iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 5 **Issue:** V **Month of publication:** May 2017

DOI:

www.ijraset.com

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Volume 5 Issue V, May 2017
ISSN: 2321-9653
International Journal for Research in Applied Science & Engineering Technology (IJRASET)

Suggestion of Traffic System for Various Places in Miraj City on The Basis of SATIS Project (Thane)

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Abstract: ***This project relates with the decongestion of the traffic in the three main areas of Miraj city, namely City Stand, Heera Chowk and Gandhi Chowk.***
Out of these two areas of highest traffic density, for the area of City stand, the Flyover traffic decongestion model is designed in this project. For the rest two areas, the necessary measures for decongestion of traffic are suggested.
The Flyover traffic model is designed on the basis of the project implemented in Thane namely "Station Area Traffic Improvement Scheme (SATIS)".
Also, the project suggests the traffic system for the other three places in Miraj having the densest traffic namely Heera Chowk. The suggested system includes the suggestions for vehicular traffic as well as pedestrian traffic.
Keywords— Satis, Miraj, Thane, Population, Trafiic.

I. INTRODUCTION

A. Miraj

This project relates with the decongestion of the traffic in the three main areas of Miraj city, namely City Stand, HeeraChowk and Gandhi Ch wk.
Out of these two areas of highest traffic density, for the area of City stand, the Flyover traffic decongestion model is designed in this project. For the rest two areas, the necessary measures for decongestion of traffic are suggested.
The Flyover traffic model is designed on the basis of the project implemented in Thane namely "Station Area Traffic Improvement Scheme (SATIS)". Also, the project suggests the traffic system for the other three places in Miraj having the densest traffic namely Heera Chowk. The suggested system includes the suggestions for vehicular traffic as well as pedestrian traffic.

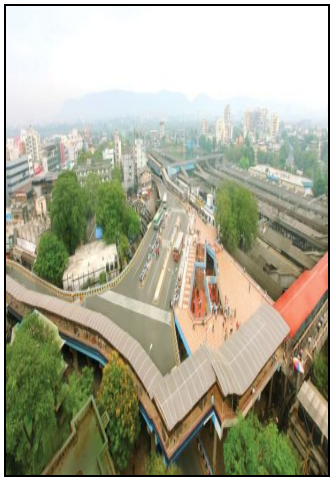
1) The project mainly emphasizes at the following objectives:
1) Decongestion of traffic at Miraj City Stand, Heera Chowk and Gandhi Chowk.
2) Signal less transit system
3) Easy and safe pedestrian movement

B. Satis

1) Transport System before SATIS: The major mode of infra-city transport is Railways. The Thane Municipal Corporation has four suburban Railways Station in it's limit. Major modes of inter city traffic are public Transport Buses (Thane Municipal Transport, State Transport, Company buses), other IPT modes (Auto Rickshaw,Taxi etc.), Two wheelers and by walk. The mode act as a major feeder services to the sub-urban trains. The statistics is shown in Figure 1.1. Available transport infrastructure on thane Station Area was adequate to cater to tremendous traffic demands. The TMT alone had been operating 4000 daily trips from Thane Railway Station. In addition, the State Transport Corporation Operates about 1500 trips. Out of the Four Railway Stations in TMC limits, Thane Railway Stations is the busiest station handling about six lakh of commuters per day. The CBD of Municipal limits is also located around the Thane Railway Stations. Hence, the origin and destinations of major portions of intercity trips is Thane Railway Stations. Owing to such tremendous overload on available transport infrastructure, the commuters had been facing great distress, dueto frequent traffic jams, delays in travel time, rising pollution levels while reaching in and out of Railways Stations. The situations had been causing arterial block in the mobility of the City. The Thane Municipal Corporation in year of 2003 had therefore undertaken traffic studies in central zone of Thane city within a radius in central zone of Thane city within radius of 5kms from Thane Railway Station.

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Volume 5 Issue V, May 2017
ISSN: 2321-9653
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II. METHODOLOGY SURVEY, ANALYSIS AND FORECAST OF TRAFFIC

A. Visit to Thane Municipal Corporation

For the collection of detailed information about the SATIS project and to get the idea about the design procedure of the project, we visited Thane Municipal Corporation. We met Project Executive Shri. S. M. Patil. We gave him idea about our project regarding the suggestions for Miraj City Standwhich is based upon SATIS. He gave us the information about SATIS and also gave us data regarding the project.

