



Study of Traffic characteristic on a National Highway passing through Peri-urban Area in Agartala, Tripura



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Usual pattern of growth of cities in India

- Most of the smaller states are capital centric
- All developments take place in the capital city and around it
- Overall regional development plan is not considered
- Smaller cities gradually lose their importance and attraction

With the economic growth.....

- The capital cities, even though they are towns or small cities, are growing quite fast
- New facilities are added (commercial, medical and educational facilities)
- Employment and business opportunities start growing

As a result.....

- The population from all over the state is settling down in capital cities
- Quality of life deteriorates in the city
- Development starts taking place along the highway
- People coming from other places starts settling down
- Older Residents also start moving to the city outskirts for better living conditions
- Sometimes these areas are referred as peri-urban areas as they are on the periphery of the urban centers

Highway traffic characteristic starts changing..

- Unplanned development takes place on the periphery of the urban centers
- Considerable amount of traffic is generated due to lack of adequate public transportation system
- Prevailing traffic condition on such peri-urban highway is mixed and congested
- Lower Level of Service

A case study in Agartala, capital city of Tripura

- To understand the change in traffic characteristics in peri-urban areas, a study was conducted on NH-44
- A 15 km road stretch on NH-44 was identified as the road stretch passing through peri-urban area
- To explicitly explore the effect of city traffic, four study sites were selected on the identified road section

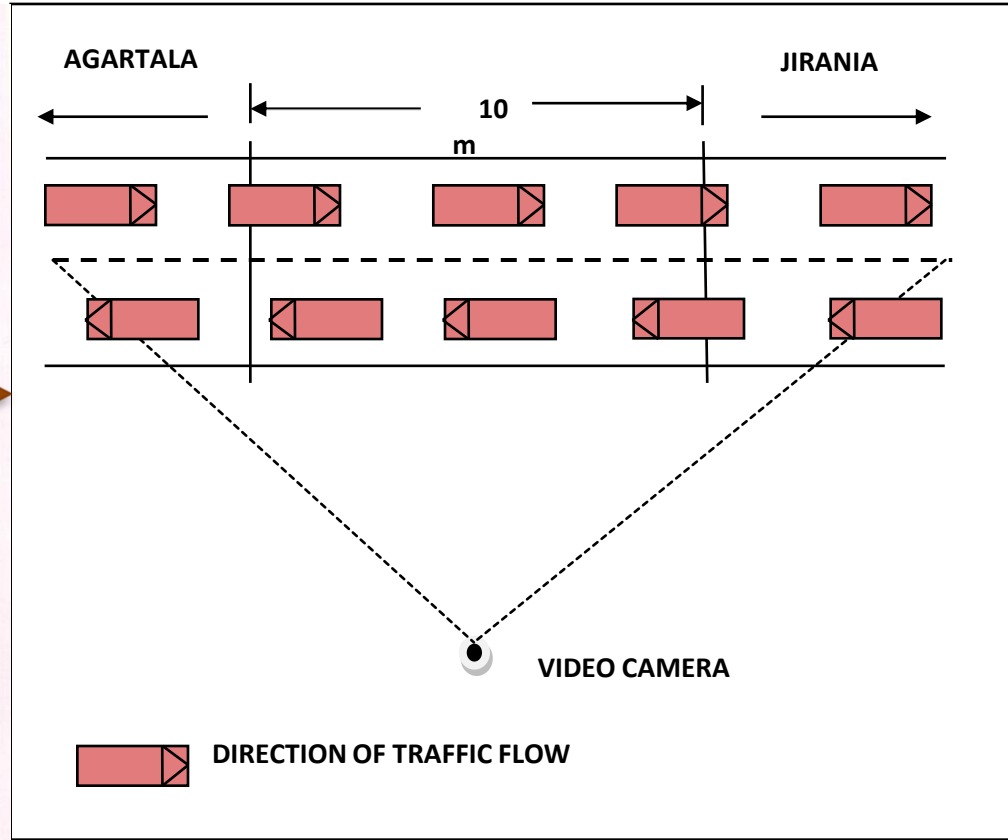
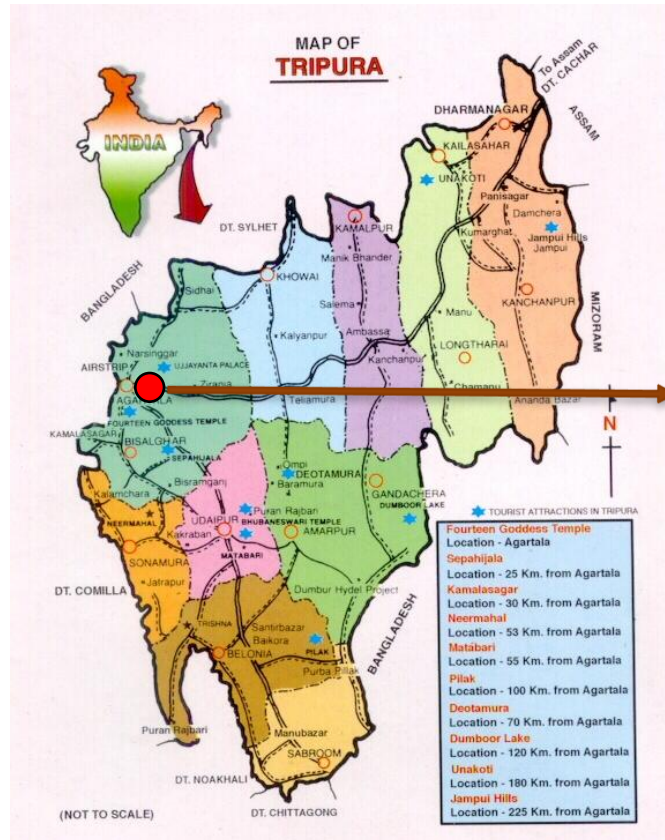
Criteria for site selection:

