CONSTRUCTION OF 4 LANING OF SAHA- SHAHBAD SECTION FROM KM. 14+840 TO KM. 31+760 OF NH-444(A)

A Dissertation Submitted in Fulfillment of the Requirement for the Award of the Degree of

MASTER OF ENGINEERING

In Infrastructure Engineering

Submitted By

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DECLARATION

I, Devender Ahlawat hereby declare that the work presented in this thesis entitled " Construction of 4 Laning of Saha- Shahbad section from Km. 14+840 to Km. 31+760 of NH444(A) " in fulfillment of the requirement for the award of degree of Master of Engineering (Infrastructure Engineering) submitted at Civil Engineering Department, Thapar Institute of Engineering and Technology (Deemed to be University), Patiala is an authentic record of work carried out under supervision of Ms. Neena Garg ,Associate Professor, Civil Engineering Department, Thapar University, Patiala from August 2021 to July 2022. The matter presented in this has not been submitted either in partly or full to any other university or institute for the award of any other degree.

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ABSTRACT

Highway Construction projects are often considered as one of the highest risk projects. They have a high risk because of the fact that there are so many numbers of factor that affects the Construction project directly or indirectly affecting the progress of the road construction which in turn affects the progress of a nation as a whole. It is of utmost importance a attention is paid in each and every phase of the project starting from the design phase, selection of material, construction practices, quality control during construction and once the project construction is finished a Safety Audit of the highway is to be done so as to check whether the constructed road is upto the mark, meeting the safety standards for the road users or not.

This study deals with the ongoing project of 4- Laning of section of Saha- Shahbad from Km. 14+840 to Km. 31+760 of NH-444(A). This thesis deals with the pavement design of the highway, various tests that were performed on site and in the laboratory during the construction phase of the project and also the Road Safety Review. The Road Safety Audit pays attention to detail which can be easily ignored or looked over by any normal road user providing various recommendations and deficiencies that were noticed on the highway, how they can be overcome in the most economical way.

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CHAPTER 1

INTRODUCTION

1.1 GENERAL

Roadway is one of the most important modes of Transport in India. Approximately 62,00,000 kilometers of roads as of March 2020 makes India the second largest road network in the world only after United States of America.

In India, the National Highways constitutes about 2.7% of India's total road network, but carries about 40% of road traffic as per 2010 survey, so their growth is what is needed for continuous development of the country. The growth of National Highways is depicted in the figure given below:

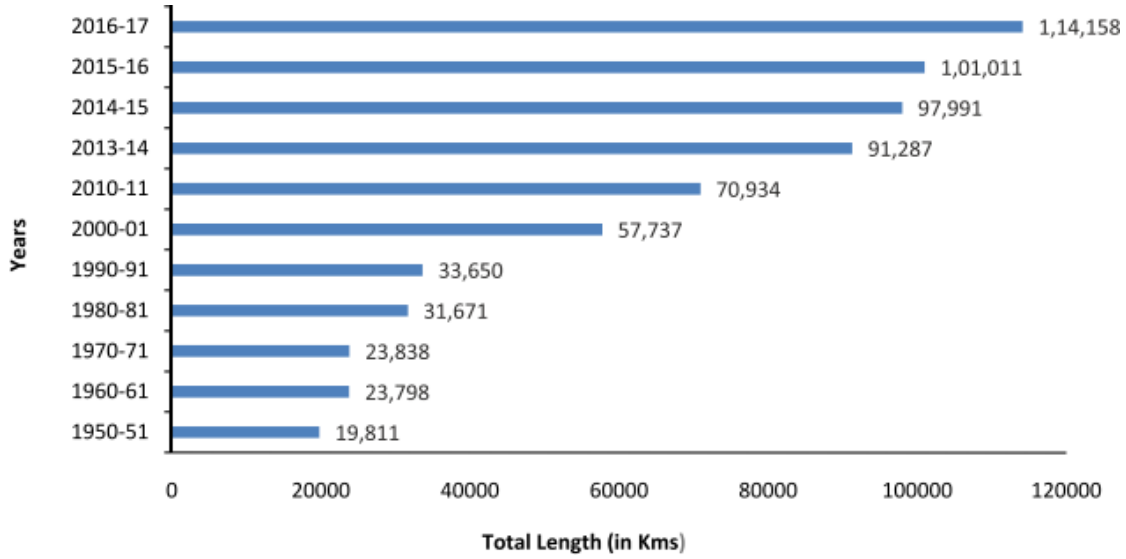

Figure 1.1: Total Length of National Highways (in Km) in India: 1950-2017
(Source: Basic Road Statistics of India, Ministry of Road Transport and Highways)

As compared to other construction projects, highway projects are often inevitably recognized as high risk projects due to its importance to a nation's economic, societal and political development. While being highly visible to the public, these projects are only established as successful if and only completed within the allotted time and budget, meets predetermined requirements and objectives, and cause minimal disruptions to the environment. While ensuring project success is vital, various factors can hinder the progress of highway projects including unsettled project funding, lack of project planning, and errors or omissions in construction work.

Construction of a new highway can involve following crucial steps:

1. Selection of Alignment

2. Geometric Design
3. Testing and Selection of Materials
4. Pavement Construction
5. Rolling/ Compaction/ Curing if necessary
6. Quality control during construction
7. Safety Audit

1.2 FLEXIBLE PAVEMENT DESIGN

A usual flexible pavement generally consists of a bituminous surface course over base course and sub-base course. Flexible pavements possess insignificant flexural strength thus they undergo deformation when load is applied on them.

The Flexible Pavement is designed so as to transfer the load applied by the vehicles is dispersed from the wearing course possessing the highest stiffness to the consecutive layers lying beneath with comparatively lower stiffness (measured by Resilient Modulus)and finally transferred to the ground through Subgrade in such a way that the load transferred is not more than the bearing capacity of the Subgrade soil.

Flexible Pavements can be designed in a number of ways like Group Index Method, Triaxial Test Method, Burmister's Method and IRC Method. IRC method is one of the most widely used methods to design the flexible pavements.

1.2.1 IRC Method

This method is based on the revised guidelines included in IRC: 37-2001, based on the results of study conducted by the Ministry of Surface Transport.

1.2.1.1 Significant Features of Guidelines

- The Flexible Pavement is designed as a layered structure with layers from bottom to top as given below:
    1. Subgrade/ Stabilized Subgrade
    2. Sub Base/ Stabilized Sub Base
    3. Base (Cemented/ Unbound)
    4. Aggregate Layer for cemented base
    5. Bituminous Layer
- Soils having CBR values from 2% to 10% are covered.
- Traffic volumes upto 150msa are considered in two ranges, 1-10msa and 10-150msa.
- Pavement failure criteria or critical strains considered are: Vertical Compressive strain on top of Subgrade and Horizontal Tensile Strain on bottom of bituminous binder course.

- If premix carpet of thickness upto 25mm is used as wearing course, its thickness should not be counted as a structural layer.
- IITPAVE Software is used in this method. The traffic volume, number of layers, thickness of layers and layer properties are user specified inputs which gives strains at critical locations as output.

1.3 FIELD AND LABORATORY TESTING DURING CONSTRUCTION PHASE

During the whole phase of the project that is from beginning of the Design Procedure and throughout the completion of the project until the road is open for traffic and other road users, a number of tests are performed on the construction material and the final pavement constructed. These tests are very essential for the service life of the pavement.

1.3.1 Importance of Quality Control

- Quality Control is important in order to guarantee that the organization's quality objectives are being met.
- To attain enhanced and consistent standard of road constructed.
- Quality control is critical for feasibility and safety of the construction project.
- It increases the service life of the project, so that there will be an extension to the period before any major rehabilitation is required on the constructed road.
- Quality Control affects the cost of project, be it through cut in maintenance cost or quantity of material used, less wastage during the construction etc.
- Quality Checks affects the major engineering decisions during the project design and construction, and also highlights any future risk.

Field Tests takes place at site and are generally non-destructive in nature and involve sand, asphalt etc. Evaluation of compaction, air and moisture content is done in field tests. Laboratory testing is like the second phase of testing, the samples from site are sent to laboratory for further investigations for example California Bearing Ratio Test on Subgrade soil, penetration test for bitumen etc.

1.4 ROAD SAFETY AUDIT

It is defined as the impartial review of the newly constructed road by the expert independent audit team at the planning, design, construction, operation and maintenance phases of the project to achieve overall safety. The main aim is to check dangerous features accidental potential on the highway and evaluate safety performance in the provision of new road schemes and the improvement and rehabilitation of existing roads.

1.4.1 Objectives of Safety Audit

1. To reduce occurrence of accidents.
2. To decrease the accident severity on highway with growth of safe surroundings.

3. To provide best solution for road deficiency.
4. To encourage the knowledge about the safety culture among designers and other site workers who are involved in the planning, designing, construction and maintenance of roads.
5. To lessen the long term cost and clarify the unsafe design to rectify.
6. Checking the sufficiency of planned road furniture.

1.4.2 Stages of Road Safety Audit

Road safety Audit of any construction project involves three stages as follows:

1.4.2.1 Development Phase Audit

Development Phase Audit is done after the conclusion of initial design or examination of typical design aspects of project at draft stage. At this stage detailed design and draft report is organized which includes a variety of typical considerations about the planned road such as horizontal and vertical profiles, intersection layouts, proposal of road marking and signage etc. Site visits are conducted during this audit and if any future permanent change is required in the design of the pavement alignment or any other features, these are suggested to the design team.

1.4.2.2 Construction Phase Audit

Construction Phase Audit is carried out when the project construction is in development to access the safety of the surroundings near the work zone or construction zone. This is to reduce the risk of any miss happening on the road. This can be done by audit team inspected by walking or driving on the road. The issues which were raised in the previous study will be considered at this stage. Day and Night control checks are done to inspect the lightening, marking or road sign issues. Construction Phase Audit is generally done once every three months to keep a check on the safety standards.

1.4.2.3 Operation and Maintenance Phase Audit

Operation and Maintenance Phase audit is carried out during first year of completion of operation and maintenance phase of the project when road opens to traffic. This audit pays attention to the detail of each and every change that were made during the Construction Phase Audit in design or any other aspect like horizontal or vertical profile, provision of lights, road markings wherever needed etc.

CHAPTER 2
LITERATURE REVIEW

2.1 GENERAL

Over the past few years various studies have been conducted on the design method of flexible pavements, how these pavement constructions are made more efficient, what impacts does the quality of materials have on overall performance of the pavement and safety audit of the pavement once the construction is finished. Review of the previous work done on above mentioned is explained in the following sections.

2.2 LITERATURE REVIEW

Pranshul *et al.* (2017) studied the design of Flexible Pavements and also pointed out various problems associated with these pavements. He calculated CBR values for various percentages of Fly Ash in Subgrade soil. After this, the total thickness of the pavement is calculated for various CBR values as per MoRTH and IRC: 37-2012. This research paper also explained how these pavements can be maintained.

Rahman *et al.* (2019) studied and identified various factors affecting Malaysia's road construction projects from the perspective of industry practitioners. He interviewed a number of Highway Project Managers and analyzed the data. This study concluded that eleven major factors affect the road construction projects: Workflow of Design process, competencies of Project Managers, availability of work force, availability of material, equipment availability, weather, and site location, involvement of upper management, support from clients, public acceptance and efficiency of authorities.

Jain S *et al.* (2019) in his study aimed at evaluation of Road Safety Audit (RSA) of a section of a Four Lane National Highway (NH-58) and also studied the benefits of the proposed actions that emerged from the deficiencies identified through the Audit Process. The selected stretch was newly constructed and upgraded to Four- Lane. Traffic volume study was conducted, growth rate percentage of motor vehicles was found, spot speed survey was conducted using a Radar Gun and accident data was collected. Development of accident prediction models for identifying safety influencing parameters was done.

Anandraj *et al.* (2020) in his study evaluated Road Safety Audit (RSA) of a section of Four Lane Madurai- Chennai National Highway (NH-45) and evaluated the benefits of changes which were suggested after the Road Safety Audit was conducted. The major objectives of this study were to identify the accident prone areas on the highway based on the visual studies and Accident reports from Police station, study of the effects which highway geometrics have on the road safety, to study the

traffic conditions on the highway stretch and to develop a relationship between the accident rates and various factors causing the accident. This study concluded that the highway stretch under the study had a very low pedestrian safety and also needed a few geometric improvements, pavement resurfacing etc. The reason for low safety of pedestrians that were concluded includes improper footpaths, sight distance problems, non- abidance of traffic rules, vehicles on footpaths etc.

2.3 OBJECTIVE OF THESIS

- To design the flexible pavement for Saha -Shahbad Highway NH-444A and discuss various steps involved.
- Field tests conducted during the construction phase of the project.
- Review of the Final Road Safety Audit of the 4- Lane Highway.

2.4 OUTLINE OF THESIS

Chapter 1 consists of general introduction about pavement design, testing of materials and safety audit.

Chapter 2 presents a review of literature about design method, importance of quality testing, and safety audit.

Chapter 3 is about the project description of the selected stretch of Saha- Shahbad highway NH-444A

Chapter 4 deals with the pavement design of Saha- Shahbad NH-444A

Chapter 5 includes field tests conducted during the construction phase of the project.

Chapter 6 deals with the Road Safety Review of the Four- Lane highway.

Chapter 7 gives the conclusion of the study and recommendations for future research.

CHAPTER 3
PROJECT DESCRIPTION

3.1 GENERAL

National Highway Authority of India awarded the project to M/s Shiv Build India Pvt. Ltd for the Rehabilitation and Upgradation for Four Laning of Saha – Shahabad Section from Km 14.840 to Km 31+760 of NH-444A (Total Length = 16.920 Km) under Bharatmala Pariyojna in the state of Haryana on EPC mode. The completion period is 18 months from the Appointed Date.

3.2 LOCATION OF THE PROJECT:

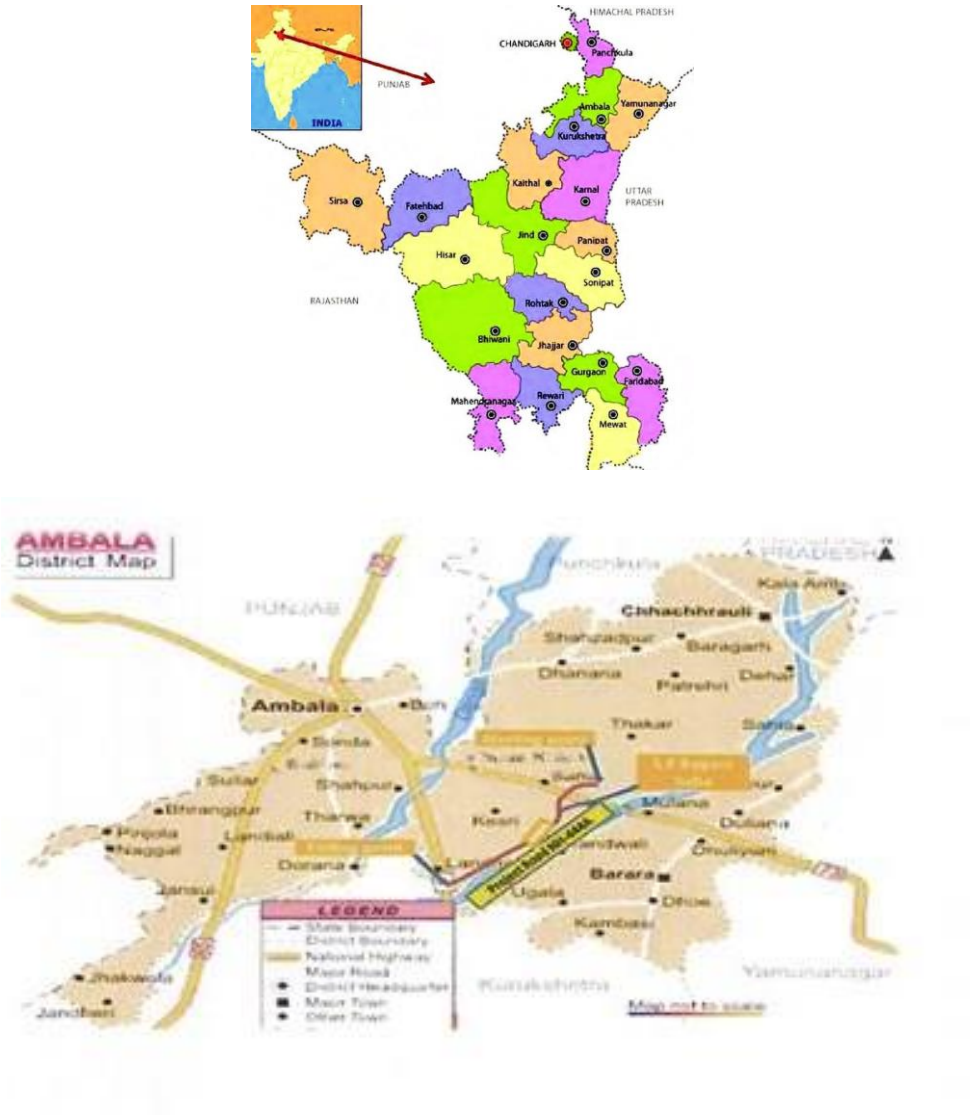

Figure 3.1: Location of the Project

(Source: Monthly Project Report Submitted by M/S Shiv Build India)

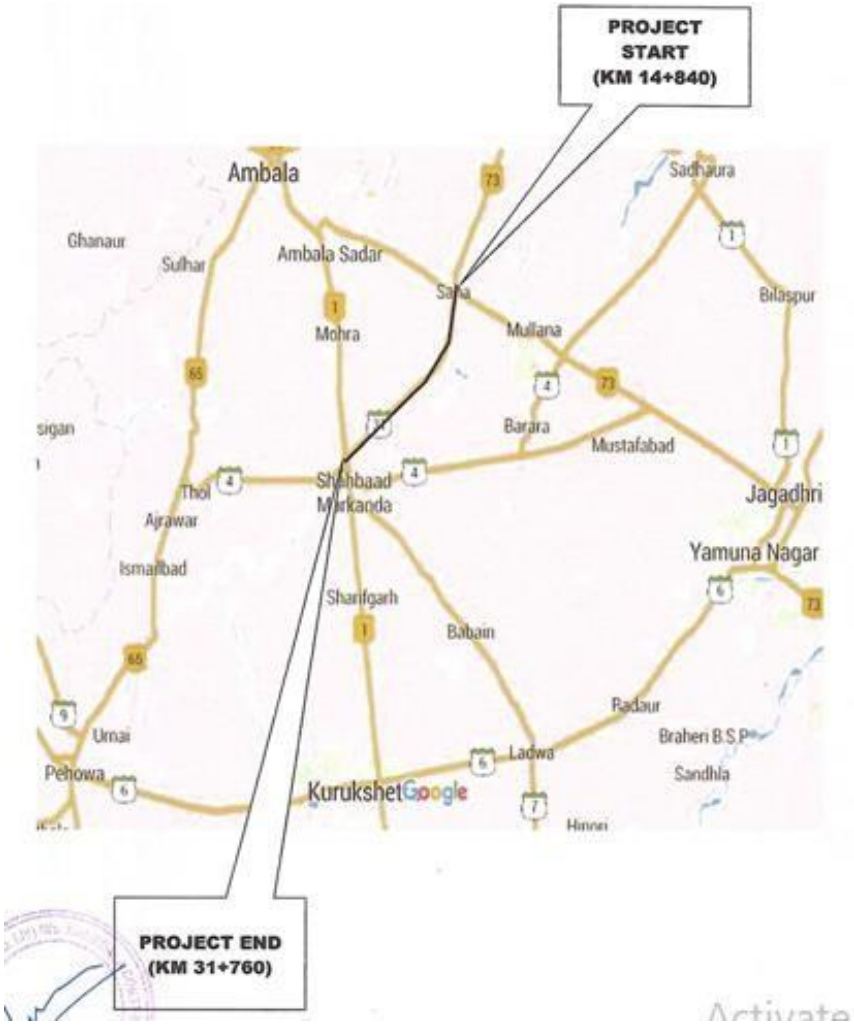

Figure 3.2: Project Start and End on Map

(Source: MPR Submitted by M/S Shiv Build India)

3.3 SCOPE OF THE PROJECT

Table 3.1: Scope of the Project

(Source: MPR Submitted by M/S Shiv Build India)

S.No.	Item Description	As per CA
1	Total Length	16.920 Km
2	Construction of 4 Lane portion	16.920Km
3	Service Road	1.050Km
4	Road Over Bridges	1 No
5	Minor Bridges	1 No
6	Total number of Culverts	39 No
7	Road side drain	4.440 Km
8	Toll Plaza	Nil
9	Bus Bays with Bus Shelter	1 No
10	Bus Shelter	6 No
11	Truck Lay By	1 No
12	Major Junction	2 No
13	Minor Junction	9 No
14	Road Signs, making km stone, Utility Duct	16.920Km

CHAPTER 4
PAVEMENT DESIGN REPORT

4.1 INTRODUCTION

A typical flexible pavement consists of a bituminous surface course over base course and sub-base course. The surface course may consist of one or more bituminous or Hot Mix Asphalt (HMA) layers. These pavements have negligible flexure strength and hence undergo deformation under the action of loads.

The structural capacity of flexible pavements is attained by the combined action of the different layers of the pavement. The load from trucks is directly applied on the wearing course, and it gets dispersed (in the form of a truncated cone) with depth in the base, sub base, and Subgrade courses, and then ultimately to the ground.

Since the stress induced by traffic loading is highest at the top, the surface layer has maximum stiffness (measured by resilient modulus) and contributes the most to pavement strength. The layers below have lesser stiffness but are equally important in the pavement composition. The Subgrade layer is responsible for transferring the load from the above layers to the ground.

Flexible pavements are designed in such a way that the load that reaches the Subgrade does not exceed the bearing capacity of the Subgrade soil. Consequently, the thicknesses of the layers above the Subgrade vary depending upon strength of soil affecting the cost of a pavement to be constructed.

The Guidelines IRC 37-2018 recommend that the following aspects should be given consideration while designing to achieve better performing pavements:-

4.2 TRAFFIC

4.2.1 General

The recommended method considers design traffic in terms of the cumulative number of standard axles (80 KN) to be carried by the pavement during the design life.

Axle load spectrum data are required where cementitious bases are used for evaluating the fatigue damage of such bases for heavy traffic.

Following information is needed for estimating design traffic as per IRC: 37:-

(i) Initial traffic after construction in terms of number of Commercial Vehicles per day (CVPD).
(ii) Traffic growth rate during the design life in percentage.
(iii) Design life in number of years.
(iv) Spectrum of axle loads.

(v) Vehicle Damage Factor (VDF).

(vi) Distribution of commercial traffic over the carriageway

4.2.2 Traffic Growth Rate

The design life is defined in terms of the cumulative number of standard axles in msa that can be carried before a major strengthening, rehabilitation or capacity augmentation of the pavement is necessary.

The design life adopted for the pavement design is 20 years.

4.2.3 Vehicle Damage Factor

The Vehicle Damage Factor (VDF) is a multiplier to convert the number of commercial vehicles of different axle loads and axle configuration into the number of repetitions of standard axle load of magnitude 80 KN. It is defined as equivalent number of standard axles per commercial vehicle. The VDF varies with the vehicle axle configuration and axle loading.

Where sufficient information on axle loads is not available and the small size of the project does not warrant an axle load survey, the default values of vehicle damage factor as given in Table 1.1 & 1.2 may be used

Table 4.1 Recommended VDF values as per IRC (Source: IRC- 37)

Initial traffic volume in terms of commercial vehicles per day	**Terrain**	
	Rolling/Plain	**Hilly**
0-150	1.5	0.5
150-1500	3.5	1.5
More than 1500	4.5	2.5

Table 4.2 Adopted VDF values as per Calculations

VEHICLE TYPE	Saha to Paiti Boripur			Paiti Boripur to Saha			Adopted
	No. of Vehicles	VDF	ESAL	No. of Vehicles	VDF	ESAL	VDF
LCV	61	1.14	69.75	68	0.28	19.20	1.14
2-A	70	2.72	190.08	85	4.92	417.99	4.92
3-A	73	4.41	321.89	59	4.18	246.59	4.41
MAV	53	6.93	367.49	64	11.75	752.30	11.75
BUS	20	0.62	12.34	15	1.02	15.28	1.02

4.2.4 Computation of Design Traffic

The design traffic in terms of the cumulative number of standard axles to be carried during the designlife of the road should be computed using the following equation:

$N = 365* [(1+r)^n – 1]*A*D*F / r$

Where,

N = Cumulative number of standard axles to be catered for in the design in terms of msa.

A = Initial traffic in the year of completion of construction in terms of the number of Commercial Vehicles per Day (CVPD).

D = Lane distribution factor (as explained in para 4.5.1 of IRC 37). F = Vehicle Damage Factor (VDF).

n = Design life in years.

r = Annual growth rate of commercial vehicles in decimal (e.g., for 5 per cent annual growth rate, r = 0.05).

The traffic in the year of completion is estimated using the following formula:

$$A = P (1 + r)^x$$

Where,

P = Number of commercial vehicles as per last count.

x = Number of years between the last count and the year of completion of construction.

**As per given Calculation in Annexure of MSA Calculation the pavement shall be designed for a minimum design period of 20 years at 71 MSA but as per clause 5(b) of schedule-B of contract agreement flexible pavement shall be designed at 100 MSA.

4.2.5 Subgrade

The Subgrade is the top 500 mm of the embankment immediately below the bottom of the pavement, andis made up of in-situ material, selects soil, or stabilized soil that forms the foundation of a pavement. It should be well compacted to limit the scope of rutting in pavement due to additional densification during the service life of pavement. Subgrade shall be compacted to a minimum of 97 per cent of laboratory dry density achieved with heavy compaction as per IS: 2720 (Part 8).

The select soil forming the Subgrade should have a minimum CBR of 5 per cent for roads having traffic of 450 commercial vehicles per day or higher.

4.2.5.1 Insitu CBR

The in-situ CBR of the sub grade soil can also be determined from the Dynamic Cone Penetrometer (60° cone) from the following relation (ASTM-D6951-09) (11).

$$\text{Log10 CBR} = 2.465 - 1.12 \log10 N$$

Where N = mm/blow

4.2.5.2 Effective CBR

Where there is significant difference between the CBRs of the select Subgrade and embankment soils, the design should be based on effective CBR. The effective CBR of the Subgrade can be determined by method described in Annex-II of IRC 37-2018. The CBR and other test reports of the soil have been attached in the form of Annex in the report.

Effective CBR of Subgrade has been taken as 8% for pavement design.

4.2.5.3 Determination of Resilient Modulus

The behavior of the Subgrade is essentially elastic under the transient traffic loading with negligible permanent deformation in a single pass. Resilient modulus is the measure of its elastic behavior determined from recoverable deformation in the laboratory tests. The modulus is an important parameter for design and the performance of a pavement.

The relation between resilient modulus and the effective CBR is given as:

$$MR\ (MPa) = 10 * CBR \quad \text{for CBR 5}$$

$$= 17.6 * (CBR)^{64} \quad \text{for CBR >5}$$

Where, MR = Resilient modulus of Subgrade Soil.

4.3 PERFORMANCE MODELS

To analyze pavements performance in terms of rutting and fatigue cracking, following performance models as per IRC: 37-2018 were adopted.

4.3.1 Fatigue in bituminous layer

Fatigue model has been calibrated in the R-56 (54) studies using the pavement performance data collected during the R-6 (57) and R-19 (58) studies sponsored by MORTH. Two fatigue equations were fitted, one in which the computed strains in 80 per cent of the actual data in the scatter plot were higher than the limiting strains predicted by the model (and termed as 80 percent reliability level in these guidelines) and the other corresponding to 90 per cent reliability level.

The two equations for the conventional bituminous mixes designed by MarshallMethod are given below:

Fatigue model for 80 per cent reliability is as given below:

$$N_f = 1.6064 \times C \times 10^{-4} \times (1/E_t)^{3.89} \times (1/M_R)^{0.854} \quad \text{(a)}$$

Where, $C = 10^M$

$M = 4.84\{Vbe/(Va+Vb)-0.69\}$

N_f = Fatigue life in standard axle load repetitions

E_t = Maximum allowable tensile strain at the bottom of bituminous layerM_R = Resilient modulus of bituminous mix, MPa

Fatigue model for 90 per cent reliability is as given below:

$$N_f = 0.5161 * C * 10^{-4} * (1/E)^{3.89} * (1/M_R)^{0.854} \quad \text{(b)}$$

Where,

$C = 10^M$

$M = 4.84m\,[Vbe / (Va + Vb) - 0.69]$

N_f = Fatigue life in standard axle load repetitions

E_t = Maximum allowable tensile strain at the bottom of bituminous layer

M_R = Resilient modulus of bituminous mix, Mpa

4.3.2 Rutting in Subgrade

The allowable vertical compressive strains were calculated using the rutting criteria as mentioned in IRC:37-2018.

Rutting is the permanent deformation in pavement usually occurring longitudinally along the wheel path. The rutting may partly be caused by deformation in the Subgrade and other non bituminous layers which would reflect to the overlying layers to take a deformed shape. The bituminous mixes also may undergo rutting due to secondary compaction and shear deformation under heavy traffic load and higher temperature. Excessive rutting greatly reduces the serviceability of the pavement and therefore, it has to be limited to a certain reasonable value. In guidelines the limiting rutting is recommended as 20 mm in 20 per cent of the length for design traffic up to 30 MSA and 10 per cent of the length for the design traffic beyond. Like the fatigue model, rutting model also has been calibrated in the R-56 studies using the pavement performance data collected during the R-6 (57) and R-19 (58) studies at 80 per cent and 90 per cent reliability levels. The two equations are given below:

Rutting model for 80 per cent reliability is as given below:

$$N_f = 4.1656 * 10^{-8} * (1/Et)^{4.5337} \quad \text{(c)}$$

Where,

N_r = Rutting life in standard axle load repetitions

Et = Maximum allowable vertical strain at the top of Subgrade layer

Rutting model for 90 per cent reliability is as given below:

$$N_f = 1.41 * 10^{-8} * (1/Et)^{4.5337} \quad \text{(d)}$$

Where,

N_r = Rutting life in standard axle load repetitions

E_v = Maximum allowable vertical strain at the top of Subgrade layer

Table 4.3 Input Parameters for IITPave

Parameters	Typical Values adopted		
Number of layers (n)	3		
Elastic Modules (E), in MPa	**For BT Layer**	3000	
	For WMM	350	
	For Cement Treated Sub - base	600	
	For Subgrade	66.602	
Poisson's Ratio (μ)	0.35, 0.35, 0.25,0.35		
Thickness of Layers(h), mm	**For BT Layer**	**BC (Bitumen Grade-VG-40)**	40
		DBM (Bitumen Grade-VG-40)	100
	BT Layer parameters*	Va=3.5, Vb=11.0	
	For Granular Base Layer (WMM)	175	
	For Cement Treated Sub Base Layer(GSB)	200	
Single wheel load (N),Tyre Pressure	20000, 0.56 MPa for tensile strain in bituminous layer and vertical compressive strain on Subgrade		

4.4 DESIGN LIFE OF PAVEMENT:

The thickness obtained for the designed section is as per structural and functional requirements of the pavement. The allowable values calculated for the pavement are as:

Main Carriage Way:

Allowable Horizontal Tensile Strain in Bituminous Layer is 1.457×10^{-4} using equation (A)

Allowable Vertical Compressive Strain on Subgrade layer is 3.190×10^{-4} using equation (C)

For BC = 40mm, DBM = 100MM, WMM= 175mm, GSB = 200mm and Subgrade CBR 8% , the computed strains from IITPAVE software are:

Horizontal Tensile Stress in Bituminous Layer is $1.44 \times 10^{-4} < 1.457 \times 10^{-4}$

Vertical Compressive Strain on Subgrade layer is $2.955 \times 10^{-4} < 3.190 \times 10^{-4}$

Table 4.4: Calculated Thickness of Pavement by IITPAVE

Thickness Adopted				Achieved Traffic in MSA	
BC	DBM	WMM	CTSB	Achieved Traffic in MSA, Rutting	Achieved Traffic in MSA, Fatigue
40	100	175	200	141	102

The minimum of Fatigue Life and Rut Life is the design life of the pavement.

CHAPTER 5

QUALITY TESTING DURING CONSTRUCTION PHASE OF PROJECT

5.1 GENERAL

Quality control of construction materials and the final product once the construction is finished is a crucial obligation for obtaining enhanced and consistent standard of road construction. This is not true just for highway construction but any of the production procedure.

Improved level of service of highways will definitely result in substantial savings in vehicle operating cost and in road safety, road user reaction and public opinion. The cost of carrying out quality control checks on the materials and the final product is only 1 to 2 percent of the total cost of the construction project, but the direct and indirect economic return from quality control could be of the order of 5 to 10 percent of the total cost of the construction project.

5.2 QUALITY TESTS PERFORMED AT CONSTRUCTION PHASE OF PROJECT

During the construction phase of the project, a number of tests were performed in laboratory as well as on the field. The frequency and the number of tests vary with each of the layers and various chainage of the highway. Some of the important tests that were performed are as follows:

- Aggregate Impact Value Test
- Flakiness and Elongation Index Test
- Sieve Analysis of Aggregates
- Bitumen Extraction and Sieve Analysis Extraction
- Marshall Stability and Flow Test

5.2.1 Aggregate Impact Value Test

Aggregate Impact Value is the ability of the aggregates to resist sudden impact or shock loads on it or the resistance to failure on sudden impact. The characteristic of any material to resist sudden impact is known as toughness, when aggregates are used in pavements, there is a possibility of impact load on them which can break them into smaller pieces and cause failure of pavements.

5.2.1.1 Apparatus Required

The apparatus required for the Impact Value Test for the Aggregates is as follows:

- Impact Testing Machine
- Steel Cup Shape Cylinder (Dia – 102mm, Depth- 50mm, Thickness- 6.3mm)
- 14Kg Hammer
- IS Sieves (12.5mm, 10mm, 2.36mm)

- Tamping Rod
- Balance

5.2.1.2 Procedure

- The impact machine is kept on a horizontal flat surface, and the cup is fixed in a proper position on the base of the Impact Machine.
- Transfer aggregate sample from cylindrical measure to cut fitted in an Impact Test Machine and apply 25 strokes of the rod to compact it.
- Then the hammer is lifted 380mm and falls on the upper surface of the aggregate which fills the cup.
- A total of 15 blows are applied to the cup each delivered at an interval of not less than 1 second.
- The crushed aggregates are removed from the cup and the crushed sample is sieved through 2.36mm IS sieve.
- Weight of the fraction of this sample passing through the sieve is taken with the accuracy of 0.1g (W1).
- Weigh the sample retaining on 2.36mm sieve (W2)

5.2.1.3 Calculations

The aggregate impact value is the ratio of the weight of the fraction passing through 2.36mm sieve (W2) by the total weight of the sample.

Aggregate Impact Value = W2/ (W1+W2) *100

5.2.1.4 Recommended Values for Impact Test

Table 5.1: Recommended values for Impact Test for Aggregates (Source: IS 2386 Part IV)

Aggregate Impact Value	**Nature**
<20%	Exceptionally Strong
10-20%	Strong
20-30%	Satisfy for surface course
>35%	Weak for surface course

5.2.2 Flakiness and Elongation Index Test

Flakiness Index of aggregate is the % by weight of aggregates whose thickness is less than 0.6 times their mean dimension.

