



Socio-Economic Impact Assessment

For the proposed Bunbury Outer Ring Road project

Main Roads Western Australia

Inherent Limitations Disclaimer

This report has been prepared as outlined with Main Roads in the Scope Section of the engagement letter 10 January 2019. The services provided in connection with this engagement comprise an advisory engagement, which is not subject to assurance or other standards issued by the Australian Auditing and Assurance Standards Board and, consequently no opinions or conclusions intended to convey assurance have been expressed. Any reference to 'audit' and 'review', throughout this report, is not intended to convey that the services have been conducted in accordance with any auditing, review or assurance standards.

The findings in this report are based on a qualitative study and the reported results reflect a perception of Main Roads but only to the extent of the sample surveyed, being Main Roads' approved representative sample of the study area, and publicly available information as agreed with Main Roads.

No warranty of completeness, accuracy or reliability is given in relation to the statements and representations made by, and the information and documentation provided by, Main Roads' stakeholders and community reference groups consulted as part of the process.

KPMG have indicated within this report the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the report.

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Any findings or recommendations contained within this report are based upon our reasonable professional judgement based on the information that is available from the sources indicated. Should the project elements, external factors and assumptions change then the findings and recommendations contained in this report may no longer be appropriate. Accordingly, we do not confirm, underwrite or guarantee that the outcomes referred to in this report will be achieved.

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Other than our responsibility to Main Roads, neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party on this report. Any reliance placed is that party's sole responsibility.

Executive summary

Introduction

Main Roads Western Australia (**Main Roads**) proposes to complete the Bunbury Outer Ring Road project (**BORR** or **Project**) which was originally identified in the early 1970s and for which planning has been ongoing since this time, with Stage 1 having been completed in 2013. In particular the Project includes construction of a 27km free-flow four lane, grade-separated dual carriageway road at the outer edge of Bunbury connecting Bussell Highway to Forrest Highway.

The Project includes three sections, being the:

- **Northern Section** (blue line in Figure 1) connecting the Central Section (Boyanup Picton Road) and Forrest Highway
- **Central Section** (green and dark blue lines in Figure 1) comprising the existing Bunbury Outer Ring Road Stage One (green line), that connects Boyanup Picton Road and South Western Highway, (completed in 2013 as part of the construction of the Bunbury Port Access Road) as well as the proposed Willinge Drive extension (dark blue line) to South Western Highway (south)
- **Southern Section** (orange line in Figure 1) connecting the Central Section (South Western Highway) and Bussell Highway.

Figure 1: Complete Bunbury Outer Ring Road



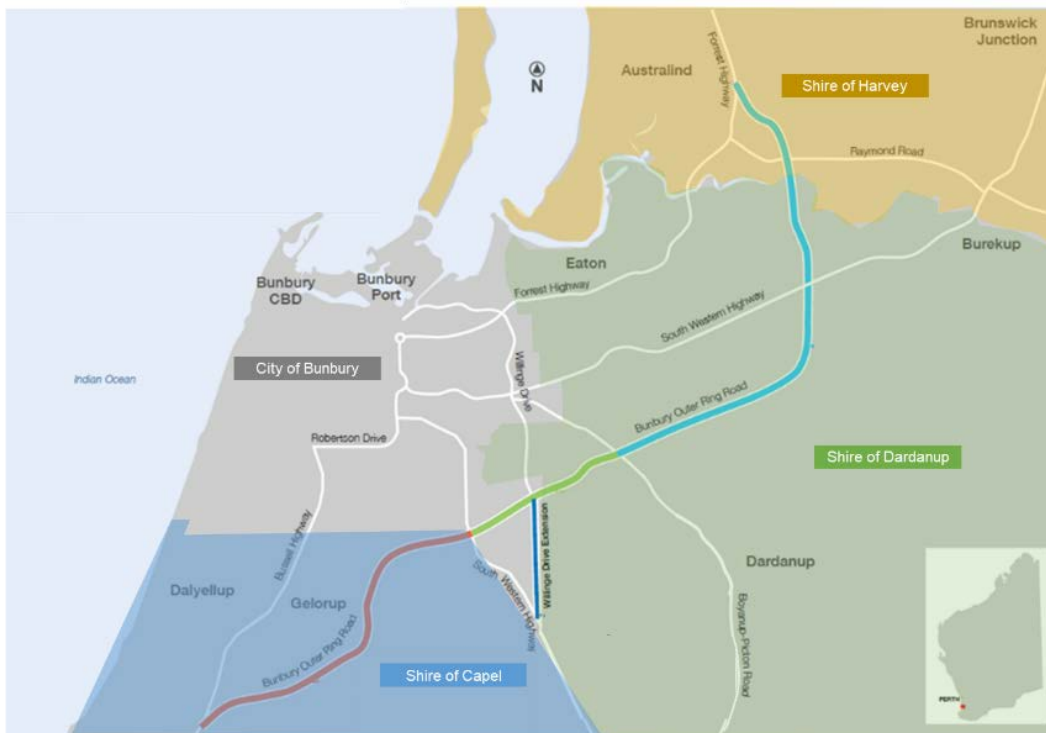
Source: Main Roads (2019).

