
PUNE TRAFFIC PROBLEMS & CONTROL MEASURES

CHETAN SHIVATARE¹
SWAPNALI DALVI²
PRASHANT PATIL³
RUPESH SHETE⁴

^{1,2,3,4}Third Year Civil Engineering, SCSCOE college of engineering, Dhangawadi, Bhor
Pune, India.

Chetanshivatare1606@gmail.com

Swapnalid121996@gmail.com

Gundya007@gmail.com

Shterupesh12@gmail.com

ABSTRACT-

THE PRESENT TOPIC IS RELATED WITH A SOCIAL PROBLEM AND PROVISION FOR PREVENTION OF ACCIDENTS & TRAFFIC JAMS ON THE ROADS WHICH ARE CONTROLLED BY STATE GOVERNMENT AND MUNICIPAL CORPORATION. UNDER THIS, THE TRAFFIC ROAD SIGNALS PROVISION IS VERY CRITICAL AND IMPORTANT FOR THE AUTHORITIES. AN ENTIRE RESPONSIBILITY OF IMPLEMENTING THESE PROVISIONS GOES TO STATE GOVERNMENT AND MUNICIPAL CORPORATION. TO STUDY THIS TRAFFIC SIGNAL PROVISIONS AND THE AVOIDANCE ACCIDENT RATE, A DATA AND MATERIAL FACTS HAVE BEEN SHOWN IN THIS RESEARCH PAPER. IT IS A SOCIAL RESEARCH FOR THE GUIDANCE OF THE PUBLIC AT TRAFFIC SIGNALS FOR "HAPPY JOURNEY" TO THEIR RESPECTIVE DESTINATIONS.

KEYWORDS- ACCIDENTS, HAPPY JOURNEY TRAFFIC JAMS, ROAD SIGNALS, MUNICIPAL CORPORATION.

I. INTRODUCTION

Traffic jams is a major transport problem in Pune. Due to traffic jams, there is possibility of accidents because of poor traffic management. We all know that Pune is a developed city and densely populated. But there are some basic traffic problems of Pune which needs attention and solution as soon as possible so as to maintain the actual growth in terms of basic development. The traffic problem in city like Pune is increasing with every passing day. Whenever we talk about Pune's traffic we hear words like disgusting, chaotic, unsafe, infamous, etc. The fatality rate is one person a day or 10 to 15 a week which is very high. Thanks to very unorganized, undisciplined traffic of city with zero traffic sense in the population. Every time we cross the city we find ourselves standing frustrated in traffic jams and criticizing the government. Is it fair to blame government for everything? I agree up to some extent with this but we are also responsible for this situation somehow. Infrastructure is an important tool for the development of a country and transportation consist of 80% of the total infrastructure. India is having comparatively poor infrastructure as compared to other developed countries. Some of the major issues which create the traffic problems are no proper planning, violation of the rules & regulation, bad construction and improper management. Major traffic issues are noticed on the roads connecting outskirts areas to the Metro cities. Out of which the major concern is traffic jams that happens due to non-recurring highway incidents, such as a crash or road works, which may reduce the road's capacity below normal levels. Due to the increasing population in Pune City, people have started moving towards the outskirts for having a better and peaceful life. This situation has compelled us to think about increasing the living standards and providing better infrastructure in these areas. The major state highways

which connect Pune to Mumbai & Bangalore and the development around it is increasing with every passing day which increases the traffic intensity which ultimately leads to the traffic jams and other traffic related problems. Thus, it is necessary to look on this area of Pune city where development is at its peak. The changes that we want to make should be planned in this initial stage of its development as later on it would be difficult to make a new start. Some of the basic facilities like Ring roads, walking path, stops etc. should be provided along with the major constructions for reducing issues. Pune is known for its education and the hub of industries due to which the population has increased rapidly in past few years. The number of two wheelers used by people here is more than any other city in the country. The need of hour is to increase the use of public transport by people so that private vehicles can be reduced from the roads. This will lead to the reduction in traffic intensity and thus jams will be less. For doing this government should implement the BRTS in all the possible routes so that frequency of public transportation will increase and people can use better and frequent public transport. The weak transportation system has various drawbacks which directly impact the economy of the country along with its social, mental and environmental impacts.

Traffic jams is one of the factor which happens due to poor transportation system. Due to increased idling, acceleration and braking in traffic jams the wastage of fuel increases which ultimately leads to air pollution and carbon dioxide emission. Blocked traffic may interfere with the passage of emergency vehicles going to their destinations where they are urgently needed and the worst cases can be seen with ambulances.

