

## 22. Conclusion

### 22.1 Summary of Assessments

The duplication of the Western Highway between Beaufort and Ararat (the Project) is proposed to improve road safety for all road users, improve freight efficiency, provide adequate and improved rest areas and allow for the possible future bypasses of Beaufort and Ararat. These transport objectives form key aspects of Victorian Government transport policies and the VicRoads operating charter as set out in the *Transport Integration Act 2010*.

The EES includes an integrated assessment of alignment options for the Project, considering a range of environmental, social and economic objectives. For each objective, a set of evaluation criteria was used to establish the degree that the objective could be met in terms of potential project benefits or disbenefits as outlined in the Options Assessment Report outlined in Technical Appendix B. This assessment process applied the draft evaluation objectives identified by DPCD in the Scoping Requirements they prepared and issued for this EES.

The EES has assessed the greatest potential impact of the Project arising from development of the ultimate upgrade (freeway standard), because it involves a larger physical footprint and more significant changes to access arrangements. The traffic and transport, economic and social impact assessments have also considered the interim upgrade (highway standard) because this would be in place for a number of years.

The EES documents the predicted impacts of the Project and recommends measures to reduce these impacts to an acceptable level. The outcomes of the Options Assessment process, which resulted in the selection of Options 1 and 2 for further refinement through the EES process, are summarised within this chapter.

#### 22.1.1 Road Safety, Efficiency and Capacity

*To provide for the duplication of the Western Highway between Beaufort and Ararat to address safety, efficiency and capacity issues.*

The Project would remove a high proportion of existing road safety risks and provide a higher level of road safety overall. A number of specific design features are proposed for optimisation of safety including; two lanes in each direction, separation of opposing traffic lanes with a central median, increased clear zone widths, bypassing the township of Buangor, providing adequate rest areas and overall improvements to the horizontal and vertical alignment. Based on historical data, the Project is expected to deliver a significant reduction in casualty crashes.

The Project is also expected to provide travel time savings of around two minutes for vehicles travelling along the Western Highway due to continuous overtaking opportunities, expected higher posted speed limit, improved grade lines and a reduction in the number of intersections. Improved efficiency would benefit all road users including freight, public transport and emergency services.

The Project would increase highway capacity, from the current 2,473 vehicles per hour to 4,909 vehicles per hour.

The EES has assessed aspects relevant to this evaluation objective and concludes that the Project would deliver significant benefits for road safety, improve transport efficiency and provide the capacity to cater for predicted growth in traffic volumes along the route.

There are no significant differences between Options 1 and 2 with regard to road safety, transport efficiency and capacity outcomes. There would be further improvements to both road safety and transport efficiency when the highway is upgraded initially to the interim standard and then again when the highway is upgraded from the interim to the ultimate access arrangements.

#### 22.1.2 Biodiversity and Habitat

*To avoid or minimise effects on flora and fauna species and ecological communities listed under the Flora and Fauna Guarantee Act 1988 or the Environment Protection and Biodiversity Conservation Act 1999, as well as to comply with requirements under Victoria's Native Vegetation Management – A Framework for Action, 2002.*

Alignment options 1 and 2 were selected to avoid and then minimise effects on listed flora and fauna species, listed vegetation communities, native vegetation and habitat, as far as practicable with consideration to other constraints and in accordance with relevant State and Commonwealth legislation and policies. Various measures have been proposed to further minimise and manage potential impacts through the design, construction and operation phases of the Project.

Flora and fauna assessments were undertaken to inform the Options Assessment process. These include preliminary assessments of native vegetation and habitat values and targeted surveys for FFG and EPBC listed threatened species.

Ten EVCs of varying quality were found within the study area, six of which are considered to be endangered within the relevant bioregion. The Project would require removal of approximately 110 hectares (ha) of EVCs (equating to approximately 39.38 Habitat hectares) for Option 1 and approximately 131ha of EVCs (equating to approximately 52.98 Habitat hectares) for Option 2.

This is considered to be a moderate impact based upon the consequence guidelines developed for this EES because the loss would be less than 0.1% of the total area of the EVCs in the relevant bioregion.

