

# Controlling of Traffic Using Movable Road Dividers

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**Abstract:-** In India, environmental congestion is noisy and noisy. Determining the size of traffic congestion is an important requirement for defining traffic congestion and identifying appropriate measures. The main focus of this project is to understand traffic congestion, its measurement, monitoring rate and propose a similar remedial approach. The implications for widening existing roads or constructing new ones will only lead to the availability of vehicles that continue to climb until the maximum traffic level returns to the previous level. The total amount of space available within the city for road construction, and other means of transportation is limited. The report will address the introduction of mobile car divers as a strategy to ease congestion in the most common areas instead of the traditional road widening solution. A moving road divider helps with the suspension of road capacity, in order to maximize the use of road traffic on the existing road.

**Keywords:-** Moving Divider, Safety, Road Signals, Remedial Strategy, Traffic Congestion.

## I. INTRODUCTION

In recent years, with increasing levels of development in major cities around the world, there has been a steady increase in the number of vehicles on the roads. Although the number of vehicles using the roads has increased, stationary road infrastructure is almost identical and unable to cope with changes such as congestion, unforeseen delays in travel time and serious road accidents. Traffic congestion has been one of the biggest grievances facing major cities today despite steps being taken to reduce and reduce it. It has emerged as one of the biggest challenges for developers in urban areas for sustainable urban planning. The idea is simple, take the high time in the morning. In many cities the main thoroughfares are the main radial feeders that drive traffic to the city center in the middle of the road. This condition leads to repeated congestion in the upper direction but the free flow conditions contradict the height. If some flexibility were to be applied to the bulk supply, the existing road space could be redesigned to better match the demand profile and the improved service level could be provided to drivers without building more power (additional routes or new roads). Moving barrier technology does just that.

## Proposed System

Traditional roadblocks have a fixed location and do not work well during peaks. This leads to chaos and confusion for passengers which leads to delays in travel time. Often during peak hours the traffic to one side exceeds that of the other side, while the number of routes available on both sides remains the same. The solution to this problem is to align the roadblocks. To do this, previous zipper machines are used, which transfer the barrier from one line to the next. But this method is done by hand and is very difficult.

The main objective of this project is to make a change in the road division by the moving mechanism. In this system it is empowered to avoid accidents. This project is used to avoid car crashes, thus saving lives and loss of life. This project is therefore useful for road transport departments.

A recent study from social analytics was said to be the worst in Indian traffic. Our proposed plan is primarily focused on addressing these shortcomings. Here we introduce a new concept of road partition.

## II. LITERATURE REVIEW

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The movable divider is capable of providing extra lanes with certain specified width to traffic congested side of road, by acquiring one lane of another side which carries light traffic at that time. Provision of lanes to a congested side totally depends on 'either another directing side of the road is also congested or not?' Thus, by providing the suggested mechanism, we can use the width of the road to its full efficiency. By doing this we can use road width at its full efficiency without widening of road which ultimately helps to preserve acquired land for other purposes besides of road from the unnecessary widening of road, which also leads to reduce cost of the widening of road, land acquisition and compensation. By using renewable energy sources, we can reduce the operating charge of the movable divider.

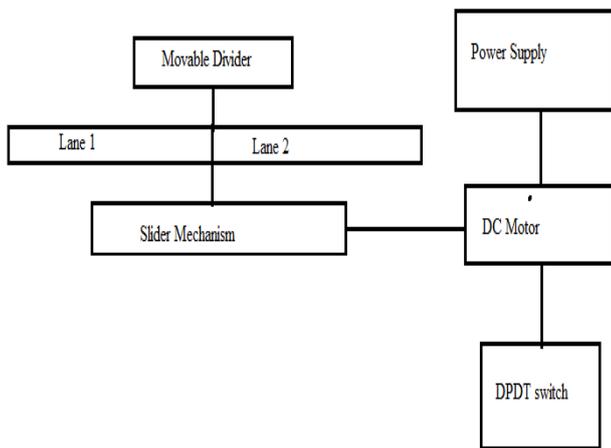
➤ Nilesh Patil<sup>1</sup>, Parth Srivastava<sup>2</sup>, Milan Ghori<sup>3</sup>, Dharmik Dave<sup>4</sup> and Darshan Jain<sup>5</sup> <sup>1, 2</sup>Assistant Professor, Rajiv Gandhi Institute of Technology, Mumbai, India , ISSN 2250-0558, Impact Factor: 6.452, Volume 6 Issue 03, March 2016

In this paper we conclude that the current system, the zipper machine is similar to a large truck, which requires the movement of people through its movement and does not happen where traffic is not moving. In our proposed system, we remove the restrictions of the existing system through a web site, which will control the flow of the Road Lane Divider System. This will provide better access, which will overcome the failure of the zipper machine. The next step for us will be to implement the proposed system in the public cloud and to prove its effectiveness as stated.

