

MIDLAND HIGHWAY 10 YEAR ACTION PLAN

MELTON MOWBRAY TO NORTH OF LOVELY BANKS

Submission to the Parliamentary Standing
Committee on Public Works

Version: 2 Date: May 2019

Document Development History

Build Status

Version	Date	Author	Reason	Sections
1	17 April 2019	J Elliott	Draft for review	
2	1 May 2019	C Webb	Final	

Amendments in this Release

Section Title	Section Number	Amendment Summary

Distribution

Copy No	Version	Issue Date	Issued To
1	1	17 April 2019	Department of State Growth
1	2	1 May 2019	10 Hard Copies to Department of State Growth
1	2	1 May 2019	Copy of digital files

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Authorisation

	Name	Signature	Date
Authorised by:	Vanessa King		

1 Introduction

1.1 Background

The Midland Highway forms part of Tasmania's National Transport Network and is the major transport link between Tasmania's north and south.

In May 2014, the Australian and Tasmanian Governments committed to the *Midland Highway Action Plan*, which is to provide \$500 million in funding over 10 years to upgrade the Highway to a three-star AusRAP rating. The Australian Road Assessment Program (AusRAP) is part of the International Road Assessment Program (iRAP) that uses star ratings to measure the safety of a road's infrastructure. Each road is assigned a star rating which tells us how safe the road itself is and allows road safety improvements to be identified and costed. The current AusRAP rating for the highway between Melton Mowbray and north of Lovely Banks is predominantly one-star and two-star.

The Midland Highway is a gazetted high productivity (HPV) route. The highway between Melton Mowbray and north of Lovely Banks is a combination of two-lane single carriageway, dual climbing lanes and a "2+1" lane arrangement, with a posted speed limit of 110 km/h.

The dual climbing lanes are located from north of Muddy Plains Road to south of Lovely Banks Road, and the '2+1' arrangement is located north of Lovely Banks Road.

The land adjacent to the highway within the project site is predominantly agricultural, used for grazing and cropping. There are currently 6 private accesses within the project site.

The Annual Average Daily Traffic (AADT) for the site is 4,180 vehicles per day, with 17.2% heavy vehicles. This compares to say:

- 4,741 vehicles per day, with 16.4% heavy vehicles for Oatlands (Jericho to south of York Plains) and
- 6,436 vehicles per day, with 20.7% heavy vehicles for Powranna to Symmons Plains.

A total of 11 crashes were recorded between January 2008 and November 2018 within the project site. The crashes involved out of control vehicles, vehicles travelling off the carriageway or off bends into objects/parked vehicles, rear end and head on collisions and overtaking vehicles. During this period there were no fatalities observed, with a large portion of crashes resulting in property damage and minor injuries. A summary of the crash history is shown in Table 1.

Table 1: Melton Mowbray to north of Lovely Banks Crash Data

Crash Type	Number
Fatal	0
Serious	2
Minor	3
First Aid	1
Property Damage	5
TOTAL	11

The upgrades to the Midland Highway between Melton Mowbray and north of Lovely Banks will provide safety benefits to all road users and will, in particular, help to prevent serious injuries and fatalities caused by head-on collisions through the provision of a flexible safety barrier within a central median.

The project is now in the Preliminary Design Phase.

1.2 Project Objectives

The objectives for the upgrades between Melton Mowbray and north of Lovely Banks are;

- Improve the road section to achieve a minimum 3-Star AusRAP rating
- Reduce head-on collisions through the provision of a flexible safety barrier within a central median
- Provide sufficient safe overtaking opportunities through a '2+1' lane arrangement in each direction to meet safety objectives and community expectations, especially with regard to increasing traffic flow efficiency where impacted by reduced heavy vehicle operating speeds, as per Table 1
- Consolidate breaks in the central median barrier at intersections and turning facilities
- Maintain a 110 km/h speed environment, consistent with the Tasmanian standard for the National Highway
- Optimising the re-use of the existing pavement whilst maintaining existing horizontal and vertical alignment to maximise value for money
- Upgrades to the Muddy Plains Road and Lovely Banks Road Junctions
- Establish and maintain clear and open communication with landowners
- Provide safer property accesses

