ESSENTIAL ECONOMICS

# Goulburn Valley Highway

# Shepparton Bypass Stage 1 Project

## Economic Impact Assessment

FINAL REPORT



Prepared for

Greater Shepparton City Council

by

Essential Economics Pty Ltd

**September 2016**

## Authorship

| Report stage | Author | Date | Review | Date |
|---|---|---|---|---|
| Draft report | John Noronha | 2 June 2016 | John Henshall | 4 June 2016 |
| Final draft | John Noronha | 9 June 2016 | | |
| Final report | John Noronha | 8 September 2016 | | |

## Disclaimer

Every effort has been made to ensure the accuracy of the material and the integrity of the analysis presented in this report. However, Essential Economics Pty Ltd accepts no liability for any actions taken on the basis of the contents of this report.

The information in this report has been prepared specifically for the client, Greater Shepparton City Council. This document should not be used or replicated in any way by any other party without first receiving written consent from Essential Economics Pty Ltd.



## Contact details

For further details please contact Essential Economics Pty Ltd at one of our offices:

96 Pelham Street
Carlton
Victoria 3053
Australia
PH +61 3 9347 5255
FAX +61 3 9347 5355

Level 26 / 44 Market Street
Sydney
New South Wales 2000
Australia
PH +61 2 9089 8654

EMAIL mail@essentialeconomics.com
WEB www.essentialeconomics.com

ABN 92 079 850 427

**Our Reference: 16012**

# Contents

# EXECUTIVE SUMMARY

Greater Shepparton City Council engaged Essential Economics Pty Ltd to undertake an Economic Impact Assessment (EIA) of the Goulburn Valley Highway Shepparton Bypass Stage 1 Project (Stage 1 Bypass Project). The Study confirms a pressing need for a new east-west link, a second river crossing and road infrastructure that can adequately cater for the anticipated increased in use of High Performance Freight Vehicles and other larger and longer vehicle combinations.

The development of the Goulburn Valley Highway Shepparton Bypass has been identified by Council as a priority transformational project. Council and the State Government have both demonstrated their commitment towards the project.

**Stage 1 of the Bypass will:**

- Deliver a Road User Benefit Cost Ratio of 0.87 over 25 years
- Increase national and regional economic output by $590 million during the construction phase
- Deliver 3,170 additional regional and national jobs during the construction phase



The Stage 1 Project aims to increase road capacity, efficiency and safety and reduce costs for freight operators, while also reducing industry risk. The outcome would be the diversion of significant volumes of heavy vehicle movements from Shepparton's CBD.

1 Key Opportunities arising from the Stage 1 Project include:

- Improved efficiencies for heavy vehicle operators, including reduced travel times and vehicle maintenance savings
- Provision of adequate long-term road capacity for industry, which is important in terms of certainty for industry development and future planning and investment for businesses
- Reduced risk to industry by the provision of a second heavy vehicle river crossing
- Improved safety for drivers and visitors to Shepparton CBD, with road user conflicts significantly reduced

**BOOST TO CBD**

The improvements in safety and amenity (reduced noise, pollution, conflicts) are expected to support existing Council-led project initiatives. CBD Revitalisation and leveraged investment will deliver the following positive outcomes:

- 6,410m$^2$ of existing vacant CBD shopfront floorspace becoming reoccupied
- 225 new ongoing CBD jobs created and a further 180 jobs supported indirectly in the regional economy
- $315 million in additional value-added output (Net Present Value) generated for the regional economy over 25 years.

2 Other economic benefits include:

- Support for the region's expanding export markets by improving efficiency of movement of goods and services
- Planning certainly for land owners, investors, existing businesses and Council with regard to long-term decision-making
- Impetus for investment in dormant development sites
- Support for the commercial office property market
- Stimulus to potentially activate other major regional projects, including the proposed Goulburn Valley Intermodal Freight Terminal (GV Link).

# INTRODUCTION

## Background

The Goulburn Valley (GV) Highway is an integral transport route connecting the Goulburn Valley Region with Melbourne, and forms a vital link in the national highway system between Melbourne and Brisbane. The Goulburn Valley Highway also joins Melbourne and central Victoria with inland New South Wales and Queensland.

Sections of the GV Highway in and around Greater Shepparton can no longer adequately cater for the large and increasing traffic volumes that use the highway daily.

A solution to address the inadequacies of the highway has been proposed since 1995; however, the necessary funding commitments from State and Federal Governments have yet to be secured. The full 36km four-lane Shepparton Bypass is estimated to cost approximately $1.3 billion (2016 dollars). The project has therefore been split into distinct stages in order to more realistically obtain funding to get the project underway, including a single carriageway in the first instance.

Greater Shepparton City Council are now seeking initial investment for Stage 1 of the Bypass Project (which includes sub-stages 1A and 1B), and have engaged Essential Economics Pty Ltd to undertake and Economic Impact Assessment of the proposed project as input to future funding requests.

Stage 1A will provide a second river crossing between Shepparton and Mooroopna (GV Highway to Echuca Road), and road improvements leading to the Shepparton Alternate Route (SAR) will also be required. In addition, Stage 1B will provide a new link between Echuca-Mooroopna Road to the Midland Highway.

The estimated cost of the Stage 1 Bypass Project is $260 million (2016 dollars), with this investment aimed at:

- reducing heavy traffic flows and improving safety, amenity and commercial performance in Shepparton's Central Business District (especially along High Street); and
- catering for the long-term traffic growth of Greater Shepparton, strengthening the supply chain of the Goulburn Valley's food processing and manufacturing enterprises and improving freight movements from the Goulburn Valley to domestic and export markets.

The Hume Regional Growth Plan identifies the GV Highway Shepparton Bypass Project as an important infrastructure project in terms of regional transport access and connectivity.

## Objectives

The main objectives of this study are:

- To highlight existing challenges and constraints associated with the existing heavy-vehicle east-west road link
- To identify, quantify and clearly articulate the benefits arising from the Stage 1 project.
- To highlight the return on investment the project will deliver.

## This Report

This report contains the following chapters:

1 **Project Context** – provides a regional socio-economic overview, an assessment of the long-term regional freight task, and a summary of Greater Shepparton's priority transformational infrastructure projects.

2 **Project Description and Catchment** – presents a description of the Full Bypass Project, and a detailed summary of the construction phase of the Stage 1 Bypass Project, including alignment and estimated costing.

3 **Issues and Opportunities Assessment** – highlights constraints to business and industry arising from the existing situation and identifies potential opportunities and benefits associated with the construction of Stage 1 Bypass Project.

4 **Road User and Externality Impact Assessment** – quantifies long-term road user and externality impacts arising from the Stage 1 Bypass Project, including travel time savings, vehicle operating cost savings and environmental savings, total costs, and presents a Benefit Cost Ratio for the project from a road user perspective.

5 **Economic Impact Assessment** – provides an assessment of impacts associated with investment, economic output, employment, commercial performance, industry risk and regional economic development.

6 **Key Findings** – presents a summary of the main findings of the report.

# 1 PROJECT CONTEXT

## 1.1 Regional Overview

### Population

Latest State Government population projections (Victoria in Future 2015) show steady population growth is expected in the Goulburn Valley (GV) Region between 2016 and 2031. Over this period the Region's population is projected in increase by 0.9% pa, an increase of 19,460 persons, with the Region's population level estimated to reach 160,320 persons by 2031. These projections are shown in Table 1.1.

**Table 1.1: GV Regional – Population Projections by Municipality, 2014 to 2031**

| Municipality | 2016 | 2026 | 2031 | Change 2014-2031 | AAGR 2014-2031 |
|---|---|---|---|---|---|
| Greater Shepparton City Council | 64,800 | 73,340 | 77,500 | +14,700 | +1.2% |
| Campaspe Shire Council | 36,960 | 38,660 | 39,580 | +2,700 | +0.4% |
| Moira Shire Council | 29,160 | 30,750 | 31,660 | +2,830 | +0.6% |
| Strathbogie Shire Council | 9,940 | 10,700 | 11,110 | +1,300 | +0.7% |
| **Region** | **140,860** | **153,450** | **160,320** | **+19,460** | **+0.9%** |

Source: Victoria in Future 2015, Department of Environment, Land, Water and Planning (2015)



### Labour Market

As of December 2015, unemployment in the GV Region was 5.9%, and this is slightly higher than the regional Victoria average (5.8%), with approximately 4,200 job seekers being unemployed. As Table 1.2 shows, Greater Shepparton's unemployment rate of 6.5% is well above regional, metropolitan and state averages, with 2,150 residents unemployed.

**Table 1.2: GV Region – Unemployment Rates by Municipality, December 2015**

| | Employed | Unemployed | Labour Force | % Unemployed |
|---|---|---|---|---|
| Greater Shepparton City Council | 31,110 | 2,150 | 33,260 | 6.5% |
| Campaspe Shire Council | 18,050 | 1,010 | 19,050 | 5.3% |
| Moira Shire Council | 13,370 | 780 | 14,150 | 5.5% |
| Strathbogie Shire Council | 4,930 | 260 | 5,190 | 5.0% |
| **Region** | **67,450** | **4,200** | **71,650** | **5.9%** |
| **Regional Victoria** | **669,800** | **41,000** | **710,800** | **5.8%** |
| **Melbourne** | **2,282,700** | **150,300** | **2,433,000** | **6.2%** |
| **Victoria** | **2,952,500** | **191,300** | **3,143,800** | **6.1%** |

Source: Australian Government Department of Employment – Small Area Labour Markets, December 2015

**Industry Structure**

Greater Shepparton forms an integral part of the 'Food Bowl of Australia', which accounts for 25 per cent of the total value of Victoria's agricultural production (www.victoriasfoodbowl.com.au). Greater Shepparton is a national centre for dairy and horticulture, exporting premium quality fresh and value-added produce via innovative practices and a world-class irrigation system. Greater Shepparton is also the transport hub of regional Victoria due to its strategic location and the resulting agglomeration of road transport industry activities.

Primary production underpins the economy of Greater Shepparton and the surrounding area, with the GV Region producing 25% of Victoria's horticultural produce. Much of this produce is value-added via a nationally significant cluster of food manufacturing and food processing industries in Greater Shepparton and the Goulburn Valley. These products are then transported to domestic and international markets by transport and logistics providers. Greater Shepparton is a significant hub in the national freight and logistics chain.

Greater Shepparton is home to several multinational and iconic companies, including Campbell's Soups, SPC Ardmona, Tatura Milk Industries (Bega), Unilever, Visy, Fonterra, Pental Soaps, and Pactum Dairy (Australian Consolidated Milk). Several multinational companies also reside in the broader GV Region, including Nestle, Murray Goulburn and Bega. These companies utilise Shepparton as their major transport and logistics hub.

The industry structure of the GV Region, which is presented in Table 1.3 and Figure 1.1, shows a large proportion of jobs are associated with sectors which are associated with major food activities (primary and secondary) and which have a direct or indirect reliance on transportation.

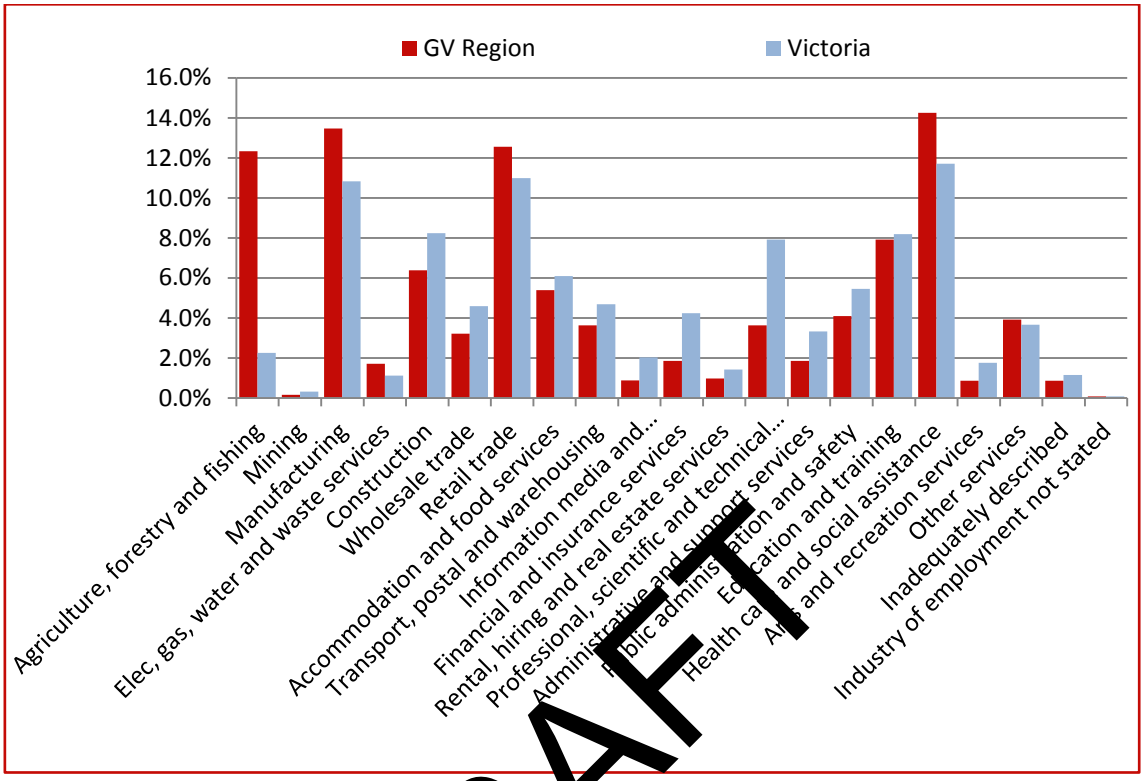
For example approximately 11% of all jobs in the GV Region are associated with agriculture, forestry and fishing; mining; manufacturing, electricity, gas, water and waste services; construction; wholesale trade; and transport, postal and warehousing. In contrast, only 32% of jobs are associated with these sectors on a State-wide basis, highlighting the relatively high concentration of transport-reliant industries in the GV Region.

