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Monitoring of Heavy Residential Traffic Created by Mega Project Construction

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Abstract – *In going to monitor heavy residential traffic create due to mega project construction on highway. Construction of metro project is running in Nagpur city. Because of this there are so many troubles occurs for highway users. To avoid this trouble travelers are entering in localize area. Because of this people in localize area are suffering from heavy traffic and noise pollution. Hence my research motive is on minimizing heavy traffic entering in this localize area. I'm going to analyze every street and road of this selected localize area by using manual count process.*

We will classify streets with respect to their size and shape and vehicles with respect to size. We are going to use parallel and perpendicular streets for traffic monitoring purpose. We can make GPS view by using Google maps for better monitoring of traffic. We can monitor traffic by applying traffic sign and indicators on the streets.

Key Words: Monitor, residential, traffic, street, size, etc.

1. INTRODUCTION

Development is essential for ever country to make their economy strong and to provide best facilities.

Transportation is biggest factors responsible for development of country. Metro construction is streaming in Nagpur city. Because of this, there are so much trouble occurs for road users like excessive traffic, time delay, interaction of vehicles etc. To avoid these troubles road users are entering in localise area which is surrounded by project construction. Because of this localise people are suffering from heavy traffic and noise pollution. Hence my research motives are on minimising heavy traffic entering in localised area. Our main objectives are:

- Measurement of traffic condition.
- Traffic flow data creation.
- Maintaining vehicular safe distance.
- Minimising vehicular interaction.
- Safe and healthy traffic flow.
- Reduction in untoward.
- To provide safe and smooth roadway.

In Kolkata city, India(November 2014) Priyankar Roychowdhury, Sarjo Das intrudes system of traffic management by using algorithms, equipments and communication network avoiding human interference.

In Moskovsky Prosp, Saint Petersburg, Russia (2018) Andrey Gorev, Aleksandar Solodkiy, Valentin Enokaev gives over all idea about ATMS shows how Russia manage traffic by using it.

In new Delhi-85, India (May 2015) D. K. Choudhury, Siddharth Gupta, Identify some issue related traffic disturbing by increasing amount of vehicles. These issues can be minimize by adding some extra rules and regulation from traffic police.

In Pune, India (13 July 2018) Pallavi A. Mandhare, Vikas Kharat, C. Y. Patil Identify some issue related to excessive growth of vehicle is affecting growth of transportation which is not good for economy of country.

2. METHODOLOGY

Analyzing and manual counting of vehicles are basis on size and shape. Timing of vehicular counting is 6:00 am to 10:00pm. All research data is gain on the basis of main factors like required area, overview of localized area, on the basis of traffic counting, requirement of apparatus, dividers, etc.

2.1 Analysis of Required Area

Required area must surround the current project construction. Chatrapati square seems to be best option for me to work according to requirement. This area contains parallel and perpendicular streets which are essential to manipulate the heavy traffic.

Fig-1: GPS view of Chatrapati square.

As per analysis Chatrapati area contains roads of different size and shape is between 3m to 8m. Area near to construction has roads of width 5m to 7m and inner localized area contains road less than width of 5m.

2.2 According To Traffic Counting

On the basis of basis of traffic count as per given graph showing the heavy traffic between 9:00 am to 1:00 pm and 3:00 pm to 8:00 pm. These timings are the official timings of opening and closing for school, collages and other employees. Due to that there are so many two wheelers and four wheelers using these streets.

According to survey approximate data analysis is showing in graph given bellow:

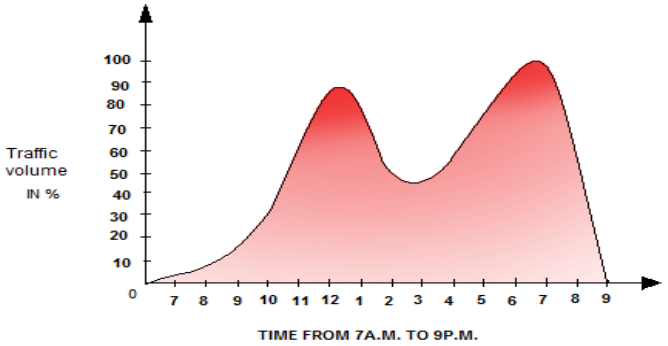

Fig-2: Approximate traffic counting with respect to time.

