IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.67
Volume 5, Issue 3, March 2025

Movable Road Divider by Traffic Solution for Warje to Ambedkar Chowk

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Abstract: *This project is the Movable Road Divider by Traffic Solution. The Traffic more of the crowed areas the traffic congestion is the most of the major challenge in our country is the urban areas. This after the caused by lane utilization of the inefficient of the road of the infrastructure. The road of this fixed divider in the flexibility, limit of the traffic flow, unbalanced and leading the specially like the during the peak hours. The movable road divider is the system is the dynamical solution of the adjustment road of the lane and is the based on in the real- time traffic condition of these road then is the to control the traffic congestion and to the safe of the road and to control the reduced the type of accident and to save the travel of the vehicle on the road to save time. The traffic is the most problem of these society This system of the consists of an automated or manually the road of the adjustable barriers so that can be repositioned to the allocate road of the space more efficiently of the road. Technologies is the such as hydraulic mechanisms and the motorized tracks, and AI-driven of the traffic monitoring is they can be integrated to the facilitate smooth safe and timely divider the road movements. By dynamically is the shifting lanes, the system of the helps reduce congestion, to the road improve road safety, and optimize of the space utilization without of these need to the need for costly and infrastructure expansion.*

Movable road dividers are they are particularly useful for the road highways, urban roads, and bridges, and toll plazas, where traffic flow is the varies throughout the day. Implementation of this system can be led to enhanced they mobility, the reduced travel time, and improved the road safety, making it a sustainable and innovative the traffic management solution for the modern cities.

Keywords: Movable Road Divider

I. INTRODUCTION

Traffic congestion is the major road challenge in modern cities, they leading to delays, and increased the fuel consumption, and higher the accident more than rates. Traditional fixed the road dividers and often by fail to accommodate fluctuating these traffic volumes, and resulting in the inefficient road usage and these are bottlenecks. To address this issue, a movable road divider system using the sensors are provides an innovative by the solution by dynamically adjusting road and lanes is the based on the real-time traffic conditions. This system integrates the sensors, and is the automation, and IoT technology to they are monitor traffic flow and adjust lane distribution accordingly. By using the infrared sensors, and they are to the ultrasonic sensors, and its hance to the cameras, and RFID systems, the movable road divider can be detecting traffic density and shift accordingly to the optimize road and space is the allocation. They are to Actuators and motors then move the dividers, its hance to the ensuring a smooth and automatic transition of lane and boundaries. The implementation of they are to the best sensor-based movable road divider offers several advantages. It reduces the congestion, improves road safety, and optimizes lane the usage during the peak hours and or special conditions, such as the emergencies. For instance, is the more lanes can be allocated to the inbound traffic during the of morning rush hours and outbound traffic in the evening. Additionally, emergency is the two of the vehicles can be given priority by automatically in the creating designated lanes. As cities adopt the smart traffic management and solutions, integrating movable road dividers with sensors will play the crucial role in the enhancing urban mobility. This system not only increases the efficiency and safety but also it can be contributed to environmental sustainability by the reducing fuel wastage and emissions. The use of these advanced technology in traffic control

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represents a step by the forward in building intelligent, and adaptive, and future-ready to the transportation systems. Across the World of the many Nations are facing the Traffic Congestion of the problems due to the number of vehicle automobiles increasing day by day. Though the number of the vehicles increased, the Road of the infrastructure is the nearly the same of the which cannot be able to the cope up with the changes like for the unpredictable travel delays, and the congestion and accidents. The main problem with Static Road Divider is that the number of lanes of the on either side of the fixed. Since the resources of the are limited and population and the as well as the number of cars per family and is increasing, there are a significant increase in the number of vehicles cars on roads. Controlling of the traffic on the road has been the road become a severe problem in todays of the society. There are so many of the situations of there where the road vehicle and ambulance get stuck in traffic, it has been to wait for some minutes to hours to clear the traffic congestion of due to which the patient's life might to then traffic be at risk because of the latency of the traffic in the traffic. Increasing the traffic and road surface and is has few severe of the environmental issues related to the with it, such as so many issues include traffic jams, and traffic congestion, and numerous of the types pollution and related to the health problems. Congestion in the traffic eventually results in the slow speeds, which of the vehicle increases the time of travel to which stands out of the as one of the major and issues in metropolitan of the cities. The interaction between the vehicles and slow of the speed of the traffic flow and vehicle when there is high demand of which results in they are some congestions. This are can be a possibility for any mode of the transportation, this article it will be focus on the traffic congestion on the civic roads.

