

## Review of Axle Load Limits on Provincial Roads

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In 1989, According to the Provincial Council Act, the responsibility of managing of about 16,500 km Provincial roads which were classified as class C & D and Gazette noticed as maximum gross weight limit of 05 Tons were handed over to Provincial Road Development Authorities. Since these roads are the secondary links to the national road network, some of them are being used for transporting for heavy cargo. These roads had not been designed for such a heavy traffic. Currently, many roads experiences lot of deformations (rutting and settlement), cracking and shortening of the life time. As a result of poor operating conditions of these roads, users have to bear high vehicle operating cost and unsafe conditions leading to high risks and the road agencies request additional funding from the budget.

Primary objective of this study is to review of axle load limits in provincial roads and formulate a simple but reliable method to establish the axle load limits. To find out the optimum allowable Gross weight/ Axle weight limit, the life cycle cost with unique level of maintenance and services throughout the design period has been considered. A case study was conducted for Dodangoda-Thebuwana road in Kalutara district.

ESAL level of the roads were calculated based on the manual classified counts (MCC) survey and vehicle load survey. Load survey was conducted on road sides to survey the load factor and the commodity type of commercial vehicles. Distributions of gross weight among axles were estimated and converted axle load in to ESAL. Cumulative ESAL during the design life was estimated for axle load limit of no limit, 4 MT, 5 MT, 6 MT and 8 MT. and the gross weight limit of no limit, 6 MT, 8 MT, 10 MT and 15 MT. Pavement designs for the traffic level and selected subgrade conditions were estimated and the life cycle cost analyses were performed to estimate the axle load limits for provincial roads.

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