ROAD CRASH DATA ANALYSIS

Traffic Engineering and Safety Division

CSIR-Central Road Research Institute

New Delhi

Content

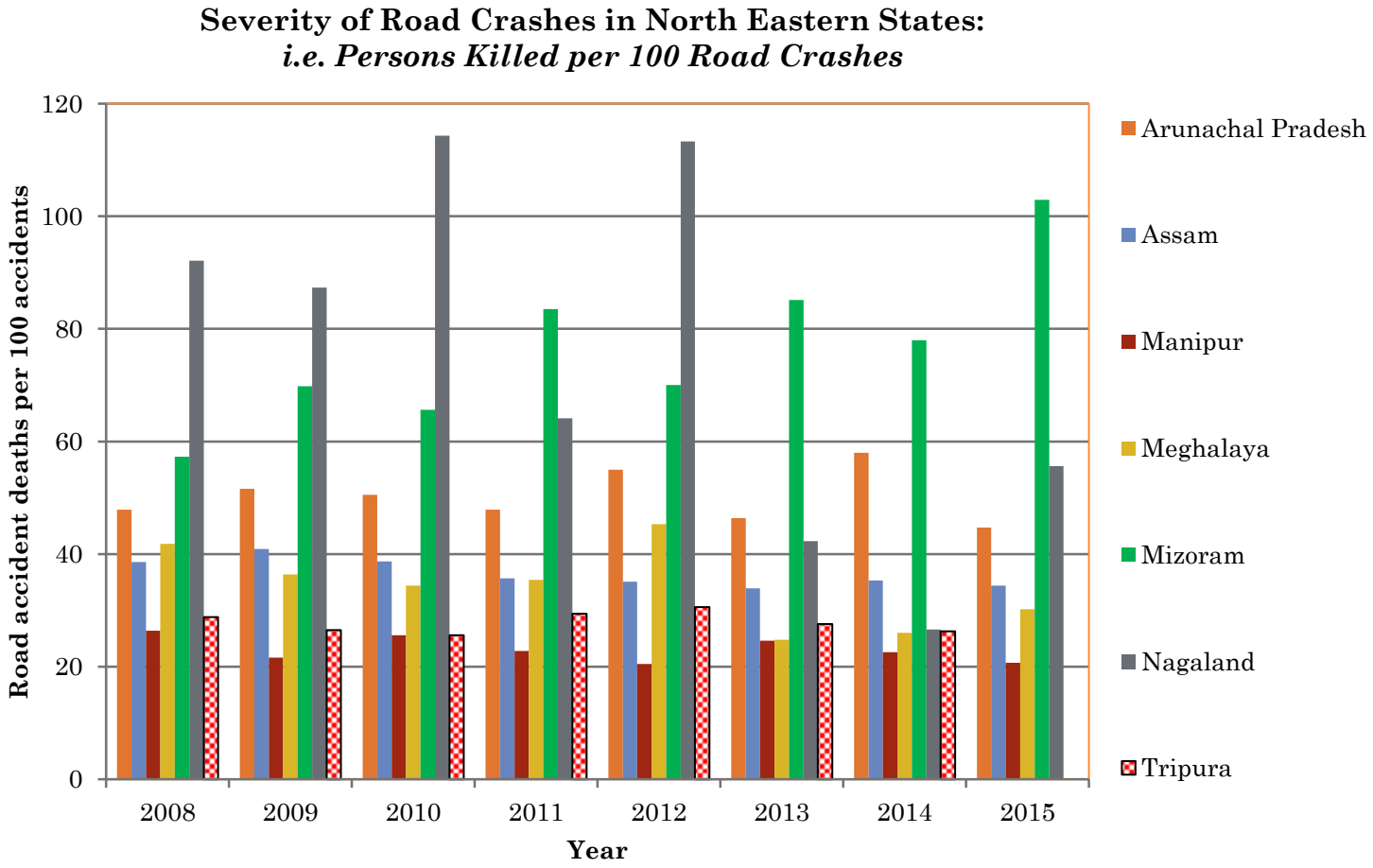
- Introduction
- Profile of Road Crashes in Tripura State
- Detail Analysis of Road Crashes
- Road Crash Data Analysis for the Project Corridor
- Inference

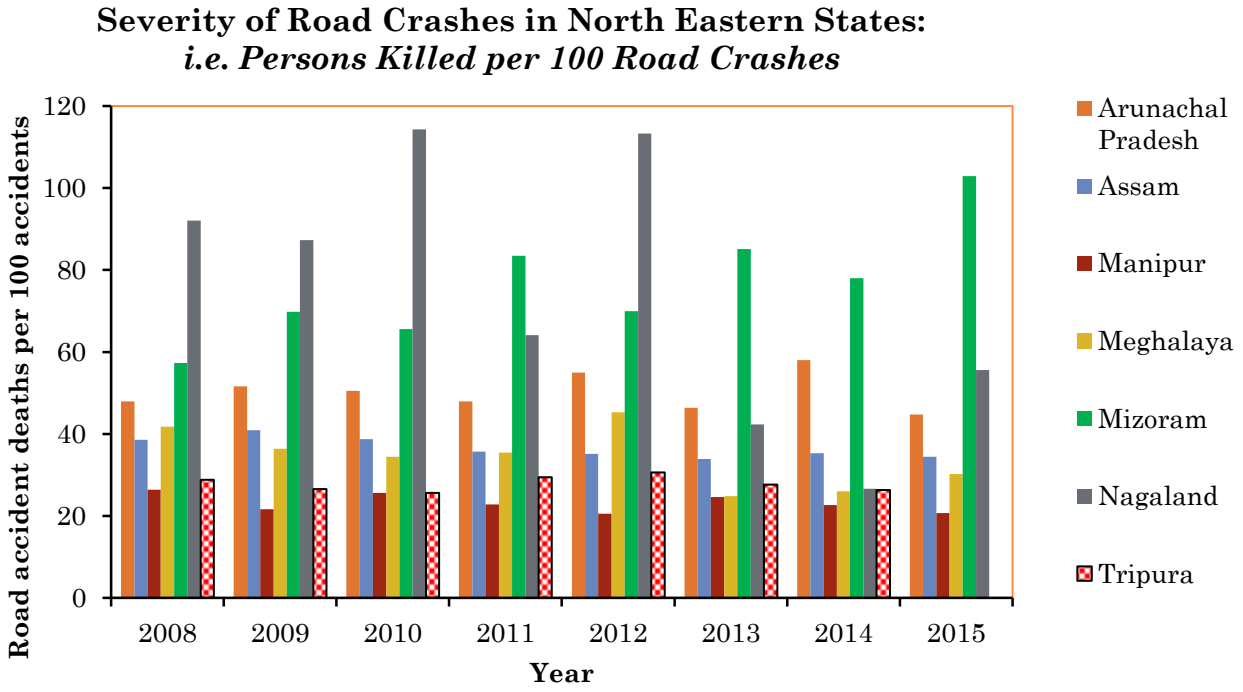
INTRODUCTION

- Road accidents has turned as the biggest killer in northeast Tripura fueled by reckless driving, less no. of traffic police circulation across the state.
- Amidst Road safety week's celebration in January month 2017, atleast 25 people were killed in Tripura in last in December to January.

- Primary Vehicle and Secondary Vehicle*(s)* / Person*(s)* involved in the road crash coupled with causative factors for the road crashes in the entire state, the summary of the road crash data available in the Ministry of Road Transport and Highways *(MoRT&H)* website was used to understand the road crash patterns in Tripura for the years 2008 to 2015.

