

# 19. Economic

The Economic Impact Assessment explored the potential economic effects of Section 3 of the Western Highway Project on the local community and the wider region.

During construction, the Project is expected to create approximately 1,536 Full Time Equivalent (FTE) jobs. These are jobs directly and indirectly involved in construction of the Project. Flow on effects to the wider community are expected (sourcing of goods and services and expenditure by workers and their families) to create 2,856 FTE jobs.

It is expected that the Project would enhance connections between the local agricultural industry and the Port of Melbourne. The Project would also have benefits for the tourism industry by allowing more efficient movement of people to and through the area.

The construction of the Project would result in the loss of agricultural facilities and infrastructure valued at approximately \$1 million 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 agricultural businesses estimated to be approximately \$1.3 million over a 30 year timeframe. VicRoads would compensate eligible landholders in accordance with the *Land Acquisition and Compensation Act 1986* which reduces the impact to insignificant.

It is expected that the Project may disrupt access to non-agricultural businesses during construction resulting in a revenue loss estimated to be less than \$100,000 over a three year period. VicRoads would work with businesses to optimise construction schedules which would reduce the impact to insignificant. The loss of passing trade for businesses has also been estimated to be in the range of \$100,000 to \$1 million over a 30 year timeframe, most significantly in Great Western.

The cumulative impacts of the Project have been considered in relation to the town of Great Western. The potential impacts on businesses in the main street of Great Western are the most significant. There is a risk of a cumulative effect if several businesses in the town become unviable due to loss of passing trade to the milk bar, hotel/motel, petrol station etc, causing the town to become less liveable, and resulting in loss of population and potentially reduction in numbers in schools and sporting clubs.

The completion of the sewerage project in Great Western, and subsequent residential

development along with its development as a draw card wine village would mitigate effects of lost passing trade and has the potential to attract new businesses to the township. Accordingly, there is a medium risk that the Project could detrimentally impact on Great Western, but with mitigation measures such as detailed planning for the town and consideration of a signage strategy to provide more prominence to the town for commuters on the highway the potential impacts are minor.

## 19.1 EES Objectives

The EES evaluation objectives relevant to the economic assessment are:

- *To provide net economic benefits for the State having regard to road user benefits, direct costs, and indirect costs including with respect to other land uses and economic activities.*

This chapter discusses the economic features of the study area, the potential impacts from the Project on these features, and opportunities for the Project to have a positive benefit. More specifically, this chapter addresses the EES Scoping Requirements by:

- Identifying the potential economic effects of the proposed works and relevant alternatives during construction and operation at the local and regional level in relation to employment, income distribution and existing land uses in the area, (especially key infrastructure or services, agriculture, business and tourism); and
- Providing an overall analysis of the costs and benefits of the proposed works and relevant alternatives, including the "no project" scenario.

This chapter is based on an Economic Impact Assessment report completed by GHD Pty Ltd (2012i). The report is included in Technical Appendix P.

## 19.2 Study Area

### 19.2.1 Local Study Area

The study area extends approximately 1500 metres (m) from either side of the road reserve of the existing Western Highway, except around Great Western where the study area extends to 1800m.



### 19.2.2 Regional Study Area

For the purposes of the economic assessment, a regional study area has been defined (see Figure 19-1) as all the area and road infrastructure incorporated into the local government areas of:

- Ballarat City;
- Pyrenees Shire;
- Ararat Rural City; and

- Northern Grampians Shire.

This regional study area has been considered in addition to the local study area to provide a suitable base for assessment of potential economic impacts. Ballarat is included due to its significant role as a major regional centre servicing the area in which the Project is located.