II. LITERATURE SURVEY

Implementation of the Movable Road Divider using Internet of the Things (IOT):

• The Internet of Things (IOT) The purpose of the using road divider is to separating the two ways of the traffic i.e. ongoing and incoming vehicles in the traffic.

• With the growing population, the vehicles used of the per family increases, but there is limitation in the resources and leads to a greater number of the cars on roads. In that case of the static road divider fixes the number of on the road lines on either side of road.

• This invites the better usage of available resources. In most of the cities, there are the areas like industrial and shopping and places where traffic flows are an only in one direction both in morning as well as in the evening.

In the peak hours, the most of the time one road side of its the unutilized. It causes time loss of the public and traffic jams.

AUTHORS: Hemlata Dalmia, Karridy Damini, Aravind Goud Nakka

Movable Traffic Divider: A Congestion Release Strategy:

• The Congestion Release Strategy In the recent years, with an ever-increasing rate of development and his in-metro cities around the world, there has been to the proportional increase in numbers of the automobiles on the road.

•Although the number of the vehicles using the roads of has increased, the static road infrastructure is almost the same of and the and is unable to cope with changes like congestion, the unpredictable travel-time delays and road accidents is more that are taking a serious of theses shape.

•Traffic congestion has been one of the important of towns. This occurred is the normally at the principal of the junctions generally inside the morning, the before workplace hour and inside the evening. they are after office hours. The principal effect of this matter is the multiplied time of the wasting of the human beings on the street.

•The answer for this has to problem is by way of developing the program which of the specific setting delays for one-Ofa-kind junctions.

•The put off the for junctions which have high quantity they can of traffic have to be putting longer than the postpone for the junction. that has low of the visitors. This operation is calling regular mode.

AUTHORS: Advait Kawle, Dhruv Shah, Kavin Doshi, Manish Bakhtiari, Yash Gajjar, Pratibha Singh

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III. APPLICATION

- The Smart Movable Road Divider for the controlling the traffic congestion in the metropolitan cities and to the provide a free path for the vehicle car, truck and ambulance.
- The work of the presented in this paper in the focuses on the reducing the latency in the traffic and free of the path for the vehicles and ambulance. The to the existing Road Dividers consists of the equal number of lanes. They are Usually, in the morning and evening the peak hours the opposite side of the Road Divider is the generally to the underutilized.
- To remove and the overcome this, Smart of The Movable Road Divider is implemented in the where the divider is moved based on the density of the traffic are using IR the used are Sensors of road. If the density of the traffic is high on one side, and the divider is moved to the other side.
- Then the density of the traffic is stored in the cloud which is the possible through IoT. A free of the path for the vehicles and the Ambulance is provided using RF Module by the controlling the traffic.
- To Reduces the congestion movable divider gives more of the lanes to traffic direction for the AM and PM Commuter. Increase safety of the road.
- To Decrease the time travel.
- To Green Benefits of the include improved air quality, improved the fuel efficiency, reduce atmospheric of the CO2.
- The movable traffic dividers it's the help of the in reconstructing the road capacity to the attain maximum benefits of the road. which are the previously constructed. In the recent years, with an ever-increasing rate of the development in the vehicle of the road.

