

standards and safety measures rendered by (425) 85%. The qualitative inquiry augmented these findings with all the stakeholders.

**Learning Outcomes** The loopholes in safety standards of automobile industry, lack of knowledge of customer about safety measures and non-existing surveillance by law enforcement authorities result in compromised quality of vehicle and paves way for looming disaster.

### 3C.002 SAFE SYSTEM ASSESSMENTS – PREVENTING SERIOUS INJURY IN TRANSPORT

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**Context** The Safe System, an internationally recognised philosophy for planning, design and operation of a transport system forms the basis of the Vision Zero movement. Safe System Assessments (SSAs) are a process for quantifying transport projects' alignment with Safe System principles. Austroads documented the process in AP-R509–16 SSA Framework.

**Process** When applied to infrastructure SSAs score existing and proposed infrastructure on alignment with Safe System principles. Scores are based on key crash types and risk so that full Safe System would achieve a score of zero. After scoring, recommendations are provided to further reduce the score.

**Analysis** In Victoria, 327 SSAs have been completed on projects including road upgrades, road duplications, route upgrade projects and new town bypasses. Taking one example, the SSA process was used to analyse a freeway upgrade.

**Outcomes** Analysis of the widening of the Tullamarine Freeway (Melbourne) indicates that for run-off-road crashes the Safe System score before the widening was 30, the original widening design was 24, but a formal SSA reduced the score to 16.

**Learning Outcomes** Reviewing the first 50 SSAs in different road environments identified common issues of planning and road design that have less than desirable alignment with Safe System principles. These include unprotected roadside areas of interest, intersections with high potential kinetic energy crashes, mixing of high-speed traffic with vulnerable road users and designs that cause maintenance and/or emergency vehicle access difficult and dangerous.

### 3C.003 GLOBAL PREVENTION OF NEUROTRAUMA-ROAD TRAFFIC COLLISIONS (GPONT-RTC)

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**Background** Neurotrauma from road traffic collisions (RTCs) is one of the leading contributors to traumatic injury worldwide, particularly in low and middle-income countries (LMICs). As a preventable entity, it is imperative that appropriate measures are put in place to reduce the burden. As research on and implementation of preventative strategies in

LMICs are inconsistent, there is a need for accurate epidemiological and qualitative data collection to better understand the issues surrounding RTCs prevention.

**Methods** This research will utilise a mixed-methods approach that is informed by the Canadian Institutes of Health Research Knowledge-to-Action Framework. It involves a scoping exercise consisting of a scoping review and consultation with key informants, epidemiological data collection, and qualitative work with relevant stakeholders.

**Results** The scoping exercise will map the quantity and breadth of preventative strategies for neurotrauma and RTCs globally, which will be discussed with key informants who would also identify local issues and research priorities. Epidemiological data will capture the determinants and distribution of RTCs, and the qualitative data will provide further depth and explanation of the quantitative findings.

**Conclusions** It is hoped that data from this project will be used for the collaborative development of sustainable, context-appropriate interventions for the prevention of RTCs and neurotrauma in LMICs.

**Learning Outcomes** The consultation exercise and qualitative work exemplify patient and public involvement (PPI), engaging and building networks with a variety of stakeholders who could influence policy and practice. Also, the quantitative exercise would be instrumental in developing monitoring and evaluation systems for RTCs in LMICs.

### 3C.004 SAFER PUBLIC BUS TRANSPORTATION IN INDIA

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**Context** India reports the highest number of road deaths globally, with nearly 150,000 people dying annually. Public buses in India play a major role, serving 70 million passengers daily. Safety of these buses is a major concern. Aligned to SDG 3.6, this initiative is aimed to reduce public bus crashes.

**Process** Between 2015–2017, WRI India and UL studied historical crash data of 13 bus transit agencies to analyze the reasons of crashes and drive programmatic interventions to improve safety. One finding was that a majority of buses were plying with substandard mirrors, which greatly compromised the field of vision of drivers, resulting in crashes involving motorcyclists and pedestrians.

**Analysis** In 2017, we retrofitted 46 buses with standard rear-view mirrors in Bengaluru and evaluated the impact on blind spots and driver experience. The results indicated that the replacement of small mirrors with standard-sized rear-view mirrors improved the field of vision significantly (11% on the driver's side and 103% on the passengers' side). Further, 80% of the drivers surveyed felt this improved their experience and comfort.

**Outcomes** This evidence was used to nudge bus transit agencies to improve the quality of mirrors in their bus fleets; subsequently, two agencies issued tenders to procure standard rearview mirrors.

**Learning Outcomes** To ensure sustainable impact, there is a need for overhauling the current regulatory policies and practices to enforce the usage of standard mirrors in buses. This should include capacity building activities like training the drivers and other agency staff to facilitate compliance.