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Rethinking of Traffic Management and Road Safety Mechanism in Rural Areas: A Study of Rural Ahmedabad

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Abstract:

Traffic management and road safety are important components of modern urban planning and infrastructure development in India. We have seen that while urban areas have received considerable attention in improving these aspects, rural areas often face unique challenges that require a different approach. Our study examines the state of traffic management and road safety in rural area, with a particular focus on Rural Areas of Ahmedabad. Our rural areas, which generally include smaller populations and less developed infrastructure, experience specific traffic-related issues such as inadequate road infrastructure, limited public transport options and higher incidence of road accidents. The objective of our research is to shed light on these issues and propose new solutions according to the unique characteristics of rural areas.

Our study takes a multidisciplinary approach combining qualitative and quantitative research methods. The universe of our research will be the entire India and special focus on the rural areas of Ahmedabad. Furthermore, this research will explore the road traffic accident situation in rural parts of the Country, Gujarat, and Ahmedabad. Finally, this research article also discuss about the remedial measures for the improvement of the road traffic situation in the rural and community-based road safety initiatives will be evaluated for their feasibility and effectiveness.

Keyword: Traffic Management, Rural Areas, Road Safety & Technology

Introduction:

India is a diverse country with a complex road infrastructure network that connect its major cities, towns, and village areas. The road situation in India is a crucial aspect of its infrastructure, impacting on transportation system and the overall Indian economy. To understand the rural parts of the road situation in India, we must consider various factors: India's rural areas are spread out in whole country, from the Himalayan foothills in the north to the dense forests and plateaus in the central region and the arid deserts in the west. Each region presents unique challenges in terms of road infrastructure development. India has a massive road network that includes rural roads, district roads, state highways, national highways, and expressways etc. While the expressway, national highways and state highways are relatively well-developed, rural areas often face challenges with connectivity. There is a notable disparity in road infrastructure between rural and urban areas. Urban parts of the country typically have better road connectivity, while rural areas often have unpaved or poorly maintained roads.

Many rural areas in India lack of proper road connectivity, making it difficult for people living in these regions to access basic services, markets, and healthcare facilities. This connectivity gap has been a focus of government initiatives to improve rural road infrastructure. The Indian government has launched several initiatives to improve and develop road network and better connectivity in rural parts of the country. Programs like the Pradhan Mantri Gram Sadak Yojana (PMGSY) aims to provide all-weather road connectivity to rural parts of the country. Challenges in rural areas include terrain difficulties, weather conditions, funding constraints, and land acquisition issues. These challenges can slow down the road infrastructure development process in rural parts of the country. Improved road connectivity in rural areas can have a significant economic impact by facilitating the movement of agricultural produce and increasing access to markets. It also promotes tourism in scenic rural areas of our country. India continues to work on expanding and improving its road infrastructure, especially in rural areas.

Road Traffic Accidents Situation in Rural India:

In India, According to Accidental Deaths and Suicides in India (ADSI) Report 2022 of National Crime Records Bureau, Government of India, a total of 4,46,768 'Road Accidents' cases were reported which rendered 4,23,158 persons injured and 1,71,100 deaths. Road traffic accidents remain a significant public health issue in India, especially in rural areas with unique challenges and vulnerabilities. While urban parts of the country have received almost adequate attention regarding road safety measures, but rural parts of the country have often grappled with various

problems that contribute to the high incidence of road traffic accidents cases. The number of road traffic accidents is extremely high in rural parts of the country. While urban areas have better road infrastructure, road safety measures and strict traffic rules, rural roads are often poorly maintained, increasing the risk of road traffic accidents. A major challenge in addressing this issue is the lack of comprehensive approach to address these issues in rural parts of the country. Many incidents relating to road traffic accidents go unreported or are not properly documented, making it difficult to develop targeted interventions for the improvement of road traffic situation in rural parts of the country.

Rural roads are usually narrow, poorly lit, and often lack proper signs and road markings. This inadequacy contributes to road traffic accidents, especially during night-time travel. Rural areas often see the not respecting the traffic laws, use of overloaded vehicles, including trucks, agricultural vehicles, and buses. Overloading vehicles not only puts pressure on road infrastructure but also leads to accidents due to loss of control over the vehicle. In India, many rural drivers do not follow traffic rules and regulations. Helmet and seat belt use is low compare with the urban parts of the country. Speeding is common in rural parts of the country. A significant proportion of rural drivers lack proper training and education regarding safe driving practices, importance of road safety measures. Additionally, we have seen that access to emergency medical services is limited in rural parts of the country, increasing the cases related to the road traffic accidents. Table- 1.1 showed that the data related to the road traffic accidents situation in India and as per the data mentioned in table number 1.1 the highest number of the road traffic cases registered in the other roads including rural roads other than the national highways, state highways and expressways.