B. Survey at Thane

As an essential part of primary study we decided to visit the Thane site which was required to be surveyed. We observed the whole area of SATIS (Station Area Traffic Improvement Scheme) for further study. Under this observation we studied about the dedicated lanes provided for buses, parking system for various vehicles and FOB provided for the use of pedestrians. The survey was carried for the peak hours of day from 8:00am to 11:00am and from 5:00pm to 8:00pm. Pedestrians using FOB, passengers using middle deck for the use of bus, buses passing through different dedicated lanes were counted. The width of FOB was also measured.

C. Survey at Miraj City Stand

After the survey and collection of information of SATIS we proceeded with the survey of Miraj City Stand. This survey included the counting of buses,four wheelers, two wheelers, loading vehicles and counting of other vehicles for different roads. The counting was carried at peak hours from 9:00am to 11:00am and from 4:00pm to 6:00pm. Width of roads approaching bus stand were measured.

D. Comparative Study of Survey at Thane and Miraj City Stand

To give the suggestions for the provision of easiness for the Miraj City Stand, the data collected from Thane and Miraj City Stand were studied. From this comparative study of the collection of data, the relative density of traffic volume and the required width of lanes were found out. From this the final required data for the preparation of model were finalized.

E. Questionnaires Based Response from People

To take into account about the views of people regarding the proposed suggestions for the Miraj City Stand, some questionnaires were prepared. These questions included the current traffic volume, need for the improvement in current situation, information about SATIS (Thane) and information about the proposed model. Based on the response of the people final model preparation was started.

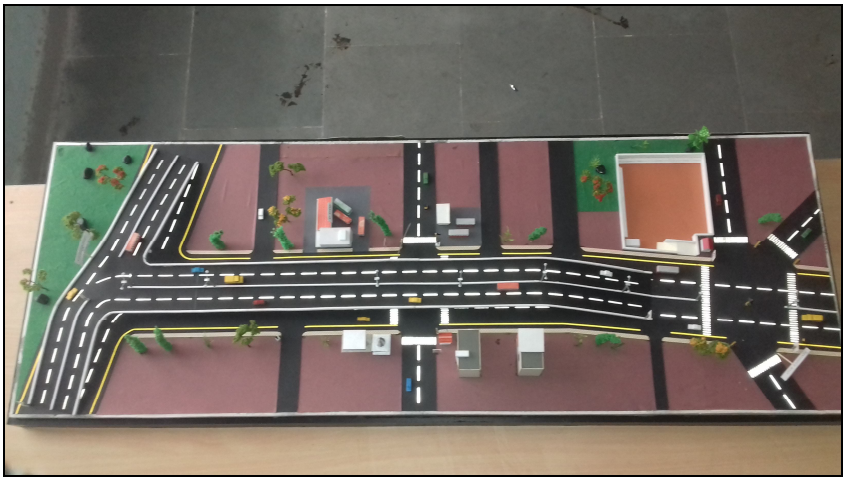
F. Preparation of Final Model

With the collected data and the information final model was prepared. This final model is of scale 1:200. The model shows all the

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Volume 5 Issue V, May 2017
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detailing of the proposed plan. We are going to present proposal of this project to Sangli-Miraj-Kupwad Municipal Corporation as well as to Ministry of Public Works (Public Undertakings), Government of Maharashtra and we will request them to consider this proposal.



III. MIRAJ CITY AND TRAFFIC CONDITIONS

A. About Miraj

Miraj is an important city in Southern Maharashtra, India, that was founded in the early 10thcentury.It was an important Jagir of the AdilShahi Court of Bijapur.ChhatrapatiShivaji stayed in Miraj for two months during his South India Campaign.Because of its location, Miraj has been held as a strategic bastion: it was the capital of Miraj Senior and an important junction on the central railway network. Miraj City is recognized for performance of Hindustani classical music, for its medical services and as a place of religious harmony. Situated on the banks of river Krishna is Western Maharashtra.The annual Ganesh Visarjan procession is an attraction which lasts for an average of twenty hours. Miraj is mainly recognized for medical treatment and India string instruments.
Population of Miraj in 1981 was 1,00,000 and in 2001, it was 5,00,000. As on today, population of Miraj is 12,30,000. Estimated population in 2041 is 81,96,000.
Traffic system and other infrastructural facilities in Miraj city are failing to cater today's population. Hence, the need of improvement of these facilities arises. Our project deals with the improvement of traffic system near Miraj City Stand, HeerChowk and Gandhi Chowk considering the estimated growthin traffic till 2041.