**Table 1.3: GV Region – Industry Structure by Municipality, 2011**

| | Greater Shepparton | Campaspe Shire | Moira Shire | Strathbogie Shire | GV Region | Victoria |
|---|---|---|---|---|---|---|
| Agriculture, forestry and fishing | 7.5% | 13.6% | 18.9% | 26.3% | 12.3% | 2.2% |
| Mining | 0.1% | 0.2% | 0.1% | 0.4% | 0.2% | 0.3% |
| Manufacturing | 12.6% | 14.9% | 14.8% | 9.9% | 13.5% | 10.8% |
| Electricity, gas, water and waste services | 2.8% | 0.6% | 0.7% | 0.3% | 1.7% | 1.1% |
| Construction | 6.5% | 6.0% | 6.7% | 6.5% | 6.4% | 8.2% |
| Wholesale trade | 3.6% | 2.8% | 3.0% | 2.3% | 3.2% | 4.6% |
| Transport, postal and warehousing | 3.9% | 3.4% | 3.3% | 3.8% | 3.6% | 4.7% |
| **Sub-total** | **34.2%** | **41.5%** | **47.5%** | **49.5%** | **40.9%** | **31.9%** |
| Retail trade | 13.0% | 13.3% | 11.9% | 8.2% | 12.6% | 11.0% |
| Accommodation and food services | 4.7% | 5.9% | 5.8% | 7.9% | 5.4% | 6.1% |
| Information media and telecommunications | 1.2% | 0.6% | 0.6% | 0.5% | 0.9% | 2.0% |
| Financial and insurance services | 1.9% | 2.1% | 1.6% | 0.9% | 1.8% | 4.2% |
| Rental, hiring and real estate services | 0.9% | 1.1% | 1.0% | 0.8% | 1.0% | 1.4% |
| Professional, scientific and technical services | 4.1% | 3.5% | 2.7% | 3.2% | 3.6% | 7.9% |
| Administrative and support services | 2.2% | 1.4% | 1.8% | 2.1% | 1.9% | 3.3% |
| Public administration and safety | 4.6% | 3.7% | 2.7% | 5.5% | 4.1% | 5.5% |
| Education and training | 8.6% | 7.4% | 7.3% | 6.1% | 7.9% | 8.2% |
| Health care and social assistance | 16.4% | 13.4% | 12.2% | 9.3% | 14.3% | 11.7% |
| Arts and recreation services | 0.7% | 0.9% | 0.8% | 2.4% | 0.9% | 1.7% |
| Other services | 4.1% | 4.4% | 3.4% | 2.4% | 3.9% | 3.7% |
| Inadequately described | 1.1% | 0.8% | 0.8% | 1.0% | 0.9% | 1.2% |
| Industry of employment not stated | 0.0% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% |
| **Total** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |

Source: ABS Census of Population and Housing, 2011 – Based on Place of Work data.

**Figure 1.1: Industry Structure Comparison – GV Region v Victoria**




Source: ABS Census of Population and Housing, 2011 – Based on Place of Work data.



## Business Structure

The business structure of the GV Region highlights the region's reliance on agriculture, forestry and fishing, with almost one- three businesses (32%) associated with the sector, and this share is four times the Victorian average (8%). These patterns are presented in Table 1.4 and Figure 1.2.

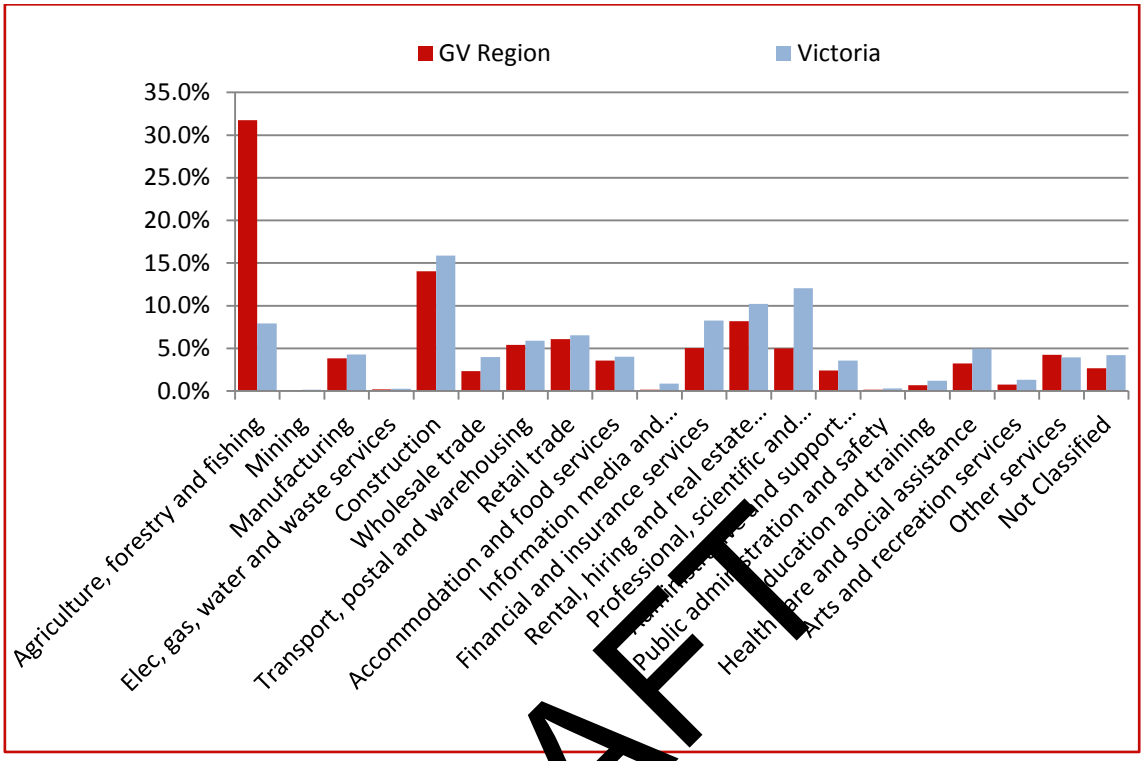
Approximately 58% of businesses located in the GV Region have a direct or indirect reliance on transportation services (agriculture, forestry and fishing; mining; manufacturing, electricity, gas, water and waste services; construction; wholesale trade; and transport, postal and warehousing), compared to 38% of businesses across Victoria .

**Table 1.4: GV Region – Business Structure by Municipality, 2013**

| | Greater Shepparton | Campaspe Shire | Moira Shire | Strathbogie Shire | GV Region | Victoria |
|---|---|---|---|---|---|---|
| Agriculture, forestry and fishing | 22.1% | 34.9% | 40.4% | 46.6% | 31.7% | 7.9% |
| Mining | 0.1% | 0.1% | 0.2% | 0.2% | 0.1% | 0.2% |
| Manufacturing | 4.0% | 4.0% | 3.6% | 3.4% | 3.9% | 4.3% |
| Electricity, gas, water and waste services | 0.3% | 0.2% | 0.2% | 0.0% | 0.2% | 0.3% |
| Construction | 14.9% | 14.2% | 13.0% | 11.8% | 14.0% | 15.9% |
| Wholesale trade | 2.8% | 2.1% | 2.1% | 1.8% | 2.3% | 4.0% |
| Transport, postal and warehousing | 5.7% | 5.0% | 5.7% | 4.9% | 5.4% | 5.9% |
| **Sub-total, industries with a reliance on Transport** | **49.9%** | **60.3%** | **65.2%** | **68.6%** | **57.7%** | **38.4%** |
| Retail trade | 6.3% | 6.8% | 5.8% | 3.1% | 6.1% | 6.5% |
| Accommodation and food services | 3.4% | 3.9% | 3.7% | 3.0% | 3.6% | 4.0% |
| Information media and telecommunications | 0.2% | 0.2% | 0.1% | 0.0% | 0.2% | 0.9% |
| Financial and insurance services | 6.1% | 5.0% | 3.6% | 3.6% | 5.0% | 8.3% |
| Rental, hiring and real estate services | 10.6% | [illegible]% | 6.0% | 4.7% | 8.2% | 10.2% |
| Professional, scientific and technical services | 6.3% | 4.1% | 3.4% | 5.6% | 5.0% | 12.1% |
| Administrative and support services | 3.2% | 1.9% | [illegible]8% | 1.6% | 2.4% | 3.6% |
| Public administration and safety | 0.1% | 0.2% | 0.2% | 0.3% | 0.2% | 0.3% |
| Education and training | 0.8% | 0.6% | 0.7% | 0.7% | 0.7% | 1.2% |
| Health care and social assistance | [illegible]4.4% | [illegible]2.7% | 2.4% | 1.6% | 3.2% | 5.0% |
| Arts and recreation services | [illegible]% | 0.8% | 0.6% | 1.3% | 0.8% | 1.3% |
| Other services | 5.[illegible]% | 4.1% | 3.7% | 2.7% | 4.3% | 4.0% |
| Not classified | [illegible]% | 1.8% | 2.8% | 3.3% | 2.7% | 4.2% |
| **Total** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |

Source: ABS Business Counts 2013.

**Figure 1.2: GV Region – Business Structure by Municipality, 2013**




Source: ABS Business Counts 2013.



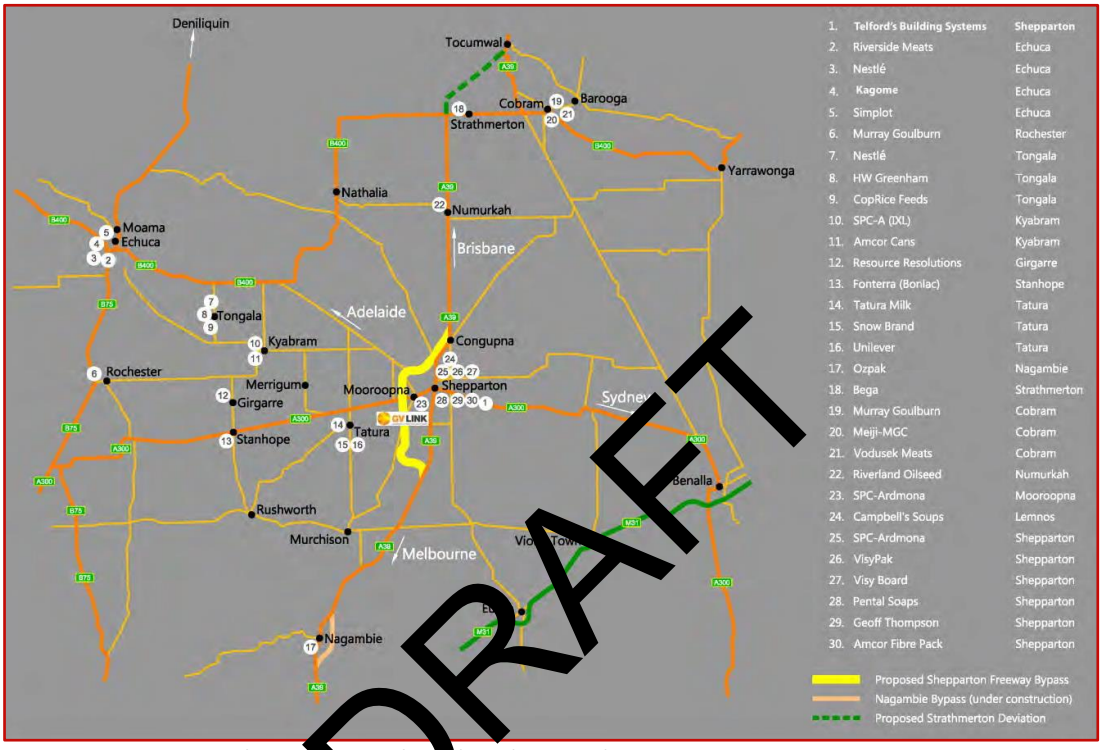
## 1.2 Regional Freight Task

The Greater Shepparton Freight and Land Use Study 2013 (the 'Study)' identified industry, freight and land use trends in the municipality to inform infrastructure network planning decision-making and prioritisation. The Study characterised existing freight operations as follows:

- **Trans-national or international –** by sea or air modes (e.g. goods heading to ports and airports)
- **Inter capital –** between capital cities by road, rail, sea or air
- **Up country –** from a capital city to a rural region, down country from a rural region to a capital city by road, rail, air of coastal shipping
- **Inter-regional –** between origin and destination modes in non-capital city regions, primarily by road but also rail, air coastal shipping or pipeline
- **Intra-regional –** between origin and destination modes within a region outside of a capital city; primarily by road but also rail, air coastal shipping or pipeline
- **Intra-capital –** between origin and destination modes within a capital city, primarily by road
- **Intra city –** local movements within Shepparton by road.

A significant number of major manufacturers, food processors, dairy operators and other freight-generating businesses are located in the GV Region. Locations include Cobram, Echuca, Kyabram, Nagambie, Numurkah, Rochester, Strathmerton, Shepparton and Tatura, as shown in Figure 1.3.

**Figure 1.3: Manufacturers Located in the GV Region**




Source: Greater Shepparton Freight and Land Use Study, AECOM, 2013



The Study notes that the regional freight task continues to expand, with evidence from consultation with key operators indicating freight growth is exceeding economic and population growth. Efficient and effective transport movement, particularly of freight within, to and from the Greater Shepparton region, is identified as critical to ongoing growth and competitiveness of the city and of the surrounding region.

The Study also forecasts a shift from smaller trucks to B-Doubles and larger approved heavy vehicles (HPFVs – High Productivity Freight Vehicles) to provide greater efficiency and reduced carbon emissions. As freight generators demand lower costs and freight operators increasingly adopt the usage of HPFVs, there will also be an overall reduction in the amount of vehicles needed to transfer the same freight task. The introduction of B-Doubles and other approved heavy combinations will reduce the proportionate number of vehicles required to move freight, particularly as freight volumes expand overall and as more heavy vehicles are required. The Study highlights the need for future freight network planning to consider the impact of larger freight vehicles on existing and proposed roads.

Key findings in relation to discussions with freight generators/freight service providers of relevance to the Bypass Project as identified in the Study are as follows:

- East-west movements (Shepparton to Mooroopna, via High Street/Midland Highway) are seen as a real problem, generally not efficient and unsafe.
- Additional east-west link desperately needed over the Goulburn River, noting the reliance of a single river crossing for heavy vehicles.
- Need for another east-west connection, particularly to service customers west of CBD.
- A more viable east-west connection that avoids the CBD is urgently required, especially to provide better connectivity between key industrial areas in Shepparton/Mooroopna and Tatura/Kyabram.
- All major freight generators recognised the strategic importance of Greater Shepparton as part of their national supply chain.
- A high number of freight generators and service providers anticipate the increased use of HPFVs and other specific larger and longer vehicle combinations. The road network will have to be designed to accommodate the increased use of larger vehicles.
- There is a desire for clarification around the timing of the proposed Goulburn Valley Highway Bypass Project.