This Socio-Economic Impact Assessment (**SEIA**) for the Project has been developed to inform the ongoing planning for the Project by Main Roads.

Existing socio-economic environment

For the purpose of the SEIA the study area is defined as Greater Bunbury, comprising the Local Government Areas (**LGAs**) of Bunbury, Harvey, Capel and Dardanup, as the area in which the social values and characteristics of the community may change as a direct result of the Project (refer Figure 2).

Figure 2: SEIA study area – Greater Bunbury



Source: KPMG analysis.

In 2016 the estimated resident population of Greater Bunbury was 89,628¹ representing around 3.5 per cent of the Western Australian (**WA**) population.

In general the population characteristics for Greater Bunbury in terms of age profile, cultural diversity, household income, unemployment and housing cost are comparable to that of WA and Australia. The Australian Bureau of Statistics (**ABS**) Socio-Economic Index for Areas (**SEIFA**) provides a summary measure of the socio-economic condition of geographic areas across Australia.

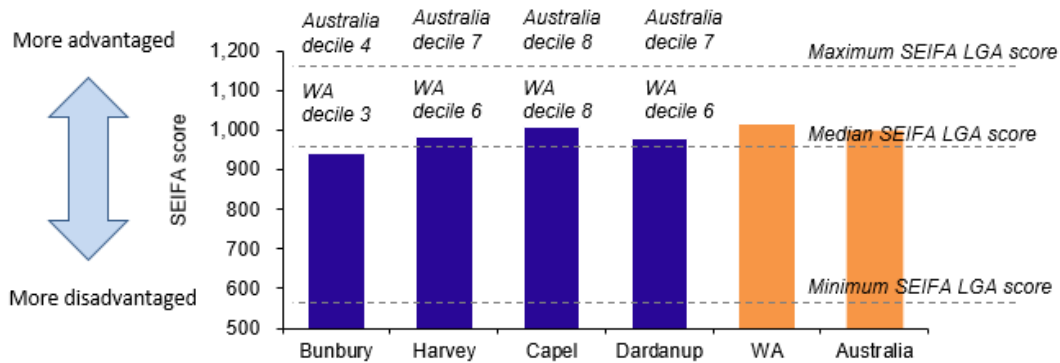
Of the four Greater Bunbury LGAs, Bunbury has the lowest SEIFA score while Capel has the highest (refer Figure 3). Greater Bunbury is on average below the WA and Australian index (falling within the 3rd decile for WA and 4th decile for Australia). Bunbury therefore has a relative low incidence of advantage and a relative high incidence of disadvantage compared to other LGAs within Greater Bunbury, WA and Australia. Key contributors are summarised below.

