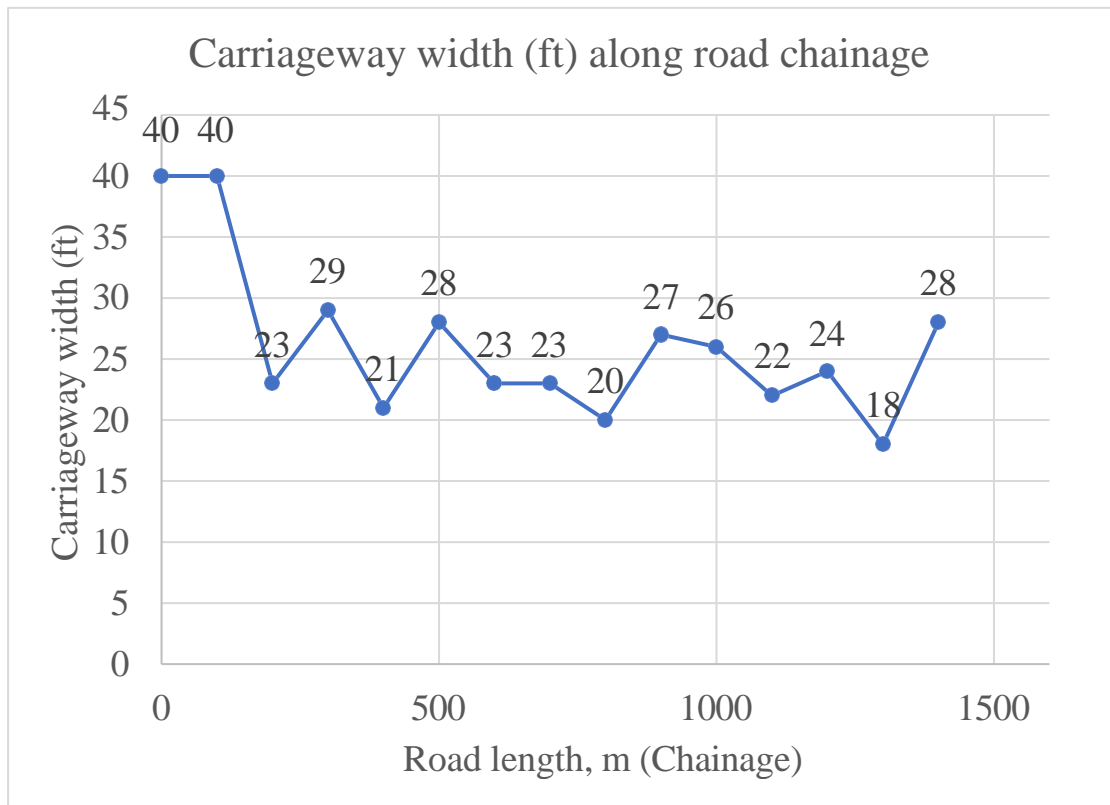


Figure 4.2: Carriageway width along road chainage

Findings:

- The carriageway width starts at 40 feet and fluctuates between 18 and 29 feet along the chainage.
- At approximately 1200 meters, the width reaches its minimum of 18 feet, indicating potential bottleneck areas.

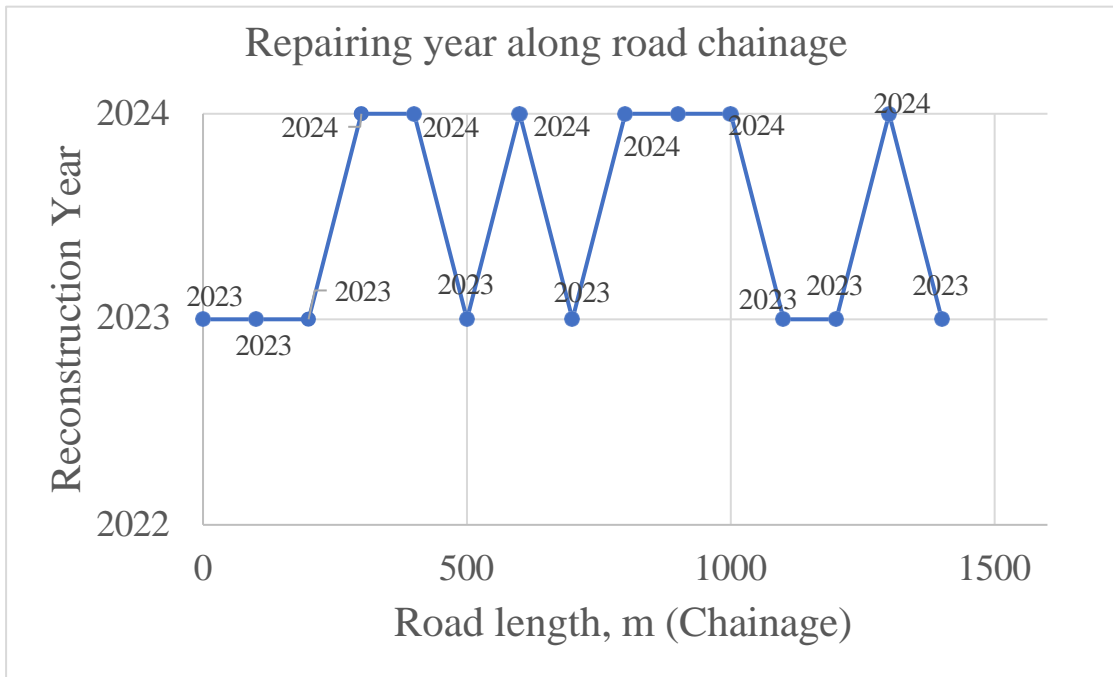


Figure 4.3: Repairing year along road chainage

Findings:

- Reconstruction alternates between 2023 and 2024 along the road chainage, indicating phased work.

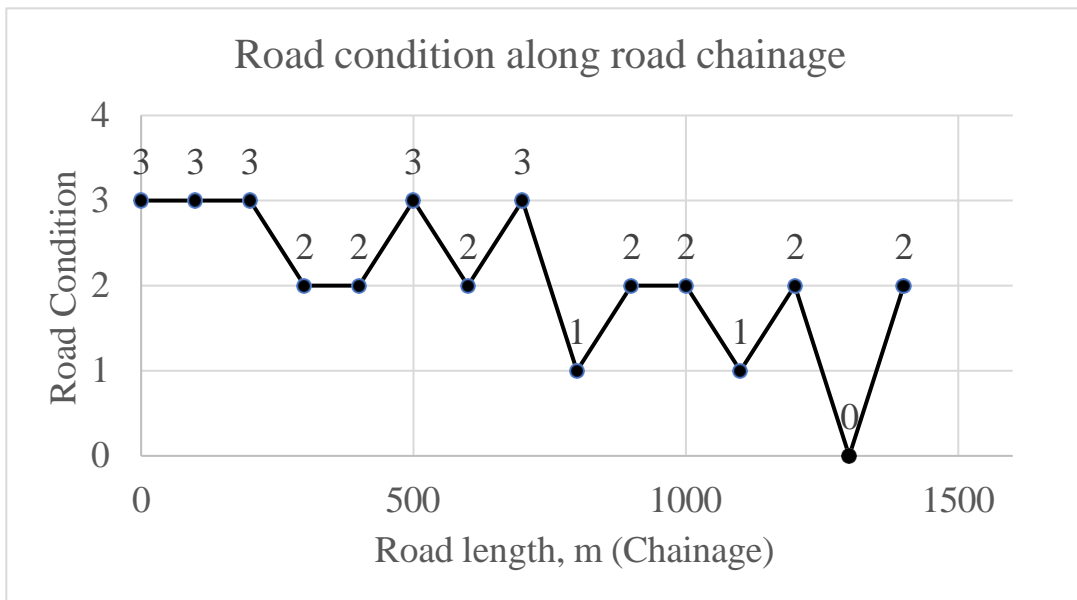


Figure 4.4: Road Condition along road length

Road condition	Dummy variable
Good	3
Fair	2
Poor	1
Bad	0

Findings:

- Road quality varies along the chainage, showing a general decline after 800 meters and reaching a minimum level of 0 at 1400 meters.
- Despite fluctuations, the overall road condition is generally moderate, primarily alternating between levels 2 and 3.