Elongation Index of aggregate is % by weight of aggregates whose length is greater than 1.8 times their mean dimension.

5.2.2.1 Apparatus Required

- Balance
- Metal Gauge (Flakiness and Elongation)
- IS Sieves (63mm, 50mm, 40mm, 31.5mm, 25mm, 20mm, 16mm, 12.5mm, 10mm, 6.3mm)

5.2.2.2 Procedure

Sample Preparation: Sample is prepared by sieving between IS sieve 6.3mm size at the bottom and 63mm sieve at top.

A separate sample retains on each sieve, and the weight retained on the sieve for which the test is conducted is taken as W1. Suppose we take the sample retained on the 6.3mm sieve, then:

Flakiness: Try to pass the aggregate width wise through the slot of 10mm to6.3mm on a flakiness gauge. A separate sample passed through this slot and weight (W2).

Flakiness Index = (W2/W1)*100

Elongation: Try to pass the aggregate length wise through the slot of 10mm to 6.3mm on the length gauge. Separate samples retain on this slot and weigh it (W2).

Elongation Index = (W2/W1)*100

5.2.2.4 Recommended values for Flakiness Index

Table 5.2: Recommended values for Flakiness Index (Source: IS- 2386 Part I)

S.No.	**Type of Construction**	**Allowable Flakiness Index**
1	WBM Construction	
	Wearing Surface	15%
	Lower Granular Layer	15%
2	Bituminous Construction	25%
3	Two Coat Bituminous Surface Dressing	25%
4	Bituminous Macadam	
	Base Course	25%
	Binder Course	25%
	Dense Bituminous Macadam	35%

5.2.3 Sieve Analysis of Aggregate

This test is used to determine the aggregate size and hence the quality. The gradation of aggregates is done through sieve analysis.

5.2.3.1 Apparatus Required

- IS sieves
- Weighing Balance
- Sieve Shaker
- Sieve Lid

5.2.3.2 Procedure

- Take 1 Kg of aggregate sample
- Arrange the IS sieve in descending 25mm, 20mm, 12.5mm, 10mm, 4.75mm.
- Now fill the sample to the highest sieve and sieve well for upto 10 minutes.
- After completion of sieving, weigh the aggregates retained in each sieve and note it.

5.2.3.3 Calculation and Result

- The sample retained on each sieve shall be calculated in percentage based on the total weight of the aggregate sample taken.

5.2.4 Bitumen Extraction and Sieve Analysis Extraction

This test is used to determine the bitumen binder usage in asphaltic pavement, since it affects the quality, durability, and the strength of the pavement.

5.2.4.1 Apparatus Required

- Centrifuge extractor
- Beaker
- Weighing Machine
- Oven
- 500g bitumen sample
- Filter paper

5.2.4.2 Procedure

- Weigh 500g of sample (W1) and place in the cup of centrifuge.
- Weigh the filter paper and note is as (F1)
- Fill benzene into the cup up to the sample top, it will separate the aggregate and bitumen.
- Now place the filter paper and cover the sample in centrifuge apparatus, and place the beaker at the outlet of the centrifuge apparatus to collect the extracted sample.

- Start the centrifuge machine after 1 hour and increase speed gradually to 3600 revolutions per minute.
- The bitumen and the benzene will completely drain out in the beaker, add more benzene and repeat the process till bitumen extraction is completed.
- Weigh the extracted material as W2.
- Now remove the filter paper and dry it through the oven at the temperature range of 1050^{o}C to 1100^{o}C and allow it to cool at room temperature.
- Finally weigh the dried filter paper as F2.
- The test should be conducted with at least 3 samples and the average value is the percentage of bitumen used in the pavement.

5.2.4.3 Calculation and Result

The percentage of Bitumen = (W1- (W2+W3)/W1)*100

5.2.5 Marshall Stability and Flow Test

Marshall Stability measures the maximum load sustained by the bituminous material at a loading rate of 50.8mm/minute. The test load is increased until it reached the maximum limit, beyond which it starts decreasing. During the loading test, a dial gauge is attached which measures the specimen's plastic flow owing to applied load. The flow value refers to the vertical deformation when maximum load is reached.

5.3 OBSERVATIONS OF THE QUALITY TESTS

All the above mentioned were some of the few tests that were done in the laboratory during the construction phase of the project. The observations that were made during the tests that were done for the chainage of 22+100 to 26+250 (4.15 Km) for the BC (Bituminous Concrete) layer of the pavement are as follows:

5.3.1 Aggregate Impact Value

Test 1:

Table 5.3: Observations for Aggregate Impact Value Test 1

Description/Trial No.	**1**	**2**	**3**
Weight of Container (g)			
Weight of container + Aggregate (g)	340	347	350
Weight of aggregate before testing			
Weight of aggregate retained on 2.36mm sieve (g)	278	283	284
Weight of aggregate passing on 2.36mm sieve (g)	62	64	66

Aggregate Impact Value (%)	18.23	18.44	18.86
AVERAGE AIV (%)	18.51		

Test 2:

Table 5.4: Observations for Aggregate Impact Value Test 2

Description/Trial No.	**1**	**2**	**3**
Weight of Container (g)			
Weight of container + Aggregate (g)			
Weight of aggregate before testing (g)	348	347	348
Weight of aggregate retained on 2.36mm sieve (g)	287	291	290
Weight of aggregate passing on 2.36mm sieve (g)	61	56	58
Aggregate Impact Value (%)	17.53	16.14	16.67
AVERAGE AIV (%)	16.78		

5.3.2 Flakiness and Elongation Index test

Test 1:

Table 5.5: Observations for Flakiness and Elongation Index Test 1

Sieve Range (mm)	**Total Weight of Aggregate (g) (A)**	**Flakiness gauge**		**Retained (g) (D)**
		Passing (g) (B)	**Retained (g) (C)**	
20-16	2841	272	2569	222
16-12.5	1081	185	1796	174
12.5-10	1141	106	1035	76
10-6.3	682	59	623	60
Total	6645	622	6023	552

Flakiness Index – 9.36% [(B/A)*100]

Elongation Index – 9.16% [(D/C)*100]

Test 2:

Table 5.6: Observations for Flakiness and Elongation Index Test 2

Sieve Range (mm)	**Total Weight of Aggregate (g) (A)**	**Flakiness gauge**		**Retained (g) (D)**
		Passing (g) (B)	**Retained (g) (C)**	
20-16	2314	260	2554	214
16-12.5	1341	153	1688	161
12.5-10	1248	117	1131	108
10-6.3	523	50	478	46
Total	6431	580	5851	529

Flakiness Index – 9.02% [(B/A)*100]

Elongation Index – 9.04% [(D/C)*100]

5.3.3 Sieve Analysis of Aggregate

Test 1:

Table 5.7: Observations for Sieve Analysis of Aggregates Test 1

Sieve Size (mm)	**Weight Retained(g)**	**Cumulative Weight Retained (g)**	**Cumulative % of weight Retained**	**Cumulative % of passing**	**Specified Limits (%)**
19	0	0	0	100	100-100
13.2	405	214	1	99.00	93-100
9.5	3563	3777	17.69	82.31	77-89
4.74	4740	8517	39.84	60.11	53-63
2.36	1941	10458	48.98	51.02	47-55
1.18	2519	12977	60.78	39.22	35-43
0.6	1482	14459	67.72	32.28	29-37
0.03	1373	15832	74.15	25.85	21-27
0.15	2221	18052	84.55	15.45	11-17

0.074	2086	20138	94.32	5.68	4-7

Test 2:

Table 5.8: Observations for Sieve Analysis of Aggregates Test 2

Sieve Size (mm)	**Weight Retained(g)**	**Cumulative Weight Retained (g)**	**Cumulative % of weight Retained**	**Cumulative % of passing**	**Specified Limits (%)**
19	0	0	0	100	100-100
13.2	405	405	1.79	98.21	93-100
9.5	3842	4247	18.75	81.25	77-89
4.74	4893	9140	40.35	59.65	53-63
2.36	1955	11095	48.98	51.02	47-55
1.18	2673	13768	60.78	39.22	35-43
0.6	1572	15341	67.72	32.28	29-37
0.03	1457	16797	74.15	25.85	21-27
0.15	2356	19153	84.55	15.45	11-17
0.074	2213	21366	94.32	5.68	4-7

5.3.4 Bitumen Extraction

Test 1:

Table 5.9: Observations for Bitumen Extraction Test 1

Description	**1**	**2**
Weight of sample before extraction (g) W1	872	941
Initial weight of filter paper (g) W2	6.48	6.00
Weight of sample after extraction (g) W3	823.47	888.28
Final weight of filter paper (g) W4	7.24	678
Difference in weight of filter paper, D= W1-W2 (g)	0.76	0.78
Weight of soluble bitumen (S=W1-W3-D) (g)	47.77	51.94

% of Bitumen in the mix (S/W1*100)	3.48	5.52

Test 2:

Table 5.10: Observations for Bitumen Extraction Test 2

Description	**1**	**2**
Weight of sample before extraction (g) W1	870	910
Initial weight of filter paper (g) W2	4.78	3.90
Weight of sample after extraction (g) W3	821.68	858.85
Final weight of filter paper (g) W4	4.99	4.48
Difference in weight of filter paper, D= W1-W2 (g)	0.21	0.58
Weight of soluble bitumen (S=W1-W3-D) (g)	48.11	50.87
% of Bitumen in the mix (S/W1*100)	5.53	5.59

5.3.5Marshall Stability and Flow Test

Grade of Bitumen – VG40

Specific Gravity of Bitumen – 1.013

Bulk Specific Gravity of Aggregate -2.671

P, Ring Correction Factor – 7.12

Effective Specific Gravity of Aggregate – 2.728

Test 1: Table 5.11: Observation Table for Marshall Stability and Flow Test 1

S.No.	% of bitumen by total weight of mix	% aggregate by total weight of mix	Weight of mould in air (g)	Weight of Mould in water (g)	SSD weight of mould (g)	Volume of mould (cc)	Bulk Density (g/cc)	Gmm (g/cc)	Va (%)	VMA (%)	VFB (%)	Observed stability Reading	Observed Stability (kg)	Correction factor	Corrected Stability (kg)	Flow (mm)
1			1199.4	700.0	1202.1	502.1	2.339					192	1367	1.04	1422	3.7
2	5.48	94.52	1200.4	699.9	1204.1	504.2	2.332	2.489	4.26	15.67	72.81	197	1403	1.04	1459	3.9
3			1197.6	698.9	1202.8	503.1	2.380					200	1424	1.04	1481	4.1
Average							2.383									3.9
1			1198.1	678.8	1202.4	503.6	2.379					201	1431	1.04	1488	3.2
2	5.52	94.48	1197.7	698.3	1201.8	503.0	2.331	2.439	4.34	15.78	72.49	202	1438	1.04	1496	3.9
3			1201.1	701.3	1205.4	504.1	2.383					204	1452	1.04	1510	4.0
Average							2.382									3.7

Test2: Table 5.12: Observation Table for Marshall Stability and Flow Test 2

S.No.	% of bitumen by total weight of mix	% aggregate by total weight of mix	Weight of mould in air (g)	Weight of Mould in water (g)	SSD weight of mould (g)	Volume of mould (cc)	Bulk Density (g/cc)	Gmm 9g/cc)	Va(%)	VMA(%)	VFB	Observed stability Reading	Observed Stability	Correction factor	Corrected Stability	Flow (mm)
1			1197	701.9	1204.1	502.9	2.380					189	1346	1.04	1400	2.9
2	5.53	94.47	1191	705.2	1208.0	502.8	2.385	2.489	4.26	15.72	72.90	195	1388	1.04	1443	3.3
3			1201.7	706.5	1210.4	503.9	2.384					190	1352	1.04	1406	3.1
Average							2.383									3.7
1			1198.8	698	1204.1	506.1	2.369					201	1431	1.04	1483	2.8
2	5.59	74.41	1199.1	699	1202.4	503.4	2.384	2.489	4.30	15.81	72.80	204	1452	1.04	1510	3.9
3			1201.4	703.5	1205.4	501.9	2.394					200	1424	1.04	1481	3.5
Average							2.382									3.4

CHAPTER 6

FINAL ROAD SAFETY AUDIT

6.1 INTRODUCTION

A road safety audit is a "formal, systematic and detailed examination of a road project by an independent and qualified team of auditors that leads to a report of the potential safety concerns in the project." A formal examination of design would not permit a layout shown below causing unsafe and illegitimate movement. Such Potential unsafe situations would be captured in a safety audit can be modified before implementation.

Road Safety Audit is:-

- A Formal Process (not just an informal check).
- Conducted by persons who are independent of the design.
- Conducted by persons with appropriate qualifications, training, and experience.
- An assessment of road safety issues in a road design, a Traffic Management plan for road works, a newly completed road scheme, or can be the identification of safety concerns on any existing road.

Road Safety Audit is not:-

- A check of compliance with standards.
- A substitute for regular design checks.
- A crash investigation.
- An opportunity to re-design a project which needs to be carried out separately.
- A name for a more detailed site inspection.
- A way of assessing or rating a project as good or bad.A good road safety audit will be accomplished when.
- The focus is on road safety issues only.
- Keep relevant standards and guidelines in mind while remembering that audit is more than compliance check with standards.
- Consider the needs of all road users (including pedestrians, Two/Three Wheelers animal-drawn vehicles, depending upon their presence and proportion in the traffic) in all weather and lighting conditions.
- It is thorough and comprehensive.

- It is realistic and practical in findings but does not rule out options because of cost
- It is the road authority that will decide whether the investment can be justified.
- Produce audit report promptly – usually within four weeks of the audit inspection.

6.2 PROJECT BACKGROUND

The project has "4-lanning of Ambala-Saha-Shahabad on (NH-444A) in the state of Haryana, Section starts from Ambala Cantt. Railway Station (NH-44) – Saha – Shahabad (NH-44) existing Km. 14.840 to 31.760 of NH-444(A) in the State of Haryana."

Table 6.1: Location and Built up area near the project

S.No.	Built-up Stretch	Location (Km)		Length
		From	To	
1	Saha	14.840	15.700	0.860
2	Ghaseetpur (ROB)	19.900	20.950	1.050
3	Patti Boripur	30.900	31.760	0.860

6.3 OVERVIEW OF ROAD SAFETY AUDIT

6.3.1 Introduction

In India out of the 4, 64,650 road crashes 1, 47,913 fatalities and 4, 70,975 injuries had resulted in the year 2017. In economic terms, the cost to the nation is an estimated 3% of Gross Domestic Product (GDP). A majority of fatalities are in the age group of 18 to 45 years. There is a need for coordinated action by all the key stakeholders to address this serious concern. Road safety audit on roads is one critical step in that direction.

6.3.2 Objectives

- To minimize the risk of crashes occurring on the adjacent road (especially at intersections)
- To recognize the importance of safety in road design so that the needs andperceptions of all road users are met, and to achieve a balance between needs where they may be in conflict
- To reduce the long-term costs of a new road project, bearing in mind that unsafe designs may be expensive (or at times even impossible) to correct at a later stage.
- To enhance the awareness of road safety engineering principles by all involved in the process of

planning, designing, constructing, operating, managing, and maintaining roads and highways.

- To advance the awareness of providing safe road schemes for non-motorized as well as motorized road users.

6.3.3 Benefits of Auditing

The established benefits of conducting road safety audits include:

- Reduced "whole life cycle costs" of a project.
- Reduced risk of crash and its severity while using the road network.
- Enhanced attention to the safety needs of vulnerable road users.
- Lower costs for remedial work at (future) Black spots.
- Reduced overall costs of road trauma to the community.
- Safer road networks are developed.

They are an important contributor to meeting crash reduction targets

6.3.4 Risk Assessment

Criteria for Risk Assessment should be as follows: -

Table 6.2: Criteria for Risk Assessment

S.No.	Severity	Description	Example	Priority	Suggested approach
1	Very High	Multiple Deaths are likely	High speed multi-vehicle crashes on expressways	Essential	Where risk is assessed as very high, the recommendation shall be implemented "at any Cost".
2	High	A Death and/or serious injuries are likely	Pedestrian Crashes on Rural Highways.	Highly Desirable	Where risk assessment is assessed as high the recommendation shall be implemented unless cost of remedial treatment is prohibitive and risk can be reduced by an alternative measure.

3	Medium	Minor injuries only are likely	Low Speed Collisions	Desirable	Where risk is assessed as Medium, The recommendation shall be implemented if the safety concerns could not be mitigated even after the implementation of the recommendations under "essential" and "highly desirable" priority levels for the same location and the risk needs to be reduced further.

6.3.5 Root Causes of Accident on Urban and Rural Roads

- Road Design - Compromise on geometric design due to land constraints, Lack of proper road signs, Pavement Markings and other traffic control devices, poor intersection layout, inadequate sight distance, unmanned railway level crossings.
- Road Condition – Uneven and slippery Road surface, pot holes, sunken shoulders and edge break, rut formation.
- Bridge Condition- Gap in expansion joints, worn out bearings, broken parapets.
- Road users – Dangerous driving (excessive speed, excessive alcohol), Fatigue, not wearing seat belt/helmets. Sections passing through habitations and school pose safety risk to pedestrians, cyclists and even cattle and non-motorized vehicles.
- Vehicles – Failure of brakes and steering systems, tyre burst, lighting system, night time conspicuity.
- Environment Factors – Heavy rainfall, fog snow, storm, etc. creating unsafe driving environment.

6.4 TYPE OF AUDITING

Road Safety Auditing can be conducted for five stages of a road project as following: -

6.4.1 Feasibility Stage/ Preliminary Design Stage

An audit on completion of the planning or feasibility study stage will examine features such as design standards, route choice and continuity with the existing adjacent network, horizontal and vertical alignments, cross sections and interchange / intersection layouts. Careful auditing at this early feasibility

study stage can help to reduce the costs and lost time associated with changes that may otherwise be brought about during later audits.

6.4.2 Detailed Design Stage

This audit stage occurs on completion of the detailed road design (the final DPR) but before the preparation of contract documents. Typical considerations include geometric layout, pavement markings, signals, lighting, road signs, intersection details, clearances to roadside objects (crash barriers/frangibility) and provision for vulnerable road users. Attention to detail at this design stage can do much to reduce the costs and disturbance associated with last minute changes that may otherwise be brought about with a pre-opening audit.

6.4.3 Construction Stage Audit

This stage of audit takes place during construction of the road works. It examines the safety of the traffic management plans for each phase of construction for large road projects (i.e., before the works begin), and it also inspects the provisions for road safetyat the road work site during the construction period. Typical issues examined include the provisions for pedestrian safety, advanced warning zones, adequate transition zone lengths, worker safety, and effective numbers of reflective signs, safe delineation, credible speed limits, temporary crash barriers, lighting and diversions.

6.4.4 Pre - Opening Stage Audit

This audit involves a detailed inspection of the new road project immediately prior to its opening. Although most road projects are constructed under traffic there is a time just before the Contractor hands over the project when the project is almost complete and when a pre-opening stage audit is attended. The new road should be driven. Ridden and walked (as appropriate) by the audit team to ensure that the safety needs of all road users are provided for. A night - time inspection is particularly important at this stage to check installation and visibility of signs, markings. Delineation, lighting and any other night time / low light related issues.

The number of project stages at which audits are conducted usually varies according to the classification of the road, and the size of the project. For example, a major road project on an expressway or multilane highway may be audited at each of the project stages. For efficient use of limited resources, smaller projects on roads carrying low volume of traffic may be audited at one or two stages.

6.4.5 Existing Road Audit

The existing road may be a well - established road dating back decades or it may be a recently upgraded or rehabilitated road. The audit of existing road aims to ensure that the safety features of a road are compatible with the functional classification of the road. It also aims to identify any feature that may develop over time into a safety issue (such as a tree blocking sight lines at an intersection).

A number of the safety issues found in the audit should be readily addressed through simple and low-cost maintenance practices (e.g., Tree trimming, sign and line marking renewal, and roadside hazard issues). As such, there are benefits in having maintenance crews trained in road safety reviews so that they can apply their safety knowledge routinely during each shift.

These crews may not be independent of the existing road network, and they may notbe able to look at the road through the eyes of a first time user, but they will be able to eliminate the more obvious safety concerns.

Another issue with safety audits of existing roads revolves around the use of crash data. Some auditors like to have access to the Police crash data for the road they are auditing they say it helps them to understand some of the proven safety issues along the road.

Others argue that this can cause the audit team to focus too closely on the crash sites, possibly overlooking other high-risk locations. Whichever option is adopted, the road authority should be very clear in its objectives. If it wants a crash investigation, use crash data together with the audit.

The audit team should prioritize its findings according to those that can most readily and cost-effectively be treated. It makes it easier for the road authority to undertake the recommended treatments as per the available budget.

6.5 AUDIT DETAILS

This project road was audited for Pre- opening stage audit; the Audit team examined the road. Road Safety concerns and Audit findings along with Recommendations are summarized in the required format in the table below:

Table 6.3: Road Safety Audit Details

S.No.	Safety Concerns and Audit Findings		Recommendations	
	Description (with images if any)	**Risk**	**Description (with images if any)**	**Priority**
1.	Properly marked and demarcated carriageway with retro reflective median marking, shoulder, and kerb markings at 15+100.  Figure 6.1: Proper Road Marking insured at 15+100	High	Proper road markings have been insured as per IRC: 35-2015	Desirable
2	Hazard marker placed at the start of the median as a good practice. Additionally, Chevron signs over the curve section have alsobeen placed.  Figure 6.2: Hazard Marker placed before Median at 15+700	High	All safety markings and signage are seen as a safe traffic management practiceas per IRC SP: 88-2019	Desirable

S.No	Safety Concerns and Audit Findings		Recommendations	
	Description (with images if any)	**Risk**	**Description (with images if any)**	**Priority**
3	Direction Signboards have been properly placed throughout the road stretch.  Figure 6.3: Presence of direction sign board at 16+000	High	Provided proper signboards as per IRC 67-2012.	Desirable
4	Provided speed control measure at the median opening. Chevron signs are at the curve.  Figure 6.4: Absence of speed control measure and chevron signs at 16+100	High	Provided proper signboards and chevron signs as per IRC 67-2012.	Highly Desirable

S.No.	Safety Concerns and Audit Findings		Recommendations	
	Description (with images if any)	**Risk**	**Description (with images if any)**	**Priority**
5.	Provision of phased speed control measures at highway section (17+630) along with the presence of chevron signs.  Figure 6.5: Presence of speed control measures and chevron signs	High	Provided proper chevron signs as per IRC 67-2012 and speed control measures for the safety of all user classes.	Highly Desirable
6	Provision of a pedestrian walkway over the Existing bridge section.  Figure 6.6: Provision of pedestrian walkway on the bridge section at 20+410	High	Well demarcated pedestrian walkway present at the Existing bridge section. This facilitates easy pedestrian movement. it is duly maintained & painted.	Desirable

S.No.	Safety Concerns and Audit Findings		Recommendations	
	Description (with images if any)	**Risk**	**Description (with images if any)**	**Priority**
7	The entry poles of the lane lies very close to the highway, they aremarked with retro reflective painting and hazard marking made on them.  Figure 6.7: Absence of Hazard Marking on the entrance poles of the lane at 22+850	High	Any object or obstruction coming in close vicinity of the highway must be marked with hazard marking so that it is visible to any kind of vehicle passing through, at night and day to avoid potential crashes. Compliance already found at site.	Highly desirable
8	Proper shoulder width has been provided throughout the road section.This facilitates smooth vehicular movement.  Figure 6.8: Provision of adequate shoulder width at 31+480	High	Adequate shoulder width has been provided to facilitate seamless vehicular movement along with proper railing.	Desirable

S.No.	Safety Concerns and Audit Findings		Recommendations	
	Description (with images if any)	**Risk**	**Description (with images if any)**	**Priority**
9	The overall design of the carriageway seems to comply with the road geometric design principles.  Figure 6.9: Adequate lane as well as shoulder spacing and compliance with road design principles shown at 31+760	Very High	Compliance with the road design principles has been seen in terms of adequate lane and shoulder widths at the given road stretch. Also, the road seems to be well lit as per the IRC guidelines & found traffic worthy	Essential
10	Hazard marker has been providedbefore the start of the culvert at 25+050.  Figure 6.10: Provision of Hazard marker at the beginning of the culvert	High	All safety markings and signage as a safe traffic management practice as per IRC SP: 88-2019 are found at site.	Highly desirable.

S.No.	Safety Concerns and Audit Findings		Recommendations	
	Description (with images if any)	**Risk**	**Description (with images if any)**	**Priority**
11	Proper road signage has been insured at the givenstretch.  Figure 6.11: Proper Road Signage as per IRC Guidelines have been insured at 27+520	High	proper signboards as per IRC 67-2012 are at site	Highly Desirable

CHAPTER 7
CONCLUSION AND RECOMMENDATIONS

7.1 GENERAL

All the tests that were conducted during the construction phase of the project proved to be beneficial for the smooth functioning and high serviceability of the constructed highway. These small measures right from the designing phase of the project and till after completion have a great impact on the overall project be it in the economical way or in the matters of the safety.

7.2 CONCLUSIONS

This National highway NH444A section from Saha to Shahabad has since been completed as Phase-II of the project. During the safety audit, various chainages inspected and photographs taken and found compliance of Safety & Traffic management for the road users / vehicular traffic. The statuses of Audit detail are attached. The highway has already been put into operation and the following compliance already made has been observed.

1. Transverse Bar marking comprising of thermoplastic marking of yellow color done as per specification & IRC- 99-2008 at the median gaps where crossing of side road joins.

2. Reflective yellow tape of size 3x2 on the Anti glares / view cutter pasted so as to facilitate for the drivers during the night.

3. Cat eyes have already been provided at the super elevation, built up area, median opening etc.

4. Provision of Solar blinkers has also been made for the safety of road users at the appropriate required locations for the turning traffic.

5. Hazard marker as an extra provision has been made at such locations where required.

6. Route direction along with distances has been facilitated by installing the Gantry at locations at Km 15.900 Km 31.500

7. The ATMS provision as per Schedule-C has been fully complied with as per MORTH requirement.

- Km 15.750 (LHS)
- Km 30.800 (RHS)

8. Street Lightening has been provided in the urban reach of Highway from km 14.840 to 15.600 & Km 31.600 to 31.760.

As a resultant view during the safety audit the Highway has been found to be satisfactory for the pedestrian / road users/ vehicular traffic for which the Highway has been designed.

7.2 ADDITIONAL RECOMMENDATIONS

- At turning radius locations, it is understood that possibility for Widening of Carriageway is ruled out, due to land constraint and therefore proper delineator, Hazard marker and Hazard paint sign is recommended.
- In order to control the speed of over speeding vehicles, "Table top"/"Speed table" arrangement has been recommended as speed calming measure.
- The warning/cautionary sign boards comply to the recommendations given in IRC:67-2012 as below:

Table 7.1: Recommendations for Warning Sign Boards (Source: IRC: 67- 2012)

Design Speed	**Size**	**Side (mm)**	**Border (mm)**	**Clear Visibility Distances (m)**	**Distance of signs from Hazard (m)**
Up to 50Kmph	Small	600	45	45	45
51 – 65 kmph	Medium	750	60	60	45 – 100
66 – 80 kmph	Normal	900	70	60	110 – 180
>80 kmph	Large	1200	90	90	180 - 245

REFERENCES

1. Basic Road Statistics of India, Ministry of Road Transport and Highways
2. IRC: 37-2018 “Guidelines for design of Flexible Pavements”- Indian Road Congress
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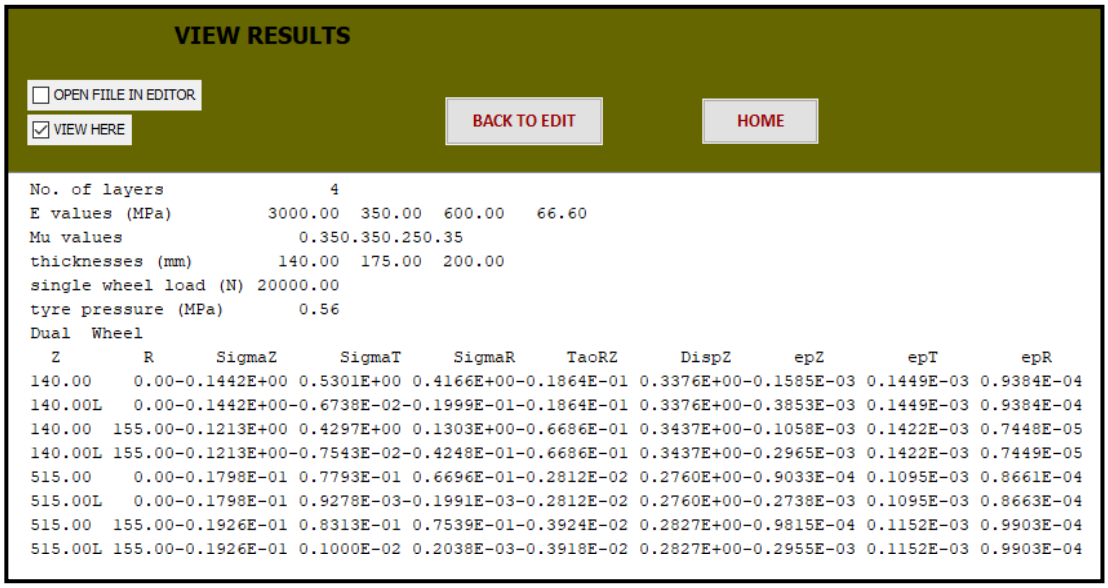
4. R.A. Rahman, A R Radzi , M S H Saad and S.I. Doh (2019), “Factors affecting the success of highway construction projects: the case of Malaysia”
5. Dr. S.S. Jain, P.K. Singh, Dr. M Parida (2011), “Road Safety Audit for four Lane National Highways”
6. A. Anandraj, S. Vijayabaskaran (2020), “Evaluation of Road Safety Audit on Existing Highway by Empirical Babkov’s Method”
7. IS: 2386 “Methods of tests for aggregate for concrete”.
8. IRC: 35-2015 “Code for practice for road markings”, Indian Road Congress.
9. IRC: 67-2012 “Code for practice for road signs”, Indian Road Congress.
10. IRC: SP: 88- 2019 “Manual of Road Safety Audit” Indian Road Congress.
11. IRC: 119 “Guidelines for Traffic Safety Barriers”
12. IRC:103-2012 “Guidelines for Pedestrian Facilities”
13. IRC:SP:90-2010 “Manual for Grade Separators and elevated structures”
14. IRC:SP:44-1996 “Highway Safety Code”

ANNEXURE

IIT PAVE output for Design Life of the Pavement:




```
No. of layers                 4
E values (MPa)          3000.00  350.00  600.00   66.60
Mu values                  0.350.350.250.35
thicknesses (mm)         140.00  175.00  200.00
single wheel load (N) 20000.00
tyre pressure (MPa)        0.56
Dual  Wheel
  Z         R       SigmaZ       SigmaT      SigmaR      TaoRZ       DispZ       epZ         epT         epR
140.00     0.00-0.1442E+00 0.5301E+00 0.4166E+00-0.1864E-01 0.3376E+00-0.1585E-03 0.1449E-03 0.9384E-04
140.00L    0.00-0.1442E+00-0.6738E-02-0.1999E-01-0.1864E-01 0.3376E+00-0.3853E-03 0.1449E-03 0.9384E-04
140.00   155.00-0.1213E+00 0.4297E+00 0.1303E+00-0.6686E-01 0.3437E+00-0.1058E-03 0.1422E-03 0.7448E-05
140.00L 155.00-0.1213E+00-0.7543E-02-0.4248E-01-0.6686E-01 0.3437E+00-0.2965E-03 0.1422E-03 0.7449E-05
515.00     0.00-0.1798E-01 0.7793E-01 0.6696E-01-0.2812E-02 0.2760E+00-0.9033E-04 0.1095E-03 0.8661E-04
515.00L    0.00-0.1798E-01 0.9278E-03-0.1991E-03-0.2812E-02 0.2760E+00-0.2738E-03 0.1095E-03 0.8663E-04
515.00   155.00-0.1926E-01 0.8313E-01 0.7539E-01-0.3924E-02 0.2827E+00-0.9815E-04 0.1152E-03 0.9903E-04
515.00L 155.00-0.1926E-01 0.1000E-02 0.2038E-03-0.3918E-02 0.2827E+00-0.2955E-03 0.1152E-03 0.9903E-04
```

Msa Calculations

SUMMRY OF VDF			
VEHICLE TYPE	**Paiti Boripur to Saha**	**Saha to Paiti Boripur**	**Adopted VDF**
LCV	0.28	1.14	**1.14**
BUS	1.02	0.62	**1.02**
2 Axle	4.92	2.72	**4.92**
3 Axle	4.18	4.41	**4.41**
MAV	11.75	6.93	**11.75**
Adopted Direction Distribution Factor	**0.50**		
Adopted Lane distribution Factor	**0.75**		
Distribution Factor	**0.375**		
Days	**365**		

Traffic Growth Rate Adopted for Pavement Design					
Year	**Bus**	**LCV**	**2A**	**3A**	**MAV**
2015	5.00%	5.00%	5.00%	5.00%	5.00%
2019	5.00%	5.00%	5.00%	5.00%	5.00%
2023	5.00%	5.00%	5.00%	5.00%	5.00%
2027	5.00%	5.00%	5.00%	5.00%	5.00%
2031	5.00%	5.00%	5.00%	5.00%	5.00%
2035	5.00%	5.00%	5.00%	5.00%	5.00%
2039	5.00%	5.00%	5.00%	5.00%	5.00%
2043	5.00%	5.00%	5.00%	5.00%	5.00%

Present Traffic in Numbers	1360	71	538	627	597	**AADT*365*VDF*DF/1000000**					**MSA**	**Cumm .MSA**	**No of Years**	**Design Yearsand Design MSA**
Year	**LCV**	**Bus**	**2-Axle**	**3-Axle Trucks**	**MAV**	**LCV**	**Bus**	**2-Axle**	**3-Axle Trucks**	**MAV**				
2020	1360	71	538	627	597	0.21	0.01	0.36	0.38	0.96				
2021	1428	75	565	658	627	0.22	0.01	0.38	0.40	1.01				
2022	1499	78	593	691	658	0.23	0.01	0.40	0.42	1.06	2.12	2.12	1.00	
2023	1574	82	623	726	691	0.25	0.01	0.42	0.44	1.11	2.23	4.35	2.00	
2024	1653	86	654	762	726	0.26	0.01	0.44	0.46	1.17	2.34	6.68	3.00	
2025	1736	91	687	800	762	0.27	0.01	0.46	0.48	1.23	2.45	9.14	4.00	
2026	1823	95	721	840	800	0.28	0.01	0.49	0.51	1.29	2.58	11.72	5.00	
2027	1914	100	757	882	840	0.30	0.01	0.51	0.53	1.35	2.71	14.42	6.00	
2028	2009	105	795	926	882	0.31	0.01	0.54	0.56	1.42	2.84	17.26	7.00	
2029	2110	110	835	973	926	0.33	0.02	0.56	0.59	1.49	2.98	20.25	8.00	
2030	2215	116	876	1021	972	0.35	0.02	0.59	0.62	1.56	3.13	23.38	9.00	
2031	2326	121	920	1072	1021	0.36	0.02	0.62	0.65	1.64	3.29	26.67	10.00	
2032	2442	128	966	1126	1072	0.38	0.02	0.65	0.68	1.72	3.45	30.12	11.00	
2033	2564	134	1014	1182	1126	0.40	0.02	0.68	0.71	1.81	3.63	33.75	12.00	
2034	2693	141	1065	1241	1182	0.42	0.02	0.72	0.75	1.90	3.81	37.55	13.00	
2035	2827	148	1118	1303	1241	0.44	0.02	0.75	0.79	2.00	4.00	41.55	14.00	

