

Tasmanian Government
2012 Transport Submission to
Infrastructure Australia

Midland Highway – Duplication, Perth to Breadalbane

August 2012

Proposal Summary

Initiative Name:	Burnie to Hobart Freight Corridor: Midland Highway – Duplication, Perth to Breadalbane
Location (State/Region(or City)/ Locality):	Perth, Tasmania
Name of Proponent Entity:	Tasmanian Department of Infrastructure, Energy and Resources
Contact (Name, Position, phone/e-mail):	David Spence, General Manager Infrastructure Strategy Department of Infrastructure, Energy and Resources Tel: (03) 6233 2089 Email: david.spence@dier.tas.gov.au
Executive summary	<p>Perth to Breadalbane is a key section of the Midland Highway, Tasmania’s major north-south transport corridor and a key link in Tasmania’s National Network. The Highway is both a critical freight connection facilitating access from the Southern region to the State’s northern ports, and the major transport link for passengers travelling between the northern and southern regions.</p> <p>The Midland Highway between Perth and Breadalbane carried around 1.4 million tonnes of freight in 2009. It is a key link into Launceston and to industrial development adjacent to Launceston Airport, including a major new statewide grocery distribution centre. It fulfills an important role as a passenger transport link, including for commuters between Perth and Launceston.</p> <p>The existing road network is single carriageway with no formal overtaking opportunities and a number of direct accesses. While other sections of the Midland Highway have been significantly upgraded to a standard consistent with the National Network, there has been limited investment in this section despite its comparatively high traffic and freight volumes compared to other parts of the Highway.</p> <p>Upgrade of the Perth to Breadalbane section of the Midland Highway is identified as a priority in the <i>Tasmanian AusLink Corridor Strategy 2007</i>. Improvement to road infrastructure in and through Perth is also identified as a key priority under the <i>Midland Highway Partnership Agreement 2009</i>, a joint agreement between the Tasmanian Government and seven local governments.</p> <p>The proposed project will see duplication of the Highway from Youl Main Road junction north of Perth to the existing roundabout at Breadalbane.</p> <p>The project is part of the broader Midland Highway Improvement Projects, designed to improve efficiency and safety across the north-south corridor. Other projects include the: South Perth Bypass (<i>Nation Building 2 submission</i>); New Bridgewater Bridge (<i>Nation Building 2 submission</i>); Brighton Bypass (under construction); Bagdad Bypass (proposed) and interim safety upgrades through Bagdad (<i>Nation Building 2 submission</i>); Brighton Transport Hub; and general safety improvements across the corridor (<i>Nation Building 2 submission to DOIT</i>). Optimal efficiency gains across the corridor will be made when the complete package of projects is delivered.</p>
Is this a new submission?	The project was part of a broader submission to IA.
Estimated cost of problems?	The strategic framework and transport system problems to which this project responds are outlined in the Overview document and within this submission. Detailed information on project costs and benefits, to the extent that they can be quantified, is contained in the Stage 7 template.

Estimated Capital Cost of Initiative by Proponent (\$M, nominal, undiscounted):	\$72m
Commonwealth contribution sought by Proponent (\$M, nominal, undiscounted):	\$72M
Other funding (source/amount/cash flow) (\$M, nominal, undiscounted):	Cost reflective pricing for heavy vehicle access to the road network and road funding reform is being considered as part of the national Heavy Vehicle and Investment Reform agenda, and the Tasmanian government will continue to actively participate in this reform process. Tasmania has many attributes for a pilot study of approaches developed through national processes. It is considered that a national approach to funding and financing transport infrastructure, supported by all levels of government, is critical to effectively address long term transport infrastructure needs. In this context, the recent Infrastructure Australia's Finance Working Group's report "Infrastructure Finance and Funding Reform" is an important lead for national discussion. Tasmania is not in a position currently to adopt a unilateral approach. Further work is required on project financing and the issue of cost reflective pricing in small regional economies.
BCR by Proponent excluding Wider Economic Benefits	0.29
Estimated program	Scoping to commence in September 2012 with construction scheduled for 2015/17.