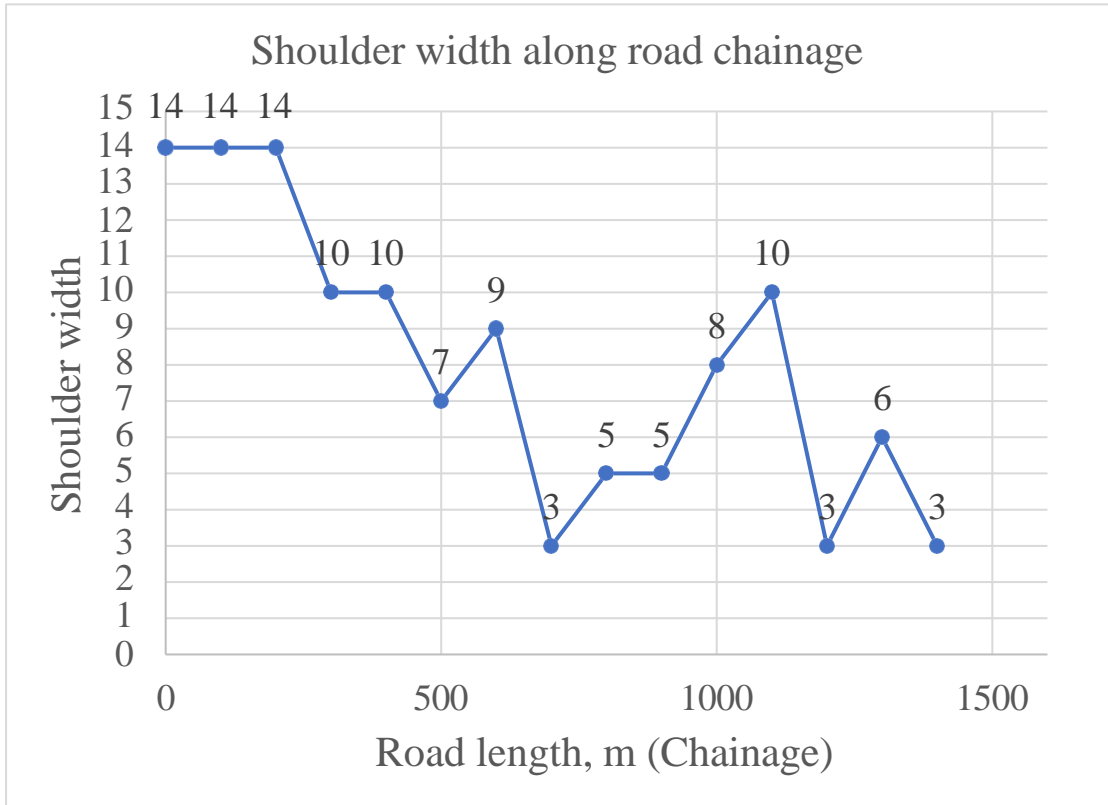


Figure 4.5: Shoulder width along road length

Findings:

- Shoulder width decreases steadily along the chainage, with fluctuations ranging from 3 to 14 meters and reaching its lowest points at 700 and 1300 meters.

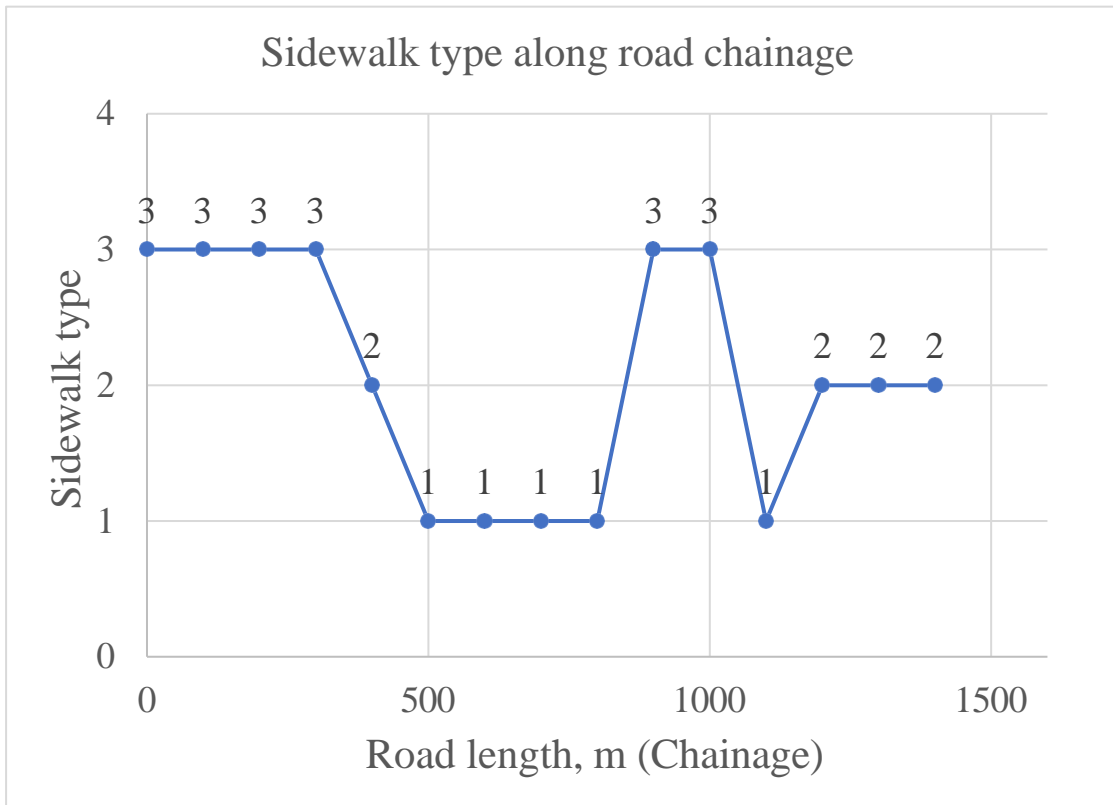


Figure 4.6: Sidewalk type along road chainage

Sidewalk	Dummy variable
Concrete	3
HB	2
Earth	1

Findings:

- Type 3 sidewalks are the most stable along the road chainage, with a return to type 3 around 900 meters, followed by a decline to type 1 at 1100 meters.
- The sidewalk stabilizes at type 2 at 1200 meters after the transition from type

