Decongestion of Traffic in Pune City.

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ABSTRACT

Traffic is the biggest issue in the world. Hence we have selected the areas from Pune city. Shivaji Road and Bajirao Road of Pune city are the major roads covering 5160m stretch of road that have heavy traffic throughout the day. By solving the Traffic problems in that area, we can help the city to make it grow in a fruitful way. This is done by adopting two solutions for the selected place. For Pune city we are planning to adopt a secure gate pass system which involves securing the boundaries externally and introduction of Tramp system internally.

Keywords:- *Hydraulic Bollards, Proper management of vehicle flow, Tram System, Traffic Management System, Traffic Control Devices.*

1. INTRODUCTION-

Poor mobility may reduce the economic growth of the cities and reduces the quality of life. In order to address the issue of urban mobility and ensure the safe and sustainable mobility in the coming decades, techniques and means have to be devised/ formulated to tackle the situations without much strain or financial burden on the system. Many of the urban streets carry traffic volumes for which they are not simply designed. Secondly the urban traffic issues on encroachment, lack of enforcement, heavy rush of paratransit's have led to the problems of traffic jams, chaos and bottlenecks. The inevitable result is delay, congestion and accidents.

The resultant ills can be got over to some extent by

1. Use of Traffic Control Devices.
2. Traffic Regulatory System.
3. Transport System management.

The fundamental approach in Traffic management measure is to retain as much as possible the existing pattern of street but to alter the pattern of the traffic movement on these, so that the most efficient use of the system is made. In doing so minor alteration to traffic lanes, islands, curbs etc. are inevitable and are the part of management measures. The general aim is to reorient the traffic pattern on the existing street so as the conflict between vehicles and pedestrians is reduced. Some of the well-known traffic management measures are:

1. Restrictions on turning movements.
2. One way streets.
3. Tidal flow operations.
4. Exclusive Bus-lanes.
5. Closing side streets.
6. Creatingg parking and non-parking zones.
7. No Hawkers zones
8. Construction of flyovers, subways, sky walks and cross overs
9. Properly planned traffic junctions.
10. Strengthening of public transport system.
11. Enforcement and Education.
12. Trying to implement new mode of fast transport.

In the present study an attempt is made to apply some of these techniques to the Shivaji Road and Bajirao Road of Pune city. As a matter of fact, the application of traffic system management has to be done in the overall perspective of the city but here the application is restricted to a major urban lane in Pune city. This is due to the scope of work possible within the limitations of time, course work.

A length of 5160 meter has been. tackled. The present traffic scenario has been quantified in terms of road geometry,

encroachment, parking hobbits, enforcement levels. Not only that the problems are identified and solutions are proposed but the solutions are backed up by the means of generating spaces, finance required for the effective implementation of the management system.

2 Problem Statement:

The problems and issues of urban traffic may summarize as follows:
1. Scarcity of parking spaces
2. Problems of street hawkers using four wheeled handcarts
3. Encroachment
4.Obstructions due to existing inadequate infrastructure facilities like roadside electric poles
5. Violation of building byelaws by commercial centers
6. Traffic congestion
7. Bottlenecks
8. Mixed traffic conditions
9. Lack of political will
10. Absence of driver training and negligent driver-testing
11. Poor road awareness
12.Unprecedented growth of motorized/ no motorized vehicles
13.Accident investigation- no qualitative information of causes and consequences of crash.
14.Without scientific investigation, punitive measures are enforced arbitrarily.

3 Collection of Data:

The managing of the traffic for sustained flow throughout the years is one of the most faced challenge in the field of town planning. A town that has planned many years ago has its own disadvantageous outcomes. Pune city being one of the oldest city civilizations; the development plan adopted is ancient.Thus it is now facing the problem of traffic