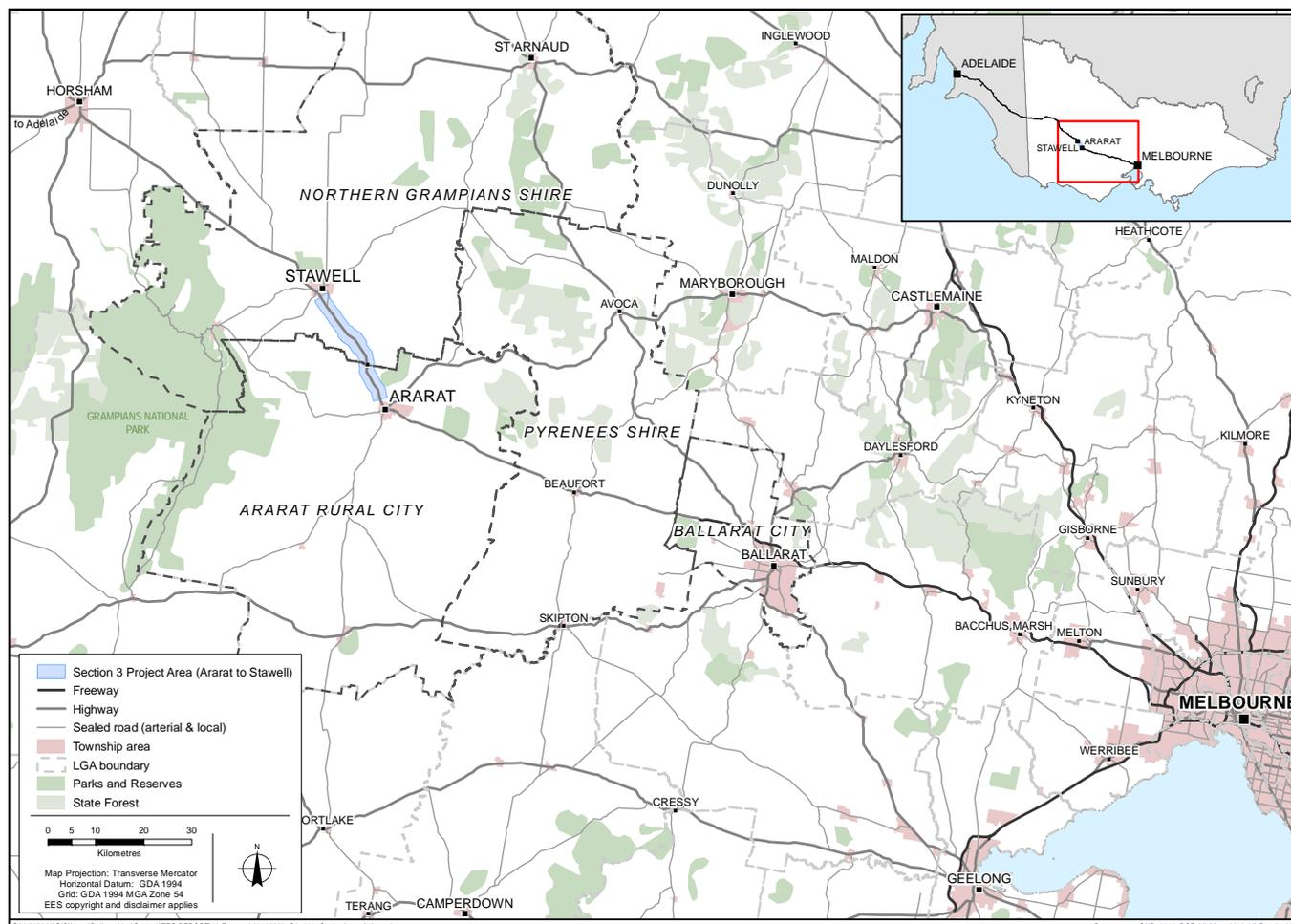


Figure 19-1 Regional Context

### 19.3 Methodology

In order to document the existing local and regional economic conditions, the following was documented through desktop analysis, internet searches, field inspections and consultation:

- The characteristics of the farming environment including climate, soils, landform, vegetation patterns and land capability;
- The type of farming activity being conducted and its significance to the regional economy; and
- The pattern of land ownership and the type and degree of land management impacts being anticipated through constructing the Project.

To understand the economic effects of the Project on the study area and the region, the method described below has been used:

- The regional economic context of the study area was described;
- The existing conditions of the study area were described. This is the base case against which potential effects are measured;
- A Benefit Cost Assessment (BCA) was calculated; and
- The potential economic effects were assessed and where possible, these effects were quantified, otherwise they are described qualitatively.

The economic effects that have been quantified are outlined in Table 19-1. A detailed description of the assessment methodology is included in Technical Appendix P.

**Table 19-1 Quantified Economic Effects**

Effect	Measure
Change in travel time and travel costs for business travel, personal travel and freight transport.	Savings in travel times within the study area including tourism destinations (such as the Grampians) and employment centres, such as the Ararat Prison and towns of Ararat and Stawell, and savings in vehicle operating costs.
Construction and maintenance of the Project.	Employment generated as a result of construction activity and ongoing operation expenditure.
Displacement (wholly or partially) of businesses and farm operations that operate on land which would be required for the Project.	Impacts on revenue and resulting employment impacts. Change in productivity of land due to severance, change in allotment size.
Infrastructure loss (e.g. farm sheds, barns, dams, fencing) of some landholdings along the Project route.	Impact estimated through required investment in new infrastructure.

## 19.4 Legislation and Policy

The relevant legislation and government policies for the Economic Impact Assessment are shown in Table 19-2.