Goal Definition

The objective of the Midland Highway Perth to Breadalbane project is to enhance freight efficiency and connectivity between the southern and northern regions of the State.

The Midland Highway is part of the National Network and classified as a Category 1 Trunk Road in the Tasmanian State Road Hierarchy. It connects Hobart and southern Tasmania to Launceston, and the Bell Bay Port and industrial area. It is Tasmania's key north-south road connection.

Positive contribution to Infrastructure Australia's strategic priorities

The project aligns well with Infrastructure Australia's strategic objectives, including:

- ***Improving the efficiency of connections to major road and rail freight corridors to facilitate domestic trade and international exports*** – the Midland Highway connects Southern Tasmania to the Northern Ports, which Tasmania is heavily reliant on for both domestic and international trade. The project focuses on improving the efficiency of the road connection between Perth and Launceston.
- ***Achieving better utilisation of existing infrastructure*** – Maintaining and enhancing this section of the Midland Highway, rather than providing an alternative route (large scale bypass or similar) ensures that investment already made in existing infrastructure is utilised.

Alignment with State/regional strategic plans

The importance of upgrading the Midland Highway has been a key element of Tasmania's strategic transport planning for a number of years.

Tasmanian Infrastructure Strategy (www.infrastructure.tas.gov.au)

Upgrading the Midland Highway is identified as a key short to medium-term transport infrastructure priority under the *Tasmanian Infrastructure Strategy* (TIS). The TIS, released in 2010, is the State's integrated long-term strategy to guide future infrastructure projects and decision making. The TIS identifies the State's heavy economic reliance on the ability of its transport system to move freight from producers to processors and on to markets – within Tasmania, nationally and internationally. The project aligns with the TIS stream for the integrated, efficient and safe movement of freight.

Midland Highway Partnership Agreement 2009

The *Midland Highway Partnership Agreement* was developed through a partnership between the Tasmanian Government and seven local governments. Improving road infrastructure through and around Perth is identified as a priority in the Agreement, with a longer-term objective to deliver a full bypass of Perth. Duplication of the Highway between Perth and Breadalbane, together with the South Perth Bypass, represents a first stage in this longer-term objective.

Tasmanian AusLink Corridor Strategy 2007

The Midland Highway between Perth and Breadalbane is identified as a priority section of the National Network for upgrade in the *Tasmanian AusLink Corridor Strategy 2007*. The Corridor Strategy is a statement of the shared strategic priorities of the Australian and Tasmanian Governments for the long term development of the corridor. The Strategy identified deficiencies along the Perth to Breadalbane section including a high crash risk and density, multiple direct accesses, narrow lane and shoulder widths, with future projections for a low level of service.

Draft Transport Policy and Draft Freight Strategy

Strategic fit with the State's draft Transport Policy and Draft Freight Strategy is addressed in the Tasmanian Government Submission Overview.

Infrastructure Delivery Imperative

Upgrade of the Midland Highway has been identified as a priority by all levels of government. This section of the Highway is identified as having a high crash rate, high freight volumes and a high volume of traffic relative to other sections of the Midland Highway. Improvements to the section from Perth to Breadalbane would complement work already undertaken on the corridor, moving toward a consistent infrastructure standard capable of meeting current and forecast growth.

The primary function of the Midland Highway is to provide safe, high-speed travel for freight and passenger vehicles. However, safety and efficiency between Perth to Breadalbane is significantly compromised. Without upgrade, this section will not cater for future changes to heavy vehicle configurations, to support improved productivity. It is also likely that travel times will increase as traffic increases, having a detrimental effect on the reliability and efficiency of this section of the north-south corridor.

