

APPENDIX B4 – RESEARCH PROJECTS

Research Project	Laboratory simulation of potholes
Research Body	University of Nottingham, Nottingham Transportation Engineering Centre (NTEC)
Theme / Scope	Study of pothole formation in a simulative test.
Duration	September 2011 – June 2012
Contact	Dr N Thom

Research Project	Understanding the mechanisms of pothole formation
Research Body	University of Nottingham NTEC
Theme / Scope	Improved engineering understanding of pothole behaviour mechanisms including initiation and distress development. [Project includes development of prototype pothole repair test device subject to contribution funding.]
Duration	October 2011 – June 2014
Contact	Dr N Thom

Research Project	Performance of asphalt patch repairs
Research Body	Nottingham Trent University & University of Nottingham NTEC
Theme / Scope	Trafficking in dry and wet conditions of filled potholes in NTEC Pavement Test Facility plus non-destructive testing at intervals using ultrasonic, impact echo and dynamic plate, and comparison with field data.
Duration	October 2011 – May 2012
Contact	Dr M Rahman Dr N Thom

Research Project	Smartphone application for pothole detection and management
Research Body	University of Nottingham NTEC
Theme / Scope	Pothole defect identification using real time accelerometer data from Smartphones to enable detection, location and severity of potholes as they develop thereby creating management efficiency and timely repair. [Concept proven but deployment into regular practice requires support funding.]
Duration	Highway Asset Management Research project to March 2013
Contact	Dr T Parry Dr M Byrne

Research Project	Potholes in asphalt surfacing materials
Research Body	University of Ulster
Theme / Scope	Pothole formation in asphalt surfacing materials using new and innovative performance based techniques, covering initial development and subsequent growth.
Duration	September 2011 – May 2014
Contact	Dr D Woodward

Research Project	Repairing potholes and road defects
Research Body	Karlsruhe Institute of Technology, Germany leading, with a number of European partners [UK partner –Transport Research Laboratory (TRL)]
Theme / Scope	To address the needs of road agencies for durable construction and maintenance methods for the repair of damage after hard winters, and to provide guidelines for repair material selection.
Duration	October 2011 – September 2013
Contact	Dr C Nicholls

Research Project	Effective management of the highway asset
Research Body	University of Nottingham NTEC
Theme / Scope	State-of-the-art data mining algorithm up-scaling to cope with network-level data, and outputs integrated with wider asset management. In a Knowledge Transfer Partnership with Devon County Council to enable deployment into practice.
Duration	TBC
Contact	TBC

Research Project	Diagnostic pavement deterioration model
Research Body	University of Nottingham NTEC
Theme / Scope	Machine learning to enable health diagnosis of a road pavement, mirroring the expert approach used by practitioners to incorporate available knowledge and information. Enhanced modelling will increase deterioration prediction accuracy and enable improved asset management.
Duration	TBC
Contact	TBC