The Project would require removal of approximately 221 Large Old Trees (LOTs) for Option 1 and 214 LOTs for Option 2. These numbers are a conservatively high estimate and include scattered trees and trees within patches of native vegetation.

Two critically endangered vegetation communities listed under the EPBC Act were found within the study area. The Project would require the removal of Grassy Eucalypt Woodland of the Victorian Volcanic Plain (11.14ha for Option 1 and 5.25ha for Option 2) and Natural Temperate Grassland of the Victorian Volcanic Plain (5.25ha in both Option 1 and Option 2). This is considered to be a significant impact. Areas of these communities were avoided where possible however, it is not considered possible to avoid all areas of these communities.

Targeted surveys were undertaken for 17 listed flora species and 21 listed fauna species. These surveys were completed using appropriate methods during the optimal seasons for detection.

The Project is expected to require removal of the following threatened flora species:

- One Spiny Rice-flower (EPBC listed) in both Option 1 and Option 2.
- One Golden Cowslip (FFG Act listed) - Option 1.
- 12 Emerald-lip Greenhoods (FFG Act listed) - Option 1.
- Eight Yarra Gums (FFG Act listed) - Option 2.

It is considered that the impacts on State listed species would be insignificant to minor.

The Project would potentially impact on the following fauna species:

- Dwarf Galaxias (EPBC Act listed) - Option 1 and Option 2.
- Golden Sun Moth (EPBC Act listed) - Option 1 and 2.
- Brown Toadlet (FFG Act listed) - Option 1 and 2.
- Brown Treecreeper (DSE Advisory list) - Option 2.

There is high quality habitat for the Dwarf Galaxias within Billy Billy Creek and a large number of individuals were recorded during the surveys. This indicates that Billy Billy Creek is of national conservation significance for this species. However, mitigation measures would be implemented to avoid direct impacts on the Dwarf Galaxias; therefore impacts to this species would be minor.

Due to the size of the Project, its long linear nature and the need to avoid other constraints, some impacts on native vegetation and habitat were unavoidable. As such, priority was given to avoiding impacts on native vegetation, vegetation

communities and threatened species that are EPBC Act listed or of High or Very High conservation significance. Both options 1 and 2 have undergone refinement to further minimise impacts. This process would be on-going with further reductions expected to be achieved for the adopted alignment through the detailed design and construction phase of the Project.

Unavoidable losses of native vegetation, including threatened fauna habitat and listed vegetation communities, would be offset in accordance with State and Commonwealth requirements. A strategy to secure Net Gain offsets for the Project has been outlined, which includes potentially sourcing offsets through; Bushbroker, Trust for Nature, acquisition of adjacent land, private offset brokers and local Councils. It is considered that through a combination of these sources VicRoads would be able to secure sufficient offsets for the losses associated with the Project.

The EES has assessed aspects relevant to this evaluation objective and concludes that with mitigation, the Project would have an acceptable impact upon biodiversity and habitat values.

Option 1 is considered to have a lesser impact on ecological values overall as compared to Option 2. However, Option 2 has a lesser impact on matters of national environmental significance.

### 22.1.3 Catchment Values

*To protect catchment values, surface water and groundwater quality, stream flows and floodway capacity, as well as to avoid impacts on protected beneficial uses.*

There is limited available information on groundwater in the area as only a small number of bores have been developed due to poor groundwater quality (saline) and generally low yield. Overall, there is considered to be a low likelihood of encountering groundwater during construction; however it may be encountered at localised areas along the alignment where deep cuts are required.

Broad scale mapping of potential Groundwater Dependant Ecosystems (GDEs) in Victoria by the Department of Primary Industries suggests that there are potential GDEs within the study area. However, as the groundwater is highly saline over much of the study area it is considered unlikely to support healthy plant growth. The granitic geology around Mt Langi Ghiran is the least saline so shallow groundwater systems in this area may be a water source for localised ecological habitats.

Depths of groundwater would be determined more accurately during the detailed design phase. With the application of VicRoads' standard construction management measures, including the implementation of a Groundwater Management Plan

and Monitoring Program, all residual risks to groundwater are considered negligible to low.