2036	2969	155	1174	1369	1303	0.46	0.02	0.79	0.83	2.10	4.20	45.75	15.00	
2037	3117	163	1233	1437	1368	0.49	0.02	0.83	0.87	2.20	4.41	50.16	16.00	
2038	3273	171	1295	1509	1437	0.51	0.02	0.87	0.91	2.31	4.63	54.79	17.00	
2039	3437	179	1359	1584	1509	0.54	0.03	0.92	0.96	2.43	4.86	59.64	18.00	
2040	3608	188	1427	1664	1584	0.56	0.03	0.96	1.00	2.55	5.10	64.75	19.00	
2041	3789	198	1499	1747	1663	0.59	0.03	1.01	1.05	2.67	5.36	70.10	20.00	**for 20 years = 71 MSA**

AXLE LOAD SURVEY

Section:		**Date:**	
Location:		**Time :**	
Direction:	**Paiti Boripur to Saha**	**Weather:**	
Pad No:			

S. No.	Registration No.	Vehicle Type	Axle Configuration	Origin	Destination	Commodity Type	Wheel Loads In KG								Commodity
							1st Axle	2nd Axle	3rd Axle	4th Axle	5th Axle	6th Axle	7th Axle	8th Axle	
1	NL01AE5582	3XL	1.22	BARELI	SHAHA	10	2500	2800	3540						EMPTY
2	HR65A5229	LCV	1.2	SHAHBAAD	SHAHA	7	1310	1810							EMPTY
3	HR46E9052	4XL	1.2.11	MANESAR	SHAHA	15	2715	3195	2875	3290					CAR
4	HR46B6633	4XL	1.2.22	DELHI	KAKADMAJRA	13	1770	2580	2680	2930					EMPTY
5	HP36C3759	2XL	1.2	DELHI	SHIMLA	9	2860	6580							MARBLE
6	HR65A4444	MAV	1.22.222	BIHAR	BARWALA	23	3140	7340	7450	6650	8640	9050			MAIZE
7	PB13W8796	2XL	1.2	SHAHBAAD	SAJADPUR	9	3080	9560							TUDI
8	PB13AR0496	2XL	1.2	SHAHBAAD	SAJADPUR	9	3040	7150							TUDI
9	HR37E8541	LCV	1.1	MORI	SHAHA	6	576	520							EMPTY
10	HR65A5489	LCV	1.2	PANIPAT	SHAHA	7	4110	1550							EMPTY
11	RJ23GB6153	MAV	1.22.222	SIKAR	SAJADPUR	23	3545	6955	7045	6570	8040	7950			CEMENT
12	PB04V2924	BUS	1.2	DELHI	SHIMLA	3	2760	3480							PASSANGER
13	MP07HB2591	MAV	1.1.22	GAWLIEAR	HIMACHAL	14	2475		4630	4370					FOOD
14	HR37D1014	3XL	1.22	MORI	BADOLI	10	2365	2280	2040						EMPTY
15	TN52J3099	MA	1.1.22	UP	MULANA	14	3660	3850	6875	6580					RISE

		V													
16	UK07CB0778	LCV	1.2	KESRI	SHAHA	7	1210	1540							EMPTY
17	PB03AJ4769	LCV	1.2	KURUKSHETRA	KALA AAM	7	1355	1520							EMPTY
18	HP17F7603	LCV	1.2	KURUKSHETRA	SHAHA	7	1810	2110							EMPTY
19	HR37D2316	3XL	1.22	DELHI	SHIMLA	10	2795	6320	5350						COTTON
20	HP71G1969	LCV	1.2	MORI	SHAHA	7	1850	4365							AC
21	PB13AW7096	2XL	1.2	SHAHBAAD	SAJADPUR	9	3040	8050							TUDI

22	HR37C5175	LCV	1.2	SHAHBAAD	SHAHA	7	1210	1750							EMPTY
23	HR37C6233	LCV	1.1	MORI	SOLAN	6	1175	1450							PARSAL
24	HR58B5573	2XL	1.2	SHAHBAAD	BADOLI	9	3695	6045							TUDI
25	HR67B6578	LCV	1.2	PANIPAT	BADOLI	7	1035	1480							EMPTY
26	HP12E4051	2XL	1.2	MORI	KALA AAM	9	2395	2450							EMPTY
27	HR55J7182	MAV	1.1.22	MACHONDA	RAJIVPUR	14	2235		2310	2010					EMPTY
28	HP63A1276	2XL	1.2	SHAHBAAD	HIMACHAL	9	3250	8160							COMPOST
29	HR55R2030	2XL	1.2	MORI	KALA AAM	9	2370	4850							PARSAL
30	HR37C3825	LCV	1.1	MORI	JAGADARI	6	430	735							PARSAL
31	RJ14GE3789	2XL	1.2	MORI	KALA AAM	9	2370	2570							EMPTY
32	PB13BK4436	2XL	1.2	SHAHBAAD	RAPRANI	9	1820	2050							EMPTY
33	HP71C7394	LCV	1.2	KUNDLI	PATOSAHIB	7	1650	1750							PARCHUN
34	HR65A8953	LCV	1.1	DINARPURA	SHAHA	6	370	410							PARSAL
35	HR46D2194	2XL	1.2	SHAHBAAD	RAPRANI	9	2350	6050							FUEL
36	HR55N5231	MAV	1.1.22	SHAHBAAD	SHAHA	14	1750	2450	2630	2880					EMPTY
37	MH48A4515	LCV	1.2	SHAHBAAD	SHAHA	7	2350	2880							EMPTY
38	HR55R6095	3XL	1.22	SHAHBAAD	KALA AAM	10	2085	1715	1610						EMPTY
39	HR38AB7399	LCV	1.2	SHAHBAAD	SHAHA	7	1160	1445							EMPTY
40	HR66B7470	2XL	1.2	KESRI	SHAHA	9	1460	1520							EMPTY
41	HR37B8065	LCV	1.2	KESRI	SHAHA	7	980	1340							IRON
42	DL1LA6662	LCV	1.1	AMBALA	SHAHA	6	1165	1210							EMPTY

43	PB08EB2874	LCV	1.1	SHAHBAAD	BADOLI	6	380	430							DAK PARSAL
44	DL1M6097	LCV	1.2	DELHI	BARWALA	7	1220	1410							EMPTY
45	UP86T3682	LCV	1.1	DADRI	NARYANGARH	6	1120	1350							FOOD
46	HP18B0269	2XL	1.2	KARAWADI	KALA AAM	9	1850	2040							EMPTY
47	HR47D3106	2XL	1.2	DELHI	SHAHA	9	1840	3260							MEDICEN
48	GJ06A5769	2XL	1.2	AMBALA	KALA AAM	9	2450	2830							EMPTY
49	HP12G8675	3XL	1.22	DELHI	SHIMLA	10	4080	7650	7420						PARCHUN
50	PB11GA4188	MAV	1.2.22	KARNAL	SHIMLA	13	3550	7040	6560	8020					CEMENT
51	HR69C1070	3XL	1.22	THANESAR	KALA AAM	10	2050	2180	2280						EMPTY

52	HR73D9939	LCV	1.1	AMBALA	SHAHA	6	1060	1520							PARCHUN
53	HR55S6209	3XL	1.22	SHAHBAAD	KALA AAM	10	2280	2460	2680						EMPTY
54	RJ32GB9388	3XL	1.22	HALDWANI	SHAHA	10	2160	6080	6050						GATTA
55	HR67B4490	2XL	1.2	SHAHBAAD	SHAHA	9	1840	2120							EMPTY
56	HR38B3429	MAV	1.2.22	SHAHBAAD	BADOLI	13	1750	2330	2550	2620					EMPTY
57	HR55AC3880	LCV	1.2	ROHATAK	KALA AAM	7	2220	2780							BISCUITS
58	HR46D6036	2XL	1.2	SHAHBAAD	BADOLI	9	2440	6020							FUIL
59	HR38Z8899	LCV	1.2	SHAHBAAD	SHAHA	7	1300	1480							EMPTY
60	NL01Q3551	2XL	1.2	KESRI	SHAHA	9	2430	2780							EMPTY
61	HR37D0839	2XL	1.2	MEWAT	SHAHA	9	2170	2820							EMPTY
62	HR69DO9889	3XL	1.22	MORI	BADOLI	10	2010	2450	2630						EMPTY
63	HR69D3445	MAV	1.1.122	SONIPAT	NARYANGARH	20	1760	2360	2530	2620	2530				EMPTY
64	HR63A7743	3XL	1.22	SHAHBAAD	BADOLI	10	3020	8035	7720						TUDI
65	HR01GA0405	2XL	1.2	DINARPURA	SHAHA	9	1830	2220							EMPTY
66	HP12C3428	2XL	1.2	AMBALA	SHAHA	9	2050	2310							EMPTY
67	RJ11GA7277	3XL	1.22	SHAHBAAD	SHAHA	10	2120	2320	2580						EMPTY
68	HR58B5937	LCV	1.1	SHAHBAAD	SHAHA	6	650	1030							KHAAD
69	HR55H7430	MAV	1.2.222	PANIPAT	SHAHA	18	2760	8090		9020	8750				CEMENT
70	HR45C1256	LCV	1.2	SHAHBAAD	SHAHA	7	1350	1620							HP GAS
71	HR65C5571	BUS	1.2	AMBALA	SHIMLA	3	2750	3420							PASSENGER

72	HR69D9014	LCV	1.2	DINARPURA	BADOLI	7	1190	1480							EMPTY
73	HR67C9745	2XL	1.2	SHAHBAAD	BARWALA	9	1950	3150							CANDY
74	HR55U2341	3XL	1.22	MORA	SHAHA	10	2045	1920	2030						EMPTY
75	HR65C7569	3XL	1.22	SHAHBAAD	SHAHA	10	2030	2340	2560						EMPTY
76	HP19D7597	3XL	1.22	SONIPAT	SHAHA	10	2110	2250	2650						EMPTY
77	HR37C3537	LCV	1.2	SHAHBAAD	SHAHA	7	1210	1520							EMPTY
78	HR58A9500	2XL	1.2	SHAHBAAD	NARYANGARH	9	1250	1490							EMPTY
79	HR67B3200	LCV	1.2	PANIPAT	SHAHA	7	1420	1520							EMPTY
80	NL01N7529	2XL	1.2	DELHI	PUNCHKULLA	9	3430	5030							CARS
81	HP12F1190	2XL	1.2	DUBLI	SHAHA	9	2040	3240							EMPTY

82	HR49B7733	LCV	1.2	KARNAL	KODWA	7	1035	1220							EMPTY
83	HR37E3340	2XL	1.2	PANIPAT	SHAHA	9	1430	1680							EMPTY
84	HR67C1377	3XL	1.22	DELHI	PUNCHKULLA	10	3460	7890	7760						MEDICEN
85	HR38AB5205	LCV	1.2	AMBALA	SHAHA	7	1070	1480							EMPTY
86	HR37D2287	3XL	1.22	SHAHBAAD	SHAHA	10	1950	2630	2740						EMPTY
87	HR38Y2742	MAV	1.22.222	PANIPAT	PUNCHKULLA	23	2530	2125	2150		2250	2170			EMPTY
88	HR55A9658	LCV	1.2	SHAHBAAD	BADOLI	7	2010	2210							EMPTY
89	UK08CA2140	MAV	1.1.22	KURUKSHETRA	RUDKI	14	2280	2080	2120	2010					EMPTY
90	PB13BE8437	3XL	1.22	CENNT	YAMUNA NAGAR	10	2050	2830	2750						EMPTY
91	HR45A5770	LCV	1.2	LADWA	SHAHA	7	2280	3840							GATTA
92	HR65C8572	3XL	1.22	KESRI	SHAHA	10	2250	2050	1950						EMPTY
93	CH01TA1043	2XL	1.2	SHAHBAAD	SHAHA	9	2650	7750							SUGER
94	HR76B8162	LCV	1.1	AMRITSAR	YAMUNA NAGAR	6	1090	1210							EMPTY
95	HP71C9471	MAV	1.1.22	NILOKHERI	KALA AAM	14	1650	1300	2020	1950					EMPTY
96	HP93C8530	3XL	1.22	LACKNOW	BADI	10	3460	5120	6540						COTTON
97	HR58A1674	LCV	1.2	SHAHBAAD	SHAHA	7	1480	1980							EMPTY
98	HR37E9129	2XL	1.2	KESRI	SHAHA	9	1530	1650							EMPTY
99	HP23C2135	2XL	1.2	SHAHBAAD	BADOLI	9	1610	1810							EMPTY
100	HR68B4224	2XL	1.2	PANIPAT	PUNCHKULLA	9	2940	6640							FUEL
101	HR68A1289	LCV	1.2	CENNT	SHAHA	7	985	1210							EMPTY
102	MP09HH9825	MAV	1.1.22	CENNT	YAMUNA NAGAR	14	2470		2260	1880					EMPTY

103	NL01AE1760	3XL	1.22	AMBALA	SHAHA	10	2340	2250	2060						EMPTY
104	HP24BO7085	2XL	1.2	DELHI	SHIMLA	9	3040	4080							PARCHUN
105	HR55J6170	3XL	1.22	KESRI	SHAHA	10	2220	1845	1660						EMPTY
106	HR47D4469	3XL	1.22	AMBALA	SHAHA	10	4020	3040	4010						PARCHUN
107	RJ01GB2217	MAV	1.2.222	RAJPURA	YAMUNA NAGAR	18	1905	2530		1630	1950				EMPTY
108	HP17D6694	2XL	1.2	DINARPUR	SHAHA	9	2100	2395							EMPTY
109	HR58B3474	2XL	1.2	DINARPUR	POTASAHIB	9	2020	2075							EMPTY
110	GJ27X2221	3XL	1.22	AHAMDABAA	SHIMLA	10	2880	6040	5520						PARCHUN
111	HR68A7747	MAV	1.1.22	KARNAL	KALA AAM	14	4050	9350	9460	9020					CEMENT
112	HR69C3449	MAV	1.22.222	SHAHBAAD	SHAHA	23	2010	2310	2120		1750	2060			EMPTY

113	HR69O7935	LCV	1.2	DELHI	HEMACHAL	7	1010	1680							CARRET
114	HR46E8934	3XL	1.22	PATNA	SHAHA	10	2360	4020	5080						PARCHUN
115	HR37D3674	LCV	1.1	PANIPAT	SHAHA	6	1150	1210							EMPTY
116	BR02M8916	MAV	1.1.22	BIHAR	BARWALA	14	5250	8650	7750	9080					RISE
117	HR58A6388	2XL	1.2	AMBALA	SHAHA	9	2410	6080							FUEL
118	PB10BK5841	2XL	1.2	SHAHBAAD	BADOLI	9	1980	2130							EMPTY
119	GJ06C1912	3XL	1.22	GUJRAAT	SOLAN	10	2430	4055	4250						CAMICAL
120	HR68A8762	2XL	1.2	CENNT	SHAHA	9	2340	5560							FUEL
121	HR65A6853	LCV	1.1	SHAHBAAD	SHAHA	6	1210	1550							KHAAD
122	HR37T7919	2XL	1.2	SHAHBAAD	SHAHA	9	1950	2030							EMPTY
123	HR68B1001	MAV	1.1.22	AHADURGAR	BARWALA	14	3040	3220	4550	4230					FUEL
124	HR37D5400	3XL	1.22	MORI	BANDOLI	10	2440	2230	2150						EMPTY
125	UP53ET1997	MAV	1.1.122	SHAHBAAD	NARAYANGARH	20	2550	2265		2470	2155				EMPTY
126	HR64A7917	3XL	1.22	PANIPAT	SAJADPUR	10	3120	5905	5450						FUEL
127	HR55M1576	LCV	1.2	MORA	BADOLI	7	2320	2820							DAAK PARSAL
128	HR47D8623	3XL	1.22	LuCKNOW	SHAHA	10	2360	2560	2220						EMPTY
129	HP64C4481	LCV	1.2	SHAHBAAD	SHAHA	7	1420	1910							EMPTY
130	RJ14GJ8283	3XL	1.22	KALADERA	SHAHA	10	2350	3080	3450						PIPE
131	HR65C7569	3XL	1.22	MORI	KAALPI	10	2305	2495	2290						EMPTY
132	HR37B1345	LCV	1.1	MORI	SHAHA	6	1120	1950							IRON
133	HRG8A0205	MAV	1.2.22	KARNAL	CHANDIGARH	13	1760	1980	2350	2480					EMPTY
134	HR38AB7650	LCV	1.2	MORI	KAALAM	7	2480	3680							PARCHUN
135	HR64A8074	4XL	1.122	SHAHBAAD	SHAHA	16	3220	3540	4230	4060					FUEL
136	RJ23GB6372	MAV	1.22.222	CHITOR	PANCHKULLA	23	3640	7050	6020	7625	8020				CEMENT
137	PB03AJ5040	LCV	1.2	KESRI	SHAHA	7	1320	1480							EMPTY
138	HR38D4230	LCV	1.2	MORA	BANDOLI	7	1890	3040							KHAAD

139	HR37C4858	LCV	1.2	SHAHBAAD	BARWALA	7	2880	4045							KHAAD
140	HR01GA4230	2XL	1.2	SONIPAT	SHAHA	9	1820	2430							EMPTY
141	PB13BW7688	2XL	1.2	SHAHBAAD	SAJADPUR	9	3225	9480							TUDI
142	PB04V2820	BUS	1.2	DELHI	MEHLI	3	2820	3350							PASSENGER
143	HR55N3820	MAV	1.2.22	AMBALA	SHAHA	13	1690	2430	2580	2890					EMPTY
144	PB11GA4230	MAV	1.2.222	BHILWARA	BARWALA	18	3640	7220	6630	7480	7090				CEMENT
145	HR55AB6298	LCV	1.1	SHAHBAAD	BALODI	6	850	1230							KHAAD
146	HP11B6337	2XL	1.2	SHAHBAAD	SAHAJAPUR	9	3340	8060							TUDI
147	HR45C3959	2XL	1.2	MORI	SHAHA	9	3220	5560							CEMENT
148	HR38AA1390	LCV	1.2	SHAHBAAD	BALODI	7	1030	1190							EMPTY

149	DL1GC3462	LCV	1.2	DELHI	BARWALA	7	1435	1650							EMPTY
150	PB11CM0755	2XL	1.2	SHAHBAAD	SHAHA	9	3450	9095							TUDI
151	MH86F2028	MAV	1.2.22	THANA	CHANDIGARH	13	3060	5520	4480	4850					CHEMICAL
152	HR37D4486	LCV	1.2	MORA	BADOLI	7	980	1350							EMPTY
153	HR37D6375	LCV	1.2	KESRI	SHAHA	7	2050	1820							EMPTY
154	NL01L8237	2XL	1.2	KURUKSHETRA	KALA AAM	9	3020	2680							PARSAL
155	NL01AC6446	2XL	1.2	DELHI	PANCHKULLA	9	3150	3820							PARCHUN
156	HR37D3838	2XL	1.2	GURUGRAM	BADI	9	2450	4080							PARCHUN
157	HR65C7559	3XL	1.22	SHAHBAAD	SHAHA	10	2120	1850	1780						EMPTY
158	HR69A1502	3XL	1.22	SURAT	CHANDIGARH	10	3320	3840	4230						COTTON
159	HR38U0333	2XL	1.2	DELHI	SHAHA	9	3280	5030							PARCHUN
160	HR55AF0684	LCV	1.2	SHAHBAAD	KALA AAM	7	1910	1845							EMPTY
161	HR55V1872	2XL	1.2	GURUGRAM	BADI	9	2365	4890							SPARE PART
162	HR65C5591	BUS	1.2	SHAHBAAD	SHAHA	3	2850	3545							PASSENGER
163	HR55N9236	3XL	1.22	MUMBAI	BADI	10	3450	5010	6020						GHEE DALDA
164	PB13AR0496	2XL	1.2	KURUKSHETRA	SAHAJADPUR	9	3340	4820							TUDI
165	PB03BC5042	2XL	1.2	PUNJAB	BARWALA	9	2080	4560							IRON
166	HR37B3857	2XL	1.2	DELHI	SHAHA	9	2820	4080							PARCHUN
167	HR55S4977	3XL	1.22	SHAHBAAD	SHAHA	10	4650	7880	1050						TUDI
168	HP71C9472	MAV	1.1.22	SHAHBAAD	KALA AAM	14	2260	2250	1850	1790					EMPTY
169	HR37E0611	LCV	1.1	SHAHBAAD	SHAHA	6	590	810							EMPTY
170	HR38R6230	MAV	1.1.22	KURUKSHETRA	BARWALA	14	2820	3540	3850	3750					PALLAY
171	HR58B8743	2XL	1.2	SHAHBAA	SHAHA	9	1650	2240							EMPTY

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172	HR65A1676	2XL	1.2	PIPLI	KALA AAM	9	1850	2280							EMPTY
173	HR65A7078	LCV	1.2	MORI	PANCHKULLA	7	2650	3820							FANS
174	HR62C8885	3XL	1.22	KISANGARH	CHANDIGARH	10	3820	6020	5540						MARBAL
175	NL01Q3559	3XL	1.22	DELHI	BARWALA	10	2830	4075	3930						PARCHUN
176	HR61D5656	2XL	1.2	SHAHBAAD	BARWALA	9	2530	4150							PARCHUN
177	HP12F0263	3XL	1.22	SHAHBAAD	SAHAJADPUR	10	4250	7820	8530						TUDI
178	HR39B9759	2XL	1.2	SHAHBAAD	SAHAJADPUR	9	4530	9030							TUDI
179	HR55AF0684	LCV	1.2	WAZIRPUR	SHAHA	7	2420	3540							COTTON
180	DL1GC5605	2XL	1.2	KURUKSHETRA	BARWALA	9	1910	2320							EMPTY
181	HP64B0611	2XL	1.2	DELHI	PANCHKULLA	9	3250	3830							AC
182	HR67A2295	2XL	1.2	KURUKSHETRA	BARWALA	9	3340	4010							FURNITURE
183	UK08CB4326	LCV	1.2	DADRI	BARWALA	7	1250	1820							EMPTY
184	HR37C7531	2XL	1.2	AMBALA	KALA AAM	9	3045	4250							COTTON

185	HP25A1509	2XL	1.2	SHAHBAAD	SHAHA	9	3540	4410							PARCHUN
186	DL1GC5605	2XL	1.2	DELHI	CHANDIGARH	9	3028	3650							FREEZE
187	NL01L7277	MAV	1.2.22	GUJRAT	PANCHKULLA	13	2830	5545	5860	5570					FUEL
188	UP14JT2703	3XL	1.22	RUDHRAPUR	BARWALA	10	3040	3830	3620						BISCUITE
189	HR67B9131	MAV	1.2.22	CANNT	PANCHKULLA	13	2520	3540	3610	3475					CANTENER
190	DL1LX0382	LCV	1.2	SHAHBAAD	SHAHA	7	1210	1830							EMPTY
191	HR65A3019	2XL	1.2	GAZIYABAAD	BARWALA	9	2540	3280							GLASS
192	UP14ST2923	3XL	1.22	SHAHBAAD	BARWALA	10	2340	4585	3420						PARCHUN
193	GJ16X9666	MAV	1.1.22	JAAMNAGAR	CHANDIGARH	14	2790	5020	5820	5640					FUEL
194	HR55AB0983	MAV	1.1.22	AMBALA	PANCHKULLA	14	3020	3245	3975	3750					PARCHUN
195	HR37D4424	LCV	1.2	MORI	SHAHA	7	1050	1230							EMPTY
196	UK08CB0392	2XL	1.2	DELHI	PANCHKULLA	9	2350	3295							WIRE
197	HP12D8801	3XL	1.22	PANIPAT	SHAHA	10	2480	3420	3275						STICKS
198	HR55U3605	LCV	1.2	SHAHBAAD	KALA AAM	7	1110	1230							EMPTY
199	HR55Y7854	MAV	1.1.122	SHAHBAAD	SHAHA	20	1820	1540	1680	1810	1745				EMPTY
200	PB65AS2353	MAV	1.2.11	DELHI	CHANDIGARH	15	2210	1835	2435	2640					CAR
201	MH04GB6505	3XL	1.22	PUNA	PANCHKULLA	10	3250	4210	4030						PARCHUN
202	HR65C8206	BUS	1.2	SHAHBAAD	SHIMLA	3	2890	3520							PASSENGR
203	HR65C7058	BUS	1.2	SHAHBAAD	SHAHA	3	2750	3415							PASSENGR
204	HR65C9471	MAV	1.2.22	BHILWARA	PANCHKULLA	13	3430	5660	6750	7040					CEMENT
205	MP06HC2834	2XL	1.2	JABALPUR	BARWALA	9	2530	3620							PARCHUN
206	UP22T5109	3XL	1.22	RUDHRAPUR	CHANDIGARH	10	3210	4120	4465						BISCUITE
207	DL1M6101	LCV	1.2	DELHI	BARWALA	7	1230	1950							BARTAN
208	HR37D2287	3XL	1.22	SHAHBAA	SHAHA	10	2350	2295	2130						EMPTY

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209	HP12D0389	2XL	1.2	MORI	PANCHKULLA	9	1530	1650							EMPTY
210	HR69C9676	2XL	1.2	AMBALA	PANCHKULLA	9	1490	1640							EMPTY
211	HR55AD5074	LCV	1.2	SHAHBAAD	PANCHKULLA	7	2045	4065							PARCHUN
212	HP16A0756	LCV	1.1	MORA	BARWALA	6	1020	1180							CARRET
213	HR37D1480	LCV	1.1	KESRI	SHAHA	6	590	510							SPECKER
214	HP12F4051	2XL	1.2	DINARPUR	SHAHA	9	1450	1610							EMPTY
215	HR37E9991	MAV	1.1.22	SHAHBAAD	SHAHA	14	1580	1820	2210	2030					EMPTY
216	HR53X1400	3XL	1.22	MORI	SHAHA	10	2230	2315	2085						EMPTY
217	DL1LY1607	LCV	1.2	KESRI	SHAHA	7	1210	1635							PLASTIC CANTEN
218	HP93C3631	3XL	1.22	MERUT	BARWALA	10	4160	7045	6230						REEL GATTA
219	HR58A8270	2XL	1.2	MORI	SHAHA	9	1520	1680							EMPTY
220	DL1LAB3797	LCV	1.1	KESRI	BARWALA	6	430	590							EMPTY

221	HP63E1510	2XL	1.2	DELHI	PARMANU	9	4050	8750							RISE
222	HR65C9617	LCV	1.1	MORI	SHAHA	6	380	510							EMPTY
223	HP12G9166	2XL	1.2	DELHI	PANCHKULLA	9	4850	7820							RISE
224	RJ10GB2880	3XL	1.22	AMBALA	BARWALA	10	2280	2295	2160						EMPTY
225	HR45B8395	2XL	1.2	GUJRAT	SHAHA	9	2055	4230							BANANA
226	HP12A8302	2XL	1.2	DELHI	PARMANU	9	4225	3820							RISE
227	HP12G7091	3XL	1.22	SHAHBAAD	BARWALA	10	2025	2180	2210						EMPTY
228	HR45C8160	LCV	1.1	CANNT	SHAHA	6	470	595							PARSAL
229	HR37E4938	2XL	1.2	MORA	SAJADPUR	9	1890	3235							FANS
230	HR55R8178	LCV	1.1	KESRI	SHAHA	6	390	450							EMPTY
231	HR38K7537	3XL	1.22	KARNAL	BARWALA	10	2395	7080	7230						PASHU AAHAR
232	RJ14GG4265	MAV	1.1.22	SHAHBAAD	NARYANGARH	14	2240	2150	1345	2215					EMPTY
233	HR69A6609	2XL	1.2	SHAHBAAD	PANCHKULLA	9	3540	5560							RISE
234	HR69A0549	2XL	1.2	DELHI	KALPI	9	2480	2830							ARMY SAMAAN
235	AP39U1879	MAV	1.1.22	KESRI	BARWALA	14	2240	2025	2290	2150					EMPTY
236	RJ14GE3789	2XL	1.2	KISANGARH	CHANDIGARH	9	3855	5885							MARBAL
237	HR37C5837	2XL	1.2	DELHI	PANCHKULLA	9	1950	3280							SPARE PARTS
238	PB65V5915	LCV	1.2	AMBALA	BARWALA	7	1890	2835							KHAAD
239	HR68C8206	BUS	1.2	SHAHBAAD	SHAHA	3	2780	3560							PASSENGER
240	PB11CF9207	LCV	1.2	BHELWARA	CHANDIGARH	7	2080	2850							COTTON
241	HR37D2287	3XL	1.22	KESRI	SHAHA	10	2370	2150	2250						EMPTY
242	PB11BY9315	LCV	1.2	DELHI	BADOLI	7	1150	1380							MACHINE
243	NL01Q7932	2XL	1.2	DELHI	CHANDIGARH	9	2380	3230							BIKE
244	UP16CT9296	2XL	1.2	LuCKNOW	SHAHA	9	2480	3560							SUGER
245	HP35C1096	LCV	1.2	AMBALA	YAMUNA	7	2085	2865							KAKDA

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246	HR69C6893	MAV	1.1.22	SHAHBAAD	PANCHKULLA	14	2610	2560	4780	4565					WHET
247	HR45A7558	2XL	1.2	KURUKSHETRA	SHAHA	9	2830	4030							PARCHUN
248	HP12H7070	2XL	1.2	MORI	SHAHA	9	2130	3560							ROLL GATTA
249	HP07D0722	2XL	1.2	SHAHBAAD	MULANA	9	1420	1960							EMPTY
250	HR37A5094	LCV	1.2	SHAHBAAD	PANCHKULLA	7	1210	2360							KABAAD
251	PB65AH1675	LCV	1.2	DELHI	CHANDIGARH	7	1460	2820							CORIUR
252	HR37C8631	LCV	1.2	DELHI	SHAHA	7	1620	3065							IRON PIPE
253	MP07HB5156	MAV	1.1.22	BHOPAL	SHAHA	14	2560	2480	4780	4620					PARCHUN
254	DL1MA2414	LCV	1.2	MANESAR	SHAHA	7	2385	2860							PARSAL
255	HP63B1939	2XL	1.2	DELHI	PANCHKULLA	9	2820	3230							SHOES
256	HR37D5359	3XL	1.22	SHAHBAAD	BADOLI	10	2090	1820	1730						EMPTY

257	HR38W4961	MAV	1.2.11	MAHARASTRA	CHANDIGARH	15	2190	1930	2460	2565					CAR
258	HR37D0843	LCV	1.2	DELHI	PANCHKULLA	7	2210	2830							CORIUR
259	MH04GR5477	3XL	1.22	NASIK	CHANDIGARH	10	2530	3540	3660						TYRE
260	HP06C8802	2XL	1.2	SHAHBAAD	RANJEETPUR	9	1890	2165							EMPTY
261	RJ05GC5860	MAV	1.1.22	BHILWARA	PANCHKULLA	14	3470	3130	6670	6420					CEMENT
262	HR69B7797	LCV	1.2	DELHI	BARWALA	7	1210	1530							PLASTIC BOTTO
263	HP71 4639	3XL	1.22	PANIPAT	SHAHA	10	2110	2215	2030						EMPTY
264	HR65A9121	MAV	1.2.22	AMBALA	SHAHA	13	1870	2250	2480	2595					EMPTY
265	HP12D3672	2XL	1.2	DELHI	CHANDIGARH	9	2480	2830							GATTA
266	RJ09GB3157	MAV	1.2.22	CHITHOR	BARWALA	13	3560	7150	6865	7290					CEMENT
267	HR45A7522	MAV	1.1.22	SHAHBAAD	SHAHA	14	5065	4310	6670	6930					RICE
268	HR47C3714	3XL	1.22	KURUKSHETRA	PANCHKULLA	10	2530	4260	4485						MAIZE
269	HR46E8917	2XL	1.2	SHAHBAAD	SAJADPUR	9	2130	2240							EMPTY
270	PB06L9956	3XL	1.22	LADWA	NARYANGARH	10	2135	3045	2850						FURNITURE
271	HR67 7242	3XL	1.22	DINARPUR	WAZIRPUR	10	2280	2230	2030						EMPTY
272	HR65A9565	3XL	1.22	SHAHBAAD	SAJADPUR	10	2195	2050	1980						EMPTY
273	HP12A8307	2XL	1.2	PANIPAT	SHAHA	9	1940	2365							EMPTY
274	HR37D9337	3XL	1.22	MORI	SHAHA	10	2180	2250	2010						EMPTY
275	HR65A7235	2XL	1.2	SHAHBAAD	JAGADARI	9	2365	2990							KABBAD
276	HP12F1191	2XL	1.2	KESRI	BARWALA	9	2030	2245							EMPTY
277	NL01Q9781	MAV	1.2.11	DELHI	PANCHKULLA	15	2330	1940	2360	2595					CAR
278	HR69C7014	MAV	1.2.222	KESRI	SHAHA	18	1930	2465	1960	1820	1980				EMPTY

279	HR69C8083	MAV	1.2.22	KESRI	SHAHA	13	1950	2560	1950	1880					EMPTY
280	HR37DS3137	LCV	1.2	KHANPUR	NARYANGARH	7	1360	1820							TYRE
281	HR67A8285	LCV	1.2	MORI	BARWALA	7	1180	1240							EMPTY
282	HR37D9588	LCV	1.2	AMBALA	SHAHA	7	1220	1365							EMPTY
283	HR65 5571	BUS	1.2	SHAHBAAD	SHAHA	3	2810	3520							PASSENGER
284	HP12D6202	3XL	1.22	DELHI	SHIMLA	10	3260	3695	3885						PARCHUN
285	HR69D3494	MAV	1.1.122	CANNT	YAMUNA NAGAR	20	1850	2280	2520	2490	2565				EMPTY
286	HP12C9679	2XL	1.2	DELHI	SHAHA	9	2380	3465							REEL
287	UP32KN9417	2XL	1.2	SHAHBAAD	BARWALA	9	1920	2250							EMPTY
288	PB02BH8202	3XL	1.22	KARNAL	YAMUNA NAGAR	10	2150	2380	2510						EMPTY
289	HR34C7662	LCV	1.2	MORI	BARWALA	7	1230	1535							EMPTY
290	UP31AT7131	MAV	1.1.22	CANNT	SHAHA	14	2265	2080	2250	2180					EMPTY
291	HR37D0086	3XL	1.22	MORI	BARWALA	10	2240	2445	2615						EMPTY
292	HR67C8501	LCV	1.2	SHAHBAAD	KALA AAM	7	1050	1340							EMPTY

