LITERATURE REVIEW FOR EFFECTIVE TRAFFIC MANAGEMENT SYSTEM

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Abstract -Today's traffic management schemes are facing the problem of vehicular and pedestrian traffic congestion at signalized intersection. Traffic congestion at signalized intersection leads to many problems such as delay in emergency services, accidents and others. Many techniques have been applied to control traffic. However, Hydraulic Footpath is an effective tool to control and manage the traffic in any emergency situation. This paper presents survey of different traffic management techniques applied to control traffic. The aim of this paper is to explore best methods of traffic management. The point of this paper is to investigate best techniques for the traffic management.

*Key Words***:**Hydraulic footpath, Emergency, Traffic

1.INTRODUCTION

Signalized traffic control has critical impact on diminishing vehicle delays at crossing points, adjusting traffic stream and improving productivity of urban streets. The signalized intersection control system is carried out by various technologies, such as WSN and MATLAB. FOOT-LOS model was developed and proven to be a reliable tool for quantifying the level of service of pedestrian footpaths. MLR technique is also use for pedestrian behavior. Now in current scenario many other techniques are used to control traffic flow, traffic signal controllers, different types of algorithms are used to make best traffic signal controllers, different types of equipment and different technology are highlights in this paper.

2. LITERATURE REVIEW

Sunil Kumar v and J. Ranjitha (2013)they studied on improvement of traffic operations in congested signalized intersections. They found that selected traffic facility currently undergoes serious degradation causing breakdown conditions, so for improving this they collect the data of Intersection, Road Inventory and Turning moments count etc. after researching all this they concluded the drains are to be closed and the same shall be used as footpaths. The existing footpath width along this stretch is 1.0 m to 2.5 m, hence the carriage way width can have widened to a width of 1.5 m. so this reduces the volume to capacity ratio thereby decreasing the delay time of the vehicles.

Kadali BR and Vedagiri P (2013) explored the conduct of Walker Street crossing at the uncontrolled midblock area in India under blended traffic condition utilizing multiple linear regressions (MLR) technique. They concluded that increase in the pedestrian waiting time at a curb or a median may reduce their patience and lead to increase in rolling gap behaviour and accepted space or gap size will increase or high when they accept the lag.

Zhang X et al. (2013)   investigated the effects of pedestrian green time, crosswalk length and pedestrian crossing direction on pedestrian walking speed at signalized crosswalk. Studies also found that crossing behaviour of the pedestrians were affected by traffic volume and conditions also, due to darkness and weather conditions.

Dein Shaw et al. (2013)they studied on design of a hydraulic system driven by compressed air. They found that hydraulic system driven by compressed air to

demonstrate its potential to outperform a pneumatic motor in efficiency.

HAO Yanxi and Yang Xiaoguang(2013) they contemplated traffic and found that biggest number of contentions are caused at convergences because of left mood killer vehicles and the ones drawing closer from furthest edge. They investigate the conditions to set left turn holding up territory under uncommon left turn face.

K.Vidhya and A.BazilaBanu et al. (2014) they studied on Density Based Traffic Signal System. The task is intended to build up a density based powerful traffic signal framework. The signal timing changes automatically on detecting the traffic density at the junction. They calculate the density of the vehicle by using mat-lab tool by comparing the four side of the image which is given as an input. They simulate the result of the four-given input image but this cannot be used in real time applications as it is very slow and the software is not free of cost like open to overcome this disadvantage of mat lab, opens software is used which is very easy to install and is open source software and can be used in real time application in a quick manner.

P. Prema and Dr. A. Murugan (2015) they research on intelligent traffic light control using wireless sensor networks with prioritize emergency vehicles. Here they use Wireless Sensor Networks (WSN) at the road side junction and assigns time period to glow the respective lights. They proposed to give importance to the Emergency vehicles such as ambulance, fire and VIP vehicles by giving special numbers to them. They conclude that the traffic light signals are blinked according to the density of traffic present at the junctions. . This innovation is for the most part intended to stay away from traffic clog at intersections and gives greater need to the crisis vehicles.

Gowri Asaithambi et al. (2016) they studied on pedestrian road crossing behaviour under mixed traffic conditions. They discovered various parameters like age, sexual orientation, crossing designs, crossing times, holding up times and intersection paces of people on foot, speed and sorts of vehicles and vehicular flows were removed from the recordings. They examine on analysis which shows that majority of the pedestrians chooses one-step crossing after signal installation since they get sufficient gap to cross the street during the red phase of the signal provided for vehicles. Researching of all this they concluded that the accepted gap size depends on the age, gender and crossing pattern of pedestrian, speed of incoming vehicle, vehicle type and traffic volume.

Aishwarya B. Shinde et al. (2016) they design and fabrication of mechanical lift for transportation. They

research that instead of using hydraulic or pneumatic lift they used mechanically operated lift which is more cost efficient and portable so they designed scissor lift in such a way that it has reduced design complexities.

Basil David Daniel et al. (2016) they research on Pedestrian Footpath Level of Service (FOOT-LOS) Model for Johor Bahru. They found that pedestrian's perception of comfort and safety is significantly influenced not only by the walking environment and conditions, but also the adjacent road and traffic characteristics. Also, the FOOT-LOS model created in this study was proven to be an authentic tool for evaluating the level of service of pedestrian footpaths and thus, the model can be used for performance analysis of such facilities.

C.N.Gawali et al. (2019) they studied on signalized crossing point and turning convergence by thinking about different parameters, for example, venture time, postpone time. They learned about the spots in the Nagpur city where there is a crossing point of five streets and chose Shankar Nagar Square for their examination. They gathered the traffic information on the pinnacle hours of the day by video realistic study strategy and they checked characterized and sorted the vehicles into various classes. For configuration reason they utilize the reproduction programming PTV VISSIM. By utilizing this product they configuration Signalized Intersection and turning at Shankar nagar crossing point. By drawing the connections, connectors, demonstrating the decreased speed region, embeddings the hubs, set appropriate cycle length like this by following legitimate structure steps they plan the signalized convergence and rotational. The excursion time and defer time is determined on the sign. Similar information of vehicles is embedded on the turning and similar parameters are determined for the Rotary crossing point. On looking at they can presume that rotary is substantially best when contrasted with the signalized crossing point.

3. CONCLUSIONS

In this paper, various vehicular and pedestrian traffic management techniques and some lifting technique have been studied. The overview of different traffic management schemes concludes that various strategies having own points of interest and drawbacks. The study gives suggestion that, at intersection vehicular and pedestrian traffic management by using Hydraulic footpath is suitable for implementation. However, this strategy has a few disadvantages that can be overwhelmed by including some different highlights.

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