

2015-2016 Assessment Brief

Recommended rating:	Early Stage
Current rating:	New submission
Initiative Name:	Strzelecki Track Upgrade and Sealing
Geography:	South Australia
Proponent:	Government of South Australia Department of Planning, Transport and Infrastructure
Project description:	<p>The project involves sealing and upgrading 426 kilometres of the Strzelecki Track between Lyndhurst and Innamincka, and the upgrade and sealing of an additional 26 kilometres (the currently unsealed Nappa Merrie Access Road) between Innamincka and the Queensland border, connecting to Adventure Way. Once completed, it would form a sealed east-west land freight transport road link between Adelaide and Brisbane.</p> <p>The upgrade will provide an essential transport corridor to the expanding oil and gas industry in the Cooper Eromanga Basins and the pastoral industry in North East South Australia, increasing freight productivity and facilitating greater opportunities for trade and economic growth.</p> <p>The Strzelecki Track was identified in the Australian Infrastructure Audit as a key freight route. The project was also identified as a priority initiative for Regional South Australia, including in South Australia's Integrated Transport and Land Use Plan and the Roadmap for Unconventional Gas Projects in South Australia.</p> <p>Project objectives include:</p> <p>The objectives identified by the proponent for the Strzelecki Track upgrade and sealing project in South Australia (SA) include:</p> <ol style="list-style-type: none"> 1. Reducing travel times and vehicle operating costs (including fuel, emissions and maintenance costs), particularly for heavy vehicles accessing the Santos oil and gas processing facility in Moomba from Port Augusta, as well as existing mining and onshore gas exploration in the Cooper Basin; 2. Improving travel time reliability for freight (including gas, beef and cattle), tourists and people in remote communities by reducing the frequency/duration of road closures and providing safer opportunities for overtaking slower moving vehicles; 3. Reducing the frequency and severity of crashes associated with overtaking, fatigue and the uneven road surface; and 4. Improving access for high productivity freight vehicles. <p>Problems the project seeks to address:</p> <p>Outside of the Strzelecki Track, there is no alternative land route available between Adelaide and the Cooper Basin. Currently, the problems identified by the proponent for the unsealed Strzelecki Track include:</p> <ol style="list-style-type: none"> 1. The existing road condition and configuration has deficiencies that reduce travel speed (e.g. roughness, potholes and corrugations) and increase vehicle damage; 2. The lack of drainage and an all-weather surface make travel times unpredictable, with the road frequently inaccessible or closed due to flooding, wet conditions and incidents; 3. The road is not sufficiently wide/delineated for the safe operation of the most productive heavy vehicles, such as Performance Based Standard Level 4 (triple road trains and similar); and 4. The condition, alignment, configuration and remoteness of the road contributes to higher road crashes and trauma.

The national significance of the project is linked to growth in the emerging onshore oil and gas industry (including the scale of planned investments, volume of resources, potential employment growth, and forecast growth in gas exports).

South Australian Government consultation with industry has suggested that the current condition of the Track is having a significant impact on petroleum and freight companies operating in the Cooper Basin, potentially limiting investment. These impacts include: higher transport operating costs, damage to time sensitive freight, and delays due to road condition and closures.

Traffic in the study area is forecast to grow from 237 vpd in 2014 (49% heavy vehicles) to 724 vpd (60% heavy vehicles) by 2048 (including traffic around Moomba).

The South Australian Government has recently committed to invest in an airstrip at Innamincka (currently in the procurement phase) to support the movement of personnel to and within the Cooper Eromanga Basin. This is considered a complementary project and has not been explicitly modelled in the economic appraisal as it is not expected to have a material impact on projected growth in traffic on the Strzelecki Track.

Project solution:

The preferred solution proposes to upgrade and seal 426 km of the (currently unsealed) outback Strzelecki Track between Lyndhurst and Innamincka in outback north eastern South Australia, and an additional 26km (the unsealed Nappa Merrie Access road) which connects to the Adventure Way at the QLD / SA border. The scope of works includes:

- Earthworks, drainage and causeway works;
- Pavement construction and sealing to deliver a two lane two way road (3.5m lane width with 1.0m sealed shoulders); and
- Minor realignments and traffic management devices.