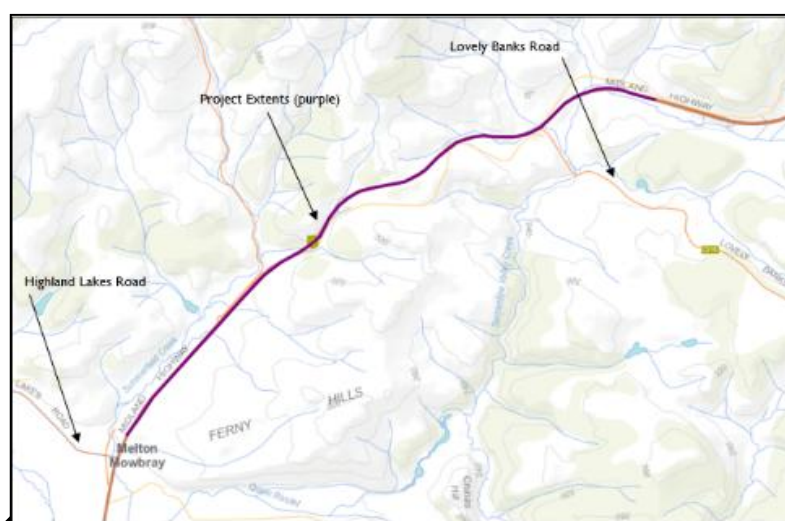
1.3 Project Location

The Project is located approximately 55 km north of Hobart on the Midland Highway (A0087) from a location just past Highland Lakes Road to a point north of Lovely Banks Road.

The Project site is approximately 6.00 km of highway and is designated Melton Mowbray to North of Lovely Banks.

The project is bounded each side by already completed Midland Highway upgrade projects. To the south is Kempton to Melton Mowbray and to the north is South of Spring Hill.

Figure 1: Project Location Map



1.4 Strategic Context of the Project

1.4.1 Alignment with Approved Strategies

In May 2014, the Australian and Tasmanian Governments committed to the *Midland Highway Action Plan*, which is to provide \$500 million in funding over 10 years for the upgrade of the highway. The upgrade between Melton Mowbray to north of Lovely Banks is a component of this Plan and aims to improve safety to a minimum 3 Star AusRAP rating integrated with additional safe overtaking facilities, and a staged approach to capacity improvements.

1.4.2 Alignment with Planning Policies and Themes

The upgrade between Melton Mowbray to north of Lovely Banks also supports the *Midland Highway Partnership Agreement 2010* that was developed between the Tasmanian Government and the seven Councils abutting the Midland Highway. Upgrading of the section of highway between Melton Mowbray and north of Lovely Banks, locating within the Southern Midlands Council municipality, was identified as a priority in the Agreement.

2 Project Details

2.1 Proposed Works

The scope of the Project is to improve safety and reduce head on crashes by providing a minimum AusRAP 3-star safety rating. This is to be achieved by a combination of optimising the use of the existing pavement width and widening the existing Highway in some areas through the provision of alternating lengths of “2+1” lane arrangements between Melton Mowbray and north of Lovely Banks (a distance of approximately 6.00 km). The Project will facilitate safer access to adjacent land and upgrade the Muddy Plains Road and Lovely Banks Road junctions. A future stage will potentially include a turning facility.

The project focused on delivering Value for Money and, after thorough analysis of available options, was able to achieve this by maximising the re-use of the existing pavement

The key outcomes of the Project are:

- Improvements to the overall capacity of the highway to cater for future traffic growth and freight movements
- Additional safe overtaking opportunities through the provision of a “2+1” lane arrangement
- Head-on collisions will be reduced through the provision of a flexible safety barrier within a central median
- The section of Midland Highway between Melton Mowbray and north of Lovely Banks will be rated a minimum 3-Star under the AusRAP star rating system

To provide sufficient turning opportunities for emergency vehicles and general traffic within the project site, breaks in the central median barrier have been provided at intersections. One potential U turn facility (P-Turn) is proposed on Lovely Banks Road. The turn facility is a potential future stage and will be designed to accommodate 26 m B-Double vehicles.

Northbound and southbound overtaking opportunities will be provided within the project site and has been specifically designed to cater for heavy vehicle speeds. The lengths of the proposed overtaking lanes have been arrived at based on vehicle speed assessment and Value for Money.

Table 2: Comparison of Existing and Proposed Overtaking opportunities

Direction	Current Overtaking Opportunities - length	Proposed Overtaking Opportunities - length
Northbound	3.9 km	3.4 km
Southbound	3.0 km	1.7 km

A number of accesses along the highway will be upgraded or relocated as part of the works, with many designed as left-in / left-out unless otherwise specified. One un-licensed gate access will be closed.