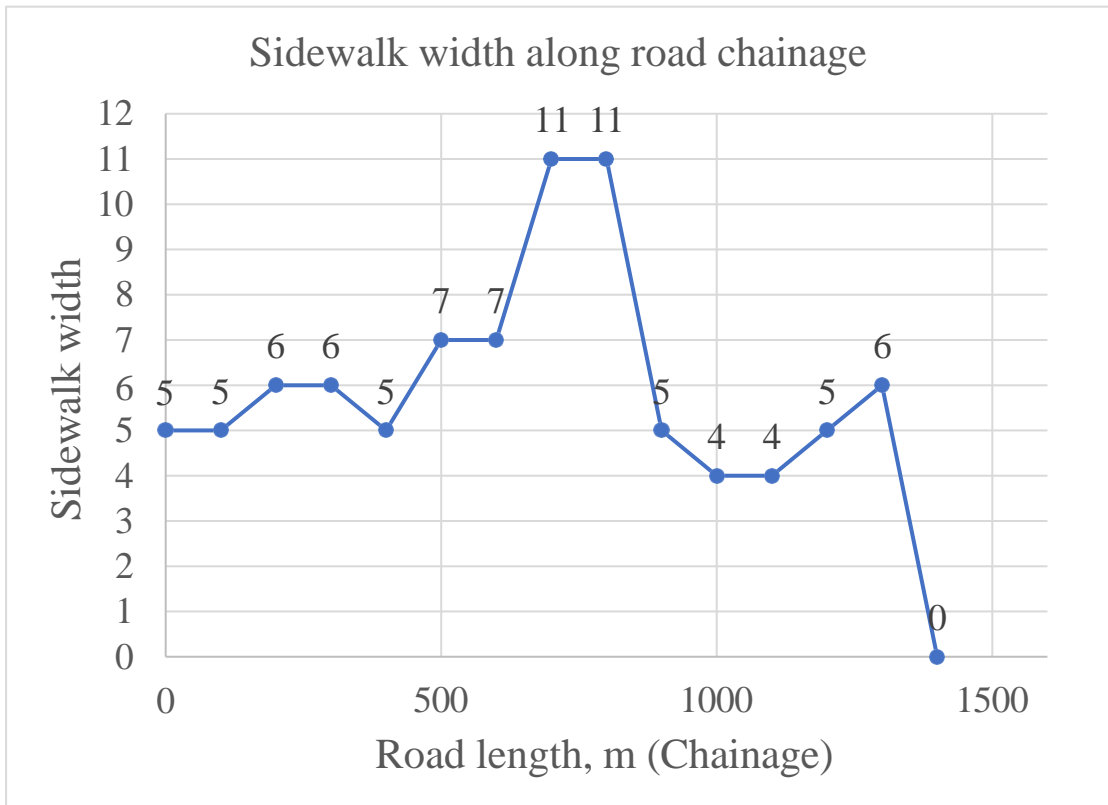


Figure 4.7: Sidewalk width along road length

Findings:

- Sidewalk width varies from 0 to 11 meters along the road chainage.
- The widest section, at 11 meters, is between 600m and 800m.
- The width narrows down to 0 meters at the 1400m mark.

Table 4.1: Traffic Count Summary

Traffic Summary				
Designation	Direction	Day	Time	PCU
BDF9	Baipail- DEPZ	Friday	9:00-10:00	1014
DBF9	DEPZ-Baipail	Friday	9:00-10:00	1297
BDF13	Baipail- DEPZ	Friday	13:00-14:00	609
DBF13	DEPZ-Baipail	Friday	13:00-14:00	1059
BDS9	Baipail- DEPZ	Sunday	9:00-10:00	1072
DBS9	DEPZ-Baipail	Sunday	9:00-10:00	1333
BDS13	Baipail- DEPZ	Sunday	13:00-14:00	1276
DBS13	DEPZ-Baipail	Sunday	13:00-14:00	1505

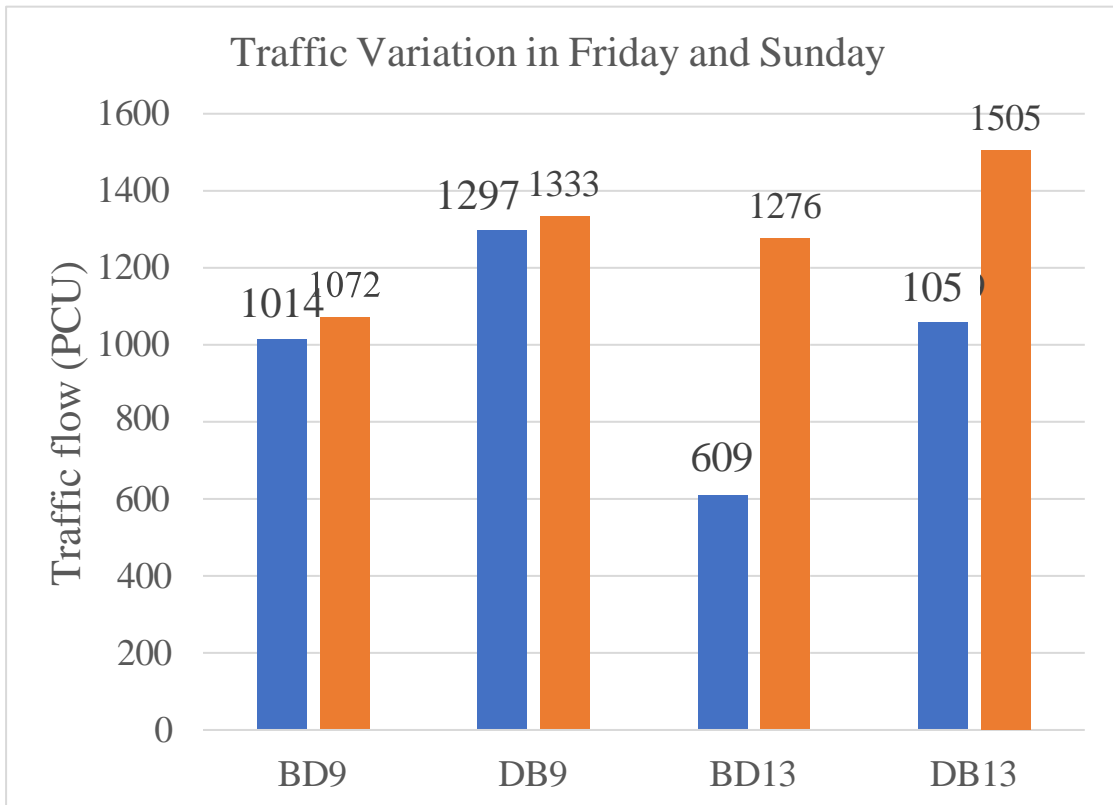


Figure 4.8: Traffic variation in Friday and Sunday

Findings: Traffic flow is consistently higher on Sunday than Friday at all points, with the largest increase at DB13, where Sunday traffic reaches 1505 PCU compared to 1059 PCU on Friday.

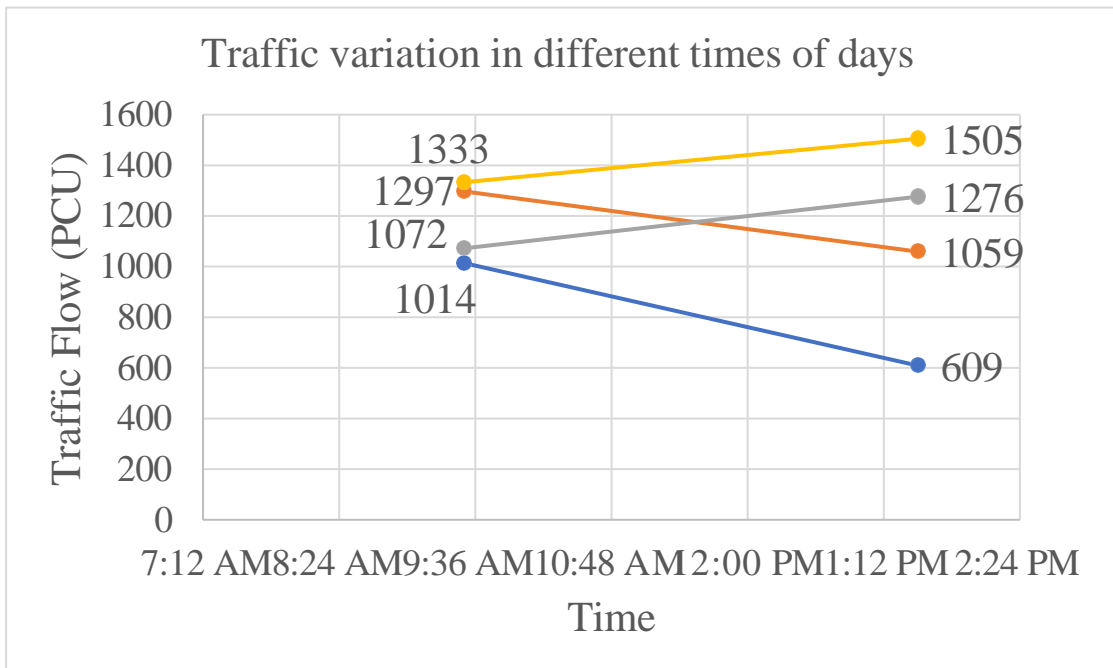


Figure 4.9: Traffic variation in different times of days

Findings:

- Increasing Trend for DBS: Traffic flow for DBS steadily increases throughout the day, peaking at 1505 PCU by 1:12 PM, indicating higher traffic volume as the day progresses.