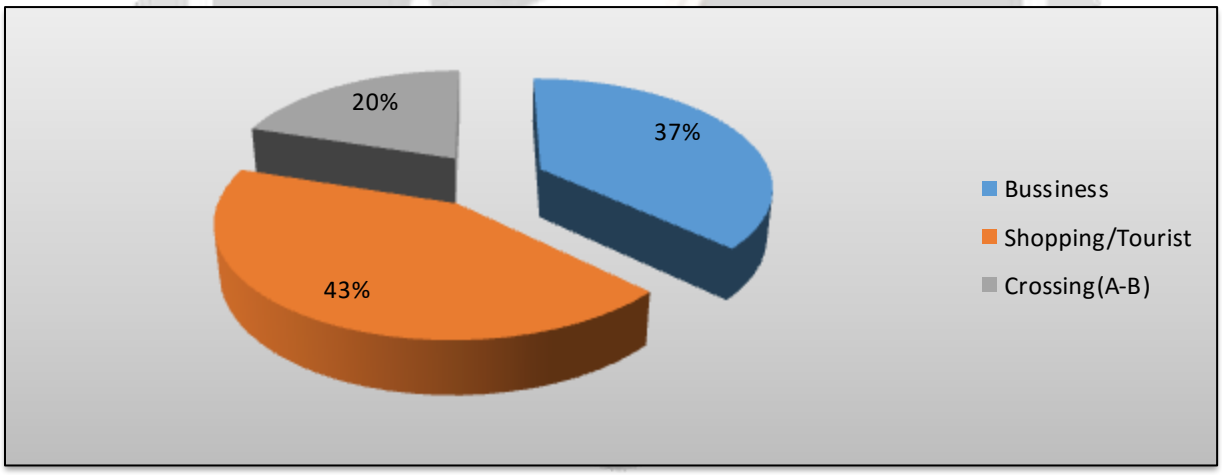

Fig-1: Total commuting population in Pune city. (people travelling through)

snarls all around the heart of the city the unavailability of land for widening of road width is threat to the present and future traffic issues.

Thus the methodology adopted by our group is to tackle the above problem in an effective way with minimum possible uncertainties. The alignment of the work area is of 5160 (meters) that is 5.16 km. as a whole. This may be presently termed as the most densely affected traffic issue. Though the metro system proves effective; its high expenditure is a major drawback. Thus the most tangible beneficiary way adopted would be the one suggested from our intellect.
1. Primary data involves information about the following conditions:

a) Traffic inflow: this can be estimated to range between 35 thousand to 37 thousand vehicles per day.
b) These vehicles include working majority of people amounting to 23-26% and residential traffic which accounts to 18% also including passing by traffic of 36-40%.
c) The business and shopping vehicular traffic of 25-30%. 65-70% of the people occupy the parking spaces prescribed by the municipal corporation.
d) The decreased road width due to the hawkers alongside.
e) The road width which was 4.5 – 6 meters in varying length, as mostly reduced to 2.5 -3 meters in width.
f) The irregular traffic conditions which includes the public and private transport buses the auto rickshaw, motor bikes and light motor vehicles together on a one-way road

2. The Secondary data is that which is collected of various natures of the areas including historical, monumental, cultural, educational and business importance.

3. Analysis of The Collected Data:

In the process of the field study of transportation there are numerous problem arising due to the unethical traffic conditions. There are mainly 6 stations requiring immediate aid to the traffic snarls. The main road arriving from Shaniwarwada towards Appa Balwant Chowk has a religiously importance. The Dadgu Sheth Ganpati Mandir arrives at this location where a mass number of people flow in Due to the public transportation system and decreased road width the pedestrian traffic has a tendency of refusing use of footpaths provided and using the roads for continence and fast movement. This further increases the problem of traffic congestion thus leading to tremendous wastage of time, energy, fuel and likewise money. The V-shaped cutting of roads at the Kaka Halwai Junction also faces the problem of heavy traffic chaos due to the reducing road width due to two main reasons, namely sudden increase in traffic and occupancy of the Hawkers. A provision for parking is being made nearby which in turn creates more problem of congestion for the entrance and exit of vehicles.

