

Abstract

Title: Roadway Drainage System

Sub-Title: Evaluation of the performance of roadway drainage system used in Irish national roads.

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Purpose: The main purpose of this research is to establish efficient, sustainable and cost effective design options for roadway drainage in Irish national road schemes. The proposed research focuses on application of triangular or rectangular concrete surface water channels and concentrates on review of literature related comparisons of performance of various road drainage system used in Irish national roads.

Methodology: The research methodology employed in this study is comprised of a critique of published literature on road drainage system and primary research as referred below. This commenced with a broad literature review of road drainage system used in Ireland, in the UK and the other developing countries in the world in relation to quality, cost effectiveness, safety and environmental aspects. This sets out the various theoretical perspectives adopted by the researcher. A qualitative research methodology was adopted where semi-structured interviews and visual surveys have also been carried out.

Findings: The installation of triangular or rectangular concrete surface water channels in Irish roads can increase cost effectiveness for the maintenance period, enhances safety for the road users and protecting the environment. The lack of finance from the road authorities has slowed the maintenance programs for roadway drainage system; therefore, maintenance of the system could be introduced through Local Public Private Partnership (LPPP) approach if the purpose is to achieve the value for money. The uses of innovative materials and techniques will improve cost effectiveness of the system.

Keywords: *Roadway drainage, maintenance, sustainability, innovation, environment, safety.*