Other features within this Project’s scope include upgrades to roadside drainage, pavement repairs and earthworks. The scope also includes all pre-construction activities such as locating and documenting Telstra communication cables and a TasGas pipeline.

The proposed works are shown on the drawings included as Appendix A.

2.2 Road Cross-Section

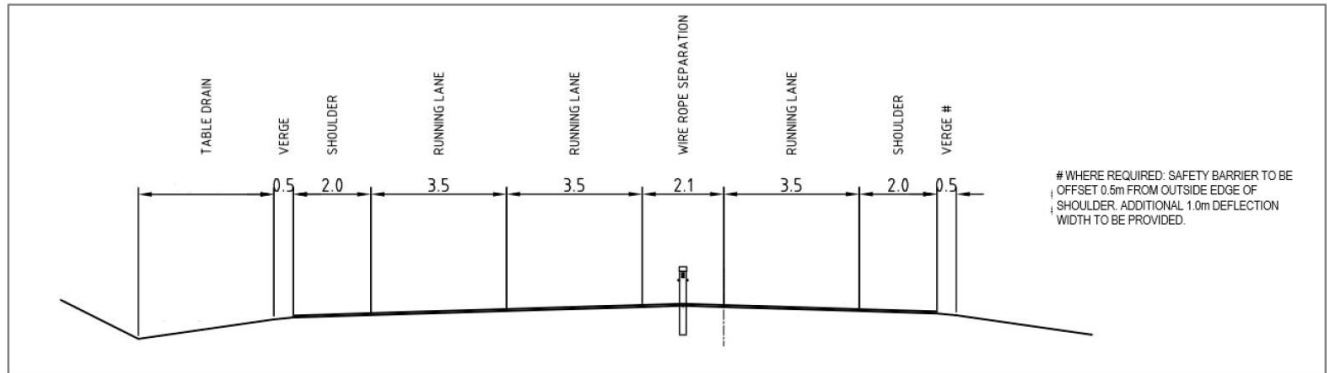
The Department of State Growth’s “2+1” lane arrangement includes a flexible safety barrier within the central 2.1 m wide median. In addition to the central median barrier, flexible safety barriers have also been provided to protect motorists from embankment batters with heights of 2.0 m or greater and where flat, safe batters cannot reasonably be provided.

The upgraded highway will generally consist of the following:

- Lane widths of 3.5m
- Shoulder widths of 1.0m to 2.0 m
- Median width of 2.1 m with a flexible safety barrier located within a central median
- Verge width of 0.5 m, plus widening to accommodate safety barrier

A typical cross-section of the “2+1” lane arrangement is shown in Figure 2 below.

Figure 2: ‘2+1’ Lane Arrangement



2.3 Drainage

Open drains have been adopted for use as per the typical cross section for the Midland Highway upgrades. The roadside drainage has been designed to meet 1 in 100-year flood event which is the requirement of the Department of State Growth's guidelines.

No kerb and channel is proposed. Adequately sized open table drains will be constructed parallel to the new road to collect existing and additional stormwater runoff.

There have been no anecdotal reports from local stakeholders of standing water accumulating adjacent to, or on, the highway.

It was determined that, generally, the existing culverts have sufficient capacity to cope with a 1 in 100-year flood event and will be retained. There are two locations where the existing culverts may not have sufficient capacity and more detailed analysis will be performed during Preliminary Design to investigate these further.

Where the condition of the existing culvert warrants, a new culvert will be provided to replace the existing. Some culvert extensions are likely to be avoided by the provision of 1V:2H fill batters.

2.4 Utilities

2.4.1 Overhead Power

Overhead power lines are present and it is likely that power poles will need relocation due to the works.

Further investigation will be undertaken during Preliminary Design to ensure clearance of powerlines from the carriageway.

2.4.2 Telecommunications Cables

Underground Telstra cables are present and cross the route of proposed works at three locations:

Further investigations will be undertaken however it is anticipated that these cables will not require relocating.

2.4.3 Tas Gas Pipeline

A Tas Gas Pipeline intersects the proposed works at one location:

This 1980s transmission gas pipeline crosses the road almost perpendicularly.

This pipe will be protected during the Works.

2.4.4 TasNetworks

A TasNetworks underground communications cable is located within the same easement as the TasGas pipeline. This cable will be protected during the Works.

