

2019-2020 NACOE Research Program

NACoE Project

Number Title

PAVEMENTS

P10	Cost Effective design of asphalt pavements at Queensland pavement temperatures
P40	Benefits of Traffic Speed Deflectometer (TSD) data in pavement analysis
P43	Long Term Pavement Performance Project
P45	Implementation of thin asphalt surfacings in QLD
P55	TIPES evaluation protocol for innovative road surfacing products
P59	Best practice non-destructive testing in assurance of asphalt
P60	Best practice in compaction quality assurance for pavement and subgrade materials
P69	Selection and use of unbound granular pavements with thin asphalt surfacing
P72	Investigate the moisture susceptibility of cement treated materials
P75	Transferring CRM GGA technology to QLD
P76	The use of recycled glass in roads
P78	Investigate skid resistance related operating requirements for outcome based contracts
P94	Use of recycled materials in pavement layers
P104	Sprayed sealing in challenging conditions and environments
P105	Intelligent compaction – Assessment of the benefits and limitations for QA in road construction
P109	Borehole investigation on steep sloping ground
P110	Development of TMR geotechnical database for expansive soils in QLD
P111	Improved Crumb Rubber Modified Binder Sprayed Sealing Practices
P112	Characterising non-standard materials using the Texas Triaxial test
P113	Road construction material database
P114	The performance of BTB pavements in QLD

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ASSET MANAGEMENT

A20	Improved model to predict the remaining life of sprayed seal surfaces
A34	Customer based level of service in road maintenance
A35	Identification of Residual Risk for each Element and Development of a Funding Allocation Methodology for Elements
A41	Benchmarking asset management practices and developing improvement actions
A44	Synthesis & dissemination of best practice & value asset preservation for sealed roads
A46	Improved models for assessing the backlog in maintenance

STRUCTURES

S26	Review of TMR WIM systems and strategies for traffic DC for bridge AM: Virtual WIM & HV tracking - Feasibility & Value
S33	Develop new manual of repairs for non-timber bridges
S44	Implementing learnings from TMR/NACOE research projects into TMR practice and technical documents
S51	Suitability of the Use of Recycled Aggregate in Concrete
S52	Deck unit bridge management recommendations
S54	Use of cathodic protection to increase the remaining life of steel culverts
S57	More Flood Resilient Bridge Approaches
S58	Review of AS/NZS 4058 and AS 1597.1/AS 1597.2 against TMR performance (strength and durability) expectations

NETWORK OPERATIONS, ROAD SAFETY, HEAVY VEHICLE & FREIGHT

Heavy Vehicles & Freight

R62	Heavy vehicle route assessment online training
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Network Operations

R76	Development of hybrid data model prototype for the enhanced Cost of Congestion (CoC) methodology
R77	Real-time determination of spare capacity of routes for enhanced management of congested road networks
R100	TMR traffic data access portal

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R101	Automated roadworks detection using next generation traffic data
R102	Automated matching of HERE map links to TMR network
R103	Virtual WIM and QLD freight movement study
R104	Benefits achieved to network performance in the study area of Bruce Hwy

Road Safety

R54	Automated systems for the analysis of the status of road safety and conditions using TMR's vehicle mounted video and pattern recognition techniques
R70	Addressing sub-optimal road safety barriers at bridge approaches
R87	Development of Crash Reduction Factors
R90	Effect of Different Roadside Embankment Slope Attributes on Crash Severity Outcomes
R105	Effectiveness of controls for interactions between the public and slow-moving work convoys
R106	Analysis of incidents at roadworks involving the public

Other

P52	Performance evaluation of the spinifex in concrete
O14	Critical review of design and development practices that relate to access for people with a disability
O16	Development of trial framework
O17	Methods of Steel Pipe Rehabilitation that can Achieve Fish Passage Conditions
O18	Exploring the use of artificial intelligence (AI) solutions to improve the accuracy of project delivery forecasts

SUSTAINABILITY

P106	Assessing the potential greenhouse gas emissions reductions and sustainability benefits of innovative pavement solutions
P116	Recycled materials in roads – Queensland state of play
P117	Sustainability assessment tool