Road Crashes in North-Eastern State



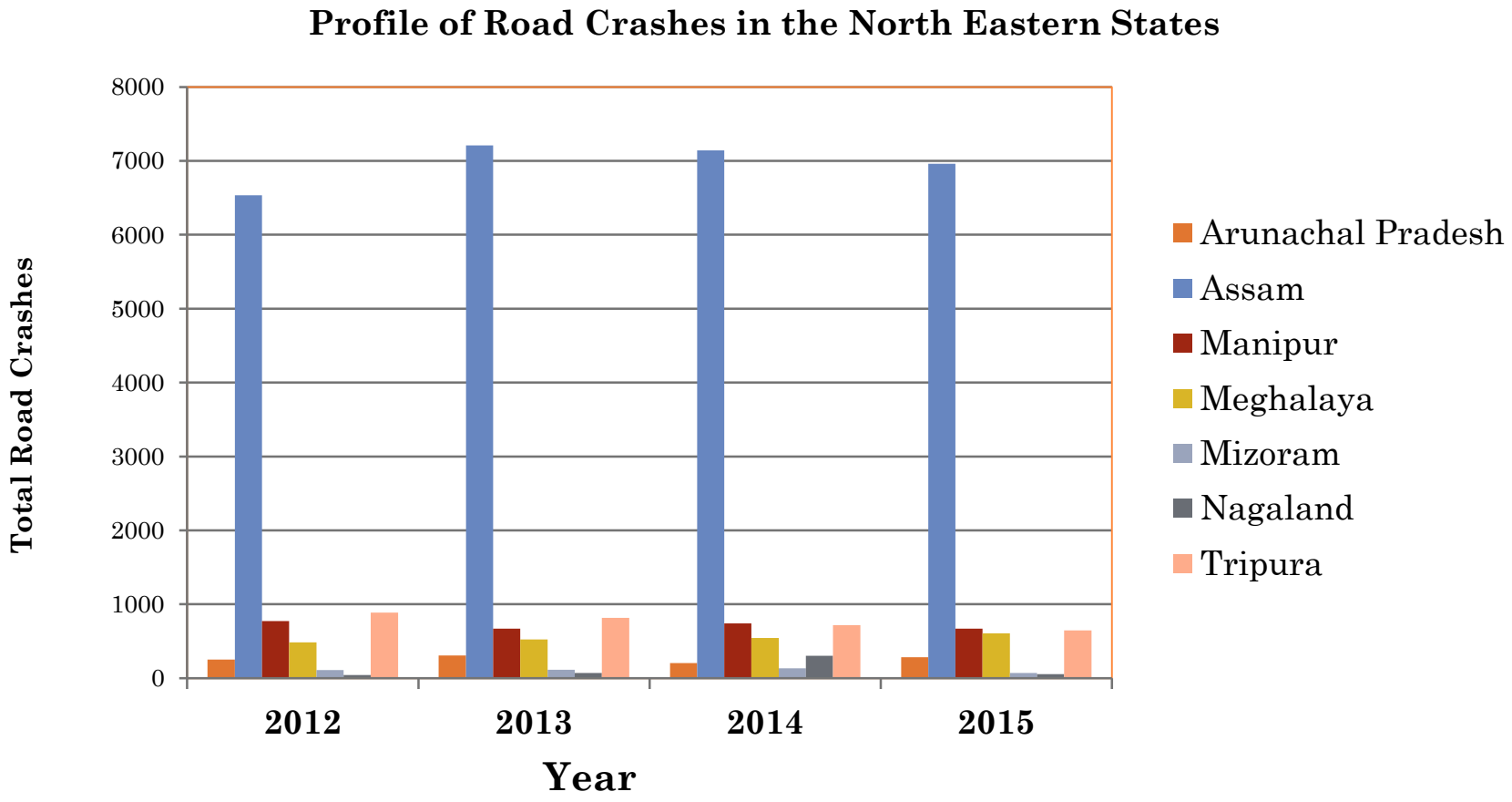


- The road crash deaths per 100 road crashes in Tripura are somewhat less as compared to some of the north eastern states
- However, the deaths per 100 road crashes has registered minor increasing trends which is a cause of concern warranting immediate intervention measures.

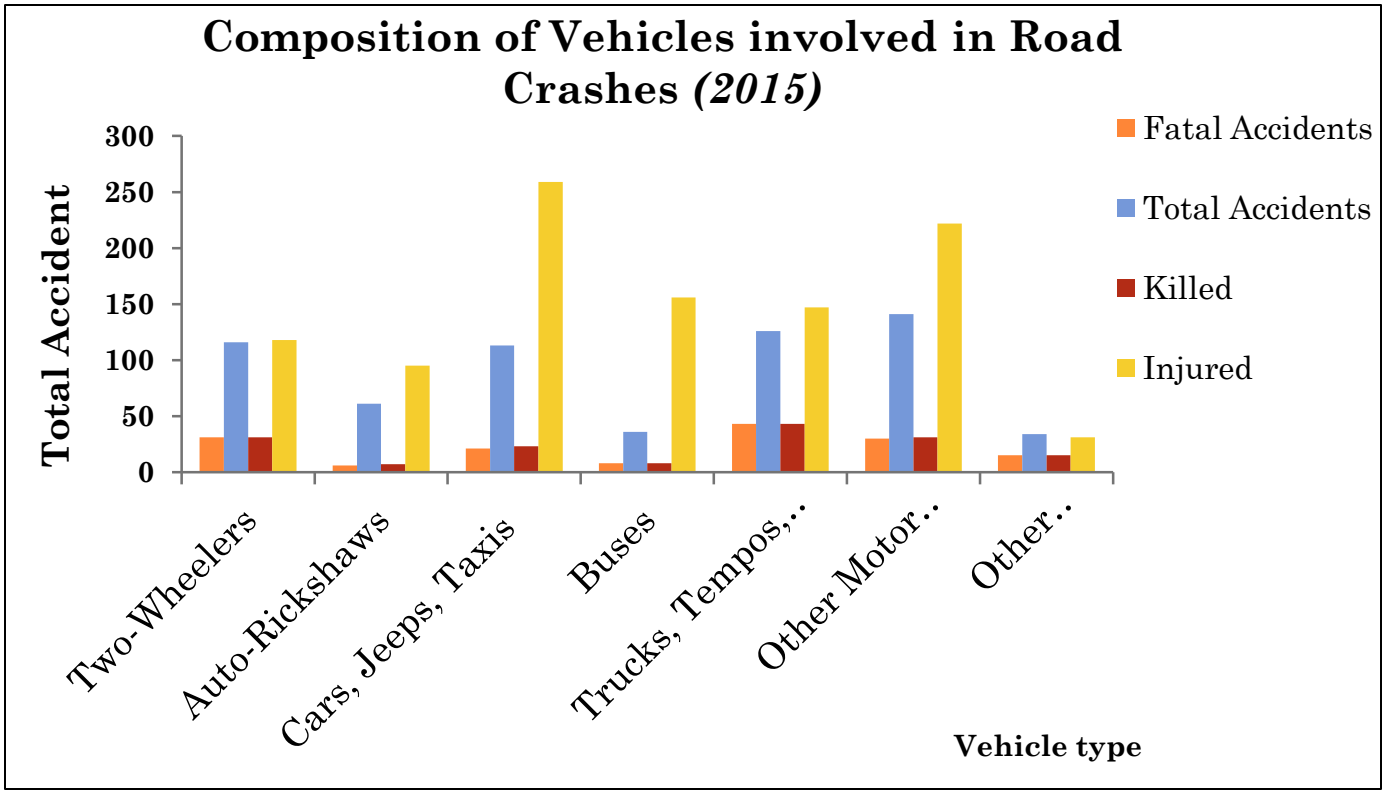
Number of Road Crashes in various North Eastern States