- Bunbury has comparably lower weekly household medium income (\$1,197 compared to WA median of \$1,595).

¹ This resident population for Greater Bunbury is based on ABS data for each of the four LGAs forming part of the study area. If only the Bunbury Transport Model included areas are taken into account the resident population is c. 70,000 which excludes some rural areas not within the Bunbury Transport Model defined area.

- Bunbury has higher housing stress with comparably higher percentage of households with rent payments greater than or equal to 30 per cent of household income.
- Bunbury has a comparably lower labour market participation rate and higher unemployment rate with a higher proportion of people receiving government benefits.

Figure 3 SEIFA score for Greater Bunbury



Source: ABS 2016 Census.

For the Bunbury LGA the suburbs with SEIFA scores below 900 are Carey Park and Withers. However, there are a number of suburbs that fall below WA decile 5, being Carey Park (decile 1), East Bunbury (decile 2), Glen Iris (decile 3), South Bunbury (decile 4), Usher (decile 2) and Withers (decile 2). It is not expected that the Project will disproportionately impact on these suburbs compared to others.

There is a high reliance on private vehicles within Greater Bunbury. In 2016, 92 per cent of residents travelled via private vehicle to work, while only 3 per cent travelled by public or active transport modes². Also, 96 per cent of households have access to at least one motor vehicle.

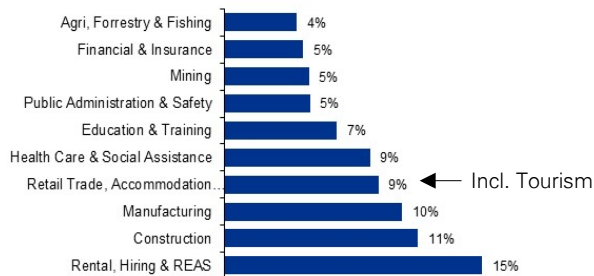
Greater Bunbury has a diverse economic base with key industries (by employment and value added) being:

- health and education (reflecting the proximity of the area to the regional hospital and ECU campus)
- tourism and retail (including accommodation and food services)
- mining and manufacturing (including mineral processing and timber industry)
- construction
- agriculture/ viticulture.

² This only includes residents who travel to work, and does not include categories such as 'do not travel as work from home'.

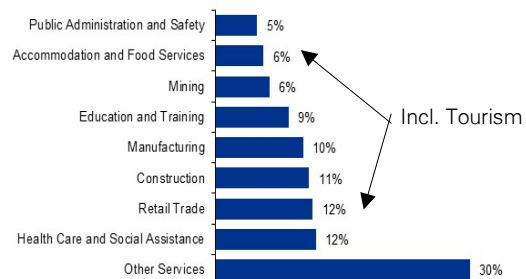
Figure 4 and Figure 5 show the share of value added and the share of employment, respectively, by industry for Greater Bunbury.

Figure 4: Share of value added by industry for Greater Bunbury



Source: Regional Development Australia South West for four LGAs comprising Greater Bunbury

Figure 5: Share of employment by industry for Greater Bunbury



Source: Regional Development Australia South West for four LGAs comprising Greater Bunbury

Socio-Economic impact identification and assessment

Overall the Project would lead to both socio-economic benefits and impacts for some industries, land owners, businesses and communities in Greater Bunbury.

The assessment of materiality of each socio-economic impact relates to the whole study area, rather than individual stakeholders. Materiality was assessed with reference to a baseline for the study area. Where a particular impact could not be quantified it was described qualitatively. Four categories were used to classify the magnitude of the impact (**positive, neutral or negative**) on the study area, being:

- **Negligible** – marginal change from the baseline conditions with no discernible effect expected or a functional recovery is expected to occur over a couple of months
- **Minor** – a small but measurable change from the baseline conditions is expected and the change is expected to be temporary and/ or only affect a small number of individuals with a functional recovery expected to occur over the short term
- **Moderate** – noticeable and relatively substantial change from the baseline conditions is expected and the change may be longer term and/ or affect groups of residents, special interest groups or businesses with functional recovery expected to occur over the short to medium term
- **Major** – fundamental change altering the baseline conditions is expected and the change may be long term and/ or affect a proportionally large number of residents or businesses with a functional recovery expected to occur over the long term, if it all.