**Table 19-2 Relevant Economic Legislation and Policies**

Legislation/Policy	Description
<b>National</b>	
Nation Building Program (2010)	The Nation Building Program (2010) commits the State and Federal Government to \$505 million towards the Project.
National Land Freight Strategy – Discussion Paper 2011	The Western Highway is part of the indicative national land freight network. The relevant goals include: <ul style="list-style-type: none"> <li>▪ High productivity/performance based standard network for 'national' highways</li> <li>▪ Town bypasses and grade easing on national highways</li> <li>▪ Improved safety outcomes embedded in each of the initiatives.</li> </ul>
<b>State</b>	
<i>Transport Integration Act 2010</i>	<p>Part 2, Division 2 of the <i>Transport Integration Act 2010</i> outlines the objectives of the Act, many of which are relevant to the economic assessment:</p> <p>► <b>Social and economic inclusion (Section 8)</b></p> <p><i>The transport system should provide a means by which persons can access social and economic opportunities to support individual and community wellbeing including by—</i></p> <p>(a) <i>minimising barriers to access so that so far as is possible the transport system is available to as many persons as wish to use it;</i></p> <p>(b) <i>providing tailored infrastructure, services and support for persons who find it difficult to use the transport system.</i></p> <p>► <b>Economic prosperity (Section 9)</b></p> <p><i>The transport system should facilitate economic prosperity by—</i></p> <p>(a) <i>enabling efficient and effective access for persons and goods to places of employment, markets and services;</i></p> <p>(b) <i>increasing efficiency through reducing costs and improving timeliness;</i></p> <p>(c) <i>fostering competition by providing access to markets;</i></p> <p>(d) <i>facilitating investment in Victoria; and</i></p> <p>(e) <i>supporting financial sustainability.</i></p> <p>► <b>Efficiency, coordination and reliability (Section 12)</b></p> <p>(1) <i>The transport system should facilitate network-wide efficient, coordinated and reliable movements of persons and goods at all times.</i></p> <p>(2) <i>Without limiting the generality of subsection (1), the transport system should—</i></p> <p>(a) <i>balance efficiency across the network so as to optimise the network capacity of all modes of transport and reduce journey times;</i></p> <p>(b) <i>maximise the efficient use of resources including infrastructure, land, services and energy;</i></p> <p>(c) <i>facilitate integrated and seamless travel within and between different modes of transport;</i></p> <p>(d) <i>provide predictable and reliable services and journey times and minimise any inconvenience caused by disruptions to the transport system.</i></p>

Legislation/Policy	Description
<i>Planning and Environment Act 1987</i>	<p>The <i>Planning and Environment Act 1987</i> (P&amp;E Act) establishes a framework for planning the use, development and protection of land in Victoria in the present and long-term interest of all Victorians. The Act sets out the legislative basis to ensure that planning provisions are prepared and approved throughout Victoria.</p> <p>The P&amp;E Act provides for a single instrument of planning control, the planning scheme, which sets out the way land may be used or developed. A planning scheme is a statutory document which sets out objectives, policies and provisions relating to the use, development, protection and conservation of land in the area to which it applies, usually a municipality.</p>
State Planning Policy Framework	<p>Every Victorian planning scheme includes the State Planning Policy Framework (SPPF). The SPPF consists of general principles for land use and development in Victoria as well as specific objectives and strategies applying to the whole State or to areas of State significance.</p> <p>The following clauses of the SPPF are of particular relevance to the economic assessment of the Project:</p> <p>Clause 11.05 relates to regional development and sub-clause 11.05-1, which relates to regional settlement networks, contains the following relevant strategies:</p> <ul style="list-style-type: none"> <li>▪ “Direct urban growth into the major regional cities of Geelong, Ballarat, Bendigo and the Moe, Morwell and Traralgon cluster”. Support sustainable development of the regional cities and centres of Ararat...Horsham...Promote transport and communications and economic linkages between the various settlements through the identification of servicing priorities in regional land use plans”</li> </ul> <p>Sub-clause 11.05-4, which relates to regional planning strategies and principles, contains a strategy to support a network of integrated and prosperous regional settlements by, amongst other things: “strengthening networks of settlements by maintaining and improving transport links, spatial patterns of service delivery, and promoting commercial relationships and community activities”.</p> <p>Clause 18 relates to transport and has the overall objective that: “Planning should ensure an integrated and sustainable transport system that provides access to social and economic opportunities, facilities economic prosperity, contributes to environmental sustainability, coordinates reliable movements of people and goods, and is safe”</p> <p>Sub-clause 18.02-4 relates to the management of the road system and contains the following relevant strategies:</p> <p>“Selectively expand and upgrade the road network to provide for:</p> <ul style="list-style-type: none"> <li>▪ High quality connections between Metropolitan Melbourne and regional cities, and between regional cities;</li> <li>▪ Upgrading of key freight routes</li> <li>▪ improve the management of key freight routes to make freight operations more efficient while reducing their external impacts.”</li> </ul>
10 Year Tourism and Events Strategy (2006)	<p>The guiding strategy for tourism and events development in Victoria is the 10 Year Tourism and Events Strategy which was released in 2006, followed by a progress report in 2010. Four key focus areas are set out in this Strategy. These focus areas are:</p> <ol style="list-style-type: none"> <li>1. Build upon existing strengths</li> <li>2. Develop new strengths       <ul style="list-style-type: none"> <li>▪ Assist with investment attraction and facilitation to leverage new major tourism investment in Victoria</li> </ul> </li> <li>3. Focus on long term growth opportunities       <ul style="list-style-type: none"> <li>▪ Focus on business events acquisition with the finalisation of a business case for developing business events in regional Victoria and the implementation of a new strategy to attract and leverage these</li> <li>▪ Focus on regional destination development and marketing programs, particularly the regions beyond Melbourne’s surrounds that have the greatest growth potential in the next 5 – 10 years. Focus on attracting entrepreneurs to invest in iconic tourism product in regional Victoria.</li> </ul> </li> <li>4. Strengthen the partnership between government and industry.</li> </ol> <p>Since then, a number of strategies have been developed that specify the implementation of the framework in the 10 Year Strategy. These are:</p> <ul style="list-style-type: none"> <li>▪ Three Year Business Plan 2008-2011;</li> <li>▪ <i>Regional Tourism Action Plan 2009 – 2012</i>; and</li> <li>▪ Specific Market Segment Plans, of which the following are relevant for the Western Highway Project due to the tourism product located in the wider region:       <ul style="list-style-type: none"> <li>○ <i>Backpacker Tourism Action Plan 2009-13</i></li> <li>○ <i>Victoria’s Aboriginal Tourism Development Plan 2006-2009</i></li> <li>○ <i>Victoria’s Food and Wine Tourism Action Plan</i> (a new version is currently under development)</li> <li>○ <i>Victoria’s Nature-Based Tourism Strategy 2008-2012</i>, and</li> <li>○ <i>Victorian Trails Strategy 2005-2010</i>.</li> </ul> </li> <li>▪ Regional Marketing and Development Plan 2011-2012 – Grampians, which covers the Grampians Tourism Region<sup>1</sup> and implements the Strategy’s State level initiatives at a regional level.</li> </ul> <p>The Western Highway Project is relevant for these tourism development efforts because access to tourism destinations is an important aspect of the experience and reduced travel time would ease access.</p>