Name of the State	2012	2013	2014	2015
Arunachal	251	308	205	284
Assam	6535	7211	7144	6959
Manipur	771	671	743	671
Meghalaya	483	525	542	606
Mizoram	110	114	132	70
Nagaland	42	71	305	54
Tripura	888	818	716	647

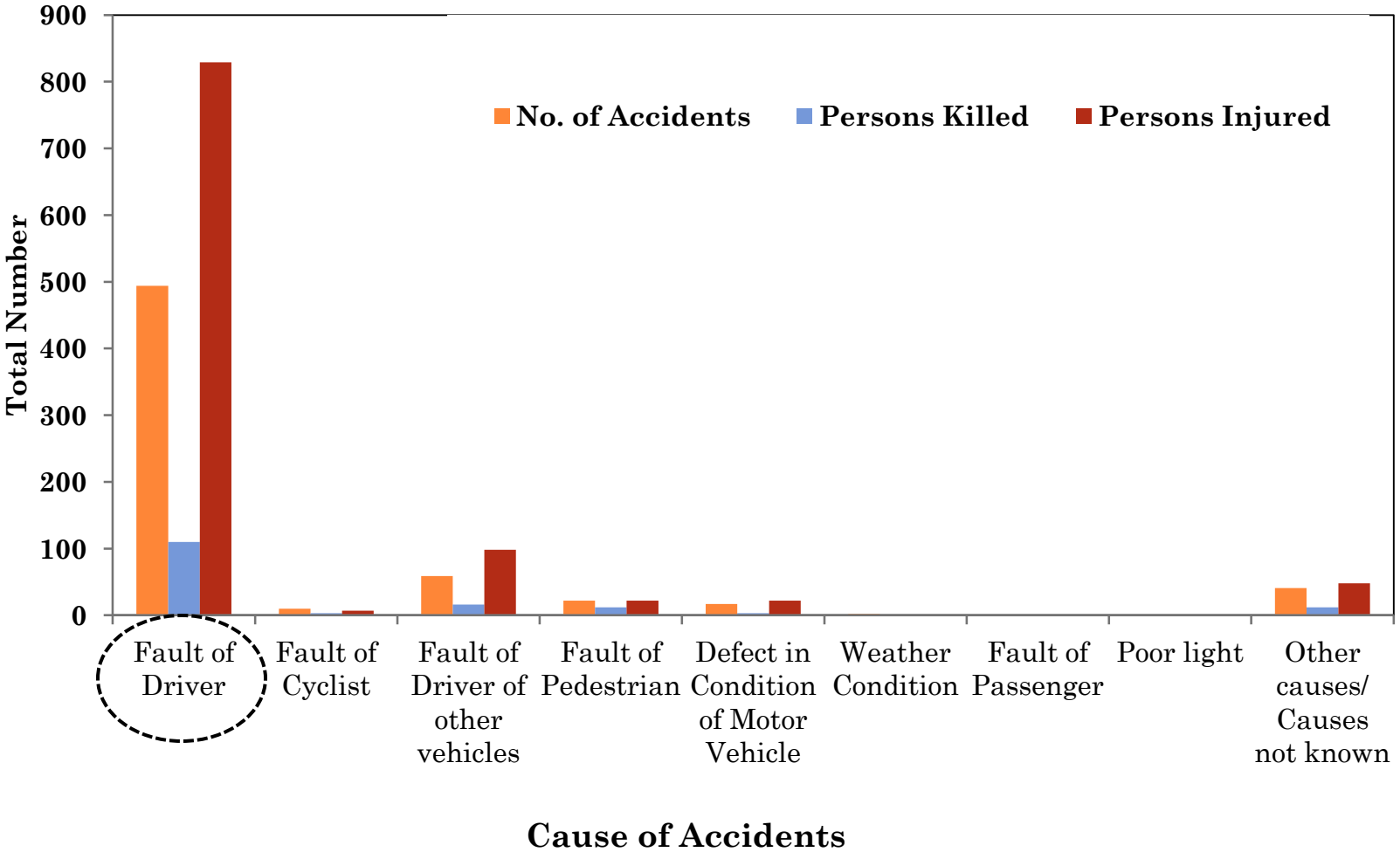
Tripura accounted for the second highest after Assam in the north eastern region


Profile of Road Crashes in the North Eastern States
Total Road Crashes
8000
7000
6000
5000
4000
3000
2000
1000
0
2012
2013
2014
2015
Year
Arunachal Pradesh
Assam
Manipur
Meghalaya
Mizoram
Nagaland
Tripura

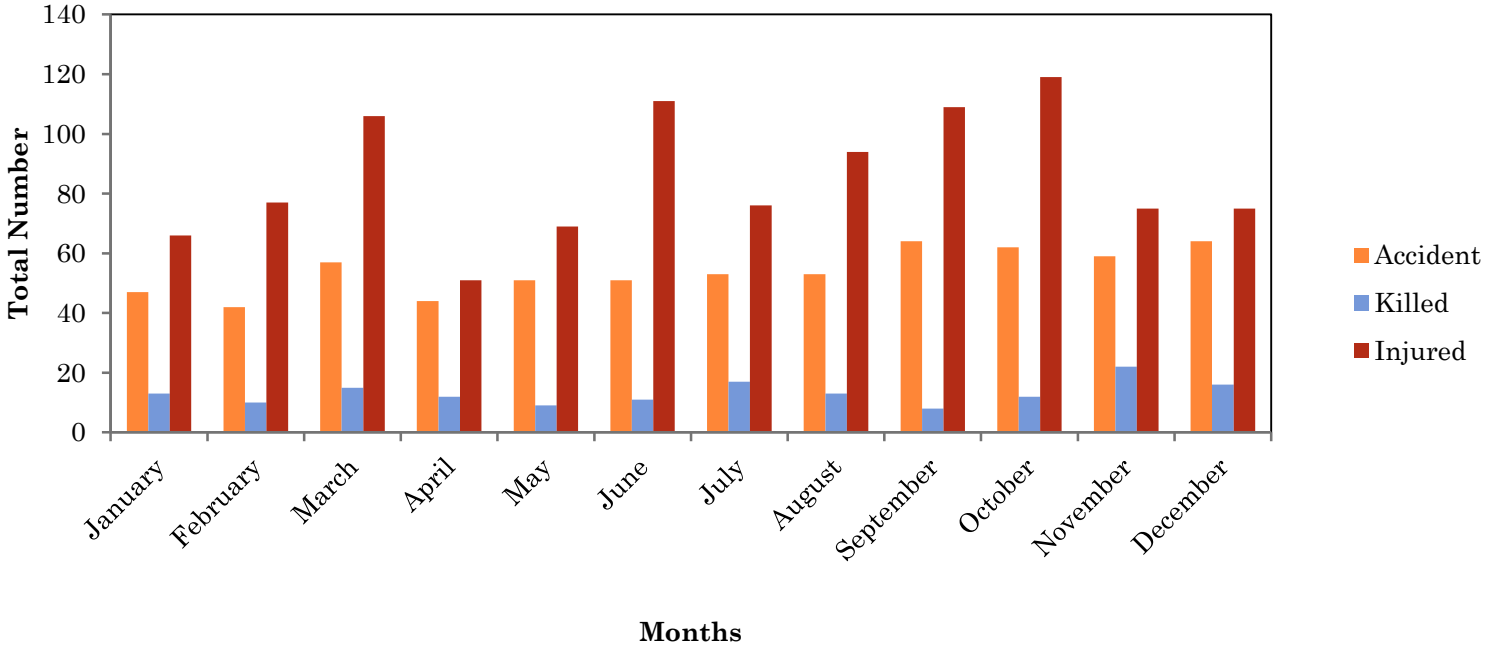
PROFILE OF ROAD CRASHES IN TRIPURA STATE