Six major waterways and 21 minor waterways would be intersected by the Project with bridges and culverts to be installed similar to what currently exists for the highway. The piers of the bridges would be constructed outside of the low flow channel extents. In order to prevent exacerbation of flooding it is likely that some existing bridges would require upgrades to accommodate the duplicated crossing. Preliminary flood modelling has been completed for key crossings and has informed the EES.

A key surface water risk is the requirement for approximately 250m of the existing channel of Charliecombe Creek to be diverted, due to proximity of the new carriageway and the need to avoid increasing the flood risk to upstream dwellings. The creek flows intermittently and has good natural diversity including pool-riffle features, vegetated banks and it supports native aquatic fauna. The diversion channel would therefore need to incorporate similar natural features in order to offset this loss.

Construction of waterway crossing structures has the potential to impact on waterway health through disturbance to the bed, banks, vegetation, and aquatic fauna movement. For this reason, design, mitigation and rehabilitation measures are recommended for all waterway crossings. These measures include reinstatement of waterways and construction of bed control banks in vulnerable areas. As a result, it is concluded that the residual risk to the surface water environment would be low to negligible.

There is some potential for construction to encounter localised land contamination and acid sulfate soils, so targeted sampling would be undertaken prior to construction. Appropriate management responses have been recommended in order to comply with relevant policies and legislation.

Soil erosion and sedimentation would need to be diligently managed during and post construction to protect catchment values. Some areas have been identified as being particularly susceptible to soil erosion. Detailed geotechnical site investigations, complemented by appropriate design of batter slopes, would largely eliminate issues of gross ground instability and minimise the potential for soil erosion. Standard construction management approaches have been recommended in this EES and site specific soil erosion management plans would be developed as part of the Project Construction Environmental Management Plan (CEMP).

The EES has assessed aspects relevant to this evaluation objective and concludes that with mitigation, the Project would not significantly impact upon catchment values.

The potential for encountering unstable geological units is greater for Option 2. There is no discernible

difference between the Options in relation to groundwater impacts. Option 2 is marginally the preferred option in relation to surface water impacts as it would involve the least potential impact on flooding and least disturbance to significant waterways.

#### 22.1.4 Land Use and Traffic Effects

*To avoid or minimise disruption and other adverse effects on infrastructure, land use (including agriculture) and households, as well as road users resulting from the construction and operation of the highway duplication.*

The majority of land use and traffic related impacts would be experienced during the construction phase, therefore they are short term only. These include potential impacts on existing infrastructure due to the temporary relocation and/or disconnection of services and traffic disruptions. The exception to this is the impact of land acquisition required for the Project and the impact on access to some minor roads and individual properties, which would be experienced in the longer term.

Land acquisition and associated impacts have been minimised through selection of alignments with both the options 1 and 2 largely aligned with existing boundaries or fencelines.

Smaller isolated allotments created as a result of land acquisition for the Project that are below the minimum lot size of the relevant zone, could be subject to development pressure for a dwelling. These would be considered for consolidation with adjoining lots.

The potential for a reduction in the long term economic viability of impacted allotments has been investigated through the agricultural assessment. It is considered unlikely that the Project would significantly affect the long term agricultural productivity of the locality. Property specific mitigation measures such as reinstatement of existing property infrastructure, structures, drainage and access after construction is complete, should mitigate most impacts on farming operations in the long term.

Adverse impacts on road users are expected to occur during the construction phase, when the proposed works could impact on the road safety and transport efficiency. However, acceptable outcomes would be achieved through the implementation of detailed Traffic Management Plans and through community consultation to inform road users of what to expect during construction.

During operation, some landowners/occupiers would have slightly reduced access to the highway, particularly for farm machinery. Whilst this cannot be avoided, it is offset by improved safety of access and mitigated by incorporating sufficient median breaks/intersections to enable U-turns. For the

ultimate upgrade (freeway standard), access would be limited to grade-separated interchanges and service roads would be constructed to provide access to the local road network and individual properties. This would further improve road safety but further increase the distance required to access the freeway for some local landowners/occupiers.

