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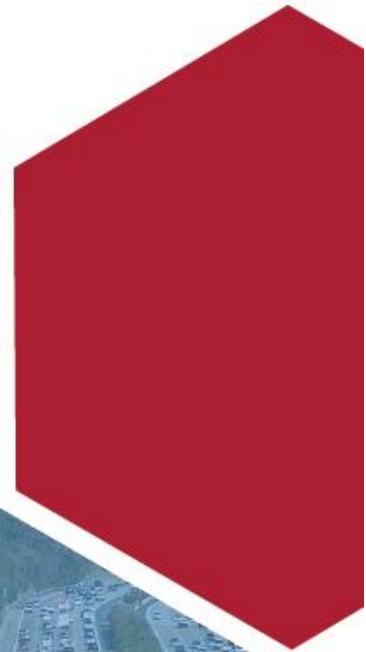


LOCAL  
GOVERNMENT  
NSW

# ROAD AND TRANSPORT DIRECTORATE

## ROAD ASSET BENCHMARKING PROJECT FINDINGS REPORT

August 2020



## **Institute of Public Works Engineering (NSW Division) Limited Roads & Transport Directorate**

### **Road Asset Benchmarking Project 2019 Findings Report**

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## Summary

Local Government is facing unprecedented challenges. While already struggling to keep up with an increasing infrastructure maintenance backlog it is now dealing with the aftermath of bushfires, an ongoing drought and COVID-19.

Local Government is key to driving locally led economic recovery through the delivery of a wide range of road and infrastructure projects via a mix of new funding and accelerated funding to build a new resilient future for NSW communities.

The evidence collected by the Road Asset Benchmarking Project suggests that increased funding levels and investment in asset management capacity and attention to asset management planning has improved the sustainability of most NSW councils, since 2006. However, the current funding arrangements are inadequate to deliver safe, efficient and resilient road and bridge infrastructure to the community on an on-going basis into the future and are not sufficient to boost heavy vehicle access and thus economic productivity. The deteriorating condition of timber bridges on local roads poses a significant risk with the potential to isolate local communities.

The 2019 Benchmarking reports have identified the need for ongoing focus on and funding for asset management capacity building, through formal training and opportunities for graduate rotation programs and cadetships.

The increasing severity of natural disasters and condition of the Disaster Recovery Funding Arrangements (DRFA) require a higher level of asset management reporting on road condition and function. Councils will need additional engineering expertise and financial support to achieve this.

### Road and Transport Directorate

The Roads and Transport Directorate is a joint initiative between the Institute of Public Works Engineering Australasia NSW Division and Local Government NSW to optimise roads and transport outcomes.

The purpose of the Directorate is to support our member councils to deliver an improved local road and transport network.

A network that meets the future needs of the community, industry and economy. A network that is safer for all users and provides vital and reliable connections to place and people. A network that uses resources wisely and is mindful of its impact on the environment.

Member councils are collectively responsible for the management of over 165,000 kilometres of roads valued at more than \$70 billion representing the single largest community asset in New South Wales.

To succeed in this task, the Directorate undertakes leading-edge road and transport research which underpins our input to policy development and published guidance on the design, construction and management of the road network and its associated infrastructure.

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## 1. Introduction

The Roads and Transport Directorate (RTD) commissioned the Road Asset Benchmarking Project in 2006 to provide policy support information about the:

- value and performance of regional roads and bridges controlled by local councils in NSW
- shortfall in funding required to bring these assets to a satisfactory condition
- level of practice for managing regional and local road and bridge assets.

The purpose of the NSW Road Asset Benchmarking Project is to investigate the funding gap to maintain the local government road and bridge network in a satisfactory condition. The benchmarking reports have been instrumental in assisting NSW councils to secure in excess of \$500M for Fixing Local Roads and \$500M for Fixing Country Bridges.

This report presents the key findings of the 2019 Road Asset Benchmarking Project based on data and information collated from all 128 NSW councils for the reporting period ending 30<sup>th</sup> June 2019.

