

# Pavement Evaluation For Low Volume Roads

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Rural roads are often treated as the last link of the transport network. India has a rural road network of about 2.7 million km developed and this constitutes over 80 per cent of the total road network length. The performance of road network in low volume roads will be significantly influenced by degree of maintenance. In the functional behaviour study, different types and degrees or severity of distress are evaluated and time series distresses data are used to predict the pavement performance. Based on performance prediction models it is possible to select the best alternative rehabilitation or maintenance measure. In the present investigation four rural road sections were identified in Warangal district of Andhra Pradesh. Distress data covers the rutting, cracking, potholes, edge break and traffic volume data, sub-grade soil properties were taken into consideration, time series distress data was developed using Highway Development Management (HDM-4) software and prediction models for cracking and ravelling for responsive and scheduled criteria were developed using statistical tool, NCSS. In addition to this different maintenance and improvement alternatives were also studied to upkeep the pavement life.

## Rural Roads In India

India has the second largest length of road networks in the world totaling to 3.3 million km. These roads vary from single lane gravel roads to multi lane high speed corridors. Most of these rural roads were neglected in the past, but with the rapid increase of Indian economy and public demand for better road infrastructure, the Government of India has taken up several road building programmes. For the development of these rural roads, Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched in December 2000 by the Government of India to

provide connectivity to unconnected rural habitations as part of a poverty eradication measure. Similarly, increased non-farm employment and higher rural wages also enhance incomes of the rural poor and consequently, reduce rural poverty. The first priority of rural road spending should always be to maintain those roads which are functionally important and currently in reasonably good condition. This approach has been consistently shown to give greatest returns in maximizing rural accessibility, but is frequently overlooked in favour of more expensive works to rehabilitate or upgrade road sections in worse condition or build new roads. The maintenance selection criteria should take account of traffic flows and functional importance. If budgets are limited, it may be necessary to exclude some roads, even in good or fair condition, from the core network. This implies a "disinvestment" in these routes, typically due to low traffic flows or low functional importance.

## Road Maintenance

Majority of the road length under the state roads other than national highways is single lane only. The funds available for maintaining the roads, in traffic worthy conditions, are not



Fig 1: Measuring The Properties Of Pavement Layers Through Dynamic Cone Penetration (DCP) Equipment