Table- 1.1 Road Traffic Accidents Situation in India (Category Wise Road-2022)

Road Category	Road Accident Cases	Total Number of Person Injured	Total Number of Deaths
National Highway	1,36,122	1,29,626	59,673
State Highway	1,06,155	1,03,571	42,003
Expressway	2,446	1,651	1,780
Other Roads	2,02,045	1,88,310	67,644
Total	4,46,768	4,23,158	1,71,100

Source: ADSI Report-2022, NCRB, Government of India

Road Traffic Accident Situation in Rural Gujarat

In Gujarat, according to Accidental Deaths and Suicides in India (ADSI) Report 2022 of National Crime Records Bureau, Government of India, a total of 15,777 'Road Accidents' cases were reported which rendered 15,139 persons injured and 7,634 deaths. But urban areas typically receive more attention in terms of road safety measures compare to the rural parts of the state. Road traffic situation in rural Gujarat has their unique challenges. The absence of enforcement of traffic laws, lower population density, and limited resources can make rural roads particularly hazardous. In this part we will explore the road traffic accident situation in rural Gujarat.

Rural roads often lack the necessary infrastructure, such as proper signage, lighting, and road markings, making them more accident-prone, especially at night. Rural parts of the state typically have narrow and winding roads due to encroachment of the roads, which can increase the risk of road traffic accidents, especially when drivers attempt to overtake other vehicles. Due to limited law enforcement resources, traffic rules are sometimes disregarded, leading to dangerous driving practices. Rural areas may have longer response times for emergency services, making it crucial to prevent accidents and reduce injury severity.

Table-1.2 shows that the Road Traffic Accidents Situation in Gujarat as per the data, the highest number of road traffic accidents cases registered in other roads including rural parts of the state i.e., 15,777.

Table 1.2 Road Traffic Accidents Situation in Gujarat (Category Wise Road-2022)

Road Category	Road Accident Cases	Total Number of Person Injured	Total Number of Deaths
National Highway	3,396	2,995	2,029
State Highway	4,097	4,342	2,163
Expressway	114	183	64
Other Roads	8,170	7,619	3,378
Total	15,777	15,139	7,634

Source: ADSI Report-2022, NCRB, Government of India

Road traffic accidents in rural parts remain a significant public health concern in our country, affecting both urban and rural areas. Rural Gujarat, with its vast network of national highways,

state highways and rural roads, has been witnessing an alarming increase in road traffic accidents over the past few years. Several factors contribute to this increasing road traffic accidents. Some of rural areas of Gujarat lack well-maintained roads, not proper road marking and traffic signals, increasing the risk of road traffic accidents. Lack of safety measures make it challenging for drivers to navigate these areas safely. Overloaded trucks and tractors are a common sight in this area. These vehicles not only pose a threat to the safety of other road users but also contribute to the deterioration of road surfaces in the rural areas. Speeding and reckless driving are prevalent in rural areas, often due to lack of awareness about the risks associated with it. Drivers, including two-wheeler and tractors, often ignore traffic rules and indulge in dangerous overtaking. Many rural drivers lack proper training and education regarding road safety. They might be not aware of defensive driving techniques or the importance of wearing a helmet and seat belt. The consequences of road traffic accidents in rural Gujarat are far-reaching and include tragic loss of lives due to accidents, leaving families devastated and communities in mourning. Survivors often suffer serious injuries and disabilities, leaving them with physical, emotional, and financial challenges throughout their lives. Road traffic accidents impose a substantial economic burden on affected families and the health care system. Medical expenses and loss of income can push families into poverty. Rural health facilities may struggle to deal with the influx of accident victims, further worsening an already stressed healthcare infrastructure.