## 1.3 Greater Shepparton City Council Priority Transformational Projects

The Greater Shepparton City Council has identified seven priority transformational infrastructure projects which are aimed at unlocking the potential of the municipality (and broader region), leveraging investment and stimulating economic development. These priority projects are:

1 Water Security for Irrigated Agriculture

2 A New Shepparton Arts Museum (SAM)

3 Goulburn Valley Highway Shepparton Bypass

4 Goulburn Valley Health Radiotherapy Services

5 Improved Passenger Rail Services Between Shepparton and Melbourne

6 High Speed Rail – Sydney to Melbourne via Shepparton

7 Food Bowl Inland Rail Route

An important ongoing Council initiative is the Shepparton CBD Revitalisation Project which consists of the following three major infrastructure projects:

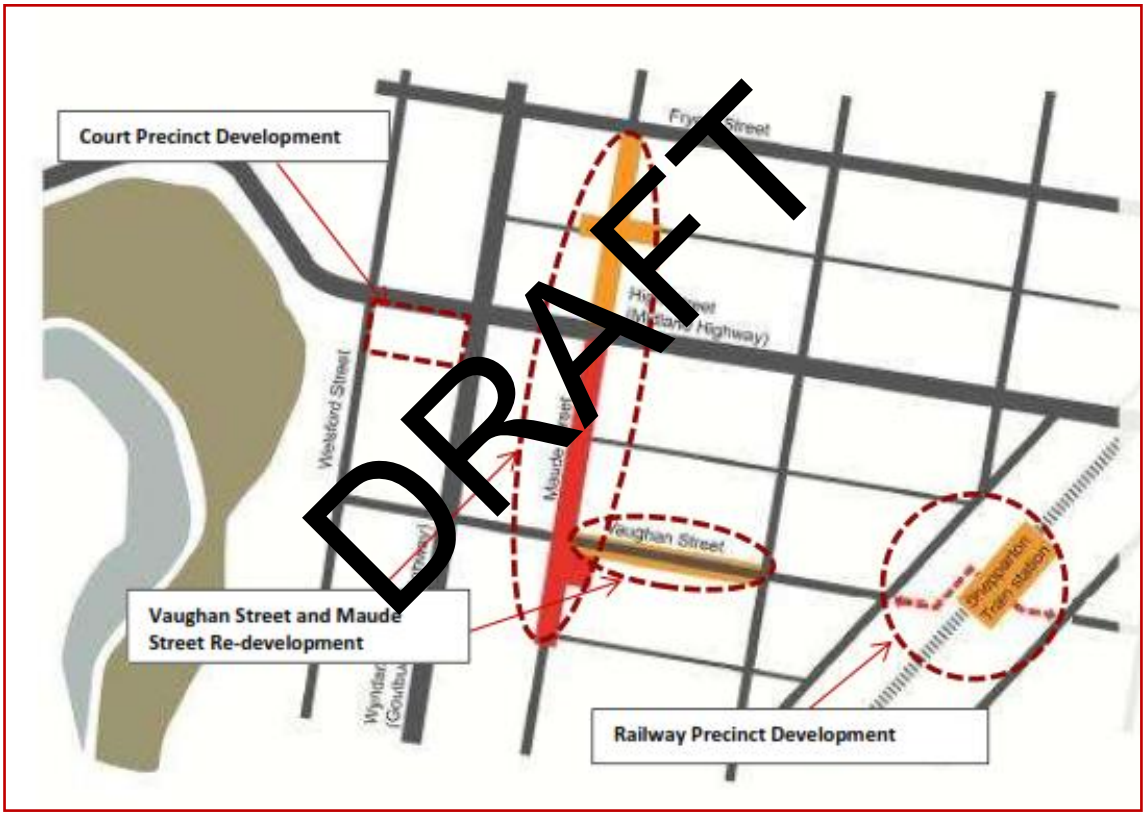
- Vaughan Street and Maude Street Redevelopment
- Court Precinct Development
- Railway Precinct Development

The Shepparton CBD Revitalisation Project and the Goulburn Valley Highway Shepparton Bypass are especially inter-related, with significant economic benefits likely to arise for Shepparton's CBD through the reduction of heavy vehicles along High Street as a result of the completion of Stage 1 Bypass Project.

As Figure 1.4 highlights, High Street intersects with the Court Precinct and Maude Street (including Maude Street Mall) projects, with flow-on benefits from heavy vehicle reductions along High Street likely to be experienced in nearby Vaughan Street and the Railway Precinct.

Improved CBD commercial and economic outcomes associated with the Bypass Project are described in Chapter 5.

**Figure 1.4: Shepparton CBD Revitalisation Project**




Source: Greater Shepparton City Council

## 1.4 Summary

1 The Goulburn Valley (GV) Region has a population of approximately 141,000 persons (2016), which is projected to increase to 160,000 persons by 2031.

2 The GV Region has an above-average unemployment rate (Australian Government Department of Employment – Small Area Labour Markets, December 2015), which is particularly pronounced for the City of Greater Shepparton where the rate of 6.5% is well above the regional Victorian average of 5.8%.

3 The GV Region forms an integral part of the 'Food Bowl of Australia', which accounts for 25 per cent of the total value of Victoria's agricultural production, with many multinational food processors located in the region (www.victoriasfoodbowl.com.au).

4 The industry and business structure of the GV Region highlights this strong focus, with an estimated 41% of jobs (compared to 32% of jobs across the State) and 58% of businesses (compared to 38% of businesses across the state) associated with transport-reliant industries. Many of these jobs and businesses are linked with the food production, processing and distribution activities and other major sectors, including construction and manufacturing. This situation highlights the vital importance of efficient local and regional road networks in supporting the GV economy.

5 The Greater Shepparton Freight and Land Use Study highlights the significant number of major manufacturers, food processors, dairy operators and other freight-generating businesses that are located in the GV Region. The Study forecasts the regional freight task will expand at a faster rate than economic and population expansion. The Study also notes efficient and effective transport movement – particularly of freight within, to and from the Greater Shepparton region – is critically important to ongoing growth and competitiveness of the city and of the broader GV Region.

6 The Study also confirms a pressing need for a new east-west link between Shepparton and Mooroopna, a second river crossing that can accommodate heavy vehicles, and road infrastructure that can adequately cater for the anticipated increase in use of High Performance Freight Vehicles and other larger and longer vehicle combinations.

7 The development of the GV Highway Shepparton Bypass has been identified by Greater Shepparton Council as a priority transformational project.

8 The Stage 1 Bypass Project will complement the Shepparton CBD Revitalisation Project, a major Council infrastructure initiative. The CBD Revitalisation Project will benefit in terms of improved safety and amenity from the removal of a large proportion of heavy vehicle traffic from High Street.

# 2 PROJECT DESCRIPTION

## 2.1 Project Overview

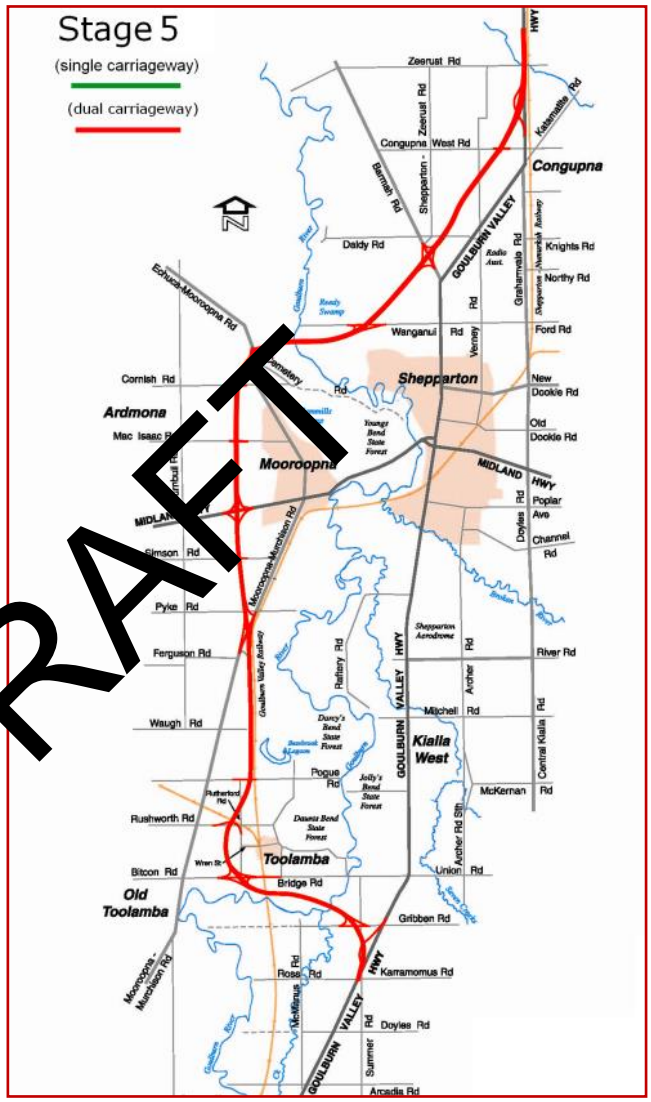
The full Goulburn Valley Highway Shepparton Bypass project will provide a 36km new dual carriageway road link from Karramomus Road (south of Shepparton) to Zeerust Road (north of Shepparton), and forms part of a broader upgrading of the Goulburn Valley Highway between Seymour (Victoria) and Tocumwal (NSW).

The Shepparton Bypass is the next logical stage in the upgrade of this important Melbourne-Brisbane national road link, with the Nagambie Bypass, to Shepparton's south, completed in recent years.

The alignment of the Full Bypass is shown in Figure 2.1.

In view of the estimated cost of the full duplication project ($1.3 billion, in 2016 dollars), a staged approach is now being sought which will initially provide a single carriageway connection between the Goulburn Valley Highway and the Midland Highway in Shepparton.

**Figure 2.1: Full GV Highway Bypass Alignment**



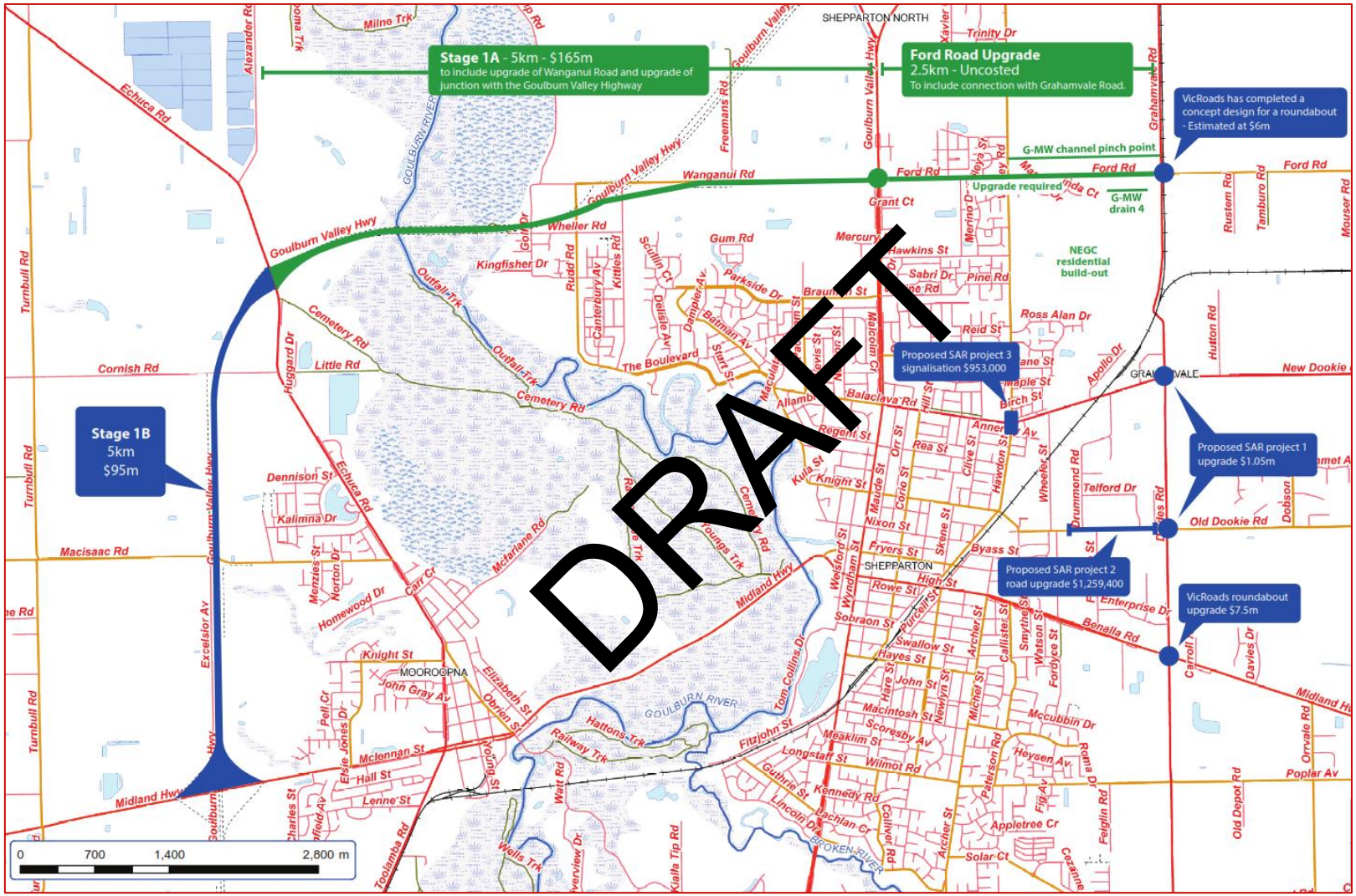



This project, which is referred to as Stage 1 – Goulburn Valley Highway Shepparton Bypass Project (or the Stage 1 Bypass Project in this report), consist of the following two sub-stages:

- Stage 1A – Echuca-Mooroopna Road to Goulburn Valley Highway
- Stage 1B – Echuca Mooroopna Road to Midland Highway

An overview of the Stage Bypass Project 1 is provided in Figure 2.2, with the alignments for sub-stages 1A and 1B shown in Figures 2.3 and 2.4 respectively.

