

### Asset Management

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|-----|----------------------------------------------------------------------------------------------|
| A34 | Customer Based Level of Service in Road Maintenance_Y4                                       |
| A44 | Synthesis and dissemination of best practice Transport System Asset Management_Y6            |
| A56 | Pavement Drainage Performance_Y5                                                             |
| A61 | New Generation iPAVe: Optimising its use for Road Asset Management_Y4                        |
| A62 | Asphalt service lives - Component 2 - development of a ravelling model_Y4                    |
| A72 | Improving Asset Management -Dense Graded Asphalt Ravelling and Cracking Progression Model_Y2 |
| A74 | Investigating AI technology for routine maintenance defects detection_Y2                     |
| A75 | Validation of road roughness estimation, from telematic data sources_Y1                      |
| A76 | Development of a Bottom-Up Lifecycle Management Framework for Bridges and Major Culverts_Y1  |

### Network Operations

|      |                                                                                                    |
|------|----------------------------------------------------------------------------------------------------|
| R137 | Routine maintenance performance contract (RMPC) ITS & electrical (ITS&E) work activities review_Y3 |
| R151 | Traffic Signal Timing Evaluation Based on The Connected Vehicle Data_Y3                            |
| R158 | Quantifying the benefits and costs of road network operations treatments_Y2                        |

## Pavements

|      |                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------|
| P121 | Evaluation of the performance benefits of geosynthetic reinforcement in asphalt layers_Y5              |
| P132 | Queensland's foamed bitumen mix design and structural design procedure: review and improved methods_Y5 |
| P133 | Performance relationships & specifications for asphalt pavement design in QLD_Y6                       |
| P134 | Investigation of warm mix asphalt compaction temperature_Y6                                            |
| P137 | Stability of bridge abutments – on the influence of pore pressures on scouring of supporting slopes_Y5 |
| P140 | Investigate premature failure of Raised Reflective Pavement Markers (RRPM) and improvement options_Y4  |
| P148 | New generation PMB's and hybrid binders to inform performance based characterisation_Y2                |
| P149 | Moisture susceptibility of asphalt mixes_Y3                                                            |
| P152 | Increased use of RAP in asphalt_Y3                                                                     |
| P160 | Method for determining design parameters of reinforced paved flexible pavement_Y5                      |
| P161 | Maximising the use of TSD data for pavement_Y4                                                         |
| P163 | Long term pavement Performance assessment of selected LTPP sites _Y4                                   |
| P164 | Optimised and advanced Geotechnical Solutions (merge of the scope of new Geotech projects)_Y5          |
| P165 | Development of a Soft Soils and Expansive Soils databases_Y6                                           |
| P168 | Improved resilience of unbound granular pavements_Y5                                                   |
| P179 | Intelligent construction technology for better roads in QLD_Y4                                         |
| P181 | Phd Project - Industry Research Training Group (IRTG) QUT 2 PhD projects                               |
|      | - Construction of Pavements on Expansive Soils                                                         |
|      | - Towards Best Practice Framework for Characterising Granular Materials in Pavements                   |
| P183 | Digitising the workflow for Construction Materials Test Data_Y4                                        |
| P188 | Assessing the long-term durability of innovative and conventional binders                              |
| P189 | More robust seals for heavy traffic loadings (triple coat seals)_Y1                                    |
| P190 | Technology transfer for sprayed seals_Y1                                                               |
| P191 | Investigation and optimising options and methods to bond lightly bound pavement layers                 |
| P192 | Reviewing historic performance of cementitiously stabilised pavements                                  |
| P193 | CST/HFST review of field performance_Y1                                                                |
| P194 | Improved subgrade characterisation_Y1                                                                  |
| P196 | Develop acceptance criteria for asphalt with low in situ or production air voids_Y1                    |
| P197 | Investigating reference stone options for testing to assess polishing potential of aggregates _Y1      |
| P198 | Improved Characterisation of Triple Blend Stabilised Subbase Moduli for Pavement Design_Y1             |
| P199 | Investigating retarders on in-situ LBB - extension of plant project to i/s scenarios                   |
| P34  | Development of Performance Based Evaluation Protocol for Non-Standard Granular Pavement Materials_Y8   |
| P43  | Long Term Pavement Performance Project_Y13                                                             |
| P58  | Alternative cementitious binders for cost-effective and sustainable transport infrastructure_Y3        |
| P87  | Incorporate Micro-Deval testing in material specifications_Y4                                          |

| PMOP                   |                                                                     |
|------------------------|---------------------------------------------------------------------|
| M1                     | Program Management                                                  |
| M2                     | Stream management                                                   |
| M3                     | NACOE Future year program development_Y2                            |
| M4                     | Dissemination of learnings                                          |
| Road Safety and Design |                                                                     |
| R160                   | Minimum time gaps for heavy vehicles_Y2                             |
| R163                   | Operating speed models, HVs tight curves_Y2                         |
| R164                   | Method to identify intersections with highest road safety risk_Y1   |
| R165                   | Warrants for the provision of offset turn lanes at intersections_Y1 |

| Structures     |                                                                                           |
|----------------|-------------------------------------------------------------------------------------------|
| S70            | Implementation of Learnings for Projects S62, S67, S71, S73_Y4                            |
| S75            | Bearings and Expansion Joint Performance_Y3                                               |
| S76            | Performance Based Concrete Specifications for Durability Performance_Y3                   |
| S79            | Steel Culvert Inspection and Rehabilitation Measures Under Permanent Standing Water_Y2    |
| S80            | Bridge Clearance Measurement and Monitoring_Y1                                            |
| S81            | Risk Review of Harmonisation with Austroads Specifications_Y1                             |
| S83            | Risk-based Prioritisation Framework for Fabricated Structures for Traffic Signs (FSTS)_Y1 |
| Sustainability |                                                                                           |
| O20            | Implementing a recycled materials assessment framework_Y2                                 |
| O24            | Recycled materials in road pavement stabilisation_Y5                                      |
| O28            | Recycled materials database_Y5                                                            |
| O33            | Potential use of Coal Mining Waste as a stabilising agent (CQU collaboration)_Y3          |
| O47            | Cementitious stabilisation using coal combustion byproducts (CCPs) in road pavements_Y2   |
| O50            | Use of CCP in subgrade treatments_Y2                                                      |
| O51            | Developing Carbon values for TMR Transport Infrastructure Projects_Y1                     |
| O54            | Bagasse Ash and Fibres in Pavement Construction in Queensland_Y1                          |
| O55            | Recycled crushed concrete (RCC) specification limits review_Y1                            |
| P117           | Sustainability Assessment Tool_Y8                                                         |