<sup>1</sup> Grampians Tourism Region incorporates the municipalities of Ararat, Northern Grampians, Southern Grampians, Horsham, West Wimmera, Hindmarsh, Yarriambiack, Buloke and Mildura.

Legislation/Policy	Description
<b>Regional/Local</b>	
Central Highlands Regional Strategic Plan 2010	The Central Highlands Regional Strategic Plan provides a clearly articulated framework designed to best position the region to 2030 and beyond. The Plan aims to build on the region's competitive advantages and encourages more investment in transport infrastructure and services. The Western Highway Project is identified as a Project that would add to the competitive advantages of the region.
Ararat Rural City Economic Development Strategy 2009-2012	<p>The key focus for economic development as set out in the Ararat Rural City Economic Development Strategy 2009-2012 is to grow the local economy through growing the City's population base. The strategy contains actions which focus on attracting new residents as well as on educating and retaining the existing labour force to be able to provide workers for new projects and expansion of existing businesses. Employment in the City is mainly in retail, manufacturing, agriculture, trades and services and there are strategies to support and strengthen these sectors. In the Economic Development Strategy, the Ararat Prison is identified as a large and important employer and a case study demonstrates the employment impacts of the currently ongoing expansion of the prison. The strategy includes actions to increase industrial land usage and identifies 'proposed wind farm developments' and the Ararat Renewable Energy Park as current projects that will increase the future demand for labour.</p> <p>The Economic Development Strategy makes no specific mention of the Western Highway. However, in terms of economic development, the role of the highway is clearly important as it is a major transport route to the prison, the Ararat Renewable Energy Park, the retail precinct in the town centre, rural produce and tourism.</p>
Great Western Community Plan 2009-2013	The Great Western Community Plan 2009-2013, identifies the bypass of the township of Great Western as the highest priority regional issues impacting on the Great Western community. The Plan highlights the recognition by the community that this bypass will go ahead and notes their desire to be involved with ongoing liaison through the project development in order to maximise the potential for the town to prosper as a result.



## 19.5 Existing Conditions

This section outlines the regional geography and economy in terms of the following factors:

- Existing employment and major industries of employment by local government areas;
- Land transport infrastructure other than the existing highway;
- Agricultural conditions and farming systems;
- Manufacturing and industrial land supply; and
- Tourism and other industries.

### 19.5.1 Regional Employment

Agriculture is the largest sector for the region's economy outside of the Ballarat Local Government Area (LGA). The services sector is also important within the region, as are the sectors of tourism and manufacturing. Table 19-3 provides a breakdown of the 2006 Census information on fields of employment for the population of the regional area by LGA.

