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EXPERIMENTAL STUDY ON HUMAN GENERATED TRANSPORTATION SYSTEM IN TRAFFIC ENGINEERING OF ROAD PAYMENT

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Abstract - *This project work is divided into two parts. First part is the experimental part and the latter is the analytical part. In experimental part a study of fundamental diagram of data obtained from various roads of Kashmir city. It was seen that with increase in NMV % the flow versus density graph is adversely affected. Density decreases at a particular flow rate when NMV % increases. Along with this a study on pattern of lateral occupancy of NMVs and MVs was done with respect to various percentages of NMV and total density. It was seen that as the percentage of NMV increases the both NMV and MV are well distributed all along the road stretch, with a higher concentration in the right hand side of the road, blocking the flow from the opposite direction. In India it is left hand side drive, so it may lead to side way collision while over taking.*

Key Words: Study of Fundamental, NMVs and MVs, Road Stretch, Side Way Collision

1. INTRODUCTION

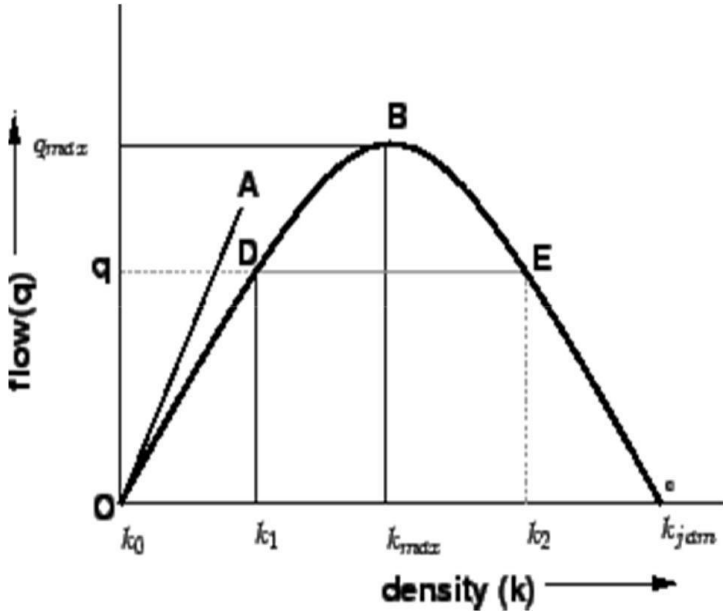
The flow of mixed or heterogeneous traffic is quite complicated. This mixed flow of vehicles leads to many problems like conflicts at intersections when number of non-motorized vehicle increases, when number of non-motorized vehicles increases it affects the speed and flow of other vehicles. It significantly lowers or reduces the capacity also leads to various safety problems. So there should be a separate track for flow of non-motorized traffic as used in various developed counties like USA, in countries like India this practically not possible. So in that case a proper study of non-motorized vehicle characteristics should be done along with study of how these NMV affects the mixed traffic.

1.1 SPEED

In traffic engineering language speed is defined as the distance travelled by a vehicle over a certain period of time. It's not impossible to calculate the speed of every individual vehicle. Due to this the average speed is taken into consideration. In two ways Average speed can be calculated. They are time mean speed and space mean speed.

1.2 FLOW

It is defined as the ratio of number of vehicles crossing a particular section and the time taken by the vehicle to cross that particular section.



Flow-density relation

If time and location varies then flow and density also changes. The relation in between the flow and density are mentioned below.

When the number of vehicles on the road stretch increases then density and flow will increase. Jam density is the point where number of vehicles on the road stretch is maximum. The flow is zero at the position of jam density because vehicles are not moving.

3. CONCLUSIONS

In fundamental diagram the plot is similar to it is being expected. The graph shows partial density of the region, because within 30 min video getting the free and congested flow at a time is practically not possible. Anyhow in one location some point of congested flow is also achieved. While comparing the flow versus density

curve for various location with respect to various percentage of NMV it was found that that with increase in NMV percentage an adverse effect was noticed on the flow of the mixed traffic. Density decreases at a particular flow rate when NMV percentage increases.

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