

# **Enhancing Road Safety Through Tire Specification Awareness: An Empirical Study Among Commercial Drivers in Ghana**

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This study explores Ghanaian driver knowledge of vehicle tire specifications and assesses the implications for road safety, with a particular focus on economic considerations, training deficiencies, and regulatory enforcement. Drawing on Rational Choice Theory, Safety Culture Theory, Behavioral Learning Theory, and Social Learning Theory, the research investigates how knowledge gap deficit affects tire choice and safety behavior. Quantitative design was used to examine driver ability to interpret tire labels, the factors shaping their tire selection decisions, and the broader socioeconomic and regulatory contexts that influence driver behaviour. Data were collected from 300 commercial drivers and 22 tire dealers through a structured questionnaire within the Accra Metropolitan Assembly. Findings reveal a profound knowledge deficit, as no respondent could accurately identify standard tire labelling indicators. Economic considerations, such as affordability and perceived usefulness, emerged as key determinants of tire choice. Additionally, regulatory failures, including informal tire markets and weak enforcement, were found to exacerbate risks. The paper contributes to providing practical insights for policymakers aiming to mitigate tire-related crashes and strengthen transportation safety in Low-middle-income countries (LMICs) such as Ghana. The study recommends a policy to integrate tire safety education into driver licensing protocols, public education, and cross-sectoral collaboration to improve tire safety awareness and reduce road crashes.

## **Keywords**

Tire specifications, Driver knowledge, Rational Choice Theory, Safety Culture Theory, Behavioural Learning Theory, Social Learning Theory.