Preliminary Recommendations for Road Safety Audit at the Junctions

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Summary

Road safety has such a profound effect on people as individuals, families, and communities, this report emphasizes how important it is. It suggests a multifaceted strategy to increase traffic safety.

Infrastructure Improvements: For a safer traffic flow, it is essential to upgrade road design (separated lanes, signage, intersections), maintain roads, and improve lighting.

Enforcing traffic rules: improving driver education, and increasing public awareness of responsible driving practices are all crucial to promoting safe driver behaviour.

Safeguarding Vulnerable Road Users: Pedestrian, bicycle, and kid safety is given first priority when policies such as bike lanes, designated walkways, and school zone safety elements are put into place.

Introduction

Traffic safety is very important. Junctions are crucial locations where several traffic streams converge, necessitating careful planning and management to reduce the chance of accidents. T-junctions and four-way junctions are two common types of junctions that are the subject of this report's preliminary suggestions for a road safety audit. As shown in the Figure 1 below.

Figure 1

T – JUNCTION

Traffic Flow: Compared to four-way intersections with traffic lights, T-junctions provide easier construction and maybe more capacity for traffic.

Security Issues:

- T-junctions feature a higher number of conflict spots, especially for cars turning left, which raises the possibility of collisions. IRC: SP 41 (2014) is cited.
- When traffic signals are used: T-junction signals that are not timed correctly might result in delays and traffic jams.
- Turning lanes: Insufficient turning lanes can lead to traffic jams and put turning cars in danger.
  Taking into account
- Traffic volume: Lower to moderate traffic volumes may be appropriate for T-junctions.
- Turning lanes: Sufficient designated lanes are essential for safety, particularly when making a left turn on busy roadways. IRC: SP 41 (2014) is cited.
- When traffic signals are used, they must be timed correctly to maximize wait times and facilitate smooth traffic flow.

Four-Way Junction

Traffic Control: For improved traffic flow control, particularly in high-volume scenarios, four-way junctions frequently use traffic signals.

Benefits to Safety: Compared to uncontrolled T-junctions, traffic signals can lower conflict sites and increase safety for all users, including cars, pedestrians, and bikes.

Taking into account

- Signal operation: It's critical that traffic signals are maintained and operated properly.
- Timing of the lights: For efficient traffic flow and to reduce congestion, traffic signals must be timed perfectly. IRC: SP 41 (2014) is cited.
- Pedestrian crossings: For safe pedestrian movement, designated crosswalks with pedestrian signals are necessary. IRC: SP 19 (2001) is cited.

- ## Strategy to increase traffic safety by emphasizing crucial areas:

  Infrastructure Improvements: For a safer traffic flow, it is essential to upgrade road design (separated lanes, signage, intersections), maintain roads, and improve lighting.

  Enforcing traffic rules: improving driver education, and increasing public awareness of responsible driving practices are all crucial to promoting safe driver behavior.

Safeguarding Vulnerable Road Users: Pedestrian, bicycle, and kid safety is given first priority when policies such as bike lanes, designated walkways, and school zone safety elements are put into place.

Pedestrian Safety:

- Crosswalks and Signals: Check if there are any authorized crosswalks or pedestrian signals nearby. If they aren't there, install them immediately, especially at busy intersections. IRC: SP 19 (2001) is cited.
- Refuge Islands: To provide a safe waiting area for pedestrians during multi-stage crossings, think about including refuge islands within the median.

Markings and Signage:

- Inventory Signage: Make a complete inventory of all the pavement markings and signs that are currently in place, looking for any damage, missing pieces, or unclear information. IRC: SP 21 (2009) is cited.
- Signage Compliance: Verify that signs adhere to the most recent traffic laws as well as the finest standards for placement and clarity.

Data and Technology:

- Advanced Driver Assistance Systems (ADAS): Promoting the installation of ADAS technologies in new cars, which can help drivers and reduce accident rates. Examples of these systems include automated emergency braking and lane departure warnings.
- Data Gathering and Analysis: Gathering and examining accident and traffic data to pinpoint high-risk regions and trends. Targeted safety interventions can be informed by this data.

Conclusion

A multifaceted strategy is needed to increase road safety, with an emphasis on safeguarding vulnerable road users, encouraging safe driving practices, and improving infrastructure. All users of the road—cyclists, pedestrians, cars, and passengers—can experience a safer environment by putting the report's suggestions into practice.