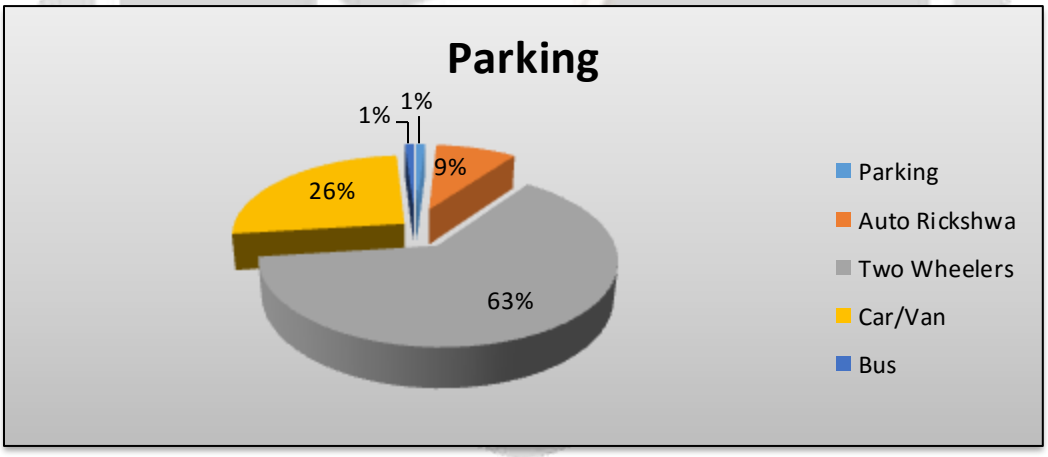

Fig-2 : Vehicle average distribution throughout the day.

Dr. Hegdewar Chowk is a prime location for commercial purpose which satisfies the business needs of the people all around Pune. The traffic flow on this particular location is tremendous due to which smooth flow is restricted creating problems for the inflowing public. This requires immediate rectification so as to facilitate minimum time bound transportation technique. So also the Sarasbag Marg has the advantages of increased road width at its mouth but decreasing width gradually along the alignment. This road is mainly used as a transit way along the outskirts and a safe exit from the proposed area. But due to this issue, a large amount of time is wasted for a convenient system. The maximum traffic inflow is from the Swargate, Katraj and surrounding areas. Tackling this problem would effectively would prove the betterment of all round traffic system for the selected area. The above mentioned points are the key areas to be focused for troubleshooting as most of the traffic problems arises from these areas. Thus keeping this as the main objectives in mind, other fields to be concerned of is of the land use pattern. Using land for appropriate purpose will satisfy the needs of the Restriction of parking inside the city area also needs to be

implemented because more the vehicles more is the fear of snarls methodology that is adopted.
Most effective way of transporting people from one place to another over short distances may be done by public transportation system of buses proves unfruitful and traffic efficiency is reduced. The system of Bus-stops is deteriorating day by day and the middle alignment of the road is becoming newly formed stops taken by the drivers. Likewise, these immediate steps taken by the bus drivers creates problems for the vehicular and pedestrian flow. The turning traffic also abstract the traffic flows through junction. At times a right-turning traffic locks the flow and brings the entire flow to halt. Hawkers are the main attraction of this city who also are responsible for 40-50% of the traffic conditions. They block the road at the peak hours of traffic thus promoting traffic blocks. Many illegal constructions and widening have taken place which now cannot be demolished due to various social and political stronghold of the respective owners.

4. Conclusion:

Traffic congestion is an important problem in Indian cities. The characteristics of Indian roads and traffic make the problem interesting to solve. There is scope for evaluating existing ideas in different and challenging traffic scenarios, innovate new solutions and empirically evaluate ideas in collaboration with public and private sectors. In this paper, we make a small effort to put together the different ideas and people relevant in Indian ISTS, so that it gives an overview of the problem and the available solutions and outlines a set of open questions to answer.
The project work would suffice all the transportation needs of the ever growing population in Pune city. It is the most cost efficient method and would act like a metro travel internally within the city. The human effort required in the working stage is also minimum. It also proves to be the best way to tackle time wastage. The health problems occurring due to the increasing pollution is sufficed. It also conveys an efficient idea for reduction in fuel consumption by individual vehicles. The maintenance work induced at post construction phase is minimum. Thus, the project work undertaken would prove to be a revolution in the field of transportation system and can be further applied worldwide for cities facing similar problems.

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