B. Finalization of Routes

1) Vehicles from Heera Chowk to:

a) City Stand Road will pass through SERVICE ROAD
b) Market Road will pass through SERVICE ROAD
c) Station Road will pass through SERVICE ROAD
d) Kolhapur Road will pass through FLYOVE
e) KarnatakaRoad will pass through FLYOVE
f) Arjunvar Road will pass through FLYOVER

2) Vehicles from City Stand to

a) Market Road will pass through SERVICE ROA
b) ST Stand will pass through SERVICE ROAD
c) Pujari Road will pass through SERVICE ROA
d) Shivaji Stadium will pass through SERVICE ROAD

3) Vehicles from Kolhapur to

a) Sangli and Pandharpur Roads will directly pass over the FLYOVE

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b) Market, City Stand, ST Stand and Railway Station Road will pass over a SERVICE ROAD

C. Preparation of the Final Model

On the basis of the suggestions and objections received, we tried to make possible changes in the primary design of the traffic model. Maximum suggestions and objections were regarding the diversions. However, due to space constraints, no change could be adopted in case of the diversions. Another major suggestion was from a senior citizen regarding putting up an escalator for comfortable access to the middle deck. We have adopted it.

Final model is prepared with the scale of 1:200, representing all the details of the provisions.

D. Installation of Solar Streetlights

As a part of energy saving agenda, we have suggested installation of solar street light system.

The solar panels will be installed on the flyover. The solar energy thus generated will be useful in illuminating the street lamps not only on the traffic model, but also the lamps in City Stand. Also, this energy will be used to operate the escalator.

IV. SUGGESTIONS FOR TRAFFIC IMPROVEMENT AT HEERA CHOWK& GANDHI CHOWK

A. Introduction

As like the City Stand area of Miraj city, the areas which experience heavy traffic congestion are HeeraChowk and Gandhi Chowk. HeeraChowk is a conjected traffic area on Miraj-Sangi Road. The roads for Miraj, Sangli, Ambedkar Road, Pandharpur, and Kolhapur are bifurcated from here. The institutes like MMM College &Gulabrao College; Shivaji Stadium; LIC ofiice; Dargah; many Hotels and Hospital are situated in the vicinity Gandhi Chowk is a conjected traffic area on Miraj-Panderper Road. The roads for Pandherpur, sangli, Miraj, Shivaji Statue, Laxmi Market and Kupwad are bifurcated from here. wanles Hospital and Civil Hospital,Laborary, Fuel Station.etc are situated in the vicinity Thus both the conjected areaareof great public importance and experience severe traffic problems every day. Hence there is a need of traffic improvement in both the areas.



Photo1: Traffic in miraj.

B. Suggestions for City Stand

1) Flyover along Miraj- Kolhapur road accomodating the lanes of both directions
2) Flyover along Miraj- Kranatak road accomodating the lanes of both directions
3) Foot Over Bridge in square shape providing exit to each corner of junction
4) Merger of service roads in main road for 100m length on each side of junction along Sangli-Miraj road
5) Foot Over Bridge in front of Walchand College gate

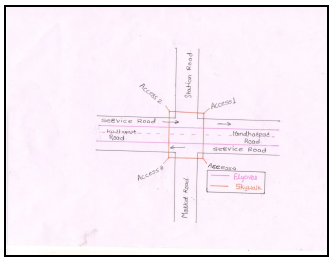


Fig.4.2: Proposed System for CT Stand

C. Suggestions for Gandhi Chowk

1) Widening of Pandherpur Road
2) Provision of traffic island of Gandhi Chowk
3) Provision of automated signalling system

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Volume 5 Issue V, May 2017
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4) Provision of multi-level parking system on Pandherpur Road
5) Provision of dividers on KupwadRoad
6) Proper rikshaw stop
7) Deduction of illegal stoles