2.4.5 Sewer and Water

There are no recorded TasWater services within the project site.

3 Social, Environmental Impacts and Stakeholder Engagement

3.1 Property Acquisition

Indicative new property boundaries have been determined based on the proposed “2+1” carriageway. The indicative new property boundaries have generally been placed at the limit of the road clear zone or the extent of earthworks plus 2 m.

The estimated areas of acquisition required as part of this Project are shown in Table 3.

Table 3: Estimated Property Acquisition

Side of Road	Chainage	Title	Approximate Area Acquired (m ²)
Southbound	4080	130838/3	200
Northbound	4680 - 4700	130838/1	750
Southbound	5040 - 5160	233024/1	250
Lovely Banks Road Turn Facility	N/A	130838/3	1500

Additional acquisition may be identified as the Preliminary Design phase progresses.

3.2 Noise

Four dwellings are located within the project site. Three are located on the northern side and one on the southern side of the highway, adjacent to the Lovely Banks Road intersection. Noise impacts at these properties are not expected as the safety upgrade to the highway remains on the same alignment.

The project will follow the Department of State Growth’s Traffic Noise Management Guidelines with regard to determining whether noise mitigation measures are required.

3.3 Flora

Flora and fauna surveys have been undertaken and are summarised in Tables 5 and 6.

A number of plant species were identified that are listed as Rare or Vulnerable under the *Threatened Species Protection Act 1995*. These include;

- Rare:* rough speargrass,
 Woolly New Holland daisy
 Narrowleaf New Holland daisy
- Vulnerable:* Spreading Knawel.

The preliminary road designs are being refined and additional site investigations are being undertaken to clearly determine the level of impact.

The project will likely impact on discrete groups of the above plant species. As part of the Detailed Design phase, the Department will apply for a Permit to Take from the Department of Primary Industries, Parks, Water and Environment (DPIPWE).

There are other nearby locations of the above plants outside of the project footprint that will be protected during the Works.

Eleven species of 'declared weeds' listed on the Tasmanian Weed Management Act 1999 were found to be present across the study areas. The most widespread and abundant of these were identified as blackberries, hoary cress and fennel. Weed mitigation measures will be detailed in the construction specification.

Table 4: Threatened Flora adjacent to the Midland Highway

Species	State-Listed? (Threatened Species Protection Act 1995)	Federally listed? (EPBC Act 1999)	Estimated Impact to Population
<i>Austrostipa scabra</i> (rough speargrass)	Y – Rare	N	Minimal
<i>Vittadinia gracilis</i> (Woolly New Holland daisy)	Y - Rare	N	Minimal
<i>Vittadinia muelleri</i> Narrowleaf New Holland daisy	Y – Rare	N	Minimal
<i>Scleranthus fasciculatus</i> Spreading Knawel	Y - vulnerable	N	Minimal

3.4 Fauna

Habitat for four species of fauna, listed under the *Threatened Species Protection Act 1995*, was identified adjacent to the Project area. The fauna include the *Tussock Skink*, *Ptunarra brown butterfly*, the Tasmanian Devil and Spotted Tailed Quoll. The *Tussock Skink* and *Ptunarra brown butterfly* are present on private land and are not expected to be affected by the works.

Wombat burrows, that were potential habitat for the Tasmanian Devil and Spotted Tailed Quoll, were identified adjacent to the proposed works. These burrows were investigated and decommissioned in accordance with the *DPIPWE Survey Guidelines and Management Advice for Development Proposals that may Impact on the Tasmanian Devil, 2015*

Table 5: Threatened Fauna adjacent to the Midland Highway

Species	State-Listed? (Threatened Species Protection Act 1995)	Federally listed? (EPBC Act 1999)	Estimated Impact to Population
Tussock Skink (within the Lowland Poa Libiliardierei Grassland, a marginal habitat)	Y – Vulnerable	N	No impact – present on private land
Ptunarra brown butterfly (within the Lowland Poa libiliardierei grassland)	Y - Vulnerable	Y - Endangered	No Impact – present on private land

Species	State-Listed? (Threatened Species Protection Act 1995)	Federally listed? (EPBC Act 1999)	Estimated Impact to Population
Sarcophilus harrisii (Tasmanian Devil)	Y- Endangered	Y – Endangered	No impact – potential habitat will be managed in accordance with DPIPWE guidelines
Dasyurus maculatus (Spotted tailed quoll)	Y - Rare	Y - Vulnerable	No impact – potential habitat will be managed in accordance with DPIPWE guidelines

3.5 Aboriginal Heritage

Aboriginal Heritage Tasmania has advised that there are no identified Aboriginal heritage sites in or near the road reserve within the Project site from Melton Mowbray to north of Lovely Banks. There is no requirement for an Aboriginal Heritage Investigation. An Unanticipated Discovery Plan will be included within the contract specification.