**Figure 2.2: GV Highway Shepparton Bypass Project – Stage 1A and Stage 1B and SARS**




Source: Greater Shepparton City Council and VicRoads

## 2.2 Stage 1A Section Description

### *Stage 1A - Echuca-Mooroopna Road to Goulburn Valley Highway*

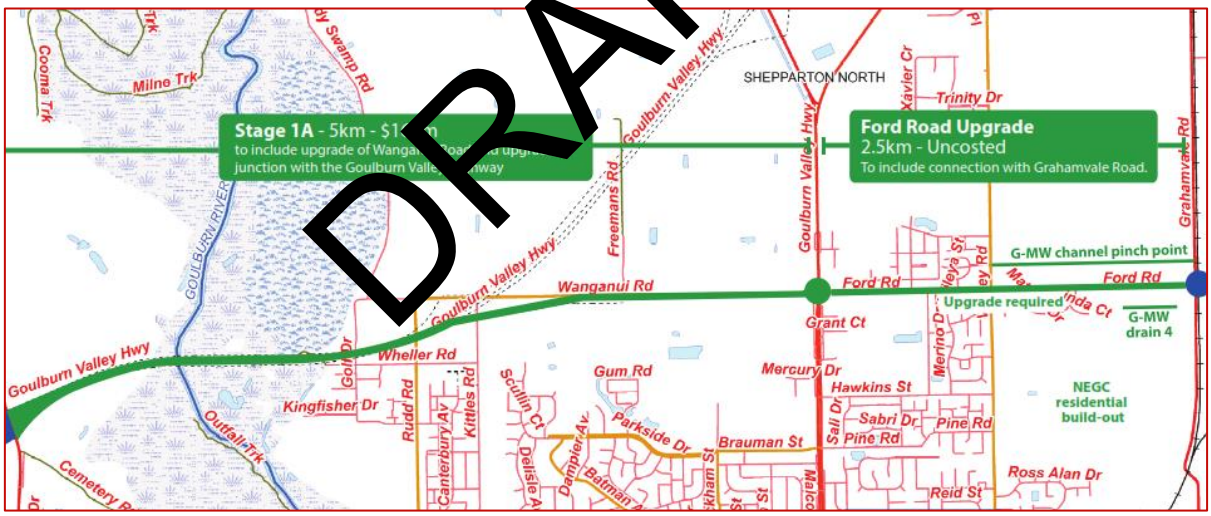
Construction of a two-lane single carriageway Road, including:

- Length: 5.0 km
- New crossing of Goulburn River
- New intersection at Echuca-Mooroopna Road.
- Upgrade Wanganui Road
- New intersection at Goulburn Valley Highway
- Estimated cost of $165 million (2016 dollars), preliminary - to be confirmed.

Additionally, Ford Road will need to be upgraded as a separate project; however the Ford Road upgrade does not for part of Stage 1A project.



**Figure 2.3: Stage 1 Bypass Project, Stage 1A – Route Alignment**




Source: Greater Shepparton City Council and VicRoads

## 2.3 Stage 1B Section Description

### *Stage 1B - Echuca-Mooroopna Road to Midland Highway*

Construction of a two-lane single carriageway Road, including:

- Length: 5.0 km
- New link between Echuca-Mooroopna Road and Midland Highway
- New intersection at Echuca-Mooroopna Road.
- New intersection at Midland Highway.
- Estimated Cost of $95 million (2016 dollars), preliminary, to be confirmed.

**Figure 2.4: Stage 1 Bypass Project, Stage 1B – Route Alignment**




Source: Greater Shepparton City Council and VicRoads

## 2.4 Summary

1 The proposed Goulbourn Valley Highway Shepparton Bypass Stage 1 Project (Stage 1 Bypass Project) forms part of the larger overall GV Bypass project which will eventually link Seymour (Victoria) and Tocumwal (NSW) as part of the overall enhancement of the national Melbourne-Brisbane road link.

2 The Stage 1 Bypass Project consist of the following two sub-stages:

- Stage 1A: 5km link between Echuca-Mooroopna Road to the Goulburn Valley Highway, including a second river crossing and improvements to the existing Wanganui Road. Estimate cost is $165 million (2016 dollars).
- Stage 1B: 5km link between Echuca-Mooroopna Road to the Midland Highway, including a new intersection at the Midland Highway. Estimated cost is $95 million (2016 dollars).

3 The Stage 1 Bypass Project aims to increase road capacity and ensure efficiency, safety and cost-reduction for freight operators, while also reducing industry risk and diverting significant volumes of heavy vehicle movements from Shepparton's CBD.

Issues relating to the existing road situation, and opportunities facilitated by the Stage 1 Bypass Project, are explored in the following Chapter.

# 3 ISSUES AND OPPORTUNTIES ASSESSMENT

## 3.1 Consultation Process

Consultation has been undertaken with a number of stakeholders as part of this assessment of issues and opportunities. Participants included representatives from the following organisations:

- Greater Shepparton Council officers (Economic Development, Planning, Transport)
- Shepparton Bypass Action Group
- Committee for Greater Shepparton
- Shepparton Chamber of Commerce and Industry
- VicRoads
- Freight operators (Hicks Transport Group, Kreslas Bros. Transport)
- AECOM (developer of Bypass transport model for VicRoads)

A summary of findings from these consultations are presented in the following sections, including a number of testimonials relating to the proposed Stage 1 Bypass Project.



## 3.2 Key Issues and Constraints

The consultation process revealed the following issues and constraints associated with the existing road and traffic situation:

- Uncertainty for industry regarding long-term road capacity and road alignments.
- Safety concerns for drivers and pedestrians associated with heavy vehicle conflicts along High Street.
- Wear and tear on heavy vehicles through the need to negotiate traffic lights, roundabouts etc.
- Travel times are compromised when travelling along High Street due to speed restrictions, congestion/traffic volumes, traffic signals, roundabouts etc.
- Risks associated with reliance on a single bridge crossing (Peter Ross Edwards Causeway), with significant industry impacts arising from partial or full closure of the crossing and noting that the nearest alternative heavy-vehicle crossing is located 35km away at Murchison. Under the existing situation, this risk factor will increase overtime as the freight task increases.

- Shepparton's High Street cannot fulfil its commercial potential until negative impacts of significant daily heavy-vehicle volumes are considerably reduced. These impacts include pollution, noise, parking/heavy vehicle conflicts, and pedestrian/heavy vehicle conflicts

## 3.3 Key Opportunities

The consultation process revealed the following opportunities associated with the completion of the Stage 1 Bypass Project:

- Supports export-oriented operators in the GV Region who are reporting expanding market growth in Asia, especially in China in relation to dairy and food products. Providing more efficient freight movements to export ports will enhance existing GV businesses looking to benefit from expanding export markets. Greater Shepparton's international exports have increased from $390 million in 2009/10 to $465 million in 2014/15 (economy.id), driven principally by agriculture and food processing.
- Provides certainty for industry/land owners (including City of Greater Shepparton) with regard to long-term land use and operational planning, including investment and development of industrial land.
- Enables the revitalisation of High Street through improved amenity, safety, parking, traffic calming, landscaping etc to bring it in line with Fryers Street and Vaughan Street where similar revitalisation has resulted in a considerable uplift in investment and commercial performance.
- Opportunities to encourage a broader mix of activities (retail and non-retail) along High Street once amenity and safety is improved, such as outdoor dining.
- Revitalisation of the broader CBD, recognising key linkages between High Street and other major commercial areas such as Maude Street, Maude Street Mall, Wyndham Street, and Vaughan Street etc.



## 3.4 Testimonials

### *Transport Operator Perspective*

**Hicks Transport Group**

Hicks Transport Group operates a fleet of 50 trucks, ranging in size from small rigid tray bodies, up to 26 metre, 68 tonne B Doubles.

The firm have depots in Shepparton, Cobram to the north, and also Melbourne. Hicks Transport Group run up to 30 truck movements per day from the Shepparton depot, which is located just to the east of the city centre, through the middle of town along High Street and across the causeway to Mooroopna.

In its current format, these vehicle movements present a heightened level of risk associated with every truck movement along the causeway, as drivers are required to travel through the

busy heart of Shepparton and Mooroopna. Along High Street, it is not a good combination to have a strip predominantly designed for cars and businesses, but with pedestrians and young families visiting the retail outlets, cafes and restaurants, while B Doubles pass through and with cars looking for car parks.

"We have had many instances where we have seen a truck take a car door off", said one company driver, with "some motorists simply do not look before stopping in front and opening their car doors." It is extremely hard to stop a 68 tonne vehicle in a hurry, even at slow speed.

Along with the on-road risks, this creates the issue of fatigue and stress on truck drivers as they travel through the busy shopping precinct, as well as the increased stress on equipment and truck brakes.

Having the Shepparton Bypass stage 1A and 1B open would relieve a significant amount of risk and stress on truck drivers, car drivers, pedestrians and families alike.

Everyone I have discussed with agreed, including another company B Double driver "that bypass 1A and 1B is the best idea I have heard all year; it has been around for too long, it is time we action it and get trucks out of the city."

**Kreskas Bros. Transport**

The east-west corridor through Shepparton is via the busy High Street. High Street forms part of the main central business district of the city and is a busy shopping precinct between Wyndham Street and the railway line. High Street is a two-lane carriageway with parking on the left and a central medium strip. It is regarded by heavy vehicle drivers as a dangerous strip of roadway because of the proximity of pedestrians and other manoeuvring vehicles.

There is no reasonable alternative east-west route for B-Double configurations through Shepparton, other than High Street.

West of High Street is the Peter Ross Edwards Causeway. A meandering four-lane carriageway, with undulating road surface and minimal areas for emergency parking. If this stretch of roadway is closed because of a major incident the alternative to the Causeway is a 75km extra travelling via Murchison to the south.

Stage 1 of the Goulburn Valley Shepparton Bypass is not something for the future, but a badly overdue necessity for the region.

This first stage (Stage 1), from the Midland Highway to Grahamvale Road- Shepparton Alternate Route (the current north-south heavy vehicle by-pass), will give the transport industry an opportunity to avoid High Street and provide an alternative river crossing to the causeway, significantly reducing industry risk.

The GV Highway Shepparton Bypass Stage 1 Project therefore represents a win not only for industry, but for businesses and visitors to Shepparton's CBD.

**Shepparton Chamber of Commerce and Industry**

The Board of Shepparton Chamber would like to support the proposed Stage 1 Bypass Project as we feel getting more semi-trailers out of the CBD and surrounds would benefit drivers and pedestrians using the CDB, in particular High Street and Wyndham Street.

The Chamber gets a lot of feedback from members and the public on how dangerous it is to park on both of these streets when they have large semi-trailers bearing down on them and will often keep going as they are too intimidated to park.

With this Bypass in place it would allow Council to progress on desperately needed street-scaping and focus on the revitalization plan for the CBD.

## 3.5 Conclusions

Key issues associated with the existing situation are identified as follows:

1 Safety concerns for heavy vehicle drivers using High Street (Midland Highway) due to conflicts with pedestrians, other vehicle users and parking cars.

2 Inefficiencies for industry including time costs, vehicle wear and tear associated with speed restrictions, numerous traffic signals and roundabouts on the east-west Midland Highway link between Shepparton and Mooroopna.

3 Concerns regarding the capacity of the existing east-west link to accommodate increasing heavy vehicle volumes and larger vehicles, including High Performance Freight Vehicles in the future.

4 Commercial risks relating to the availability of a single river crossing for heavy vehicles (Peter Ross Edwards Causeway), which results in costs to operators if the crossing is impacted due to traffic incidents or maintenance, noting that the nearest alternative crossing involves an hour-round trip.

Key opportunities arising from the completion of the GV Highway Shepparton Stage 1 Project are as follows:

5 Improved efficiencies for heavy vehicle operators, including reduced travel times, vehicle maintenance savings.

6 Provision of adequate long-term road capacity for industry (including exporters), which is important in terms of certainty and future planning and investment.

7 Reduced risk to industry by the provision of a second heavy vehicle river crossing.

8 Improved safety for drivers and visitors to Shepparton CBD, with road user conflicts significantly reduced.

9 Boost to CBD revitalisation in Shepparton and Mooroopna due to improvements in safety and amenity (reduced noise, pollution) which supports existing Council-led project initiatives.

# 4 ROAD USER AND EXTERNALITY IMPACT ASSESSMENT

## 4.1 Introduction

This Chapter provides a road user and externality impact assessment for the Stage 1 Bypass Project (and for sub-stages 1A and 1B). The analysis been prepared by AECOM, through an update of the Shepparton Bypass Strategic Transport Model in August 2016.

## 4.2 Economic Parameters and Expansion Factors

A key parameter used to estimate travel time saving benefits is the value of travel time. The travel time for car and truck have been updated in this study based on the 2015 National Guidelines for Transport System Management. The Guidelines provide value of time based on June 2013 values which have been updated to the 2015 values using the growth of average weekly earnings for a full time adult in Victoria.

The other economic parameters and expansion factors used in the analysis are shown in Table 4.1.



**Table 4.1: Economic Parameters and Expansion Factors**

| Parameter | Value | Comment |
|---|---|---|
| Discount rate | 5.0% | New rate to be applied for all transport projects for funding in 2011/12 budget cycle |
| First year of construction | 2016 | |
| Last year of construction | 2022 | |
| Opening year | 2023 | Year in which traffic is expected to begin using the road |
| Appraisal period | 30 years from opening year | |
| Base year for discounting | 2016 | Year in which first capital cost expenditure is incurred (Australian Transport Council, 2006, p. 75) |
| Price base | 2015 | |

Source: AECOM

Three time periods were modelled within the Shepparton Bypass Strategic Transport Model – the AM Peak, PM Peak and Off Peak. When added together these trips represent the whole 24 hour period. Therefore an expansion factor of one is used for each time period to calculate average weekday benefits. A different set of expansion factors has been derived from traffic count data for weekend (days) and public holidays. The factors used are shown in Tables 4.2 and 4.3.

**Table 4.2: Modelling Period to Daily Expansion Factors (car)**

| Modelling period | Weekday expansion factor | Weekend day/public holiday expansion factor |
|---|---|---|
| AM | 1 | 0 |
| PM | 1 | 0 |
| Off Peak | 1 | 1.2 |

Source: AECOM calculation based on traffic counts

**Table 4.3: Modelling Period to Daily Expansion Factors (heavy vehicles)**

| Modelling period | Weekday expansion factor | Weekend day/public holiday expansion factor |
|---|---|---|
| AM | 1 | 0 |
| PM | 1 | 0 |
| Off Peak | 1 | 0.6 |

Source: AECOM calculation based on traffic counts

To calculate annual benefits, factors shown in Table 4.4 have been applied to convert the average weekday and average weekend day totals to yearly totals.