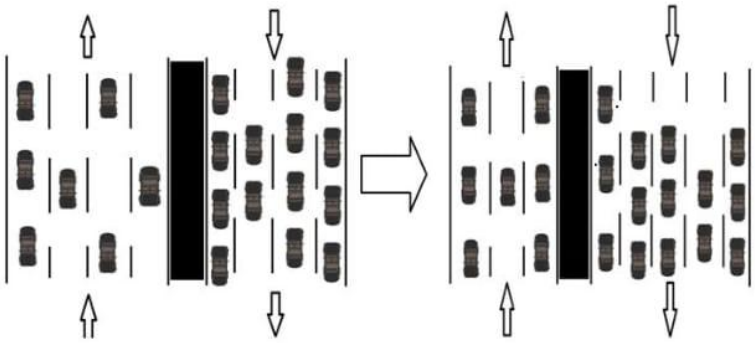

Figure no. 1 Conversation of Traffic Movable Road Divider

IV. PROPOSED METHODOLGY

- A module has been the developed based on microcontroller that is Arduino and Mega which consists of an IR Sensors which is used for the measuring the density of the traffic.
- When the signal are turns red, the traffic density is the measured and the action should take place before the signals area the turns into green.
- If they are traffic density is high then the divider will move to the opposite direction since the density of the traffic is high a message is displayed on the led of the stating that “High Traffic”.
- The traffic density is the normal then no type of the action is taken by the divider will be at the Center of the road. In this case of the traffic density is the normal then a message is displayed on Led stating that there is “Less Traffic and in the case of the medium traffic the Led will display as “Medium Traffic”. It consists of two unit basically
- Traffic unit and Ambulance unit and various type of the vehicles.

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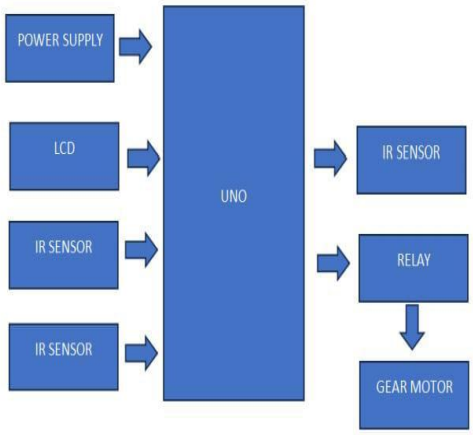

Figure no. 2 Diagram for the method of the Movable Road Divider

V. ADVANTAGES

- Traffic Flow Optimization-Helps to the manage congestion by the adjusting lane directions is based on the real-time of the traffic demand. They are Reduces bottlenecks during the peak hours by reallocating lanes.
- Increased Road Capacity of the Without Expansion- Maximizes is to the existing road space without the costly infrastructure of and the expansion. They are Provides flexibility in lane the lane of all of the allocation for special events or rush hours.
- Improved the Safety-Prevents head-on the collisions in high-speed of the areas by providing physical and the separation. Reduces the accidents and caused by the sudden lane changes and to the improper overtaking.
- Emergency of the vehicles and Special Use Adaptability- Quickly the lane adjusts lanes for emergency of the vehicles, construction zones, or special the events. It Can create the dedicated lanes for buses, hey are cyclists, or high-occupancy vehicles.
- Cost-Effective to Solution- Cheaper than the building new roads and or bridges.
- To the Reduces maintenance costs of the associated with fixed barriers.
- Environmental Benefits of the road

VI. CONCLUSION AND FUTURE WORK

The project is the helps to reduce the traffic jams and congestion to provide clearance of the road for the emergency vehicles to an extent. It will help of the to reduce the traffic on the highways. Also it is helpful for the government to apply traffic rules. And people it will be follow the rules of traffic. It will be applicable in the cross of the road and traffic zone.

VII. ACKNOWLEDGMENT

It the sounds of the like you're referring to a movable road or lane that the adjusts based on the traffic conditions, and with of the focus on the traffic management and acknowledgment of a solution. They Are you asking about:

1. Movable the road barriers or reversible lanes – These are used in the city of the cities to adjust lane direction based on the peak traffic flow.
2. Intelligent of the Traffic Management Systems – AI-driven the solutions that is the dynamically control of lanes, signals, and traffic and lights.
3. Automated to the or modular of a road – Future the solutions where is the roads can be physically of the reconfigured to meet demand.

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