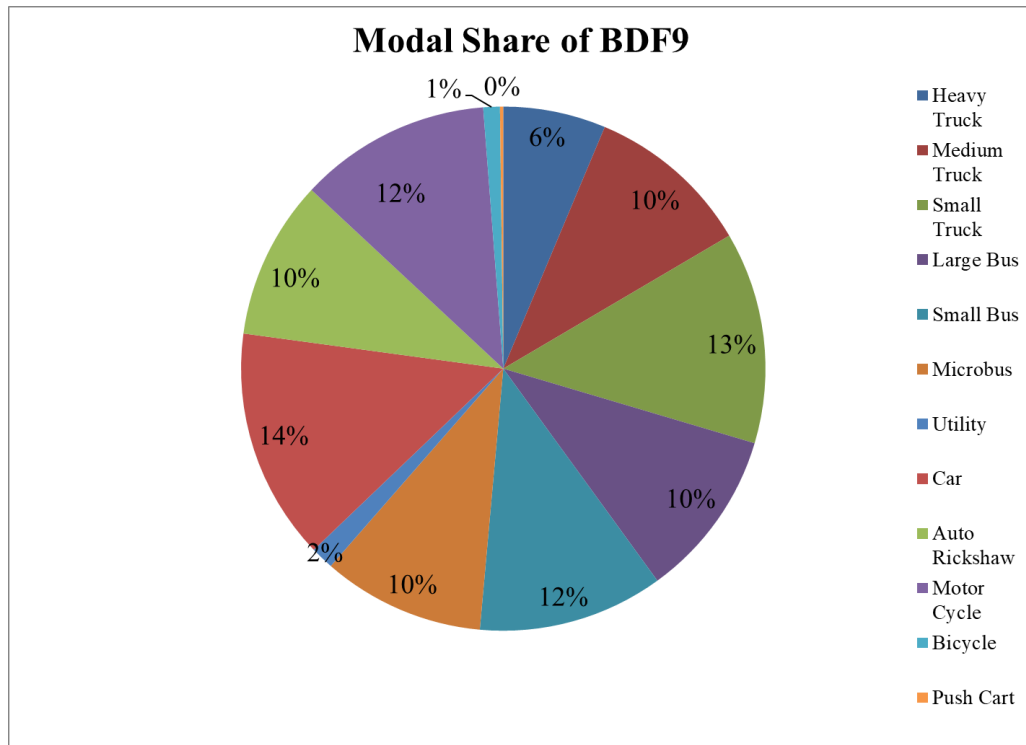


Figure 4.10: Model Share of Baipail-DEPZ, Friday 9:00am-10:00am

Here are two key findings from the chart:

- Car has the largest modal share at 14%, followed by Small Truck with 13% and Motorcycle and Small Bus at 12% each, indicating that these modes dominate transportation in the BDF9 area.
- Push Cart and Bicycle have the smallest shares, with Push Cart at 0% and Bicycle at 1%, suggesting minimal usage of non-motorized modes in this area.

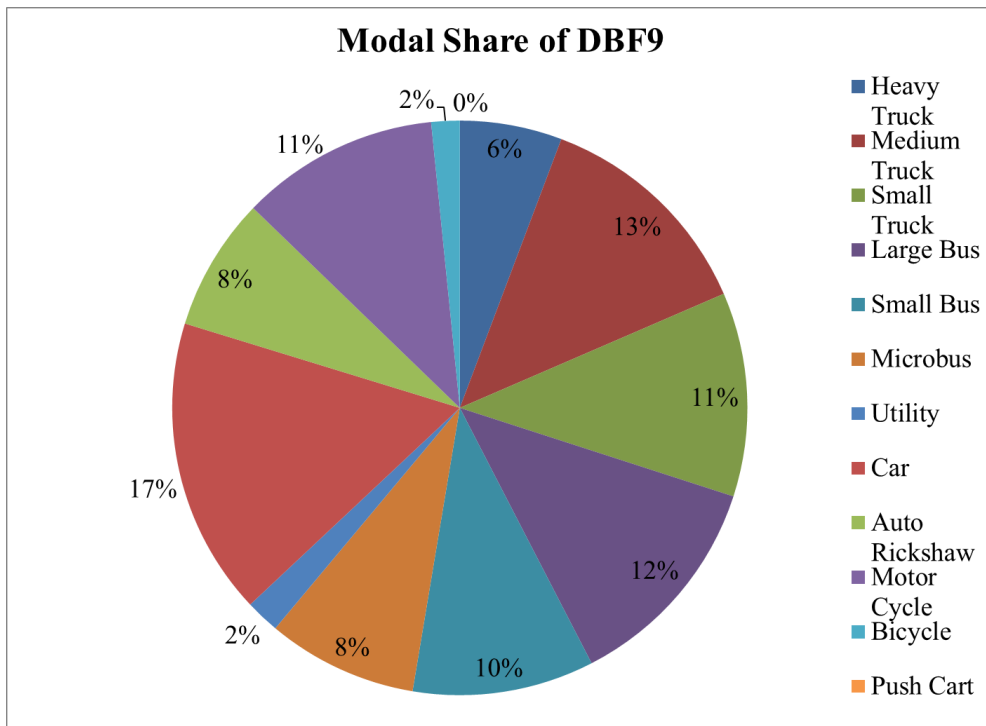


Figure 4.11: Modal Share of DEPZ to Baipail, Friday 9:00am to 10:00am

Here are two key findings from the updated chart:

- In the BDF9 area, cars have the highest modal share at 17%, followed by Medium Truck at 13% and Large Bus at 12%.
- Push carts remain at 0%, while bicycles and microbuses each account for 2%, indicating their minimal presence in the transportation mix.

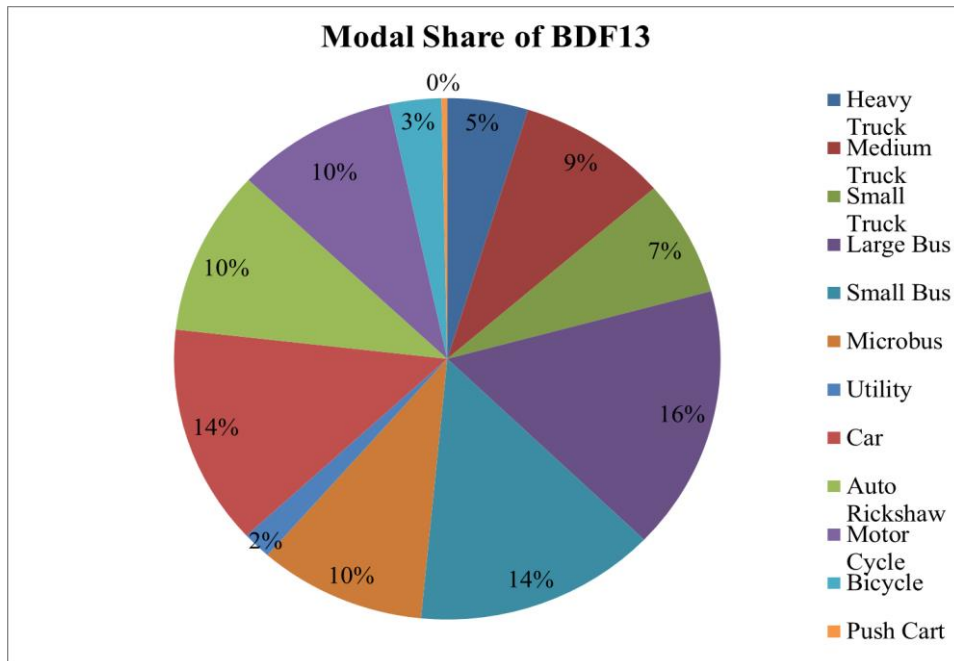


Figure 4.12: Modal Share of Baipail to DEPZ, Friday 1:00Pm to 2:00Pm

Here are two key findings from the chart:

- In the BDF13 area, Large Bus have the highest modal share at 16%, followed by Car at 14% and Small Bus at 12%.
- Push Cart has a negligible share at 0%, while Bicycle and Microbus are both low at 2%, indicating limited reliance on non-motorized and smaller-capacity vehicles.