**Table 4.4: Daily to Annual Expansion Factors**

| Day type | Daily to annual expansion factor |
|---|---|
| Weekday | 252 |
| Weekend and public holiday | 112 |

Source: AECOM assumption, based upon 260 workdays less 8 public holidays



## 4.3 Economic Costs

### *Capital Costs*

Total construction costs were provided by Shepparton City Council as summarised below:

- Stage 1A: $140 million
- Stage 1B: $100 million
- Stage 1A and 1B together: $240 million
- Ford Road Upgrade - GV Highway to Grahamvale Road - three lane option: $24.6 million

The cost of the Ford Road upgrade was added to Stage 1A, 1B and 1A and 1B together. Total capital costs are expected to be spread across seven years of construction as shown in Table 4.5 in a profile similar to the previous study. Note, these costs exclude 'real' construction cost escalation, so construction costs are assumed to increase in line with CPI.

**Table 4.5: Capital Cost Expenditure Profile (un-escalated), all values in $ millions**

| Financial year | Spending Profile | Stage 1A | Stage 1B | Stage 1 (1A and 1B) |
|---|---|---|---|---|
| )2016 | 16% | $25.6 | $19.4 | $41.2 |
| 2017 | 18% | $29.0 | $22.0 | $46.6 |
| 2018 | 18% | $29.9 | $22.7 | $48.1 |
| 2019 | 17% | $28.4 | $21.5 | $45.7 |
| 2020 | 15% | $24.5 | $18.5 | $39.3 |
| 2021 | 11% | $18.0 | $13.6 | $29.0 |
| 2022 | 6% | $9.1 | $6.9 | $14.7 |
| **Total** | **100%** | **$164.6** | **$124.6** | **$264.6** |

Source: AECOM

### *Operating and Maintenance Costs*

Operating and maintenance costs (including annual maintenance as well as periodic rehabilitation/asset renewal) for the roadway were derived from *Review of asset preservation costs* (ARRB Ltd 2009). This study collected maintenance and rehabilitation costs from VicRoads to calculate the annual road preservation costs. From this information, an average operating and maintenance cost of $8,000 per lane and per km was estimated. Cost modifiers were assumed to be the same as those used in the 2012 Shepparton study to take into account conditions that would lead to higher than average maintenance costs. For this assessment the maximum cost modifier factor of 1.45 for rural roads has been used to be conservative. The operating costs have been updated to December 2015 values, by applying an appropriate CPI index, and the results are shown in Table 4.6.

The options contain significant structural works such as bridges and overpasses which are not accounted for in the average preservation costs calculated by ARRB. The annual maintenance costs for these assets has been estimated using 1% of the capital costs of the structural assets.



**Table 4.6: Operating and Maintenance Costs of Roadway**

| Road Type | Operating and Maintenance Costs (2015) |
|---|---|
| Cost per lane km | $14,500 per lane km per year |

Source: AECOM

## 4.4 Economic Benefits

The following benefits have been calculated:

- Road user benefits, including:
  - travel time savings
  - vehicle operating cost savings.
- Non-user benefits (or externality cost savings), including:

- crash cost savings
- greenhouse gas emission savings
- other environmental externality savings (such as air and noise pollution).

Benefits have been calculated using the outputs from the transport model for the Base Case and Options over the AM Peak, PM Peak and Off Peak time periods.

## 4.5 Economic Results

The results of the economic assessment are shown in Table 4.7. The option which delivers the greatest benefits is the Stage 1 Bypass Project (Stages 1A and 1B combined including the Ford Road upgrade).

Stage 1A has the highest Benefit Cost Ratio (BCR) as it generates significant travel time savings relative to its construction costs. Stage 1B has the lowest benefits as it represents an isolated option without connection to Goulburn Valley Highway, and Ford Road upgrade. Additionally, this option does not provide an attractive alternative to its parallel route like Echuca Rd or Turnbull Road.

The Stage 1 Bypass Project (Stages 1A and 1B) has a BCR of 0.37 which is lower than Stage 1A, as the combined benefits of Stages 1A and 1B increase by just 13%, while its costs increase by 58% under this option.



**Table 4.7: Economic Assessment Results**

| | **Stage 1A** | **Stage 1B** | **Stage 1 (1A and 1B)** |
|---|---|---|---|
| **Present Value of Costs** | | | |
| Capital costs ($m) | 146.0 | 110.5 | 234.7 |
| Operating and maintenance costs ($m) | 9.6 | 2.5 | 11.3 |
| **Present Value of Benefits** | | | |
| *User Benefits* | | | |
| Vehicle travel time savings ($m) | 51.3 | -0.4 | 58.5 |
| Vehicle operating cost savings ($m) | 16.3 | -0.2 | 17.8 |
| *Externalities Savings* | | | |
| Crash cost savings ($m) | -0.0 | 0.0 | -0.2 |
| $CO_2$ savings ($m) | 1.9 | 0.0 | 1.9 |
| Environmental externality savings ($m) | 11.3 | 0.6 | 12.7 |
| **Overall** | | | |
| Present value of total costs ($m) | 155.6 | 113.0 | 246.0 |
| Present value of total benefits ($m) | 80.7 | 0.1 | 90.8 |
| Net Present Value ($m) | -74.9 | -112.9 | -155.2 |
| **Benefit Cost Ratio** | **0.52** | **0.00** | **0.37** |

Source: AECOM

## 4.6 Conclusions

The Stage 1 Bypass Project (Stages 1A and 1B combined with the Ford Road upgrade) provides the following economic results from a road user and externality perspective:

- Benefits (Net Present Value):
  - Travel time savings: $58.5 million
  - Vehicle operating cost savings: $17.8 million
  - Crash cost savings -$0.2 million
  - CO2 savings $1.9 million
  - Environmental externality savings $12.7 million`
- *Total Benefits (Net Present Value)* *$90.8 million*
- *Total Costs (Net Present Value)* *$246.0 million*
- Stage 1 Project Return – Net Present Value $155.2 million
- Stage 1 Project – Benefit Cost Ratio 0.37

# 5 ECONOMIC IMPACT ASSESSMENT

## 5.1 Investment

Project investment of $260 million is expected to be required to complete Stage 1 of the Goulburn Valley Highway Shepparton Bypass Project. As noted earlier in this report, Stage 1 will comprise:

- Stage 1A – $165 million (including project planning)
- Stage 1B – $95 million

These are preliminary estimates which are subject to more detailed planning and design studies. Ford Road will also need to be upgraded through a separate project.

This estimated investment will provide a significant economic stimulus for the GV Region, as described in the following sections.



## 5.2 Construction Phase Economic Stimulus

The proposed Stage 1 Bypass Project will stimulate significant economic output and employment for the region (and wider economy).

These factors have been modelled using the *economy id economic impact assessment* tool (for the City of Greater Shepparton), based on the investment value identified in 5.1.

### *Output*

**Total Output**

The direct stimulus of $260.0 million in the Construction sector of the City of Greater Shepparton economy would lead to an increase in indirect demand for intermediate goods and services across related industry sectors. These indirect industrial impacts (Type 1) are estimated to be an additional $76.4 million in Output, representing a Type 1 Output multiplier of 1.29.

An additional contribution to the City of Greater Shepparton economy would be generated through consumption effects as, correspondingly, additional wages and salaries are spent in the local economy. This would result in a further increase in Output estimated at $129.2 million.

The combination of all direct, industrial and consumption effects would result in total estimated rise in Output of $465.6 million in the City of Greater Shepparton economy, representing a Type 2 Output multiplier of 1.79.

These impacts would not be limited to the local economy. Industrial and consumption effects would flow outside the region to the wider Australian economy, involving $122.0 million in Output.

The combined effect of economic multipliers in the City of Greater Shepparton and the wider Australian economy is estimated to be $587.6 million added to the National Output.

**Wages and Salaries Income**

The direct addition of $260.0 million annual output in the Construction sector of the City of Greater Shepparton economy is estimated to lead to a corresponding direct increase in income from Wages and Salaries of $82.3 million in the local Construction sector. A further $23.0 million in Wages and Salaries would be generated from the employment created in related intermediate industries. This represents a Type 1 Income multiplier of 1.28.

As these Wages and Salaries flow through the economy, it will increase local consumption, creating more jobs and adding an estimated $45.6 million in Wages and Salaries in consumption industries, such as the retail sector.

The combination of all direct, industrial and consumption effects would result in a total estimated increase in income through Wages and Salaries of $150.93m in the City of Greater Shepparton. This represents a Type 2 Income multiplier of 1.83.

These income impacts would not be limited to the local economy. Industrial and consumption effects would flow outside the region to the wider Australian economy, creating a further $47.2 million in Wages and Salaries.

The combined effect of economic multipliers in the City of Greater Shepparton and the wider Australian economy is estimated to be an addition of $198.1 million in Wages and Salaries.



**Value-Added Output**

The direct addition of $260.0 million annual output in the Construction sector of the City of Greater Shepparton economy would lead to a corresponding direct increase in Value-added of $71.4 million. A further $25.5 million in Value-added would be generated from related intermediate industries. These indirect industrial impacts represent a Type 1 Value-added multiplier of 1.36.

An additional contribution to the City of Greater Shepparton economy through consumption effects would result as more wages and salaries are spent in the local economy. This would result in a further increase in Value-added estimated at $63.3 million.

The combination of all direct, industrial and consumption effects would result in an estimated addition in Value-added of $160.3 million in the City of Greater Shepparton economy, representing a Type 2 Value-added multiplier of 2.24.

These impacts would not be limited to the local economy. Industrial and consumption effects would flow outside the region to the wider Australian economy, amounting to $56.1 million in Value-added.

The combined effect of economic multipliers in the City of Greater Shepparton and the wider Australian economy is estimated to involve a $216.4 million contribution to Australia's Value-added, as shown in Table 5.1.

**Table 5.1: Goulburn Valley Shepparton Bypass – Stage 1, Construction-Related Output**

| Summary | Output ($m) | Value-added ($m) | Wages & salaries ($m) |
|---|---|---|---|
| Construction | 414 | 114 | 131 |
| All industries | 5,515 | 2,542 | 1,800 |
| **Impacts on City of Greater Shepparton economy** | | | |
| Direct impact on Construction sector | 260 | 71 | 82 |
| Industrial impact | 76 | 25 | 23 |
| Consumption impact | 129 | 63 | 46 |
| ***Total impact on City of Greater Shepparton economy*** | **466** | **160** | **151** |
| Type 1 multiplier (direct & industrial) | 1.29 | 1.36 | 1.28 |
| Type 2 multiplier (direct, industrial & consumption) | 1.7[illegible] | 2.24 | 1.83 |
| **Impact on Australian economy** | | | |
| Total impact outside City of Greater Shepparton | 122 | 56 | 47 |
| ***Total impact on Australian economy*** | ***588*** | ***216*** | ***198*** |

Source: National Institute of Economic and Industry Research (NIEIR) ©2015. Compiled and presented in economy.id by.
Figures rounded



## *Employment*

### Total and Local Employment

The direct addition of $260.0 million annual output in the Construction sector of the City of Greater Shepparton economy is estimated to lead to a corresponding direct addition of 1,315 jobs in the local Construction sector (full-time, part-time and casual). From this direct expansion in the economy it is anticipated that flow-on effects would be experienced in other related intermediate industries, creating an additional 385 jobs. This represents a Type 1 Employment multiplier of 1.29.

This addition of jobs in the local economy would lead to a corresponding increase in wages and salaries, a proportion of which would be spent on local goods and services, creating a further 860 jobs through consumption impacts.

The combination of all direct, industrial and consumption effects would result in a total estimated increase of 2,560 jobs located in the City of Greater Shepparton. This represents a Type 2 Employment multiplier of 1.95.

Employment impacts would not be limited to the local economy. Industrial and consumption effects would flow outside the region to the wider Australian economy creating a further 608 jobs.

The combined effect of economic multipliers in the City of Greater Shepparton and the wider Australian economy is estimated to be an addition of 3,169 jobs.

## Employment by Sector

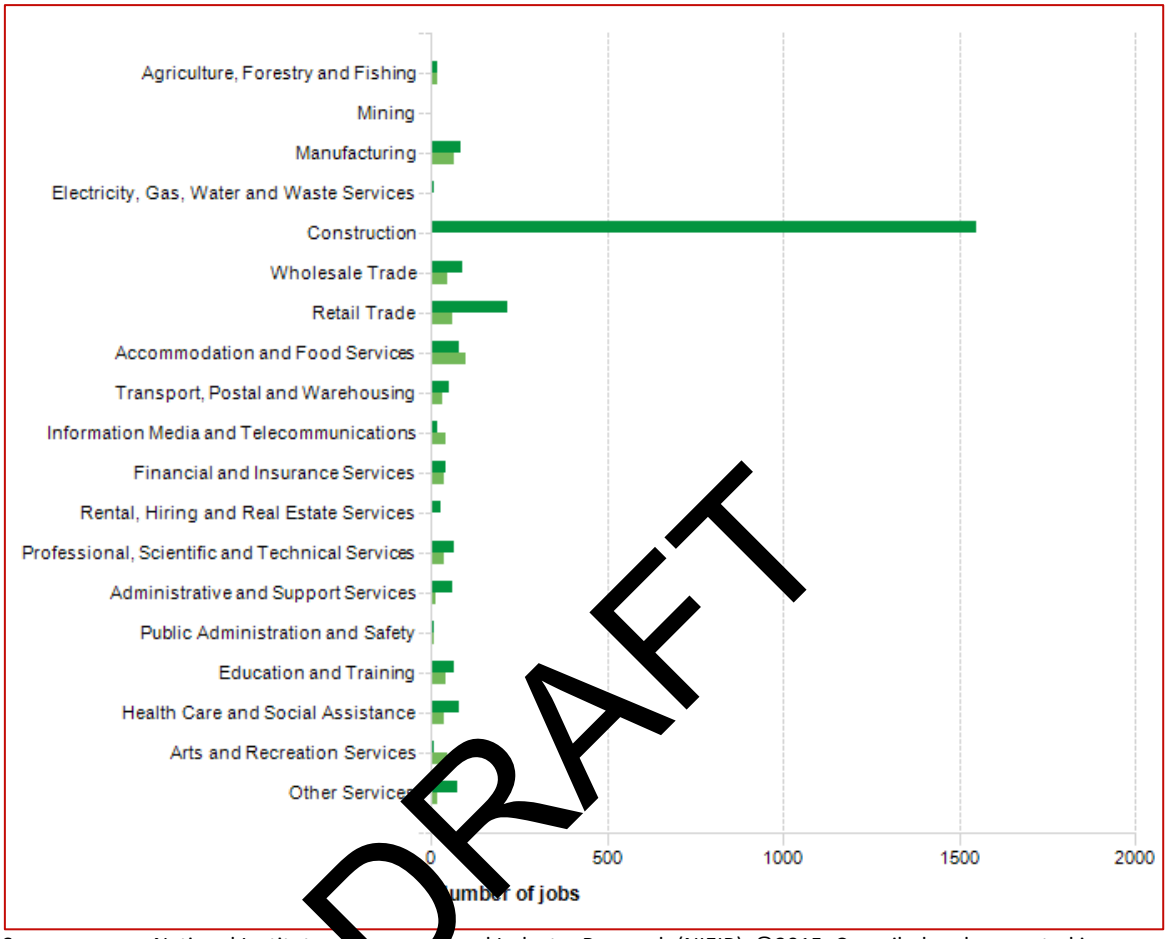
Estimated employment by industry sector is presented in Tables 5.2 and Figure 5.1.