Free from
intersections

Good riding quality

Proper shoulder
width

Free from horizontal
and vertical curves



Layout of Spot Speed Survey Using Video Photographic Technique



Video Photographic survey is being carried out



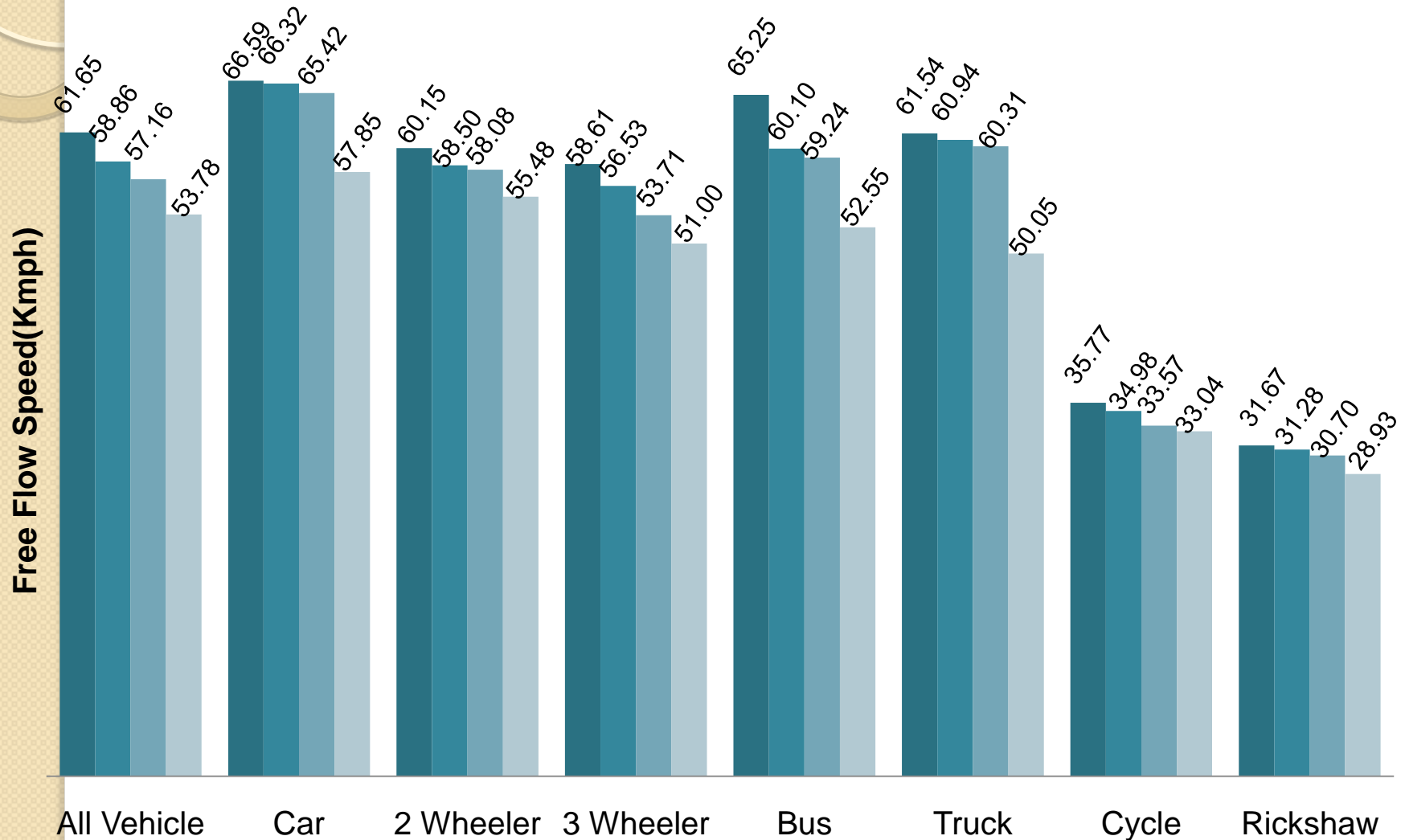
➤ Data Extracted using Avidemux 2.5



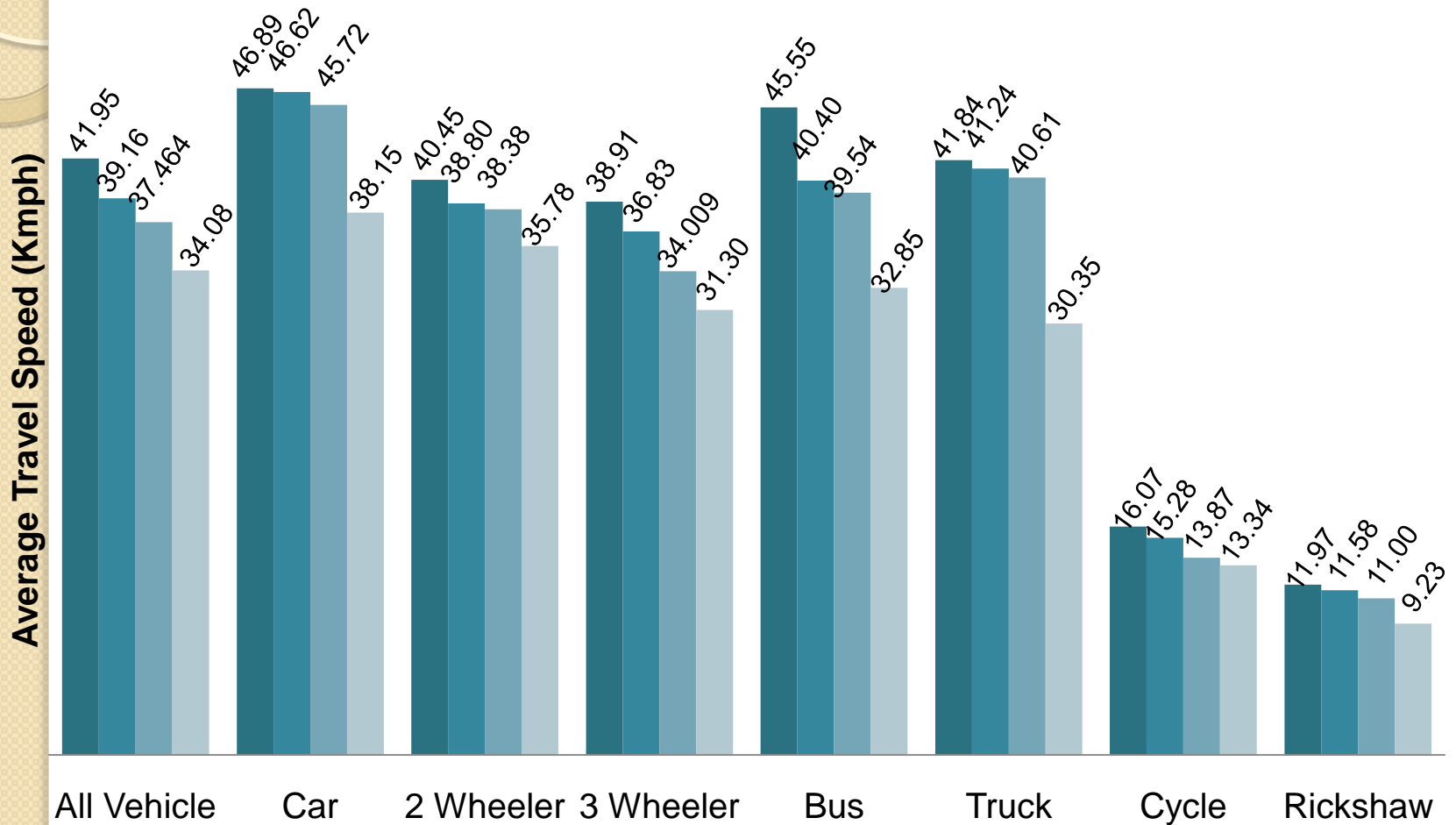
The screenshot displays the Avidemux 2.5 interface. On the left, the 'Audio' section includes a 'Copy' dropdown, 'Configure', and 'Filters' buttons, and a 'Shift' checkbox with a value of '0' and 'ms' units. The 'Format' section shows 'AVI' as the selected format with a 'Configure' button. The main video window shows a white bus with a red stripe parked on a road. Below the video is a progress bar and a control panel with various playback icons. At the bottom, the status bar shows 'Frame: 7488 / 18559', 'Time: 00:04:09.600' (circled in red), and 'Frame Type: I (31)'.