The EES has assessed aspects relevant to this evaluation objective and concludes that overall, the Project would not result in any significant inconsistency with planning policy, any broad change of land use within the project area, nor would it significantly impact upon road users or infrastructure.

On balance, Option 2 has less land severance impacts than Option 1 because it aligns more closely with property boundaries, the existing highway and the railway line. For the ultimate upgrade (freeway standard), access would be limited to grade-separated interchanges and service roads would be provided to access to the local road network and individual properties. This would further improve road safety and transport efficiency but may further increase the distance required to access the freeway for some local landowners/occupiers.

### 22.1.5 Amenity and Landscape Effects

*To minimise air emissions, noise, visual, landscape and other adverse amenity effects, during the development and operation of the proposed duplicated highway to the extent practicable.*

The Western Highway Project has identified a maximum impact zone for construction dust, which extends 375 metres from the southern edge of the construction zone and 395 metres from the northern edge of the construction zone, considering the typical prevailing weather. Within this impact zone there are around 50 dwellings. Additional management measures have been recommended to reduce the impact of construction dust to the dwellings within this zone to a low/negligible impact. Operational emissions from vehicles are already present along the existing Western Highway and any future increases in emissions are expected to be negligible.

Noise impacts from construction activities occurring during standard daytime working hours are expected to be negligible. Construction during noise-sensitive evenings and weekends is expected to be minimal and would be subject to approval by VicRoads. It is possible, though unlikely, that night works may be required to minimise impacts on traffic in some locations. Noise from works outside standard working hours would be managed by consulting with potentially impacted residents and implementing a noise mitigation strategy.

Based on a comparison between the existing highway and the proposed alignments under 2025

traffic volumes; the Project is predicted to result in a 'clearly noticeable' increase in traffic noise levels at three dwellings (Option 2) and four dwellings (Option 1) and a 'clearly noticeable' reduction in traffic noise levels due to the alignment moving further away at nine dwellings (Option 1) and 17 dwellings (Option 2). Overall, more dwellings would experience a noticeable reduction, than a noticeable increase in traffic noise as a result of the Project. Overall, the impact from noise and vibration impacts is low for both options following implementation of the recommended mitigation measures.

Mitigation of traffic noise may be required for discrete sections of the proposed alignments that are considered to be 'new alignment' (where both carriageways are outside the existing road reserve) in accordance with the VicRoads Traffic Noise Reduction Policy. Potential mitigation measures include acoustic barriers or acoustic treatment of houses/buildings.

The landscapes affected by the Project have a high capacity to accommodate visual change and it is considered that the Project would not significantly diminish landscape qualities.

Where there is a new alignment or where the existing highway alignment would be elevated, there would be a visual impact on dwellings with a view toward it. The alignment does not generally impact upon natural and cultural areas; however there would be visual impact on the northern outlook from Buangor Primary School. With mitigation, such as sensitive design and screening vegetation, these visual impacts would be reduced.

The EES has assessed aspects relevant to this evaluation objective and concludes that with mitigation the Project would not significantly impact upon amenity and landscape.

The options are similar with regard to visual impact; however Option 1 has a greater impact on landscape character due to its path through vegetation near the Langi Ghiran State Park. Traffic noise impacts would be slightly greater for Option 1 and traffic noise improvements would be greater for Option 2 due to their being one less sensitive receptor in Option 2. Option 2 also has fewer potential sensitive receptors within the construction dust impact zone compared to Option 1.

### 22.1.6 Social and Economic Effects

*To protect residents' well-being and minimise any dislocation of residents or severance of communities, to the extent practicable.*

The Project would not result in significant adverse effects upon access to any major community facilities or tourism attractors, but instead may encourage people to visit local towns and community services and facilities more frequently due to improved road safety and travel times.



One of the key social impacts arising from the Project would be the dislocation and disruption to access of some residents due to acquisition of land, including dwellings (two for Option 1 and three for Option 2). Also, some other properties may be severed to a size smaller than what is required to build a house without a planning permit. As stated in Section 22.1.4, there would also be changes to property access arrangements and a slight increase in travel times for some individuals, although this would be offset by improvements to the safety of access to/from the highway. Amenity impacts including increased noise levels for some individuals during construction and operation, and changes to visual amenity for some individuals would have a moderate overall impact due to the large number of households that would experience a slight change. However, the amenity and safety of the Buangor township would be improved by removing through-traffic.