293	HR65A9177	LCV	1.2	SHAHBAAD	BARWALA	7	2010	2365							BORI
294	HP12D2666	2XL	1.2	SHAHBAAD	PANCHKULLA	9	2730	4280							KHAAD
295	HR68A5686	LCV	1.2	KESRI	BADOLI	7	1165	1455							EMPTY
296	GJ18B1215	3XL	1.22	AHEMDABAAD	CHANDIGARH	10	3650	4680	5560						PLASTIC DAAN
297	PB10ES4004	LCV	1.2	KESRI	SHAHA	7	1215	1480							EMPTY
298	RJ26GA3924	MAV	1.2.11	GURUGRAM	CHANDIGARH	15	2340	1950	2530	2615					CAR
299	UK07CA4845	MAV	1.1.22	SHAHBAAD	KALA AAM	14	1810	1650	1980	1750					EMPTY
300	HR55AD7597	2XL	1.2	DINARPUR	BADOLI	9	2360	2565							EMPTY
301	MH43Y1169	3XL	1.22	PANIPAT	BARWALA	10	2080	1815	1720						EMPTY
302	UP13BT3882	MAV	1.1.22	LuCKNOW	PANCHKULLA	14	2820	4015	4230	3850					PARCHUN
303	HR63C2021	MAV	1.1.122.1	DELHI	CHANDIGARH	22	2820	2460		2565	2230	2240			FREEZE
304	HR37D5359	3XL	1.22	SHAHBAAD	MAZARA	10	2350	2250	2295						EMPTY
305	HR35C3735	LCV	1.2	MORI	SHAHA	7	1350	1880							EMPTY
306	HR69C9122	MAV	1.1.222	SHAHBAAD	SAJADPUR	18	2230	2295	1980	1850	1750				EMPTY
307	HR37D3257	LCV	1.1	MORI	SHAHA	6	850	1020							GASS
308	HR69C3666	MAV	1.1.22	DINARPUR	MULANA	14	2160	2230	1860	1730					EMPTY
309	HR65A7071	3XL	1.22	KESRI	SHAHA	10	2240	2350	2215						EMPTY
310	RJ07GC1245	MAV	1.22.222	CHITHOR	PANCHKULLA	23	3560	6570	6210	7820	8095	7575			CEMENT
311	RJ45C0253	2XL	1.2	KURUKSHETRA	SHAHA	9	1930	2130							EMPTY
312	HR69C5009	2XL	1.2	KURUKSHETRA	NARYANGARH	9	2040	2265							EMPTY
313	UK08CB2225	LCV	1.2	MORA	BARWALA	7	1215	1860							EMPTY
314	GJ23UT4409	MA	1.1.222	JAAM	CHANDIGARH	18	2680	4630	5260	5680	5410				FUEL

		V		NAGAR											
315	UK08AC1464	2XL	1.2	HALDWANI	SHAHA	9	3065	4580							PARCHUN
316	HR65A3304	LCV	1.1	SHAHBAAD	SAJADPUR	6	490	650							CARTUN
317	HR37D8138	LCV	1.1	KESRI	KALA AAM	6	380	560							EMPTY
318	HP12E1234	3XL	1.22	DELHI	CHANDIGARH	10	3560	4650	4280						RICE
319	HRE46E5560	2XL	1.2	DINARPUR	SHAHA	9	1510	1665							EMPTY
320	HR55AH6540	BUS	1.2	PIPLI	PANCHKULLA	3	2680	3465							PASSENGER
321	HR38S8850	LCV	1.1	KESRI	SHAHA	6	480	650							EMPTY
322	HR38U6215	MAV	1.2.22	DINARPUR	SAJADPUR	13	1780	2460	2580	2720					EMPTY
323	UK07CM5217	3XL	1.22	KARNAL	YAMUNA NAGAR	10	2080	1810	1690						EMPTY
324	HR37D2944	LCV	1.1	MORI	SHAHA	6	450	580							EMPTY
325	HR37E9332	LCV	1.1	LADWA	SHAHA	6	680	790							KHAAD
326	UP83BT0338	MINI BUS	1.1	BANER	SHAHA	1	1250	2820							PASSENGER
327	HR37D0428	2XL	1.2	KESRI	NARYANGARH	9	2340	3515							PARCHUN
328	JK13C8718	2XL	1.2	KARNAL	JIRAKPUR	9	2280	3860							MOTOR

329	MH46BF8054	2XL	1.2	DELHI	SHAHA	9	2450	3990							WIRE
330	HR65A8140	3XL	1.22	MORI	SHAHA	10	2370	2250	2110						EMPTY
331	HR55AD0460	LCV	1.2	LADWA	MULANA	7	1560	2480							OXSION GAS
332	HR38W7298	MAV	1.2.11	GURUGRAM	CHANDIGARH	15	2230	1860	2390	2515					CAR
333	PB11BN6675	MAV	1.2.22	RAJASTHAN	SHAHA	13	3610	6615	7150	6775					CEMENT
334	HR37D6795	MAV	1.2.222	WAJIDPUR	SAJADPUR	18	3550	4680	4750	4520	4880				RAAKH
335	HR37D6775	MAV	1.2.222	WAJIDPUR	SAJADPUR	18	3560	4880	4550	4660	4790				RAAKH
336	HR58A3950	3XL	1.22	HUBLI	SHIMLA	10	1240	4280	4050						SOLAR PLATE
337	UK06CB4518	3XL	1.22	HASWANI	PANCHKULLA	10	2830	3820	3620						CHOCKLATE
338	HR55 0025	MAV	1.2.22	SHAHBAAD	YAMUNA NAGAR	13	1880	2260	1920	1850					EMPTY
339	HR59A1566	LCV	1.1	DINARPUR	SHAHA	6	645	820							PAALAS
340	UP14GT8337	2XL	1.2	ISMILEBAAD	YAMUNA NAGAR	9	4065	7255							BAJARI
341	HR37C5230	LCV	1.1	MORI	KALAM	6	380	545							EMPTY
342	HR37C2717	LCV	1.2	PANIPAT	BARWALA	7	1320	1830							EMPTY
343	HR37D1220	3XL	1.22	MORI	BADOLI	10	2320	2250	2050						EMPTY
344	PB02BJ9821	2XL	1.2	SHAHBAAD	SHAHA	9	1450	1620							EMPTY
345	HR65 8749	LCV	1.1	WAZIDPUR	NANGLA	6	480	570							COW
346	HR37C3255	3XL	1.22	MORI	KHUDA	10	2280	2310	2120						EMPTY
347	HR69D6062	MAV	1.2.22	SHAHBAAD	SAJADPUR	13	1760	2420	2580	2790					EMPTY
348	RJ14GF2650	MAV	1.2.222	JAIPUR	PANCHKULLA	18	2880	3055	3240	3550					ROLL PAPER
349	HR69C1606	LCV	1.1	NILOKHERI	KALA AAM	6	390	535							EMPTY
350	HR65A3240	LCV	1.1	KESRI	SHAHA	6	540	670							BAKSA
351	HP71 4273	3XL	1.22	SHAHBAAD	HARIPOLI	10	2350	2280	2130						EMPTY

352	HP71 4350	LCV	1.2	KURUKSHETRA	PANCHKULLA	7	2115	2610							CORIOUR
353	HR46E9361	MAV	1.2.22	HUBLI	SHERGARH	13	2850	3845	4230	4180					CEMENT
354	HP15 2630	LCV	1.2	LADWA	BILASPUR	7	1350	1790							EMPTY
355	NL01AD3350	3XL	1.22	DELHI	BARWALA	10	2830	4520	4295						PARCHUN
356	MH46BM5214	MAV	1.2.22	RATANGARH	SAJADPUR	13	2890	3340	3820	3795					TAARCOL
357	HP12H2418	2XL	1.2	AMBALA	PANCHKULLA	9	3235	4210							SAKAR
358	HR37D9560	3XL	1.22	MORI	SHAHA	10	2350	2190	2010						EMPTY
359	HR37C2878	LCV	1.2	KHANPUR	PANCHKULLA	7	2610	3815							WIRE
360	HR37B1863	LCV	1.1	SHAHBAAD	BADOLI	6	480	695							KABBAD
361	HR17C3249	3XL	1.22	MORI	SHAHA	10	2050	1820	1750						EMPTY
362	HR37D3674	LCV	1.1	AMBALA	PANCHKULLA	6	1150	1430							PARSAL
363	HR37C7916	LCV	1.1	AMBALA	SHAHA	6	1210	1520							JIRI
364	UK86CR4515	3XL	1.22	DELHI	CHANDIGARH	10	3080	3820	4030						DAAK PARSAL

365	HR38W7293	MAV	1.2.11	GURUGRAM	CHANDIGARH	15	2320	3055	2880	3140					CAR
366	HR37D5359	3XL	1.22	MORI	SHAHA	10	2230	2870	3240						EMPTY
367	HR58A3995	3XL	1.22	NASIK	BARWALA	10	2830	5520	5260						PARCHUN
368	HR69D0227	LCV	1.1	MORA	BADOLI	6	470	540							EMPTY
369	MH76EF3062	2XL	1.2	NASIK	KALA AAM	9	2645	4320							TYRE
370	HO07EE0776	3XL	1.22	WAPI	BADI	10	2680	6015	5840						PARCHUN
371	RJ14GT0860	MAV	1.22.222	AMBALA	SHAHA	23	2540	2210	2150	2360	2240	2045			EMPTY
372	JK87CB2927	2XL	1.2	BANGLOR	SOLAN	9	3240	4670							PARCHUN
373	PB01DN2005	MAV	1.2.11	GURUGRAM	BADI	15	2250	1940	2420	2590					CAR
374	HR55A7107	3XL	1.22	MORI	SHAHA	10	2345	2750	2820						EMPTY
375	UP12AJ4242	LCV	1.2	CANNT	MULANA	7	1260	1830							EMPTY
376	HR38U6209	MAV	1.2.22	CANDLA	BADI	13	2380	3250	3580	3620					PARCHUN
377	HR38B8846	LCV	1.2	DELHI	SAJADPUR	7	1560	2820							PARSAL
378	HR55AH8890	BUS	1.2	DELHI	SHIMLA	3	2820	3540							PASSENGER
379	HR46E5557	3XL	1.22	AHEMDABAAD	SOLAN	10	3420	4850	4780						PARCHUN
380	HR37D6577	LCV	1.1	SHAHBAAD	SHAHA	6	460	815							GATTA TRAY
381	HR37D2711	LCV	1.1	MACHODA	KALA AAM	6	380	550							EMPTY
382	HP12E0123	3XL	1.22	GUJRAT	NALAGARH	10	2860	4520	4340						HOUSE HOLD
383	MH27D0070	MAV	1.2.22	SURAT	BADI	13	3520	6440	7020	6840					STEEL COTRAIL
384	HP93 0912	LCV	1.2	CANNT	BADOLI	7	1410	1815							EMPTY
385	HR39D7385	2XL	1.2	JAAMNAGAR	PANCHKULLA	9	3085	7020							FUEL
386	PB11CW0223	LCV	1.1	KUNDALI	PATOSAHIB	6	560	910							PARSAL
387	HR59F7729	MAV	1.22.222	PANIPAT	SHAHA	23	1750	2260	2530	2720	2610	2510			EMPTY
388	HR45E6841	LCV	1.1	DINARPUR	RANJETPUR	6	460	610							EMPTY

389	RJ14GK0589	3XL	1.22	PANIPAT	RAPRANI	10	2575	2720	3240						EMPTY
390	HR69D7201	MAV	1.22.222	BHILWARA	CHANDIGARH	23	3620	7210	6840	7520	7820	2750			CEMENT
391	HR69D2382	LCV	1.1	SHAHBAAD	NANGAL	6	680	1010							GATTA TRAY
392	RJ14CR9500	3XL	1.22	KALADERA	CHANDIGARH	10	2540	3220	3340						PLASTIC PIPE
393	HR37D0841	2XL	1.2	KURUKSHETRA	BADI	9	2840	3260							CORIUR
394	HP12C1929	2XL	1.2	JUNAGARH	CHANDIGARH	9	3240	4080							COCONUT
395	UK08KC0595	MAV	1.1.22	KARNAL	SHAHA	14	1920		2350	2560					EMPTY
396	RJ14GA4826	MAV	1.22.222	CHITOR	SOLAN	23	3840	7220	7010	7860	8140	7820			CEMENT
397	HR37E7829	2XL	1.2	THANE	BARWALA	9	2920	4230							PARCHUN
398	GJ06AT7707	MAV	1.1.22	JAAM NAGAR	SOLAN	14	3045	3480	3565	3225					FUEL
399	GJ06AX2790	MAV	1.1.22	JAAM NAGAR	BADI	14	3160	3560	3710	3615					CHEMICAL
400	GJ 06 AX 2700	MAV	1.122	JAM NAGAR	SOLAN	16	2890	3840	4230	4015					CHEMICAL

401	HP 12 D 3132	2XL	1.2	KARNAL	BITA	9	1980	2240							EMPTY
402	HP 12 D 1305	2XL	1.2	KURUKSHETRA	BADOLI	9	1950	2260							EMPTY
403	HP 63 A 9766	LCV	1.1	PANIPAT	SHAHA	6	380	540							EMPTY
404	HR 42 D 3241	LCV	1.1	KESRI	KALA AAM	6	430	560							EMPTY
405	HR 65 A 1066	LCV	1.2	DELHI	SHAHJADPUR	7	1210	1620							PLASTIC TANKI
406	HR 65 A 7159	LCV	1.1	NILLOKHERI	KALA AAM	6	450	565							EMPTY
407	HR 37 D 2397	LCV	1.1	KESRI	SHAHA	6	450	560							EMPTY
408	TN 52 C 0666	MAV	1.1.22	PANIPAT	YAMUNA NAGAR	14	2420	2210	2240	2015					EMPTY
409	PB 23 G 4937	MAV	1.2.222	KARNAL	PANCHKULLA	18	2860	3540	4160	3820	4020				JIRI
410	UP 15 UT 7007	MAV	1.1.122	LUCKNOW	SOLAN	20	2560	2930	3460	3820	3640				GUD
411	CH 52 TB 0809	BUS	1.2	DELHI	CHANDIGARH	3	2820	3465							PASSENGER
412	NL 01 Q 4342	MAV	1.2.222	SHAHBAAD	SHAHA	18	1820	1950	2280	2110	1980				EMPTY
413	HP 63 A 8475	2XL	1.2	PANIPAT	SHAHA	9	1950	2110							EMPTY
414	HR 65 A 9178	3XL	1.22	RAJKOT	BADDI	10	3015	4045	3860						PARCHUN
415	HR 38 W 5391	2XL	1.2	SHAHBAAD	SHAHJADPUR	9	1980	2820							PARCEL
416	NL 01 L 8517	3XL	1.22	AHMEDABAD	CHANDIGARH	10	2560	3220	3540						BIKE
417	NL 01 AB 8808	MAV	1.2.22	SHAHBAAD	BADOLI	13	1810	1960	2140	2080					EMPTY
418	HR 37 E 1111	3XL	1.22	KURUKSHETRA	PANCHKULLA	10	2220	2450	2050						EMPTY
419	HP 64 2384	3XL	1.22	JAM NAGAR	BADDI	10	3250	4680	4850						PLASTIC DANA
420	HR 69 C 1276	MAV	1.1.22	MEERUT	SHAHA	14	2860	4080	4560	4230					SUGAR
421	JK 21 F 2580	MAV	1.1.22	BHILWARA	YAMUNA NAGAR	14	3820	6540	7240	7165					CEMENT
422	HR 55 R 5190	3XL	1.22	DELHI	YAMUNA NAGAR	10	1810	2125	1910						EMPTY

423	HR 37 A 5384	LCV	1.2	FARIDABAD	KALA AAM	7	2030	2930							KABAD
424	HP 71 6668	LCV	1.2	PANIPAT	SHAHA	7	1870	2710							FERTILIZER
425	HR 45 C 9264	LCV	1.2	DELHI	SHAHA	7	2230	2845							PLASTIC TANKI
426	GJ 18 AZ 4276	3XL	1.22	AHMEDABAD	SHIMLA	10	2420	4210	4465						PARCUN
427	HR 37 D 2390	MAV	1.1.22	SURAT	SOLAN	14	2280	3020	3840	3620					PARCHUN
428	HP 64 B 0626	2XL	1.2	DELHI	BADDI	9	2430	2820							PARCEL
429	HR 56 B 5238	LCV	1.2	DELHI	KALA AAM	7	1850	2620							BOTTLE
430	HR 67 B 7373	MAV	1.2.22	GUJRAT	CHANDIGARH	13	2680	3620	3920	3750					ZINK
431	DL 1 NA 0671	LCV	1.2	KARNAL	BARWALA	7	1320	1850							EMPTY
432	HR 37 E 5689	2XL	1.2	KESRI	SHAHA	9	2060	2250							EMPTY
433	HR 65 A 9452	3XL	1.22	DELHI	PANCHKULLA	10	2210	3860	3065						SLEEPER
434	HR 65 5571	BUS	1.2	SHAHBAAD	SHAHA	3	2780	3520							PASSENGER
435	HR 64 E 6597	2XL	1.2	KURUKSHETRA	BARWALA	9	2560	2620							EMPTY
436	HR 37 C 7237	LCV	1.2	AGRA	SOLAN	7	2340	3320							SHOES

437	HR 65 A 7650	MAV	1.2.22	DINARPUR	SHAHA	13	2045		2340	1980					EMPTY
438	HR 55 M 9620	3XL	1.22	KARNAL	REPRANI	10	2280	2110	1945						EMPTY
439	HR 67 A 9505	3XL	1.22	SHAHBAAD	SHAHA	10	2340	2220	1980						EMPTY
440	HP 12 G 3250	3XL	1.22	ALWAR	PARMANU	10	2850	3540	3620						ONION
441	HP 64 6680	2XL	1.2	ALWAR	PARMANU	9	2450	2860							ONION
442	HR 37 E 7652	3XL	1.22	NASIK	CHANDIGARH	10	2350	3940	3820						ANAR
443	UP 14 GT 4085	LCV	1.2	KURUKSHETRA	SHAHA	7	1950	2550							PARCEL
444	HR 67 B 4580	2XL	1.2	THOL	SHAHA	9	2880	3620							PARCHUN
445	PB 11 GA 4245	MAV	1.2.22	BHIVANDI	SOLAN	13	3210	3150	4820	4610					CHEMICAL
446	RJ 23 GB 6802	MAV	1.22.222	CHITOR	BARWALA	23	3480	6850	7110	6620	7565	7320			CEMENT
447	UK 07 CB 7776	3XL	1.22	RUDRAPUR	SHIMLA	10	3210	3020	3350						BISCKET
448	HR 37 D 2280	3XL	1.22	SHAHBAAD	SHAHA	10	1950	2250	2110						EMPTY
449	HR 38 J 5231	3XL	1.22	DELHI	PANCHKULLA	10	2450	2965	3240						PARCHUN
450	HP 71 B 9478	MAV	1.2.22	SHAHBAAD	YAMUNA NAGAR	13	1980	2065	2230	2140					EMPTY
451	HR 37 E 9535	2XL	1.2	KESRI	BADOLI	9	1680	1820							EMPTY
452	HR 38 B 4520	2XL	1.2	PANIPAT	SHAHA	9	2820	3840							FUEL
453	HR 67 C 1420	3XL	1.22	DELHI	BADDI	10	2480	3850	3640						POWDER
454	HR 58 A 5514	2XL	1.2	DINARPUR	SHAHA	9	1880	2045							EMPTY
455	GJ 06 G 9230	3XL	1.22	JUNAGARH	CHANDIGARH	10	2680	3865	3720						COCONUT
456	HR 47 D 4648	3XL	1.22	NASIK	CHANDIGARH	10	2820	3360	3050						TYRE
457	HR 37 D 3876	LCV	1.1	SHAHBAAD	SHAHA	6	450	580							EMPTY
458	GJ 06 G 1832	3XL	1.22	JAM NAGAR	BADDI	10	3035	3875	3780						FUEL
459	HR 46 E 9062	3XL	1.22	DELHI	BARWALA	10	2430	2880	2680						BOTTLE
460	HR 65 A 7068	LCV	1.2	NAVLI	SHAHA	7	1050	1230							EMPTY
461	HP 24 B 8085	3XL	1.22	DELHI	SHIMLA	10	2860	3230	3035						PARCHUN

462	HR 58 A 6476	2XL	1.2	AMBALA	SHAHA	9	2565	4080							FUEL
463	HP 64 4549	LCV	1.2	SHAHBAAD	BADOLI	7	1250	1980							EMPTY
464	HR 65 7542	3XL	1.22	KESRI	BARWALA	10	2210	2060	2110						EMPTY
465	HR 55 A 7035	3XL	1.22	GUDGAON	PARMANU	10	2335	2850	2685						COURIER
466	HR 37 D 2068	3XL	1.22	DELHI	SHIMLA	10	2830	4250	4185						CLOTH
467	HR 65 A 4160	MAV	1.22.222	KARNAL	BARWALA	23	3080	6675	7240	7075	8890	8440			MAIZE
468	HR 46 E 9252	MAV	1.2.11	GUDGAON	CHANDIGARH	15	2480	3260	2780	2830					CAR
469	RJ 27 E 6850	MAV	1.2.22	CHITOR	SHAHA	13	2480	3850	4020	3965					MARBLE
470	PB 03 AJ 4859	LCV	1.2	KURUKSHETRA	BARWALA	7	1450	1510							EMPTY
471	HR 65 A 5441	LCV	1.2	PANIPAT	SHAHA	7	1210	1465							EMPTY
472	HR 55 R 6168	3XL	1.22	SHAHBAAD	KALA AAM	10	2050	1980	1850						EMPTY

473	HR 38 A 7395	LCV	1.2	SHAHBAAD	SHAHA	7	1180	1450							EMPTY
474	HR 66 B 7442	2XL	1.2	KESRI	SHAHA	9	1480	1165							EMPTY
475	HR 55 B 2028	2XL	1.2	MORI	KALA AAM	9	2490	2830							PARCEL
476	HR 67 B 6505	2XL	1.2	SHAHBAAD	BADOLI	9	3065	6680							TUDI
477	HR 47 D 3565	2XL	1.2	DADRI	NARAYANGARH	9	1860	2820							PARCHUN
478	NL 01 Q 5168	2XL	1.2	KESRI	SHAHA	9	2660	3230							PASHU AAHAR
479	HR 38 Z 7863	LCV	1.2	SHAHBAAD	SHAHA	7	1260	1520							EMPTY
480	MH 04 GB 8056	3XL	1.22	DHULE	PANCHKULLA	10	3180	3945	3880						PARCHUN
481	HR 65 2650	BUS	1.2	SHAHBAAD	SHAHA	3	2750	3480							PASSENGER
482	HR 65 9802	MAV	1.2.22	CHITOR	PANCHKULLA	13	3540	5685	6520	6850					CEMENT
483	DL 1M 6535	LCV	1.2	DELHI	SHAHA	7	1250	1820							PARCEL
484	HR 37 D 1420	LCV	1.1	KESRI	SHAHA	6	560	685							TENT
485	HP 12 F 4230	2XL	1.2	DINARPUR	SHAHA	9	1270	1490							EMPTY
486	HR 37 E 7568	MAV	1.1.22	SHAHBAAD	BARWALA	14	1620	1890	2250	2185					EMPTY
487	HR 53 X 1530	3XL	1.22	MORI	SHAHA	10	1950	2280	2035						EMPTY
488	HR 37 E 4855	2XL	1.2	GUDGAON	PANCHKULLA	9	2375	3230							PARCHUN
489	HR 68 8065	BUS	1.2	DELHI	CHANDIGARH	3	2930	3650							PASSENGER
490	PB 65 A 1953	LCV	1.2	DELHI	SOLAN	7	2280	3015							IRON PLATE
491	HR 37 D 5365	3XL	1.22	SHAHBAAD	BADOLI	10	1965	1830	1750						EMPTY
492	HR 37 D 1250	3XL	1.22	KURUKSHETRA	PARMANU	10	2630	3540	3720						PARCHUN

493	HR 69 C 1778	LCV	1.2	SHAHBAAD	KALA AAM	7	1220	1580							EMPTY
494	UP 52 AT 2075	2XL	1.2	MEERUT	SOLAN	9	3235	3640							GUD
495	HP 15 2835	LCV	1.2	LADWA	BILASPUR	7	1360	1810							EMPTY
496	HR 37 D 9497	3XL	1.22	MORI	SHAHA	10	2365	2130	1980						EMPTY
497	HR 65 A 3245	LCV	1.2	KESRI	SHAHA	7	1880	1950							EMPTY
498	HP 07 E 7896	2XL	1.2	SHAHBAAD	SHAHA	9	2585	3240							RAAKH
499	HR 37 D 3608	3XL	1.22	AMBALA	BADOLI	10	2050	1830	1765						EMPTY
500	HR 69 D 7058	MAV	1.1.22	BHILWARA	CHANDIGARH	14	3035	4015	3850	3620					CLOTH
501	GJ 06 AX 3720	MAV	1.2.222	JAM NAGAR	SOLAN	18	3265	3840	3620	3550					GAS
502	HR 45 E 3830	LCV	1.1	CANT	PANCHKULLA	6	480	590							EMPTY
503	UK 08 C 5539	MAV	1.1.22	SHAHBAAD	YAMUNA NAGAR	14	1950	2130	2380	2450					EMPTY
504	HR 37 D 3238	2XL	1.2	DELHI	SHAHA	9	3230	3540							PARCHUN
505	HR 69 D 2376	LCV	1.2	SHAHBAAD	BADOLI	7	2460	3255							KABAD
506	PB 13 AR 4649	2XL	1.2	SHAHBAAD	SHAHJADPUR	9	3240	6580							TUDI
507	HR 65 A 5058	LCV	1.2	KESRI	PANCHKULLA	7	1365	1830							EMPTY
508	HR 46 E 9509	4XL	1.2.11	GUDGAON	CHANDIGARH	15	2350	3190	2765	3055					CAR

509	HR 47 E 8039	2XL	1.2	SHAHBAAD	SHAHJADPUR	9	3160	8065							TUDI

S.No.	Vehicle Type	Axle Configuration	Commodity Type	Wheel Weight (Kg)		Wheel Weight (Tonnes)		AXLE LOAD (TONNES)		EQUIVALENT STANDARD LOAD		TOTAL ESAL
				Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	
1	MINI BUS	1.1	1	1250	2820	1.25	2.82	2.50	5.64	0.02	0.52	0.55
2	BUS	1.2	3	2760	3480	2.76	3.48	5.52	6.96	0.48	0.53	1.01
3	BUS	1.2	3	2750	3420	2.75	3.42	5.50	6.84	0.47	0.49	0.97
4	BUS	1.2	3	2820	3350	2.82	3.35	5.64	6.70	0.52	0.46	0.98
5	BUS	1.2	3	2850	3545	2.85	3.55	5.70	7.09	0.55	0.57	1.12
6	BUS	1.2	3	2890	3520	2.89	3.52	5.78	7.04	0.58	0.56	1.13
7	BUS	1.2	3	2750	3415	2.75	3.42	5.50	6.83	0.47	0.49	0.97
8	BUS	1.2	3	2780	3560	2.78	3.56	5.56	7.12	0.50	0.58	1.08
9	BUS	1.2	3	2810	3520	2.81	3.52	5.62	7.04	0.52	0.56	1.07
10	BUS	1.2	3	2680	3465	2.68	3.47	5.36	6.93	0.43	0.52	0.95
11	BUS	1.2	3	2820	3540	2.82	3.54	5.64	7.08	0.52	0.57	1.09
12	BUS	1.2	3	2820	3465	2.82	3.47	5.64	6.93	0.52	0.52	1.05
13	BUS	1.2	3	2780	3520	2.78	3.52	5.56	7.04	0.50	0.56	1.05
14	BUS	1.2	3	2750	3480	2.75	3.48	5.50	6.96	0.47	0.53	1.01
15	BUS	1.2	3	2930	3650	2.93	3.65	5.86	7.30	0.61	0.64	1.25
TOTAL ESAL FOR BUS												**15.28**
TOTAL NO. OF VEHICLES												**15.00**
VEHICLE DAMAGE FACTOR (VDF)												**1.02**

S. No.	Vehicle Type	Axle Configuration	CommodityType	Wheel Weight (Kg)		Wheel Weight (Tonnes)		AXLE LOAD (TONNES)		EQUIVALENT STANDARD LOAD		TOTAL ESAL
				Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	
1	LCV	1.1	6	1175	1450	1.175	1.45	2.35	2.90	0.02	0.04	0.05
2	LCV	1.1	6	430	735	0.43	0.735	0.86	1.47	0.00	0.00	0.00
3	LCV	1.1	6	370	410	0.37	0.41	0.74	0.82	0.00	0.00	0.00
4	LCV	1.1	6	380	430	0.38	0.43	0.76	0.86	0.00	0.00	0.00
5	LCV	1.1	6	1120	1350	1.12	1.35	2.24	2.70	0.01	0.03	0.04
6	LCV	1.1	6	1060	1520	1.06	1.52	2.12	3.04	0.01	0.04	0.05
7	LCV	1.1	6	650	1030	0.65	1.03	1.30	2.06	0.00	0.01	0.01
8	LCV	1.1	6	1210	1550	1.21	1.55	2.42	3.10	0.02	0.05	0.07
9	LCV	1.1	6	1120	1950	1.12	1.95	2.24	3.90	0.01	0.12	0.13
10	LCV	1.1	6	850	1230	0.85	1.23	1.70	2.46	0.00	0.02	0.02
11	LCV	1.1	6	1020	1180	1.02	1.18	2.04	2.36	0.01	0.02	0.03
12	LCV	1.1	6	590	510	0.59	0.51	1.18	1.02	0.00	0.00	0.00
13	LCV	1.1	6	470	595	0.47	0.595	0.94	1.19	0.00	0.00	0.00
14	LCV	1.1	6	850	1020	0.85	1.02	1.70	2.04	0.00	0.01	0.01
15	LCV	1.1	6	490	650	0.49	0.65	0.98	1.30	0.00	0.00	0.00
16	LCV	1.1	6	680	790	0.68	0.79	1.36	1.58	0.00	0.00	0.01
17	LCV	1.1	6	645	820	0.645	0.82	1.29	1.64	0.00	0.00	0.01
18	LCV	1.1	6	480	570	0.48	0.57	0.96	1.14	0.00	0.00	0.00
19	LCV	1.1	6	540	670	0.54	0.67	1.08	1.34	0.00	0.00	0.00
20	LCV	1.1	6	480	695	0.48	0.695	0.96	1.39	0.00	0.00	0.00
21	LCV	1.1	6	1150	1430	1.15	1.43	2.30	2.86	0.01	0.03	0.05
22	LCV	1.1	6	1210	1520	1.21	1.52	2.42	3.04	0.02	0.04	0.06
23	LCV	1.1	6	460	815	0.46	0.815	0.92	1.63	0.00	0.00	0.00
24	LCV	1.1	6	560	910	0.56	0.91	1.12	1.82	0.00	0.01	0.01
25	LCV	1.1	6	680	1010	0.68	1.01	1.36	2.02	0.00	0.01	0.01
26	LCV	1.1	6	560	685	0.56	0.685	1.12	1.37	0.00	0.00	0.00
27	LCV	1.2	7	1850	4365	1.85	4.365	3.70	8.73	0.10	1.31	1.41

28	LCV	1.2	7	1650	1750	1.65	1.75	3.30	3.50	0.06	0.03	0.10
29	LCV	1.2	7	980	1340	0.98	1.34	1.96	2.68	0.01	0.01	0.02
30	LCV	1.2	7	2220	2780	2.22	2.78	4.44	5.56	0.20	0.22	0.42

31	LCV	1.2	7	1350	1620	1.35	1.62	2.70	3.24	0.03	0.02	0.05
32	LCV	1.2	7	2280	3840	2.28	3.84	4.56	7.68	0.22	0.79	1.01
33	LCV	1.2	7	1010	1680	1.01	1.68	2.02	3.36	0.01	0.03	0.04
34	LCV	1.2	7	2320	2820	2.32	2.82	4.64	5.64	0.24	0.23	0.47
35	LCV	1.2	7	2480	3680	2.48	3.68	4.96	7.36	0.31	0.66	0.98
36	LCV	1.2	7	1890	3040	1.89	3.04	3.78	6.08	0.11	0.31	0.41
37	LCV	1.2	7	2880	4045	2.88	4.045	5.76	8.09	0.57	0.97	1.54
38	LCV	1.2	7	2650	3820	2.65	3.82	5.30	7.64	0.41	0.77	1.18
39	LCV	1.2	7	2420	3540	2.42	3.54	4.84	7.08	0.28	0.57	0.85
40	LCV	1.2	7	1230	1950	1.23	1.95	2.46	3.90	0.02	0.05	0.07
41	LCV	1.2	7	2045	4065	2.045	4.065	4.09	8.13	0.15	0.99	1.13
42	LCV	1.2	7	1210	1635	1.21	1.635	2.42	3.27	0.02	0.03	0.04
43	LCV	1.2	7	1890	2835	1.89	2.835	3.78	5.67	0.11	0.23	0.34
44	LCV	1.2	7	2080	2850	2.08	2.85	4.16	5.70	0.16	0.24	0.39
45	LCV	1.2	7	1150	1380	1.15	1.38	2.30	2.76	0.01	0.01	0.03
46	LCV	1.2	7	2085	2865	2.085	2.865	4.17	5.73	0.16	0.24	0.40
47	LCV	1.2	7	1210	2360	1.21	2.36	2.42	4.72	0.02	0.11	0.13
48	LCV	1.2	7	1460	2820	1.46	2.82	2.92	5.64	0.04	0.23	0.27
49	LCV	1.2	7	1620	3065	1.62	3.065	3.24	6.13	0.06	0.32	0.38
50	LCV	1.2	7	2385	2860	2.385	2.86	4.77	5.72	0.27	0.24	0.51
51	LCV	1.2	7	2210	2830	2.21	2.83	4.42	5.66	0.20	0.23	0.43
52	LCV	1.2	7	1210	1530	1.21	1.53	2.42	3.06	0.02	0.02	0.04
53	LCV	1.2	7	1360	1820	1.36	1.82	2.72	3.64	0.03	0.04	0.07
54	LCV	1.2	7	2010	2365	2.01	2.365	4.02	4.73	0.14	0.11	0.25
55	LCV	1.2	7	1560	2480	1.56	2.48	3.12	4.96	0.05	0.14	0.19
56	LCV	1.2	7	2115	2610	2.115	2.61	4.23	5.22	0.17	0.17	0.33
57	LCV	1.2	7	2610	3815	2.61	3.815	5.22	7.63	0.39	0.77	1.15
58	LCV	1.2	7	1560	2820	1.56	2.82	3.12	5.64	0.05	0.23	0.28
59	LCV	1.2	7	1210	1620	1.21	1.62	2.42	3.24	0.02	0.02	0.04
60	LCV	1.2	7	2030	2930	2.03	2.93	4.06	5.86	0.14	0.27	0.41
61	LCV	1.2	7	1870	2710	1.87	2.71	3.74	5.42	0.10	0.20	0.30
62	LCV	1.2	7	2230	2845	2.23	2.845	4.46	5.69	0.21	0.24	0.44

