

Final Business Case Evaluation Summary

Fixing Country Bridges Program



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About this report

The Fixing Country Bridges Program (the Program) is an election commitment that will dedicate \$500 million over 5 years (FY20 to FY24) to replace timber bridges in poor condition across regional NSW.

The Program aims to reduce the asset maintenance and replacement burden on local councils by replacing timber structures with lower maintenance and more durable material such as modular concrete structures. The Program funding commitment has been allocated as operational expenditure, released as grants to councils responsible for project delivery.

The Final Business Case was prepared by Transport for NSW (TfNSW) in 2020. This Business Case Summary is prepared by Infrastructure NSW, the NSW Government's independent infrastructure advisory agency.

Strategic context

There are over 1600 timber bridges on the NSW road network (IPWEA¹, 2020). These are predominantly single lane structures in regional areas, owned and managed by local councils. These bridges are essential to the performance of the broader transport network and providing access for local communities.

Most NSW timber bridges were built during the 1940s and 1950s and are now reaching the end of their asset life. A technical assessment performed by IPWEA identified that 357 of the timber bridges (23%) are in poor condition. This proportion has remained steady for the past 15 years.

While there have been various state and federally funded programs to replace timber bridges in NSW – such as the *Bridges for the Bush* program – they have focused on upgrading or replacing bridges to improve capacity for higher productivity vehicles. Therefore, many smaller, low traffic and load restricted timber bridges remain in a poor state of repair.

¹ Institute of Public Works Engineering Australasia

Project need

The Program's need for investment is driven by the following:

Timber bridges pose safety hazards to regional NSW.

Ageing and poorly maintained timber bridges pose significant safety risks to road users. The risk is exacerbated for single-lane timber bridges, which make up 85% of the asset base. Structural failure may lead to vehicle accidents, injury and potential loss of life.

A significant and growing number of timber bridges are in poor condition, threatening community and economic connectivity.

As bridges deteriorate, they require usage limits, are susceptible to failure, and can be closed completely. This results in lengthy detours and inaccessibility for road users, which in turn results in higher transport costs and lost productivity. Further, deteriorating bridge conditions limit access for people and businesses to town centres; for ambulance, fire and other emergency services; and for the transport of freight and livestock.

Increasing population and economic activities in regional NSW also mean that bridges will need to be replaced with wider and higher standard bridges to sustain additional road traffic.

The financial capacity of government in regional areas is limited, resulting in insufficient bridge maintenance and renewal.

The responsibility for operating, maintaining, and replacing timber bridges is a major ongoing cost for regional councils. As these bridges near end of life, they require maintenance, renewal and replacement expenditure that are in-excess of councils' financial capacity.

Inadequate provision of pre-emptive and planned maintenance in the past has led to a backlog of works and requires a significant program of asset renewal.

The lack of availability and capacity of skilled labour has impacted bridge management across regional NSW. Consequently, there has been inadequate provision of pre-emptive and planned maintenance, leading to more reactive maintenance and intervention being needed and a backlog for bridge replacement.

Replacing the large number of small bridges in poor or fair condition across NSW requires a prompt and concerted program of asset renewal. A gradual approach based on councils' funding is unlikely to deliver broad-scale asset renewal, leading to persistent problems for community access, safety and cost management.

Program objectives

The strategic objectives of the Program are to:

- **Enhance regional development** by maximising the volume of bridge replacements funded by the Program and local involvement in the renewal works.
- **Promote community access and safety** by maintaining or enhancing existing road access, bridge load capacity and road safety performance.
- **Optimise asset service levels** by lowering ongoing asset maintenance requirements by councils and providing for appropriate co-funding contributions for complementary works.
- **Deliver value** by an effective prioritisation of bridge replacements and the establishment of a competitive and efficient delivery approach.

Eligibility criteria and prioritisation framework

Establishing a grant funding program within TfNSW requires an understanding of the number and type of bridges that may be replaced within the \$500 million funding envelope.

Eligibility criteria for Program funding

In order to be considered eligible to apply for Program funding, a project must be:

- located on roads owned and managed by council
- identifiable as a priority or an important asset to communities, the local government area or the region
- appropriate for replacement (not maintenance)
- deliverable within the allocated program timeframe.

To maximise the number of bridge replacements for rural and regional councils, the scope of works will be generally limited to a replacement of a similar scale. Many projects will include the direct replacement of timber with modular concrete bridging systems, maintaining existing attributes such as number of lanes and spans.

Replacement of bridges with assets of greater size or standard may be investigated where this provides improved benefits to customers and local communities. For example, improved load capacities allowing for an improved access to services or industry or facilitating the removal of substandard road alignments.

Prioritisation framework for funding allocation

The Final Business Case develops a prioritisation framework to evaluate the highest priority bridge replacements. The assessment criteria are outlined in the figure below.

