



Major Infrastructure Proposal Assessment

Main Roads WA

Geraldton Mt Magnet Road Upgrade

Summary Assessment Report

Infrastructure WA

Level 41, 108 St Georges Terrace
Perth Western Australia 6000

Phone: 08 6552 5229

Email: proposals@infrastructure.wa.gov.au

December 2023

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Acknowledgment of Country

Infrastructure WA acknowledges the Traditional Custodians of Western Australia and their continuing connection to the land, waters and community. We pay our respects to all members of the Aboriginal communities and their cultures; and to Elders both past and present.

Major Infrastructure Proposal Assessment Summary Report

Purpose

This assessment report has been prepared in carrying out Infrastructure WA's (IWA) legislative function to assess and report to the Premier on major infrastructure proposals. The assessment has been carried out on Main Roads WA (MRWA) Geraldton Mt Magnet Road (GMMR) Upgrade business case. Additional supporting information received, consultation and further research undertaken by IWA was also used to support the analysis.

1. IWA observations

IWA considers that the GMMR Upgrade project (the Project) business case and supporting information contains sufficient information to inform a government investment decision. The business case demonstrates that the Project has strong strategic merit even under conservative freight scenarios, with economic benefits arising from freight productivity and improved road safety.

There is alignment with WA Government strategies to strengthen regional transport and supply chain connectivity, and to improve road safety treatments and maintain regional roads. Further, IWA considers that the Project supports the funded Geraldton Port Maximisation Project (PmaxP), as fit for purpose road infrastructure to the Port will be essential to realising the project benefits.

The primary risks associated with the proposal relate to trade volumes driven by future commodity price fluctuations, and the viability of new mining operations. The Project is also likely to face the capacity constraints and workforce challenges currently impacting the broader construction market. Progressing more detailed project design and cost estimation work, and further consideration of market conditions and challenges, will help to reduce key project risks.

2. Context

2.1 Project background

The GMMR is a 335km long key link between mining and agricultural export points of origin and the Geraldton Port. Freight traffic forecasts undertaken by MRWA indicate that the route will continue to play an important role in facilitating exports in the future. Expected freight commodities include iron ore, mineral sands, vanadium, grain, livestock, fertiliser and agricultural machinery.

The Project requires funding in the order of \$225 million to deliver road widening to install new sealed shoulders, pavement repair works, bridge replacement and road re-alignment works through the Mullewa townsite, as well as additional overtaking lanes and a new heavy vehicle rest area. These works are essential to ensure the road is fit for purpose for the high volumes of large road trains that use the route.

The GMMR is used by over size over mass (OSOM) vehicles, which often take up more road width than a single lane (greater than 3.5 metre wide loads), requiring vehicles travelling in the opposite direction to pull over. A wider seal width presents an opportunity to improve safety and efficiency of OSOM transport.

3. Strategic merit

3.1 Alignment

Freight efficiency is critical to maintaining Australia's competitive position in the global market, and the business case demonstrates that the GMMR is currently not of a suitable standard for a freight route of national significance. The priority of the project is further reinforced by National and State road safety strategies and significant efforts nationwide to reduce road trauma. A relatively high

density of crashes has been experienced on the GMMR, and there is an opportunity to decrease some risks through improved infrastructure.

Future export forecasts through Geraldton Port are a key factor in determining freight volumes on the GMMR. The western portion of the GMMR is also part of a freight corridor servicing the proposed Oakajee Strategic Industrial Area, and the existing Narngulu General Industrial Area, where a planned green ammonia plant could produce up to 1 million tonnes per year for export as noted in the WA Government media statement¹.

There is no operational rail line linking areas to the east of Geraldton with the Port, meaning that the GMMR is currently the only viable freight transportation option, at least in the near to medium term.

3.2 Problems and Opportunities

High volumes of heavy vehicles are causing rapid deterioration of the road pavement. Deterioration is higher than benchmarks for this road type, and repair and rehabilitation works above the standard maintenance regime are required.

