Evaluate Road Improvement Measures on Urban Road (Kudasan, Gandhinagar)

Rohan V. Devdhar[1] Mr. Parth Patel[2]
[1]Student [2]Lecturer
[1,2]Department of Civil Engineering
[1,2]LDRP-ITR, Gandhinagar, India

Abstract— The traffic of an urban area increases rapidly due to the growth in population and vehicle ownership. With the advancement in transportation and urbanisation, traffic congestion has become the main socio-economic problem in urban as well as rural areas in developing countries. Careful and balanced management is required for this increased traffic problems. The urban road of India generally carries the heterogeneous traffic which is the combination of various types of vehicles like cars, buses, motor cycles, trucks, auto rickshaws, carts, etc. These all vehicles have different size, speed, load carrying capacities or passenger capacities, etc. which affect the traffic flow. The variation in carriageway width is common especially in developing countries. This study deals with study area located near to Radhe square (kudasan) connecting infocity and Gandhinagar city in south, kudasan village in north, chiloda highway and dholakua village in west and adalaj sargasan highway in east. The main objective is to survey the study area and to find out the actual reason for the traffic congestion and to give necessary suggestions for solving the problems.

Keywords: Traffic Problem, Evaluate Road Improvement Measures on Urban Road

I. INTRODUCTION

The purpose of this paper is to identify all the traffic problems due to which study area is suffering from a high traffic congestion .the problems would be identify by several surveys conduct in study area and all the data would be analyzed. Surveys conduct are:

1) Traffic volume count survey
2) Accidental data collection
3) Roadside interview
4) Road characteristics data
5) Vehicular characteristics

After all data collection and problem identification Solution of problem would be identified.

A. Need of Study:

1) It's been very needy to give a proper traffic solution for this particular urban road where traffic is very high and congested.
2) Due to this so many people suffers from additional time consumption and waste of time.
3) So many accidents take place at this roads or intersection nearer.
4) Its important to improve road carrying capacity of this urban roads to convey higher amount of vehicles.

B. Objectives:

1) To study traffic problem in study area
2) To reduce traffic congestion at study area
3) To provide maximum use of road to road users
4) To give remedial for general traffic problems by various planning measures

II. PROBLEM IDENTIFICATION

The main problem is study area is suffering from heavy traffic congestion and unsafe road journeys due to:

1) Not proper designed rotary
2) Uneducated parking on road
3) Proper signal design required

III. DATA COLLECTION

A. Road Characteristics:

The road characteristics survey conceives data about roads type, length, width, headway, and data about rotary near to the study area.

This road is collector road which collects traffic from kudasan area to nh8 ,its length is 10km where its connects village roads to nh8.its width is 7m each lane in 3.5m wide .there is clear head way of that nothing will come of a traffic to 12m of height.

B. Coordinates of Study Area:

Latitude: 23.1676708
Longitude: 72.6365852
The width of each lane is 3.50 m.

C. Rotary Data:

Here is all dimensions and measurements of rotary is surveyed and as mentioned below:

- Weaving length : 17.0m
- Weaving width : 4.7 m
- Entry width :12.01 m
- Exit width : 12.01 m
- Circulation width :5.82 m

D. Traffic Volume Count:

Traffic volume count data for 7 days was conducted at the study area and it has averagely PCU of 21343 per day which is very high.

SURVEY DAY	PCU
Day 1	20335
Day 2	21986
Day 3	21250
Day 4	20547
Day 5	21232
Day 6	20120
Day 7	19465
TOTAL 7 DAYS AVERAGE	20705

Thus its volume capacity ratio is also >1, that indicates traffic congestion is high at area.

IV. CONCLUSION

Following are the solutions made for traffic problems identified:

1) planning correction in rotary design
2) proper parking provocation to improper parkings
3) fine for inappropriate parkings
4) signal design for existing rotary.

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