**Table 19-3 Regional Area Top Industries of Employment 2006**

LGA	Industry	Number of People Employed	Proportion of Total LGA Employment
Ararat	Sheep, Beef Cattle and Grain Farming	763	16.2%
	School Education	252	5.4%
	Hospitals	244	5.2%
	<b>Total LGA Employment</b>	<b>4,706</b>	
Ballarat	Hospitals	2,372	6.3%
	School Education	2,221	5.9%
	Cafes, Restaurants and Takeaway Food Services	1,587	4.2%
	<b>Total LGA Employment</b>	<b>37,537</b>	
Pyrenees	Sheep, Beef Cattle and Grain Farming	509	19.0%
	Hospitals	117	13.0%
	School Education	101	10.0%
	<b>Total LGA Employment</b>	<b>2,540</b>	
Northern Grampians	Sheep, Beef Cattle and Grain Farming	580	11.3%
	School Education	259	5.0%
	Hospitals	255	5.0%
	<b>Total LGA Employment</b>	<b>5,149</b>	

Source: Census Quickstats, 2006

### 19.5.2 Land Transport Infrastructure

The rail line within the study area between Ararat and Stawell is single track and is broad gauge. This rail line is part of the Melbourne to Adelaide interstate rail corridor, which is managed by the Australian Rail Track Corporation.

In terms of number of services, most of the current rail traffic on the rail line between Ararat and Stawell is interstate freight travelling to and from Adelaide and Perth and originating at or destined for Melbourne.

The only passenger service using the rail line between Ararat and Stawell, the Overlander, is predominately a tourist route. The service operates three times per week between Melbourne and Adelaide and includes station calls at both Ararat and Stawell. Intrastate journeys within Victoria are not permitted on this service. Hence, there is no carriage of intrastate passengers within the section by rail. Passengers wishing to travel by public transport within and between Ararat and Stawell can use local / regional bus services.

### 19.5.3 Regional Agricultural Conditions

Land use characteristics of the regional study area were derived from Australian Bureau of Statistics (ABS) data. There are a number of observations:

- Grazing is the most dominant land use in both area and value.
- Sheep are dominant and represent over 80% of livestock equivalents followed by beef (<20%). The sheep enterprises are principally wool production, but prime lamb production is a significant and growing percentage.
- Cropping represents about 30% of land use overall, with the majority located in the Ararat and the Northern Grampians municipalities. The major crop types are cereals (wheat, barley, oats, triticale) and oilseeds (canola) grown on a rotation basis. Other lesser but significant crop types include grapes, particularly in the Great Western locality.

### 19.5.4 Local Agricultural Conditions

The area used to define the local agricultural conditions was a 3 kilometre (km) wide strip of land, stretching 1.5km either side of the existing highway. This defined area should include all the farms directly or indirectly impacted by the Project.

The farming environment within this area is predominately cropping and grazing based, due to the combination of landform, climate and soil type characteristics. There is considerable physiographic change along the route through the interaction of these natural features.

From Ararat to Stawell there is a change in climate, geology and soil type. The annual average rainfall lessens approaching Stawell, with the climate becoming a little drier and more orientated to annual cropping. However, with the change in geology, and to some extent landform, soils are lighter, of lower inherent fertility and more susceptible to erosion. Soil quality deteriorates and is more suited to pasture rather than crop.

Around Great Western, the topography and ground conditions have resulted in the western side of the town being more viable for agricultural land use compared to the east. The land to the east is poorer quality soils and has smaller landholdings, whereas the land to the west is more undulating with larger land parcels.

### 19.5.5 Farming Systems

The farming systems practised locally include both crop and stock. Crop rotations are usually based on some combination of oilseeds (canola) and cereals (wheat, barley, oats) with a rotation length of three years, after which the land returns to pasture. Expected crop yields are in the range of 1.5-2.2 tonnes per hectare (t/ha) for canola and 2.5-4.0t/ha for cereals.

The pasture phase supports livestock enterprises including merino wool production, prime lamb and beef cattle. The average stocking rate is estimated at 7.6 dry sheep equivalents per hectare (dse/ha) but with the range 7-15dse/ha, depending on land quality and management capability. A weighted gross margin between crop and stock of around \$350/ha is considered appropriate to the locality.

### 19.5.6 Local Land Ownership

From the start of the proposed alignment, north of Ararat, tenements (land titles in common ownership) are small (<30ha). This is due to limited distance between the highway and railway line which places a constraint to effective land management.

The same pattern of small tenements continues to Great Western, particularly to the west. Beyond Great Western the situation is similar, especially where the railway line is closely located to the highway. However, beyond the railway line, to both east and west, holding size becomes larger (>40ha).

Generally, along the proposed alignment, tenement patterns appear small, well below that required for sustainable, economic and commercial grazing/cropping farms. However, some smaller land holdings are run in association with other nearby land.

### 19.5.7 Manufacturing

While not generating the highest employment within the local study area, when measured in terms of output, manufacturing is an important industry in the region. The contribution of manufacturing to LGA output is approximately:

- Ararat Rural City \$438 million
- Northern Grampians Shire \$473 million

As a large proportion of the manufacturing industry's output is exported, transport links to capital cities and major ports are important to the future competitiveness of the region's manufacturing industry, and in turn to the agricultural industry in the region.

The region's manufacturing industry benefits from the strategic location of towns such as Stawell and Ararat on the Western Highway, the main transport route between Melbourne and Adelaide and the provision of affordable industrial land.