Thus, before starting a new infrastructure for roads and providing new facilities it is necessary to do proper planning as huge investments are involved in it. As we know that population and the intensity of traffic has increased considerably in the past 10 years it is our prime concern to do

planning on the basis of sustainable future prospect for next 15-20 years.

II. TRAFFIC PROBLEMS IN PUNE

City's traffic police chief and deputy commissioner of police Vishwas Pandhare blamed the inadequate number of traffic signals in the city for the rising number of mishaps in the city. Speaking at the 64th general body meeting of the Top Management Consortium (TMC) held recently at the Residency Club, Pandhare lamented there is no match between the number of traffic lights and number of crossings in Pune. According to him, there are 1,400 chowks in the city of which only 236 have traffic signals. (Sources: DNA News) The main traffic problems of Pune are road accidents & traffic jams. City police commissioner Gulabrao Pol, who gave comparative road accident statistics during the launch of the road safety, said that the number of vehicles is increasing, as also the number of accidents in the city. "Pune metropolitan region has over 37 lakh vehicles. Every day, new vehicles are added. Pol commended initiatives of the traffic police such as creating public awareness, making some roads one-ways, conducting special drives and removing encroachments obstructing the traffic. (Sources: Times of India)

Deputy Commissioner of police (traffic) Vishwas Pandhare said the credit for the drop in fatalities on the road goes to vehicle users. "Vehicle drivers have to drive responsibly and Safely to prevent accidents. Awareness about road safety has to reach every road user.

(Sources: Times of India)

As per the data accidents claimed 363 lives in the 365 days of 2013, a drop by 44 compared to 2012 i.e. 1 accident per day. The organization had launched a campaign, Save 100 Lives, in 2012, as part of which it had analyzed causes of road accidents and found that more than 50% of road accident deaths were because of motorcycle rides not wearing helmets. The analysis had also revealed pedestrian deaths accounted for more than 30% of road fatalities. Hence Zebra crossing must not be parked with vehicles and there should be a separate timer for pedestrians and those who will violate will attract certain fines.

2.1. Inefficient Road Network:

Since 1960, Pune traffic has increased by more 105 times, whereas the road network has grown by merely by 6 times. Hence due to huge traffic load, the road network is insufficient and hence is causing traffic jams and fatal accidents.

As per the data, the existing road network is 7% while the requirement is more than the double i.e. 15%. Hence there is a gap of 8% between them and due to this gap, there are many huge traffic jams in different parts of the city and these traffic jams are time consuming and hence the commuters are in hurry to reach their destinations. For saving their journey time, some of them increase their speeds and meet with accidents which may cost to their properties and sometimes to their life. The road infrastructure has not expanded in tandem with the increase in the number of vehicles in the city. In the last four decades, the population of the city has increased four times

whereas the vehicle population has increased 87 times and the road length has increased by only five times. With the projections indicating that PMC would have a population of about 45 lakhs by 2021 and 57 lakhs by 2031, the road and transportation infrastructure has to not only meet the existing demand but also cater to the demand that will be generated by the increasing population. There are more than 12.5 lakh registered vehicles in Pune as on date. The total number of registered vehicles has grown at a compound annual growth rate (CAGR) of 8 percent. The total length of roads in the city is 1800 km. including about 50 km. of National Highways and State Highways.

2.2. Inter-City Bus Transport:

There are three major inter-city bus terminals in the city located at Swargate, Shivajinagar and Pune Station. These terminals cater to the inter-city traffic with origin and destination other than Pune. Parking organized on-street parking facilities are provided in selected locations in the city. It may be multi-storey dedicated for parking vehicles.

2.3. Poor Traffic Management:

Traffic police are deployed at major traffic signals and mainly they are busy in issuing challans to the offenders. They mismanagement the condition is very pathetic.

2.4. Violations of Traffic Rules & Regulations:

Commuters are not following the traffic rules.

The main reason is breaking roadsides, narrow the roads and vehicles are not able to move smoothly. Many are parked at zebra crossings and hence the pedestrians are forced to cross the roads without using zebra crossing and sometimes meet with accidents.

2.5. Bad Constructions & Improper Management:

There are no any quality constructions. The contactors are making money by doing bad constructions which causes jams and accidents. There is no any road maintenance and master plan to the concern authority. Inefficient Public Transport:

The public transport numbers and frequency are limited and the passenger number is unlimited. Hence there is a huge gap in required public transport and existing public transport.

2.6. Absence of Infrastructural Requirements:

Flyovers, ROB and Subways are limited in number in Pune city and due to which many parts are facing huge traffic jams problems.

III. IMPACTS OF TRAFFIC PROBLEMS:

Traffic Jams involve queuing, slower speeds and increased travel times, which impose costs on the economy. It has also a range of indirect impact including the marginal environmental and resource impacts of jams, impacts on quality of life, stress, and safety as well as impacts on non-vehicular road space users such as the users of sidewalks and road frontage properties.