Capital Cost of Initiative by Proponent (\$ millions, nominal, undiscounted):	\$450 million
Contribution sought by Proponent including requests for project development funding (\$ millions, nominal, undiscounted):	100%
Other funding (source/amount/cash flow) (\$ millions, nominal, undiscounted):	Under investigation
High level development and implementation program (month/year):	Construction: 2014/15-2017/18
BCR stated by proponent:	4.9:1

Strategic alignment summary

Alignment with Infrastructure Australia's Strategic Priorities:

The Strzelecki Track Upgrade and Sealing Project aligns with a number of Infrastructure Australia's Strategic Priorities by increasing the productivity of the freight task for the oil, gas and pastoral sectors operating in the Cooper and Eromanga Basin, by improving connectivity in the region by creating a sealed freight route between Brisbane and Adelaide and by improving social equity and quality of life through the provision of better access to remote and isolated communities/tourist businesses near Innamincka.

The Australian Infrastructure Audit identifies the Strzelecki Track as a key freight route, on the basis that the economic contribution of the Cooper Eromanga Basin to the oil and gas industry may be significant.

Alignment with State Strategic Priorities:

Sealing the Strzelecki Track is identified as a priority for regional South Australia in South Australia's Integrated Transport and Land Use Plan and the Regional Mining and Infrastructure Plan, aligning with the goals of a strong, diverse economy and connected communities. Improvements to the Strzelecki Track are identified in the SA Government's Roadmap for Unconventional Gas Projects in South Australia. The initiative also aligns with the South Australian Government's Strategic Priority of 'realising the benefits of the mining boom for all South Australians'.

Problem assessment summary

The Strzelecki Track between Lyndhurst and Innamincka is currently unsealed and is the only access from the National Land Transport Network near Port Augusta to:

- The Santos oil and gas processing facility at Moomba;
- Oil, gas and pastoral sectors operating in the Cooper and Eromanga Basin; and
- Remote and isolated communities/tourist businesses near Innamincka.

The problems related to the unsealed Strzelecki Track are identified by the proponent as:

- The existing road condition and configuration has deficiencies that reduce travel speed and increase vehicle damage;
- The lack of drainage and an all-weather surface make travel times unpredictable, with the road frequently inaccessible or closed due to flooding, wet conditions and incidents;
- The road is not sufficiently wide/delineated for the safe operation of the most productive heavy vehicles, such as Performance Based Standard Level 4 (triple road trains and similar); and
- The condition, alignment, configuration and remoteness of the road contributes to a higher road crash and trauma risk potential.

South Australian Government consultation with industry has suggested that the current condition of the Track is having a significant impact on petroleum and freight companies operating in the Cooper Basin, including reports of higher transport costs, damage to time sensitive freight, delays due to road condition and frequent road closures as a result of flooding.

The proponent through industry consultation has identified a range of potential projects in the emerging unconventional oil and gas industry in South Australia, noting the prospective scale of the industry e.g. potential to create 2,500 jobs and attract hundreds of millions of dollars to the region.

The significance of the project is linked to supporting this development, to the extent that:

- The track is the only land link running north-south in the supply chain sustaining current and future oil and gas exploration in the Cooper Eromanga Basin;

- The upgrade and sealing of the track is a key factor in reducing cost curves in the development of unconventional gas; and
- Equipment such as drill rigs and specialist supplies need to be developed, booked and imported far in advance.

Solution assessment summary

The options considered by the proponent include non-infrastructure solutions (i.e. a reduction in posted speed limits to reduce crash rates) and infrastructure solutions (i.e. a higher road level to retain access during floods, provision of regular overtaking lanes and the proposed road upgrade and sealing).

The options are summarised below:

- Option 1 (Base Case) – Current funding levels maintain existing unsealed road condition;
- Option 2 – Provides slight improvement to existing unsealed road condition with pavement resheeting every 10 years;
- Option 3 – Provides moderate improvement to existing unsealed road condition with engineered pavement formation and resheeting every 10 years; and
- Option 4 (Preferred Option) – Provides major engineered upgrade and surface sealing for the entire unsealed route length.