The Government of Gujarat and its various departments have taken several steps to address the issue of road traffic accidents in rural Gujarat, investing in road construction and maintenance to enhance the quality of rural roads and state highways. Public awareness campaigns focusing on road safety have been launched to educate rural residents about safe driving practices and the importance of wearing helmets and seat belts. Law enforcement agencies specially Traffic Police Personnel have increased their presence in rural areas to prevent reckless driving and enforce traffic rules more strictly. Driver training programs have been launched to enhance the skills and knowledge of rural drivers. Better access to emergency medical services and ambulance networks have been established to provide timely assistance to accident victims.

Road Traffic Accidents Situations in Rural Ahmedabad

According to Accidental Deaths and Suicides in India (ADSI) Report 2022 of National Crime Records Bureau, Government of India, a total of 1,711 'Road Accidents' cases were reported which rendered 1,305 persons injured and 488 deaths. The highest number of road accidents cases registered in Other Roads including the rural roads of Ahmedabad District.

Table 1.3 Road Traffic Accidents Situation in Gujarat (Category Wise Road-2022)

Road Category	Road Accident Cases	Total Number of Person Injured	Total Number of Deaths
National Highway	217	178	90
State Highway	0	0	0
Expressway	6	19	4
Other Roads	1,488	1,108	394
Total	1,711	1,305	488

Source: ADSI Report-2022, NCRB, Government of India

Remedial Measures for the Improvement of Traffic Management and Road Safety Situation in Rural Areas

1. Proper Signage and Lighting: - Proper signage and lighting can significantly improve the visibility of roads at night and during adverse weather conditions.
2. Maintenance of Rural Roads: - Regular maintenance to keep road surface in good condition.
3. Adherence to Traffic Laws: - Strict enforcement of traffic laws like speed limit, usage of helmet, seat belt etc.
4. Training and Education: - Promotes training and education programme in field of traffic management and road safety including safe driving, Good Samaritan laws and Road User Behaviour, First Aid etc.
5. Road User Behaviour: - Through proper training, road safety education and strict enforcement of traffic laws can influence the road users behaviour for respecting traffic laws.
6. Use of Technology: - Implement technologies like Body Worn Cameras, speed detection cameras and radar to monitor and enforce speed limits.
7. Emergency Response Mechanism: - Enhance the availability of ambulance services and establish strong rural emergency response mechanism to reduce response time in road traffic accident cases.
8. Community Engagement: - Community engagement in rural parts of the country for road safety is important to develop road safety environment, promote responsible

behaviour among road users, reduce road traffic accidents etc. and help to develop overall road safety culture in the society.

9. Special Care of Vulnerable Road Users: - promotes the special care and attention to the vulnerable road users including senior citizens, two-wheeler, disabled person etc.
10. Multi Stakeholder Interventions: - Road safety is the multi-dimensional and multi-sector issues. Therefore, multi-stakeholder interventions is necessary to improve road traffic situation in the rural parts of the country. Road safety is a shared and collective responsibility of all the stakeholders starting from the central government to state government, non-governmental organization, academic institutions etc...
11. State Road Safety Council and District Road Safety Authority: - Each state must focus on establishing the State Road Safety Council and District Road Safety Authority with adequate financial and human resources arrangement of these organizations.

Conclusion:

Currently in India, rethinking traffic management and road safety mechanisms in rural areas is an important effort to ensure the safety and well-being of rural residents while promoting economic growth. We have seen that the government has done a lot of work in Rural Areas of Ahmedabad, the proof of which can be seen by observing the work and development happening on the ground. We saw that the rural areas are definitely irrigated, but people follow the general traffic rules. By expanding their infrastructure, raising awareness, engaging the community, and leveraging technology, the regions of Ahmedabad are making considerable progress towards safer and more efficient rural transportation systems. This serves as an example for other rural areas to follow, which will ultimately lead to better road safety and a better quality of life for all residents. The common people here are peace-loving due to which the traffic here is moving without any problem. But the state governments will have to work very strictly to make these areas more secure.

Reference

National Crime Records Bureau (2022), Accidental Deaths & Suicides in India, Ministry of Home Affairs, Government of India.

Mandhare, P. A., Kharat, V., Patil, C. Y. (2018). Intelligent road traffic control system for traffic congestion a perspective. *International Journal of Computer Sciences and Engineering*, 6(07).

Davis, A. (1997). Road transport and health.

Ruikar, M. (2013). National statistics of road traffic accidents in India. *Journal of Orthopaedics, Traumatology and Rehabilitation*.

Goel, S. L., (2014), Police Governance and Administration.