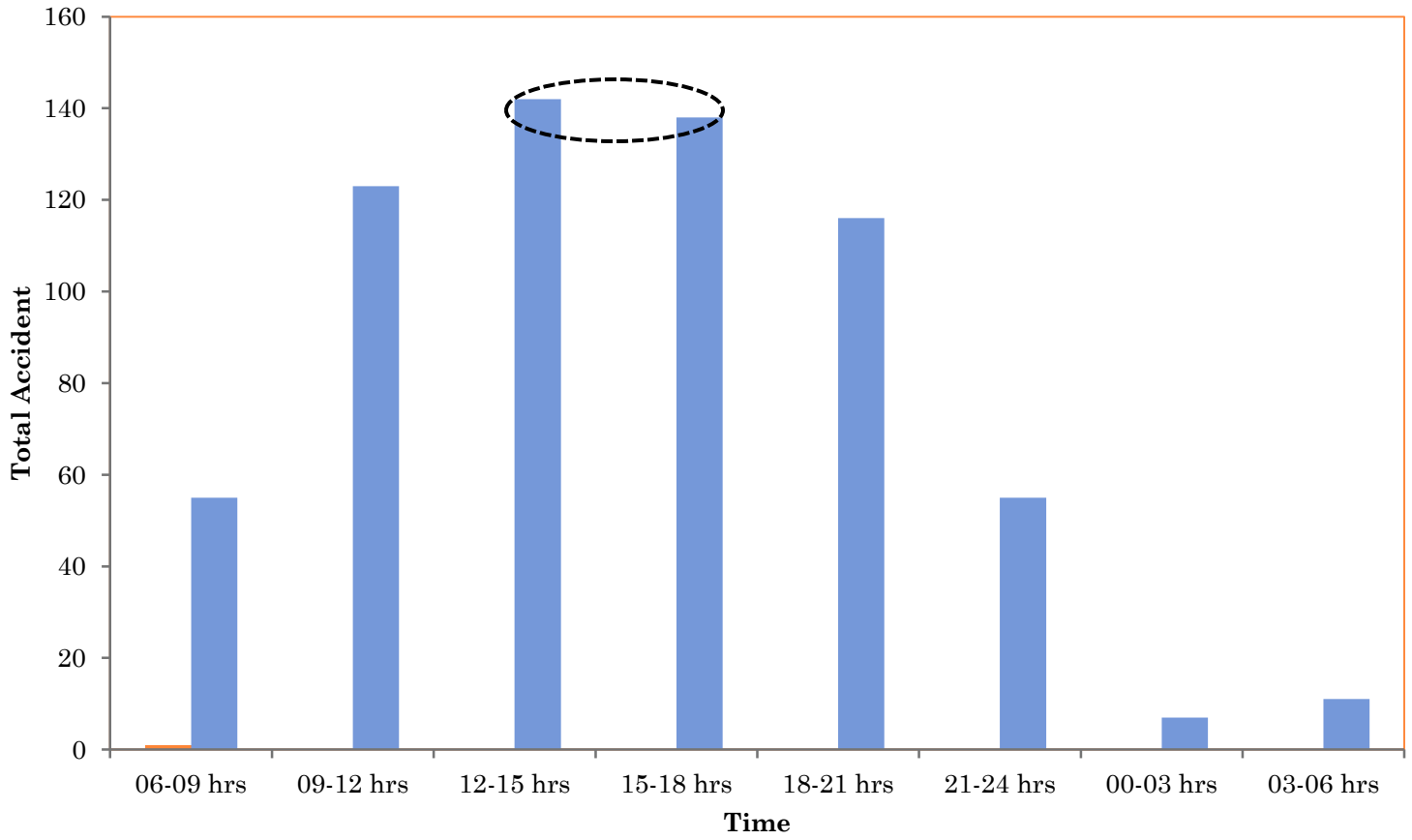
❖Figure shows the share of vehicles primarily responsible for road crashes. It can be noted that the cars followed by other motor vehicles which is followed by buses and two wheelers are primarily responsible for the fatal road crashes



❖ Figure presents the reported causes wherein the fault of the driver is the dominant cause which is typically observed on the Indian roads.



❖September, October and November accounting for 9.9 %, 13.9 % and 11.6 % of the total road crashes respectively.

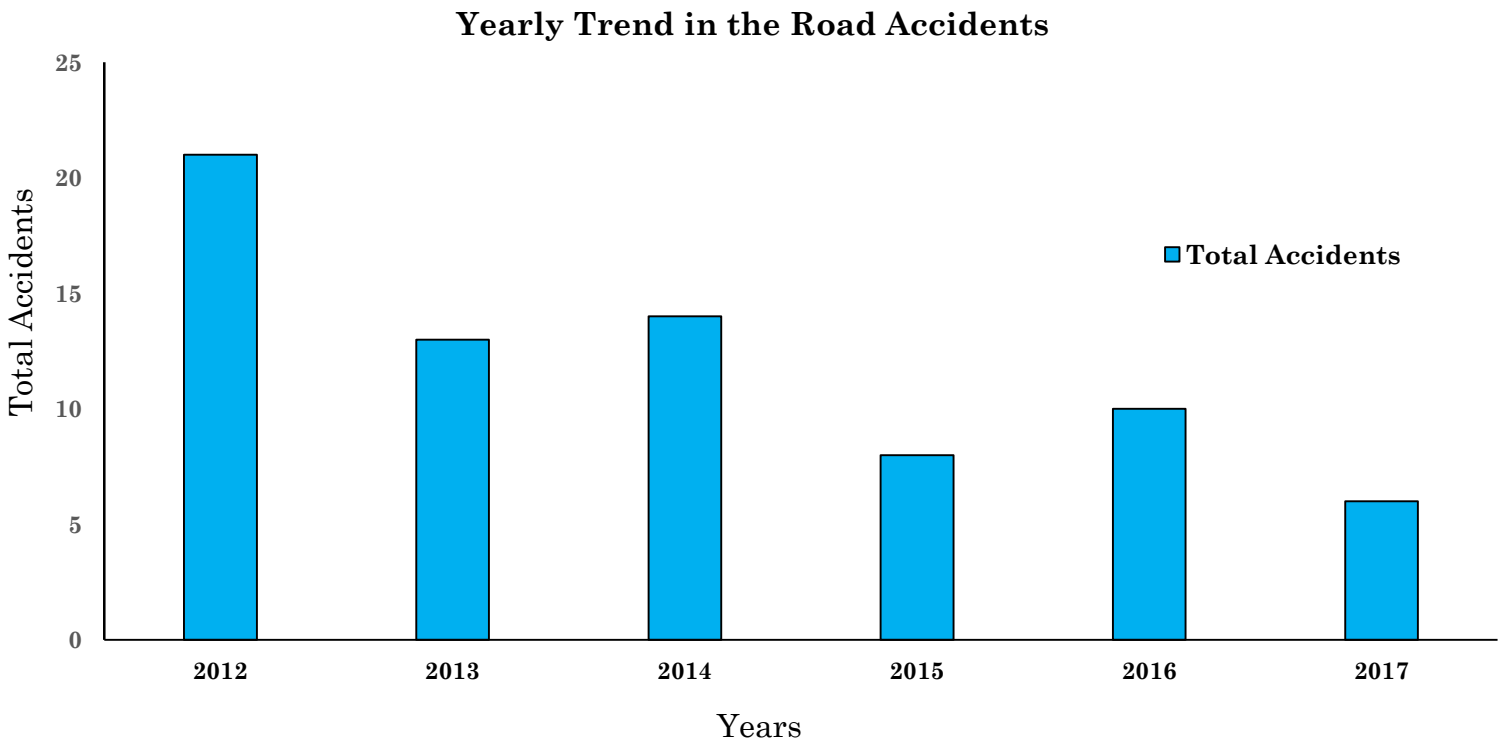


❖Maximum road crashes reported in the afternoon period ranging between 12.00 noon to 15.00 hrs.

