

Gravel roads for Sri Lanka

Nearly 60% of Sri Lanka's road network belongs to the category of unpaved roads. They are either earth roads or gravel roads. Unfortunately, most of these unpaved roads are not in good condition and the local authorities are spending a lot of money to convert these to paved (metal and tarred) roads due to public pressure. This has resulted in even higher spending in maintenance in the long run.

This study looks into the problems associated with the unpaved roads in Sri Lanka and study the possibility of using properly built gravel roads as a solution to the higher cost in road maintenance in rural areas. Traffic surveys and road condition surveys were conducted to identify the present traffic volumes and to identify the present traffic volumes and to identify the primary reasons for road failures.

Surveys revealed that the traffic volumes on these gravel roads are very much less than 150 vehicles per day. Percentage of heavy vehicles using gravel roads is found to be very small. It is found that lack of drainage facilities, surface runoff and lack of proper geometric standards are the main reasons for road failures. It is recommended to use minimum gravel surface width of 3.5m with sufficient shoulders to minimize the effects due to surface runoff. Further, it is recommended to use a combination of maximum and average longitudinal gradient. If the average gradient limitation cannot be met, it is recommended to use maximum gradient at curves and to pave these small sections (at curves) to prevent surface erosion.