**Table 5.2: Goulburn Valley Shepparton Bypass – Construction-Related Employment by Industry Sector**

| Industry sectors | Jobs created in City of Greater Shepparton | Jobs created outside City of Greater Shepparton | Total Jobs Supported by the Project | Jobs created for City of Greater Shepparton residents |
|---|---|---|---|---|
| Agriculture, Forestry and Fishing | 19 | 17 | 36 | 19 |
| Mining | 2 | 2 | 3 | 1 |
| Manufacturing | 84 | 66 | 149 | 85 |
| Electricity, Gas, Water and Waste Services | 8 | 5 | 13 | 6 |
| Construction | 1,548 | 0 | 1,548 | 1,312 |
| Wholesale Trade | 88 | 46 | 133 | 80 |
| Retail Trade | 217 | 62 | 279 | 197 |
| Accommodation and Food Services | 82 | 100 | 182 | 85 |
| Transport, Postal and Warehousing | 52 | 31 | 82 | 45 |
| Information Media and Telecommunications | 19 | 41 | 60 | 20 |
| Financial and Insurance Services | 42 | 36 | 78 | 40 |
| Rental, Hiring and Real Estate Services | 27 | 0 | 27 | 27 |
| Professional, Scientific and Technical Services | 65 | 38 | 103 | 60 |
| Administrative and Support Services | 63 | 15 | 78 | 56 |
| Public Administration and Safety | 10 | 8 | 18 | 8 |
| Education and Training | 65 | 41 | 107 | 60 |
| Health Care and Social Assistance | 81 | 37 | 118 | 72 |
| Arts and Recreation Services | 11 | 45 | 56 | 11 |
| Other Services | 78 | 20 | 97 | 75 |
| **Total industries** | **2,560** | **608** | **3,169** | **2,258** |

Source: National Institute of Economic and Industry Research (NIEIR) ©2015. Compiled and presented in economy.id.
Figures rounded

**Figure 5.1: Goulburn Valley Shepparton Bypass – Construction-Related Employment by Industry Sector**






Source: National Institute of Economic and Industry Research (NIEIR) ©2015. Compiled and presented in economy.id.

## *Project Participation Opportunities*

### Employment

The occupational structure of the GV Region highlights the relatively high proportion of regional labour force participants occupied in construction-related activities, as shown in Table 5.3.

For example, approximately 36% of all occupations in the GV Region are related to technicians and trades, machinery operators and drivers, and labourers. In contrast, on a State-wide basis, only 29% of occupations are associated with these activities.

This data indicates the GV Region is well-positioned to meet the demand for many jobs created during the construction phase of the project.

**Table 5.3: Goulburn Valley Region – Occupational Structure, 2011**

| | GV Region | | Victoria | |
|---|---|---|---|---|
| | No. | % | No. | % |
| Technicians and Trades Workers | 8,344 | 14.3% | 350,760 | 13.9% |
| Machinery Operators and Drivers | 4,181 | 7.2% | 154,544 | 6.1% |
| Labourers | 8,695 | 14.9% | 227,185 | 9.0% |
| *Sub-total* | *21.220* | *36.4%* | *732,489* | *29.0%* |
| Managers | 10,271 | 17.6% | 332,927 | 13.2% |
| Professionals | 8,432 | 14.4% | 564,778 | 22.3% |
| Community and Personal Service Workers | 5,362 | 9.2% | 234,383 | 9.3% |
| Clerical and Administrative Workers | 6,444 | 11.0% | 364,498 | 14.4% |
| Sales Workers | 5,512 | 9.4% | 245,334 | 9.7% |
| Inadequately Described / Not Stated | 1,170 | 2.0% | 56,224 | 2.2% |
| **Total** | **58,411** | **100.0%** | **2,530,633** | **100.0%** |

Source: ABS Census of Population and Housing, 2011 – Based on Place of Work data.



**Business**

Approximately 2,100 construction businesses are located in the GV Region, according to ABS Business Counts for 2013 which are shown in Table 5.4. The distribution of these construction businesses (which include individual contractors) is widespread across the region and indicates project participation opportunities (assuming appropriate skills match) are likely to benefit the economies of each of the four municipalities in the study area.

**Table 5.4: Goulburn Valley Region – No. of Construction Businesses, 2013**

| Area | No. of Construction Businesses | Total No. of Businesses | Construction Businesses as proportion of Total Businesses |
|---|---|---|---|
| Shepparton | 927 | 6,226 | 14.9% |
| Campaspe | 599 | 4,215 | 14.2% |
| Moira | 403 | 3,094 | 13.0% |
| Strathbogie | 158 | 1,341 | 11.8% |
| **GV Region** | **2,087** | **14,876** | **14.0%** |

Source: ABS Counts of Businesses 2013.

## 5.3 Improved CBD Commercial Performance

### *5.3.1 Shepparton CBD Overview*

The removal of significant heavy vehicle movements from Shepparton's CBD has the potential to contribute to:

- Improved safety
- Enhanced amenity

- Uplift in property values and rentals along High Street
- Improved retail / commercial mix as identified 'market gaps' are filled
- Attraction of higher-order uses and national/international retailers
- Reduced commercial vacancy rates in High Street and adjoining streets
- New opportunities for outdoor dining along High Street
- Improved parking
- Activating several large development sites in the area which have been dormant for many years
- Stimulating further investment to complement recent CBD investments in Vaughan Street, Maude Street and Shepparton Mall
- Attracting tourists to Shepparton CBD, noting the proposed development of a nationally-significant visitor attraction – Shepparton Arts Museum (SAM) – in the coming years.

The City of Greater Shepparton's recently adopted Commercial Activities Centres Strategy (Essential Economics, 2016) highlights long-term challenges and constraints associated with Shepparton's CBD. These are summarised as follows:

- Approximately 70 vacant shopfront tenancies, accounting for 11.25% of leasable premises (or 12,520m$^2$ of vacant floorspace).
- This vacancy rate represents a relatively poor outcome for the Shepparton CBD. The typical range of vacancies for a well-performing street-based activity centre of between 4% and 6% has been identified across Australia.
- Significant market gaps, including:
  - A lack of food and dining in the Maude Street Mall
  - Despite recent growth, a general under-provision of quality cafes and restaurants
  - Limited general night-time economy, excluding licenced venues
  - Limited quality footwear shops (male and female) and menswear fashion stores
  - An under-representation of ethnic food and grocery stores
  - No representation of international retailers which have recently entered the Australian market (e.g. Uniqlo, Apple, Daiso, Top Shop)
  - No signature cultural events of national profile (e.g. Princess Grace Kelly and Marylyn Monroe clothing exhibitions in Bendigo were a major boost to local retail in that city)
  - No permanent fresh food market or precinct which otherwise creates opportunities to support and engage with local primary producers.

Figure 5.2 provides an overview of vacant shopfront tenancies by use category, namely retail, non-retail and office. The spread of vacancies is mainly clustered either side of High Street or on adjoining streets with connectivity to High Street.

Figure 5.3 provides images of current vacant shopfront tenancies (April 2016) along High Street (CBD area only), which shows that a wide range of sizes and uses remain vacant along this strip which is highly impacted by heavy traffic.

Two major development sites are located along this strip, each of which has been dormant for many years. These sites, shown in Figure 5.4, are the former Shepparton Hotel site (approximately 2,000m$^2$) which is located at the intersection of Wyndham and High Streets, and an undeveloped lot at 155-165 High Street (approximately 9,000m$^2$).

Both sites are subject to significant heavy traffic flows, but provide prime exposure in a commercial context.

**Figure 5.2: Greater Shepparton CBD tenancy Mix and Vacancies in Core Areas**

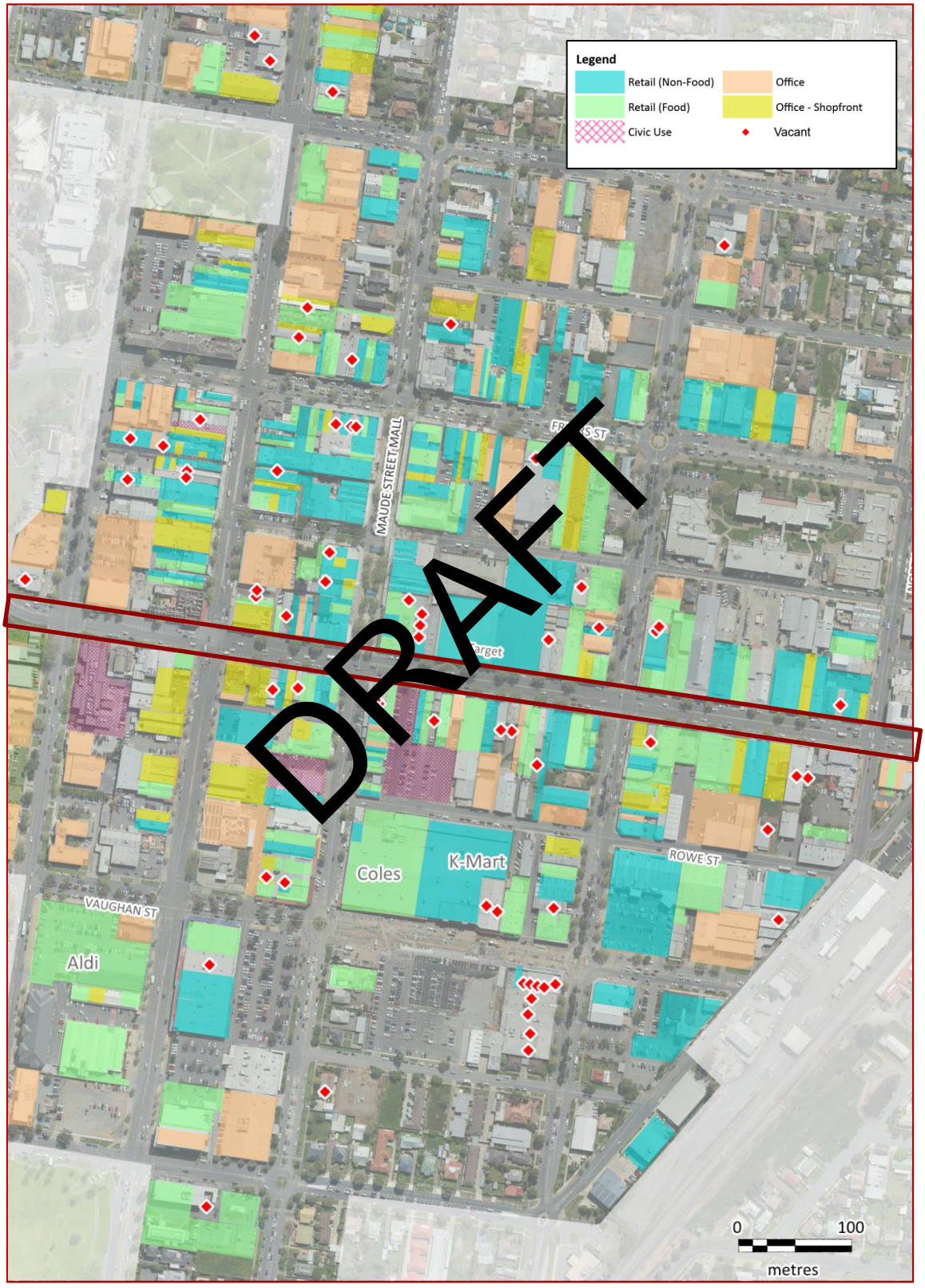
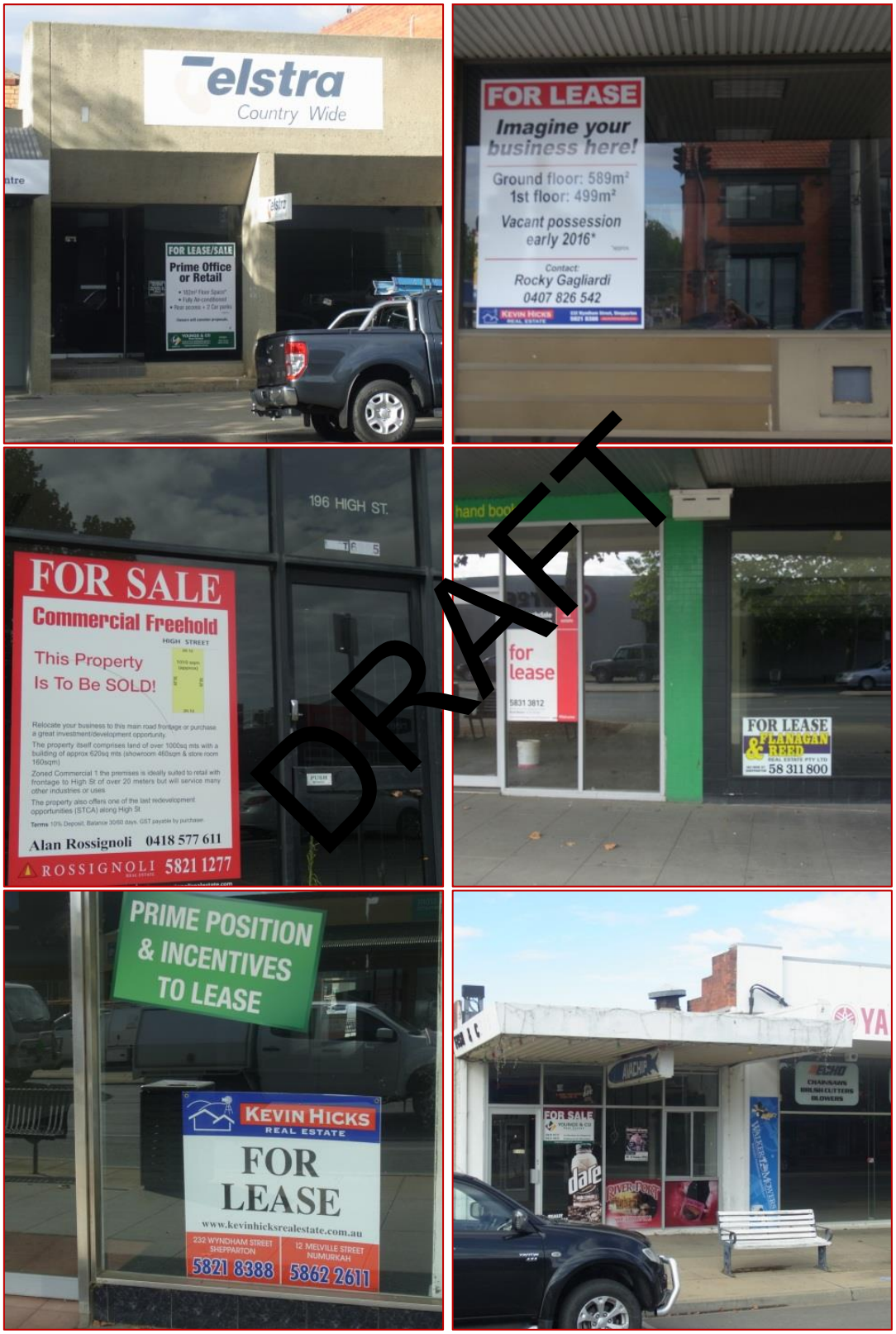