63	LCV	1.2	7	1850	2620	1.85	2.62	3.70	5.24	0.10	0.17	0.27

64	LCV	1.2	7	2340	3320	2.34	3.32	4.68	6.64	0.25	0.44	0.69
65	LCV	1.2	7	1950	2550	1.95	2.55	3.90	5.10	0.12	0.15	0.27
66	LCV	1.2	7	1250	1820	1.25	1.82	2.50	3.64	0.02	0.04	0.06
67	LCV	1.2	7	2280	3015	2.28	3.015	4.56	6.03	0.22	0.30	0.52
68	LCV	1.2	7	2460	3255	2.46	3.255	4.92	6.51	0.30	0.41	0.71
TOTAL ESAL FOR LCV												**19.20**
TOTAL NO. OF VEHICLES												**68.00**
VEHICLE DAMAGE FACTOR (VDF)												**0.28**

S. No.	Vehicle Type	Axle Configuration	Commodity Type	Wheel Weight (Kg)		Wheel Weight (Tonnes)		AXLE LOAD (TONNES)		EQUIVALENT STANDARD LOAD		TOTAL ESAL
				Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	
1	2XL	1.2	9	2860	6580	2.86	6.58	5.72	13.16	0.56	6.78	7.34
2	2XL	1.2	9	3080	9560	3.08	9.56	6.16	19.12	0.75	30.22	30.97
3	2XL	1.2	9	3040	7150	3.04	7.15	6.08	14.30	0.71	9.45	10.16
4	2XL	1.2	9	3040	8050	3.04	8.05	6.08	16.10	0.71	15.19	15.90
5	2XL	1.2	9	3695	6045	3.695	6.045	7.39	12.09	1.55	4.83	6.38
6	2XL	1.2	9	3250	8160	3.25	8.16	6.50	16.32	0.93	16.04	16.97
7	2XL	1.2	9	2370	4850	2.37	4.85	4.74	9.70	0.26	2.00	2.26
8	2XL	1.2	9	2350	6050	2.35	6.05	4.70	12.10	0.25	4.85	5.10
9	2XL	1.2	9	1840	3260	1.84	3.26	3.68	6.52	0.10	0.41	0.50
10	2XL	1.2	9	2440	6020	2.44	6.02	4.88	12.04	0.29	4.75	5.05
11	2XL	1.2	9	1950	3150	1.95	3.15	3.90	6.30	0.12	0.36	0.48
12	2XL	1.2	9	3430	5030	3.43	5.03	6.86	10.06	1.15	2.32	3.46
13	2XL	1.2	9	2650	7750	2.65	7.75	5.30	15.50	0.41	13.05	13.46
14	2XL	1.2	9	2940	6640	2.94	6.64	5.88	13.28	0.62	7.03	7.65
15	2XL	1.2	9	3040	4080	3.04	4.08	6.08	8.16	0.71	1.00	1.71
16	2XL	1.2	9	2410	6080	2.41	6.08	4.82	12.16	0.28	4.94	5.22
17	2XL	1.2	9	2340	5560	2.34	5.56	4.68	11.12	0.25	3.46	3.71
18	2X	1.2	9	3225	9480	3.225	9.48	6.45	18.96	0.90	29.22	30.12

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19	2XL	1.2	9	3340	8060	3.34	8.06	6.68	16.12	1.03	15.27	16.30
20	2XL	1.2	9	3220	5560	3.22	5.56	6.44	11.12	0.89	3.46	4.35
21	2XL	1.2	9	3450	9095	3.45	9.095	6.90	18.19	1.18	24.75	25.93
22	2XL	1.2	9	3020	2680	3.02	2.68	6.04	5.36	0.69	0.19	0.88
23	2XL	1.2	9	3150	3820	3.15	3.82	6.30	7.64	0.82	0.77	1.59
24	2XL	1.2	9	2450	4080	2.45	4.08	4.90	8.16	0.30	1.00	1.30
25	2XL	1.2	9	3280	5030	3.28	5.03	6.56	10.06	0.96	2.32	3.28
26	2XL	1.2	9	2365	4890	2.365	4.89	4.73	9.78	0.26	2.07	2.33
27	2XL	1.2	9	3340	4820	3.34	4.82	6.68	9.64	1.03	1.95	2.99
28	2XL	1.2	9	2080	4560	2.08	4.56	4.16	9.12	0.16	1.56	1.72
29	2XL	1.2	9	2820	4080	2.82	4.08	5.64	8.16	0.52	1.00	1.53
30	2XL	1.2	9	2530	4150	2.53	4.15	5.06	8.30	0.34	1.07	1.41
31	2XL	1.2	9	4530	9030	4.53	9.03	9.06	18.06	3.50	24.05	27.55
32	2XL	1.2	9	3250	3830	3.25	3.83	6.50	7.66	0.93	0.78	1.70
33	2XL	1.2	9	3340	4010	3.34	4.01	6.68	8.02	1.03	0.94	1.97

34	2XL	1.2	9	3045	4250	3.045	4.25	6.09	8.50	0.71	1.18	1.89
35	2XL	1.2	9	3540	4410	3.54	4.41	7.08	8.82	1.30	1.37	2.67
36	2XL	1.2	9	3028	3650	3.028	3.65	6.06	7.30	0.70	0.64	1.34
37	2XL	1.2	9	2540	3280	2.54	3.28	5.08	6.56	0.35	0.42	0.76
38	2XL	1.2	9	2350	3295	2.35	3.295	4.70	6.59	0.25	0.43	0.68
39	2XL	1.2	9	2530	3620	2.53	3.62	5.06	7.24	0.34	0.62	0.96
40	2XL	1.2	9	4050	8750	4.05	8.75	8.10	17.50	2.23	21.21	23.44
41	2XL	1.2	9	4850	7820	4.85	7.82	9.70	15.64	4.59	13.53	18.12
42	2XL	1.2	9	2055	4230	2.055	4.23	4.11	8.46	0.15	1.16	1.31
43	2XL	1.2	9	4225	3820	4.225	3.82	8.45	7.64	2.65	0.77	3.42
44	2XL	1.2	9	1890	3235	1.89	3.235	3.78	6.47	0.11	0.40	0.50
45	2XL	1.2	9	3540	5560	3.54	5.56	7.08	11.12	1.30	3.46	4.76
46	2XL	1.2	9	2480	2830	2.48	2.83	4.96	5.66	0.31	0.23	0.55
47	2XL	1.2	9	3855	5885	3.855	5.885	7.71	11.77	1.83	4.34	6.17
48	2XL	1.2	9	1950	3280	1.95	3.28	3.90	6.56	0.12	0.42	0.54
49	2XL	1.2	9	2380	3230	2.38	3.23	4.76	6.46	0.27	0.39	0.66
50	2XL	1.2	9	2480	3560	2.48	3.56	4.96	7.12	0.31	0.58	0.90
51	2XL	1.2	9	2830	4030	2.83	4.03	5.66	8.06	0.53	0.95	1.49
52	2XL	1.2	9	2130	3560	2.13	3.56	4.26	7.12	0.17	0.58	0.75
53	2XL	1.2	9	2820	3230	2.82	3.23	5.64	6.46	0.52	0.39	0.92
54	2X	1.2	9	2480	2830	2.48	2.83	4.96	5.66	0.31	0.23	0.55

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55	2XL	1.2	9	2365	2990	2.365	2.99	4.73	5.98	0.26	0.29	0.55
56	2XL	1.2	9	2380	3465	2.38	3.465	4.76	6.93	0.27	0.52	0.79
57	2XL	1.2	9	2730	4280	2.73	4.28	5.46	8.56	0.46	1.21	1.68
58	2XL	1.2	9	3065	4580	3.065	4.58	6.13	9.16	0.73	1.59	2.32
59	2XL	1.2	9	2340	3515	2.34	3.515	4.68	7.03	0.25	0.55	0.80
60	2XL	1.2	9	2280	3860	2.28	3.86	4.56	7.72	0.22	0.80	1.03
61	2XL	1.2	9	2450	3990	2.45	3.99	4.90	7.98	0.30	0.92	1.22
62	2XL	1.2	9	4065	7255	4.065	7.255	8.13	14.51	2.27	10.02	12.29
63	2XL	1.2	9	3235	4210	3.235	4.21	6.47	8.42	0.91	1.14	2.05
64	2XL	1.2	9	2645	4320	2.645	4.32	5.29	8.64	0.41	1.26	1.67
65	2XL	1.2	9	3240	4670	3.24	4.67	6.48	9.34	0.91	1.72	2.64
66	2XL	1.2	9	3085	7020	3.085	7.02	6.17	14.04	0.75	8.79	9.54
67	2XL	1.2	9	2840	3260	2.84	3.26	5.68	6.52	0.54	0.41	0.95
68	2XL	1.2	9	3240	4080	3.24	4.08	6.48	8.16	0.91	1.00	1.92
69	2XL	1.2	9	2920	4230	2.92	4.23	5.84	8.46	0.60	1.16	1.76
70	2XL	1.2	9	1980	2820	1.98	2.82	3.96	5.64	0.13	0.23	0.36

71	2XL	1.2	9	2430	2820	2.43	2.82	4.86	5.64	0.29	0.23	0.52
72	2XL	1.2	9	2450	2860	2.45	2.86	4.90	5.72	0.30	0.24	0.54
73	2XL	1.2	9	2880	3620	2.88	3.62	5.76	7.24	0.57	0.62	1.19
74	2XL	1.2	9	2820	3840	2.82	3.84	5.64	7.68	0.52	0.79	1.31
75	2XL	1.2	9	2565	4080	2.565	4.08	5.13	8.16	0.36	1.00	1.36
76	2XL	1.2	9	2490	2830	2.49	2.83	4.98	5.66	0.32	0.23	0.55
77	2XL	1.2	9	3065	6680	3.065	6.68	6.13	13.36	0.73	7.20	7.94
78	2XL	1.2	9	1860	2820	1.86	2.82	3.72	5.64	0.10	0.23	0.33
79	2XL	1.2	9	2660	3230	2.66	3.23	5.32	6.46	0.42	0.39	0.81
80	2XL	1.2	9	2375	3230	2.375	3.23	4.75	6.46	0.26	0.39	0.66
81	2XL	1.2	9	3235	3640	3.235	3.64	6.47	7.28	0.91	0.64	1.54
82	2XL	1.2	9	2585	3240	2.585	3.24	5.17	6.48	0.37	0.40	0.77
83	2XL	1.2	9	3230	3540	3.23	3.54	6.46	7.08	0.90	0.57	1.47
84	2XL	1.2	9	3240	6580	3.24	6.58	6.48	13.16	0.91	6.78	7.70
85	2XL	1.2	9	3160	8065	3.16	8.065	6.32	16.13	0.83	15.31	16.13
TOTAL ESAL FOR 2 AXLE												**417.99**
TOTAL NO. OF VEHICLES												**85.00**
VEHICLE DAMAGE FACTOR (VDF)												**4.92**

S. No.	Vehicle Type	Axle Configuration	Commodity Type	Wheel Weight (KG)			Wheel Weight (Tonnes)			AXLE LOAD (TONNES)		EQUIVALENT STANDARD LOAD		TOTAL ESAL
				Front-1	Rear-1	Rear-2	Front-1	Rear-1	Rear-2	Front-1	Rear tandem	Front-1	Rear tandem	
1	3XL	1.22	10	2795	6320	5350	2.80	6.32	5.35	5.59	23.34	0.51	5.73	6.23
2	3XL	1.22	10	4080	7650	7420	4.08	7.65	7.42	8.16	30.14	2.30	15.93	18.23
3	3XL	1.22	10	2160	6080	6050	2.16	6.08	6.05	4.32	24.26	0.18	6.69	6.87
4	3XL	1.22	10	3020	8035	7720	3.02	8.04	7.72	6.04	31.51	0.69	19.03	19.72
5	3XL	1.22	10	3460	7890	7760	3.46	7.89	7.76	6.92	31.30	1.19	18.53	19.72
6	3XL	1.22	10	3460	5120	6540	3.46	5.12	6.54	6.92	23.32	1.19	5.71	6.90
7	3XL	1.22	10	4020	3040	4010	4.02	3.04	4.01	8.04	14.10	2.17	0.76	2.93
8	3XL	1.22	10	2880	6040	5520	2.88	6.04	5.52	5.76	23.12	0.57	5.52	6.09
9	3XL	1.22	10	2360	4020	5080	2.36	4.02	5.08	4.72	18.20	0.26	2.12	2.38
10	3XL	1.22	10	2430	4055	4250	2.43	4.06	4.25	4.86	16.61	0.29	1.47	1.76
11	3XL	1.22	10	3120	5905	5450	3.12	5.91	5.45	6.24	22.71	0.79	5.13	5.92
12	3XL	1.22	10	2350	3080	3450	2.35	3.08	3.45	4.70	13.06	0.25	0.56	0.81
13	3XL	1.22	10	3320	3840	4230	3.32	3.84	4.23	6.64	16.14	1.01	1.31	2.32
14	3XL	1.22	10	3450	5010	6020	3.45	5.01	6.02	6.90	22.06	1.18	4.57	5.75
15	3X	1.22	10	4650	7880	1050	4.65	7.88	1.05	9.30	17.86	3.88	1.96	5.85

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16	3XL	1.22	10	3820	6020	5540	3.82	6.02	5.54	7.64	23.12	1.77	5.52	7.28
17	3XL	1.22	10	2830	4075	3930	2.83	4.08	3.93	5.66	16.01	0.53	1.27	1.80
18	3XL	1.22	10	4250	7820	8530	4.25	7.82	8.53	8.50	32.70	2.71	22.07	24.78
19	3XL	1.22	10	3040	3830	3620	3.04	3.83	3.62	6.08	14.90	0.71	0.95	1.66
20	3XL	1.22	10	2340	4585	3420	2.34	4.59	3.42	4.68	16.01	0.25	1.27	1.52
21	3XL	1.22	10	2480	3420	3275	2.48	3.42	3.28	4.96	13.39	0.31	0.62	0.93
22	3XL	1.22	10	3250	4210	4030	3.25	4.21	4.03	6.50	16.48	0.93	1.42	2.35
23	3XL	1.22	10	3210	4120	4465	3.21	4.12	4.47	6.42	17.17	0.88	1.68	2.56
24	3XL	1.22	10	4160	7045	6230	4.16	7.05	6.23	8.32	26.55	2.49	9.59	12.08
25	3XL	1.22	10	2395	7080	7230	2.40	7.08	7.23	4.79	28.62	0.27	12.95	13.22
26	3XL	1.22	10	2530	3540	3660	2.53	3.54	3.66	5.06	14.40	0.34	0.83	1.17
27	3XL	1.22	10	2530	4260	4485	2.53	4.26	4.49	5.06	17.49	0.34	1.81	2.15
28	3XL	1.22	10	2135	3045	2850	2.14	3.05	2.85	4.27	11.79	0.17	0.37	0.55

29	3XL	1.22	10	3260	3695	3885	3.26	3.70	3.89	6.52	15.16	0.94	1.02	1.96
30	3XL	1.22	10	3650	4680	5560	3.65	4.68	5.56	7.30	20.48	1.47	3.40	4.87
31	3XL	1.22	10	3560	4650	4280	3.56	4.65	4.28	7.12	17.86	1.33	1.96	3.30
32	3XL	1.22	10	1240	4280	4050	1.24	4.28	4.05	2.48	16.66	0.02	1.49	1.51
33	3XL	1.22	10	2830	3820	3620	2.83	3.82	3.62	5.66	14.88	0.53	0.95	1.48
34	3XL	1.22	10	2830	4520	4295	2.83	4.52	4.30	5.66	17.63	0.53	1.86	2.40
35	3XL	1.22	10	3080	3820	4030	3.08	3.82	4.03	6.16	15.70	0.75	1.17	1.92
36	3XL	1.22	10	2830	5520	5260	2.83	5.52	5.26	5.66	21.56	0.53	4.17	4.70
37	3XL	1.22	10	2680	6015	5840	2.68	6.02	5.84	5.36	23.71	0.43	6.10	6.53
38	3XL	1.22	10	3420	4850	4780	3.42	4.85	4.78	6.84	19.26	1.14	2.66	3.79
39	3XL	1.22	10	2860	4520	4340	2.86	4.52	4.34	5.72	17.72	0.56	1.90	2.46
40	3XL	1.22	10	2540	3220	3340	2.54	3.22	3.34	5.08	13.12	0.35	0.57	0.92
41	3XL	1.22	10	3015	4045	3860	3.02	4.05	3.86	6.03	15.81	0.69	1.21	1.89
42	3XL	1.22	10	2560	3220	3540	2.56	3.22	3.54	5.12	13.52	0.36	0.64	1.00
43	3XL	1.22	10	3250	4680	4850	3.25	4.68	4.85	6.50	19.06	0.93	2.55	3.47
44	3XL	1.22	10	2420	4210	4465	2.42	4.21	4.47	4.84	17.35	0.28	1.75	2.03
45	3XL	1.22	10	2210	3860	3065	2.21	3.86	3.07	4.42	13.85	0.20	0.71	0.91
46	3XL	1.22	10	2850	3540	3620	2.85	3.54	3.62	5.70	14.32	0.55	0.81	1.36

47	3XL	1.22	10	2350	3940	3820	2.35	3.94	3.82	4.70	15.52	0.25	1.12	1.37
48	3XL	1.22	10	3210	3020	3350	3.21	3.02	3.35	6.42	12.74	0.88	0.51	1.39
49	3XL	1.22	10	2450	2965	3240	2.45	2.97	3.24	4.90	12.41	0.30	0.46	0.76
50	3XL	1.22	10	2480	3850	3640	2.48	3.85	3.64	4.96	14.98	0.31	0.97	1.29
51	3XL	1.22	10	2680	3865	3720	2.68	3.87	3.72	5.36	15.17	0.43	1.02	1.45
52	3XL	1.22	10	2820	3360	3050	2.82	3.36	3.05	5.64	12.82	0.52	0.52	1.05
53	3XL	1.22	10	3035	3875	3780	3.04	3.88	3.78	6.07	15.31	0.70	1.06	1.76
54	3XL	1.22	10	2430	2880	2680	2.43	2.88	2.68	4.86	11.12	0.29	0.30	0.58
55	3XL	1.22	10	2860	3230	3035	2.86	3.23	3.04	5.72	12.53	0.56	0.48	1.03
56	3XL	1.22	10	2335	2850	2685	2.34	2.85	2.69	4.67	11.07	0.25	0.29	0.54
57	3XL	1.22	10	2830	4250	4185	2.83	4.25	4.19	5.66	16.87	0.53	1.56	2.10
58	3XL	1.22	10	3180	3945	3880	3.18	3.95	3.88	6.36	15.65	0.85	1.16	2.01
59	3XL	1.22	10	2630	3540	3720	2.63	3.54	3.72	5.26	14.52	0.40	0.86	1.26
TOTAL ESAL FOR 3 AXLE														**246.59**
TOTAL NO. OF VEHICLES														**59.00**

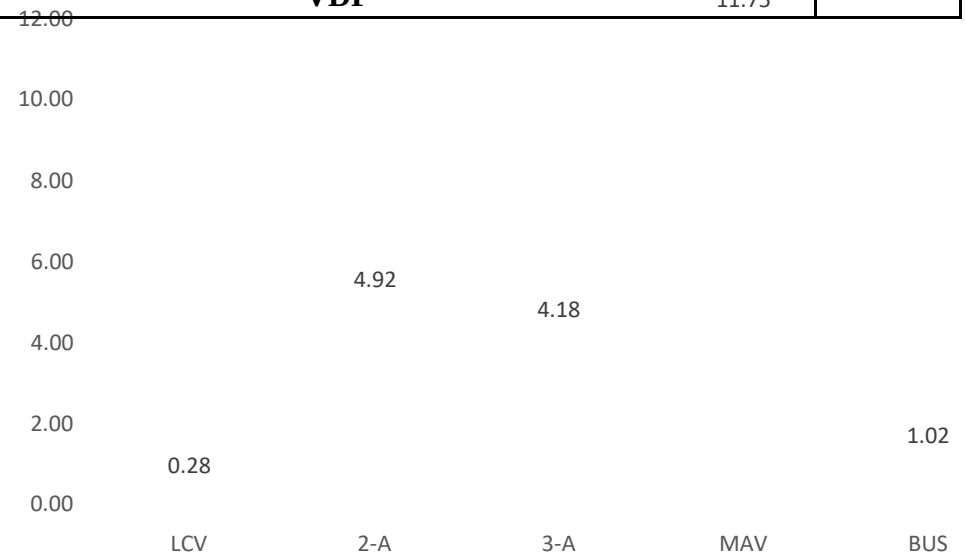
VEHICLE DAMAGE FACTOR (VDF)	4.18

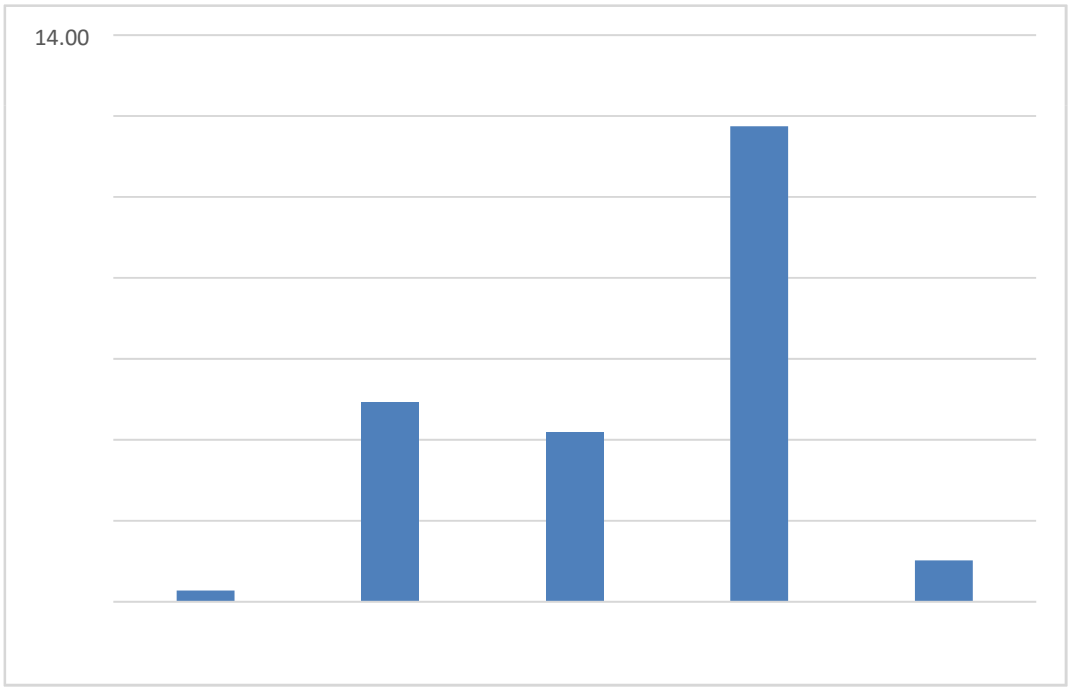
S.No.	Vehicle Type	Axle Configuration	Commodity Type	Wheel Weight (kg)						Wheel Weight (Tonnes)						AXLE LOAD (TONNES)					EQUIVALENT STANDARD LOAD					TOTAL ESAL
				Front -1	Rear -1	Rear -2	Rear -3	Rear -4	Rear -5	Front -1	Rear -1	Rear -2	Rear -3	Rear -4	Rear -5	Front -1	Rear (single 1)	Rear (tandem)	Rear (triden)	Rea (sing e -2)	Front -1	Rear (single	Rear (tande m)	Rear (trid em)	Rear (single -2)	
1	4XL	1.122	16	3220	3540	4230	4060			3.22	3.54	4.23	4.06	0.00	0.00	6.44			23.66		0.89	0.00	0.00	1.15		2.05
2	MAV	1.122	16	2890	3840	4230	4015			2.89	3.84	4.23	4.02	0.00	0.00	5.78			24.17		0.58	0.00	0.00	1.26		1.83
3	MAV	1.1.122	20	2560	2930	3460	3820	3640		2.56	2.93	3.46	3.82	3.64	0.00	5.12	5.86		21.84		0.36	0.61	0.00	0.84		1.81
4	MAV	1.1.122.1	22	2820	2460		2565	2230	2240	2.82	2.46	0.00	2.57	2.23	2.24	5.64	4.92		9.59	4.48	0.52	0.30	0.00	0.03	0.21	1.07
5	MAV	1.1.22	14	2475		4630	4370			2.48	0.00	4.63	4.37	0.00	0.00	4.95	0.00	18.00			0.31	0.00	2.03	0.00		2.34
6	MAV	1.1.22	14	3660	3850	6875	6580			3.66	3.85	6.88	6.58	0.00	0.00	7.32	7.70	26.91			1.49	1.82	10.12	0.00		13.44
7	MAV	1.1.22	14	4050	9350	9460	9020			4.05	9.35	9.46	9.02	0.00	0.00	8.10	18.70	36.96			2.23	63.44	36.02	0.00		101.70
8	MAV	1.1.22	14	5250	8650	7750	9080			5.25	8.65	7.75	9.08	0.00	0.00	10.50	17.30	33.66			6.31	46.47	24.78	0.00		77.56
9	MAV	1.1.22	14	3040	3220	4550	4230			3.04	3.22	4.55	4.23	0.00	0.00	6.08	6.44	17.56			0.71	0.89	1.84	0.00		3.44
10	MAV	1.1.22	14	2820	3540	3850	3750			2.82	3.54	3.85	3.75	0.00	0.00	5.64	7.08	15.20			0.52	1.30	1.03	0.00		2.86
11	MAV	1.1.22	14	2790	5020	5820	5640			2.79	5.02	5.82	5.64	0.00	0.00	5.58	10.04	22.92			0.50	5.27	5.33	0.00		11.10
12	MAV	1.1.22	14	3020	3245	3975	3750			3.02	3.25	3.98	3.75	0.00	0.00	6.04	6.49	15.45			0.69	0.92	1.10	0.00		2.71
13	MAV	1.1.22	14	2610	2560	4780	4565			2.61	2.56	4.78	4.57	0.00	0.00	5.22	5.12	18.69			0.39	0.36	2.36	0.00		3.10
14	MAV	1.1.22	14	2560	2480	4780	4620			2.56	2.48	4.78	4.62	0.00	0.00	5.12	4.96	18.80			0.36	0.31	2.41	0.00		3.08
15	MAV	1.1.22	14	3470	3130	6670	6420			3.47	3.13	6.67	6.42	0.00	0.00	6.94	6.26	26.18			1.20	0.80	9.07	0.00		11.07
16	MAV	1.1.22	14	5065	4310	6670	6930			5.07	4.31	6.67	6.93	0.00	0.00	10.13	8.62	27.20			5.46	2.86	10.57	0.00		18.89
17	MAV	1.1.22	14	2820	4015	4230	3850			2.82	4.02	4.23	3.85	0.00	0.00	5.64	8.03	16.16			0.52	2.16	1.32	0.00		4.00
18	MAV	1.1.22	14	3045	3480	3565	3225			3.05	3.48	3.57	3.23	0.00	0.00	6.09	6.96	13.58			0.71	1.22	0.66	0.00		2.59
19	MAV	1.1.22	14	3160	3560	3710	3615			3.16	3.56	3.71	3.62	0.00	0.00	6.32	7.12	14.65			0.83	1.33	0.89	0.00		3.05
20	MAV	1.1.22	14	2860	4080	4560	4230			2.86	4.08	4.56	4.23	0.00	0.00	5.72	8.16	17.58			0.56	2.30	1.84	0.00		4.70
21	MAV	1.1.22	14	3820	6540	7240	7165			3.82	6.54	7.24	7.17	0.00	0.00	7.64	13.08	28.81			1.77	15.19	13.30	0.00		30.25
22	MAV	1.1.22	14	2280	3020	3840	3620			2.28	3.02	3.84	3.62	0.00	0.00	4.56	6.04	14.92			0.22	0.69	0.96	0.00		1.87
23	MAV	1.1.22	14	3035	4015	3850	3620			3.04	4.02	3.85	3.62	0.00	0.00	6.07	8.03	14.94			0.70	2.16	0.96	0.00		3.82
24	MAV	1.1.222	18	2680	4630	5260	5680	5410		2.68	4.63	5.26	5.68	5.41	0.00	5.36	9.26		32.70		0.43	3.81	0.00	4.21		8.45
25	4XL	1.2.11	15	2715	3195	2875	3290			2.72	3.20	2.88	3.29	0.00	0.00	5.43	6.39	12.33			0.45	0.38	0.45	0.00		1.27
26	MAV	1.2.11	15	2210	1835	2435	2640			2.21	1.84	2.44	2.64	0.00	0.00	4.42	3.67	10.15			0.20	0.04	0.20	0.00		0.44
27	MAV	1.2.11	15	2190	1930	2460	2565			2.19	1.93	2.46	2.57	0.00	0.00	4.38	3.86	10.05			0.19	0.05	0.20	0.00		0.44
28	MAV	1.2.11	15	2330	1940	2360	2595			2.33	1.94	2.36	2.60	0.00	0.00	4.66	3.88	9.91			0.24	0.05	0.19	0.00		0.48
29	MAV	1.2.11	15	2340	1950	2530	2615			2.34	1.95	2.53	2.62	0.00	0.00	4.68	3.90	10.29			0.25	0.05	0.22	0.00		0.52
30	MAV	1.2.11	15	2230	1860	2390	2515			2.23	1.86	2.39	2.52	0.00	0.00	4.46	3.72	9.81			0.21	0.04	0.18	0.00		0.43
31	MAV	1.2.11	15	2320	3055	2880	3140			2.32	3.06	2.88	3.14	0.00	0.00	4.64	6.11	12.04			0.24	0.32	0.41	0.00		0.96
32	MAV	1.2.11	15	2250	1940	2420	2590			2.25	1.94	2.42	2.59	0.00	0.00	4.50	3.88	10.02			0.21	0.05	0.19	0.00		0.46
33	MAV	1.2.11	15	2480	3260	2780	2830			2.48	3.26	2.78	2.83	0.00	0.00	4.96	6.52	11.22			0.31	0.41	0.31	0.00		1.03
34	4XL	1.2.11	15	2350	3190	2765	3055			2.35	3.19	2.77	3.06	0.00	0.00	4.70	6.38	11.64			0.25	0.37	0.35	0.00		0.98
35	MAV	1.2.22	13	3550	7040	6560	8020			3.55	7.04	6.56	8.02	0.00	0.00	7.10	14.08	29.16			1.32	8.89	13.96	0.00		24.16
36	MAV	1.2.22	13	3060	5520	4480	4850			3.06	5.52	4.48	4.85	0.00	0.00	6.12	11.04	18.66			0.73	3.36	2.34	0.00		6.43
37	MAV	1.2.22	13	2830	5545	5860	5570			2.83	5.55	5.86	5.57	0.00	0.00	5.66	11.09	22.86			0.53	3.42	5.27	0.00		9.22
38	MAV	1.2.22	13	2520	3540	3610	3475			2.52	3.54	3.61	3.48	0.00	0.00	5.04	7.08	14.17			0.33	0.57	0.78	0.00		1.68

39	MAV	1.2.22	13	3430	5660	6750	7040			3.43	5.66	6.75	7.04	0.00	0.00	6.86	11.32	27.58			1.15	3.71	11.17	0.00		16.03
40	MAV	1.2.22	13	3560	7150	6865	7290			3.56	7.15	6.87	7.29	0.00	0.00	7.12	14.30	28.31			1.33	9.45	12.40	0.00		23.19

41	MAV	1.2.22	13	3610	6615	7150	6775			3.61	6.62	7.15	6.78	0.00	0.00	7.22	13.23	27.85			1.41	6.93	11.61	0.00		19.95
42	MAV	1.2.22	13	2850	3845	4230	4180			2.85	3.85	4.23	4.18	0.00	0.00	5.70	7.69	16.82			0.55	0.79	1.55	0.00		2.88
43	MAV	1.2.22	13	2890	3340	3820	3795			2.89	3.34	3.82	3.80	0.00	0.00	5.78	6.68	15.23			0.58	0.45	1.04	0.00		2.07
44	MAV	1.2.22	13	2380	3250	3580	3620			2.38	3.25	3.58	3.62	0.00	0.00	4.76	6.50	14.40			0.27	0.40	0.83	0.00		1.50
45	MAV	1.2.22	13	3520	6440	7020	6840			3.52	6.44	7.02	6.84	0.00	0.00	7.04	12.88	27.72			1.27	6.22	11.40	0.00		18.89
46	MAV	1.2.22	13	2680	3620	3920	3750			2.68	3.62	3.92	3.75	0.00	0.00	5.36	7.24	15.34			0.43	0.62	1.07	0.00		2.12
47	MAV	1.2.22	13	3210	3150	4820	4610			3.21	3.15	4.82	4.61	0.00	0.00	6.42	6.30	18.86			0.88	0.36	2.44	0.00		3.68
48	MAV	1.2.22	13	2480	3850	4020	3965			2.48	3.85	4.02	3.97	0.00	0.00	4.96	7.70	15.97			0.31	0.79	1.26	0.00		2.36
49	MAV	1.2.22	13	3540	5685	6520	6850			3.54	5.69	6.52	6.85	0.00	0.00	7.08	11.37	26.74			1.30	3.78	9.87	0.00		14.95
50	MAV	1.2.222	18	2760	8090		9020	8750		2.76	8.09	0.00	9.02	8.75	0.00	5.52	16.18		35.54		0.48	15.50	0.00	5.87		21.85
51	MAV	1.2.222	18	3640	7220	6630	7480	7090		3.64	7.22	6.63	7.48	7.09	0.00	7.28	14.44		42.40		1.46	9.83	0.00	11.89		23.18
52	MAV	1.2.222	18	3550	4680	4750	4520	4880		3.55	4.68	4.75	4.52	4.88	0.00	7.10	9.36		28.30		1.32	1.74	0.00	2.36		5.41
53	MAV	1.2.222	18	3560	4880	4550	4660	4790		3.56	4.88	4.55	4.66	4.79	0.00	7.12	9.76		28.00		1.33	2.05	0.00	2.26		5.65
54	MAV	1.2.222	18	2880	3055	3240	3550			2.88	3.06	3.24	3.55	0.00	0.00	5.76	6.11		13.58		0.57	0.32	0.00	0.13		1.01
55	MAV	1.2.222	18	2860	3540	4160	3820	4020		2.86	3.54	4.16	3.82	4.02	0.00	5.72	7.08		24.00		0.56	0.57	0.00	1.22		2.34
56	MAV	1.2.222	18	3265	3840	3620	3550			3.27	3.84	3.62	3.55	0.00	0.00	6.53	7.68		14.34		0.94	0.79	0.00	0.16		1.89
57	MAV	1.22.222	23	3140	7340	7450	6650	8640	9050	3.14	7.34	7.45	6.65	8.64	9.05	6.28		29.58	48.68		0.81	0.00	14.78	20.66		36.24
58	MAV	1.22.222	23	3545	6955	7045	6570	8040	7950	3.55	6.96	7.05	6.57	8.04	7.95	7.09		28.00	45.12		1.31	0.00	11.86	15.25		28.42
59	MAV	1.22.222	23	3640	7050	6020	7625	8020		3.64	7.05	6.02	7.63	8.02	0.00	7.28		26.14	31.29		1.46	0.00	9.01	3.53		14.00
60	MAV	1.22.222	23	3560	6570	6210	7820	8095	7575	3.56	6.57	6.21	7.82	8.10	7.58	7.12		25.56	46.98		1.33	0.00	8.24	17.92		27.49
61	MAV	1.22.222	23	3620	7210	6840	7520	7820	2750	3.62	7.21	6.84	7.52	7.82	2.75	7.24		28.10	36.18		1.43	0.00	12.04	6.30		19.76
62	MAV	1.22.222	23	3840	7220	7010	7860	8140	7820	3.84	7.22	7.01	7.86	8.14	7.82	7.68		28.46	47.64		1.80	0.00	12.66	18.95		33.42
63	MAV	1.22.222	23	3480	6850	7110	6620	7565	7320	3.48	6.85	7.11	6.62	7.57	7.32	6.96		27.92	43.01		1.22	0.00	11.73	12.59		25.54
64	MAV	1.22.222	23	3080	6675	7240	7075	8890	8440	3.08	6.68	7.24	7.08	8.89	8.44	6.16		27.83	48.81		0.75	0.00	11.58	20.88		33.21
TOTAL ESAL FOR MULTI AXLE VEHICLE																										**752.30**
TOTAL NO. OF VEHICLES																										**64.00**
VEHICLE DAMAGE FACTOR (VDF)																										**11.75**

