

Road Accidents-Causes and Solution: A Study of Kota City

HarishUniyal¹, Mohd. Aquib Siddiqui², Rishita Bhatnagar³

1. Assistant Professor, Department of Civil Engineering, MAIT, Kota

2.B.tech Student, Department of Civil Engineering, MAIT, Kota

3. B.tech Student, Department of Civil Engineering, MAIT, Kota

ABSTRACT

Kota city is the industrial city of Rajasthan and also major coaching hub of India. Kota city is swiftly moving towards being a "Smart City" but moving cattle and road jam and encroachment on road is the biggest problem in Kota. Being a city where students come from all across the country, the condition of roads and transport system must be up to date, but this is not the true story about Kota, the picture is entirely different, the roads are narrow and very congested as the population is growing exponentially and roads are still the same. To solve this problem we should take a step for road capacity expansion, improved road Infrastructure, and restricting routes for auto rickshaw financial penalty to the traffic law brokers 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 Road accidents .

Key words: Smart city, traffic, road accidents.

1. INTRODUCTION

Kota is situated on the banks of Chambal River known as the Charmanwati in ancient Vedas. Kota is an industrial and education city as well as hub of power plants. There are hydro ,atomic, thermal power plants are present so there are electricity easily available every time. And due to Chambal river there are sufficient amount of water. These all facilities and employment attract people here. So the population is increasing day by day and when the population is increased , then the number of vehicle will be increased. Now kota has an unenviable tag-that of the world's seventh most densely populated city with a population density of 12100 people per square km according to the World Economic Forum(WEF). The number of total vehicles registered upto march 2019 is 8,54,669. Approximately 10.5% growth of vehicle in Kota city every year.In this paper we have discussed about the possible solutions for road accidents in Kota.

2. WHAT IS ROAD ACCIDENT ?

A road accident refers to any accident involving road vehicle, occurring on a road and in which at least one person is injured or killed.Road accidents occur when vehicles travel at higher speeds because there are more vehicles then the road can accommodate.

YEAR WISE ROAD ACCIDENTS IN KOTA CITY, RAJASTHAN

S. NO.	District	2014		2015		2016		2017		2018	
		Accidents	Deaths	Accidents	Deaths	Accidents	Deaths	Accidents	Deaths	Accidents	Deaths
1	Kota	1081	251	1073	256	951	232	794	235	792	227

REGISTRATION OF VEHICLES IN KOTA CITY, RAJASTHAN

Upto March, 2019

S. No.	District	Two Wheeler	Auto Rickshaw	Tempo		Car	Jeeps	Tractors	Trailers	Buses	Trucks	Others	Total
				Pass.	Goods								
1	Kota	669016	10599	3766	2619	61402	36020	28704	8685	4051	23201	1966	854669

3. WHAT ARE THE IMPACTS OF ROAD ACCIDENTS?

Road accident involves physical, financial and mental effects for everyone involved. Drivers and passengers can suffer from minor cuts and bruises to broken limbs, whiplash, back and spinal injuries, paralysis and even death, which impose costs on the economy and generate multiple impacts on urban regions and their inhabitants. Road accidents also has arrange of indirect impacts including the marginal environmental and resource impacts of road accidents ,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.

4. REASONS BEHIND ROAD ACCIDENTS IN KOTA**Inadequacy of traffic police**

Traffic police in Kota city in adequate numbers. It is only 159 over the 11 lakh population.

NARROW ROADS

Streets of old Kota area are not 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 the right of way to reduce road accidents. Moreover this will be less expensive and less time consuming due to land acquisition won't be required in this.

Illegal Parking

Illegal parking on the road is the main reason behind serious road accidents on different part of the Kota city. For example, in Gumanpura market, Shopping center road, Teenbatti to Dadabari chota chauraha, Santosi nagar chauraha mostly people parked their vehicle on road.

Increasing number of population

All the areas under Kota city are facing an increasing number of population which is a bad indicator for the traffic management and this could be a vital reason behind road accidents. Kota is education hub and approximately 1 lakh students coming from other states for their studies.

Higher Purchasing power of the public

Due to the higher purchasing power of the people, private transportation is increasing but existing roads and highway are not supportive or changing according to the increasing number of vehicle. As a result road accidents is increasing at an frightening rate.

Improper planning of city development

Development plan has its long term city development planning. But that planning is not proper.

Moving Cattles

Moving cattle is a big problem for road accidents. There are many incident when they are reason of road accident and cause of death and injury. As they appear suddenly and vehicles crash into them.



