EVALUATION OF LONGITUDINAL AND LATERAL FRICTION OF SRI LANKAN ROADS

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ABSTRACT

The road construction boom in Sri Lanka added new roads and expressways. With the improvement of roads, the exposure to accidents appears to be significant. Though appropriate methods are adopted during the design stage to ensure the road safety and due considerations were taken during the construction stages, it has been noticed significant increase in accidents and it may be purely because of the nature of the new road for road users. Pavement friction contribution is one of the key elements required for ensuring highway safety.

The longitudinal as well as the lateral friction determines the functional performance of the roads. The geometric design is carried out in Sri Lanka is based on Austroads, AASHTO publications and the guideline of RDA publication in the year of 1998, which is also prepared based on Austroads and AASHTO publications. It is a timely decision in local context to test the applicability of these friction parameters and to find out any variations and to provide recommendations. The outcome from this research will be very useful in the geometric design of highways, Pavement Management, construction and maintenance of roads. With limited studies and experiments in local roads for dry and wet conditions recommendations for the longitudinal friction coefficient has been formulated.

Regarding friction measurements, every country has instruments and methods of its own. But in Srilanka, due to the unavailability of new testing instruments, our data collection is limited to a conventional testing.

The information provided, will serve as the basis for further research and recommendations. Most importantly, it presents the case for reconsidering values of adopted for the design manual on a) Coefficient of longitudinal friction for asphalt b) the design of highway improvements with the longitudinal and lateral friction.

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List of Abbreviations

Abbreviation	Description
AASHTO	American Association of State and Highway Transportation Officials
IFI	International Friction Index
MTD	Mean Texture Depth
NMA	Nominal Maximum size of the aggregate
PIARC	Permanent International Association of Road Congress
RDA	Road Development Authority
SSD	Stopping Sight Distance
VMA	Voids in the mineral Aggregate
VTM	Total voids in the mixture