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations the following positive and negative impacts have been identified.

Freight and related industries

The key freight and related industries in Greater Bunbury are mining and mineral processing (historically alumina, coal and mineral sands but with lithium emerging), construction, timber and agriculture/ viticulture, **representing 30 per cent of the value added in Greater Bunbury** (refer Figure 4).

In summary the socio-economic impacts of the Project for freight and related industries are predominantly positive.

Ref	Project impact	Positive	Negative
11	Heavy vehicle productivity through reduced travel times and free-flow traffic reducing transport costs and improving the utilisation of road freight vehicles resulting in benefits to freight transport operators and the producers that use these services	Major	
12	Access and connectivity to the Bunbury Port and existing/ proposed industrial parks thereby positively impacting on supply chain connectivity and efficiency and ultimately the competitiveness of the Bunbury Port	Moderate	
13	Industry competitiveness and employment through providing an improved freight transport network that supports growth and cost efficiency for industry	Major	
14	Road safety and amenity by reducing the conflict between heavy vehicles and local/ tourism traffic	Major	
15	Increased local road maintenance with certain sections of local connecting roads to BORR forecast to have an increase in heavy vehicle usage - Centenary (to be build), Jules (if connect to Centenary) and a number within Dardanup. However the service life of existing arterial roads bypassed by trucks will be extended, minimising future local upgrade treatments require		Minor

Tourism

Tourism is a significant economic contributor for Greater Bunbury (including the Bunbury CBD and Ferguson Valley) and the South West. For 2018, the Bunbury-Geographe region's³ contribution to tourism was around \$379 million (representing around 30 per cent of the South West region's tourism output) providing employment to around 1,972 people⁴. Tourism is not a separate industry classification by ABS and therefore its contribution to value added for Greater Bunbury is not separately identifiable, however it falls within the retail trade, accommodation and food services categories. In aggregate retail trade, accommodation and food services (of which tourism forms part) contribute around 9 per cent in terms of value added (refer Figure 4).and 20 per cent in terms of employment (refer Figure 5) for Greater Bunbury.

A key concern raised by stakeholders consulted related to the potential Bunbury bypass effect of the Project and the resulted impact that this may have on tourism. Key findings from analysis of two origin and destination (OD) surveys (with survey locations on Forrest Highway, north of Forrest Road, and Bussell Highway, south of Capel) that have been undertaken by Main Roads are summarised below.

- Through trips⁵ represent a small proportion of vehicles recorded as part of the OD surveys, c. 25 per cent on the 2019 labour day long weekend Friday, c. 40 per cent on the 2019 labour day long weekend Monday and c. 15 per cent on a Friday for a normal weekend.
- For through trips around 60 per cent drive through without stopping, 30 per cent stop along the route or in Greater Bunbury for up to one hour and 10 per cent stop for more than one hour.
- Bunbury CBD is already impacted by bypass effect (Forrest Highway, Robertson Drive, Bussell Highway) given that c. 60 per cent of through trips currently drive through without stopping.
- For through trips, it may be considered that the 30 per cent of vehicles that stop along the route or in Bunbury for up to one hour may in future choose BORR over the existing route which may impact business along the existing route by a reduction in passing trade depending on location and customer base. This represent around 620 vehicles on a 'normal' Thursday, around 830

³ It is noted that the Bunbury Geographe region includes Collie, Donnybrook and Boyup Brook in addition to the four LGAs in Greater Bunbury.