Category	Criteria	Comment
Condition assessment	Condition rating	Applicants should apply the referenced guidelines for visual inspection.
Network Accessibility & Detour implications	Detour impact - light vehicles	Detour length and light vehicle traffic volumes
	Detour impact – heavy vehicles	Detour length and heavy vehicle traffic volumes
Load restriction implications	Current load limit	Gross mass limit (Tonnes)
	Impact of load restrictions (bus routes, local businesses, emergency services)	Based on bridge user groups. Councils should also provide evidence of the types of vehicles that use the bridge or operate in the vicinity.
Resilience	Accessibility impact of flooding	Duration of impact per year.
	Location susceptible to bushfire	Surrounding vegetation (NSW rural fire services guideline for councils to bushfire prone area land mapping)
Safety	Risk of failure	Based on condition assessment.
	Road safety	Bridge approach conditions (alignment, grade and bridge width)

Economic evaluation

A Cost Benefit Analysis was not completed for the Final Business Case, as the number of bridges to be funded and their locations were yet to be decided at the time of the Final Business Case writing.

The Program is expected to deliver benefits in 4 key areas.

- **Enhance safety and reliability across the regional road network** by improving accessibility for customers including buses and emergency vehicles; improving resilience to weather events; minimising detours and travel times; reopening bridges previously closed; and delivering safety improvements.
- **Enhance regional financial sustainability** by reducing the maintenance burden on councils, improving bridge asset management and providing the opportunity for councils to refocus funding in other areas.
- **Improve social and economic outcomes in regional NSW** by maximising local and regional involvement in renewal works and improving performance capabilities of bridges to support heavier vehicle use.
- **Enhance regional skills and employment** through cross-collaboration between councils, State Government and regional private industry.

For each individual bridge, if the capital cost is \$10 million or above, a Final Business Case will be developed to meet NSW Government's project assurance requirement.

Deliverability

Implementation

Delivery options have been subject to consultation with local government peak bodies and relevant divisions within TfNSW.

The preferred delivery model is a grant funding program, identified due its ability to:

- reduce the administrative and management burden on TfNSW
- enable the transfer of key project and delivery risks
- maximise local involvement in projects
- inject funding straight into regional areas.

Under the model, councils will retain ownership of assets and responsibility for the maintenance of assets whilst TfNSW retains responsibility for the 'whole of program' vision and realisation of program level objectives.

The implementation of the delivery model will include:

- providing appropriate guidelines to councils on funding applications, and ensuring applications provide appropriate information to allow TfNSW to prioritise projects for replacement
- setting appropriate payment milestones and protocols for council submissions at these milestones, to provide assurance to TfNSW on council performance
- reaching agreement with councils on funding strategy and requirements, including investigating packaging efficiencies for councils with more than 1 bridge prioritised.

TfNSW will establish a dedicated program management and administration team to:

- manage grant applications and funding agreements
- manage governance and reporting (including safety, quality, commercial, risk, schedule)
- provide assurance to TfNSW and the NSW Government, over the life of the Program.

Timeframe

The Final Business Case has a high-level program implementation schedule which identifies key milestones and spending from FY20 to FY24.

Key risks and mitigation

The Program has undertaken a preliminary risk identification to determine risks and their characteristics. A risk workshop was also held, involving key governance group representatives, to consider Program risks.

Strategic risks identified include:

- tight timeframe for delivery
- low material supply / lack of suppliers available to source significant quantities of concrete and bridge materials
- lack of resources across TfNSW and councils to support an efficient mobilisation

- misalignment of council and TfNSW expectations regarding bridge replacements' scope and quantum.

The Infrastructure NSW view

Consistent with the NSW Government's Infrastructure Investor Assurance Framework², Infrastructure NSW has undertaken a Gate 2 review of this Program.

In Infrastructure NSW's view, the Final Business Case demonstrated:

- the strong case for change, supported by the independent IPWEA assessment which provided an evidence base to substantiate the need for investment
- the replacement of timber bridges is critical to maintain connectivity and access to local towns, essential services, and freight movement, supported by evidence substantiating that many bridges are reaching end of life, maintenance costs exceed current investment (and ability to invest at appropriate levels) and timber bridges are particularly susceptible to natural weather events, and
- the Program team has the necessary skills and experience to ensure the effective implementation of the project assessment and grant distribution processes to deliver the Program objectives.

Whilst the Program identified outputs, outcomes and benefits to the community, including safety, connectivity and local involvement, Infrastructure NSW noted that the Program could benefit from:

- considering further alignment opportunities and synergies with other similar regionally focused programs, for example, the Fixing Local Roads Program
- the inclusion of specific targets and prioritisation of objectives at a program level.

² Infrastructure NSW (2020), *Infrastructure Investor Assurance Framework*