



CSIR TRANSPORT SAFETY LABORATORY: DRIVING SAFETY FORWARD, ONE INNOVATION AT A TIME

The CSIR Transport Safety Laboratory (TSL) aims to be the premier research facility in Africa, dedicated to enhancing transport safety through innovative research, advanced technology, and multidisciplinary collaboration. Our mission aligns with national goals to improve transport safety, support sustainable development, and foster economic growth. Through addressing key factors such as safety, human behavior, cost, and environmental impact, the CSIR Transport Safety Laboratory focuses on filling the significant research gap in understanding human factors contributing to road crashes in South Africa. By leveraging advanced data collection and modeling tools, the lab is poised to provide innovative crash risk prevention solutions.

Our Value Proposition

- Comprehensive Research Capabilities:** The Safety lab provides extensive research on road safety, particularly focusing on public and freight road transport. Equipped with sensor cameras and advanced data collection tools, it offers detailed insights into crash risks and human factors.
- Pioneering Solutions:** Developing cutting-edge solutions to reduce road carnages, the lab emphasizes the importance of human factors in road safety, a critical yet under-researched area in South Africa.
- Support for National Objectives:** Aligned with South Africa's goal of becoming a global leader in safe, reliable, effective, and efficient transport solutions, the lab plays a crucial role in enhancing the country's transport infrastructure.



Contact: Lerato Kgoa | **E:** LKgoa@csir.co.za | **www.csir.co.za**

Our Research Capabilities:

- **Human Factors:** Investigating driver behavior, decision-making, and the impact of cognitive and emotional states.
- **Infrastructure Safety:** Assessing road design, construction, and maintenance to identify hazards and recommend improvements.
- **Vehicle Testing:** Evaluating safety performance and testing new safety technologies.
- **Ergonomics:** Analyzing vehicle interiors to enhance driver comfort and safety.
- **Crash Contributory Factors:** Identifying and analyzing environmental, human, and mechanical elements contributing to crashes.

EXPERTISE AND EXPERIENCE

Dr. Karien Venter - PhD (Civil):

A highly experienced social researcher with a strong background in road safety and traffic management research projects. She has contributed to multidisciplinary projects in the CSIR since 2008.

Khangwelo Muronga – MTech (Business Information Systems):

A Research Group Leader with expertise in project research and coordination. With a focus on road safety through technological advancements, he leads research on road restraint systems, crash testing, and transport infrastructure management to improve road safety in Southern Africa.

Lerato Kgoa - BSc (Eng) Civil:

A senior researcher with a background in highway capacity modelling and analysis, road safety audits and public transport planning. She is working as the transport safety Project Manager overseeing several road safety research projects.

Busisiwe Marole - BSc (Eng) Civil:

A candidate civil engineer and researcher leading various innovative transport safety projects and presenting research at national conferences.

Ismail Sallie:

A data systems technician extensive experience in data analysis, reporting, and database design. He has been instrumental in developing the data platform for the Transport Safety Lab.

Koketso Bosilong:

A candidate researcher with a focus on conducting research, analysing driver behaviour and enhancing road safety using the NOLDUS smart eye system. Her work aims to contribute to the development of safer and more efficient transport systems.

Tebogo Matsuang:

A multi-talented and multi-skilled professional with a robust background in Information Technology and lightweight electrical engineering to drive innovative solutions. He has an ability to seamlessly integrate his varied skills and has been instrumental in enhancing transportation systems, ensuring they are more efficient, safe, and sustainable.

Tshegofatso Mongae:

An emerging professional in overseeing field data collection and managing the Noldus Smart Eye system, she has played pivotal roles in several key projects. Her expertise lies in the implementation and operation of advanced behavioral research technologies, ensuring precise data acquisition and analysis.



Contact: Lerato Kgoa | **E:** LKgoa@csir.co.za | **www.csir.co.za**



Industry Partnerships and Success Stories

- 1. Fluorescent Yellow Signage Study:** The CSIR Smart Mobility team conducted a pilot study on the effectiveness of fluorescent yellow road signage, aligning with the Safe System Approach (SSA). This study aims to improve road safety by enhancing the visibility of hazardous locations, contributing to a safer road environment.
- 2. Namibia Road Authority (NRA) Collaboration:** NRA delegates visited the CSIR Transport Safety Laboratory to explore collaborative road infrastructure projects. This visit reinforced the longstanding relationship between CSIR and NRA, aiming to reduce road fatalities in Namibia through joint efforts.
- 3. Road Restraint System Crash Test Study:** The CSIR participated in a crash test event evaluating the effectiveness of road restraint systems. This research aims to protect vulnerable road users and develop better safety interventions.
- 4. Abnormal Load Permits Training:** The CSIR hosted training on the Abnormal Loads Permit System, enhancing the participants' capabilities in issuing permits efficiently and adhering to relevant regulations, thus protecting road infrastructure, and ensuring safe transportation.

Unique Selling Points

- **Advanced Equipment:** The lab features state-of-the-art tools for data collection and analysis, including sensor cameras and the Noldus Smart Eye system.
- **Collaborative Opportunities:** Open for partnerships with industry and government entities, the lab offers a platform for joint research and development projects.
- **Expert Team:** A team of experienced researchers and technical assistants provides robust support for a wide range of transport safety initiatives.
- **Comprehensive Services:** From research and analysis to training and implementation, the lab offers end-to-end solutions for transport safety challenges.

Accessibility

- Conveniently located at the CSIR premises, the Transport Safety Laboratory is easily accessible to both local and international clients.
- The lab is designed to accommodate various client needs, ensuring a seamless engagement process.

Contact: Lerato Kgoa | **E:** LKgoa@csir.co.za | **www.csir.co.za**



Speed and Agility

The lab prides itself on its ability to deliver rapid and accurate results. With efficient processes and advanced tools, the facility ensures timely completion of projects, allowing clients to implement findings promptly.

Pricing

Offering competitive and flexible pricing models, the CSIR Transport Safety Laboratory ensures affordability without compromising on quality. Custom packages are available to meet the specific needs of different stakeholders.

Why Engage with the CSIR Transport Safety Laboratory?

- **Unmatched Expertise continent:** Leverage the extensive knowledge and experience of the CSIR team to address complex transport safety issues.
- **Innovative Solutions:** Access cutting-edge research and technology to develop effective road safety interventions.
- **Commitment to Excellence:** Engage with a facility dedicated to achieving excellence in transport safety, aligned with national and global standards.



Contact: Lerato Kgoa | **E:** LKgoa@csir.co.za | **www.csir.co.za**