➤ In-time and out-time of the vehicles were obtained.

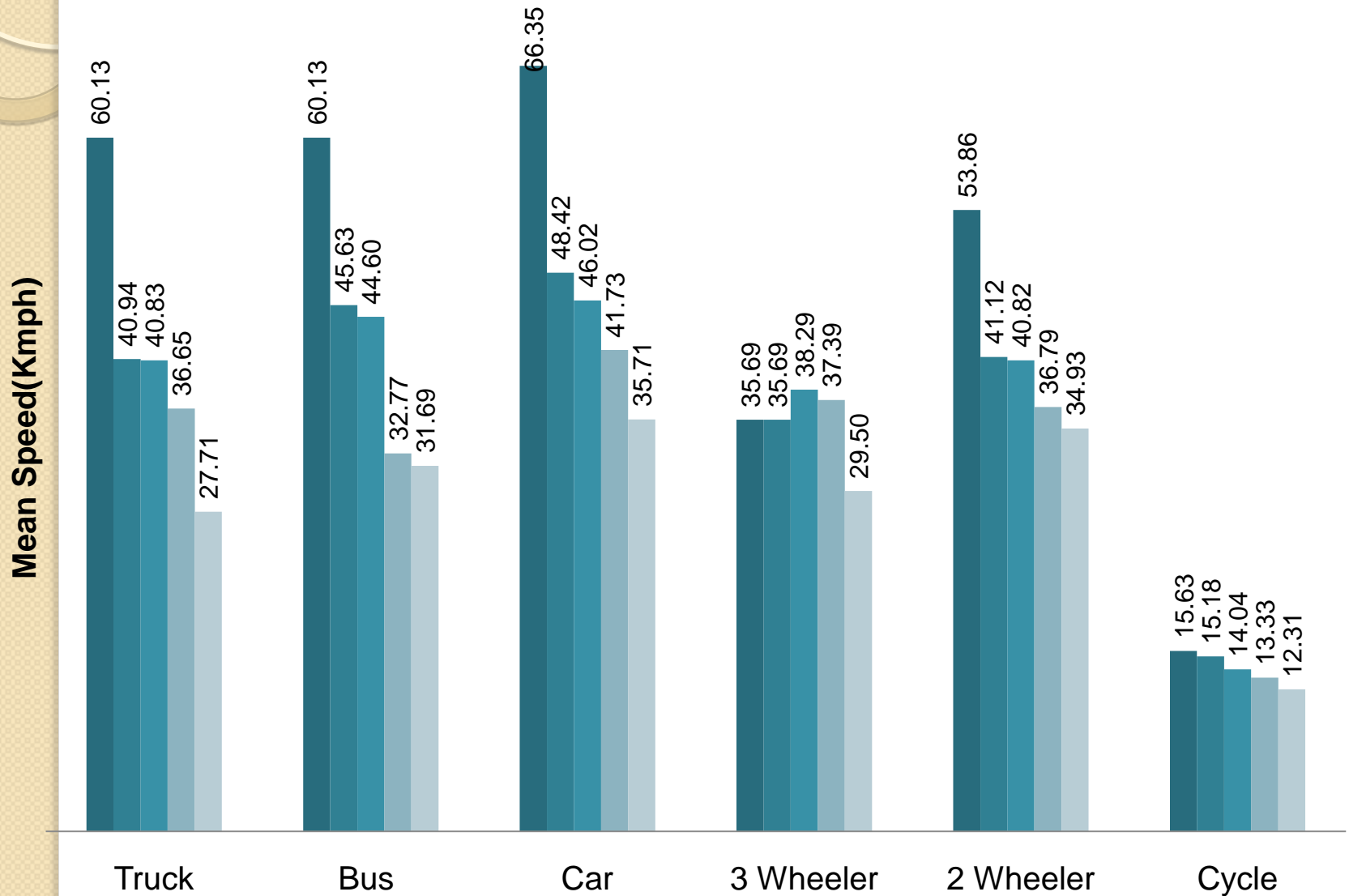
Comparison of Free Flow Speeds at study sites