3.6 Historic Heritage Assessment

3.6.1. Heritage Properties

The project footprint is directly adjacent to the property of 'Lovely Banks', which is listed on the *Southern Midlands Interim Planning Scheme 2015* (SMIPS). Realignment of the access/driveway and relocation of the entrance gates/pillars may be required.

The access/driveway and entrance gates/pillars have little to no historic significance in isolation and are unlikely to meet the requirements for listing in the Tasmanian Heritage Register, however, they contribute to the historic setting of the homestead complex and are protected from impact by the *Southern Midlands Interim Planning Scheme 2015*.

A future staged turn facility may be located along Lovely Banks Road which is on the Lovely Banks title.

The Department has previously received an approved Development Application from the Southern Midlands Council for access realignment works on the Lovely Banks property.

The Lovely Banks Homestead, Probation Station and Bridge are located near the proposed works. However, the project footprint does not encroach on the footprint of each of these sites.

A summary of the historic heritage features located near the Project area is provided in Table 6.

Table 6: Summary of Heritage Features

Site	Description	Significance	Potential for impact
Lovely Banks Homestead	The Lovely Banks property is one of the earliest properties within the region, established between 1815-1821. It was home to several pre-eminent pioneering families; notably the Bisdee and Birch families. The homestead is located off a driveway at Link 31, Chainage 0.10km.	Local: High State: High National: Moderate	No impact: Footprint for Midland Highway widening does not encroach on footprint of homestead
Lovely Banks	The Probation Station located on the Lovely Banks property used to house convicts who built much of the original surrounding roads	Local: High State: High	No impact: Footprint for Midland Highway widening does not encroach on

Site	Description	Significance	Potential for impact
Probation Station	and the Lovely Banks Bridge. This site is one of the best-preserved examples of Tasmania's convict history and is located off Lovely Banks Road on Link 31.	National: Moderate	footprint of Probation Station
Lovely Banks Bridge	The Lovely Banks Bridge was constructed by convicts housed at the Lovely Banks Probation Station. This bridge exhibits rare architectural features and sits 300 metres from the footprint of the proposed works	Local: High State: Moderate National: Low	No impact: Footprint for Midland Highway widening does not encroach on footprint of bridge
Homestay Entrance sign and gate	Entrance signs and gates were constructed during the most recent upgrades to Midland Highway, and neither hold historic significance on their own. However, they contribute to the setting of the homestead complex. They are located adjacent to Midland Highway along Tedworth Drive at Link 31, Chainage 0.10km.	Local: Low State: None National: None	The entrance sign will be retained in its current position. The entrance pillars may be relocated to suit new property access
Historic Homestead Driveway	Entrance to the Lovely Banks Homestead; contributes to the landscape and aesthetics of the complex and pre-dates the construction of sign and gates. It is located adjacent to Midland Highway along Tedworth Drive at Link 31, Chainage 0.10km.	Local: Low State: None National: None	No impact: Historically significant features of the driveway are beyond the extent of works
Hawthorn Hedgerows (southern and eastern)	Hedgerows were used as a means for delineating property and paddock boundaries. Two lengths of Hawthorn hedgerow plantings are located along the borders of the homestead block of Lovely Banks Property.	Local: Moderate State: Low National: None	No impact: The hedges are beyond the extent of works
Pioneer Plantation	The Pioneer Memorial Avenue was a 1930's planting program developed to commemorate pioneers from World War I and was also a means encouraging tourism within the region. The trees of interest sit along the north-west border of Midland Highway within the Muddy Plains Road intersection.	Local: High State: High National: Unknown	No impact: widening of Midland Highway will not extend into Muddy Plains Road, therefore impacts can be avoided

3.6.2. Hawthorn Hedgerow Plantings

Two lengths of Hawthorn hedgerows are present within the project site and are located along the borders of the homestead block of the Lovely Banks Property. These hedgerows are primarily associated with the historic property of 'Lovely Banks'.