Overall, the social impacts of the Project are considered to be low, except for amenity (during construction and operation) and for the acquisition of land and some dwellings. Feedback obtained through consultation indicates that most community members are tolerant of short-term amenity impacts from construction as they would ultimately benefit from the Project.

A number of actions to respond to potential social impacts at both the individual landowner and wider community level have been recommended, including further community engagement through the detailed design and construction phases. VicRoads would compensate owners of dwellings and land that are acquired in accordance with the *Land Acquisition and Compensation Act 1986*.

The construction of the Project would result in the loss of agricultural facilities and infrastructure valued at approximately \$1.3M - \$1.5M over a 30 year timeframe. The Project would also result in the loss of agricultural land and severance of properties with an economic impact on businesses estimated to be in the range of \$2.2M - \$2.5M over a 30 year timeframe. VicRoads would compensate eligible landholders in accordance with the *Land Acquisition and Compensation Act 1986*.

It is expected that during construction the Project may disrupt access to businesses generally and during operation, may result in a reduction in passing trade to one business in particular. This is predicted to result in a revenue loss of less than \$100,000 for each option over a three year construction period. VicRoads would work with businesses to optimise their construction schedules to mitigate disruption of access to business and would install signage to mitigate effects on loss of passing trade.

The EES has assessed aspects relevant to this social and economic evaluation objective and concludes

that with mitigation the Project would not result in significant social or economic impacts.

Option 2 has a lesser severance impact on agricultural properties and associated economic impacts. The social outcomes for both Options were similar.

### 22.1.7 Cultural Heritage

*To protect Aboriginal and non-Aboriginal cultural heritage.*

In accordance with Section 49 of the *Aboriginal Heritage Act 2006*, a Cultural Heritage Management Plan (CHMP) is required for each Registered Aboriginal Party (RAP) area affected by the Project. The CHMPs will include management recommendations which detail the approach to managing potential impacts on Aboriginal cultural heritage sites.

A standard assessment under the provisions of the *Aboriginal Heritage Act 2006* has been undertaken to assess the impact of the Project on Aboriginal Cultural Heritage places. The complex assessment and final CHMP will be completed subsequent to the EES process and submitted to the RAPs (Wathaurung Aboriginal Corporation and Martang Pty Ltd) for evaluation and approval.

A mortuary tree assessment has also been undertaken. A total of 126 trees with hollows were assessed for potential to be a mortuary tree by a qualified arborist and 18 potential trees were subsequently inspected by archaeologists and representatives of the relevant RAP. No human remains were recorded within any of the hollows inspected. Both options would impact on 11 registered Aboriginal cultural heritage places.

Given the presence of mortuary trees in the area, there is the potential for human remains to exist within hollows in trees which have since closed over and were thus not identified through the mortuary tree assessment. In the event that any human remains are discovered during the construction phase of the Project, the contractor(s) would be required to stop work immediately, notify police and comply with the strict contingency measures which are required to be met in accordance with Section 18 (2) (b) of the *Aboriginal Heritage Act 2006*. Contingencies would also be included in the CHMP to account for any other previously unidentified Aboriginal sites that may be encountered during construction.

A desktop and field assessment has been undertaken to assess the impact of the Project on non-Aboriginal (historical) cultural heritage under the *Heritage Act 1995* and *Planning and Environment Act 1987*. Through the assessments undertaken for the EES, seven new sites have been listed on the heritage inventory and three sites

recommended for addition to the planning scheme Heritage Overlay in the study area.

Both options would require relocation of a DSE listed locally significant heritage site (Major Mitchell Cairn). Option 2 would also impact on two Heritage Inventory (HI) sites. Contingencies would be included in the CEMP to account for any other previously unidentified historical sites that may be encountered during construction.

The EES has assessed aspects relevant to the cultural heritage evaluation objective and concludes that there would be some moderate residual impacts on historical heritage due to the small number of locally significant sites requiring removal or relocation and some high residual impacts on Aboriginal cultural heritage places due to the removal of some significant scarred trees.