Problem identification, assessment and analysis

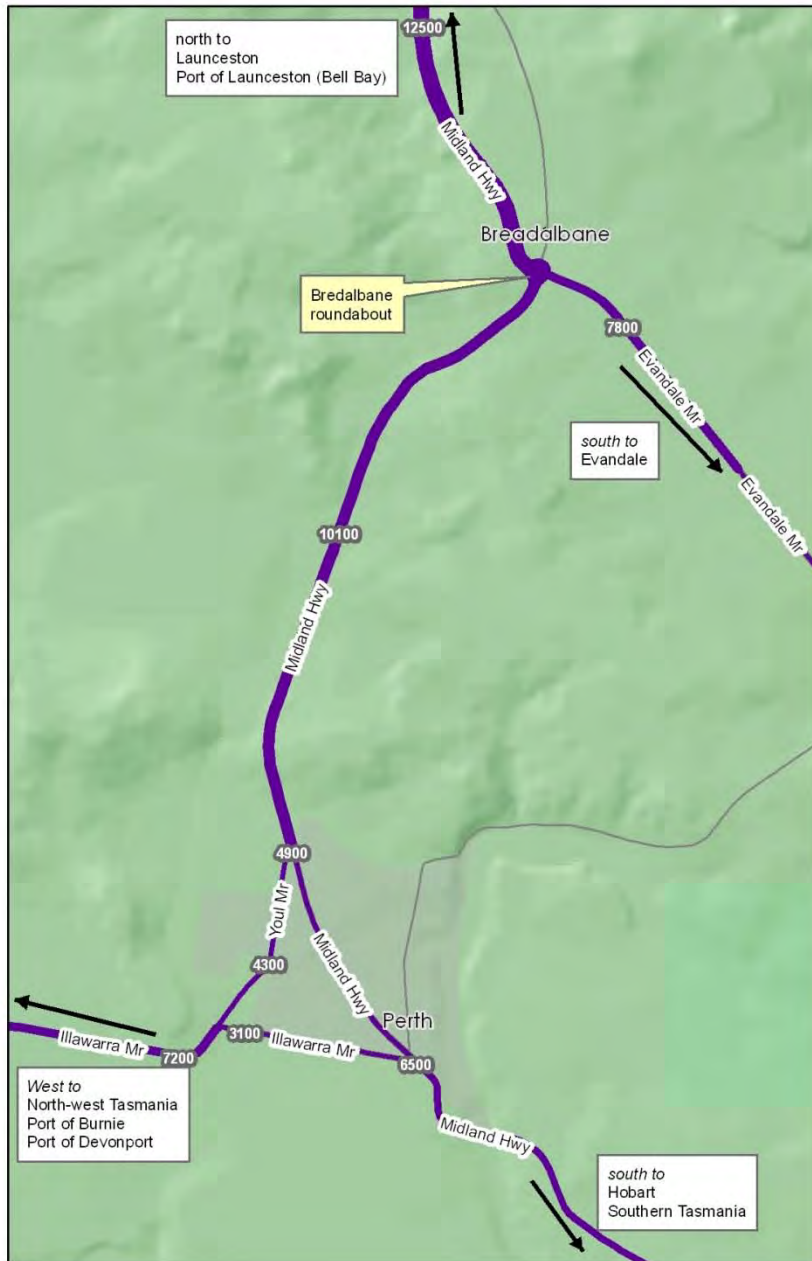
Forecast freight growth will see larger volumes of freight moving through Tasmania's ports, intermodal facilities and over the land transport network. Tasmania's road and rail networks face significant infrastructure deficiencies in supporting this growth.

Travel time surveys have indicated that the average travel speeds along the Midland Highway between Perth and Breadalbane are around 10-15km below posted speed limits. There is a large gap in road standard and efficiency between the Perth-Breadalbane section and the Breadalbane-Launceston section of the Midland Highway. The Breadalbane-Launceston section is dual carriageway, but does not carry significantly higher volumes of vehicles than the Perth-Breadalbane section, as shown in Map 1 below

The National Network is the core of Tasmania's intrastate freight and passenger transport network, connecting major export ports and carrying the largest freight volumes. The importance of north-south connections has increased over the past decade as the export focus has shifted to the northern ports and volumes through Hobart Port have declined significantly. Over 86 percent of exports from the Southern region and 99 percent of total imports move through one of the northern ports.