Crash numbers are reflective of increasing vehicle volumes, with driver fatigue associated with driving over long distances identified as a key contributing factor. A driver fatigue heatmap shows that the road segment from Pindar to Yalgoo experiences a particularly high number of observed fatigue events (based on monitoring of driver's eye movements / eyes closing). The most severe crashes are run-off road, with further serious injury risks of head on crashes identified.

The Eradu Bridge width is below the desired 10 metre width for efficient movement of large heavy vehicles and OSOM transport, with practical limitations to achieving a full desired widening without a full bridge replacement. Continued use by very large road trains vehicles is likely to result in damage, particularly to the abutment walls, which may lead to issues requiring repair and strengthening. The existing traffic barriers are also substandard.

MRWA identifies that no intervention is likely to lead to the removal of concessional mass limits and downgraded vehicle mass and size in order to address safety concerns and reduce the rate of pavement and bridge deterioration, which would impact freight capacity and productivity.

4. Options assessment

An assessment of strategic options included discussions on various road and rail upgrades, followed by a detailed cost benefit assessment of short-listed options. Rail options were deemed unviable in the short to medium term. Although privately owned rail infrastructure exists between the Port and east of Mullewa, it is not in use and there is no commitment to re-instatement by the infrastructure owner. Three road upgrade options with varying extent of upgrade works were the only options considered able to meet the Project's strategic objectives.

5. Societal impacts

5.1 Economic and financial assessment

The business case economic analysis forecasts a net economic benefit of \$388 million with a Benefit-Cost Ratio of 3.3 over the 30 year assessment period, applying a discount rate of 7 percent. Economic benefits include freight efficiency and productivity, as well as safety benefits due to an expected reduction in crash numbers.

MRWA indicates that additional funding for pavement rehabilitation and maintenance is being sourced separately to this business case through *Road Maintenance and Rehabilitation Deeds of*

¹ [South Korean renewable energy leaders set sights on Geraldton | Western Australian Government](https://www.wa.gov.au/government/media/statements/south-korean-renewable-energy-leaders-set-sights-on-geraldton) (www.wa.gov.au)

Agreements with mining companies. The deed is expected to be in place by December 2024. There are no other revenue sources.

5.2 Social assessment

A key positive social impact is expected to arise from reduction in road trauma risk as well as an increase in local jobs, both direct jobs during construction and indirect jobs due to facilitation of new industry growth, including growth potential in the clean energy sector within the region.

There is a commitment to local construction jobs and high percentage of Aboriginal participation.

5.3 Environmental assessment

MRWA has engaged an independent consultant to undertake a desktop biological survey. A detailed flora / vegetation and a basic fauna and Black Cockatoo habitat field survey were undertaken. Some design flexibility exists to minimise environmental impact once surveys for the full alignment have been conducted. As such the project is not expected to present significant environmental risks.

The business case identifies a formal sustainability assessment has not been undertaken but signals that one would need to be prepared during project development. Reference to the MRWA sustainability policy is made, but material issues for this project are not identified.

Options to enable rail freight have been considered, which would contribute to net zero targets, but rail freight was not deemed as a viable option in the short to medium term. Growing freight volumes as well as industry decarbonisation targets will improve viability over time.

6. Recommended option and project definition

The preferred option scope is as follows:

- Road widening from 8 to 10 metres with audible edge and centreline treatments
- Mullewa realignment (1.5 km in length utilising largely Public Transport Authority land adjacent to an existing railway line leased by Arc Infrastructure)
- 15 new/extended overtaking lanes (approx. 28 kms of new lanes in total)
- Road pavement repairs and rehabilitation
- Floodway repairs at 5 locations
- Eradu Bridge replacement with a new 10 metre wide prestressed concrete structure, and
- A new heavy vehicle rest area at Pindar with associated facilities

7. Deliverability

The deliverability content in the business case is limited, which reflects the early stage of project definition. Initial analysis has not identified any significant cultural heritage or environmental risks.

Market capacity risk is rated as 'high' in the business case and requires early engagement with contractors and specialists. It is an identified and understood risk and will continue to be managed and mitigated through project development and delivery.

A benefits management plan has not been included in the business case. MRWA has indicated that it will be prepared during further project development.