⁴ Comprising the LGAs of Bunbury, Harvey, Dardanup and Capel; also referred to as the Greater Bunbury area.

⁵ Through trips represent those vehicles that travelled either all the way south bound - Forrest Highway to Capel or north bound- Capel to Forrest Highway.

vehicles on a 'normal' Friday and between 2,830 and 3,780 on a long weekend Friday and Monday respectively. However, of these at least half of the vehicles only have a short stop for up to 20 minutes.

In summary the socio-economic impacts of the Project for tourism are both positive and negative.

Ref	Project impact	Positive	Negative
T1	Road safety and amenity by diverting around 71,000 vehicles in the long term from key local and tourist routes in Greater Bunbury (e.g. Forest Highway, Robertson Drive and Bussell Highway) will improve safety and amenity outcomes to all road users (freight, local and tourist)	Moderate	
T2	Ease of access to Bunbury CBD and opportunity to improve access to Ferguson Valley as tourist destinations with most community stakeholders expressing a preference for Forrest Highway to be retained as the direct connection (primacy) to the Bunbury CBD with the BORR an 'alternative' route. Stakeholders also commented that the Project provides an opportunity to improve access to Ferguson Valley via South Western Highway. Noting that the Project maintains access and connections to key tourism areas		Moderate
T3	Tourism businesses and employment with some businesses along the existing route potentially impacted by a reduction in passing trade depending on location and reliance on pass through trade noting that the impacts are expected to be higher in the short to medium term (as was the case for the Perth Bunbury Highway)		Moderate

Social infrastructure

In the context of the Project (at the outer edge of Bunbury) the **South West health and education precinct** intersecting Bussell Highway and Roberson Drive is of material importance from a social infrastructure perspective,

In summary the socio-economic impacts of the Project for the South West health and education precinct are positive.

Ref	Project impact	Positive	Negative
S1	Remove/ delay pedestrian over/ under pass investment from reduction in vehicle traffic on Bussell Highway	Minor	
S2	Support education businesses and employment by facilitating use of healthier transport modes and improving road capacity to accommodate future growth in staff and patients	Minor	
S3	Road safety and amenity by diverting around 11,000 vehicles in the long term from Robertson Drive resulting in improved road safety, amenity and travel time outcomes	Moderate	
S4	Access and connectivity improvements from reduction in traffic on Robertson Drive, however, for emergency vehicles the impact is expected to be neutral	Minor	

Residents and community

In the context of the Project (at the outer edge of Bunbury) the key residential/ community areas likely to be most impacted are:

- Meadow Landing
- Gelorup
- Farmers on land being directly impacted
- Other landowners, including residents, farmers and other businesses.

In summary the socio-economic impacts of the Project for the majority of the resident population of Greater Bunbury will be positive however there are a number of community groups that will be negatively impacted.