Council development strategies continue to focus on providing suitable industrial land with good access to the highway, and any impacts on highway access to/from these identified industrial areas is therefore an important consideration.

Importantly, there is an existing industrial estate to the east of Stawell which has frontage to the Western Highway, and part of this estate (Gilchrist Road) is within the study area.

### 19.5.8 Tourism and other Industries

An important 'driver' for the upgrade of the Western Highway is to maintain the significant tourism industry in the region. The study area is located within the Grampians Tourism Region. Visitation to this region has declined over the 12 year period from 2000, and analysis of the visitation data shows that the Grampians Region is losing its comparative advantage compared with other regional destinations.

In 2005, tourism employment in the Grampians Tourism Region was estimated at 1,840 or 4.4% of total employment (TTF Australia Victoria Tourism Employment Atlas, 2005). This employment is measured in 14 tourism-related sectors, the most important of these being:

- Accommodation, where tourism accounts for 90% of the employment.
- Air & Water Transport (67%).
- Cafés and Restaurants (27%).
- Clubs, Pubs, Bars & Taverns (19%).

Tourism contributes 8% to employment in retail trade, and in Great Western this percentage would be significantly higher. The value of tourism to the region can also be measured by its contribution to Gross Value Added of other industries. Estimates by Tourism Victoria of the ratio of the tourism region's total tourism output to the region's total economic output, indicates that tourism represents 2.7% of the economy of the Grampians region in 2007/08 (refer Grampians Market Profile, Year Ending December 2010).

Tourism and retail operations and attractions in the local study area include the following:

- Around Great Western
  - Grampians Estate – cellar door, on the eastern outskirts of Great Western on the existing Highway
  - Seppelt's Great Western - winery and cellar door
  - Best's Winery – winery and cellar door and contract harvesting
  - Allanvale Homestead and Shearer's Quarters accommodation and function centre (approximately 2km east of town centre).
- In Great Western
  - Great Western Hotel/Motel
  - B&B, Jenrick House, including home-based picture framing business
  - B&B, Rymney Reef Cottage
  - Great Western General Store and Post Office
  - Salingers Café
  - Toll Gate Studio Gallery- gallery and workshop
  - United Petrol Station and Garage
- On the eastern outskirts of Stawell
  - Sisters Rocks – indigenous heritage site

- Grange Golf Club – 18 hole golf course
- Stawell Park Caravan Park – short term and long term accommodation.

The majority of the tourism and retail businesses along the proposed alignment are located within and around Great Western. Great Western is a small township within the Northern Grampians Shire with a population of approximately 570 people. It is a small community that relies on tourism and passing trade to support the retail and service offering as it is well serviced, taking its small population base and the proximity of Stawell and Ararat into account. It has experienced population decline since 2006, when it had a population of 644 residents.

Employment in wineries, retail and service businesses along or near the highway is estimated at 55 to 60 permanent positions augmented by part time employment in the vineyards during pruning, thinning and harvest (GHD, 2012i). The wineries and vineyards are the major employers in Great Western. Total employment based on place of work data is not available at suburb level; however in the Statistical Local Area (SLA) in which Great Western is located there were 3490 jobs in 2006. This SLA includes the town of Stawell as a regional centre of employment.

## 19.6 Impact Assessment

### 19.6.1 Key Issues

The negative economic impacts for the Project can be broadly divided into agricultural impacts and non-agricultural business impacts.

#### 19.6.1.1 Agriculture

The key issues for agriculture are economic impacts arising from the following:

- Direct land loss;
- Severance of landholding(s);
- Impacts on infrastructure;
- Vehicle and stock movement; and
- Impact on access, into/out of properties.

The value of direct loss of productive agricultural land and severance of properties across the proposed alignment has been estimated to be \$1.3 million (GHD, 2012i). The value of loss for agricultural facilities, such as dams and sheds, has been estimated in excess of \$1 million. The impact of the acquisition and direct loss of productive agricultural land is considered insignificant given landowners would be eligible for suitable level of compensation consistent with the *Land Acquisition and Compensation Act 1986* (GHD, 2012i).

#### 19.6.1.2 Non - Agricultural Business

The key issue for non-agricultural businesses is economic impacts arising from disruptions to access during construction, and the prospect of loss of

passing trade, most significantly for Great Western which is proposed to be bypassed.

The impact to non-agricultural businesses in terms of access impediments before and after construction has been estimated at up to \$100,000. The loss of passing trade for businesses has also been estimated to be in the region of \$100,000 to \$1 million, over the 30 year timeframe (GHD, 2012i).

The cumulative impacts of the Project have been considered in relation to the town of Great Western. The potential impacts on businesses in the main street of Great Western are the most significant. Prior to the announcement of the Project, there have been businesses listed for sale, and if their turnover decreases significantly it may be sufficient for business owners to sell the business for land and building value i.e. not as an on-going viable business. Accordingly, there is a risk of a cumulative effect if several businesses in the town become unviable due to loss of passing trade, such as the milk bar, hotel/motel, petrol station etc, which may cause the town to become less liveable, and resulting in loss of population and potentially reduction in numbers in schools and sporting clubs.