**Figure 5.3: Selected Vacant Commercial Premises – High Street, April 2016**






Source: Greater Shepparton City Council (April 2016)

**Figure 5.4: Vacant Development Sites – High Street, April 2016**





Source: Greater Shepparton City Council (April 2016)

### *5.3.2 Mooroopna CBD Overview*

The Mooroopna CBD is classified as a sub-regional centre, with major shopfront tenancies located on either side of the Midland Highway. The role and function of the CBD is principally to serve the food and grocery and general convenience shopping needs of residents of Mooroopna and rural and regional communities in Greater Shepparton's western areas (eg, Murchison, Tatura).

The City of Greater Shepparton Commercial Activities Centres Strategy makes the following points in relation to Mooroopna's CBD:

- The CBD contains a total of approximately 12,750m$^2$ of shopfront floorspace, including approximately 11,270m$^2$ of retail tenants.
- Mooroopna CBD has a limited role in providing higher-order retail and commercial functions.
- The CBD has a vacancy rate of approximately 5% (or 650m$^2$ of vacant shopfront floorspace); this reflects in part some tenancies that are out-dated in terms of their ability to meet modern shopper needs, and thus require a re-fit or replacement. Nonetheless, the current vacancy rate is within normal expectations for a centre of this type and function.
- Mooroopna CBD has a pleasant street-based shopping environment that benefits from plentiful on-street parking and the amenity provided by the large median strip on the Midland Highway. Opportunities for improvement to the streetscape and shopping exist, although in an overall sense the benefits arising from such changes would likely be only incremental.
- The northern and southern sides of the Mooroopna CBD are separated by a large median. This means that the Woolworths and ALDI stores on the south side create customer traffic that does not directly benefit those specialty shops which are concentrated to the north of the median strip.



These findings indicate that the Stage 1 Bypass Project will have some beneficial outcomes for Mooroopna CBD, especially if accessibility and connectivity between the north and south components of the CBD are improved. In this regard, the removal of a large proportion of heavy traffic from Mooroopna CBD affords an opportunity for urban design initiatives that will increase connectivity and functionality of the centre.

While vacancy rates and overall performance are considered reasonable for Mooroopna CBD, a small reduction in vacancy rates is included in the modelling to reflect the beneficial outcomes of improved CBD connectivity facilitated by the Stage 1 Bypass Project.

### *5.3.3 Estimation of Economic Benefit of the Stage 1 Bypass Project*

As noted above, the completion of the Stage 1 Bypass Project will have the effect of removing a significant proportion of existing and future heavy vehicle movements from High Street in the Shepparton CBD and this will be beneficial for traders, other businesses, workers, shoppers

and visitors alike. Significant improvements in safety and amenity (reduction in noise, pollution etc) will allow High Street to be regenerated into a vibrant commercial strip. This will assist in the revitalisation of adjoining areas, including the Maude Street Mall, especially if the Mall is partially or fully reopened to traffic, thereby allowing connectivity between Fryers and High streets.

The following assumptions have been made with regard to the likely impact of the Stage 1 Bypass Project on Shepparton CBD commercial performance

- The analysis is based on a 25-year timeframe, with Year 1 representing the completion of the Bypass works.
- Shopfront vacancy rates are based on values contained in the Shepparton Commercial Activities Centres Strategy.
- Shopfront vacancy rates are assumed to decline by 50% over a 10-year period, which brings Shepparton CBD in line with vacancy rates in other Victorian Regional Centres at around 5%.
- From Year 11 onwards, it is assumed the full initial impact of the Stage 1 Bypass Project on the CBD has been realised; however, vacancy rates remain at regional averages, thus recognising the ongoing positive impact of the Bypass on the CBD.
- Employment creation in occupied shopfront tenancies is based on industry averages by floorspace use.
- Economic output is based on value added output and is derived from information contained in the economy.id model (prepared by National Economics) for the City of Greater Shepparton.



Based on these assumptions, the full impact of the Stage 1 Bypass Project on Shepparton's CBD would see a reduction vacant floorspace in shopfront tenancies of 6,260m$^2$ by Year 10 (with these tenancies remaining occupied thereafter on an ongoing basis). The majority of re-occupied floorspace (approximately 75%) would be associated with retail activities and the remainder associated with non-retail activities (approximately 25%) which include small offices, community service providers, consultancies etc.

In terms of employment, an estimated 220 jobs (rounded) will be supported directly by these new tenancies, comprising 160 retail jobs and 60 non-retail jobs. These jobs include full-time, part-time, casual and temporary positions.

Mooroopna CBD will also benefit from the reduction of a significant proportion of heavy vehicles travelling through its CBD by allowing for better accessibility, connectivity and functionality of the centre through urban design initiatives. A nominal reduction in vacancy rates from 5% to 4% has been factored in across the 25-year lifecycle to represent commercial benefit, which would support 5 jobs in these occupied tenancies through reduced floorspace vacancies of 150m$^2$.

Additional jobs will be supported in the region through the employment multiplier effect, and this is detailed in Table 5.6.

The estimated impact of the Stage 1 Bypass Project on shopfront vacancies and associated direct employment generation is shown in Table 5.5.

**Table 5.5: Impact of Bypass Project on Floorspace Vacancies and Jobs**

| Category | Vacant Floorspace | Bypass Impact on leased floorspace | Jobs / floorspace ratio | New Jobs Supported (full impact) |
|---|---|---|---|---|
| Shepparton CBD | | | | |
| Retail shopfront | 9,600m$^2$ | 4,800m$^2$ | 1 job per 30m$^2$ | 160 jobs |
| Non-retail shopfront | 2,920m$^2$ | 1,460m$^2$ | 1 job per 25m$^2$ | 60 jobs |
| Shepparton CBD Total | 12,520m$^2$ | 6,260m$^2$ | 1 job per 22m$^2$ | 220 jobs |
| *Mooroopna CBD Total* | *660m$^2$* | *150m$^2$* | *1 job per 30*m$^2$ | *5 jobs* |
| **Regional Total** | **13,180m$^2$** | **6,410m$^2$** | **1 job per 28m$^2$** | **225 jobs** |

Source: City of Greater Shepparton Commercial Activities Centres Strategy 2016; National Institute of Economic and Industry Research (NIEIR) ©2015. Compiled and presented in economy.id; Essential Economics
Figures rounded



The employment data outlined in Table 5.5 has been used to derive value added output for the Greater Shepparton economy on a lifecycle (25-year basis) and includes impacts on both Shepparton and Mooroopna CBDs. The data is based on the economy.id model prepared for Greater Shepparton and outcomes are shown in Net Present Value (NPV) terms, which is based on a 5% Discount Rate.

The results show:

- Total employment impact of 405 additional regional jobs, including 225 direct jobs and 180 indirect jobs (which include full-time, part-time, casual and temporary roles).
- An increase in regional value-added output of $316 million (NPV) over 25 years comprising:
  - $192 million in additional value-added associated with retail activities
  - $124 million in additional value-added associated with non-retail activities

**Table 5.6: Regional Economic Impacts of Bypass Project, Annually (NPV)**

| Category | New Direct Jobs Supported In Region FULL IMPACT | New Indirect Jobs Supported In Region FULL IMPACT | Total New Regional Jobs FULL IMPACT | Additional Regional Value-Added Output Over 25 years |
|---|---|---|---|---|
| | *No.* | *No.* | *No.* | *Net Present Value* |
| Retail | 165 | 110 | 275 | $192.1 million |
| Non-Retail | 60 | 70 | 130 | $124.1 million |
| **Total** | **220** | **180** | **405** | **$316.2 million** |

Source: City of Greater Shepparton Commercial Activities Centres Strategy 2016; National Institute of Economic and Industry Research (NIEIR) ©2015. Compiled and presented in economy.id; Essential Economics
Figures rounded

### *5.3.4 Non-Quantified Commercial Benefits*

**Commercial Office Floorspace**

Approximately 60,000m$^2$ of stand-alone (dedicated) office floorspace is currently provided in Shepparton's CBD. Unlike shopfront floorspace – which is mainly driven by resident and visitor needs – office floorspace can be considered somewhat 'footloose', although a core component is required to service population-based growth (public administration, health and community services etc). Vacancy rates and data relating to specific office-based activities are not available and therefore the impact of the Stage 1 Bypass Project has not been quantified for this report. However, in the long term a general uplift in CBD safety, amenity, activity and visitation is likely to have a positive impact on the office market in terms of desirability for business location, and rental/property values.



**Development Sites**

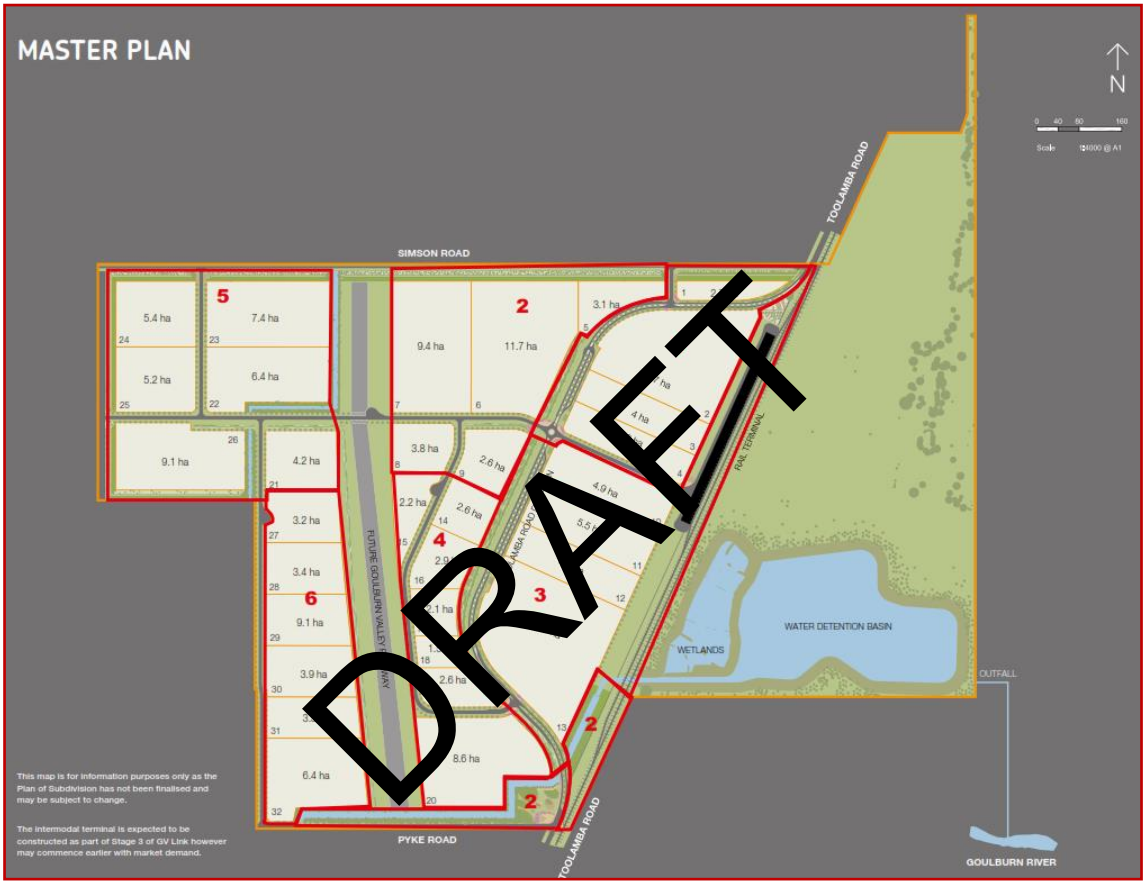
As noted earlier, two major development sites are located with frontage to High Street, with these sites lying dormant for many years. While many factors contribute to the development or otherwise of such sites (owner preferences, financing, market conditions, planning controls etc), improved safety and amenity along High Street would be expected to provide a beneficial environment for a range of development uses on these sites. Such uses (subject to planning approval) could include high-density residential (apartments), commercial office, retail, and café/restaurant/entertainment. For example, the former Shepparton Hotel Site is located in Court Precinct which is currently the subject of significant investment, potentially providing a stimulus for the development of the currently unused site, especially if safety and amenity ion this general area are improved through the significant reduction in heavy vehicle volumes.

**Support to GV Link Project**

GV Link is a proposed Intermodal Freight Hub located in Toolamba, approximately 5km south-west of Shepparton. The 331ha site has been acquired by Council, and a Master Plan has been prepared for the site, as shown in Figure 5.5.