Road Crash Data Analysis for the Project Corridor

- First Information Reports *(FIRs)* related to detailed information for the Project Corridor in terms of the number of road crashes, fatalities and injuries *i.e. Grievous and Simple Injury type crashes* occurred on the Project Corridor has been furnished by the PWD officials
- Using the above road crash data, black spot analysis has been done by the CSIR - CRRI team.

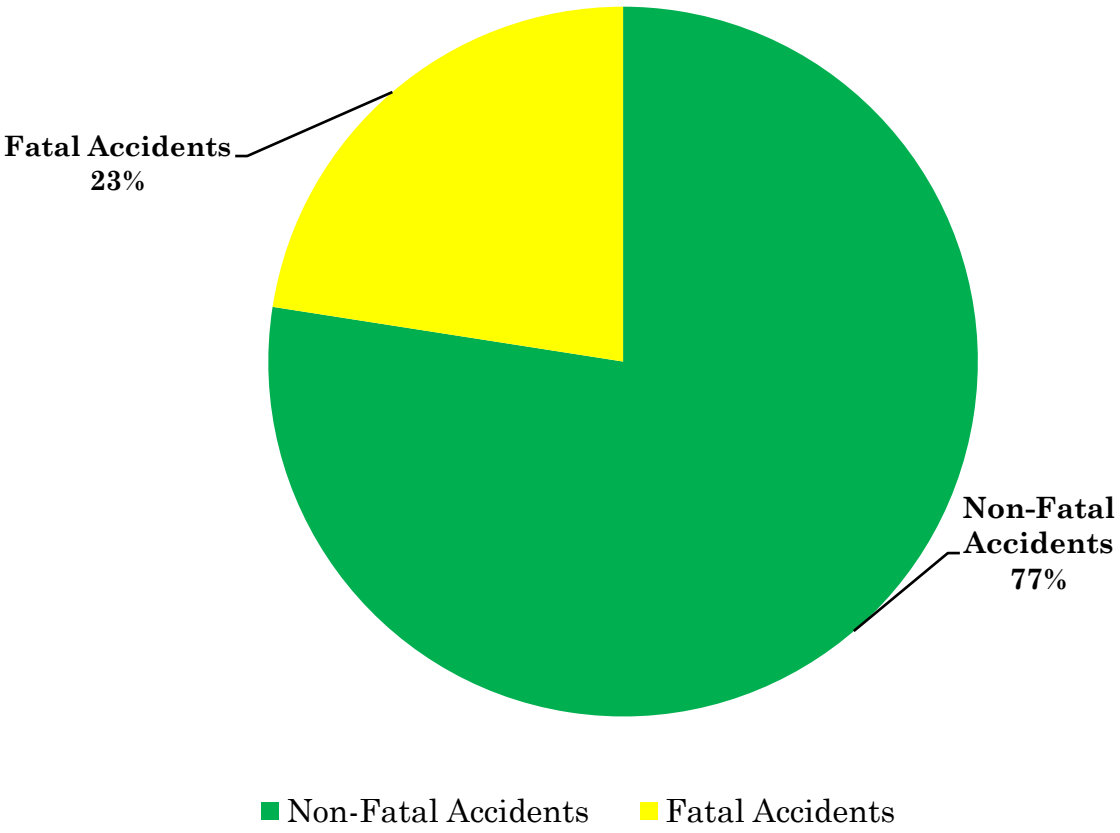
ROAD CRASH DATA ANALYSIS FOR THE PROJECT CORRIDOR

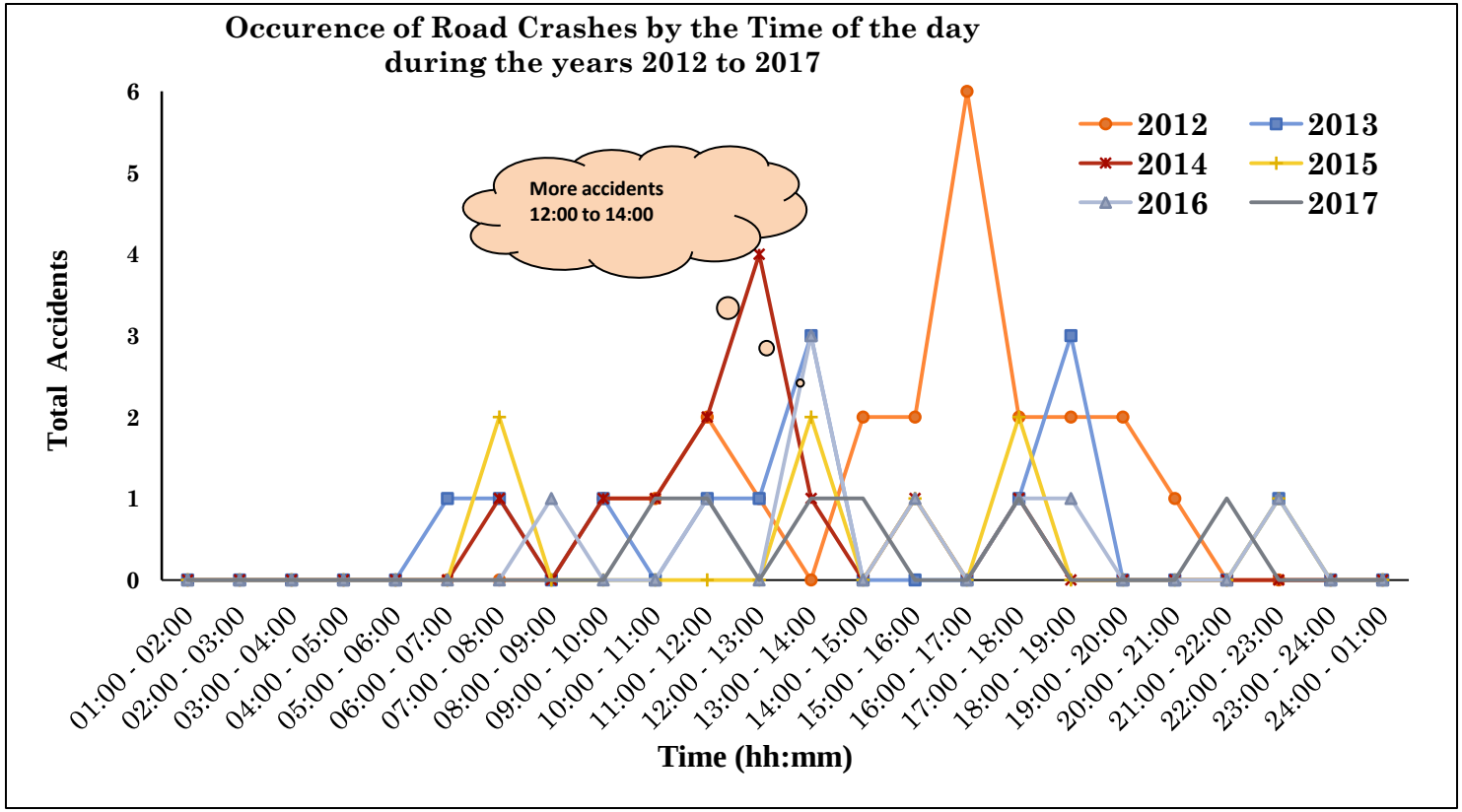


❖From Figure it can be inferred that the number of road crashes has registered fluctuating trends since the year 2012 till 2016 on the Project Corridor.