The proposed design will not impact the Hawthorn hedgerows.

3.6.3. Pioneer Tree Plantation

The proposed project works do not impact Pioneer Memorial Avenue trees.

3.6.4. Other Sites

Two other sites adjacent to the proposed works include the Guard House and the London Inn (Tedworth Hall). Both are located approximately 2.5 km from the project site and are not impacted by the proposed works.

3.7 Landscape and Visual Impacts

Only minor changes are proposed to the existing Highway alignment between Melton Mowbray and north of Lovely Banks. The works involve widening of the existing road footprint to allow for a safer road cross-section and will remain within the existing road reserve for majority of the works. Therefore, these works will have low landscape and visual impacts on the surrounding area.

3.8 Stakeholder Engagement

3.8.1 Stakeholder Response

Public consultation and stakeholder engagement has been undertaken as part of the scoping phase. Stakeholder engagement activities have included visits with landowners adjacent to the works. Landowners have been sent correspondence regarding heritage and environmental field investigations being undertaken on their land.

The key stakeholders for the safety upgrade between Melton Mowbray and north of Lovely Banks are:

- Landowners
- Tasmanian Farmers and Grazers Association (TFGA)
- Livestock Carriers Association
- RACT
- Department of State Growth
- Department of Primary Industries, Parks, Water and Environment
- Australian Government
- Southern Midlands Council
- Public Utilities
 - Tas Networks
 - Telstra
 - Tas Gas
- Heavy vehicle industry
- Passenger Transport operators
- School and public bus companies

To date, two separate meetings have been held with adjacent landowners and their comments, feedback and issues were considered in the development of the Concept Design and will also be considered within the Preliminary Design. Key stakeholders including the RACT and heavy vehicle industry representatives have been provided with project information and an overview of the proposed works.

A public display of the proposed works was set up at the Southern Midland Council offices on April 29, 2019. This display will be available for two weeks and provide the public the opportunity to give feedback or request further information.

Given the low impact nature of this project on property and the environment, the Department of State Growth expects the outcome of this public display consultation to be supportive. The preliminary design stage will consider any comments provided by the public from this public display event.

Public participation will continue to be facilitated through the following means:

- One-on-one meetings with adjacent landowners
- Development and maintenance of web page content

3.9 Development Approvals

The project is located within the Southern Midlands municipality. Development in this area is subject to the provisions of the *Southern Midlands Interim Planning Scheme 2015*. The project area is subject to the Utilities Zone (Existing road reserve for Midland Highway) and Rural Resource Zone (adjacent agricultural land).

The Department of State Growth has obtained a planning permit exemption from the Southern Midlands Council on the basis that the scope of the works constitutes a minor upgrade to existing road infrastructure. The scope of the works is significantly less than for previous Midland Highway projects, with efficient use of existing pavement, minimal changes to private property accesses and majority of the works occurring within the existing highway reservation. The exemption is conditional on demonstrating no impacts to threatened vegetation communities and areas of interest within local heritage properties. Council will be provided with final design plans demonstrating these impacts have been avoided, and information regarding construction timing and management. The access realignment at Lovely Banks entrance is covered by the planning permit previously acquired for those works.

4 Project Program and Costs

4.1 Project Program

The critical path for the Project is based on the delivery of detailed design and tender documentation in September 2019. Meeting these critical dates will ensure that construction works can begin in the 2019/2020 summer construction season. The key dates for the Project are shown in Table 7 below.

Table 7: Critical Project Tasks and Timing

Project Task	Completion Date/Timing	Critical Path?
Submission of Project Proposal Report Development and Delivery Phase for Federal Government approval	16 August 2019	Yes
Detailed Design delivered	06 September 2019	Yes
Tender document delivered	27 September 2019	Yes
Advertisement of tender	Early October 2019	Yes
Award of contract	Late November to early December 2019	Yes
Commencement of works	December 2019	Yes
Practical completion of works	April 2021	Yes
Project close out	June 2021	No

The key assumptions of the project schedule developed for the Melton Mowbray to north of Lovely Banks project include:

- No Development Application is required.
- No environmental or heritage delays impact the Project.
- Property acquisition negotiations are resolved during the development phase (including any requirements agreed with landowners).