The section of the Highway between Perth to Breadalbane carried 1.4 million tonnes in 2009 and is forecast to grow to 2.3 million tonnes by 2030, to remain a high tonnage section of the north-south freight supply chain (Map 2). This will see higher volumes of freight vehicles on an already constrained road.

Map 1: Average Annual Daily Traffic between Perth and Breadalbane



Continued growth in volumes through Tasmania's three northern ports, supported by a changed direction of trade from the Southern Region, will impact on the land transport system. Over the past two decades, freight throughput at Hobart port has declined significantly and the Southern Region is now reliant on the northern ports for exports/imports.

The Midland Highway plays a pivotal role in the State's economic prosperity. Linking the major urban area of Greater Hobart with the State's three Northern ports is critical in allowing

goods to access Australian and international markets, and for goods to be consumed and value added in Greater Hobart.

With freight volumes expected to increase significantly over the forecast period, the Midland Highway will see considerable growth in freight volumes and heavy vehicle numbers. The Illawarra Main Road carries a variety of types of freight, as show in Table 1 shows the mix of commodities and their respective values at 2008/09. Agriculture products and consumer goods comprise about half the tonnage on this corridor, and both these freight types are forecast to grow strongly in the future.

Table 1: Commodity type, value and tonnage, Midland Highway Perth- Breadalbane

Commodities	Tonnage	Value
Agriculture & agricultural products	511,934	\$748M
Consumer goods	492,484	\$1.506B
Forestry	425,845	\$28.3M
Cement	296,199	\$22.8M
Wood products	196,168	\$90.4M
Manufacturing goods (inputs & outputs)	111,812	\$137M
Construction inputs	78,571	\$16.3M
Basic metal products	59,729	\$187M
Empty Containers	9,569	0
Mining ores	600	\$18.4M
Total	2,182,911	\$2.754B

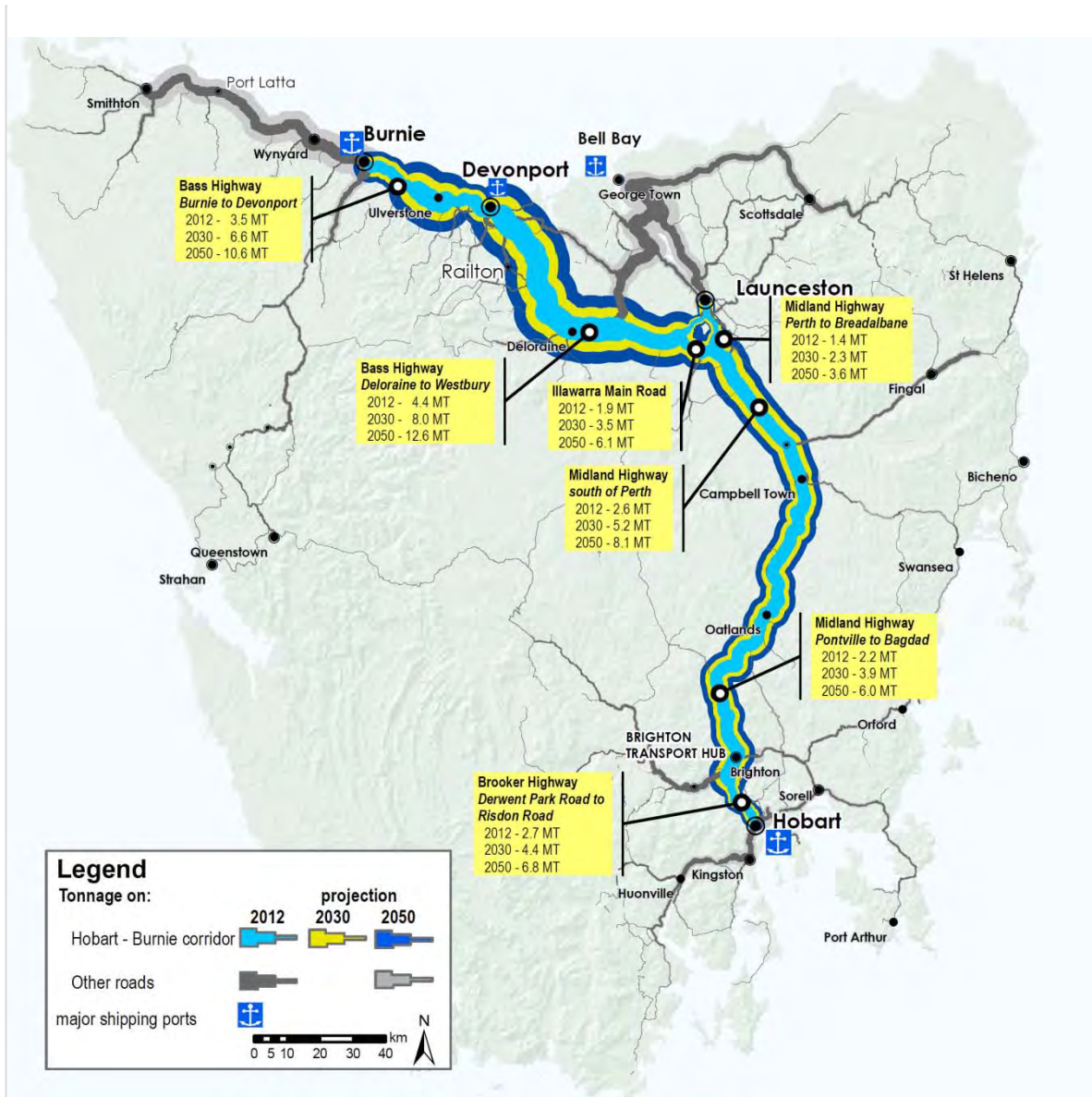
Source: Tasmanian Freight Survey 2008/09