❖Therefore, it is not possible to draw definite inference from the above.

Type of Road Crashes

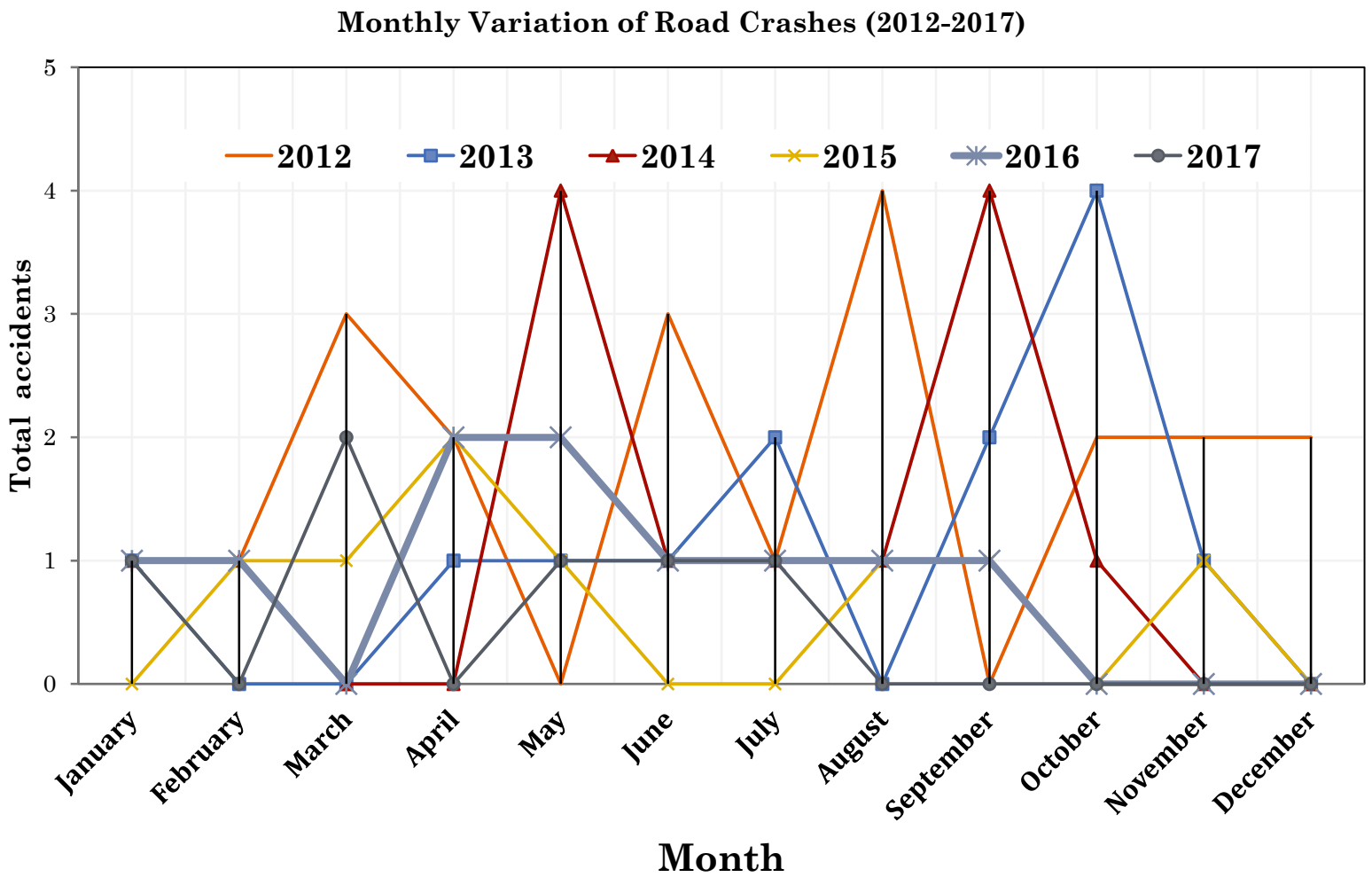




❖Maximum number of road crashes has been reported between 12:00 to 14:00 hours accounting for 22.9 %

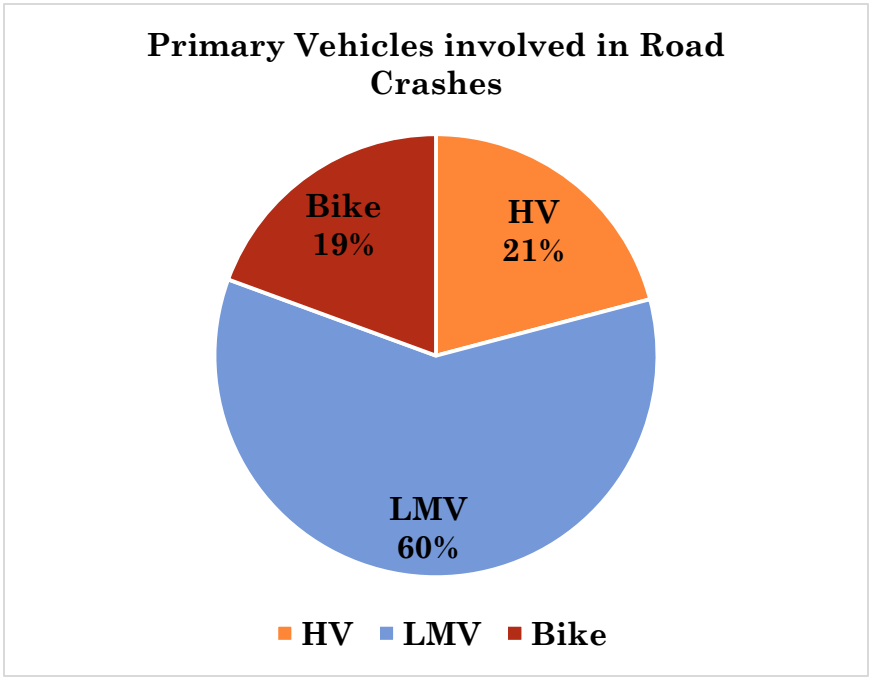
❖During the dusk hours, maximum number of road crashes was reported between 17:00 to 19:00 accounting for about 17.1 %

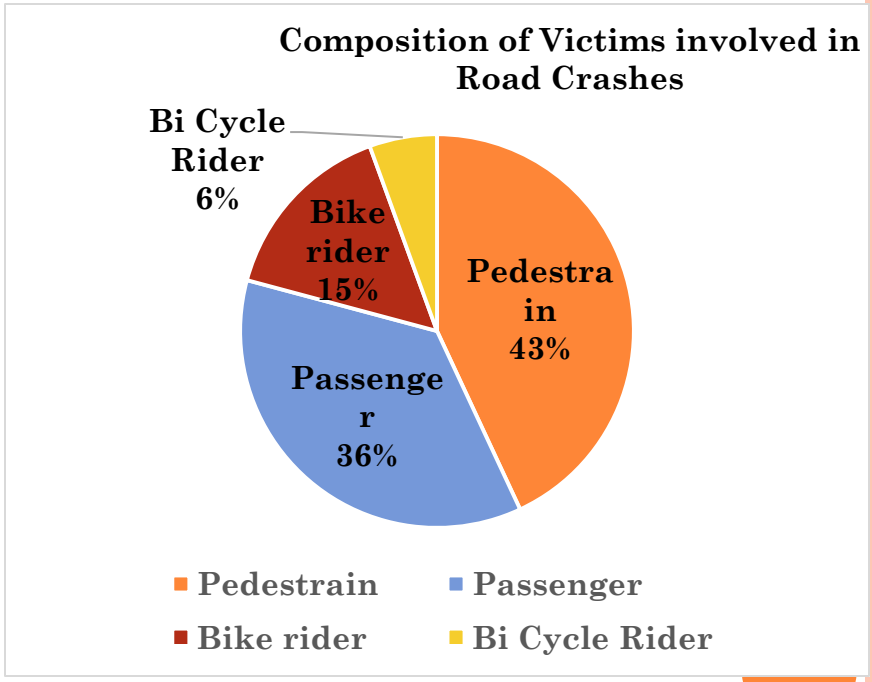
Month-wise Analysis of Road Crashes for the Project Corridor