2.3 Requirements of Apparatus

On the basis of temporary work and low space, acceptable apparatus are given bellow:

2.3.1 Pliable Light weighted Dividers

According to temporary work and less space we will use pliable light weighted dividers.

Fig-3: Pliable light weighted dividers

2.3.2 Traffic Sign On the basis of road

Due to localize area we cannot apply sign indications on wall of houses, so we will apply it on surface of pavement of road as per IRC-67-2001 as given bellow.

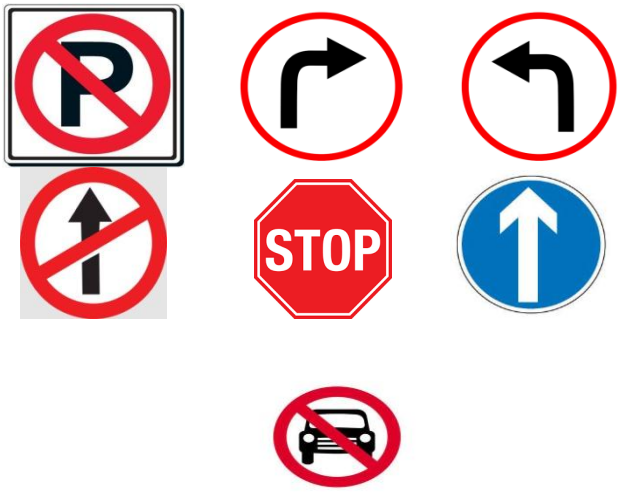

Fig-4: Sign Indicators

2.3.3 Light Weighted Barricades

Barricades will help to manipulate traffic to other safe roads and stop vehicles at dead ends. A simplified image of barricades is given bellow.

Fig-5: Simplified image of barricade

2.4 GPS View of working area

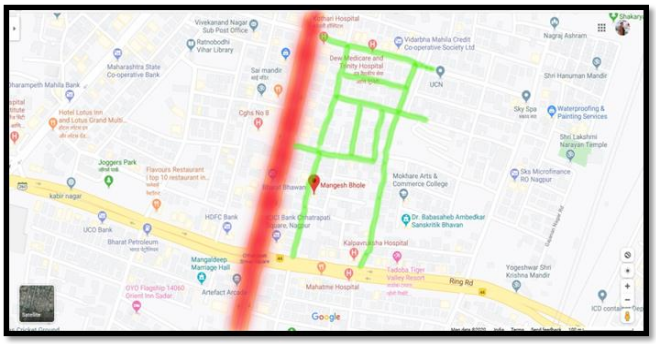

Fig-6: GPS view of working area

- Reddish bar highlighting Metro Project Construction.
- Greenish bar highlighting Localized Street.

2.5 Working Mechanism of localized Area

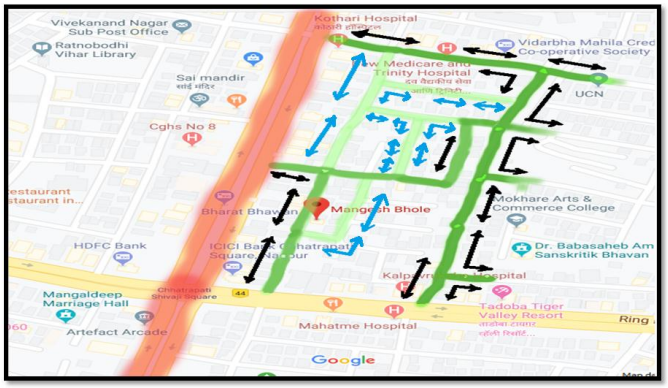

Fig-6: Working mechanism of localized area

Light green bar indicating localized street of width bellow 6m. Due to less space of bellow 6m we will make it Simple Street without dividers. Only two wheeler will travel from this road as blue arrows are indicating.

Dark green bars are indicating street of width higher than 6m. Due to higher space this street are applicable for non-permanent dividers. So both two wheelers and four wheelers travel from this road as black arrows are indicating. By applying all the signs we can manipulate traffic flow through our non-permanent street and will provide safe, smooth and free area.

3. CONCLUSIONS

According to our research we can conclude that if road users will strictly follows our sign then there is tremendous amount of reduction in unwanted traffic and irritated sound.

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