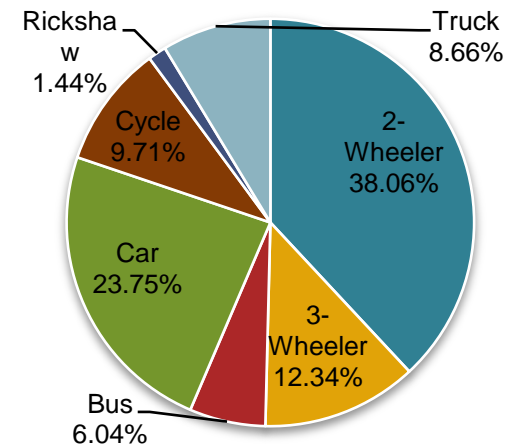
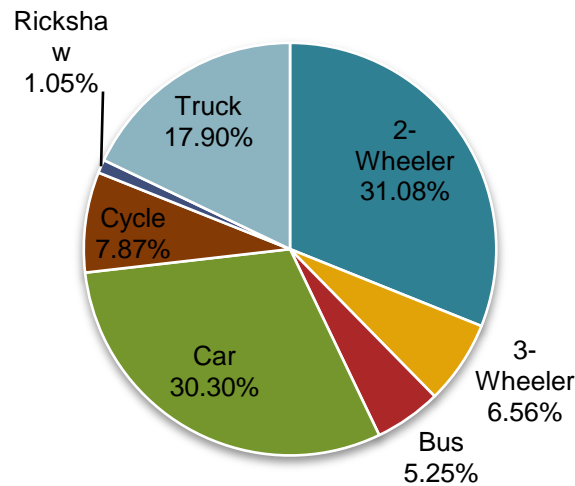
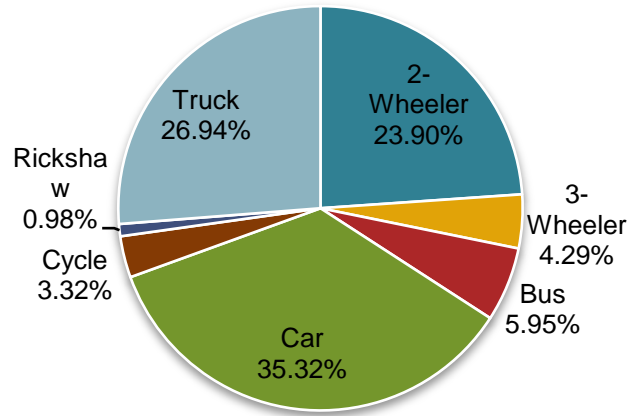
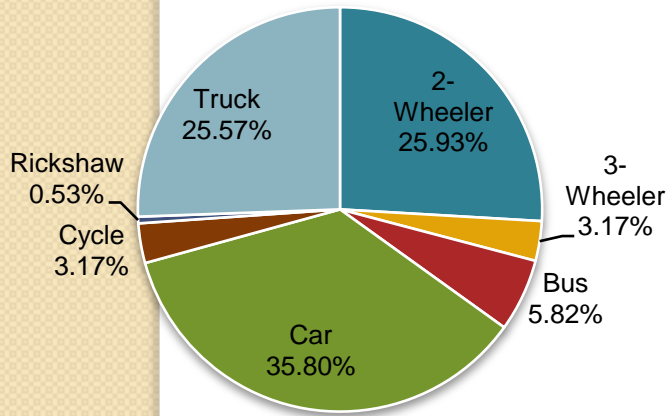
Comparison of Average Travel Speeds at study sites



Comparison of Mean Speeds on peri-urban section and rural section



Pie Chart showing the change of vehicular composition as the highway approaches the city



Conclusions

- Unplanned development starts taking place in the peri-urban areas when accessibility to the city with the highway becomes easy
- Mix of urban traffic, ribbon development and increase in commercial activities as the highway approaches the city contribute in the reduction in speed of traffic stream in the peri-urban areas
- To maintain the level of service offered by such highways, alternative efficient access routes need to be provided from the peri-urban areas to the city center