The Midland Highway section Perth to Breadalbane is currently at Level of Service D, and is forecast to decline to Level of Service E by 2022. This decline in Level of Service is due to the increase in vehicles using this section, along with the lack of overtaking opportunities on this section, which increases travel time spent following other vehicles.

The Perth to Breadalbane section of the Midland Highway also has considerable industrial and residential growth which has affected its efficiency and reliability. Further development in this area is also likely to cause additional problems for the transport corridor, including further interaction between freight and passenger vehicles.

Demand for passenger trips between Perth and Launceston is likely to be driven by population growth in the Perth area, which is reliant on employment opportunities, services, and education provided in Launceston. Similarly, trips between Hobart and Launceston are expected to continue to increase in line with population growth in both centres. Passenger vehicle growth is projected to be in-line with historical linear growth rates for Average Annual Daily Traffic, ranging from 1.53% in 2013 to 0.98% in 2050.

Map 1: Current and forecast freight volumes, Burnie to Hobart Freight Corridor



Option Generation and Assessment

As noted above, achievement of enhanced freight productivity to meet Tasmania's future economic development needs is the key goal.

Use of rail to meet future productivity needs could be seen as an alternative to upgrading road infrastructure. However, as noted in the transport overview document, rail and road act in a complementary manner to meet Tasmania's freight needs. Rail has inherent advantages in the movement of bulk freight and some growth in the intermodal task is expected. However the majority of the freight task will continue to be moved by road, as the service characteristics of road are, in most cases, better suited to freight market needs. Consequently, road network upgrades will continue to be a priority in Tasmania.

The proposed project is duplication of the Midland Highway from Youl Main Road junction at Perth to the roundabout at Breadalbane, as part of the National Network route between Hobart and northern Tasmania.

As part of this process and considering past planning work, the options considered were:

- Do nothing
- Large-scale bypass of Perth
- Duplication of the Midland Highway with grade separated interchanges
- Duplication of the Midland Highway, with at-grade intersections only

Do nothing

Continuing to use the current road network without upgrade will compromise the efficiency and reliability of the Midland Highway, which is the key corridor between Southern Tasmania and the Northern ports. This corridor is critical for the State in terms of freight movement. The section from Perth to Breadalbane includes the township of Perth, and is in close proximity to Evandale and Longford, towns which are also growing in popularity for commuters travelling to Launceston. With this section of the road already at Level of Service D/E, interaction between freight and vehicles will increase, with likely associated safety issues.

