

Integrated Traffic Management System for Safe and Sustainable Mobility

Sri Lanka does not have an integrated traffic management system but the need of the integrated traffic management system in the capital city is often highlighted in many forums. Integrated traffic management is a system where centrally-controlled traffic signals and sensors regulate the flow of traffic through the city in response to demand. If the traffic is properly managed, the unnecessary delays in urban areas can be avoided. Therefore, the objectives of this study are to: develop a traffic count sensor based on image processing, develop an integrated traffic management system using big data and neural networks for small transportation zone, using live statistics obtained from image processing from nearby intersections, develop safety performance function for urban areas for investigating the safety issues, and identify effective countermeasures by simulation.

Team Members

Name	Role of the Project
Prof. Niranga Amarasingha Team Leader	Principle investigator
Dr. Rohana Thilakumara	Big Data Analysis; Image Processing Integrated traffic management system
Ms. Malika Lakmali Guruge	Statistical Analysis
Prof. Sunanda Dissanayake K-State	Recommendation for traffic management approaches
Dr. Asiri Kulathunga	Calibration of VISSIM
Prof. Pradeep Abeygunawardana	Image processing, Big data analysis, and Pedestrian data
Prof. Chandana Perera	Development of Safety Performance function
Ms. Manusha Eeshwara	Big Data Analysis; Image Processing

	Integrated traffic management system (Mphil Applicant)
Ms. Sarala Gunathilake	Development of Safety Performance function (Mphil Candidate)
Mr. Charith Sucharitharatna	Image processing (Mphil Applicant)
Dr. Vasantha Wicramasinghe	Recommendation for traffic management approaches
Mr. Dinakara Gunarathne	Recommendation for traffic management approaches (Mphil Student)
Mr. Shenura Jayathilake	Recommendation for traffic management approaches (Mphil Applicant)

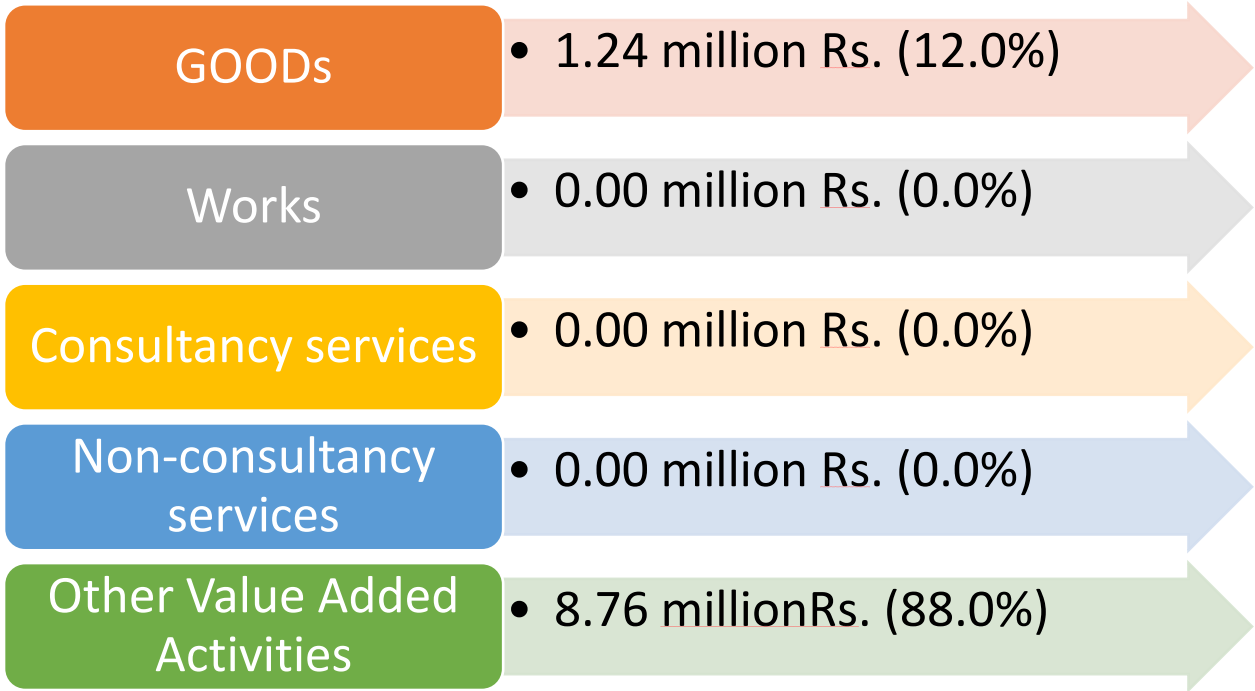
Key contribution

This study identifies safe and sustainable mobility improvement programs which is drawn from the examination of the safety performance functions and simulation study. Thereby, the countermeasure can be implemented to reduce or prevent the road congestion and the traffic crashes. Human lives are invaluable, and this study proposed the countermeasures to reduce crashes and thereby traffic injuries and fatalities would beneficial all human being in the country. This helps for social and economic development of the country.

Grant Type

AHEAD Research: Development Oriented Research Grants

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Duration

3 years