Moving Cattle



Traffic Jam (Aerodrome Circle)

5. SOLUTION OF TRAFFIC JAM

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.

Restricting routes for Rickshaw

Rickshaw should not be allowed in all the routes of the city. R.T.O should take some responsibility to control the increasing number of rickshaws by imposing registration fee and legal documentation.

Financial 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 disused the drivers from certain road accidents -causing habit such as wrong overtaking, one way driving. Mobile court should be introduced to fine the truck drivers for disobeying traffic law and driving unfit truck. This kind of implication of law 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.

Supply and demand

Road accidents 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, Road accidents 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.

Increasing and developing the manpower (Traffic police)

As the city is running with inadequate amount of traffic police, so it is duty of the responsible department 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.

Road widening

Road widening have been undertaken. However some research indicates that road widening provides only slight reductions in urban traffic road accidents.

PROBLEM AND SOLUTION AS PER AREA OF CITY:

1. Bajariya market (Market nearby the railway station):

Fruit vendors and shopkeepers keep their goods and items in front of their shops which cover maximum portion of the roads and leave less space for driving vehicles which results in increased rate of parking problems like shortage of parking space and traffic jams.

Solution: All the fruit vendors should be transferred to the new fruit market made by UIT.

2. Nayapura: Two issues were found at this place. There is no space of parking for the shopkeepers as well as for the commuters, it arises the issue of shortage of parking. Secondly, NH12 and NH76 are passing through this places because of which it comes under accident prone areas of the Kota city.

Solution: Construct parking place or complex in front of the Brij talkies for the shopkeepers and consumers, and the appropriate place for the mass transportation vehicles should be defined.

3. Arya Samaj road near Rampura: It is called to be the rampart area of the Kota which was established in early days of Kota history. This is most visited place for the consumers and known as the main market of the city. Still it suffers from the acute shortage of parking and there is no space of parking for shopkeepers as well as consumers. Due to which, people park their vehicles in front of the shops.

Solution: We need appropriate space for parking complex in this locality, which can be created in area called Motor Market (Gaadi Khaana), where we have proposed space to construct a parking lot.

4. Gandhi Chowk: Because of exuberant activities of business, frequencies of private vehicles create more traffic at this place. This place has narrow roads and shortage of parking space which generally results in traffic jams.

Solution: Develop parking lot or complex on the nearby place where a school established by the Nagar Nigam, Kota which helps us in providing space for parking vehicles for shopkeepers and commuters.

5. Chaar Khamba and Agrasen Market: Similar situation as that of Gandhi Chowk occurs in Rampura.

Solution: Develop parking complex at the place occupied by old unused building of old police quarters which will help in solving the problem of parking at this place.

6. Old vegetable market (sabjimandi): Similar problems as that of at Agrasen Market and Gandhi Chowk is faced at this place. Roads are narrow because of encroachment done by shopkeepers.

Solution: Shift this market to a new place and develop the parking lot in place of this market, which will provide space of parking for the residents, shopkeepers and consumers.

7. Shripura Market: There is no space of parking in this busy market.

Solution: Give the proper shape to the circle (Subhash Circle) located at this place which will help us in providing the space for parking.

8. Gumanpura Market: It is the core area of Kota city or it can be said that it is the place where you can find all branded showrooms.

Solution: Provide space for parking in the area of Multipurpose School. It will solve the problem of parking and flow of traffic in the Gumanpura market.

9. Chhawani (under the over bridge): A lot of public and private vehicles cross by this place and which creates the situation of traffic jam.

Solution: Remove the encroachment in front of the LIC building and provide the space for constructing a parking lot at that place. Take some charge to public for the vehicles parking under the flyover.

10. Aerodrome Circle: It is very busy and crowded circle in the city having lots of vehicle pressure. No space for appropriate parking for shopkeepers, commuters and other mode of transportation vehicles which create the situation of traffic congestion.

Solution: Make parking zone with support of airport's wall, it will solve the problem of parking at this place.

11. Commerce College Road (At Maitri hospital): It is the one way road and it has a lot of big private hospitals, but there is no an appropriate place for the parking because of this commuters face the parking problem and the patients in hospitals face the environmental problems like noise and air pollution.

Solution: The sewer channels in front of Maitri and Sudha hospital can be covered to solve the parking problem at this place .

6. CONCLUSION

Road accidents is a global as well as local problem. All over the world, the prime cause of road accidents is rash driving. In Kota city now road accidents is big issue . Different infrastructural and managerial projects are granted for reducing road accidents. However in Kota city this type of policy is not addressed yet. Road accidents constraints can be improved 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 road accidents in smart city Kota.

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