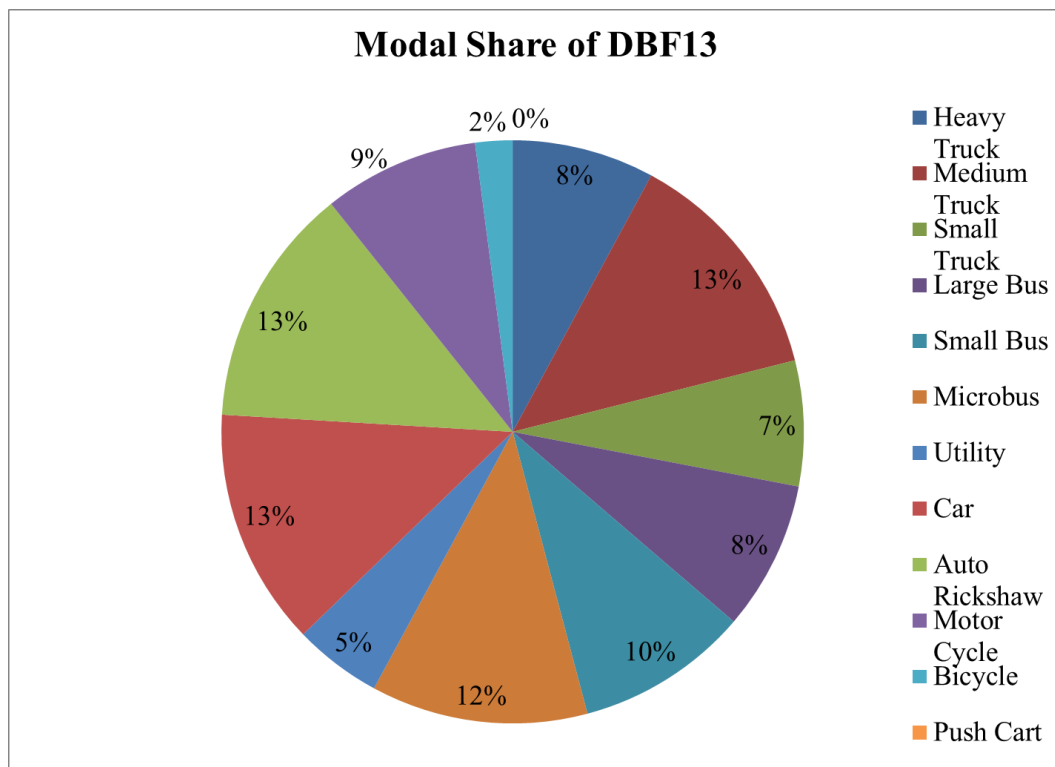


Figure 4.13: Modal Share of DEPZ to Baipail, Friday 1:00pm to 2:00pm

Here are two key findings from the chart:

- Their substantial presence is demonstrated by the fact that the car, Medium truck, Auto Rickshaw each account for 13% of the available means of transportation.
- Less than 2% go to push carts, bicycles, and big trucks, indicating little utilization of heavy machinery and non-motorized transportation.

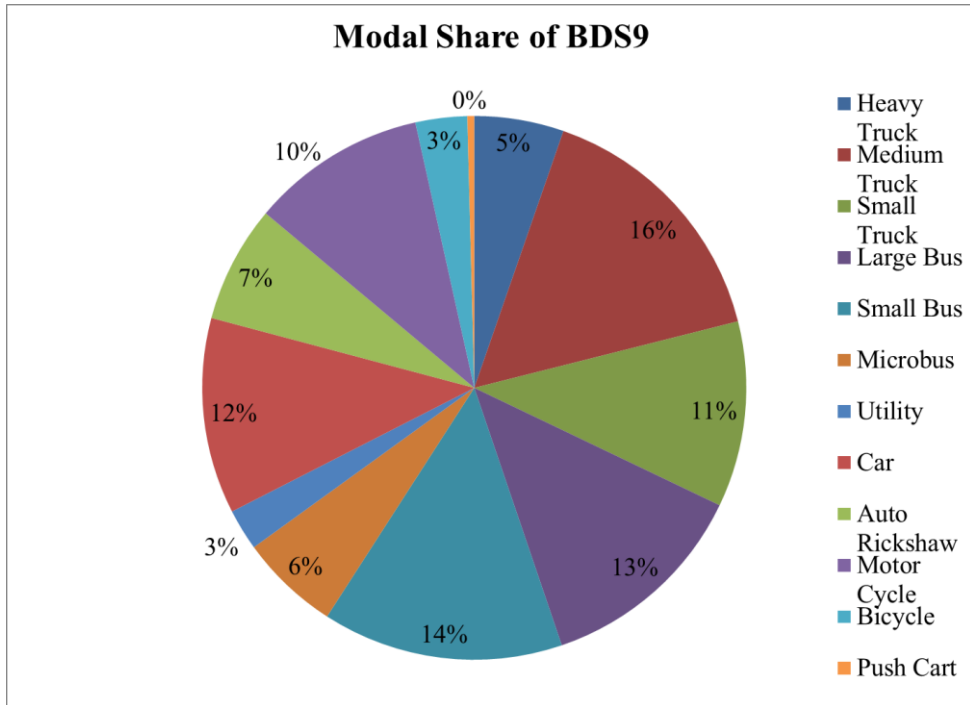


Figure 4.14: Modal Share of Baipail to DEPZ, Sunday 9:00am to 10:00am

Here are two key findings from the chart:

- Medium trucks (16%), large buses (13%), and cars (12%), which reflect their dominance, are the most popular types of transportation.
- There is little use of large and non-motorized vehicles, as evidenced by the 3% or less represented by push carts, heavy trucks, and bicycles.

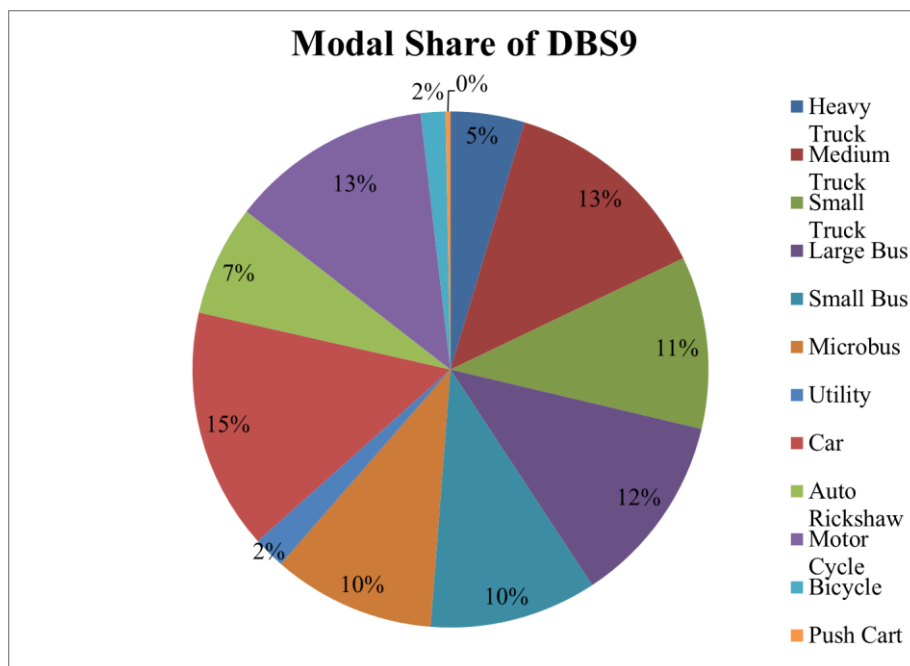


Figure 4.15: Modal Share of DEPZ to Baipail, Sunday 9:00am to 10:00am

Here are two key findings from the chart:

- Medium Truck (13%), Car (15%), and Motor cycle (13%) have the highest shares, indicating these vehicle types are frequently used.
- Push Cart, Heavy Truck, and Bicycle each represent only 2% or less of the modal share, suggesting minimal reliance on non-motorized and heavy transport vehicles in the area.