VEHICLES INVOLVED IN ROAD CRASHES

❖Road Crash data collected from the records of the Tripura Police were analyzed based on the type of vehicles involved namely, primary and secondary vehicles/victims responsible for the road crashes



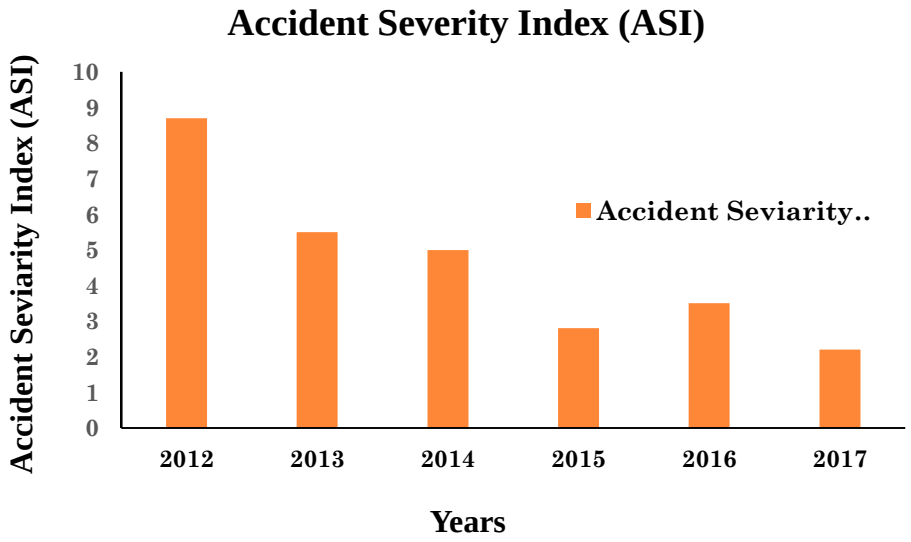


SYNOPSIS OF CRASH VICTIMS

- The analysis also revealed that the Vulnerable Road Users *(VRUs)* dominated by pedestrians *(43.0 %),* are the worst affected victims constituting 36 %, which is followed by two wheelers *(15.0 %) and* bicycle riders *(6 %)*.
- Attributed to absence of any form of facilities for the VRUs on the Project Corridor.
- In the case of pedestrians it may be due to the absence of the pedestrian facilities such as Foot Over Bridges (FOBs) or Foot paths which is forcing them to resort to crossing maneuver through jay walking by the alighting commuters from buses and IPT to cross the road
- In the case of motorized two wheelers, it may be attributed to the absence of exclusive lanes for their movement.

Weighted Accident Severity Index

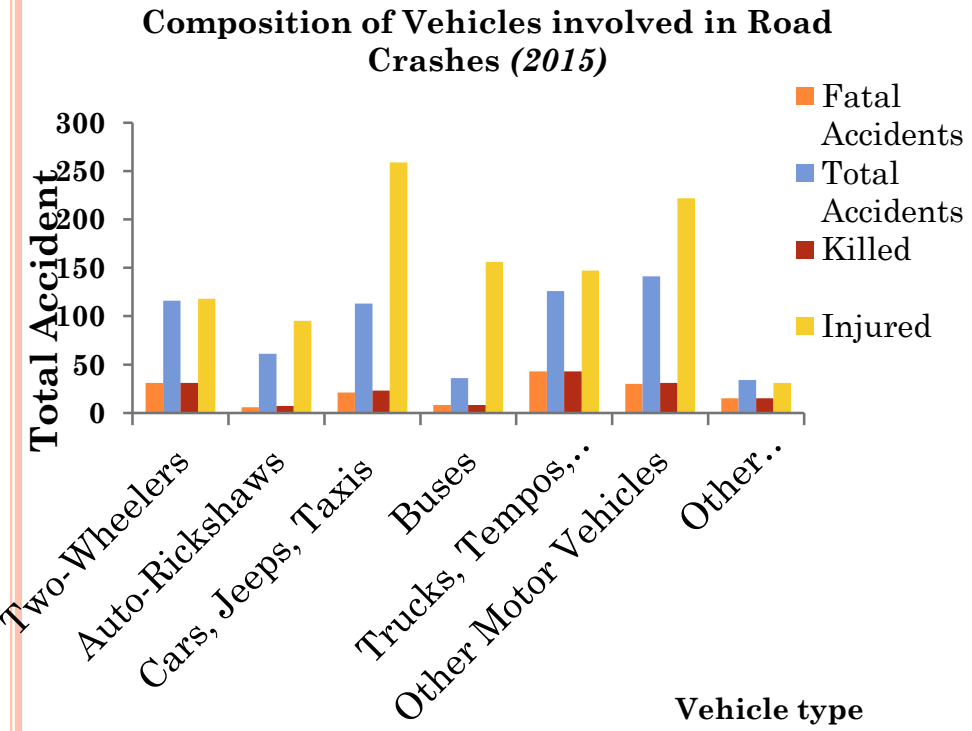
- The intensity and seriousness of the accident
- The ASI is computed by accounting 70 % weightage to the fatal crashes and 30 % to the Injury crashes.

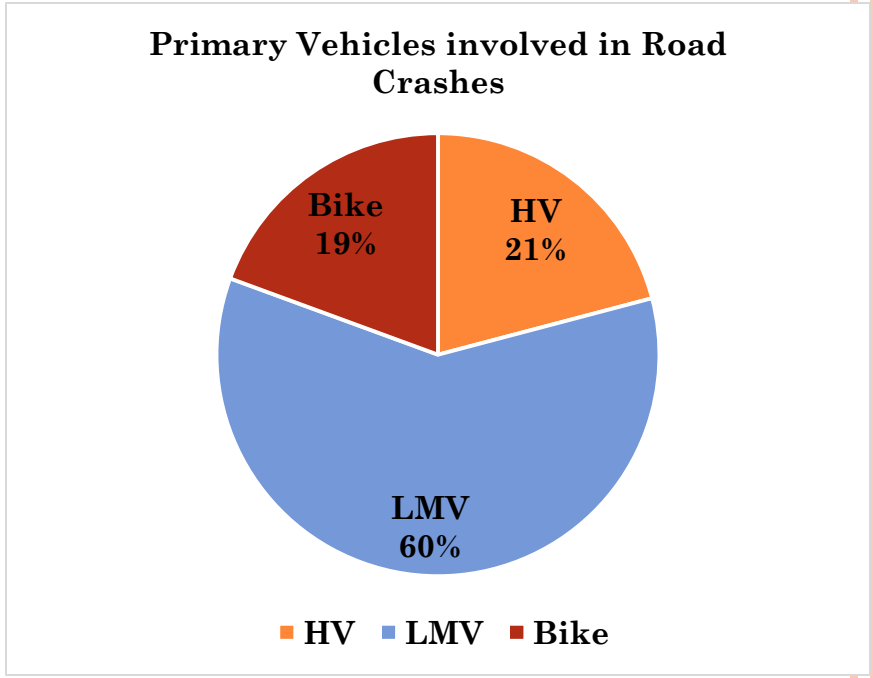


- ASI was higher in the year 2012, reduced until 2015
- After 2015, increasing trends which is a cause of concern.
- Proper engineering and education interventions can make this trend go down significantly

