TRAFFIC MODERATION SYSTEM:
A CASE STUDY

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ABSTRACT

Vehicles are the part of human's life in modern society and the inter vehicle communication system, it is used in the daily work emergency message dissemination and the part of communication system, without vehicle we can't even consider about convenience.This paper includes problems caused by traffic like congestion , pollution in nashik city. Nashik is a rapidly developing city in India due its industrialisatin , and market places.There is heavy congestion due to duty vehicles and also because of high rate of increasing population. So we have focused on congestion due to local traffic which can be surveyed or can moved in a discipline . we have carrid out a 7 day survey on cbs junction in which we found thetre is considerable number of auto rikshaws. Thus we have suggested to local corporation that they should provide rikshaw terminal. We also suggested that it is impossible to achieve a smooth traffic flow without removing illegal constructions. Now current traffic signal is 30 seconds which can be increase upto 60 seconds which will be also prevailing. There can also be another solution on signal that there should time varying signal according to morning , afternoon and evening so that unnecessary delay of traffic can be avoided. In these paper we have mentioned no. of vehicles in tables according to categories so as to understand flow of traffic to avoid , heavy traffic congestion accompanied by vehicular pollution so to increase sudden traffic in Nashik city. So the paper includes analysis of problem and solution on congestion or problems on traffic.

Keyword: *Transportation Management, Passenger car unit (PCU), Kumbh mela, BSF-3 Engines, Sustainability, BRTS.*

1. Introduction

In a Nashik need a holder including four wheelers ,heavy vehicle,three wheelers, two wheeler's, cycle etc. Nashik has grown from population of 1077236 in 2001 to 15 lakh's in 2011. The current population is approximately 1.49 million Nashik city growth rate maximum as compare to other so that population effect are traffic. So daily traffic are increases.Nashik city traffic consist of mixed traffic of slow and fast moving vehicals. There is substantial increase in the volume of motor vechels,cycles and pedestrian traffic due high rate of industrial development.The problems are aggravated due to lack of cycle tracks and footpaths.

1.1 Need of study :

a. Implementation authorities must therefor ensure that sufficient and appropriate data avalaible to undertake necessary planning design, construction and maintenance of country's road network, which is aimed at meeting the prevailing traffic flow, future traffic growth and loading without considerable deterioration in the quality of service.

b. The in order to facilitate the assessement of present and future demands, the development of need-based infrastructure accurate information and continuous monitioring of traffic by appropriate method is necessary.This guideline has therefore been prepared with the main aim being to provide basic information, concept and principles with respect to traffic data collection and analysis. There are various methods of data collection available and used by different organisations/institutions. This guideline, therefore, is only intended to provide guidance in respect of

data collection and analysis, and allows for variation in the methodologies adopted by different users, planners, developers, funding authorities, etc.

 i. The beneficiaries of this guideline are Roads Department, other Ministries/Departments, local authorities, educational institutions.

1.2 : Objective of study :

 1. To control traffic volume at CBS to Mahamarg.

 2. Planning design and regulation of traffic at CBS to Mahamarg.

 3. Planning and design of new street and flyover at CBS to Mahamarg.

 4. Established properties and schedule for traffic improvements.

 5. To developed transport system.

 6. To control the local traffic at CBS to mahamarg .

2. METHODOLOGY

2.1 Traffic Surveys

Traffic surveys were carried out to establish the traffic flow charateristics, travel pattern, delays on the corridor and user's willingness to pay toll. The following surveys were conducted at different locations of Nashik at C.B.S , Dwarka , Mahamarg. Following were the main types of traffic surveys carried out by the Consultant.
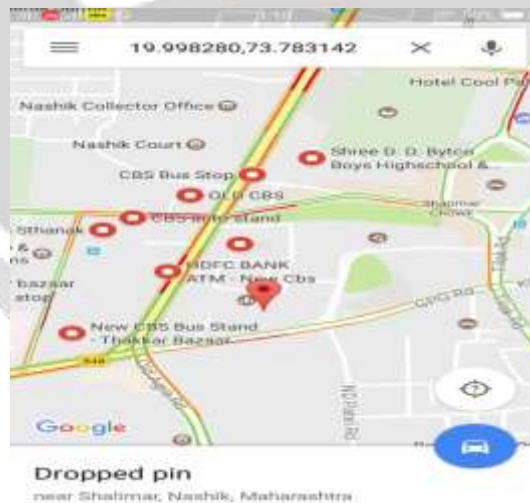
 2.1.1: Classified Traffic Volume Counts.

Fig 1 –CBS to mahamarg Traffic.

2.1.1 Classified Traffic Volume Count Survey:

The 7 day (6 hour, both directions) classified traffic volume count survey was carried out at three locations as mentioned in Table . Data collected from site was analyzed to study daily variation and hourly variation of traffic, peak hour share, traffic composition and Average Daily Traffic (ADT) at all the survey locations. The various vehicle types having different sizes and characteristics were converted into equivalent passenger car units. The

Fig. 1 Traffic at CBS Signal

Passenger Car Unit (PCU) factors recommended by Indian Road Congress in "Guidelines for Capacity of Roads in Rural Areas (IRC :64-1990) were used.

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Table 1. Values of Passenger Car Unit Factor for different vehicle categories

Vehicle Types	PCU FACTOR
Two Wheeler	0.50
Auto Rickshaw	0.75
Car/ Jeep	1.00
Van / Tempo (passenger)	1.00
Mini Bus	1.50
Standard Bus	3.00
LCV	2.00
2xAxle Rigid Truck	3.00
3xAxle Rigid Truck	3.00
MAV	4.50
Tractor	3.00
Tractor Trailer	4.50

Animal / Hand Drawn Vehicle	4.00
Cycle	0.50

Source : Guidelines for capacity of Road's in rural areas (IRC 64-1990)

Average Daily Traffic (ADT):

Daily traffic volume by vehicle type and direction were added separately and averaged to determine the Average Daily Traffic. Average Daily Traffic (ADT), at all the three locations, by vehicle type is presented in Table 10 , Average Daily Traffic (ADT) on the Project Corridor.

Table 2. The average of 7 day's Traffic Volume Count

Vehicle Type	C.B.S.	Mahamarg
Two Wheeler	7508	6506
Auto-rickshaw	6832.5	6157.5
Car/Jeep	15509	6715
Van/Tempo	7515	5827
Mini Bus	6772.5	6022.5
Standard Bus	23445	21024
2*Axle Rigid truck	7500	10542
3*Axle Rigid Truck	6900	15936
Tractor	1050	1740
Tractor Trailer	2317.5	6975
Animal/Hand Drawn	3212	2200
Cycle	2912.5	
Total PCU	91474	

4. CONCLUSIONS

1. After a detailed study of Nashik city it is found that for sustainable development of city, Nashik needs integrated transportation management plan.
2. With the aim of promoting sustainable transport in Nashik, it is necessary for the transportation point of view to regulate the heavy traffic smoothly by the way to facilitate compact, pedestrian friendly development along the city's planned with BRT corridors, improve non-motorized transport connectivity .
3. Nashik has a good potential to develop as a smart city.

5.RECOMMENDATION :

1.The first carryout survey.
2.Then to traffic divided into three section .
3.Which section traffic is maximum. then to desion the signal timing.[e.g.session wise deside].
4. Then to desion a signal.
5. Which lane is maximum traffics run the to deside the signal timing.[e.g- lane wise traffic]
6.To local traffic managment .
7.To skyover direction are given and to siggest pedestrian traffic which direction are go.

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