4.2 Costs

Project cost estimates have been prepared based on the Concept Design and also the “Best Practice Cost Estimation Standard for Publicly Funded Road and Rail Construction”. The total project outturn cost for the proposed upgrades to the Midland Highway between Melton Mowbray and north of Lovely Banks is **\$16.8 million** for the P50 case and **\$19.7 million** for the P90 case. Escalation has been applied to costs expended after 2018/2019 financial year.

4.3 Risk Assessment

The Department of State Growth has established a Risk Assessment process which has been set up to support delivery of this project. The risk assessment includes impact, risk rating, mitigation strategies and revised risk rating, throughout the Planning, Scoping and Delivery Phases of the project. The rating system for the risk assessment is defined in Table 4-3. The risk assessment has been continually updated through the project lifecycle as appropriate.

Table 4-3: Risk Ratings

Risk Rating	Risk Action Levels
VH – Very High	<ul style="list-style-type: none"> Minister/Secretary decision/direction may be required Provide memorandum to Manager Project Services Include in Project Monthly Report
H – High	<ul style="list-style-type: none"> Take immediate action to further control the risk Include in Project Monthly Report Consider providing supplementary advice to Manager Project Services
M – Medium	<ul style="list-style-type: none"> Proactively manage risks Report to Project Steering Committee through risk register Review for improvement opportunities
L – Low	<ul style="list-style-type: none"> Monitor risk, reduce if practicable

The risk assessment considered the key areas such as scope, communication, design, approvals, construction and implementation. Mitigation strategies have been developed for all of the risk items identified within these general areas. At this stage the residual risk ratings for all the items are either Medium or Low. A consolidated list of the identified risk events for the project has been incorporated into the P50/P90 cost estimates attached in Appendix B. currently the major risks identified include:

- Tight project timeframes
- Stakeholder opposition and protracted landowner negotiations
- Discovery of an unlisted site with heritage values
- Geotechnical risks / latent conditions

5 Conclusion

The Melton Mowbray to north of Lovely Banks Upgrade Project will improve the current deficiencies along the Midland Highway and, in particular, will help to reduce head-on collisions and reduce the severity of other casualty crashes due to the installation of a central flexible safety barrier. The Project will also provide a staged approach to capacity improvements and additional safe overtaking opportunities in each direction of travel.

The safety upgrade forms part of the *Midland Highway Action Plan*, a 10-year, \$500 million commitment made by the Australian and Tasmanian Governments in May 2014. The upgrade between Melton Mowbray and North of Lovely Banks will support the following key objectives for the *Midland Highway Action Plan*:

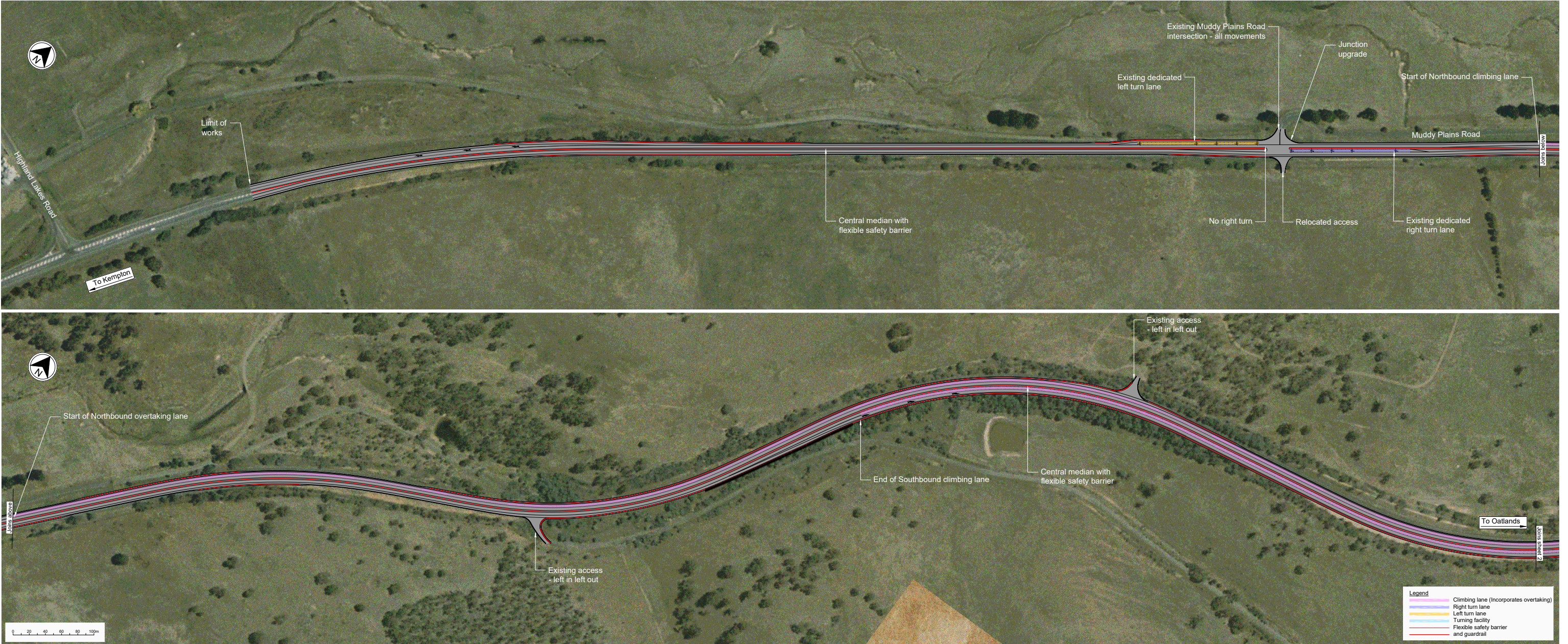
- A three-star AusRAP safety rating along the Midland Highway
- Provision of additional safe overtaking opportunities
- Maintaining a 110 km/h speed environment along the Midland Highway