SUMMARY OF VDF VALUES				
ROAD SECTION	**VEHICLE TYPE**	**No. of Vehicles**	**VDF**	**ESAL**
PAITI BORIPUR TO SAHA	LCV	68.00	0.28	19.20
	2-A	85.00	4.92	417.99
	3-A	59.00	4.18	246.59
	MAV	64.00	11.75	752.30
	BUS	15	1.02	15.28
	Total	**291**	**22.15**	**1451.36**
Combined VDF				**4.99**





Vehicle Type v/s VDF
Graph

AXLE LOAD SURVEY

Section:		**Date:**	
Location:		**Time :**	
Direction:	**Saha to Paiti Boripur**	**Weather:**	
Pad No:			

S. No.	Registration No.	Vehicle Type	Axle Configuration	Origin	Destination	Commodity Type	Wheel Loads In Tonnes								Commodity
							1st Axle	2nd Axle	3rd Axle	4th Axle	5th Axle	6th Axle	7th Axle	8th Axle	
1	T/F	LCV	1.1	SHAHA	SAHABAD	6	480	610							EMPTY
2	HR 37 E 9129	LCV	1.2	BITA	KURUKSHETRA	7	3010	4360							COLD DRINK
3	HR 39 E 9303	LCV	1.1	SHAHA	SAHABAD	6	500	620							EMPTY
4	NL 01 Q 1456	2XL	1.2	SHIMLA	DADRI	9	2760	2960							EMPTY
5	HR 37 C 6360	LCV	1.1	SAHA	SAHABAD	6	510	610							EMPTY
6	DL 1LW 2350	LCV	1.1	DELHI	SAHABAD	6	1120	860							EMPTY
7	MH 15 EG 5199	4XL	1.2.22	HARIDWAR	JAMMU	13	2960	4210	6420	4760					CAR
8	MH 15 EG 4930	4XL	1.2.22	HARIDWAR	JAMMU	13	2850	4410	6420	4760					CAR
9	MH 15 EG 5231	4XL	1.2.22	HARIDWAR	JAMMU	13	2850	4310	6510	4810					CAR
10	HR 65 A 7187	3XL	1.22	KALAPI	MORI	10	3120	6210	5350						AGGREGATE
11	HR 37 E8999	4XL	1.2.22	KALAAAM	PANIPATH	13	3760	4150	7230	6950					AGGREGATE
12	UP 16 CT 1990	LCV	1.2	SAHA	SAHABAD	7	1180	1560							EMPTY
13	HR 58 A 9500	2XL	1.2	SAHA	SAHABAD	9	2750	2860							EMPTY
14	HR 38 W 2919	4XL	1.2.11	SAHA	GUDGAON	15	1860	2460	2610	2860					EMPTY
15	HR 38 W 1014	3XL	1.22	BADOLI	KESRI	10	3460	5420	6050						SAND
16	JK 13 B 6875	2XL	1.2	SAHA	SHRI NAGAR	9	3860	6650							FEED

17	HR 37 C 3782	LCV	1.1	PASALA	KARNAL	6	450	1070							MATTRESS
18	HR 37 E 2566	LCV	1.1	NUHANGARH	SAHABAD	6	500	690							EMPTY
19	HR 37 C 9645	LCV	1.1	SAHA	SAHABAD	6	480	620							EMPTY
20	HR 64 E 9106	4XL	1.2.11	CHANDIGARH	KARNAL	15	2310	2760	2610	2580					AUTO PARTS
21	HR 37 D 2207	3XL	1.22	BADOLI	MORI	10	2910	5760	6020						EMPTY

22	HR 37 D 5757	LCV	1.1	SAHA	SAHABAD	6	490	610							EMPTY
23	HR 37 D 2791	LCV	1.1	SAHA	KESRI	6	480	620							EMPTY
24	PB 65 V 6202	LCV	1.2	LALDDU	KARNAL	7	1250	1380							EMPTY
25	HR 68 B 1798	4XL	1.1.22	SAHA	SAHABAD	14	1870	1820	1950	210					EMPTY
26	HR 65 A 1715	3XL	1.22	SAHA	MORI	10	2050	1910	1720						EMPTY
27	RJ 03 GA 6121	2XL	1.2	NALAGARH	GUDGAON	9	2650	2110							EMPTY
28	DL 1 LX 7197	LCV	1.1	AMBALA	DELHI	6	1250	960							EMPTY
29	HR 65 A 2645	3XL	1.22	AMBALA	DELHI	10	2410	1950	1830						EMPTY
30	AP O5 TD 6211	4XL	1.1.22	SHIMLA	NDHRA PRADES	14	3710	3950	6350	6650					APPLE
31	HR 56 B 4562	LCV	1.2	DINARPUR	KARNAL	7	2210	4450							GAS CYLINDER
32	UP 11 BT 4786	LCV	1.2	AMBALA	AMRITSAR	7	2710	6360							GUD
33	HR 37 D 4486	LCV	1.1	NANGLA	SAHABAD	6	1230	2240							CHEMICAL
34	HR 37 D 5484	LCV	1.1	SHAHA	SAHABAD	6	480	610							EMPTY
35	PB 23 K 8284	LCV	1.2	SHAHA	MORI	7	1560	1260							EMPTY
36	UP 17 AT 6499	BUS	1.2	AMBALA	RATANGARH	3	2310	3160							PASSENGER
37	HR 37 C 5976	LCV	1.2	AMBALA	RATANGARH	7	1710	2960							EMPTY
38	UP 15 CT 8784	LCV	1.1	SAHA	MEERUT	6	860	1060							TRAY
39	HR 37 D 8181	LCV	1.1	AMBALA	SAHABAD	6	860	950							EMPTY
40	UP 30 T 2711	LCV	1.1	SHAHA	SHABAD	6	860	1840							PARTS
41	UP 13 T 8985	LCV	1.2	MORI	RATANGARH	7	2150	4310							EGG
42	HR 67 C 3702	LCV	1.2	SHAHA	PANIPAT	7	890	1370							EMPTY
43	HR 45 A 9855	4XL	1.1.22	SHAHA	KESRI	14	2470		2930	3260					EMPTY
44	HR 69 3015	2XL	1.2	SHAHA	PUNJAB	9	2030	3350							FURTI
45	HR 65 8206	BUS	1.2	SAHA	SHABAD	3	2350	3250							PASSENGER
46	UP 11 T 5436	LCV	1.2	SAHA	ILHABAD	7	1380	1330							EMPTY

47	PB 12 Y 5295	2XL	1.2	RUDKI	KARNAL	9	3170	4160							PARSAL
48	T/F	3XL	1.22	SAHA	SHABAD	10	2410	3460	2860						EMPTY
49	HR 37 E 1014	3XL	1.22	BADOLI	MORI	10	2230	5056	5260						AGGREGATE
50	HR 37 5489	4XL	1.1.22	SAHA	DINARPUR	14	1190		2120	1830					EMPTY
51	HR 38 R 4567	2XL	1.2	SAHA	SHABAD	9	1890	3050							EMPTY

52	JK 03 E 5422	2XL	1.2	SAHA	SHABAD	9	2380	1610							EMPTY
53	HR 65 A 8140	3XL	1.22	BADOLI	MORI	10	3360	5960	6260						SAND
54	JK 03 F 6052	3XL	1.22	SAHA	KARNAL	10	1060	1810	1230						EMPTY
55	HR 38 U 5910	4XL	1.2.22	AMBALA	DELHI	13	1950	2930	3030	2160					EMPTY
56	HR 37 C 5000	LCV	1.1	SAHA	SHABAD	6	1410	3010							MEDICINE
57	HR 37 C 6347	LCV	1.2	SAHA	KURUKSHETRA	7	610	1320							EGG TRAY
58	HR 37 B 9522	3XL	1.22	TAPOLA	AMBALA	10	2210	3870	3150						MEDICINE
59	HR 65 3147	3XL	1.22	SAHA	SHABAD	10	1520	1610	2210						EMPTY
60	HR 69 C 3569	LCV	1.2	SAHA	KARNAL	7	650	660							EMPTY
61	PB 10 FF 5593	LCV	1.2	PUNJAB	RUDKI	7	1110	1750							EMPTY
62	DL 1 LT 5380	LCV	1.2	SAHA	DELHI	7	1290	1470							EMPTY
63	HR 46 E 9052	4XL	1.2.11	SAHA	MANESAR	15	1390	2750	2260	2560					EMPTY
64	HR 63 E 5591	MAV	1.2.222	PUNCHKULA	KARNAL	18	1900	2450		2210	2310				EMPTY
65	RJ 21G 4610	4XL	1.1.22	SAHA	JHUNJHUNU	14	2350	5340	5960	5650					DIESAL
66	HR 37 7919	2XL	1.2	SAHA	KARNAL	9	850	650							RICE
67	HR 37 C 5710	3XL	1.22	SAHA	DANIPUR	10	1950	1450	760						EMPTY
68	HR 65 A 9455	3XL	1.22	SAHA	MORI	10	2510	5570	6150						SAND
69	HR 65 A 7569	3XL	1.22	KALPI	MORI	10	2550	6030	5760						SAND
70	HR 37 D 9505	3XL	1.22	SAHA	MORI	10	2830	5820	5580						SAND
71	HR 61 A 3576	3XL	1.22	SAHA	SHABAD	10	2210	1730	1510						EMPTY
72	KA 42 4981	4XL	1.2.11	HARIDWAR	JAMU	15	2310	4530	5260	4860					CAR
73	HR 37 A 5883	3XL	1.22	SAHA	SAHABAD	10	1530	2160	1690						EMPTY
74	HR37D0848	3XL	1.22	SAHA	ZIND	10	3260	1060	4760						COLD DRINK
75	PB 13 A 48796	2XL	1.2	SAHA	SHABAD	9	1970	1260							EMPTY
76	PB 13 AH 0496	2XL	1.2	SAHZADPUR	SAHABAD	9	2210	2830							EMPTY

77	UK 07 CB 416	2XL	1.2	AMBALA	SAHABAD	9	2170	4160							DIESAL
78	TN 52 F 8225	4XL	1.1.22	SAHA	TAMILNADU	14	1820	1870	1760	1430					EMPTY
79	PB 11 CL 6784	2XL	1.2	SAHZADPUR	SHABAD	9	1950	1360							EMPTY
80	HR 37 B 6790	MAV	1.1.122	SAHA	SHABAD	20	2290	1910		2396	1520				EMPTY
81	HR 37 D 6890	MAV	1.1.22	SAHA	SHABAD	14	1930	1530	2150	2030					EMPTY

82	DL 1 MA 2316	LCV	1.2	SAHA	DINARPUR	7	1420	830							EMPTY
83	HR 12 C 3166	3XL	1.22	BADDI	THOL	10	2060	3350	3110						EMPTY
84	HR 69 C 5714	MAV	1.22.222	ARAYANGAR	SONIPATH	23	2240	6650	4350		8460	9350			SAND
85	HR 65 1385	3XL	1.22	SAHA	MODI	10	1550	3350	3560						SAND
86	HR 65 8206	BUS	1.2	SAHA	SHABAD	3	2350	3150							PASSANGER
87	PB 10 FF 9554	LCV	1.2	HARIDUAR	LUDHIYNA	7	1080	1550							BREAD
88	PB 65 AD 8134	4XL	1.2.11	AMBALA	SHABAD	15	2090	2960	2290	2350					CAR
89	HR 45 A 0757	3XL	1.22	SAHA	SHABAD	10	2050	3150	3060						EMPTY
90	PB 11 CM 0755	3XL	1.22	SAHA	SHABAD	10	2610	1750	2040						EMPTY
91	HR 67 A 2863	LCV	1.2	SAHA	SHABAD	7	1090	1370							EMPTY
92	HR 37 CB 4510	LCV	1.2	SAHA	SHABAD	7	760	1170							EMPTY
93	HR 61 D 1590	LCV	1.2	SAHA	SHABAD	7	490	620							EMPTY
94	HR 37 D 4953	LCV	1.2	NANGLA	SHABAD	7	1120	1420							SOFA
95	HR 37 D 8824	LCV	1.1	SAHA	SHABAD	6	490	610							EMPTY
96	HR 47 D 7874	2XL	1.2	SAHA	KESRI	9	2350	2110							EMPTY
97	HR 61 B 6114	3XL	1.22	AMBALA	MODI	10	2230	1810	1580						EMPTY
98	HR 37 C 9358	LCV	1.2	SAHA	SHABAD	7	1620	3350							DHAGA
99	HR 65 5571	BUS	1.2	SAHA	SHABAD	3	2330	3230							PASSANGER
100	HR 55 K 5540	2XL	1.2	SAHA	SHABAD	9	2340	2050							EMPTY
101	HR 46 E 6711	LCV	1.2	AMBALA	KURUSHRTH	7	1260	2210							PTANJALI
102	MH 46 F 1039	3XL	1.22	SAHA	SAHABAD	10	2430	2860	2430						BURGAR
103	RJ 32 GB 6090	LCV	1.2	SAHA	PANIPATH	7	1530	2290							FURNITURE
104	HR 15 8206	BUS	1.2	SAHA	SAHABAD	3	2250	3110							PASSANGER
105	HR 67 9546	3XL	1.22	SAHA	SAHABAD	10	3910	6060	5660						GES
106	HR 37 D 2750	LCV	1.1	SAHA	SAHABAD	6	490	620							EMPTY
107	HR 37 C 8598	3XL	1.22	SAHA	AMBALA	10	2290	1690	1460						EMPTY
108	HR 48 D 2194	2XL	1.2	SAHA	KARNAL	9	1940	1980							EMPTY

109	NL O1 RC 0024	3XL	1.22	BADOLI	GUDGAON	10	3840	4350	4460						SHARAB
110	UP 1 EF 0359	LCV	1.2	SAHA	DINARPUR	7	1250	1960							EMPTY
111	DL 1 MA 0411	LCV	1.2	SAHA	KARNAL	7	1360	1340							EMPTY
112	HR 73 0844	3XL	1.22	BADOLI	GUDGAON	10	3600	6230	5460						SHARAB
113	HR 63 A 9669	LCV	1.1	HIMACHAL	PANIPATH	6	890	910							EMPTY

114	NL O1 AC 7549	2XL	1.2	RINADRI	AMBALA	9	3040	6390							DIESAL
115	HR 65 A 480	4XL	1.2.22	SAHA	DINARPUR	13	1180		2140	1830					EMPTY
116	HR 55 E 7765	2XL	1.2	BADHARGAR	SAHABAD	9	3020	6230							DIESAL
117	HR 65 0557	BUS	1.2	SAHA	SAHABAD	3	2130	3230							PASSANGER
118	PB O2 J 9801	2XL	1.2	HARIDUAR	PUNJAB	9	3430	5120							BIKE
119	HR 55 M 9504	3XL	1.22	SERRANI	KARNAL	10	2270	1810	2020						EMPTY
120	MH 48 AY 4533	LCV	1.2	SAHA	MUMBAI	7	2610	4890							FURNITUR
121	Rj 02 GB 3118	MAV	1.22.22	KALAAAM	JAIPUR	19	2520	2000		2310	2010				EMPTY
122	HR 45 C 0764	LCV	1.2	PARMANU	KARNAL	7	1490	1650							EMPTY
123	HR 65 A 3827	LCV	1.1	SAHA	SHABAD	6	880	1050							EMPTY
124	PB 02 2874	LCV	1.1	SAHA	KARNAL	6	490	650							EMPTY
125	MP 09 HG 2134	3XL	1.22	SAHA	AMBALA	10	1680	1750	1620						EMPTY
126	HR 62 3163	LCV	1.2	ANTVAD	SHABAD	7	2690	6340							SHARAB
127	HR 55 P 7262	LCV	1.2	SAHA	DELHI	7	2430	4250							EGG
128	NL 01 K 7594	4XL	1.1.22	BANDI	KSAL	14	1700		2090	2080					EMPTY
129	HR 55 N 6357	4XL	1.2.11	SAHA	SHABAD	15	1940	2750	3430	3170					EMPTY
130	HR 38 X 7400	2XL	1.2	GATVARD	GUDGAV	9	2580	6430							SHARAB
131	NL 01 AD 7262	4XL	1.1.22	KALAAAM	PUNA	14	2510		6330	6190					PARCHUN
132	MH 04 HY 9638	2XL	1.2	KALAAAM	MUMBAI	9	1960	2960							PAPER ROLL
133	HR 65 A 8140	3XL	1.22	KALGI	SEVAD	10	3090	5730	6530						SAND
134	RJ 13 GB 8211	MAV	1.22.22	KALAAAM	ALWAR	19	2210		2430	3350	2830				GATA
135	RJ 11 GB 1938	MAV	1.22.22	CHANDIGARD	GUALIYAR	19	4260	4360		7750	6950				AGREEGATE
136	HR 38 AB 1300	3XL	1.22	KALAAAM	DELHI	10	3750	6570	5660						GAS

137	HR 39 D 3371	2XL	1.2	SAHA	HISAR	9	2910	6620							SHARAB
138	HR 73 5817	LCV	1.2	SAHA	PALBAL	7	1950	4750							SHARAB
139	HR 38 AD 7399	2XL	1.2	SAHA	PALBAL	9	2010	4850							SHARAB
140	HR 64 6605	2XL	1.2	SAHA	SAHABAD	9	1190	1350							SHARAB
141	RJ 57 GB 4639	4XL	1.2.22	BERVALA	DIDVANA	13	2870		3950	3840					KHAAD
142	HP12 G 3241	3XL	1.22	PARMANU	KERNAL	10	1650	1730	1680						EMPTY
143	PB 11 CA 0915	LCV	1.2	SAHA	MODA	7	2230	4030							MADICAL GAS
144	HR 65 D 0761	LCV	1.1	SAHA	SAHABAD	6	1090	930							EMPTY
145	HR 35 AC 1920	4XL	1.1.22	SAHA	KERAL	14	2490		1770	1930					EMPTY
146	HP 12 A 1193	2XL	1.2	BITA	BIVANI	9	1890	4530							KOKAKOLA
147	HR 37 E 7640	3XL	1.22	BADOLI	MODA	10	2310	5010	5140						SAND
148	HR 12 F 4051	2XL	1.2	KAAAM	MODI	9	2790	5050							CORIOUR
149	UP 15 AT 4801	LCV	1.2	BARVALA	UP	7	1760	4930							EGG

150	UP 14 JT 1795	LCV	1.2	BARVASA	GAZIYBAAD	7	1690	4650							EGG
151	HR 39 E 0396	LCV	1.2	SAHA	DELHI	7	1570	1870							FURNITURE
152	HR 63 D 7437	3XL	1.22	PUNCHKULA	BAHARDPUR	10	1770	2040	1790						EMPTY
153	BR 02 AA 2190	4XL	1.1.22	SAHA	SAHABAD	14	2590		1730	1650					EMPTY
154	HR 37 D 6008	3XL	1.22	SAHA	SAHABAD	10	2220	1690	1960						EMPTY
155	GJ 12 BX 7737	MAV	1.22.222	SAHA	SAHABAD	23	2180	2310	1830		2430	2170			EMPTY
156	HR 67 B 3211	LCV	1.2	BADOLI	PANIPATH	7	2870	5030							SHARAB
157	UP 84 T 4588	LCV	1.2	BERVALA	SAHABAD	7	2050	5360							EGG
158	HR 55 G 4184	3XL	1.22	KALAAM	MODI	10	2350	2830	3420						SAND
159	HR 68 A 2682	LCV	1.2	CHANDIGARD	SAHABAD	7	1550	2860							FURNITURE
160	HR 37 D 4288	3XL	1.22	BADOLI	AMBALA	10	2960	6330	5160						SAHRAB
161	HR 47 D 4310	LCV	1.2	SAHA	SHABAD	7	2040	4610							MEDICINE
162	HR 55 R 2422	LCV	1.2	SAHA	KARNAL	7	1810	4950							MEDICINE
163	RJ 09 GC 7780	MAV	1.22.222	KALAM	BHILWAD	23	2930	2630	4750		7310	6650			CEMEMT TIN
164	HR 87 D O841	2XL	1.2	BITA	GID	9	2060	6950							WATER TANK
165	HR 37 D 9252	MAV	1.22.22	AMBALA	MODA	19	4420	3910		8240	9050				WOOD
166	RJ 08 GA 2517	4XL	1.1.22	BARVAL	RAMPUR	14	2610		4340	4070					FEED
167	HR 12 G 8979	3XL	1.22	SAHA	MERTH	10	3160	3510	3490						EGG TRAY
168	UP 14 GT 3046	2XL	1.2	BARVAL	DELHI	9	2650	6650							EGG
169	HR 55 L 6919	4XL	1.2.22	KALAAM	DADRI	13	2190	1870	1910	1960					EMPTY
170	HP 12 G 5013	3XL	1.22	NALAGARD	KARNAL	10	2810	3390	9110						EMPTY
171	HP 12 F 9169	2XL	1.2	BADI	RUDPUR	9	2890	3530							MEDICINE
172	UP 20 AT 5872	2XL	1.2	BERVASA	VIGNOR	9	2910	5860							EGG
173	HR 57 3182	LCV	1.1	SAHA	SAHABAD	6	490	910							EMPTY
174	HR 55 AD 4131	2XL	1.2	BARVASA	PUNA	9	2210	2900							PARCHUN
175	HP 12 D 3305	3XL	1.22	BADI	LUCKNOW	10	3330	5120	5760						DETERGENT
176	UP 20 AT 5891	2XL	1.2	BADVALA	VIGNOR	9	2850	5760							EGG
177	UP 20 AT 5672	2XL	1.2	BADVALA	VIGNOR	9	2730	5610							EGG
178	HR 37 P 3682	LCV	1.1	SAHA	SAHABAD	6	510	630							EMPTY

179	HR 37 D 4188	3XL	1.22	BADOLI	AMBALA	10	2890	6210	5060						SHARAB
180	HR 37 C 9647	LCV	1.1	SAHA	SAHABAD	6	490	610							EMPTY
181	RJ 09 4386	MAV	1.1.221	JALEM	BILVADA	17	2200	2410		3430	2730				MEDICINE
182	HR 55 G 4182	3XL	1.22	KALAAM	MODI	10	2300	2630	3510						SAND
183	PB 13 AR 0495	2XL	1.2	SAHADPUR	SAHABAD	9	2260	2850							PARCHUN
184	HR 38 R 1724	3XL	1.22	BADOLI	MODI	10	2340	2730	3320						SAND
185	UP 14 GT 1321	2XL	1.2	BARAVALA	SAHABAD	9	2020	5370							EGG

186	UK 07 CB 1811	2XL	1.2	AAMBALA	SAHABAD	9	2160	4170							DIESAL
187	HP 12 G 1671	2XL	1.2	KALAAM	MODI	9	2730	5010							FRIZE
188	RJ 10 GB 8415	4XL	1.2.22	BARAVALA	JAIPUR	13	2170		4330	4040					FEED
189	HR 38 D 5150	3XL	1.22	BADOLI	GUDGAAV	10	3590	6010	5360						SHARAB
190	PB 13 PR 4416	2XL	1.2	HARIDUAR	PUNJAB	9	3330	5220							BIKE
191	HR 37 R 5481	3XL	1.22	SAHA	SAHABAD	10	2190	1680	1430						EMPTY
192	RJ 37 GA 1359	4XL	1.1.22	PARMANU	RAJKOTE	14	2670		3850	3740					MEDICINE
193	RJ 02 GA 1581	MAV	1.1.22	KABANI	JAIPUR	14	2510	2010		2340	2010				EMPTY
194	HR 55 N 1685	4XL	1.122	SAHA	KETHAL	16	2470		1780	1910					EMPTY
195	HR 68 G 5825	LCV	1.2	CHANDIGARD	SAHABAD	7	1550	2790							FURNITURE
196	HR 68 8517	LCV	1.2	CHANDIGARD	SAHABAD	7	1540	2810							FURNITURE
197	HR 55 N 1661	4XL	1.2.22	SHAKI	SAHABAD	13	1970	2730	3450	3110					EMPTY
198	RJ 02 GA 6115	MAV	1.2.222	KALAAM	JAIPUR	18	2520	2110		2290	2110				EMPTY
199	UP 20 M 5716	2XL	1.2	BARVALA	BINOOR	9	2890	5910							EGG
200	PB 04 Y 2924	BUS	1.2	CHANDIGARD	SHAHBAD	3	2820	3150							PASSANGER
201	HR 37 C 2717	LCV	1.2	BITA	KURUSHTHR	7	3020	4270							COLD DRINK
202	HR 69 F 1480	MAV	1.2.22	PUNCHKULA	KERNAL	13	1930	2450		2190	2290				EMPTY
203	NL 1 Q 0440	2XL	1.2	JAGADARI	AMBALA	9	3030	6290							DIESAL
204	KA 42 5381	4XL	1.2.11	HARIDURA	JAMBU	15	2290	4450	5160	4960					CAR
205	HP 67 A 7555	2XL	1.2	HIMACHAL	DELHI	9	1890	4530							APPLE
206	HP 67 A 4265	2XL	1.2	HIMACHAL	DELHI	9	1810	4560							APPLE
207	HR 37 C 9646	LCV	1.1	SHAHA	SHAHBAD	6	490	610							EMPTY
208	HR 37 C 2916	LCV	1.1	SHAHA	SHAHBAD	6	480	620							EMPTY

209	NL 01 AD 5968	2XL	1.2	JAGADARI	AMBALA	9	3010	6140							DIESAL
210	RJ 09 GA 1310	MAV	1.2.222	AMBALA	KETHAL	18	3790	5240		6410	5160				CRESHAR MACHIN
211	PB 10 GY 4974	LCV	1.2	SHAHA	SHAHBAD	7	1710	1440							EMPTY
212	HR 37 D 4866	3XL	1.22	SHAHA	LUDHIYANA	10	3980	4010	3760						DAK PARCEL
213	HR 12 D 4661	LCV	1.1	SHAHA	SHAHBAD	6	480	630							EMPTY
214	PB 06 Q 9814	MAV	1.2.222	MADI	JAIPUR	18	1970	2760		2160	3160				EMPTY
215	HR 68 7533	LCV	1.1	SHAHA	SHAHBAD	6	490	620							EMPTY
216	HR 37 D 2908	3XL	1.22	SHAHA	KERNAL	10	3890	4110	3670						DAAK PARSAL
217	HR 65 8209	BUS	1.2	SHAHA	SHAHBAD	3	2330	3150							PASSANGER
218	HR 37 2720	2XL	1.2	SHAHA	MODI	9	2760	2860							EMPTY
219	HR 6 AC 3569	LCV	1.2	SHAHA	SHAHBAD	7	1230	1390							EMPTY
220	HR 55 A 3057	2XL	1.2	PARMANU	AHAMDABAD	9	3190	3810							PARCHUN
221	GJ 06 VV 9905	2XL	1.2	KALAAM	MUMBAI	9	3230	3760							GATTA

222	HR 45 C 6710	LCV	1.2	KALAAM	SHAHABAD	7	1770	3170							GLASS
223	HR 52 B 2116	LCV	1.2	SHAHA	MODI	7	1710	1450							EMPTY
224	HR 37 D 2787	3XL	1.22	BADOLI	BHUDIMALA	10	2480	6130	4450						SAND
225	PB 10 ES 8874	LCV	1.2	RISHIKESH	AMBALA	7	970	1140							CLOTH
226	HR 68 A 6145	2XL	1.2	SARANGPUR	MADRAS	9	2830	3350							PARCHUN
227	HR 65 A 7847	3XL	1.22	AMBALA	SHAHABAD	10	3160	4990	4710						PASSANGER
228	HR 12 2517	2XL	1.2	SHAHA	GHORKPUR	9	2560	2830							EMPTY
229	HP 68 A 0112	MINI BUS	1.2	HIMACHAL	MODI	3	1570	2850							EMPTY
230	NL 01 AE 1760	3XL	1.22	BITA	KARNAL	10	2270	1930	1760						EMPTY
231	HR 89 A 3055	3XL	1.22	SHAHA	NAHARGHAR	10	2190	1960	1810						EMPTY
232	HR 37 A 5384	LCV	1.2	AMBALA	SHAHABAD	7	1330	1640							EMPTY
233	HR 65 B 0005	LCV	1.2	GULABA	KESRI	7	1290	1530							EMPTY
234	HR 37 D 0437	LCV	1.2	SHAHA	SHAHABAD	7	1300	1630							EMPTY
235	PB 69 0293	2XL	1.2	SHAHA	KESRI	9	2560	2760							EMPTY
236	HR 37 D 3757	LCV	1.1	SHAHA	SHAHBAD	6	480	620							EMPTY
237	HR 65 7569	2XL	1.2	SHAHA	LANDA	9	2460	2740							EMPTY
238	HR 55 X 1400	2XL	1.2	SHAHA	LANDI	9	2510	2730							EMPTY
239	HR 65 A 9890	2XL	1.2	SHAHA	SHAHABAD	9	2460	2670							EMPTY
240	HR 65 5571	BUS	1.2	SHAHA	SHAHABAD	3	2330	3210							PASSANGER
241	MH14 EM 7026	MAV	1.2.11	HARIDUAR	JAMU	15	2860	4160	6670	4810					CAR
242	HR 65 3828	2XL	1.2	SHAHA	SHAHABAD	9	2640	2860							EMPTY
243	HP 17 B 8520	2XL	1.2	PTNA	MODA	9	2450	4630							MEDICINE

244	HR 37 B 2944	LCV	1.1	SHAHA	SHAHABAD	6	490	610							EMPTY
245	UP 70 G 3016	2XL	1.2	SHAHA	SHAHABAD	9	1580	1970							EMPTY
246	HR 37 D 5339	2XL	1.2	SHAHA	SHAHABAD	9	2430	2730							EMPTY
247	HP 12 C 6739	2XL	1.2	PTNA	MODA	9	2460	4260							MEDICINE
248	HP 1 GC 6777	3XL	1.22	AMBALA	SHIRRAGPUR	10	3510	4560	4630						MEDICINE
249	UP 81 BT 9398	MAV	1.2.222	SHAHA	SHAHABAD	18	5860	5960		10670	9960				JIRI
250	HR 37 C 2710	2XL	1.2	SHAHA	SHAHABAD	9	2730	3110							BRICKS
251	NL 01 AB 0378	3XL	1.22	KALAAAM	KASAL	10	2610	2060	1940						EMPTY
252	NL 01 L 4627	3XL	1.22	SHAHA	JAMALPUR	10	2920	3120	2560						PARCHUN
253	UP 53 ET 4825	MAV	1.1.222	SHAHA	SHAHABAD	18	1460	2560		2010	2160				EMPTY
254	GJ 15 AT 5849	3XL	1.22	SHAHA	PANIPATH	10	2260	1940	1950						EMPTY
255	PB 10 FV 1109	2XL	1.2	SHAHA	SHAHABAD	9	2650	2760							EMPTY
256	HR 37 C 3871	LCV	1.1	NAMARAV	SHAHABAD	6	650	760							EMPTY
257	HR 35 A 8140	2XL	1.2	SHAHA	MODI	9	2240	2740							EMPTY

258	HR 37 D 4456	LCV	1.2	NANGLA	KESRI	7	1040	1390							PARCHUN
259	HR 65 B 8206	BUS	1.2	SHAHA	SHAHABAD	3	2320	3160							PASSANGER
260	HR 57 D 2711	LCV	1.1	SHAHA	SHABAD	6	490	610							EMPTY
261	HR 37 D 6577	LCV	1.1	SHAHA	SHABAD	6	500	620							EMPTY
262	HR 65 5323	LCV	1.2	SHAHA	LANDA	7	2450	2660							EMPTY
263	HR 56 A 1372	LCV	1.1	NANGALA	LADDI	6	490	610							EMPTY
264	RJ 32 GC 0622	3XL	1.22	SHAHA	GUDGAV	10	2820	2070	1950						EMPTY
265	PB 03 BC 5042	LCV	1.2	PUNJAB	SHABAD	7	2240	3560							EMPTY
266	HR 65 A 3779	3XL	1.22	SHAHA	HISAR	10	2440	2920	2510						EMPTY
267	HP 12 F 0131	2XL	1.2	PATNA	MODI	9	2360	4700							MEDICINE
268	HR 69 C 1866	MAV	1.2.222	KALAM	PALVAL	18	3460	6740	5560		6630	7360			SAND
269	HR 37 E 7002	LCV	1.1	NANGLA	SHABAD	6	480	630							EMPTY
270	HR 37 C 7236	LCV	1.2	BARVALI	AGRA	7	2210	3540							EGG
271	UP78 BT 6421	3XL	1.22	SHAHA	MURABAD	10	3840	4160	3560						DAKPARSAL
272	NL 01 N 6824	3XL	1.22	SHAHA	JALAMPUR	10	2920	3130	2470						PARCHUN
273	HR 15 C 2744	LCV	1.2	SHAHA	SHABAD	7	1720	1420							EMPTY
274	HR 45 C 8050	LCV	1.2	NANGLA	SHABAD	7	2340	2710							EMPTY
275	HR 65 A 9615	3XL	1.22	SHAHA	LANDI	10	2410	2820	2490						EMPTY
276	RJ14 GA 8368	3XL	1.22	SHAHA	JODHPUR	10	3210	5420	5210						FRUTI
277	HR 69 B 7420	LCV	1.1	BADI	BHUKAN	6	1040	1320							EMPTY
278	HR 65 5571	BUS	1.2	SHAHA	SHABAD	3	2310	3230							PASSANGER
279	UK 08 CA 3109	4XL	1.1.22	SHAHA	SHABAD	14	2830		5640	6340					DIESAL
280	HR 69 B 7297	LCV	1.2	GIRATHPUR	LADVA	7	1860	1960							PARCHUN
281	DL 1 LT 5380	LCV	1.2	SHAHA	SHABAD	7	1040	1540							EMPTY
282	HR 37 D 3623	LCV	1.2	AMBALA	NAYAGARD	7	1320	1650							EMPTY
283	HP 12 D 6520	2XL	1.2	SHAHA	SHABAD	9	2250	2650							EMPTY
284	UK 06 CA 8149	3XL	1.22	SHAHA	RUDREPUR	10	2240	2350	2160						EMPTY
285	HR 68 B 1481	3XL	1.22	PARMAN	PANIPATH	10	2160	2240	2260						EMPTY