Relative Comparison of

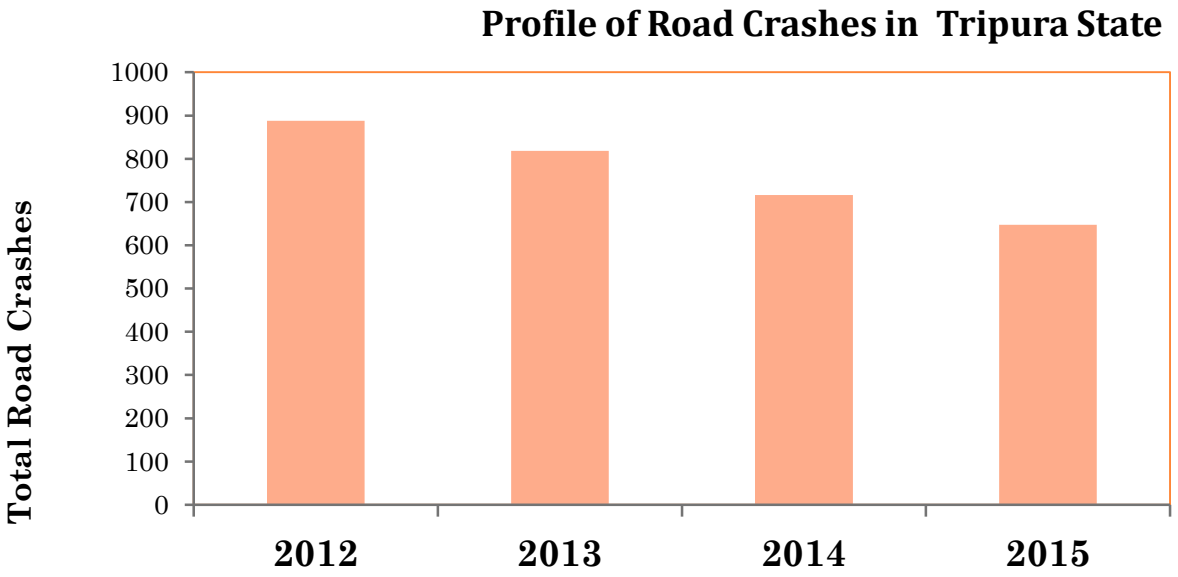
Tripura Vs Study Site

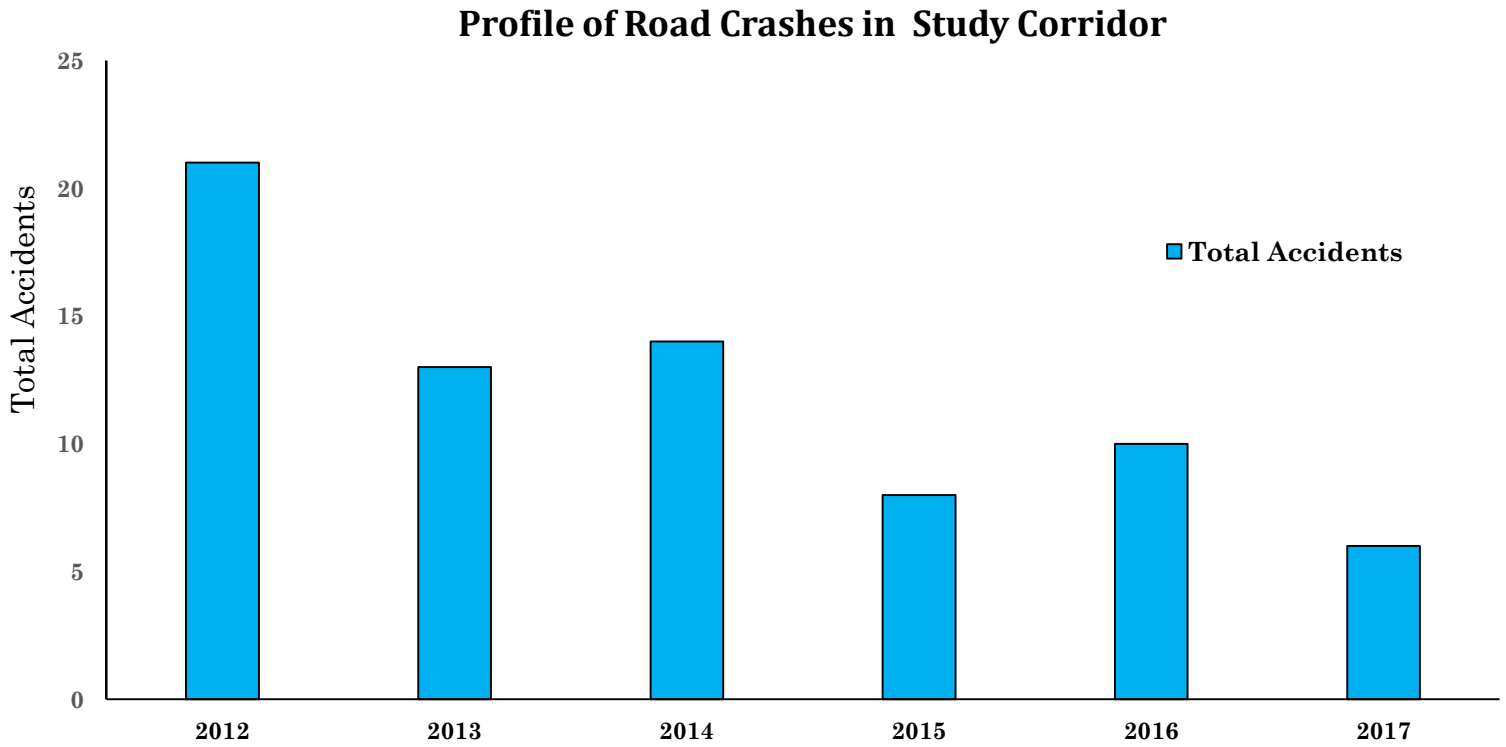




CONT..

- In the study site, pedestrians being the primary cause of accident was found out to be negligible because of study site passes through mostly inter-urban areas whereas in the state, they have a certain amount of contribution may be because of lack of FOBs and side walk facilties.


Profile of Road Crashes in Tripura State
Total Road Crashes
1000
900
800
700
600
500
400
300
200
100
0
2012
2013
2014
2015


Profile of Road Crashes in Study Corridor
Total Accidents
25
20
15
10
5
0
Total Accidents
2012
2013
2014
2015
2016
2017

INFERENCE

- The deaths per 100 road crashes has registered minor increase trend in the state of Tripura as well as increasing trend in ASI after 2015
- Around one fourth (23%) of the accidents occurring on the study stretch is fatal accidents
- Accidents are more frequent in August, September and October
- Vehicle involvement in crash:
  - Light Motor Vehicles (LMV) 60 percent
  - Heavy vehicles 21 percent
  - Motor cycles are 19 percent

Even though major share of the traffic fly on the road are Two wheelers (around 46%).

CONT…

- Victims in the road accidents:
  - Pedestrians 43 percent
  - Passengers 36 percent
  - Bike riders 16 percent
  - Cycle riders 6 percent
- The road crashes found to be concentrated between 12:00 to 14:00 hours *(accounting for 23 %)* and 17:00 to 19:00 hours *(accounting for 17 %)* of the total crashes


Thank
you!!