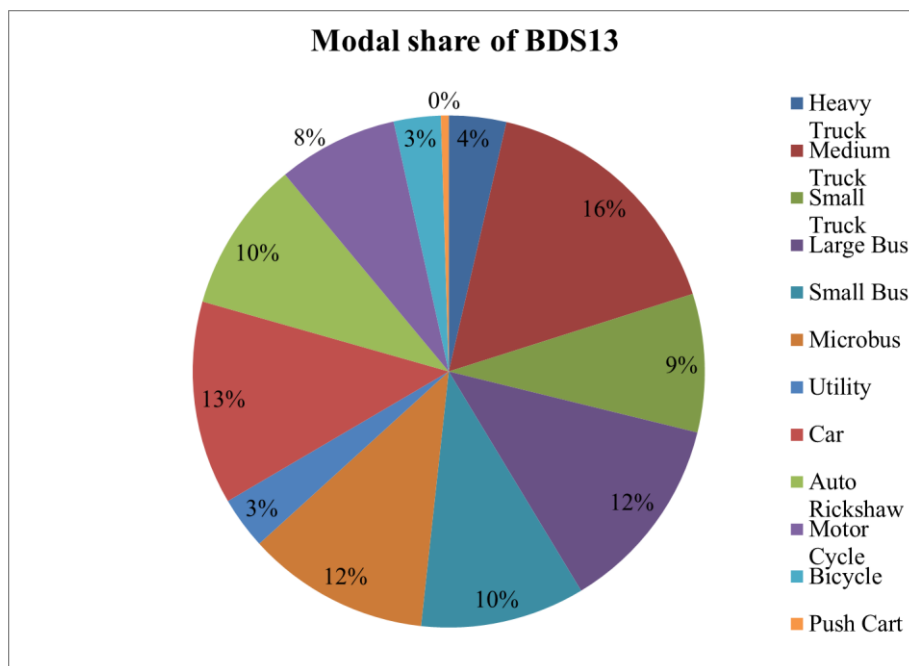


Figure 4.16: Modal Share of Baipail to DEPZ, Sunday 1:00pm to 2:00pm

Here are two key findings from the chart:

- The largest share of the modal distribution in BDS13 is for cars, occupying 16% of the total share, followed by microbuses at 12%.
- The smallest shares are for heavy trucks and bicycles, both at 3%, while push carts have no recorded share at 0%.

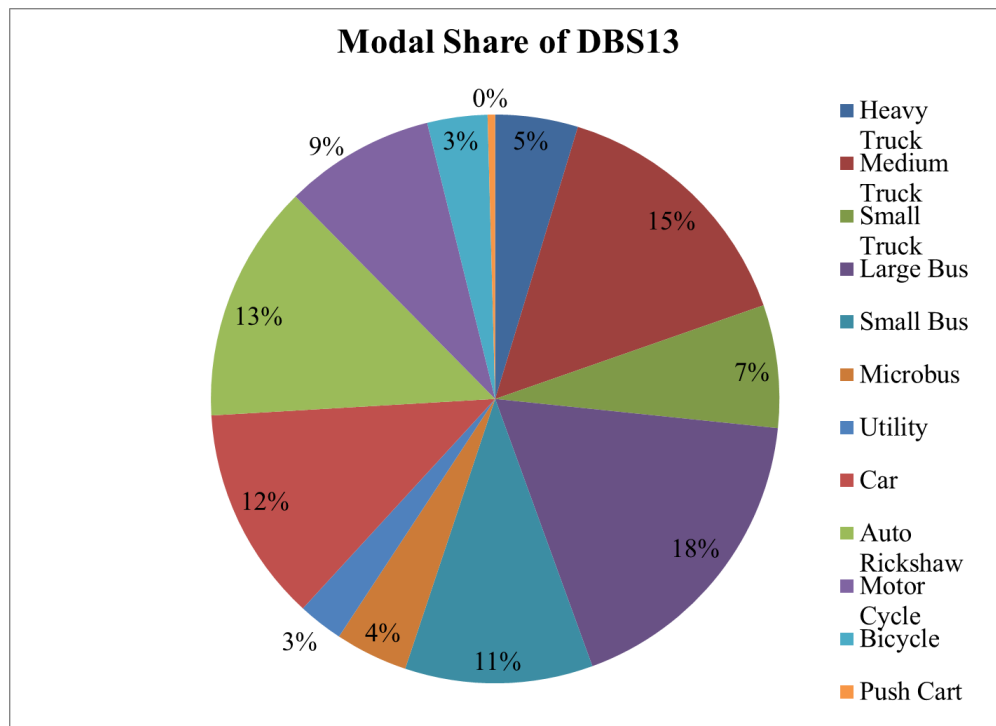


Figure 4.17: Modal Share of DEPZ to Baipail, Sunday 1:00pm to 2:00pm

Here are two key findings from the chart:

- Large Bus have the highest modal share in DBS13 at 18%, followed by Medium Truck at 15% and Auto Rickshaw at 13% and Car 12%
- The smallest shares are for heavy trucks, bicycles, and push carts, each with 3% or less, with push carts having no share at 0%.

4.3 Summary

Significant variation in road structure, traffic flow, and modal share between various segments are highlighted by the statistics. Surface Type 4 predominates at the start and finish of the route, suggesting that the chainage's construction quality varies. The width of the carriageway varies between 18 and 29 feet, with a bottleneck at 1200 meters where it narrows to 18 feet, which could cause traffic to slow down. Generally speaking, the road is in decent condition (levels 2-3), although it gets worse at 800 meters and reaches its lowest at 1400 meters. The width of the shoulder's ranges from 3 to 14 meters, with a noticeable narrowing between 700 and 1300 meters. Around 900 meters, Type 3 surfaces have the highest level of sidewalk stability; around 1100 meters, they decline to Type 1, and at 1200 meters, they stabilize at Type 2. The width of a sidewalk starts at 0 and 11 meters, the broadest section is between 600 and 800 meters, and at 1400 meters, it narrows to zero.

With DB13 experiencing a peak increase from 1059 PCU on Friday to 1505 PCU on Sunday, traffic flow is consistently greater on Sundays. While traffic at BDF drastically drops by the afternoon, traffic at DBS increases throughout the day and peaks at 1:12 PM. With shares of 18% and 17%, respectively, vehicles are the most common mode in DBS13 and BDF9, followed by motorcycles, small buses, and large buses. Bicycles and push carts are few, while medium vehicles are also rather prevalent. The data highlights the low use of non-motorized options and the reliance on motorized modes across areas.

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 General

In order to solve issues with traffic, road safety, and infrastructure, this study emphasizes how urgently the Baipail to DEPZ transit corridor needs to be improved. It has determined key areas for improvements through traffic counts and road inventory surveys, which could improve everyday travelers' mobility and safety while boosting industrial production. Policymakers may promote a more effective, sustainable transportation system that satisfies the demands of this expanding industrial area and advances Bangladesh's overall economic development by funding focused interventions like road extensions and improved traffic management.

5.2 Conclusion

The study conducted on the Baipail to DEPZ corridor successfully identifies and addresses key transportation challenges, focusing on traffic variations, roadway conditions, and their impacts on commuter and industrial logistics. Significant differences in traffic volumes were observed between peak and off-peak hours and days. Sundays consistently showed higher traffic compared to Fridays, particularly in the afternoon. The road inventory survey revealed considerable variability in road quality, shoulder widths, and sidewalk infrastructure. Sections with narrow carriageways, poor road surfaces, and inadequate pedestrian facilities pose safety and efficiency challenges. Limited lane capacity, poorly maintained infrastructure, and inefficient traffic management systems exacerbate congestion and delays. The Baipail to DEPZ corridor is a vital economic link for freight and commuter traffic. Congestion and inefficiencies directly affect industrial productivity, fuel consumption, and environmental sustainability.

5.3 Recommendation

Future research should focus on the following

- Include additional routes for a broader geographic study.
- Include additional week days for better study
- Investigate how land use patterns along the Baipail to DEPZ corridor influence traffic flow and congestion levels.