Both Options are similar with regard to Aboriginal cultural heritage. Option 2 would have a greater impact on historical heritage sites.

### 22.1.8 Environmental Management Framework

*To provide a transparent framework with clear accountabilities for managing environmental effects and hazards associated with the project in order to achieve acceptable environmental outcomes.*

The EES provides an Environmental Management Framework (EMF) which includes recommendations for the detailed design, construction and operational phases of the Project.

The EMF addresses the matters specified in the EES Scoping Requirements, with clear accountabilities for managing potential environmental impacts.

VicRoads would incorporate all relevant measures from the EMF and any other measures identified through the Minister for Planning's assessment and conditions of subsequent statutory approvals into the contract specifications for detailed design and construction. Construction contractor(s) appointed by VicRoads, would incorporate these measures into a CEMP for the Project.

VicRoads would implement measures contained within the EMF that are not relevant to the CEMP, such as compensation for land acquisition and vegetation offsets and would be ultimately responsible for the implementation of the EMF.

The EMF provides a proposed program for evaluating environmental outcomes, reviewing and revising the EMP, as well as the auditing and reporting of performance. The EMF specifies key roles and responsibilities for the construction and operation phases of the Project and ensures that the management and monitoring of outcomes is transparent and accountable.

### 22.1.9 Sustainable Transport Outcomes

*Overall, to identify an alignment and conceptual design for the Western Highway Duplication from Beaufort to Ararat that would achieve a sustainable balance of economic, environmental and social outcomes.*

Throughout the EES process and when developing alignment options, VicRoads has sought to balance potential environmental, social and economic outcomes.

The EES documents the multi-criteria assessment of alignment options undertaken to select the alignments. Assessment of relevant aspects and consultation with affected landowners and the local community informed the assessment of options and selection of the alignment options 1 and 2 for the EES.

The Project would deliver significant benefits for road safety, improve transport efficiency and provide capacity to allow for predicted growth in traffic volumes along the route. Residents would benefit from safer access to the highway. Improved road safety and reduced travel times would benefit all road users including freight, public transport and emergency services.

The Project would result in longer term benefits for the economy and tourism in the area by allowing more efficient movement of people to and through the area. It would deliver benefits for Buangor in particular due to the diversion of freight and other heavy vehicles out of the town centre, thereby improving the safety and amenity of the town. It is also expected that the Project would enhance connections between the local agricultural industry and the Port of Melbourne.

During construction, the Project is expected to generate approximately 2,220 Full Time Equivalent (FTE) jobs with flow on effects (sourcing of goods and services and expenditure by workers and their families) generating over 4,000 FTE jobs.

Through selection and refinement of the proposed alignments, impacts on the following values have been avoided or minimised:

- Native vegetation around Box's Cutting, Buangor and Langi Ghiran State Park
- Plains Grassland around Eurambeen-Streatham Road, at the Eurambeen-Raglan Road intersection and west of Hopkins River
- Large Old Trees, especially around Woodnaggerak, and south of Buangor
- Golden Sun Moth habitat
- Ararat Aerodrome
- Buangor township including heritage sites

- Aboriginal heritage sites around the western end of Hillside Road and Hopkins River
- Houses around Woodnaggerak including the historic Woodnaggerak Homestead.

For Option 1, impacts on native vegetation and habitat around Langi Ghiran State Park have been minimised. For Option 2, impacts on landholdings south of Langi Ghiran State Park have been minimised. Option 1 has lower impact on native vegetation and habitat around Langi Ghiran State Park, but creates more land severance impacts. Option 2 has a greater impact on native vegetation but lesser impacts on land severance.

Impacts associated with the proposed alignments, as identified in the EES, would be avoided, minimised, mitigated and offset through detailed design and construction management, and where land acquisition is required, through payment of compensation to landowners.

## 22.2 Preferred and Alternate Alignments

The Project has been developed to meet the project objectives of improving road safety and transport efficiency. Extensive consultation with government agencies, affected landowners and the local community has informed the selection of the proposed alignments and the assessment of effects. Alignment options 1 and 2 avoid significant impacts and minimise adverse impacts overall.