The 2019 Road Management Report and the 2019 Timber Bridge Management Report are available on <https://www.roadsdirectorate.org.au/road-asset-benchmarking-project>.

Since the publication of the first reports there have been consistent increases in state and federal funding for local government infrastructure that has enabled councils to manage a major risk of infrastructure failure.

### Structure of the Report

The structure of the report is as follows:

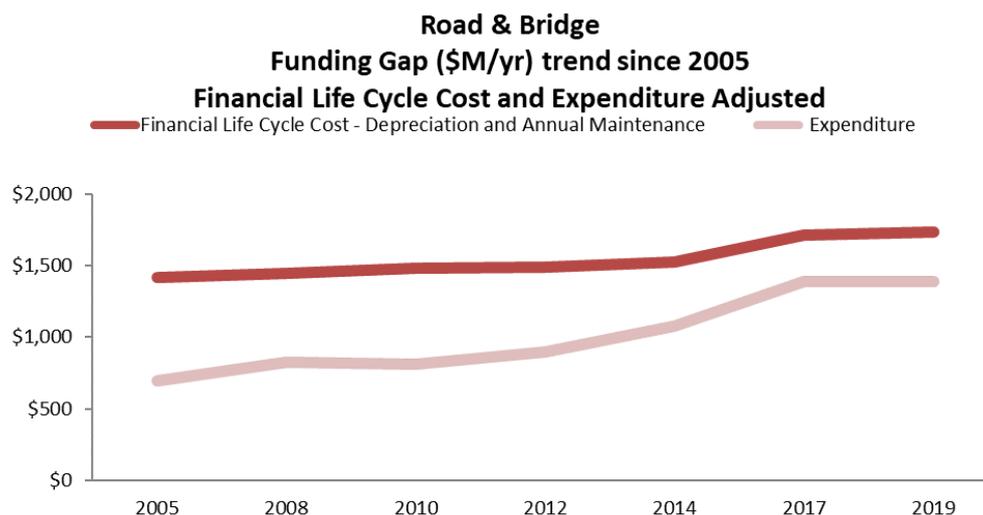
- **Section 1:** introduction
- **Section 2:** key findings
- **Section 3:** conclusions and recommendations.

## 2. Key Findings

### 1. Current funding arrangements are inadequate to deliver safe, efficient and resilient road and bridge infrastructure to the community on an on-going basis into the future and are not sufficient to boost heavy vehicle access and thus economic productivity.

The funding gap has reduced between 2005 and 2019, primarily for the sealed road network, with urban councils catching up on past underfunding. Rural councils with large unsealed networks and low populations are continuing to struggle to maintain their networks of roads and bridges.

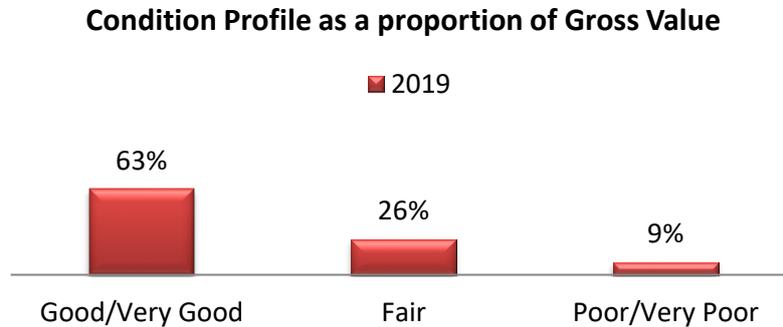
The lifecycle cost calculated using maintenance and depreciation continues to increase as shown in the figure and table below. The funding gap has increased since 2016/17.