The completion of the sewerage project in Great Western, and subsequent potential for residential development along with its status as a boutique wine village would mitigate effects of lost passing trade and have the potential to attract new businesses to the township. Accordingly, there is a minor initial risk that the Project could detrimentally impact on Great Western, but with detailed planning for the town and consideration of a signage strategy to provide more prominence to the town for commuters on the highway the potential impacts for Great Western would be insignificant.

## 19.6.2 Key Benefits

The economic benefits of the Project are:

- Travel time savings;
- Vehicle operating savings;
- Crash cost savings;
- Direct and indirect employment as a result of construction of the Project; and
- Boost tourism within the regional area.

### 19.6.2.1 Travel Time Savings

It is acknowledged that some landholders along the highway may have minimal increases in travel times, refer to Chapter 9 (Traffic and Transport).

The economic benefit associated with travel time, results from the daily reduction in vehicle hours travelled being applied to an hourly value to generate estimates of daily travel time savings. These estimates are subsequently annualised to give annual travel time savings for the project case options (in undiscounted dollar terms).

After discounting the annual stream of travel time savings, a total (or cumulative) travel time benefit of \$40.8m was estimated over the 30-year evaluation period (GHD, 2012i).

### 19.6.2.2 Vehicle Operating Cost Savings

To calculate vehicle operating cost savings, the vehicle kilometres travelled is applied to the vehicle operating cost rates to generate estimates of daily vehicle operating costs. Vehicle operating cost savings that would occur have been estimated at \$75.9M over the 30 year life of the Project (GHD, 2012i).

### 19.6.2.3 Crash cost savings

Crash cost savings were derived from estimates based on the previous crash history on the route and the known improvements to the standard of infrastructure that would occur as a result of the Project. Crash cost savings estimated for this Project are in the order of \$2.8M over the 30 year life of the Project (GHD, 2012i).

### 19.6.2.4 Boost to tourism

The Project would allow for decreased travel time through the Section and thereby make destinations such as Great Western (within the study area) and the Grampians (wider study area) more accessible for tourism.

## 19.6.3 Benefit Cost Assessment

The Economic Impact Assessment has been undertaken using a conventional Benefit Cost Assessment (BCA) approach and an assessment of the wider economic impacts which are not part of the BCA but have been estimated under the areas of agriculture and non-agriculture business, as outlined above.

### 19.6.3.1 Residual value

The Australian Transport Council National Guidelines (Volume 4) for cost benefit analysis of road transport projects specify a 50 year lifespan for road pavements. Since the project evaluation period is for 30 years this gives rise to a residual value benefits item. With 20 years' worth of remaining asset value at the end of the evaluation period a proportion of 40% (i.e. 20 years divided by 50 years) is applied to undiscounted capital cost value. This gives residual value estimate of \$21.3M (GHD, 2012i).

### 19.6.3.2 Capital Costs

Capital costs, which are defined as the sum of money required to oversee the construction of the road, have been estimated to a 90 per cent confidence level, which is consistent with VicRoads risk based estimating requirements. The present value of the capital costs of the Project was estimated as being in the order of \$230M. Capital costs involved in the construction of the Project include construction cost of the road and an estimation of compensation costs to landowners (GHD, 2012i).

### 19.6.3.3 Maintenance Costs

VicRoads estimates that the maintenance costs of the Project would be in the order of \$5.4M over the 30 year life of the Project (GHD, 2012i).

### 19.6.4 Benefit Cost Ratio

The Benefit Cost Ratio (BCR) is a ratio attempting to identify the relationship between the cost and benefits of the Project. Table 19-4 summarises the contribution of the above benefits and costs to the Project's BCR of 0.60 for the proposed alignment. A

ratio of 1 indicates that there is a balance between benefits and costs for the Project. The direct costs of the Project exceed those direct benefits that are incorporated into the assessment. However, this result is not unusual for Projects of this nature in regional areas, given relatively low traffic volumes and long project lengths compared with an urban transport project.

Further details on the basis of the figures in Table 19-4 are included in Technical Appendix P.

**Table 19-4 Results of Benefit Cost Ratio**

	Present Value (4.4 % discount rate over 30 years)
Vehicle Operating Cost Savings	\$75.9M
Travel Time savings	\$40.8M
Crash Cost savings	\$2.8M
Externality savings	\$0M
Residual value	\$21.3M
<b>TOTAL BENEFITS</b>	<b>\$140.7M</b>
Capital Costs	\$230M
Maintenance Costs	\$5.4M
<b>TOTAL COSTS</b>	<b>\$236.3M</b>
<b>Benefit Cost Ratio</b>	<b>0.60</b>
<b>Net Present Value</b>	<b>-\$95.6M</b>

Source: GHD (2012i).