IV. REASONS OF TRAFFIC PROBLEMS:

4.1 New Traffic Norms:

Due to new traffic norms like one way, only right turn, only left turn etc., numbers of vehicles at a particular point increases which results in traffic jams on not only that point only but also to the previous and next point.

4.2 VIP Movement Cultures:

Political leaders movements in the same lane is a major problems as they use to block the traffic flow for their smooth movement with result in huge traffic rush of hours and hours.

4.3 Inadequacy of Traffic Police:

Traffic police in Pune city is inadequate in numbers compared to the number of vehicles and population. All the cross roads need at least six traffic police at a time but it is seen that the number of traffic police are always short and due to the lacking of proper instruction the vehicles are getting trapped in traffic. Only two traffic police are working in the city which is inadequate.

4.4 Narrow Roads:

Streets of Pune are not too wide spread, due to illegal possession on the road they are getting narrow and becoming a reason behind traffic jam. So every possibility is there to expand the road as per their right of way to reduce traffic jams. Moreover this will be less expensive and less time consuming due to land acquisition won't be required in this process.

4.5 Illegal Parking:

Illegal parking on the road has been creating jams every day. On-road parking of vehicles is one of the main reasons behind serious traffic jams in different parts of the Pune city.

4.6 Increasing number of population:

All the areas under Pune city are facing an increasing number of populations which is a bad indicator for the traffic management and this could be a vital reason behind traffic problems.

4.7 Higher Purchasing power of the public:

Due to the higher purchasing power of the citizen of Pune city the numbers of vehicles is increasing every day but existing roads, subways, FOB and highway are not constructing according to the increasing number of vehicle. As a result traffic jams is increasing at an alarming rate.

4.8 Improper Planning of City Development:

City Development planning is not proper. Roads, Highways and service roads are not preplanned.

4.9 Improper Lane Management:

Lane management is an important fact in managing the traffic in Pune. Many types of the vehicles try to overtake the vehicles even in the single undivided road. This is the main reason that the city roads are unequipped with the lane dividers which divide the lane into incoming and outing traffic.

V. SOLUTIONS TO TRAFFIC PROBLEMS :

1. Bus Rapid Transit (BRT), metro rails and mono rails should be built in different part of the city to encourage the use of public transport.
2. Mass Transit System should be started in the city by inviting private operators to share the burden which will help in carrying more people with fewer vehicles. E.g.-For carrying 50 employees of a company 50 Two Wheeler, 25 auto rickshaw, 20 cars will be required but only 1 bus can carry all. This will not only reduce the cost but also help in reducing pollution and will carry more commuters in 1 vehicle.
3. No entry without Helmet It should be compulsory to wear Helmet in all the State and National Highways in not only Pune but also to all India.

4. No road side parking

5. Mainly, we travel to work, for business and for education and all the origin and destinations are fixed. Hence we should use public transport to reduce the traffic problems.

6. Vehicles should be not allowed to park at roads.

7. Strict lane management Different lanes for different types of vehicles should be marked on the roads and law i.e. financial penalty should be imposed to make the drivers maintain the lane discipline.

8. Restricting routes for Rickshaw Rickshaw should not be allowed in all the routes of the city. RTO should take some responsibility to control the increasing number of rickshaws by imposing registration fee and legal documentation.

9. Vehicles older than 12 years should not be allowed to run on road.

10. People should be motivated to use public transport more and more.

11. Sharing Transportation System (STS) should be promoted.

12. Penalty to the traffic law breakers.

Government can take such strict step like imposing financial penalty on the law disobeying drivers. They should be made to dissuade the drivers from certain Jamscausing habit such as wrong overtaking, one way driving. Mobile court should be introduced to fine the truck drivers for disobeying traffic law.

13. Supply and demand Jams can be reduced by either increasing road capacity (supply) or by reducing traffic (demand) revealed that road capacity can be increased in a number of ways such as adding more capacity over the whole of a route or at bottlenecks, creating new routes, and improvements for traffic management. Reduction of demand can include, parking restriction, park and ride, congestion pricing, road space rationing, incentives to use public transport and introduction of e-education, e-shopping and home- based working options will reduce the number of people traveling.

14. Increasing the number of Traffic police As the city is running with inadequate amount of traffic police than required, so it is the need of the hour for the authority to increase the number of traffic police. This step will create some scope for employment also. Only recruitment is not enough, they should be trained up for the betterment of the traffic management.