**Funding Gap trend 2005-2019**

Estimated Life cycle cost (\$M)- (Financial Estimate – Adjusted)							
	2005/06	2007/08	2009/10	2011/12	2013/14	2016/17	2018/19
Roads	\$1,360	\$1,381	\$1,422	\$1,424	\$1,437	\$1,624	\$1,647
Bridges	\$56	\$62	\$59	\$69	\$89	\$90	\$92
<b>Subtotal</b>	<b>\$1,416</b>	<b>\$1,443</b>	<b>\$1,482</b>	<b>\$1,493</b>	<b>\$1,527</b>	<b>\$1,715</b>	<b>\$1,738</b>
Expenditure (\$M) - (Financial Estimate – Adjusted)							
Roads	\$653	\$767	\$745	\$857	\$1,004	\$1,249	\$1,249
Bridges	\$44	\$58	\$63	\$39	\$76	\$138	\$138
<b>Subtotal (Financial Estimate – Adjusted)</b>	<b>\$698</b>	<b>\$825</b>	<b>\$808</b>	<b>\$897</b>	<b>\$1,080</b>	<b>\$1,387</b>	<b>\$1,387</b>
<b>Estimated Adjusted funding gap (\$M/year)</b>	<b>\$718</b>	<b>\$618</b>	<b>\$674</b>	<b>\$597</b>	<b>\$447</b>	<b>\$328</b>	<b>\$351</b>

NSW councils are reporting \$7.1B or 9% of their road assets are in a poor to very poor condition which is a material increase on the \$5.5B or 7.5% reported in 2017.



***2019 Road Network Condition Profile***

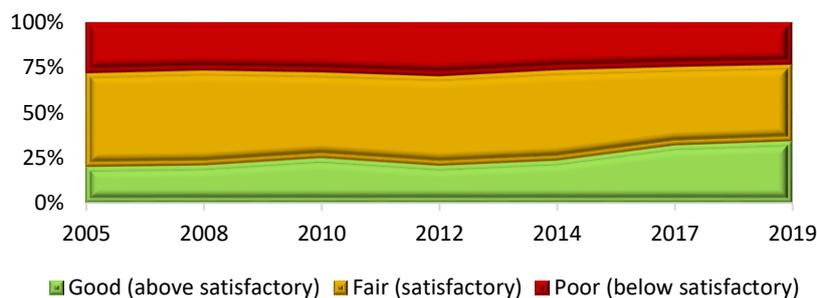
New assets and upgrading of existing assets valued at \$845 million in 2018/19 are estimated to add \$22.7M to annual operating and future renewal costs. Upgrade and new asset demand is driven by demographic, climate, regulatory and technology changes and need to be included in asset management plan predictions. If funding is diverted from existing assets to fund upgrade and new requirements, the assets in poor condition and corresponding risk will worsen.

If significant upgrade to transport infrastructure is needed, the current arrangements for planning and funding transport networks managed by Councils is unsustainable and needs major review.

## 2. The deteriorating condition of timber bridges on local roads poses a risk to isolate local communities.

Of the 128 councils in NSW, 67 reported being responsible for 1,627 timber bridges with an estimated replacement value of \$521 million. Most of the timber bridges are of similar age (built during the 1940's and 50's) and 23% (357), \$118 million, were reported to be in poor condition.

**Timber Bridge Condition Profile 2005 - 2019**



Regional and local road timber bridge renewal expenditure in 2018/19 was estimated to be \$25 million. If this level of expenditure can be maintained, it would take the councils on average 6-7 years to renew all timber bridges currently in poor condition. This does not allow for the deterioration of timber bridges currently in fair condition due to ageing and other factors such as overloading, damage from flooding, vehicle impact, poor maintenance practices and underfunding of maintenance in this period.

Timber bridges are critical components of local transportation infrastructure with a catastrophic mode of failure. It is therefore essential a plan be developed to address the issue of high risk and number of timber bridges in poor condition.

Current remedial programs have resulted in little to no change in the overall timber bridge network performance leaving many smaller low traffic, load restricted timber bridges in a poor state of repair consequently moving them into a high-risk category requiring advanced, high cost temporary remedial maintenance to avoid closure. This will only be exacerbated by recent extreme weather events that have significantly impacted timber bridge infrastructure across many NSW councils.