### 19.6.5 Other Economic Benefits

There are other economic impacts in addition to those identified in the BCA. These are:

- Construction employment which would create approximately 1,536 Full Time Equivalent (FTE) jobs over the three year construction period (GHD, 2012i). These totals are jobs directly and indirectly involved in construction of the Project.
- Flow on effects to the wider economy are estimated to create 2,856 FTE jobs (GHD, 2012i).
- The Project is also expected to have a positive impact on the agricultural and manufacturing industry as connections between the region and the Port of Melbourne would be enhanced, enabling positive outcomes for imports and exports.
- The Project is expected to have a positive impact on the region's tourism as the movement of customers and staff would be enhanced.

Having regard to the above, the Project would have moderate benefits associated with economic consideration for the study area and wider region.

## 19.7 Risk Assessment

An environmental risk assessment was undertaken on the Project options to identify key environmental issues associated with the construction and operation of the Project. The methodology for this risk assessment has been described in Section 4.2 of Technical Appendix P (Economic Impact Assessment Report). A risk assessment report that explains the process in detail and contains the complete project risk register has also been included as Technical Appendix Q (Risk Report). Table 19-5 shows a summary for economic issues of:

- The impact pathways identified; and
- A description of the consequence.

**Table 19-5 Economic Risks**

Risk No.	Impact Pathway	Consequence Description
E1	Operation of the Western Highway would reduce passing trade for some businesses (Great Western).	Some businesses along the alignment rely for a portion of their turnover on passing traffic. This traffic would be reduced with a consequent reduction in turnover.
E2	Construction of the Western Highway would result in the loss of agricultural facilities and improvements plus the loss agricultural land and severance of properties across the alignment.	Stock yards, sheds, access lanes and other infrastructure may require replacement or relocation. Some agricultural land would be lost as a result of the construction and there would be severance and access issues to some properties

Risk No.	Impact Pathway	Consequence Description
E3	The Western Highway would disrupt access to businesses during construction.	Some businesses along the route would have access disrupted during the construction process.
E4	The duplicated Western Highway would complicate access to businesses post construction.	Closure of roads into the duplicated Western Highway would permanently complicate access for some businesses to and from the Western Highway.

## 19.8 Environmental Management Measures

VicRoads has a standard set of environmental management measures that are typically incorporated into its construction contracts for road works and bridge works. These measures have been used as the starting point for the assessment of construction related risks and are described in detail

in Chapter 21 (Environmental Management Framework). In some cases, additional project specific controls are recommended to reduce risks.

The management measures specific to each identified economic risk, and the residual risk rating after the environmental management measures have been applied, are outlined in Table 19-6.

**Table 19-6 Economic Environmental Management Measures and Residual Risk**

Risk No.	Environmental Management Measures	Residual Risk Rating
E1	New signage would be installed for any business areas affected by the reduction in passing trade and for creating an awareness	Low
E2	Compensation measures for loss of infrastructure, land, severance and access issues. Optimise intersections and access opportunities for affected properties.	Low
E3	Work with businesses to optimise construction schedules	Low
E4	Maintain existing signage for business destinations which are of tourist interest (including wineries). Otherwise, update signage to areas of business or local amenities.	Low

### 19.8.1 Residual risks

Following implementation of the recommended mitigation measures there are not expected to be any significant negative economic impacts. All four identified risks have a residual risk rating of low.

## 19.9 Conclusion

The local economy is based primarily on agriculture and tourism. An economic impact assessment has been conducted to determine potential impacts of the Project on both agricultural and non-agricultural businesses.

Impacts were considered by examining the amount of land severance, the BCR outcome, consequences to employment, and effects on tourism and other non-agricultural industry in the area.

The impact to non-agricultural businesses in terms of access impediments before and after construction has been estimated at up to \$100,000. The loss of passing trade for businesses has been estimated to be in the region of \$100,000 to \$1 million over a 30 year timeframe, most significantly in Great Western as a result of the bypass (GHD, 2012i).

The value of direct loss of productive agricultural land and severance of properties across the proposed alignment has been estimated to be \$1.3

million, over 30 years. The value of loss for agricultural facilities has been estimated in excess of \$1 million, which could be mitigated to a large degree by a suitable level of compensation to existing landowners (GHD, 2012i).

It is expected that construction of the Project would create approximately 1,536 FTE jobs. This would have positive flow on effects for the region in the order of 2,856 FTE. The operation of the Project would result in significant economic benefits totalling around \$140.7M over a 30 year operating life due to vehicle operating cost savings, travel time savings, crash cost savings, externality savings and residual savings (GHD, 2012i).

It is also expected that the Project would enhance connections for the regions industries with the Port of Melbourne and enable a more efficient movement of people which is expected to create a positive outcome for the region's tourism industry.

Overall, the negative economic impacts of the Project are expected to be minor in the context of the region and the economic benefits of the Project are expected to be moderate.