The Project also supports the *Midland Highway Partnership Agreement* which was developed between the Tasmanian Government and the seven Councils abutting the Midland Highway. Upgrading of the Highway between Melton Mowbray and North of Lovely Banks was identified as a priority in the Agreement.

It is recommended the project be approved.

Appendix A. Drawings

Midland Highway - 10 Year Action Plan
Melton Mowbray to North of Lovely Banks



Midland Highway - 10 Year Action Plan
Melton Mowbray to North of Lovely Banks



Appendix B. P50 / P90 Cost Estimates

P50 Cash Flow	2017 / 2018	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022
Sub Total (annual)	\$ -	\$ 630,000	\$ 10,694,655	\$ 5,513,445	\$ -
Accumulative Total	\$ -	\$ 630,000	\$ 11,324,655	\$ 16,838,100	\$ 16,838,100-

P90 Cash Flow	2017 / 2018	2018 / 2019	2019 / 2020	2020 / 2021	2021 / 2022
Sub Total	\$	\$ 630,000	\$ 12,558,173	\$ 6,516,878	\$
Accumulative Total	\$	\$ 630,000	\$ 13,188,173	\$ 19,705,050	\$ 19,705,050

Appendix C. Stakeholder Concerns

This table represents typical feedback and challenges experienced on recent Midland highway projects as well as feedback received from consultation with stakeholders held to date.

Issue	Comments
Muddy Plains Road intersection	Concerns about the allowable vehicle movements at Muddy Plains Road. The proposed design will maintain all movements into and out of Muddy Plains Road.
Access upgrades – vehicle size	The current use of each access within the project site with the adjacent landowners. Where necessary, new accesses have been designed for B-Double vehicles. The adjacent landowners are aware of which accesses will be restricted to left in / left out movements due to the central median barrier.
Fencing	New fencing will be installed on the new boundary where property acquisition takes place. Fencing types will be agreed with the property owner addressed in the Project Specification.
Overtaking lane lengths	The proposed design will allow overtaking opportunities in both the northbound and southbound directions. Approximately 3.4km of overtaking lanes are provided in the northbound direction, and 1.7km in the southbound direction. The design and location of the overtaking lane will consider the travel speeds of heavy vehicles and where they can safely merge.
Stock underpass widening	The highway upgrades will require the widening of one stock underpass to accommodate the widened road. The property owner affected by this has been consulted with. The stock underpass widening will need to allow for nearby irrigation pipes. Consultation with the landowner will continue.
Utility services	A number of utility services cross under the highway within the project site, including communications, gas and power services. The utility providers have been contacted to discuss the proposed designs and how potential impacts can be mitigated. Consultation with the utility providers will continue through the development and finalisation of the design and documentation.
Sight benching	Widening and benching of an existing batter west of Lovely Banks Road is required to provide safe intersection sight distance for the upgraded Lovely Banks Road intersection. This has been discussed with the affected landowner. Acquisition and fence relocation are likely to be required. Consultation with the landowner will continue.