Timber bridges have a greater impact on rural/regional coastal councils where steep terrain and high rainfall exist. The rural coastal councils of NSW have more than 80% of the timber bridges in NSW accounting for over 1,200 assets. Close to 300 of these are in poor condition and local communities do not have the financial capacity to replace these bridges in time to prevent increasing load limits and imminent closure. In steep and high rainfall coastal areas, road costs are higher and opportunities for flood relief funding are becoming less. The prolonged drought conditions have led to a build-up of debris around many bridges combined with unprecedented bushfire conditions across NSW has reinforced the need for long term investment in safe & resilient infrastructure with a focus on risk management, knowledge capacity, inspections & maintenance.

Even though these small bridges carry lower traffic volumes, there are often limited opportunities for alternative access because of the steep terrain and limited access. Moreover, the closure of a 'low order' bridge for safety reasons creates serious economic, social, and environmental issues that require a whole of government response.

### **3. The decline in asset management capability in local government presents a risk to keep delivering safe, efficient and resilient road and bridge infrastructure to the community.**

Local government is a key stakeholder in planning and managing future infrastructure needs and funding strategies across levels of government and this report highlights the need to strengthen capacity to measure and predict scenarios for infrastructure investment. Current asset management plans require further development to ensure scenarios for future infrastructure needs are developed and communicated.

A significant number of councils when questioned by the project team, indicated they no longer had dedicated asset management resources and were not able to provide additional verification.

In 2019, 83% of NSW councils reported using NAMS.PLUS to develop their road asset management plans, a major factor in the improvement of asset management planning and infrastructure sustainability across NSW. Response to the survey, level of asset and risk management practices and the funding gap for roads and bridges has improved markedly between the study commencing in 2005 to 2014 and a progressive decline in renewed membership since 2014.

It is critical that councils strengthen their strategic asset management capacity and identify and report on a consistent basis the condition, function and capacity of road infrastructure assets. Asset management plans identify the adequate level of funding to plan for, maintain and renew what are in effect the community's greatest financial assets with highest potential risk.

### 3. Conclusions and recommendations

The Directorate started in 2006 to investigate the funding gap to maintain the Local Government road and bridge network in a satisfactory condition. The road asset benchmarking reports have been instrumental to assist NSW councils to secure in excess of \$500M for Fixing Local Roads and \$500M for Fixing Country Bridges in 2020.

Road and bridge funding levels have increased. However, the current funding arrangements are inadequate to deliver safe, efficient and resilient road and bridge infrastructure to the community on an on-going basis into the future and are not sufficient to boost heavy vehicle access and thus economic productivity.

The evidence collected by the Benchmarking project suggests that investment in asset management capacity and attention to asset management planning and reporting has improved the sustainability of most NSW local councils. The 2019 Benchmarking reports have identified the need for ongoing focus on and funding for asset management capacity building, through formal training and opportunities for graduate rotation programs and cadetships.

The increasing severity of natural disasters and condition of the Disaster Recovery Funding Arrangements (DRFA) require a higher level of asset management reporting on road condition and function. Councils will need additional engineering expertise and financial support to achieve this.

It is recommended that Local Government continue to improve asset management performance by:

- using the findings of the Asset Benchmarking Report to advise council and local communities on the funding, performance and conditions of local assets.
- continuing to work with the Office of Local Government and the NSW Auditor General to improve the transparency and consistency of infrastructure measures within the Integrated Planning and Reporting framework.
- developing robust asset management plans based on agreed definitions and principles.
- building asset management capacity within the Local Government industry by supporting ongoing training and knowledge sharing.
- supporting the employment of better techniques and the importation of proven technology to better meet our community's needs through improved engineering and construction methods.
- developing robust workforce strategies to ensure the skills and capacity exist to plan, deliver and maintain local roads now and in the future, including cadet and apprenticeship programs at a professional and operational level.

It is recommended that the NSW Government develop a sustainable funding model for Local Government in NSW by implementing a system to:

- review existing funding programs to give consideration to future needs of the community.
- optimise application processes for project funding to reduce the administration burden on local government.
- support training programs, including cadetships and graduate rotation programs, for civil engineering across all government projects, in order to ensure the long-term workforce capabilities, especially in rural and regional areas.
- consult with Local Government to identify and fund regional freight routes.