Ref	Project impact	Positive	Negative
R1	Proposed Wanju residential development with the Project having the potential to positively influence this proposed development in terms of improved road connectivity	Minor	
R2	Urban areas and other businesses not within direct proximity of BORR (including Australind, Eaton, Bunbury and Dalyellup) are expected to experience improved road and residential amenity in terms of less congestion (especially on weekends), improved travel time, improved safety outcomes and lower noise impacts resulting from traffic diverted onto BORR. Without BORR population and traffic growth will exacerbate amenity, noise and safety impacts and result in increased traffic on local roads that are not fit for purpose, resulting in further safety problems	Major	
R3	Resumption of land (including farm land) resulting in the loss of green space and a reduction in available farm land for agricultural purposes. Main Roads' consultation with landowners has shown the area hosts a diverse range of high to low intensity agricultural activities, as well as contracting and other businesses. There are approximately 50 landowners in the Northern and Central Sections directly impacted and 30 to 40 landowners in the Southern Section. The process of land acquisition and planning for change could generate a feeling of stress and anxiety among the property owners. It is noted that for the Northern Section the majority of land required is within the future urban (Wanju) and industrial (Waterloo) developments, for which structure planning is well progressed. For the Southern Section, the majority of land has been identified for the Primary Regional Road Network in the Greater Bunbury Regional Scheme for many years.		Major
R4	Meadow Landing community – lifestyle/ residential amenity, noise, visual amenity (including lighting), potential reduced property value and pollution impacts given proximity to BORR and Raymond Road (including proposed Raymond Road interchange) Assessment of the significance of the impact took into account that the Meadow Landing resident population represents less than 0.9 per cent of the Greater Bunbury resident population ⁶ and that the impact is greatest for a subset of Meadow Landing		Moderate
R5	Gelorup Landing community – lifestyle/ residential amenity, noise, visual amenity (including lighting), potential reduced property value and pollution impacts given proximity to BORR Assessment of the significance of the impact took into account that the Gelorup resident population represents 2.6 per cent of the Greater Bunbury resident population ⁷ and that the impact is greatest for a subset of Gelorup.		Moderate
R6	Amenity impact for Dardanup residents between BORR and Dardanup Cleanaway site via proposed Wireless Road interchange with preference expressed for a more direct access route (potentially Waterloo Road) noting that a more direct route is not proposed in the draft Waterloo Industrial Park District Structure Plan		Negligible

⁶ This is based on the 2016 ABS for Roelands (given that ABS stats for Meadow Landing as part of Roelands is not available). 2016 ABS shows a population of 839 for Roelands and 89,622 for Greater Bunbury. With Meadow Landing comprising around 151 properties.

⁷ 2016 ABS shows a population of 2,300 for Gelorup and 89,622 for Greater Bunbury.

Ref	Project impact	Positive	Negative
R7	Kingston community (and planned East Treendale, between Raymond and Clifton Roads) – noise and lighting impacts from proposed Paris-Clifton Road interchange Assessment of the significance of the impact took into account that this is expected to affect a relatively small proportion of Greater Bunbury residents		Minor
R8	Amenity impact for farms along or adjacent to the BORR created by increased noise and decreased visual amenity. These impacts would vary according to individual circumstances Assessment of the significance of the impact took into account that this is expected to affect relatively small proportion of Greater Bunbury residents		Minor

Environmental and heritage

Environmental impacts have not been included in this report as these form part of the environmental approval process for the Project with detailed Environmental Impact Assessment reports prepared by Main Roads and referred (Northern and Central Section) or to be referred (Southern Section) to both State and Federal regulators for approval. The Environmental Impact Assessment reports include consideration of:

- Clearing of native vegetation and mapped fauna habitat
- Matters of national environmental significance or other matters protected by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) including members of any listed species or any threatened ecological community (TEC)
- Interference with bed and banks of a watercourse or wetlands (clearing of vegetation and construction works).

Potential impacts on Aboriginal heritage sites associated with the Project will be managed through consultation with all relevant groups and undertaken in accordance with State and Commonwealth legislation (including the Aboriginal Heritage Act).

Impacts from construction

In summary the socio-economic impacts from the construction activities of the Project are mainly positive with some minor negative impacts which is expected to affect a relatively small proportion of Greater Bunbury residents given that the Project is on the outer edge of Bunbury which is mostly zoned as rural land but also intersects land reserved as urban, urban deferred, regional open space and industrial.

Ref	Project impact	Positive	Negative
C1	Employment during construction with direct employment opportunities during the Project's construction phase, and indirectly through employment of those providing goods and services as inputs to the Project	Moderate	
C2	Noise from construction activities		Minor
C3	Dust and vehicle emissions from construction activities		Minor
C4	Access and freight productivity during construction		Minor
C5	Emergency vehicle access during construction may be altered		Negligible
C6	Road user and construction worker safety during construction		Minor
C7	Access to social infrastructure and services during construction		Negligible

Mitigation measures and management strategies

To address the potential socio-economic impacts a number of mitigation and management measures are in place or will be put in place. Key measures include:

- Main Roads will continue to undertake regular and ongoing engagement with key impacted stakeholders including property owners affected by property acquisition, industry and community affected by access issues, community affected by amenity impacts and other key stakeholders regarding construction and operation impacts and management of those impacts.
- Main Roads will be required to adhere to the conditions set out in the environmental approvals for the Project and compliance with State and Commonwealth environmental legal requirements and adherence to Construction Environmental Management Plans (**CEMPS**). The CEMPS will include targets and key performance indicators, management actions, monitoring requirements and contingency measures.
- Potential impacts on Aboriginal heritage sites associated with the Project will be managed through consultation with all relevant groups and undertaken in accordance with State and Commonwealth legislation (including the Aboriginal Heritage Act).
- Main Roads will manage the construction of the Project using standard road construction management practices.
- Land required for the Project will be acquired by Main Roads pursuant to section 28 (1) of the Land Administration Act 1997 prior to implementation.
- Strategies will be developed to comply with the Australian Standard for lighting of public roads (AS/ NZS 1158). Also, it is anticipated that only intersections and interchanges will be lit for safety reasons. Visual amenity is also a key consideration of the Urban and Landscape Design Framework that has been prepared for Project.
- Main Road will manage noise emissions in accordance with the guidelines provided in State Planning Policy 5.4.
- Although there are no air quality policies or legislative requirements for pollutants from traffic (in comparison to State Planning Policy 5.4 that deals with noise from traffic), Main Roads conducts elective air quality modelling to the relevant Australian standards.

As part of planning for the Project, Main Roads has commenced development of a signage and landscape strategy to promote Bunbury as a key destination. The aim of the strategy is to:

- provide a legible road network that is easily understood by all road users
- provide a consistent and legible signage strategy that integrates with the wider road network
- integrate BORR into the wider road network by maintaining a level of design consistency and integration of technology
- identify the locations of significant directional signage, including likely gantry requirements.

In addition councils, local businesses and the tourism industry will have the opportunity to prepare for the potential impacts of BORR through collaborative strategies to promote Greater Bunbury (and specifically Bunbury CBD and Ferguson Valley) as a destination - develop local and regional markets, appropriate and increased advertising, making adjustments to business models to cater to local and regional markets and promotion of other industries.

Conclusion

The Project will result in many **quantifiable economic benefits**, including:

- productivity benefits and improved supply chain efficiency (travel time savings and operating cost savings) for the freight transport industry through free-flow traffic movement
- safety benefits to all road users (crash cost savings) by reducing the conflict between heavy vehicle and local/ tourism traffic movements
- improved urban amenity for the majority of local residents (environmental externalities – air, noise and emissions) by diverting heavy vehicle traffic away from urban areas
- improved road amenity through reduced congestion on local roads (light vehicle travel time savings and operating cost savings).

The economic appraisal for the Project concluded that the Project is economically viable (as it has a benefit-cost ratio of over 1.0); i.e. the quantified benefits outweigh the cost of the Project.

The Project will also have **other positive impacts** including:

- improved access to Bunbury Port and strengthening of Greater Bunbury's position as a regional industrial hub for the South West Region
- enhanced access for tourists to the Bunbury-Geographe region, the Margaret River region and the wider South West
- reduced congestion around the health and education precinct on Robertson Drive supporting future growth opportunities and the use of healthier transport modes such as walking or cycling
- providing opportunity to improve utilisation of existing industrial areas and development of new industrial/ residential expansion areas through improved connectivity.