15. Road widening Road widening is often advocated as ways to reduce Traffic jams. Roads of the city are narrow in different places. However some research indicates that road widening provides only slight reductions in urban Traffic jams.

16. Number of Buses should be increased on the basis of population of the city.

17. Traffic department should use RFID technologies to stop rules violations.

18. Traffic department should start a radio channels which will announce the traffic updates.

19. Traffic department should install CCTV cameras at every signal to monitor the rule violators.

20. Cycle track & Pedestrian track should be freed from illegal occupants so that it may be used by them.

Traffic department should make it mandatory for corporate, institutes and government organization to use public or Mass Transportation System as a compulsory to reduce the traffic problems. These above kinds of implication of solutions can mitigate the traffic jam in short run, but in long run all the

people should be involved to create awareness and responsible to the society, otherwise traffic jam solution is impossible.

CONCLUSIONS

Due to traffic jams, there is possibility of accidents because of poor traffic management. To eliminate road accidents and to save precious human life it is essential to find proper solution for traffic jams which is a global problem. The prime cause of traffic jams in Pune is street parking which should be strictly banned. Traffic jams constraints can be ameliorated by embarking on various strategies such as road capacity expansion, improved road infrastructures, restricting routes for Rickshaw, financial penalty to the traffic law breakers and application of Fly over. Most importantly, proper traffic management system along with appropriate implementation of traffic rules is necessary to mitigate the problems of Traffic problems in Pune. We created the problem and we will only solve this but for that group accountability is required. More Use of Public Transport, Less Use of road space to carry more numbers of commuters is the best and only solution to this social problem. The main purpose of this paper is to help Pune in reducing traffic jams and also in saving the lives of people. The theme of the paper is described in the following lines.

“Go slowly, someone is waiting for you at your home. Don’t drink and drive. Always wear Helmet and seat belt. This is your journey and it must be a Happy Journey.”

REFERENCES

- [1] Ruchi Mahajan (2013) Pune’s Chaotic Traffic-Problems and Solutions [Online]. Available:<http://www.bharatestates.com/blog/punes-chaotic-traffic-problems-and-solutions/>
- [2] Amudapuram Mohan Rao & Kalaga Ramachandran Rao (2012) “Measuring Urban Traffic jams”, International Journal for Traffic & Transport Engg, 2(4) 286-305.
- [3] Todd Alexander Litman, (2010), “Smart jams Reductions-Re-evaluating the role of Highway Expansion for Improving Urban Transportation”, Vol 1, 1-21.
- [4] Robert Cervero, (2003), “Road Expansion, Urban Growth & Induced Travel: A Path Analysis”, Journal of the American Planning Association, 69(2), 145-163.
- [5] MdAftabuzzaman, Graham Currie (2011), “Evaluating the jams Relief Impacts of Public Transport in Monetary Terms”, Journal of public transport, Vol 13(1), 1-24
- [6] Haribandhu Panda & RS Pundir, “Problems and possible solutions for better traffic management: A case study of Vadodara- Ahmadabad section of national highway eight”, Research Paper 19, August 2002, Institute of Rural Management, Anand (IRMA).
- [7] Manuj Darbari Sanjay Medhavi and Abhay Kumar Srivastava, “Development of effective Urban Road Traffic Management using workflow techniques for upcoming metro cities like Lucknow (India)”, International Journal of Hybrid Information Technology, Vol.1, No. 3, pp. 99-108, July, 2008
- [8] Rijurekha Sen & Bhaskaran Raman, "Intelligent Transport System for Indian Cities".

[9] P. Parvizi, S. Mohammadi, “Intelligent BRT in Tehran”, World Academy of Science, Engineering and Technology, pp. 1887-1890, 59 2011.

[10] Road accident deaths dip in 2013, but still one a day(2013) [Online]. Available at: <http://timesofindia.indiatimes.com/city/pune/Road-accident-deaths-dip-in-2013-but-still-one-a-day/articleshow/28353763.cms>

[11] Dr. M.V Begade(2013), Mobility of Masses-Issues & options, Indian Journal of Transport Management

[12] Draft National Urban Transport Policy, Ministry of Transport, Govt. of India, 1998

[13] Abhiram R Supekar(2008), Transport Options & Traffic Management in Urban areas: A case study of Pune city, IJTM

[14] Shekhar K Rahane, Prof. U R Seharkar ; (2013) Traffic congestion-Causes & Solutions: A study of Talegaon Dabhde city, Journal of Information, Knowledge & Research in Civil Engineering.

[15] Only 236 of 1,400 chowks in Pune have traffic signals (2014) [Online]. Available at: <http://www.dnaindia.com/pune/report-only-236-of-1400-chowks-in-pune-have-traffic-signals-1706144>

[16] www.google.com