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**Block Diagram of project model**



**Working Principle**

Our proposed system will move the road separator using a DC motor. The separators will be similar to dividers used with zipper machines but instead of these mechanically delivered separators we will use an embedded system that will control the part of the dividers. The dividers will change depending on the signals sent to the system embedded by the system administrator. This will be done using the dc motor and slide method.

- Switch ON the power supply , Led light glow. i.e. system is in ON condition.
- The power supply attached to DC motor and DPDT switch.
- Movable divider is attached to slider mechanism, below the road. This slider moves in foreword and reverse direction with the help of DC motor attached to it. Initially divider present at centre of road,
- When Lane 1 have heavy traffic compared to Lane 2 , then DPDT switch press UP it move the DC motor in forward direction and slider is move the divider in forward direction (i.e. divider is shifted towards Lane 2)
- When Lane 2 have heavy traffic compared to Lane 1 , then DPDT switch press down it move the DC motor in reverse direction and slider is move the divider in reverse direction (i.e. divider is shifted towards Lane 1)
- In this way, with the help of slider and dc motor mechanism, we can move the divider according to traffic requirement.

**Advantages:**

- Increase the efficiency of the existing road network and reduce traffic
- More planned traffic can be achieved, reduce congestion
- Reduce travel time in rush hours.

The proposed system also has some limitations which has to considered even.

**Disadvantages:**

- It is not completely automatic divider
- It is not applicable if both sides are completely congested
- Problem of maintenance
- Skilled supervision staff and technicians required.

**III. CONCLUSION AND FUTURE SCOPE**

The movable divider is capable of providing extra lanes with certain specified width to traffic congested side of road, by acquiring one lane of another side which carries light traffic at that time. Provision of lanes to a congested side totally depends on 'either another directing side of the road is also congested or not?' Thus, by providing the suggested mechanism, we can use the width of the road to its full efficiency.

By doing this we can use road width at its full efficiency without widening of road which ultimately helps to preserve acquired land for other purposes besides of road from the unnecessary widening of road, which also leads to reduce cost of the widening of road, land acquisition and compensation. By using renewable energy sources, we can reduce the operating charge of the movable divider.

In Future this proposed system can be operated automatically, Location based services can be integrated to this system and also able to detect high traffic density using automatically using image processing.

**REFERENCES**

- [1]. A.P. Singh, A. V. (2012). A Review On Urban Public Transport System Of Bhopal City. International Journal Of Advanced Engineering Technology.
- [2]. Chaudry, A. G. (2012). Evolution Of Transportation System In Dubai. National Industries Quarterly Vol-14.
- [3]. Mcgm. Mumbai City Development Plan 2005-2034.
- [4]. N.D.Hajiani, M. N. (2014). Review Of Comparative Study On Ridership For Urban Mass Transit System: A Case Study Of Ahmedabad Brts. International Journal Of Enineering And Technical Research.
- [5]. Oecd. (2007). Managing Urban Traffic Congestion. European Conference Of Ministers Of Transport.
- [6]. ShekharRahane, U. (2014). Traffuc Congestion-Causes And Solutions:Case Study Of Talegaon Dabhade City. 160-163.
- [7]. Liao K, Schultheisz Cr, Hunston Dl, Brinson Lc. Long-Term Durability Of Fiber-Reinforced Polymer Matrix Composite Materials For Infrastructure Applications: A Review. J. Adv. Mat. 1998; 30 (4): 3-40.
- [8]. Butdee, Suthep And Suebsomran, Anan And Vignot, Frederic And Yarlagadda, Prasad K.D.V. (2008). Control And Path Prediction Of An Automated Guided Vehicle. In: 9th Global Congress On Manufacturing And Management, 12-14,November, 2008, Gold Coast, Australia.
- [9]. Dr. Tom V. Mathew, Iit Bombay; Transportation Systems Engineering, Measurement At A Point. February 19, 2014
- [10]. NicolaeTaranu, Gabriel Oprisan, Mihai Budescu, AlexandruSecu, Ionel Gosav; The Use Of Glass Fibre Reinforced Polymer Composites As Reinforcement For Tubular Concrete Poles; Issn: 1790-2769