REFERENCES

1. Elvik, R., & Vaa, T. (2004). The handbook of road safety measures. Emerald Group Publishing.
2. Fernandes, A. A., & Tavares, A. F. (2020). The Application of Automatic Traffic Counters in Traffic Flow Analysis. *Journal of Traffic and Transportation Engineering*, 7(3), 189-197.
3. Geographical Location
4. Litman, T. (2021). "The cost of urban congestion." Victoria Transport Policy Institute.
5. Roads and Highways Department (RHD), Bangladesh. (2020). *Annual Report on Traffic Infrastructure Developments*
6. Rodrigue, J. P., (2020). The geography of transport systems.
7. Salari, R., & Sharifi, M. (2019). Manual Traffic Counting in Urban Areas: Limitations and Benefits. *Transportation Research Procedia*, 42, 151-159.
8. Zhang, L., Liu, H., & Li, X. (2022). The Role of Video-Based Traffic Counting Systems in Urban Traffic Management. *Journal of Transportation Engineering*, 148(5), 03122001.

APPENDIX

SHEET 1

Roads & Highways Department

Traffic Count Tally Sheet

Road Name: Nabinagar-Chandra Highway

Day: Friday

Direction: Baipail-DEPZ

Date: 25/10/2024

Hours Counted		Motorised										Non motorised	
		1	2	3	4	5	6	7	8	9	10	11	12
		Heavy Truck	Medium Truck	Small Truck	Large Bus	Small Bus	Microbus	Utility	Car	Auto Rickshaw	Motor Cycle	Bicycle	Push Cart
9 to 10 am	Total Vehicle	31	50	64	51	56	49	7	70	48	58	5	1

Vehicle	PCU Factors (RHD)	PCU of Vehicles
Truck	3	435
Bus	3	321
Microbus	1.5	73.5
Utility	1	7
Car	1	70
Auto rickshaw	1.5	72
Motorcycle	0.5	29
Bicycle	0.5	2.5
Push Cart	4	4

1014

Table 1: Traffic Count Tally Sheet 1

SHEET 2

Roads & Highways Department

Traffic Count Tally Sheet

Road Name: Nabinagar-Chandra Highway

Day: Friday

Direction: DEPZ-Baipail

Date: 25/10/2024

Hours Counted		Motorised										Non motorised	
		1	2	3	4	5	6	7	8	9	10	11	12
		Heavy Truck	Medium Truck	Small Truck	Large Bus	Small Bus	Microbus	Utility	Car	Auto Rickshaw	Motor cycle	Bicycle	Push Cart
9 to 10 am	Total Vehicle	36	80	72	78	64	53	12	105	47	70	10	0

Vehicle	PCU Factors (RHD)	PCU of Vehicles
Truck	3	564
Bus	3	426
Microbus	1.5	79.5
Utility	1	12
Car	1	105
Auto rickshaw	1.5	70.5
Motorcycle	0.5	35
Bicycle	0.5	5
Push Cart	4	0

1297

Table 2: Traffic Count Tally Sheet 2

SHEET 3

Roads & Highways Department

Traffic Count Tally Sheet

Road Name: Nabinagar-Chandra Highway

Day: Friday

Direction: Baipail-DEPZ

Date: 25/10/2024

Hours Counted		Motorised										Non motorised	
		1	2	3	4	5	6	7	8	9	10	11	12
		Heavy Truck	Medium Truck	Small Truck	Large Bus	Small Bus	Microbus	Utility	Car	Auto Rickshaw	Motor cycle	Bicycle	Push cart
1 to 2 pm	Total Vehicle	14	26	21	48	42	29	5	40	30	28	9	1

Vehicle	PCU Factors (RHD)	PCU of Vehicles
Truck	3	183
Bus	3	270
Microbus	1.5	43.5
Utility	1	5
Car	1	40
Auto rickshaw	1.5	45
Motorcycle	0.5	14
Bicycle	0.5	4.5
Push Cart	4	4

609

Table 3: Traffic Count Tally Sheet 3

SHEET 4

Roads & Highways Department

Traffic Count Tally Sheet

Road Name: Nabinagar-Chandra Highway

Day: Friday

Direction: DEPZ-Baipail

Date: 25/10/2024

Hours Counted		Motorised										Non motorised	
		1	2	3	4	5	6	7	8	9	10	11	12
		Heavy Truck	Medium Truck	Small Truck	Large Bus	Small Bus	Microbus	Utility	Car	Auto Rickshaw	Motor cycle	Bicycle	Push cart
1 to 2 pm	Total Vehicle	42	70	37	44	51	64	26	70	71	46	11	0

Vehicle	PCU Factors (RHD)	PCU of Vehicles
Truck	3	447
Bus	3	285
Microbus	1.5	96
Utility	1	26
Car	1	70
Auto rickshaw	1.5	106.5
Motorcycle	0.5	23
Bicycle	0.5	5.5
Push Cart	4	0

1059

Table 4: Traffic Count Tally Sheet 4

SHEET 5

Roads & Highways Department

Traffic Count Tally Sheet

Road Name: Nabinagar-Chandra Highway

Day: Sunday

Direction: Baipail-DEPZ

Date: 27/10/2024

Hours Counted		Motorised										Non motorised	
		1	2	3	4	5	6	7	8	9	10	11	12
		Heavy Truck	Medium Truck	Small Truck	Large Bus	Small Bus	Microbus	Utility	Car	Auto Rickshaw	Motor cycle	Bicycle	Push cart
9 to 10 am	Total Vehicle	26	77	54	62	70	29	12	57	34	51	15	2

Vehicle	PCU Factors (RHD)	PCU of Vehicles
Truck	3	471
Bus	3	396
Microbus	1.5	43.5
Utility	1	12
Car	1	57
Auto rickshaw	1.5	51
Motorcycle	0.5	25.5
Bicycle	0.5	7.5
Push cart	4	8

1071.5

Table 5: Traffic Count Tally Sheet 5

SHEET 6

Roads & Highways Department

Traffic Count Tally Sheet

Road Name: Nabinagar-Chandra Highway

Day: Sunday

Direction: DEPZ-Baipail

Date: 27/10/2024

Hours Counted		Motorised										Non motorised	
		1	2	3	4	5	6	7	8	9	10	11	12
		Heavy Truck	Medium Truck	Small Truck	Large Bus	Small Bus	Microbus	Utility	Car	Auto Rickshaw	Motor cycle	Bicycle	Push cart
9 to 10 am	Total Vehicle	30	86	70	78	68	66	13	98	45	82	10	2

Vehicle	PCU Factors (RHD)	PCU of Vehicles
Truck	3	558
Bus	3	438
Microbus	1.5	99
Utility	1	13
Car	1	98
Auto rickshaw	1.5	67.5
Motorcycle	0.5	41
Bicycle	0.5	10
Push cart	4	8

1332.5

Table 6: Traffic Count Tally Sheet 6

SHEET 7

Roads & Highways Department

Traffic Count Tally Sheet

Road Name: Nabinagar-Chandra Highway

Day: Sunday

Direction: Baipail-DEPZ

Date: 27/10/2024

Hours Counted		Motorised										Non motorised	
		1	2	3	4	5	6	7	8	9	10	11	12
		Heavy Truck	Medium Truck	Small Truck	Large Bus	Small Bus	Microbus	Utility	Car	Auto Rickshaw	Motor cycle	Bicycle	Push cart
1 to 2 pm	Total Vehicle	22	100	53	76	63	70	20	78	58	46	18	3

Vehicle	PCU Factors(RHD)	PCU of Vehicles
Truck	3	525
Bus	3	417
Microbus	1.5	105
Utility	1	20
Car	1	78
Auto rickshaw	1.5	87
Motorcycle	0.5	23
Bicycle	0.5	9
Push cart	4	12

