

Extension of Road Lane by Using Hydraulic separators

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Abstract

India is a country with the third largest road network in world. Hydraulic footpath traffic reducing system is based on a hydraulic jack system for reducing traffic congestion. Due to lack of footpaths in many places pedestrians are forced to walk on the edges of roads which further increasing traffic issues. In case of that issues road rages and traffic volume are increase for that reason emergency vehicles are also suffered just because of heavy traffic congestion problem. By providing hydraulic jack underneath the foot path such that in case of emergency vehicle scan make their way through the traffic, during signals with ease. With India's speeding population and economy, and people with their personal vehicles, prolonged signals and obstacles former agencies, our project Hydraulic traffic reduce systems aim sto reduce such casualties. The goal of this study is to regulate the traffic flow by creating an extra lane with the use of modified foot path which will speed up the flow of traffic and decreases the latency of emergency vehicle.

Hence, reducing the amount of traffic significantly by simply providing an extra lane on the road. This paper emphasizes the dissolution of major traffic congestion at Dombivlieast Manpada road and its traffic and traffic volume Incase from our aspects this emergency hydraulic separators uses in road lanes; for pedestrians, animal, vehicles, and emergency vehicles must be useful in present time.

Keywords: *Friction Stir Processing: Aluminum alloys: Thrust force: Longitudinal force: Root mean square: Surface roughness analysis.*

INTRODUCTION

The population on Earth is expanding at a very rapid pace. As every individual is opting to travel by their own vehicles instead of public vehicles because of more comfort and time efficient, the number of vehicles is also increasing which leads to traffic congestion because the vehicle on the road is more than their capacity. If this traffic is not managed properly, this will lead to conflict and especially for emergency vehicles such as ambulance and fire trucks they will not be able to reach their destination on time.

However, the main problem is still that emergency vehicles cannot go as fast as they can because of the vehicles on the road. Nowadays, the majority of deaths are because of traffic congestion and emergency vehicles aren't of use either because they cannot move fast enough due to traffic jam. Even if there is no congestion, the emergency vehicles are still stuck on the road due to traffic lights, Leading to loss of life. Also most people could not make an effort to let these vehicles get a pass first and also because of lacking of foot paths in most of the places, peoples are forced to walk on the

edges of the road causing further traffic issues. Our idea will easily manage the traffic and be very efficient in case of emergency vehicle to reach their destination efficiently.

The goal of this study is to regulate the traffic flow by creating an extra lane with the use of modified foot path which will speed up the flow of traffic and decrease the latency of emergency vehicle. India is a country with the third largest road network in world .Hydraulic footpath traffic reducing systemic based on a hydraulic Jack system for reducing traffic congestion. At present time the footpath provided on the edges of the road is mono functional reserves only for pedestrians.

To reduce the congestion of traffic we propose the design of a modified foot path plat form which will be used by both vehicles as well as peoples to reduce the traffic congestion. We ought to use hydraulic jacks and concretes labs to provide an upward and down ward motion to the footpath. With the help of this mechanism, the footpath can be used for pedestrians by raising its level and also could be used as a separate lane by

lowering it. Hence, reducing the amount of traffic significantly by simply providing an extra lane on the road.

Generally, traffic is defined as a person or any type of goods movement between one place and another, which includes pedestrians, herded animals and other conveyances. There is no extensively accepted definition of traffic congestion.

The primary motive for this loss of consensus in congestion is:

1. A physical phenomenon regarding how automobiles hinder each other progression as the call for constrained road space approaches full capacity.
2. A relative phenomenon relating to consumer expectancy via avenue system overall performance. Each operations land personal perspective is critical in understanding congestion and its impact.

Aim and Objectives

Today scenario is people on earth are rapidly increased to that the number of vehicles on road is also increased, therefore the problem of traffic management is arising especially emergency vehicles, the idea behind these paper is to implement a system which

could easily control the traffic and help emergency vehicles to reach their destination.

The main aim of this study is to give proper solution for traffic congestion.

Objective

- To provide extra space to reduce traffic volume.
- To give proper solution for a traffic congestion.
- To provide safe and convenient transportation.
- To Manage both pedestrian traffic and vehicular traffic at
- signalized intersection by using hydraulic Separators

Methods of Implementation

By doing the survey of area at Dombivli (east) Manpada road. As the area is heavy traffic affected area and traffic congestion prone area it witnesses the movement of lakhs of vehicles every day and is increasing day by day.

- **Site selection of study area:** - We have selected the site of traffic volume study. On basis of our future aspects demand.
- **Vehicular and pedestrian traffic data collection:** - we have collect the

vehicular and pedestrian traffic data by traffic volume study of selected site.

- **Categorization of traffic data:** - After the data collection of vehicles and pedestrian we need to categorize it in unit passenger rules.
- **Calculation of service volume at signalized intersection:-** After the categorization we need to measure signalized intersection width, length and footpath length and width
- Calculation of queue length
- Calculation for implementation of hydraulic separators

Working Principle: - Inside a hydraulic Jack there is one larger platform area and a Smaller platform area. Both of these platforms are attached with Pistons It is a tube-like structure Thor early filled with uniform non-compressible fluids. The cross-sectional area at piston P1 is A_1 and at piston P2 is A_2 By applying force on smaller piston P1

Future Trends: - In future when we will construct any new road so we can think about installation of hydraulic jack system in footpath and introduce as new concept of two in one uses of footpath, within less

land requirement. It will also create a great impact of our country in new construction technology world.

CONCLUDING REMARK

1. The present study is conduct for the hydraulic footpath at signalized intersection, which effective management for high degree of accuracy to be applicable for traffic flow with wider traffic volume from each intersection.
2. After this completion of work we expect there will be reduction in traffic congestion. Can also optimize the traffic management.
3. We can provide extra space for maneuvering the traffic in emergency situation.
4. A new mechanical concept is discussed to design footpath, which help of hydraulic mechanism in footpath surface at signalized intersection of roads.
5. It finds wide application in road work planning and design. To understand the Significant effects by the traffic management at intersection as well as

pedestrian noncompliance and pedestrian vehicular interaction this model are developed.

6. The study is conduct on important parameters such as Reduce Queue length, minimize the formation of platoons, increase service rate and provide extra space for maneuverings the traffic in emergency situation.

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