A preferred and an alternate alignment option have been selected, both of which meet project objectives and avoid and minimise adverse impacts. VicRoads has identified Option 2 as its preferred alignment,

based on the overall summary of impacts presented in Table 22-1 but acknowledges that Option 1 would also satisfy the overall project objectives.

Construction impacts identified are typical of this type of project, and would be managed to minimise effects on the environment, landowners and the local community. VicRoads would compensate eligible landholders in accordance with the *Land Acquisition and Compensation Act 1986*. Native vegetation losses would be offset by protecting and managing areas of native vegetation and vegetation communities in accordance with Commonwealth and State policies.

Impacts during the operational phase would be generally limited to visual, traffic noise and access impacts. Visual impacts would abate over time as additional vegetation is established in the road reserves. Overall, it is predicted that more dwellings would experience a clearly noticeable reduction in traffic noise, than those that would experience a clear increase. Mitigation measures may be implemented to reduce traffic noise at dwellings. Median breaks or intersections would be provided at regular intervals to enable road users to make U-turns safely.

The Project would deliver significant benefits to road safety and future transport efficiency, and with the careful balance and management of impacts to the environment and communities, the Project is considered to deliver a net community benefit.

**Table 22-1 Comparison of Options**

Comparison of Option 1 and Option 2		
DISCIPLINE	OPTION 1	OPTION 2
Planning & Land Use	<ul style="list-style-type: none"> <li>Less length of fibre optic cable relocation</li> </ul>	<ul style="list-style-type: none"> <li>Less land severance, thereby reducing impacts on farming/grazing within the area</li> </ul>
Traffic & Transport	No discernible difference between either Option	
Soils & Geology	<ul style="list-style-type: none"> <li>Reduced risk of encountering unstable geological units in the vicinity of Langi Ghiran railway cutting</li> </ul>	<ul style="list-style-type: none"> <li>Approximately 1.2 million cubic metres less fill earthworks required</li> </ul>
Groundwater	No discernible difference between either Option	
Surface Water		<ul style="list-style-type: none"> <li>Marginally less potential impact to flooding, and disturbance to significant waterways (due to a shorter crossing of the Billy Billy Creek, west of Buangor, with less impact on the aquatic habitat and Dwarf Galaxias within the creek)</li> </ul>
Biodiversity & Habitat	Removal of: <ul style="list-style-type: none"> <li>One Spiny Rice Flower (critically endangered)</li> <li>31.56ha of Golden Sun Moth habitat (critically endangered)</li> <li>5.25ha of Natural Temperate</li> </ul>	Removal of: <ul style="list-style-type: none"> <li>One Spiny Rice Flower (critically endangered)</li> <li>23.8ha of Golden Sun Moth habitat (critically endangered)</li> <li>5.25ha of Natural Temperate Grassland of</li> </ul>