A key driver of investment in GV Link is for the site to be connected to the GV Highway Bypass which will provide critical linkages for freight and logistics operators to national and export markets. While the Stage 1 Bypass Project does not provide a link to the site, the completion of this stage has the potential to generate interest in GV Link, with the Stage 1 Bypass Project seen as a precursor to the construction of the full Bypass.

**Figure 5.5: GV Link Site Layout**



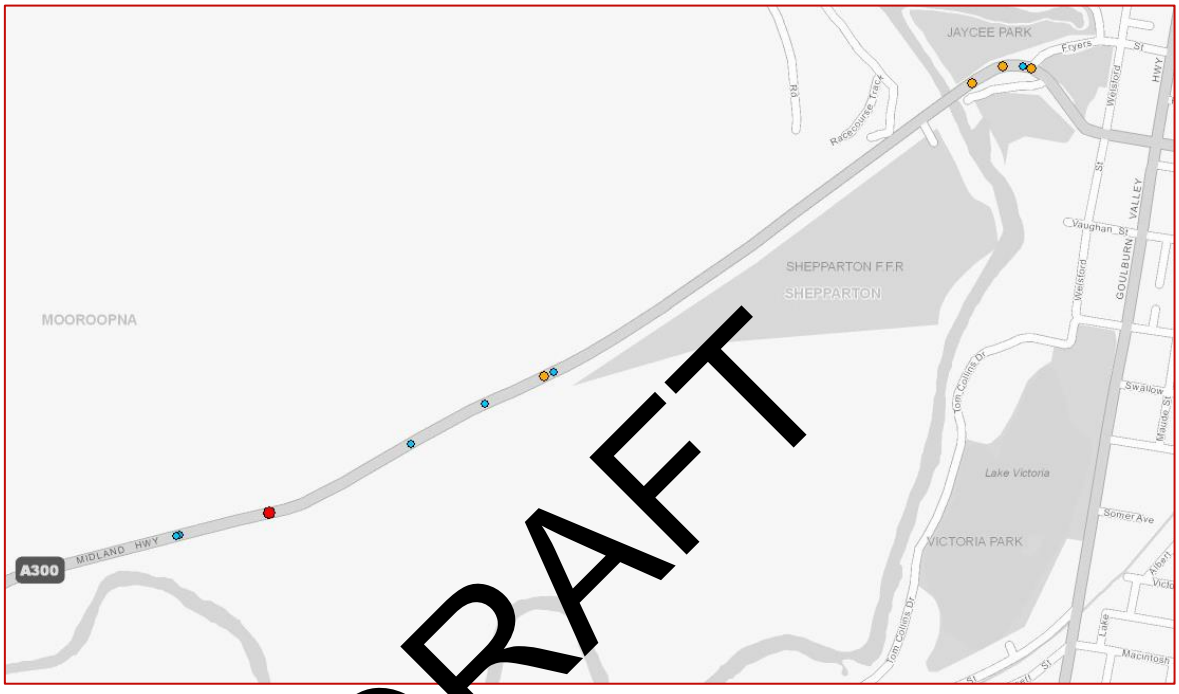

## 5.4 Reduced Commercial Risk through Provision of a Second Bridge Crossing

The Peter Ross Edwards Causeway represents the only viable river crossing for heavy vehicles travelling in an east-west direction (Shepparton to Mooroopna). The closest alternative route for heavy vehicles crossing is at Murchison and this involves a 70km (or one hour) round trip. When incidents occur on the Causeway requiring partial or complete closure of the crossing, significant costs for industry are incurred, by either through delay or circumvention via the alternative route.

This situation presents a considerable cost risk to commercial operators and is likely to be exacerbated in the future as the region's freight task and usage of the Causeway increases significantly. The Causeway is also under constant threat of flooding, which is a further important consideration in favour of the Bypass.

Peter Ross-Edwards Causeway has been subject to major disruptions in recent times; including 17 reported road traffic incidents involving injury between 2008 and 2015 (as shown by the dots in Figure 5.6). Additionally, the Causeway is impacted regularly by non-reported accidents (ie where no injury is involved) and maintenance works.

**Figure 5.6: Peter Ross-Edwards Causeway – Serious Road Traffic Incidents, 2008-2015**






The Shepparton Bypass Strategic Transport Model shows that under the Base Case Scenario, two-way heavy traffic crossing the Causeway will increase from an average of 2,800 daily movements in 2016 to 5,800 daily movements by 2041. This represents a more than doubling of existing heavy traffic volumes across the Causeway and amounts to approximately 1.1 million additional heavy vehicle Causeway crossings annually by 2041, compared to the 2016 situation.

The economic benefit of providing a second bridge crossing through the Stage 1 Bypass Project has been calculated with reference to the following assumptions:

- Forecast heavy vehicle Causeway volumes are sourced from the SBSTM Base Case for the 25-year period 2016 to 2041
- A one-hour delay is factored-in for each month of the forecast period (or 12 hours of delay per year over 25 years). These delays represent a mix of major and minor incidents and works.
- An hourly rate of $200 per vehicle (2016 dollars) has been assigned and this is based on information sourced from *WA Department of Transport – Road Freight Industry Transport Council Cost Calculator*.

Based on these parameters, the total savings over 25 years from reduced commercial risk to industry through the provision of a second bridge crossing are estimated at $13.1 million or $7.2 million in NPV terms.

## 5.5 Regional Economic Development

The GV Shepparton Bypass Project supports regional economic development in a number of ways, which include:

- Ensures improved efficiency and productivity for businesses involved in the region's significant food production, food processing and food transportation activities; noting strong and expanding export markets (eg China) for the region's produce.
- Provides certainty to industry with regard to land use planning and future investments in the region.
- Generates significant regional employment and participation opportunities for construction-related businesses and the regional labour force over the two-year construction phase.
- Stimulates improved commercial performance and investment in Shepparton and Mooroopna CBDs, leading to business and employment growth and increase in value - added output.
- Contributes to potential to increase level of business interest in the planned Goulburn Valley (GV) Link Intermodal Freight Terminal project, which is reliant on the Full Bypass Project to activate the site.



## 5.6 Conclusions

The key findings of this Economic Impact Assessment are as follows:

1 Construction Phase

- Increase in National Economic Output: $590 million (2016 dollars)
  - Increase in Regional Economic Output $465 million (2016 dollars)
  - Increase in Economic Output in other locations $125 million (2016 dollars)
- Increase in Value-Added National Output: $215 million (2016 dollars)
  - Increase in Regional Economic Output $160 million (2016 dollars)
  - Increase in Economic Output in other locations $55 million (2016 dollars)
- Increase in National Employment (direct and indirect): 3,170 jobs
  - Increase in Regional Employment 2,560 jobs
  - Increase in Employment in other locations 610 jobs

2 Operational Phase

At full impact (assumed to by 10 years after the Bypass is operational) the following regional benefits are estimated, which include impacts for both Shepparton and Mooroopna:

- 6,410m$^2$ of existing vacant CBD shopfront floorspace becomes re-occupied.
- 225 CBD jobs are created directly and a further 180 jobs supported indirectly in the regional economy.
- $316.2 million in Net Present Value (NPV) over 25 years is generated in additional value-added output is generated.
- Savings of $7.2 million (NPV) over 25 years in avoided freight costs associated with partial / total closure of Peter Ross Edwards Causeway due to incidents/maintenance.

3 Other economic benefits include:

- Support for the region's growing export markets by improving efficiency of movement of goods and services.
- Planning certainly for land owners, investors, existing businesses and Council with regard to long-term decision-making.
- Impetus for investment in dormant CBD development sites.
- Support for the commercial office property market.
- Stimulus to potentially activate other major regional projects, including the proposed Goulburn Valley Intermodal Freight Terminal (GV Link).

# 6 KEY FINDINGS

## *Project Context*

1 The Goulburn Valley (GV) Region has a population of approximately 141,000 persons (2016) which is projected to increase to 160,000 persons by 2031.

2 The GV Region has an above-average unemployment rate (Australian Government Department of Employment – Small Area Labour Markets, December 2015), which is particularly pronounced for the City of Greater Shepparton where the rate of 6.5% is well above the regional Victorian average of 5.8%.

3 The GV Region forms an integral part of the 'Food Bowl of Australia', which accounts for 25 per cent of the total value of Victoria's agricultural production, with many multinational food processors located in the region (www.victoriasfoodbowl.com.au).

4 The industry and business structure of the GV Region highlights this strong focus with an estimated 41% of jobs (compared to 32% of jobs across the State) and 58% of businesses (compared to 38% of businesses across the state) associated with transport-reliant industries, many of which are linked with the food production, processing and distribution activities and other major sectors, including construction and manufacturing. This highlights the vital importance of efficient local and regional road networks in supporting the GV economy.

5 The Greater Shepparton Freight and Land Use Study highlights the significant number of major manufacturers, food processors, dairy operators and other freight-generating businesses that are located in the GV Region. Forecasts indicate that the regional freight task will expand at a faster rate than economic and population expansion, and notes efficient and effective transport movement – particularly of freight within, to and from the Greater Shepparton region – is critical to ongoing growth and competitiveness of the Greater Shepparton and of the surrounding region.

6 The Study confirms a pressing need for a new east-west link, a second river crossing and road infrastructure that can adequately cater for the anticipated increased in use of High Performance Freight Vehicles and other larger and longer vehicle combinations.

7 The development of the GV Highway Shepparton Bypass has been identified by Greater Shepparton Council as a priority transformational project.

8 The Stage 1 Bypass Project will complement the Shepparton CBD Revitalisation Project, a major Council infrastructure initiative. The CBD Revitalisation Project will benefit in terms of improved safety and amenity from the removal of a large proportion of heavy vehicle traffic from High Street.

## *Project Description*

9 The proposed Goulbourn Valley Highway Shepparton Bypass State 1 Project forms part of the larger overall Goulburn Valley Highway Bypass project which will eventually link

Seymour (Victoria) and Tocumwal (NSW) as part of the overall enhancement of the national Melbourne-Brisbane road link.

10 The Stage 1 Project consist of the following two sub-stages:

- Stage 1A: 5km link between Echuca-Mooroopna Road to the Goulburn Valley Highway, including a second river crossing and improvements to the existing Wanganui Road. Estimate cost is $165 million. Ford Road will also be upgraded as a separate project.
- Stage 1B: 5km link between Echuca-Mooroopna Road to the Midland Highway, including a new intersection at the Midland Highway. Estimated cost is $95 million.

11 The Stage 1 Project aims to increase road capacity, efficiency and safety and reduce costs for freight operators, while also reducing industry risk. The outcome would be the diversion of significant volumes of heavy vehicle movements from Shepparton's CBD.

### *Issues and Opportunities Assessment*

12 Key Issues with existing situation:

- Safety concerns for heavy vehicle drivers using High Street (Midland Highway) due to conflicts with other vehicle users, parking manoeuvres, and pedestrian traffic.
- Inefficiencies for industry, including time or cost, vehicle wear and tear associated with speed restrictions, numerous traffic signals, and roundabouts on the east-west Midland Highway link between Shepparton and Mooroopna.
- Concerns regarding the capacity of the existing east-west link to accommodate increasing heavy vehicle volumes and larger vehicles, including High Performance Freight Vehicles in the future.
- Risks to local businesses relating to the availability of a single river crossing for heavy vehicles (Peter Ross Edwards Causeway) which results in costs to operators if the crossing is impacted due to traffic incidents or maintenance, noting the nearest alternative crossing involves an hour round trip.

13 Key Opportunities arising from the Stage 1 Project:

- Improved efficiencies for heavy vehicle operators, including educed travel times and vehicle maintenance savings
- Provision of adequate long-term road capacity for industry, which is important in terms of certainty for industry development and future planning and investment for businesses
- Reduced risk to industry by the provision of a second heavy vehicle river crossing
- Improved safety for drivers and visitors to Shepparton CBD, with road user conflicts significantly reduced
- Boost to CBD revitalisation in Shepparton and Mooroopna due to improvements in safety and amenity (reduced noise, pollution) which supports existing Council-led project initiatives.

### *Road User and Externality Impact Assessment*

14 Based on analysis prepared by AECOM with regard to the updated Shepparton Strategic Transport Model, the Stage 1 Bypass Project (which includes Stages 1A and 1B) provides the following economic results from a road user and externality perspective:

- Benefits (Net Present Value):
  - Travel time savings: $58.5 million
  - Vehicle operating cost savings: $17.8 million
  - Crash cost savings -$0.2 million
  - CO2 savings $1.9 million
  - Environmental externality savings $12.7 million`
- *Total Benefits (Net Present Value)* *$90.8 million*
- *Total Costs (Net Present Value)* *$246.0 million*
- Stage 1 Project Returns – Net Present Value -$155.2 million
- **Stage 1 Project – Benefit Cost Ratio** **0.37**



### *Economic Impact Assessment*

15 Construction Phase Impacts:

- *Increase in National Economic Output:* *$590 million (2016 dollars)*
  - Increase in Regional Economic Output $465 million (2016 dollars)
  - Increase in Economic Output in other locations $125 million (2016 dollars)
- *Increase in Value-Added National Output:* *$215 million (2016 dollars)*
  - Increase in Regional Economic Output $160 million (2016 dollars)
  - Increase in Economic Output in other locations $55 million (2016 dollars)
- *Increase in National Employment (direct and indirect):* *3,170 jobs*
  - Increase in Regional Employment 2,560 jobs
  - Increase in Employment in other locations 610 jobs

16 Operational Phase Impacts:

At full impact (assumed to be 10 years after the Bypass is operational) the following regional benefits are estimated (which include impacts for both Shepparton and Mooroopna):

- 6,410m$^2$ of existing vacant CBD shopfront floorspace becomes reoccupied.
- 225 CBD jobs are created directly and a further 180 jobs supported indirectly in the regional economy.

- $316.2 million (NPV) over 25 years is generated in additional value-added output.
- Savings of $7.2 million (NPV) over 25 years in avoided freight costs associated with partial / total closure of Peter Ross Edwards Causeway due to incidents/maintenance.

17 Other economic benefits include:

- Support for the region's expanding export markets by improving efficiency of movement of goods and services
- Planning certainly for land owners, investors, existing businesses and Council with regard to long-term decision-making
- Impetus for investment in dormant development sites
- Support for the commercial office property market
- Stimulus to potentially activate other major regional projects, including the proposed Goulburn Valley Intermodal Freight Terminal (GV Link).