1276

Table 7: Traffic Count Tally Sheet 7

SHEET 8

Roads & Highways Department

Traffic Count Tally Sheet

Road Name: Nabinagar-Chandra Highway

Day: Sunday

Direction: DEPZ-Baipail

Date: 27/10/2024

Hours Counted		Motorised										Non motorised	
		1	2	3	4	5	6	7	8	9	10	11	12
		Heavy Truck	Medium Truck	Small Truck	Large Bus	Small Bus	Microbus	Utility	Car	Auto Rickshaw	Motor cycle	Bicycle	Push cart
1 to 2 am	Total Vehicle	33	105	49	125	75	29	18	86	95	60	24	3

Vehicle	PCU Factors (RHD)	PCU of Vehicles
Truck	3	561
Bus	3	600
Microbus	1.5	43.5
Utility	1	18
Car	1	86
Auto rickshaw	1.5	142.5
Motorcycle	0.5	30
Bicycle	0.5	12
Pushcart	4	12

1505

Table 8: Traffic Count Tally Sheet 8

Road Information Application
ROAD INVENTORY SURVEY FIELD SHEET "A"

Road Name : Nabnagar Chandra NH Road

Start : 0
End : 1500

Station : Baipail
Station : DEFZ

District : Dhaka
Office :
Date : 21/10/2024
Assessor : Mr. Saurav Barua

CARRIAGEWAY													SHOULDE					SIDE WALK					
Chainage		Surface Type	Width (ft)	No of Lane	Dir'l Flow of Traffic	Pvt Type	Slab Thk (Conc)	Most Rec't (Asp/Gc)	Prev Thk (Asp) (inch)	Yr of Lt Surf'g	Recent Year	Road Condition	Terrain	(Conc. Gravel, Earth, None)									
Start (M)	End (M)													Start	End	Type	Width	Side	Start	End	Type	Width	Side
0	100	AC	40	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	Last year	Good	Flat	0	100	Herringbone Brick Bond	14'	L	0	100	Conc.	5'	L
100	200	AC	40	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	Last year	Good	Flat	100	200	Herringbone Brick Bond	14'	L	100	200	Conc.	5'	L
200	300	AC	23	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	Last year	Good	Flat	200	300	Herringbone Brick Bond	14'	L	200	300	Conc.	6'	L
300	400	AC	29	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	This year	Fair	Flat	300	400	Herringbone Brick Bond	10'	L	300	400	Conc.	6'	L
400	500	ST	21	2	N	Flexible pavement	N/A	N/A	4"	5	This year	Fair	Flat	400	500	Herringbone Brick Bond	10'	L	400	500	Herringbone Brick Bond	5'	L
500	600	HB	28	2	N	Flexible pavement	N/A	N/A	4"	5	Last year	Good	Inclined	500	600	Herringbone Brick Bond	7'	L	500	600	Earth	7'	L
600	700	AC	23	2	N	Flexible pavement	N/A	N/A	4"	5	This year	Fair	Inclined	600	700	Herringbone Brick Bond	9'	L	600	700	Earth	7'	L
700	800	SC	23	2	N	Flexible pavement	N/A	N/A	4"	5	Last year	Good	Flate	700	800	Herringbone Brick Bond	3'	L	700	800	Earth	11'	L
800	900	AC	20	2	N	Flexible pavement	N/A	N/A	4"	5	This year	Poor	Incline	800	900	Herringbone Brick Bond	5'	L	800	900	Earth	11'	L
900	1000	SC	27	2	N	Flexible pavement	N/A	N/A	4"	5	This year	Fair	Flate	900	1000	Herringbone Brick Bond	5'	L	900	1000	Conc.	5'	L
1000	1100	AC	26	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	This year	Fair	Flate	1000	1100	Herringbone Brick Bond	8'	L	1000	1100	Conc.	4'	L
1100	1200	HB	22	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	Last year	Poor	Incline	1100	1200	Herringbone Brick Bond	10'	L	1100	1200	Earth	4'	L
1200	1300	HB	24	2	N	Flexible pavement	N/A	N/A	4"	5	Last year	Fair	Incline	1200	1300	Herringbone Brick Bond	3'	L	1200	1300	Herringbone Brick Bond	5'	L
1300	1400	AC	18	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	This year	Bad	Incline	1300	1400	Herringbone Brick Bond	6'	L	1300	1400	Herringbone Brick Bond	6'	L
1400	1500	AC	28	2	N	Flexible pavement	N/A	N/A	4"	5	Last year	Fair	Flate	1400	1500	Herringbone Brick Bond	3'	L	1400	1500	Herringbone Brick Bond	7'	L

Table 9: Road Inventory Survey Field Sheet

Road Information Application
ROAD INVENTORY SURVEY FIELD SHEET "A"

Road Name : Nabinagar Chandra NH
Road

Start : 0
End : 1500

Station : Baipail
Station : DEPZ

District Dhaka
Office :

Date : 21/10/2024

Assessor : Mr. Saurav Barua

CARRIAGEWAY														SHOULDER					SIDE WALK				
Chainage		Surface Type	Width (ft)	No of Lane	Dir'l Flow of Traffic	Pvt Type	Slab Thk (Conc)	Most Rct (Asp/Gr)	Prev Thk (Asp) (inch)	Yr of Lst Surf'g	Reconst Year	Road Condition	Terrain	(Conc. Gravel, Earth, None)					(Conc. Gravel, Earth, None)				
Start (M)	End (M)													Start	End	Type	Width	Side	Start	End	Type	Width	Side
0	100	AC	40	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	Last year	Good	Flat	0	100	Herringbone Brick Bond	14'	L	0	100	Conc.	5'	L
100	200	AC	40	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	Last year	Good	Flat	100	200	Herringbone Brick Bond	14'	L	100	200	Conc.	5'	L
200	300	AC	23	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	Last year	Good	Flat	200	300	Herringbone Brick Bond	14'	L	200	300	Conc.	6'	L
300	400	AC	29	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	This year	Fair	Flat	300	400	Herringbone Brick Bond	10'	L	300	400	Conc.	6'	L
400	500	ST	21	2	N	Flexible pavement	N/A	N/A	4"	5	This year	Fair	Flat	400	500	Herringbone Brick Bond	10'	L	400	500	Herringbone Brick Bond	5'	L
500	600	HB	28	2	N	Flexible pavement	N/A	N/A	4"	5	Last year	Good	Inclined	500	600	Herringbone Brick Bond	7'	L	500	600	Earth	7'	L
600	700	AC	23	2	N	Flexible pavement	N/A	N/A	4"	5	This year	Fair	Inclined	600	700	Herringbone Brick Bond	9'	L	600	700	Earth	7'	L
700	800	SC	23	2	N	Flexible pavement	N/A	N/A	4"	5	Last year	Good	Flate	700	800	Herringbone Brick Bond	3'	L	700	800	Earth	11'	L
800	900	AC	20	2	N	Flexible pavement	N/A	N/A	4"	5	This year	Poor	Incline	800	900	Herringbone Brick Bond	5'	L	800	900	Earth	11'	L
900	1000	SC	27	2	N	Flexible pavement	N/A	N/A	4"	5	This year	Fair	Flate	900	1000	Herringbone Brick Bond	5'	L	900	1000	Conc.	5'	L
1000	1100	AC	26	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	This year	Fair	Flate	1000	1100	Herringbone Brick Bond	8'	L	1000	1100	Conc.	4'	L
1100	1200	HB	22	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	Last year	Poor	Incline	1100	1200	Herringbone Brick Bond	10'	L	1100	1200	Earth	4'	L
1200	1300	HB	24	2	N	Flexible pavement	N/A	N/A	4"	5	Last year	Fair	Incline	1200	1300	Herringbone Brick Bond	3'	L	1200	1300	Herringbone Brick Bond	5'	L
1300	1400	AC	18	2	N	Porous Asphalt pavement	N/A	N/A	4"	5	This year	Bad	Incline	1300	1400	Herringbone Brick Bond	6'	L	1300	1400	Herringbone Brick Bond	6'	L
1400	1500	AC	28	2	N	Flexible pavement	N/A	N/A	4"	5	Last year	Fair	Flate	1400	1500	Herringbone Brick Bond	3'	L	1400	1500	Herringbone Brick Bond	7'	L