Comparison of Option 1 and Option 2		
DISCIPLINE	OPTION 1	OPTION 2
	<ul style="list-style-type: none"> <li>Grassland of the Victorian Volcanic Plain (critically endangered)</li> <li>11.14ha of Grassy Eucalypt Woodland of the Victorian Volcanic Plain (critically endangered)</li> <li>One Golden Cowslip (vulnerable, DSE Advisory List)</li> <li>12 Emerald-lip Greenhoods (rare, DSE Advisory List)</li> <li>Brown Toadlet habitat (endangered, DSE Advisory List)</li> <li>Brown Treecreeper habitat (near threatened, DSE Advisory List)</li> <li>110ha of EVCs overall</li> <li>221 Large Old Trees</li> </ul>	<ul style="list-style-type: none"> <li>the Victorian Volcanic Plain (critically endangered)</li> <li>8.65ha of Grassy Eucalypt Woodland of the Victorian Volcanic Plain (critically endangered)</li> <li>Brown Toadlet habitat (endangered, DSE Advisory List)</li> <li>Brown Treecreeper habitat (near threatened, DSE Advisory List)</li> <li>Eight Yarra Gums (rare, DSE Advisory List)</li> <li>131ha of EVCs overall</li> <li>214 Large Old Trees</li> </ul>
Cultural Heritage	<ul style="list-style-type: none"> <li>Encounters nine Indigenous places of minor significance and three of moderate significance</li> <li>Requires the relocation of the Major Mitchell Cairn (local historical heritage significance)</li> </ul>	<ul style="list-style-type: none"> <li>Encounters nine Indigenous places of minor significance and two of moderate significance</li> <li>Requires the relocation of the Major Mitchell Cairn (local historical heritage significance)</li> <li>Encounters Peacock's Road House ruins (local significance) and the former Colvinsby School site (local significance) of historical heritage</li> </ul>
Air Quality	<ul style="list-style-type: none"> <li>51 potential sensitive receptors within the construction dust impact zone</li> </ul>	<ul style="list-style-type: none"> <li>47 potential sensitive receptors within the construction dust impact zone</li> </ul>
Noise & Vibration	<ul style="list-style-type: none"> <li>A 'clearly noticeable' increase in traffic noise levels for six dwellings</li> <li>A 'clearly noticeable' decrease in traffic noise levels for nine dwellings</li> </ul>	<ul style="list-style-type: none"> <li>A 'clearly noticeable' increase in traffic noise levels for five dwellings</li> <li>A 'clearly noticeable' decrease in traffic noise levels for 17 dwellings</li> </ul>
Visual & Landscape		<ul style="list-style-type: none"> <li>Preferred alignment due to duplication impacting land near Langi Ghiran State Park that is visually affected by the existing Western Highway, resulting in an insignificant additional visual impact</li> </ul>
Social	<ul style="list-style-type: none"> <li>Two dwellings to be acquired</li> </ul>	<ul style="list-style-type: none"> <li>Three dwellings to be acquired</li> </ul>
Economic		<ul style="list-style-type: none"> <li>Marginally greater economic benefit for the wider community during construction</li> </ul>
Matters of NES	Removal of: <ul style="list-style-type: none"> <li>One Spiny Rice Flower</li> <li>31.56 hectares of Golden Sun Moth habitat</li> <li>5.25 hectares of Natural Temperate Grassland of the Victorian Volcanic Plain</li> <li>11.14 hectares of Grassy Eucalypt Woodland of the Victorian Volcanic Plain</li> </ul>	Removal of: <ul style="list-style-type: none"> <li>One Spiny Rice Flower</li> <li>23.8 hectares of Golden Sun Moth habitat</li> <li>5.25 hectares of Natural Temperate Grassland of the Victorian Volcanic Plain</li> <li>8.65 hectares of Grassy Eucalypt Woodland of the Victorian Volcanic Plain</li> </ul>

## 22.3 Next Steps

Following public exhibition of the EES and associated draft Planning Scheme Amendment documentation, it is expected that an independent Inquiry Panel will be appointed by the Minister for Planning to assess the environmental impacts of the proposed duplication of the Western Highway from Beaufort to Ararat.

The Inquiry Panel will review all of the impact assessments and consider both alignment options remaining under consideration, known as Option 1 and Option 2. Although the VicRoads preferred option is Option 2, it is possible that as a result of the EES process, the Inquiry Panel could recommend either Option 1 or Option 2 for approval.

It is therefore important that all interested parties consider both alignment options, and how they might be impacted by each. Submissions received



during the Public Exhibition period should not only identify the submitter's preferred alignment, but also detail how they would be impacted should the other alignment be adopted.

Following assessment and determination of the EES by relevant State and Commonwealth departments, it is expected that the Victorian Minister for Planning will exercise his powers under section 20(4) of the *Planning and Environment Act 1987* to be the Planning Authority for the Planning Scheme Amendments. These are required to implement a Public Acquisition Overlay over land required for the

duplication of the Western Highway, and address the associated planning approvals required.

Upon publishing notice of Planning Scheme Amendments in the Victorian Government Gazette, VicRoads would then be able to commence the land acquisition and compensation process.

Other approvals required for the Project would need to be obtained prior to commencement of construction, however the opportunity for comments from the community will be during the EES process.