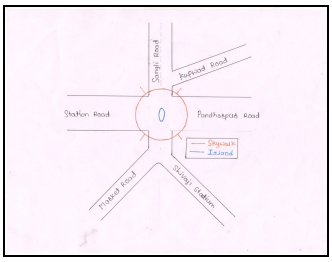


Fig.4.3: Proposed System for Gandhi Chowk

V. CONCLUSIONS

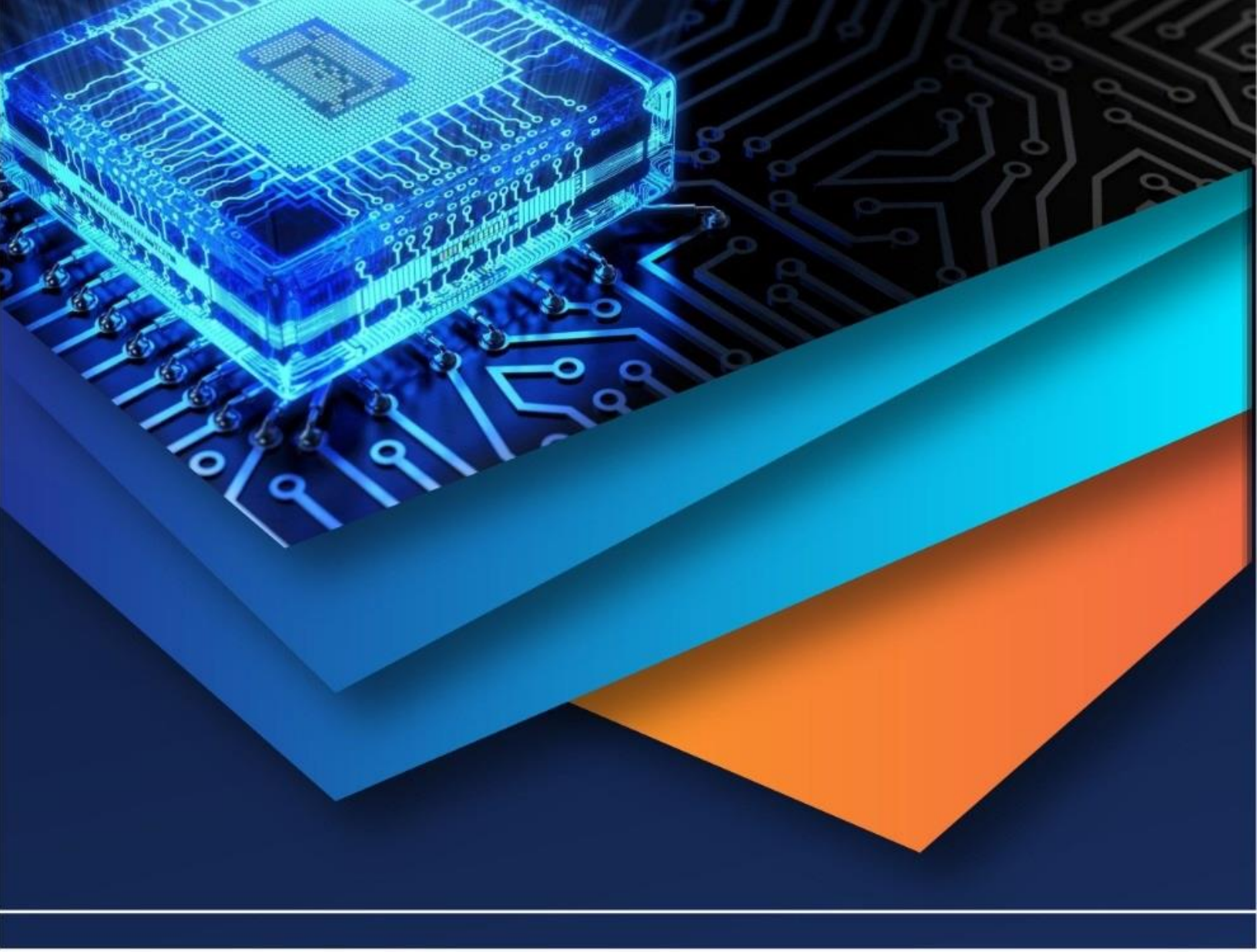
If the proposed model and other suggestions are implemented by sangli-miraj-Kupwad Municipal Corporation and Ministry of Public Works (Public Undertakings); a huge positive transformation in traffic system of Miraj city will take place.
Though the estimated construction cost seems to be very high, it will impart positive effects in reduction and regulation of peak hour traffic of Miraj city estimated for year 2041

A. The project when implemented will bring about the following changes:
1) Congestion free traffic movement in the area of Miraj City Stand, HeeraChowk and Gandhi Chowk.
2) Signal less transit system in Miraj City Stand.
3) Easy pedestrian movement at all the four locations mentioned above.
4) Specialized lanes for Miraj-Sangli city buses and Miraj-Kagwad buses, auto-rikshaw and other vehicles on the proposed "Miraj" traffic model
5) Separate elevated lane for through-vehicles at "Miraj" traffic model
6) Hawkers-free and encroachment free road
7) Flyover having solar panels to enable solar street light system on "Miraj" traffic model

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