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286	HR 58 6909	LCV	1.2	SHAHA	SHABAD	7	1560	1960							EMPTY
287	HR 65 A 9989	2XL	1.2	NANGLA	LADDA	9	2260	2610							EMPTY
288	HR 47 C 6987	LCV	1.2	KALAM	PANIPATH	7	1390	1480							EMPTY
289	HR 69 C 9020	MAV	1.22.222	SHAHA	PANIPATH	23	2870	5240	6140		8240	9128			SAND
290	DL 1LW 3229	LCV	1.2	ARYANGARD	DELHI	7	1120	660							EMPTY
291	HR 55 A 5190	5XL	1.22.22	BHADOLI	MODI	19	3260	5840	6140		8240	9128			AGGREGATE
292	HR 37 E 5031	3XL	1.22	BADHOLI	MODI	10	3170	5930	6210						SAND
293	MH 03 BD 0868	MAV	1.22.22	SHAHA	SHABAD	19	2360	2410		2210	2450				EMPTY

294	HR 65 8206	BUS	1.2	SHAHA	SHABAD	3	2310	3120							PASSANGER
295	RJ 08 GA 1817	5XL	1.2.222	SHAHA	ALLIGARD	18	2240	4450	5160	4920	2450				TIN
296	HR 65 A 9465	3XL	1.22	BADHOLI	MODA	10	3230	5790	6150						SAND
297	HR 65 A 1719	3XL	1.22	SHAHA	JAMMU	10	2310	5120	5300						PARCHUN
298	HR 45 B 7471	4XL	1.1.22	AMBALA	PANIPATH	14	2270		1660	1710					EMPTY
299	HP 12 G 8307	2XL	1.2	SHAHA	SHABAD	9	2240	2680							EMPTY
300	HR 57 6488	LCV	1.1	SHAHA	KESRI	6	1730	1830							HOUSE HOLD
301	HR 68 8466	3XL	1.22	SHAHA	KESRI	10	2180	1980	1780						EMPTY
302	MP 09 HH 7110	2XL	1.2	SHAHA	MUMBAI	9	1760	3160							EMPTY
303	UP 21 BN 2190	2XL	1.2	SHAHA	GARUTHPUR	9	2340	2740							PARSEL
304	HR 65 A 3119	LCV	1.1	NANGLA	KESRI	6	490	610							EMPTY
305	HR 37 D 2287	2XL	1.2	NANGLA	KESRI	9	1040	1410							PARCHUN
306	HR 37 C 3674	LCV	1.1	SHAHA	SHABAD	6	480	620							EMPTY
307	DL 16 C 2286	LCV	1.2	NARYANGAR	DELHI	7	1120	1660							EMPTY
308	UP 53 BT 8535	2XL	1.2	SHAHA	SHABAD	9	2560	2830							EMPTY
309	RJ 17 G 1787	LCV	1.1	NANGLA	JALAVAD	6	810	1020							HEN
310	RJ 23 GA 8483	4XL	1.1.22	SHAHA	SHABAD	14	2210		1680	1780					EMPTY
311	DL 1 U 8242	LCV	1.1	NARYANGAR	DELHI	6	1140	1580							EMPTY
312	HR 37 E 1111	3XL	1.22	SHAHA	SHABAD	10	2180	1170	1820						EMPTY
313	HR 62 5248	3XL	1.22	BANDOLI	MODI	10	3160	5040	6130						SAND
314	HR 37 E 0943	2XL	1.2	SHAHA	MODI	9	2260	2790							EMPTY
315	DL 1 AC 2722	2XL	1.2	AMBALA	DELHI	9	2650	2110							EMPTY
316	HR 56 B 2866	LCV	1.2	SHAHA	SHABAD	7	1130	1670							EMPTY
317	HR 21 2569	2XL	1.2	SHAHA	SHABAD	9	2260	2430							EMPTY
318	HR 37 C 3152	3XL	1.22	BANDOLI	MODI	10	3260	5760	6120						SAND
319	HR 65 A 2541	2XL	1.2	NANGLA	LANDA	9	2260	2650							EMPTY
320	UP 12 T 5168	LCV	1.2	SAHA	DINSRPUR	7	2210	2530							EMPTY
321	HR 63 C 4178	MAV	1.2.22	KALAM	PALVAL	13	2360	2410		2170	2360				SAND

322	RJ 14 GD 1077	2XL	1.2	NAHALAG AR	PANIPATH	9	2420	2740							EMPTY
323	HR 65 A 7187	3XL	1.22	BDOLI	MODI	10	3250	5810	6120						AGGREGATE
324	PB 10 HG 5413	4XL	1.1.22	SHIMLA	KARNAL	14	2950	3480	6110	6320					MILK
325	HR 12 1239	2XL	1.2	SHIMLA	DELHI	9	1890	4540							APPLE
326	HR 39 D 3160	LCV	1.2	SAHA	FOLI	7	1090	1550							EMPTY
327	HR 55 L 5996	3XL	1.22	U.P	SHAHABAD	10	2110	1890	1910						EMPTY
328	HR 69 0016	2XL	1.2	SAHA	SHAHABAD	9	2750	2760							EMPTY
329	HR 74 E 7569	3XL	1.22	BADOLI	MODI	10	3260	5710	6220						AGGREGATE

330	HR 65 8206	BUS	1.2	SHAHA	SHAHABAD	3	2310	3120							PASSANGER
331	HR 65 8271	4XL	1.1.22	SHAHA	SHAHABAD	14	1940	2870	3010	2170					EMPTY
332	HR 48 2248	LCV	1.2	SHAHA	LANDA	7	2210	2470							EMPTY
333	HR 55 C 2035	2XL	1.2	NALAGHAR	PANIPATH	9	2360	2650							EMPTY
334	HR 1 G 9828	LCV	1.1	SHAHA	SHAHABAD	6	490	630							EMPTY
335	NL 01 AB 9515	MAV	1.22.222	SHAHA	AJMER	23	2050	1690	1600		1790	1600			EMPTY
336	HR 37 D 6612	LCV	1.1	SHAHA	SHAHABAD	6	480	610							EMPTY
337	HR 69 9127	2XL	1.2	SHAHA	SHAHABAD	9	1040	1420							TRAY
338	HP 12 G 2705	3XL	1.22	KALAM	KARNAL	10	2540	3140	2920						PIPE
339	HP 12 9808	3XL	1.22	KALAM	KARNAL	10	2560	3160	2920						PIPE
340	HR 65 H 9455	3XL	1.22	BADOLI	MODI	10	3240	5820	6160						SAND
341	HR 47 AD 0021	2XL	1.2	SHAHA	SHABAD	9	2650	3840							PARSAL
342	HR 55 AD 8780	LCV	1.2	SHAHA	SHABAD	7	2630	2750							EMPTY
343	MH 38 V 3800	2XL	1.2	KALAM	FARIDABAD	9	1790	3550							MEDICINE
344	HR 62 4745	2XL	1.2	KALAM	FATEHBAAD	9	1580	1960							EMPTY
345	HR 64 JA 0235	2XL	1.2	KALAM	FATEHBAAD	9	1580	1980							EMPTY
346	HP 12 0772	3XL	1.22	SHIMLA	DELHI	10	3210	5420	5210						APPLE
347	HR 65 A 4444	MAV	1.22.222	KALAM	PANIPATH	23	3410	2250	2150		1840	1660			EMPTY
348	HP 71 2154	LCV	1.2	PARMANU	BANGLOR	7	1620	2830							SWITCH
349	HR 37 D 7162	LCV	1.2	PARMANU	BANGLOR	7	1620	2840							SWITCH
350	HR 58 A 1958	3XL	1.22	KALAM	KARNAL	10	2210	1930	810						EMPTY
351	MH 04 GA 7604	3XL	1.22	PARMANU	PANIPATH	10	2230	1960	1760						EMPTY

352	HR 45 1090	LCV	1.1	SHAHA	SHABAD	6	490	830							PARCEL
353	HR 37 D 5497	2XL	1.2	SHAHA	SHABAD	9	1560	1870							EMPTY
354	MH 04 HY 0627	LCV	1.1	SHAHA	SHABAD	6	1940	2850							EMPTY
355	HP 12 D 7020	3XL	1.22	SHIMLA	DELHI	10	3310	5330	5320						APPLE
356	RJ 52 GT 1130	MAV	1.2.222	PARMANU	AHMBDABAD	18	3670	5210		5240	4860				PARCHUN
357	RJ 26 GA 5324	MAV	1.2.222	PARMANU		18	3680	5310		5210	4880				PARCHUN
358	RJ 08 2917	MAV	1.2.222	PARMANU		18	3670	5220		5280	4840				PARCHUN
359	RJ 69 A 1351	2XL	1.2	SHAHA	SHABAD	9	1580	1960							EMPTY
360	HR 55 V 6675	MAV	1.1.22	SHAHA	DELHI	14	4210	1830	3860	6110					SAND
361	HR 67 A 0809	LCV	1.2	SHAHA	SHABAD	7	1040	1430							EGG
362	HR 69 C 9849	LCV	1.2	SHAHA	SHABAD	7	1050	1430							TRAY
363	HR 41 C 9905	LCV	1.1	SHAHA	SHABAD	6	490	620							EMPTY
364	HR 68 C 9950	2XL	1.2	NANGLA	KESARI	9	2410	2560							EMPTY
365	RJ 27 GB 3752	4XL	1.2.22	KALAM	JAIPUR	13	2210	4430	5160	4760					MEDICINE

366	RJ 14 GD 4782	4XL	1.2.22	KALAM	JAIPUR	13	2230	4380	5210	4680					MEDICINE
367	RJ 14 GE 5187	4XL	1.1.22	BADOLI	DELHI	14	4110	1850	3860	6230					SAND
368	HR 37 D 4256	LCV	1.2	MANEGARD	KANPUR	7	2490	5740							SANMIKA
369	RJ 07 GC 4927	MAV	1.22.222	SHAHA	SHABAD	23	2330	2110	1620		1710	1530			EMPTY
370	HR 38 W 4686	MAV	1.1.22	RAITRAZI	DELHI	14	3290	2490	5330	6050					SAND
371	HR 37 C 5837	2XL	1.2	KALAM	MODI	9	3890	4920							FRIZ
372	HR 45 C 0253	2XL	1.2	SHAHA	KERNAL	9	1800	1630							EMPTY
373	HR 55 K 1501	3XL	1.22	KALAM	KURUSHRTH	10	2530	2490	2130						EMPTY
374	HR 65 A 6454	2XL	1.2	RUDGI	SHABAD	9	1910	2060							EMPTY
375	RJ 05 GR 4022	MAV	1.1.22	RAMGARD	ITANAGER	14	4520	5310		6830	6710				AGGREGATE
376	HR 37 D 5009	LCV	1.2	SHARNPUR	AMBALA	7	1280	1100							EMPTY
377	RJ 14 GB 8921	2XL	1.2	KALAM	JAIPUR	9	2460	4710							MEDICINE
378	HP 64 B 9092	3XL	1.22	NARGARD	PUNA	10	2890	2930	3100						BIKE
379	UK 08 CB 0163	2XL	1.2	HARIDURD	SHRINAGER	9	2790	3930							CHIPS
380	HR 61 D 9425	3XL	1.22	SHAHA	SHABAD	10	2580	2480	2140						EMPTY
381	HR 65 A 1787	3XL	1.22	BADOLI	MODI	10	3210	5760	6120						SAND
382	HR 45 C 1077	MAV	1.1.22	SHAHA	KERNAL	14	2000	2030		1670	1510				EMPTY
383	HR 12 G 9297	3XL	1.22	DALAGARD	AGRA	10	2910	3260	2880						BIKE
384	HR 55 6792	MAV	1.2.222	KALAM	MODI	18	3240	4810		5040	4640				JIRI
385	HR 58 A 2801	2XL	1.2	BARVALA	SHABAD	9	2340	6050							FEED
386	HR 46 E 5899	4XL	1.2.11	NALAGARD	KERNAL	15	1960	2850	3160	2740					EMPTY
387	HP 12 F 7630	2XL	1.2	HIMACHAL	DELHI	9	1880	4560							APPLE
388	HR 65 A 1095	3XL	1.22	KALAM	KERNAL	10	2920	3160	2960						BIKE
389	HR 37 G 5048	2XL	1.2	HARIDWAR	KERNAL	9	2720	3890							CHIPS

390	HR 38 X 2056	2XL	1.2	BARVALI	AGRA	9	2230	5340							EGG
391	HR 38 TA 5527	2XL	1.2	SHAHA	SHABAD	9	1050	1430							TRAY
392	HR 58 B 5513	2XL	1.2	NANGLA	KESERI	9	2370	2860							EMPTY
393	HR 37 E 0052	3XL	1.22	BADOLI	MODI	10	3320	5750	6130						SAND
394	HR 55 T 2829	2XL	1.2	NANGLA	KESERI	9	2360	5260							EMPTY
395	HR 31 B 2283	3XL	1.22	BADOLI	MODI	10	3510	5670	6210						SAND
396	HR 57 B 5538	2XL	1.2	BARVALA	SHABAD	9	2330	6040							FEED
397	DL 1M 8239	LCV	1.2	NARYANGAR	DELHI	7	1130	1150							EMPTY
398	HR 55 8899	LCV	1.1	NANGLA	SHABAD	6	1050	1380							PARCHUN
399	HR 37 G 5047	2XL	1.2	HARIDWARD	KERNAL	9	2770	3890							CHIPS
400	HR 66 4797	3XL	1.22	SHAHA	SHABAD	10	2260	1930	1770						EMPTY
401	GJ 18 A 7276	3XL	1.22	SHAHA	PANIPATH	10	2250	1960	1780						EMPTY

402	HR 65 G 0235	2XL	1.2	KALAM	FARIDABAD	9	1570	1670							EMPTY
403	HR 55 8547	2XL	1.2	SHAHA	LANDI	9	2510	2740							EMPTY
404	HR 37 C2617	LCV	1.2	BITA	KURUSHTH	7	3010	4280							KOKAKOLA
405	KA 42 5381	4XL	1.2.11	HARIDWAR	JAMU	15	2280	4460	5160	4970					CAR
406	RJ 09 GA 1311	MAV	1.2.222	AMBALA	KETHEL	18	3780	5250		6420	5160				CRESHAR MACHIN
407	PB 10 GX 4994	LCV	1.2	SHAHA	SHABAD	7	1710	1430							EMPTY
408	HR 65 8029	BUS	1.2	SHAHA	SHABAD	3	2320	3150							PASSANGER
409	HR 69 C 3570	LCV	1.2	SHAHA	SHABAD	7	1220	1380							EMPTY
410	HR 37 C 2719	2XL	1.2	SHAHA	MODI	9	2760	2860							EMPTY
411	HR 65 A 7848	3XL	1.22	AMBALA	MADRAS	10	3150	4950	4720						PARCHUN
412	HR 64 E 6449	2XL	1.2	SHAHA	LANDI	9	2520	2670							EMPTY
413	HP 12 2516	2XL	1.2	SHIMLA	GOREKHPUR	9	1570	2950							PARCHUN
414	RJ 09 GA 1311	MAV	1.2.11	HARIDWAR	JAMUU	15	2870	4150	6670	4820					CAR
415	HR 65 8206	BUS	1.2	SHAHA	SHABAD	3	2320	3170							PASSANGER
416	HR 65 5324	LCV	1.2	SHAHA	LANDI	7	2440	2650							EGG
417	HR 69 C 1867	MAV	1.22.222	KALAM	PALVAAL	23	3450	6730	5550		6620	7350			SAND
418	HR 37 C 7237	LCV	1.2	PARVALA	AGRA	7	2250	5550							EGG
419	HR 19 B 7421	LCV	1.1	BADI	MUHANA	6	1040	3210							EMPTY
420	RJ 01 GC 1598	LCV	1.2	BDI	JAIPUR	7	1010	1420							PARCHUN
421	HR 65 5572	BUS	1.2	SHAHA	SHABAD	3	2320	3140							PASSANGER
422	HR 12 D 6628	2XL	1.2	SHAHA	SHABAD	9	2240	2670							EMPTY
423	HR 37 E 0032	3XL	1.22	BANDOLI	MODI	10	3250	5850	6130						AGGREGATE
424	HR 65 A 9980	2XL	1.2	NAGLA	LANDA	9	2250	2620							EMPTY
425	RJ 08 GA 1816	4XL	1.2.22	SHAHA	BHILWADA	13	2230	4430	5150	4910					TIN
426	HR 65 A 1718	3XL	1.22	SHAHA	JAMU	10	2310	5130	5310						PARCHUN
427	HR45B7472	4XL	1.2.22	AMBALA	PANIPATH	13	2260		1670	1700					EMPTY
428	UK 06 LA 8148	3XL	1.22	PARMANU	PANIPATH	10	2150	2250	2270						EMPTY
429	HR 55 A 5109	3XL	1.22	BANDOLI	MODI	10	3170	5740	6150						AGGREGATE

430	RJ 08 GA 4208	3XL	1.22	SHAHA	BHILWADA	10	3240	5760	6180						TIN
431	HP 12 G 8386	2XL	1.2	SHAHA	SHABAD	9	2330	2690							EMPTY
432	HR 05 3118	LCV	1.1	NAGLA	KESRI	6	480	630							EMPTY
433	DL 1 CC 2286	LCV	1.2	ARAYANGAR	DELHI	7	2560	2840							EMPTY
434	RJ 17 G 1786	LCV	1.1	NANGLA	SHABAD	6	820	1010							HEN
435	DL 1 AC 2721	2XL	1.2	BANDOLI	DELHI	9	2660	2780							EMPTY
436	HR 37 C 3151	3XL	1.22	NANGLA	MODI	10	3250	5750	6110						SAND
437	HR 85 A 2539	2XL	1.2	SHAHA	LANDA	9	2270	2660							EMPTY

438	HR 37 6477	LCV	1.1	SHAHA	KESRI	6	1730	1860							HOUSE HOLD
439	UP 12 T 5167	LCV	1.2	BSNDLI	DINAPUR	7	2210	2610							EMPTY
440	HR 65 G 9466	3XL	1.22	BANDOLI	MODI	10	3240	5820	6170						SAND
441	HR 47 AP 0022	2XL	1.2	SHAHA	SHAHABAD	9	2650	3940							PARSAL
442	HR 71 7162	LCV	1.2	PARMALU	BANGLOR	7	1610	2820							ELECTRIC ITEM
443	HR 37 D 2155	LCV	1.2	PARMALU	BANGLOR	7	1620	2840							ELECTRIC ITEM
444	HR 65 A 7186	3XL	1.22	KALAPI	MUDI	10	3130	6210	5340						AGGREGATE
445	UP 16 CT 1991	LCV	1.2	SHAHA	CANDIGHAR	7	1180	1520							EMPTY
446	HR 58 A 9600	2XL	1.2	SHAHA	SHAHABAD	9	2760	2850							EMPTY
447	HR38W2819	4XL	1.2.11	SHAHA	GUDGAV	15	1860	2450	2600	2870					EMPTY
448	JK13B6876	2XL	1.2	SHAHA	SHINAGHAR	9	3870	6640							FEED
449	HR37E2568	LCV	1.1	MUHANGHA	SHAHABAD	6	490	670							EMPTY
450	HR64E9105	4XL	1.2.11	CANDUGHAR	KARNAL	15	2310	2750	2620	2560					AUTO PARTS
451	PB65 A 6201	LCV	1.2	PANIPATH	KARNAL	7	1260	1370							EMPTY
452	UP17 PT 6490	BUS	1.2	PARMALU	RATNGHAR	3	2320	3150							PASSENGER
453	HR37D8081	LCV	1.1	AMBALA	SHAHABAD	6	1890	960							EMPTY
454	T/F	3XL	1.22	NAGALA	SHAHABAD	10	2420	3450	2870						EMPTY
455	JK03 F 5932	3XL	1.22	SHAHA	KARNAL	10	1050	820	1240						EMPTY
456	HR 37 B 9521	3XL	1.22	TAPOLA	AMBALA	10	2210	3860	3160						MEDICINE
457	HR65 3247	3XL	1.22	SHAHA	SHAHABAD	10	1510	1620	2230						EMPTY
458	HR69 C 3568	LCV	1.1	SHAHA	KARNAL	6	650	660							EMPTY
459	RJ21 GA 4810	4XL	1.122	SHAHA	JHUNJHUNU	16	2340	5240	6030	5700					DSC
460	HR37 4403	2XL	1.2	SHAHA	KESRI	9	2360	2120							EMPTY
461	HR55R 5541	2XL	1.2	SHAHA	SHAHABAD	9	2340	2050							EMPTY
462	NLO1 RC 0023	3XL	1.22	BADOLI	GUDGAV	10	2838	4350	4450						SHARAB
463	PB02BJ 9601	2XL	1.2	HARIDUAR	PUNJAB	9	3420	5120							BIKE
464	NL01RC6045	3XL	1.22	JAMUDRI	AMBALA	10	2510	4650	5680						DIESAL
465	MH48 AY 4530	LCV	1.2	SHAHA	MUBAI	7	2620	4870							FURNITURE

466	HP12F1190	2XL	1.2	BITA	BHIVANI	9	1880	4540							KOKAKOLA
467	HR37E7630	3XL	1.22	BDOLI	MODI	10	2360	5010	5130						SAND
468	HR67B3210	LCV	1.2	BDOLI	PANIPATH	7	2860	4970							SHARAB
469	HR55G 4182	3XL	1.22	KALAM	MODI	10	1760	2770	3320						SAND
470	UP15AT4070	LCV	1.2	BARVALA	GAGIYABAD	7	1540	4870							EGG
471	HR68A2680	LCV	1.2	CHANDIGHAR	BHILVADA	7	2920	2790							FURNITURE
472	RJ09 GA 7680	MAV	1.22.222	KALAM	DADRI	23	2790	2580	4690		7340	6670			CEMENT
473	HR12G 6665	3XL	1.22	KALAM	SHAHABAD	10	510	3390	3120						EMPTY BLOCK

474	HR37 3667	LCV	1.1	SHAHA	AMBALA	6	2890	630							EMPTY
475	HR37D 4187	3XL	1.22	BADOLI	SHAHABAD	10	1710	6170	5070						SHARAB
476	PB10 GY 4974	LCV	1.2	SHAHA	DELHI	7	1870	1420							EMPTY
477	HP67A 7556	2XL	1.2	HIMACHAL	MODI	9	2240	4560							APPLE
478	HR37C 3870	2XL	1.2	SHAHA	SHAHABAD	9	2320	2750							EMPTY
479	HR65 8206	BUS	1.2	SHAHA	SHAHABAD	3	2320	3240							PASSENGER
480	HR37E2466	LCV	1.1	NURGURD	SHABAD	6	490	620							EMPTY
481	UP17 AT 6498	BUS	1.2	AMBALA	SHABAD	3	2320	3220							PASSENGER
482	HR37 E 3857	2XL	1.2	SHAHA	KESERI	9	2640	2210							EMPTY
483	HR37D 8182	LCV	1.1	AMBALA	SHABAD	6	860	960							EMPTY
484	HR65 A 9452	2XL	1.2	SHAHA	KESERI	9	2250	2750							EMPTY
485	HR37C3051	2XL	1.2	NANGLA	KESERI	9	2250	2760							EMPTY
486	HR37E5768	3XL	1.22	BANDOLI	MODI	10	326	5750	6130						SAND
487	HR37E 8209	3XL	1.22	KALAM	MODI	10	2197	1980	1770						EMPTY
488	HR69 0017	LCV	1.1	NAIAGARD	PALVAL	6	480	640							EMPTY
489	PB11CP 2561	MAV	1.2.22	SATVADU	PANIPATH	13	2050	2680	2810	2260					EMPTY
490	HR57C 8631	2XL	1.2	SHAHA	GUDGAV	9	2580	6430							SHARAB
491	PB11CP2130	3XL	1.22	SIMLA	MODI	10	2920	5750	6030						EMPTY
492	HP11 6455	2XL	1.2	SHAHA	DELHI	9	1890	4540							APPLE
493	PB14 A 4884	LCV	1.1	SHAHA	KERNAL	6	490	630							EMPTY
494	HR37D 8932	3XL	1.22	SHAHA	KESERI	10	2180	1970	1780						EMPTY
495	HR37 3183	2XL	1.2	SIMLA	KERNAL	9	1810	3050							PARCHUN
496	HP12C 1201	2XL	1.2	SHAHA	SHABAD	9	1880	4530							FURT
497	HR37 E 5563	LCV	1.1	SIMLA	DELHI	6	870	980							EMPTY
498	HR71 9333	2XL	1.2	SHAHA	SHABAD	9	1880	4440							APPLE
499	HR47D 8623	2XL	1.2	SHAHA	SHABAD	9	2630	2310							EMPTY
500	PB23AB 4709	LCV	1.1	SHAHA	SHABAD	6	490	620							EMPTY
501	HR37 8139	LCV	1.2	SHAHA	BHUNA	7	2270	3800							PLASTIC ITEM
502	HR65A 6771	2XL	1.2	SHAHA	KERNAL	9	2330	2750							PARSAL
503	HR38R 7793	2XL	1.2	SHAHA	SHABAD	9	1130	1610							EMPTY

504	HR63C 6332	2XL	1.2	NANGLA	LADHI	9	2240	2610							EMPTY
505	HR37A 1053	3XL	1.22	SHAHA	KERNAL	10	3840	4110	3670						PARSAL
506	HR65 9469	LCV	1.1	NANGLA	SHABAD	6	480	620							EMPTY
507	HR45 7354	LCV	1.1	SHAHA	LADI	6	490	610							EMPTY
508	HR56 8990	LCV	1.2	SHAHA	SHABAD	7	290	1040							EMPTY
509	HP62D 1124	LCV	1.2	NANGLA	KERNAL	7	1280	1340							EMPTY

510	PB11AY 7461	3XL	1.22	SHAZADPUR	SHABAD	10	1530	2170	1680						EMPTY
511	HR65B 4458	LCV	1.2	SHAHA	PANIPATH	7	890	1370							EMPTY
512	PB11AY 4004	2XL	1.2	NANGLA	LADHI	9	2640	2790							EMPTY
513	HR69 4441	3XL	1.22	SHAHA	KERNAL	10	3820	4150	3600						DAK PARCEL
514	HR65 6735	2XL	1.2	BITA	KURUSHTH	9	3020	4360							KOKAKOLA
515	HR64A 4989	4XL	1.2.22	SHAHA	SHABAD	13	2220		1670	1750					EMPTY
516	HR48E 5081	3XL	1.22	SHAHA	LUDHIYNA	10	3950	4120	3770						PARCEL
517	HR55 Q 5305	LCV	1.2	SHAHA	LUDHI	7	2460	2650							EMPTY
518	PB10Y 8737	2XL	1.2	SHADPUR	SHABAD	9	2220	2790							EMPTY
519	HR39B 5937	4XL	1.2.22	SHAHA	KESRI	13	2460		2940	3260					EMPTY
520	HR65A 3976	LCV	1.2	NALAGHAR	PANIPATH	7	1090	1540							EMPTY
521	HR69C 1217	MAV	1.1.22	SHAHA	DELHI	14	4210	1840	3850	6010					SAND
522	HR47E 3786	2XL	1.2	MENGHAR	KANPUR	9	2480	5730							SANMIKA
523	RJ02GB 1019	MAV	1.2.222	PARMANU	AHAMDABAD	18	3650	5110		5160	4790				PARCHUN
524	HR38 Q 7112	LCV	1.2	SHAHA	PALVAL	7	1940	4650							SHARAB
525	HP12D 3308	3XL	1.22	BDI	LUCKNOW	10	3320	5150	5660						DETERGENT
526	HR62 5933	4XL	1.1.22	SHAHA	SHAHBAD	14	1920	1450	2150	2010					EMPTY
527	HR 37 3782	LCV	1.1	NANAGLA	LADU	6	490	610							EMPTY
528	HR47C 0042	3XL	1.22	SHAHA	MODI	10	250	3140	3070						EMPTY
529	HR37D 4853	LCV	1.2	SHAHA	SHAHABAD	7	1130	1410							SOFA
530	HR65 8206	BUS	1.2	SHAHA	SHAHABAD	3	2140	3210							PASSANGER
531	HR65A 5844	LCV	1.2	BITA	KURUSHETH	7	1130	1560							EMPTY
532	HR37G 5040	2XL	1.2	HARIDURA	KARNAL	9	2770	3870							CHIPS
533	HR37E 1051	3XL	1.22	BANDOLI	MODI	10	3520	5660	6230						SAND

534	HR55 6790	MAV	1.2.222	KALAM	MODI	18	3230	4800		5020	4710				PARCHUN
535	HR63C 5761	2XL	1.2	SHAHA	SHAHABAD	9	1880	3060							EMPTY
536	PB11CE 0733	2XL	1.2	SHAZADPUR	SHAHABAD	9	1980	1450							EMPTY
537	RJ37GB 4637	4XL	1.1.22	VARMALA	GANGAPUR	14	2670		3960	3840					KHAD
538	UP15 AT 4081	LCV	1.2	VARMALA	SHAHABAD	7	1780	4840							EGG
539	HR37C 9648	LCV	1.1	SHAHA	KARNAL	6	480	620							EMPTY

S.No.	Vehicle Type	Axle Configuration	Commodity Type	Wheel Weight (kgs)		Wheel Weight (tonnes)		AXLE LOAD (TONNES)		EQUIVALENT STANDARD LOAD		TOTAL ESAL
				Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	
1	BUS	1.2	3	2310	3160	2.31	3.16	4.62	6.32	0.24	0.36	0.60
2	BUS	1.2	3	2350	3250	2.35	3.25	4.70	6.50	0.25	0.40	0.66
3	BUS	1.2	3	2350	3150	2.35	3.15	4.70	6.30	0.25	0.36	0.61
4	BUS	1.2	3	2330	3230	2.33	3.23	4.66	6.46	0.24	0.39	0.64
5	BUS	1.2	3	2250	3110	2.25	3.11	4.50	6.22	0.21	0.34	0.55
6	BUS	1.2	3	2130	3230	2.13	3.23	4.26	6.46	0.17	0.39	0.56
7	BUS	1.2	3	2820	3150	2.82	3.15	5.64	6.30	0.52	0.36	0.88
8	BUS	1.2	3	2330	3150	2.33	3.15	4.66	6.30	0.24	0.36	0.60
9	BUS	1.2	3	2330	3210	2.33	3.21	4.66	6.42	0.24	0.38	0.63
10	BUS	1.2	3	2320	3160	2.32	3.16	4.64	6.32	0.24	0.36	0.60
11	BUS	1.2	3	2310	3230	2.31	3.23	4.62	6.46	0.24	0.39	0.63
12	BUS	1.2	3	2310	3120	2.31	3.12	4.62	6.24	0.24	0.34	0.58
13	BUS	1.2	3	2310	3120	2.31	3.12	4.62	6.24	0.24	0.34	0.58
14	BUS	1.2	3	2320	3150	2.32	3.15	4.64	6.30	0.24	0.36	0.60
15	BUS	1.2	3	2320	3170	2.32	3.17	4.64	6.34	0.24	0.37	0.61
16	BUS	1.2	3	2320	3140	2.32	3.14	4.64	6.28	0.24	0.35	0.59
17	BUS	1.2	3	2320	3150	2.32	3.15	4.64	6.30	0.24	0.36	0.60
18	BUS	1.2	3	2320	3240	2.32	3.24	4.64	6.48	0.24	0.40	0.64
19	BUS	1.2	3	2320	3220	2.32	3.22	4.64	6.44	0.24	0.39	0.63
20	BUS	1.2	3	2140	3210	2.14	3.21	4.28	6.42	0.17	0.38	0.56
TOTAL ESAL FOR BUS												**12.34**
TOTAL NO. OF VEHICLES												**20.00**
VEHICLE DAMAGE FACTOR (VDF)												**0.62**

S.No.	Vehicle Type	Axle Configuration	CommodityType	Wheel Weight (kgs)		Wheel Weight (tonnes)		AXLE LOAD (TONNES)		EQUIVALENT STANDARD LOAD		TOTAL ESAL
				Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	
1	LCV	1.1	6	450	1070	0.45	1.07	0.90	2.14	0.00	0.01	0.01
2	LCV	1.1	6	1230	2240	1.23	2.24	2.46	4.48	0.02	0.21	0.23
3	LCV	1.1	6	860	1060	0.86	1.06	1.72	2.12	0.00	0.01	0.02
4	LCV	1.1	6	860	1840	0.86	1.84	1.72	3.68	0.00	0.10	0.10
5	LCV	1.1	6	1410	3010	1.41	3.01	2.82	6.02	0.03	0.68	0.71
6	LCV	1.1	6	1730	1830	1.73	1.83	3.46	3.66	0.07	0.09	0.17
7	LCV	1.1	6	810	1020	0.81	1.02	1.62	2.04	0.00	0.01	0.01
8	LCV	1.1	6	490	830	0.49	0.83	0.98	1.66	0.00	0.00	0.00
9	LCV	1.1	6	1050	1380	1.05	1.38	2.10	2.76	0.01	0.03	0.04
10	LCV	1.1	6	820	1010	0.82	1.01	1.64	2.02	0.00	0.01	0.01
11	LCV	1.1	6	1730	1860	1.73	1.86	3.46	3.72	0.07	0.10	0.17
12	LCV	1.2	7	3010	4360	3.01	4.36	6.02	8.72	0.68	1.31	1.99
13	LCV	1.2	7	2210	4450	2.21	4.45	4.42	8.90	0.20	1.42	1.62
14	LCV	1.2	7	2710	6360	2.71	6.36	5.42	12.72	0.45	5.92	6.37
15	LCV	1.2	7	2150	4310	2.15	4.31	4.30	8.62	0.18	1.25	1.43
16	LCV	1.2	7	610	1320	0.61	1.32	1.22	2.64	0.00	0.01	0.01
17	LCV	1.2	7	1080	1550	1.08	1.55	2.16	3.10	0.01	0.02	0.03
18	LCV	1.2	7	1120	1420	1.12	1.42	2.24	2.84	0.01	0.01	0.03
19	LCV	1.2	7	1620	3350	1.62	3.35	3.24	6.70	0.06	0.46	0.51
20	LCV	1.2	7	1260	2210	1.26	2.21	2.52	4.42	0.02	0.09	0.11
21	LCV	1.2	7	1530	2290	1.53	2.29	3.06	4.58	0.05	0.10	0.14
22	LCV	1.2	7	2610	4890	2.61	4.89	5.22	9.78	0.39	2.07	2.45
23	LCV	1.2	7	2690	6340	2.69	6.34	5.38	12.68	0.43	5.85	6.28
24	LCV	1.2	7	2430	4250	2.43	4.25	4.86	8.50	0.29	1.18	1.47
25	LCV	1.2	7	1950	4750	1.95	4.75	3.90	9.50	0.12	1.84	1.96
26	LCV	1.2	7	2230	4030	2.23	4.03	4.46	8.06	0.21	0.95	1.16
27	LCV	1.2	7	1760	4930	1.76	4.93	3.52	9.86	0.08	2.14	2.22
28	LCV	1.2	7	1690	4650	1.69	4.65	3.38	9.30	0.07	1.69	1.76
29	LCV	1.2	7	1570	1870	1.57	1.87	3.14	3.74	0.05	0.04	0.09