Full bypass of Perth

In the Midland Highway Partnership Agreement, a full bypass of Perth is identified as a long-term priority (25 years). This bypass would cover both the west and east of Perth, with the most significant (longest) section the western alignment linking to an improved interchange on the northern end at Breadalbane. As freight and general traffic volumes increase, this full bypass will be required, however over the short to medium term, alternative solutions can meet forecast transport demand.

A full bypass of Perth is a higher cost project and one that is not currently justified by current traffic volumes.

Duplication with grade-separated interchanges

The Tasmanian Government has investigated the option of duplication of the Highway together with a grade-separated interchange to provide access into Breadalbane. The cost is high, with P90 costs estimated to be \$139M, and would deliver significantly improved travel speeds over an at-grade option, but initial benefit cost analysis suggests that this project would deliver around the same BCR as an at-grade solution (Table 2)

Despite the slightly higher BCR for the grade separated option, the significantly lower cost for the at-grade option, suggests that a grade separated option is not warranted under existing and forecast demand.

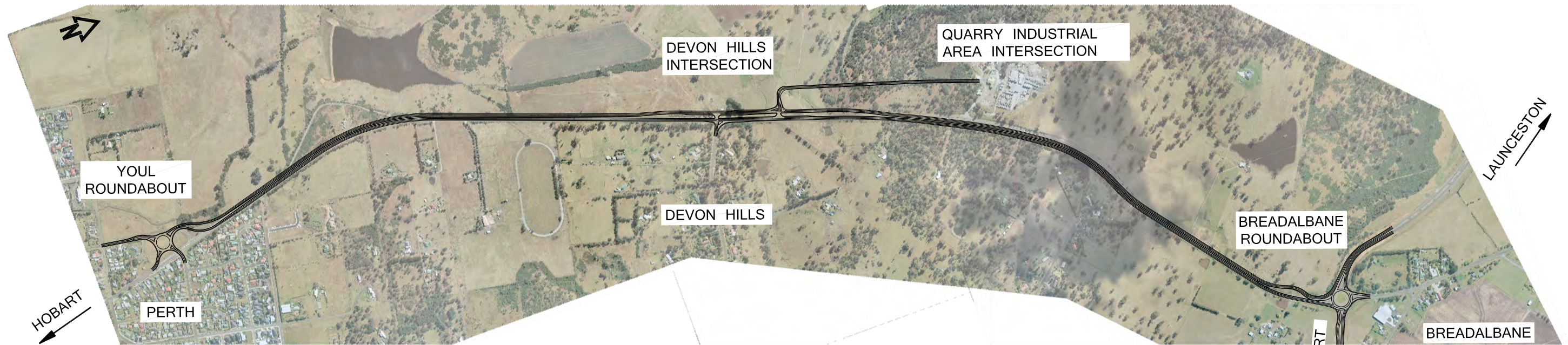
Table 2: Benefit cost ratios for different Perth-Breadalbane options

Project option	Estimated cost P90	Estimated BCR
Dual carriageway between Perth-Breadalbane, with roundabout at Breadalbane	\$72 million (outturn)	0.31
Dual carriageway between Perth-Breadalbane, with grade-separated interchange at Breadalbane	\$139 million (outturn)	0.29

Duplication with at-grade interchange at Breadalbane

The Tasmanian Government's preferred option is to expand the existing road infrastructure, and duplicate adjacent to the existing Highway to provide four lanes from Perth to Breadalbane, with improved access arrangements at Breadalbane and Devon Hills Road. This is considered the most cost-effective solution and one which is appropriate to current traffic volumes and forecast demand.

MIDLAND HIGHWAY DUPLICATION, PERTH TO BREADALBANE



OVERALL LAYOUT

0 100 250 500 750
SCALE 1:15000

CONCEPTUAL PLAN
JULY 2012

MIDLAND HIGHWAY DUPLICATION, PERTH TO BREADALBANE



MIDLAND HIGHWAY DUPLICATION, PERTH TO BREADALBANE



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