A Benefit Cost Ratio (BCR) was calculated for Options 2 – 4. Option 4 (the preferred option) produced the highest BCR, as the option provided the greatest improvements to the resilience of the corridor in regards to combatting adverse weather conditions (flooding) and the greatest freight efficiency improvements.

Economic appraisal summary

The stated Benefit Cost Ratio for the project is 4.9:1 (P90 capital costs).

The project's capital cost estimate is at an early (deterministic) stage of development and includes a risk allocation of around 50 per cent. The total level of risk consideration has been determined by assessing specific elements of the project such as project scope, risks, constructability, key dates, technical information and project length. The South Australian Government has advised that work has commenced work on a probabilistic cost estimate as a result of further concept planning work. Although there are some elements of the project that require further more detailed planning, indications are that the strategic estimate remains viable.

The proponent provided evidence to support the traffic forecast increases of 2.6% per annum, as well as evidence to support the increases in traffic related to new oil and gas projects and the proposed 5 year ramp-up period. This evidence included historical traffic growth rates on the Strzelecki Track (between 2005 and 2013), based on actual traffic counts, the traffic forecasts were further supported by the predicted growth in South Australian freight task. The proponent also indicated that industry consultation has taken place supporting the estimated growth in Oil and Gas related vehicle traffic.

The proponent conducted a range of sensitivity tests in relation to the demand assumptions including:

- A low demand scenario, consisting of 1% per annum growth for the Strzelecki track and local traffic around Moomba (reducing the BCR to 4.8:1);
- A 15 year ramp up for traffic related to oil and gas projects, instead of an assumed 5 year ramp up in the core demand scenario (reducing the BCR to 4.0:1); and
- 'Low' and 'high' oil and gas project scenarios, based on the 38 drilling rigs assumed in the medium scenario changing to 15 and 75 drilling rigs respectively (providing a BCR range of 2.5:1 to 8.9:1.).

The project's BCR remains above 1 under all demand sensitivity tests.

The proponent indicates they are exploring the potential for private sector funding for the road upgrading and sealing components of the project. Given the scale of economic benefits that relate to freight industry supply chain savings, results from this investigation should further confirm the economic benefits of the project.

Deliverability summary

The project is at the preliminary concept planning stage and much of the evidence to support the preferred option still needs to be undertaken. The proponent states that, 'project timing will be influenced by considerations such as planning, aboriginal heritage, land acquisition and environmental approvals, design, sourcing of outback road making materials, water and construction issues.'

The Australian Infrastructure Audit recognises the importance of facilitating private sector infrastructure investment. The completion of the project will benefit in most part, private sector mining companies, as a result the proponent should explore alternative funding options including mechanisms designed to extract a private sector contribution. In addition, the ability to attract private sector funding would further illustrate the importance of the emerging oil and gas industry and hence the demand forecasts.

Overall Assessment

The Australian Infrastructure Audit identifies the Strzelecki Track as a key freight route. Evidence suggests the Strzelecki Track upgrade will play a key role in supporting the petroleum, freight and agricultural industries in South Australia. In addition the project will increase the connectivity between South Australia and Queensland.

The options assessment considers various infrastructure solutions (i.e. a higher road level to retain access during floods, provision of regular overtaking lanes, pavement resheeting and the proposed road upgrade and sealing) and has conducted an economic appraisal of these options, finding that the full road seal provides the largest economic benefits and BCR.

The net present value of the option was assessed at \$1.3 billion, with a BCR of 4.9:1. The strong BCR has been shown to be robust to several sensitivity tests, but is particularly sensitive to the estimated freight task servicing the Cooper Eromanga Basin (accounting for 62% of the project benefits).

The proponent is yet to clarify alternative funding sources for the project.

To facilitate progression to more advanced stages the proponent should provide independently verified capital cost estimates and further explore a private sector contribution to the project and alternative funding arrangements.

Infrastructure Australia Priority List Recommendation

IA assesses the project as Early Stage on the Infrastructure Priority List.