30	LCV	1.2	7	2870	5030	2.87	5.03	5.74	10.06	0.56	2.32	2.88
31	LCV	1.2	7	2050	5360	2.05	5.36	4.10	10.72	0.15	2.99	3.13
32	LCV	1.2	7	1550	2860	1.55	2.86	3.10	5.72	0.05	0.24	0.29

33	LCV	1.2	7	2040	4610	2.04	4.61	4.08	9.22	0.14	1.63	1.78
34	LCV	1.2	7	1810	4950	1.81	4.95	3.62	9.90	0.09	2.17	2.26
35	LCV	1.2	7	1550	2790	1.55	2.79	3.10	5.58	0.05	0.22	0.27
36	LCV	1.2	7	1540	2810	1.54	2.81	3.08	5.62	0.05	0.23	0.27
37	LCV	1.2	7	3020	4270	3.02	4.27	6.04	8.54	0.69	1.20	1.89
38	LCV	1.2	7	1770	3170	1.77	3.17	3.54	6.34	0.08	0.37	0.45
39	LCV	1.2	7	970	1140	0.97	1.14	1.94	2.28	0.01	0.01	0.01
40	LCV	1.2	7	1040	1390	1.04	1.39	2.08	2.78	0.01	0.01	0.02
41	LCV	1.2	7	2210	3540	2.21	3.54	4.42	7.08	0.20	0.57	0.77
42	LCV	1.2	7	1860	1960	1.86	1.96	3.72	3.92	0.10	0.05	0.15
43	LCV	1.2	7	1620	2830	1.62	2.83	3.24	5.66	0.06	0.23	0.29
44	LCV	1.2	7	1620	2840	1.62	2.84	3.24	5.68	0.06	0.24	0.29
45	LCV	1.2	7	1040	1430	1.04	1.43	2.08	2.86	0.01	0.02	0.02
46	LCV	1.2	7	1050	1430	1.05	1.43	2.10	2.86	0.01	0.02	0.03
47	LCV	1.2	7	2490	5740	2.49	5.74	4.98	11.48	0.32	3.93	4.25
48	LCV	1.2	7	3010	4280	3.01	4.28	6.02	8.56	0.68	1.21	1.90
49	LCV	1.2	7	2440	2650	2.44	2.65	4.88	5.30	0.29	0.18	0.47
50	LCV	1.2	7	2250	5550	2.25	5.55	4.50	11.10	0.21	3.43	3.65
51	LCV	1.2	7	1010	1420	1.01	1.42	2.02	2.84	0.01	0.01	0.02
52	LCV	1.2	7	1610	2820	1.61	2.82	3.22	5.64	0.06	0.23	0.28
53	LCV	1.2	7	1620	2840	1.62	2.84	3.24	5.68	0.06	0.24	0.29
54	LCV	1.2	7	2620	4870	2.62	4.87	5.24	9.74	0.39	2.03	2.43
55	LCV	1.2	7	2860	4970	2.86	4.97	5.72	9.94	0.56	2.21	2.76
56	LCV	1.2	7	1540	4870	1.54	4.87	3.08	9.74	0.05	2.03	2.08
57	LCV	1.2	7	2920	2790	2.92	2.79	5.84	5.58	0.60	0.22	0.82
58	LCV	1.2	7	2270	3800	2.27	3.80	4.54	7.60	0.22	0.75	0.97
59	LCV	1.2	7	1940	4650	1.94	4.65	3.88	9.30	0.12	1.69	1.81
60	LCV	1.2	7	1130	1410	1.13	1.41	2.26	2.82	0.01	0.01	0.03
61	LCV	1.2	7	1780	4840	1.78	4.84	3.56	9.68	0.08	1.99	2.07
TOTAL ESAL FOR LCV												**69.75**
TOTAL NO. OF VEHICLES												**61.00**
VEHICLE DAMAGE FACTOR (VDF)												**1.14**

S.No.	Vehicle Type	Axle Configuration	Commodity Type	Wheel Weight (kgs)		Wheel Weight (tonnes)		AXLE LOAD (TONNES)		EQUIVALENT STANDARD LOAD		TOTAL ESAL
				Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	Front-1	Rear-1	
1	2XL	1.2	9	3860	6650	3.86	6.65	7.72	13.30	1.84	7.07	8.92
2	2XL	1.2	9	2030	3350	2.03	3.35	4.06	6.70	0.14	0.46	0.60
3	2XL	1.2	9	3170	4160	3.17	4.16	6.34	8.32	0.84	1.08	1.92
4	2XL	1.2	9	850	650	0.85	0.65	1.70	1.30	0.00	0.00	0.00
5	2XL	1.2	9	2170	4160	2.17	4.16	4.34	8.32	0.18	1.08	1.27
6	2XL	1.2	9	3040	6390	3.04	6.39	6.08	12.78	0.71	6.03	6.74
7	2XL	1.2	9	3020	6230	3.02	6.23	6.04	12.46	0.69	5.45	6.14
8	2XL	1.2	9	3430	5120	3.43	5.12	6.86	10.24	1.15	2.49	3.64
9	2XL	1.2	9	2580	6430	2.58	6.43	5.16	12.86	0.37	6.18	6.55
10	2XL	1.2	9	1960	2960	1.96	2.96	3.92	5.92	0.12	0.28	0.40
11	2XL	1.2	9	2910	6620	2.91	6.62	5.82	13.24	0.60	6.95	7.54
12	2XL	1.2	9	2010	4850	2.01	4.85	4.02	9.70	0.14	2.00	2.14
13	2XL	1.2	9	1190	1350	1.19	1.35	2.38	2.70	0.02	0.01	0.03
14	2XL	1.2	9	1890	4530	1.89	4.53	3.78	9.06	0.11	1.52	1.63
15	2XL	1.2	9	2790	5050	2.79	5.05	5.58	10.10	0.50	2.35	2.86
16	2XL	1.2	9	2060	6950	2.06	6.95	4.12	13.90	0.15	8.44	8.59
17	2XL	1.2	9	2650	6650	2.65	6.65	5.30	13.30	0.41	7.07	7.48
18	2XL	1.2	9	2890	3530	2.89	3.53	5.78	7.06	0.58	0.56	1.14
19	2XL	1.2	9	2910	5860	2.91	5.86	5.82	11.72	0.60	4.27	4.86
20	2XL	1.2	9	2210	2900	2.21	2.90	4.42	5.80	0.20	0.26	0.45
21	2XL	1.2	9	2850	5760	2.85	5.76	5.70	11.52	0.55	3.98	4.53
22	2XL	1.2	9	2730	5610	2.73	5.61	5.46	11.22	0.46	3.58	4.04
23	2XL	1.2	9	2260	2850	2.26	2.85	4.52	5.70	0.22	0.24	0.46
24	2XL	1.2	9	2020	5370	2.02	5.37	4.04	10.74	0.14	3.01	3.15
25	2XL	1.2	9	2160	4170	2.16	4.17	4.32	8.34	0.18	1.09	1.27
26	2XL	1.2	9	2730	5010	2.73	5.01	5.46	10.02	0.46	2.28	2.74
27	2XL	1.2	9	3330	5220	3.33	5.22	6.66	10.44	1.02	2.69	3.71

28	2XL	1.2	9	2890	5910	2.89	5.91	5.78	11.82	0.58	4.41	4.99
29	2XL	1.2	9	3030	6290	3.03	6.29	6.06	12.58	0.70	5.66	6.36
30	2XL	1.2	9	1890	4530	1.89	4.53	3.78	9.06	0.11	1.52	1.63

31	2XL	1.2	9	1810	4560	1.81	4.56	3.62	9.12	0.09	1.56	1.65
32	2XL	1.2	9	3010	6140	3.01	6.14	6.02	12.28	0.68	5.14	5.82
33	2XL	1.2	9	3190	3810	3.19	3.81	6.38	7.62	0.86	0.76	1.62
34	2XL	1.2	9	3230	3760	3.23	3.76	6.46	7.52	0.90	0.72	1.63
35	2XL	1.2	9	2830	3350	2.83	3.35	5.66	6.70	0.53	0.46	0.99
36	2XL	1.2	9	2450	4630	2.45	4.63	4.90	9.26	0.30	1.66	1.96
37	2XL	1.2	9	2460	4260	2.46	4.26	4.92	8.52	0.30	1.19	1.50
38	2XL	1.2	9	2730	3110	2.73	3.11	5.46	6.22	0.46	0.34	0.80
39	2XL	1.2	9	2360	4700	2.36	4.70	4.72	9.40	0.26	1.77	2.02
40	2XL	1.2	9	2340	2740	2.34	2.74	4.68	5.48	0.25	0.20	0.45
41	2XL	1.2	9	1040	1410	1.04	1.41	2.08	2.82	0.01	0.01	0.02
42	2XL	1.2	9	1890	4540	1.89	4.54	3.78	9.08	0.11	1.54	1.64
43	2XL	1.2	9	1040	1420	1.04	1.42	2.08	2.84	0.01	0.01	0.02
44	2XL	1.2	9	2650	3840	2.65	3.84	5.30	7.68	0.41	0.79	1.20
45	2XL	1.2	9	1790	3550	1.79	3.55	3.58	7.10	0.09	0.57	0.66
46	2XL	1.2	9	3890	4920	3.89	4.92	7.78	9.84	1.90	2.12	4.02
47	2XL	1.2	9	2460	4710	2.46	4.71	4.92	9.42	0.30	1.78	2.08
48	2XL	1.2	9	2790	3930	2.79	3.93	5.58	7.86	0.50	0.86	1.37
49	2XL	1.2	9	2340	6050	2.34	6.05	4.68	12.10	0.25	4.85	5.10
50	2XL	1.2	9	1880	4560	1.88	4.56	3.76	9.12	0.10	1.56	1.67
51	2XL	1.2	9	2720	3890	2.72	3.89	5.44	7.78	0.45	0.83	1.28
52	2XL	1.2	9	2230	5340	2.23	5.34	4.46	10.68	0.21	2.94	3.15
53	2XL	1.2	9	1050	1430	1.05	1.43	2.10	2.86	0.01	0.02	0.03
54	2XL	1.2	9	2330	6040	2.33	6.04	4.66	12.08	0.24	4.81	5.06
55	2XL	1.2	9	2770	3890	2.77	3.89	5.54	7.78	0.49	0.83	1.32
56	2XL	1.2	9	1570	2950	1.57	2.95	3.14	5.90	0.05	0.27	0.32
57	2XL	1.2	9	2650	3940	2.65	3.94	5.30	7.88	0.41	0.87	1.28
58	2XL	1.2	9	3870	6640	3.87	6.64	7.74	13.28	1.86	7.03	8.89
59	2XL	1.2	9	3420	5120	3.42	5.12	6.84	10.24	1.14	2.49	3.62
60	2XL	1.2	9	1880	4540	1.88	4.54	3.76	9.08	0.10	1.54	1.64
61	2XL	1.2	9	2240	4560	2.24	4.56	4.48	9.12	0.21	1.56	1.77
62	2XL	1.2	9	2580	6430	2.58	6.43	5.16	12.86	0.37	6.18	6.55

63	2XL	1.2	9	1890	4540	1.89	4.54	3.78	9.08	0.11	1.54	1.64

64	2XL	1.2	9	1810	3050	1.81	3.05	3.62	6.10	0.09	0.31	0.40
65	2XL	1.2	9	1880	4530	1.88	4.53	3.76	9.06	0.10	1.52	1.63
66	2XL	1.2	9	1880	4440	1.88	4.44	3.76	8.88	0.10	1.41	1.51
67	2XL	1.2	9	2330	2750	2.33	2.75	4.66	5.50	0.24	0.21	0.45
68	2XL	1.2	9	3020	4360	3.02	4.36	6.04	8.72	0.69	1.31	2.00
69	2XL	1.2	9	2480	5730	2.48	5.73	4.96	11.46	0.31	3.90	4.21
70	2XL	1.2	9	2770	3870	2.77	3.87	5.54	7.74	0.49	0.81	1.30
TOTAL ESAL FOR 2 AXLE												**190.08**
TOTAL NO. OF VEHICLES												**70.00**
VEHICLE DAMAGE FACTOR (VDF)												**2.72**

S. No.	Vehicle Type	Axle Configuration	Commodity Type	Wheel Weight (kg)			Wheel Weight (Tonnes)			AXLE LOAD (TONNES)		EQUIVALENT STANDARD		TOTAL ESAL
				Front-1	Rear-1	Rear-2	Front-1	Rear-1	Rear-2	Front-1	Rear-tandem	Front-1	Rear-tandem	
1	3XL	1.22	10	3120	6210	5350	3.12	6.21	5.35	6.24	23.12	0.79	5.52	6.30
2	3XL	1.22	10	3460	5420	6050	3.46	5.42	6.05	6.92	22.94	1.19	5.35	6.54
3	3XL	1.22	10	2230	5056	5260	2.23	5.06	5.26	4.46	20.63	0.21	3.50	3.70
4	3XL	1.22	10	3360	5960	6260	3.36	5.96	6.26	6.72	24.44	1.06	6.89	7.95
5	3XL	1.22	10	2210	3870	3150	2.21	3.87	3.15	4.42	14.04	0.20	0.75	0.95
6	3XL	1.22	10	2510	5570	6150	2.51	5.57	6.15	5.02	23.44	0.33	5.83	6.16
7	3XL	1.22	10	2550	6030	5760	2.55	6.03	5.76	5.10	23.58	0.35	5.97	6.32
8	3XL	1.22	10	2830	5820	5580	2.83	5.82	5.58	5.66	22.80	0.53	5.22	5.75
9	3XL	1.22	10	3260	1060	4760	3.26	1.06	4.76	6.52	11.64	0.94	0.35	1.29
10	3XL	1.22	10	1550	3350	3560	1.55	3.35	3.56	3.10	13.82	0.05	0.70	0.75
11	3XL	1.22	10	2430	2860	2430	2.43	2.86	2.43	4.86	10.58	0.29	0.24	0.53
12	3XL	1.22	10	3910	6060	5660	3.91	6.06	5.66	7.82	23.44	1.94	5.83	7.77
13	3XL	1.22	10	3840	4350	4460	3.84	4.35	4.46	7.68	17.62	1.80	1.86	3.67
14	3XL	1.22	10	3600	6230	5460	3.60	6.23	5.46	7.20	23.38	1.39	5.77	7.16
15	3XL	1.22	10	3090	5730	6530	3.09	5.73	6.53	6.18	24.52	0.76	6.98	7.73

16	3XL	1.22	10	3750	6570	5660	3.75	6.57	5.66	7.50	24.46	1.64	6.91	8.55
17	3XL	1.22	10	2310	5010	5140	2.31	5.01	5.14	4.62	20.30	0.24	3.28	3.51
18	3XL	1.22	10	2350	2830	3420	2.35	2.83	3.42	4.70	12.50	0.25	0.47	0.72
19	3XL	1.22	10	2960	6330	5160	2.96	6.33	5.16	5.92	22.98	0.64	5.38	6.02
20	3XL	1.22	10	3160	3510	3490	3.16	3.51	3.49	6.32	14.00	0.83	0.74	1.57
21	3XL	1.22	10	3330	5120	5760	3.33	5.12	5.76	6.66	21.76	1.02	4.33	5.35
22	3XL	1.22	10	2890	6210	5060	2.89	6.21	5.06	5.78	22.54	0.58	4.98	5.56
23	3XL	1.22	10	2300	2630	3510	2.30	2.63	3.51	4.60	12.28	0.23	0.44	0.67
24	3XL	1.22	10	2340	2730	3320	2.34	2.73	3.32	4.68	12.10	0.25	0.41	0.66
25	3XL	1.22	10	3590	6010	5360	3.59	6.01	5.36	7.18	22.74	1.38	5.16	6.54
26	3XL	1.22	10	3980	4010	3760	3.98	4.01	3.76	7.96	15.54	2.08	1.13	3.21
27	3XL	1.22	10	3890	4110	3670	3.89	4.11	3.67	7.78	15.56	1.90	1.13	3.03
28	3XL	1.22	10	2480	6130	4450	2.48	6.13	4.45	4.96	21.16	0.31	3.87	4.18
29	3XL	1.22	10	3160	4990	4710	3.16	4.99	4.71	6.32	19.40	0.83	2.73	3.56

30	3XL	1.22	10	3510	4560	4630	3.51	4.56	4.63	7.02	18.38	1.26	2.20	3.46
31	3XL	1.22	10	2920	3120	2560	2.92	3.12	2.56	5.84	11.36	0.60	0.32	0.92
32	3XL	1.22	10	3840	4160	3560	3.84	4.16	3.56	7.68	15.44	1.80	1.10	2.90
33	3XL	1.22	10	2920	3130	2470	2.92	3.13	2.47	5.84	11.20	0.60	0.30	0.91
34	3XL	1.22	10	3210	5420	5210	3.21	5.42	5.21	6.42	21.26	0.88	3.94	4.82
35	3XL	1.22	10	3170	5930	6210	3.17	5.93	6.21	6.34	24.28	0.84	6.71	7.55
36	3XL	1.22	10	3230	5790	6150	3.23	5.79	6.15	6.46	23.88	0.90	6.28	7.18
37	3XL	1.22	10	2310	5120	5300	2.31	5.12	5.30	4.62	20.84	0.24	3.64	3.88
38	3XL	1.22	10	3160	5040	6130	3.16	5.04	6.13	6.32	22.34	0.83	4.81	5.64
39	3XL	1.22	10	3260	5760	6120	3.26	5.76	6.12	6.52	23.76	0.94	6.15	7.09
40	3XL	1.22	10	3250	5810	6120	3.25	5.81	6.12	6.50	23.86	0.93	6.26	7.18
41	3XL	1.22	10	3260	5710	6220	3.26	5.71	6.22	6.52	23.86	0.94	6.26	7.19
42	3XL	1.22	10	2540	3140	2920	2.54	3.14	2.92	5.08	12.12	0.35	0.42	0.76
43	3XL	1.22	10	2560	3160	2920	2.56	3.16	2.92	5.12	12.16	0.36	0.42	0.78
44	3XL	1.22	10	3240	5820	6160	3.24	5.82	6.16	6.48	23.96	0.91	6.36	7.28
45	3XL	1.22	10	3210	5420	5210	3.21	5.42	5.21	6.42	21.26	0.88	3.94	4.82
46	3XL	1.22	10	3310	5330	5320	3.31	5.33	5.32	6.62	21.30	1.00	3.97	4.97
47	3XL	1.22	10	2890	2930	3100	2.89	2.93	3.10	5.78	12.06	0.58	0.41	0.99

48	3XL	1.22	10	3210	5760	6120	3.21	5.76	6.12	6.42	23.76	0.88	6.15	7.03
49	3XL	1.22	10	2910	3260	2880	2.91	3.26	2.88	5.82	12.28	0.60	0.44	1.03
50	3XL	1.22	10	2920	3160	2960	2.92	3.16	2.96	5.84	12.24	0.60	0.43	1.04
51	3XL	1.22	10	3320	5750	6130	3.32	5.75	6.13	6.64	23.76	1.01	6.15	7.16
52	3XL	1.22	10	3510	5670	6210	3.51	5.67	6.21	7.02	23.76	1.26	6.15	7.41
53	3XL	1.22	10	3150	4950	4720	3.15	4.95	4.72	6.30	19.34	0.82	2.70	3.52
54	3XL	1.22	10	3250	5850	6130	3.25	5.85	6.13	6.50	23.96	0.93	6.36	7.29
55	3XL	1.22	10	2310	5130	5310	2.31	5.13	5.31	4.62	20.88	0.24	3.67	3.91
56	3XL	1.22	10	3170	5740	6150	3.17	5.74	6.15	6.34	23.78	0.84	6.17	7.01
57	3XL	1.22	10	3240	5760	6180	3.24	5.76	6.18	6.48	23.88	0.91	6.28	7.19
58	3XL	1.22	10	3250	5750	6110	3.25	5.75	6.11	6.50	23.72	0.93	6.11	7.04
59	3XL	1.22	10	3240	5820	6170	3.24	5.82	6.17	6.48	23.98	0.91	6.38	7.30
60	3XL	1.22	10	3130	6210	5340	3.13	6.21	5.34	6.26	23.10	0.80	5.50	6.29
61	3XL	1.22	10	2210	3860	3160	2.21	3.86	3.16	4.42	14.04	0.20	0.75	0.95
62	3XL	1.22	10	2838	4350	4450	2.84	4.35	4.45	5.68	17.60	0.54	1.85	2.39

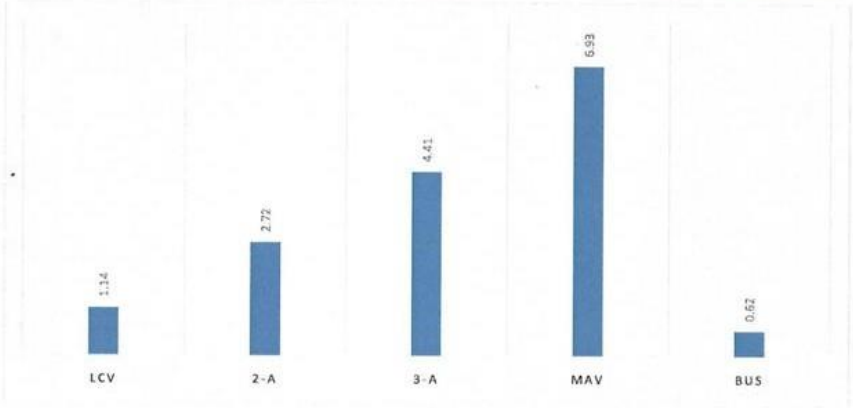
63	3XL	1.22	10	2510	4650	5680	2.51	4.65	5.68	5.02	20.66	0.33	3.52	3.85
64	3XL	1.22	10	2360	5010	5130	2.36	5.01	5.13	4.72	20.28	0.26	3.27	3.52
65	3XL	1.22	10	1760	2770	3320	1.76	2.77	3.32	3.52	12.18	0.08	0.42	0.50
66	3XL	1.22	10	510	3390	3120	0.51	3.39	3.12	1.02	13.02	0.00	0.55	0.56
67	3XL	1.22	10	1710	6170	5070	1.71	6.17	5.07	3.42	22.48	0.07	4.93	5.00
68	3XL	1.22	10	326	5750	6130	0.33	5.75	6.13	0.65	23.76	0.00	6.15	6.15
69	3XL	1.22	10	3840	4110	3670	3.84	4.11	3.67	7.68	15.56	1.80	1.13	2.94
70	3XL	1.22	10	3820	4150	3600	3.82	4.15	3.60	7.64	15.50	1.77	1.11	2.88
71	3XL	1.22	10	3950	4120	3770	3.95	4.12	3.77	7.90	15.78	2.02	1.20	3.22
72	3XL	1.22	10	3320	5150	5660	3.32	5.15	5.66	6.64	21.62	1.01	4.22	5.23
73	3XL	1.22	10	3520	5660	6230	3.52	5.66	6.23	7.04	23.78	1.27	6.17	7.45
TOTAL ESAL FOR 3 AXLE														**321.89**
TOTAL NO. OF VEHICLES														**73.00**
VEHICLE DAMAGE FACTOR (VDF)														**4.41**

S. No.	Vehicle Type	Axle Configuration	Commodity Type	Wheel Weight (KG)						Wheel Weight (Tonnes)						AXLE LOAD (TONNES)					EQUIVALENT STANDARD LOAD					TOTAL ESAL
				Front -1	Rear -1	Rear -2	Rear -3	Rear -4	Rear -5	Front -1	Rear -1	Rear -2	Rear -3	Rear -4	Rear -5	Front -1	Rear (single)	Rear (tandem -1)	Rear (tandem -2)	Rear (tridem)	Front -1	Rear (single)	Rear (tandem -1)	Rear (tandem 2)	Rear (tridem)	
1	4XL	1.122	16	2340	5240	6030	5700			2.34	5.24	6.03	5.70	0.00	0.00	4.68				33.94	0.25	0.00	0.00		4.88	5.13
2	4XL	1.1.22	14	3710	3950	6350	6650			3.71	3.95	6.35	6.65	0.00	0.00	7.42	7.90	26.00			1.57	2.02	8.82		0.00	12.41
3	4XL	1.1.22	14	2350	5340	5960	5650			2.35	5.34	5.96	5.65	0.00	0.00	4.70	10.68	23.22			0.25	6.75	5.61		0.00	12.61
4	4XL	1.1.22	14	2510		6330	6190			2.51	0.00	6.33	6.19	0.00	0.00	5.02	0.00	25.04			0.33	0.00	7.59		0.00	7.92
5	4XL	1.1.22	14	2610		4340	4070			2.61	0.00	4.34	4.07	0.00	0.00	5.22	0.00	16.82			0.39	0.00	1.55		0.00	1.93
6	4XL	1.1.22	14	2670		3850	3740			2.67	0.00	3.85	3.74	0.00	0.00	5.34	0.00	15.18			0.42	0.00	1.02		0.00	1.45
7	4XL	1.1.22	14	2830		5640	6340			2.83	0.00	5.64	6.34	0.00	0.00	5.66	0.00	23.96			0.53	0.00	6.36		0.00	6.89
8	4XL	1.1.22	14	2950	3480	6110	6320			2.95	3.48	6.11	6.32	0.00	0.00	5.90	6.96	24.86			0.63	1.22	7.37		0.00	9.22
9	MAV	1.1.22	14	4210	1830	3860	6110			4.21	1.83	3.86	6.11	0.00	0.00	8.42	3.66	19.94			2.61	0.09	3.05		0.00	5.75
10	4XL	1.1.22	14	4110	1850	3860	6230			4.11	1.85	3.86	6.23	0.00	0.00	8.22	3.70	20.18			2.37	0.10	3.20		0.00	5.67
11	MAV	1.1.22	14	3290	2490	5330	6050			3.29	2.49	5.33	6.05	0.00	0.00	6.58	4.98	22.76			0.97	0.32	5.18		0.00	6.47
12	MAV	1.1.22	14	4520	5310		6830	6710		4.52	5.31	0.00	6.83	6.71	0.00	9.04	10.62	27.08			3.46	6.60	10.38		0.00	20.45
13	MAV	1.1.22	14	4210	1840	3850	6010			4.21	1.84	3.85	6.01	0.00	0.00	8.42	3.68	19.72			2.61	0.10	2.92		0.00	5.62
14	4XL	1.1.22	14	2670		3960	3840			2.67	0.00	3.96	3.84	0.00	0.00	5.34	0.00	15.60			0.42	0.00	1.14		0.00	1.57
15	MAV	1.1.221	17	2200	2410		3430	2730		2.20	2.41	0.00	3.43	2.73	0.00	4.40	4.82			12.32	0.19	0.28	0.00		0.08	0.56
16	4XL	1.2.11	15	2310	2760	2610	2580			2.31	2.76	2.61	2.58	0.00	0.00	4.62	5.52	10.38			0.24	0.21	0.22		0.00	0.67
17	4XL	1.2.11	15	2310	4530	5260	4860			2.31	4.53	5.26	4.86	0.00	0.00	4.62	9.06	20.24			0.24	1.52	3.24		0.00	5.00
18	4XL	1.2.11	15	2090	2960	2290	2350			2.09	2.96	2.29	2.35	0.00	0.00	4.18	5.92	9.28			0.16	0.28	0.14		0.00	0.58
19	4XL	1.2.11	15	2290	4450	5160	4960			2.29	4.45	5.16	4.96	0.00	0.00	4.58	8.90	20.24			0.23	1.42	3.24		0.00	4.89
20	MAV	1.2.11	15	2860	4160	6670	4810			2.86	4.16	6.67	4.81	0.00	0.00	5.72	8.32	22.96			0.56	1.08	5.36		0.00	7.00
21	4XL	1.2.11	15	2280	4460	5160	4970			2.28	4.46	5.16	4.97	0.00	0.00	4.56	8.92	20.26			0.22	1.43	3.25		0.00	4.91
22	MAV	1.2.11	15	2870	4150	6670	4820			2.87	4.15	6.67	4.82	0.00	0.00	5.74	8.30	22.98			0.56	1.07	5.38		0.00	7.02
23	4XL	1.2.11	15	2310	2750	2620	2560			2.31	2.75	2.62	2.56	0.00	0.00	4.62	5.50	10.36			0.24	0.21	0.22		0.00	0.67
24	4XL	1.2.22	13	2960	4210	6420	4760			2.96	4.21	6.42	4.76	0.00	0.00	5.92	8.42	9.52			0.64	1.14	0.16		0.00	1.93
25	4XL	1.2.22	13	2850	4410	6420	4760			2.85	4.41	6.42	4.76	0.00	0.00	5.70	8.82	9.52			0.55	1.37	0.16		0.00	2.07
26	4XL	1.2.22	13	2850	4310	6510	4810			2.85	4.31	6.51	4.81	0.00	0.00	5.70	8.62	9.62			0.55	1.25	0.17		0.00	1.96
27	4XL	1.2.22	13	3760	4150	7230	6950			3.76	4.15	7.23	6.95	0.00	0.00	7.52	8.30	13.90			1.66	1.07	0.72		0.00	3.45
28	4XL	1.2.22	13	2870		3950	3840			2.87	0.00	3.95	3.84	0.00	0.00	5.74	0.00	15.58			0.56	0.00	1.14		0.00	1.70
29	4XL	1.2.22	13	2170		4330	4040			2.17	0.00	4.33	4.04	0.00	0.00	4.34	0.00	16.74			0.18	0.00	1.52		0.00	1.70
30	MAV	1.2.22	13	2360	2410		2170	2360		2.36	2.41	0.00	2.17	2.36	0.00	4.72	4.82	9.06			0.26	0.12	0.13		0.00	0.51
31	4XL	1.2.22	13	2210	4430	5160	4760			2.21	4.43	5.16	4.76	0.00	0.00	4.42	8.86	19.84			0.20	1.39	2.99		0.00	4.58
32	4XL	1.2.22	13	2230	4380	5210	4680			2.23	4.38	5.21	4.68	0.00	0.00	4.46	8.76	19.78			0.21	1.33	2.95		0.00	4.49
33	4XL	1.2.22	13	2230	4430	5150	4910			2.23	4.43	5.15	4.91	0.00	0.00	4.46	8.86	20.12			0.21	1.39	3.16		0.00	4.76
34	MAV	1.2.222	18	3790	5240		6410	5160		3.79	5.24	0.00	6.41	5.16	0.00	7.58	10.48			23.14	1.71	2.73	0.00		1.05	5.49
35	MAV	1.2.222	18	5860	5960		10670	9960		5.86	5.96	0.00	10.67	9.96	0.00	11.72	11.92			41.26	9.79	4.56	0.00		10.66	25.01
36	MAV	1.2.222	18	3460	6740	5560		6630	7360	3.46	6.74	5.56	0.00	6.63	7.36	6.92	13.48			39.10	1.19	7.47	0.00		8.60	17.25
37	5XL	1.2.222	18	2240	4450	5160	4920	2450		2.24	4.45	5.16	4.92	2.45	0.00	4.48	8.90			25.06	0.21	1.42	0.00		1.45	3.08
38	MAV	1.2.222	18	3670	5210		5240	4860		3.67	5.21	0.00	5.24	4.86	0.00	7.34	10.42			20.20	1.51	2.67	0.00		0.61	4.78
39	MAV	1.2.222	18	3680	5310		5210	4880		3.68	5.31	0.00	5.21	4.88	0.00	7.36	10.62			20.18	1.52	2.88	0.00		0.61	5.01

40	MAV	1.2.222	18	3670	5220		5280	4840		3.67	5.22	0.00	5.28	4.84	0.00	7.34	10.44			20.24	1.51	2.69	0.00		0.62	4.81

41	MAV	1.2.222	18	3240	4810		5040	4640		3.24	4.81	0.00	5.04	4.64	0.00	6.48	9.62			19.36	0.91	1.94	0.00		0.52	3.37
42	MAV	1.2.222	18	3780	5250		6420	5160		3.78	5.25	0.00	6.42	5.16	0.00	7.56	10.50			23.16	1.69	2.75	0.00		1.06	5.50
43	MAV	1.2.222	18	3650	5110		5160	4790		3.65	5.11	0.00	5.16	4.79	0.00	7.30	10.22			19.90	1.47	2.47	0.00		0.58	4.52
44	MAV	1.2.222	18	3230	4800		5020	4710		3.23	4.80	0.00	5.02	4.71	0.00	6.46	9.60			19.46	0.90	1.92	0.00		0.53	3.35
45	MAV	1.22.22	19	2210		2430	3350	2830		2.21	0.00	2.43	3.35	2.83	0.00	4.42		4.86	12.36		0.20	0.00	0.01	0.45	0.00	0.66
46	MAV	1.22.22	19	4260	4360		7750	6950		4.26	4.36	0.00	7.75	6.95	0.00	8.52		8.72	29.40		2.73	0.00	0.11	14.42	0.00	17.27
47	MAV	1.22.22	19	4420	3910		8240	9050		4.42	3.91	0.00	8.24	9.05	0.00	8.84		7.82	34.58		3.17	0.00	0.07	27.60	0.00	30.84
48	5XL	1.22.22	19	3260	5840	6140		8240	9128	3.26	5.84	6.14	0.00	8.24	9.13	6.52		23.96	34.74		0.94	0.00	6.36	28.10	0.00	35.40
49	MAV	1.22.222	23	2240	6650	4350		8460	9350	2.24	6.65	4.35	0.00	8.46	9.35	4.48		22.00		35.62	0.21	0.00	4.52		5.92	10.65
50	MAV	1.22.222	23	2930	2630	4750		7310	6650	2.93	2.63	4.75	0.00	7.31	6.65	5.86		14.76		27.92	0.61	0.00	0.92		2.24	3.76
51	MAV	1.22.222	23	2870	5240	6140		8240	9128	2.87	5.24	6.14	0.00	8.24	9.13	5.74		22.76		34.74	0.56	0.00	5.18		5.36	11.10
52	MAV	1.22.222	23	3450	6730	5550		6620	7350	3.45	6.73	5.55	0.00	6.62	7.35	6.90		24.56		27.94	1.18	0.00	7.02		2.24	10.44
53	MAV	1.22.222	23	2790	2580	4690		7340	6670	2.79	2.58	4.69	0.00	7.34	6.67	5.58		14.54		28.02	0.50	0.00	0.86		2.27	3.63
TOTAL ESAL FOR MULTI AXLE VEHICLE																										**367.49**
TOTAL NO. OF VEHICLES																										**53.00**
VEHICLE DAMAGE FACTOR (VDF)																										**6.93**

SUMMARY OF VDF VALUES								
ROAD SECTION	VEHICLE TYPE	Saha to Paiti Boripur			Paiti Boripur to Saha			Adopted
		No. of Vehicles	VDF	ESAL	No. of Vehicles	VDF	ESAL	VDF
SAHA TO PAITI BORIPUR	LCV	61	1.14	69.75	68	0.28	19.20	1.14
	2-A	70	2.72	190.08	85	4.92	417.99	4.92
	3-A	73	4.41	321.89	59	4.18	246.59	4.41
	MAV	53	6.93	367.49	64	11.75	752.30	11.75
	BUS	20	0.62	12.34	15	1.02	15.28	1.02
	Total	**277**	**15.82**	**961.54**	**291.00**	**22.15**	**1451.36**	**22.15**
Combined VDF				**3.47**			**4.99**	**4.99**



Vehicle Type v/s VDF Graph