However, the Project has **some negative impacts** including:

- for through trips currently around 60 per cent drive through without stopping, 30 per cent stop along the route or in Greater Bunbury for up to one hour and 10 per cent stop for more than one hour. It may be considered that the 30 per cent of vehicles that currently stop along the route or in Bunbury for up to one hour may in future choose BORR over the existing route which may impact business along the existing route by a reduction in passing trade depending on location and customer base. This represent around 620 vehicles on a 'normal' Thursday, around 830 vehicles on a 'normal' Friday and between 2,830 and 3,780 on a long weekend Friday and Monday respectively. However, of these at least half of the vehicles only have a short stop for up to 20 minutes
- direct and permanent impacts to residential amenity (including visual, lighting, noise, potential reduced property value and pollution) of existing rural/ farming and residential areas (particularly some residents in Meadow Landing, Kingston and Gelorup) which are within close proximity of the BORR however this is expected to affect a small proportion of Greater Bunbury residents
- permanent loss of green space and a reduction in available farm land for agricultural purposes through full or partial acquisition of properties with approximately 50 landowners in the Northern and Central Sections directly impacted and 30 to 40 landowners in the Southern Section. It is noted that for the Northern Section the majority of land required is within the future urban (Wanju) and industrial (Waterloo) developments, for which structure planning is well progressed. For the Southern Section, the majority of land has been identified for the Primary Regional Road Network in the Greater Bunbury Regional Scheme for many years
- environmental impacts relating to clearing of native vegetation and mapped fauna habitat have been referred (Northern and Central Section) or will be referred (Southern Section) to both State and Federal regulators for approval

- potential impacts on Aboriginal heritage sites will be managed through consultation with all relevant groups and undertaken in accordance with State and Commonwealth legislation (including the Aboriginal Heritage Act).

Based on the analysis undertaken, **on balance the positive impacts are considered to outweigh the negative impacts** taking into account the potential changes (as summarised above) resulting from the Project that may affect the economic and social environment of Greater Bunbury.

As noted there are number of **mitigation and management measures** in place or that will be put in place by Main Roads to manage some of these negative impacts. However it is also important that councils, local businesses and the tourism industry commence early preparation for the potential tourism bypass impact through collaborative strategies to promote Greater Bunbury (and specifically Bunbury CBD and Ferguson Valley) as a destination.

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1 Introduction

1.1 Context

Bunbury, the second largest city in Western Australia (WA) and administrative centre of the South West Region (the **South West**), is located around 170km south of Perth on the coast.

Bunbury is the fifth most productive regional city in Australia with a regional production of \$151,000 per capita in 2016⁸. It features a historic average compound annual regional production growth rate of 2.9 per cent (2001-13), and is projected to rise to 3 per cent (2013-31)⁹. As the gateway to the South West, Bunbury's location and function as a strategic freight centre drives the imperative for efficient and reliable access.

Figure 6: The South West Region



Source: South West Development Commission (2018).

In 2018, the South West's Gross Regional Product (GRP) was \$13.5 billion, 5.3 per cent of the Gross State Product (GSP), having grown by more than 35 per cent over the preceding 5 years⁹. In comparison the South West's population represented a slightly higher proportion of the WA population at 6.7 per cent¹⁰.

The existing road transport infrastructure in the Greater Bunbury area (including the Port of Bunbury) features five key radial routes passing close to the City of Bunbury. The road network carries a mix of freight, regional, local and tourist traffic with no separation of traffic streams.

These roads, together with the rail in the area, form part of the National Key Freight Routes¹¹. Figure 7 shows the existing road network that supports freight movements to and from the Port of Bunbury (Port) comprising four highways and one main regional road, all of which converge on the eastern outskirts of Bunbury.

Figure 7: Existing road network near the Port of Bunbury



Source: Main Roads (2018).

⁸ Regional Australia Institute, 2017, *Insight Australia's Regional Competitiveness Index, Bunbury WA*.

⁹ <http://www.swdc.wa.gov.au/economy.aspx> and *Gross State Product, 2017-18 WA Treasury*.

¹⁰ *South West population estimate for 2018 was 178,406 and WA estimate for 2018 2.67 million*.

¹¹ *Department of Infrastructure and Regional Development, 2017, National Key Freight Routes*.

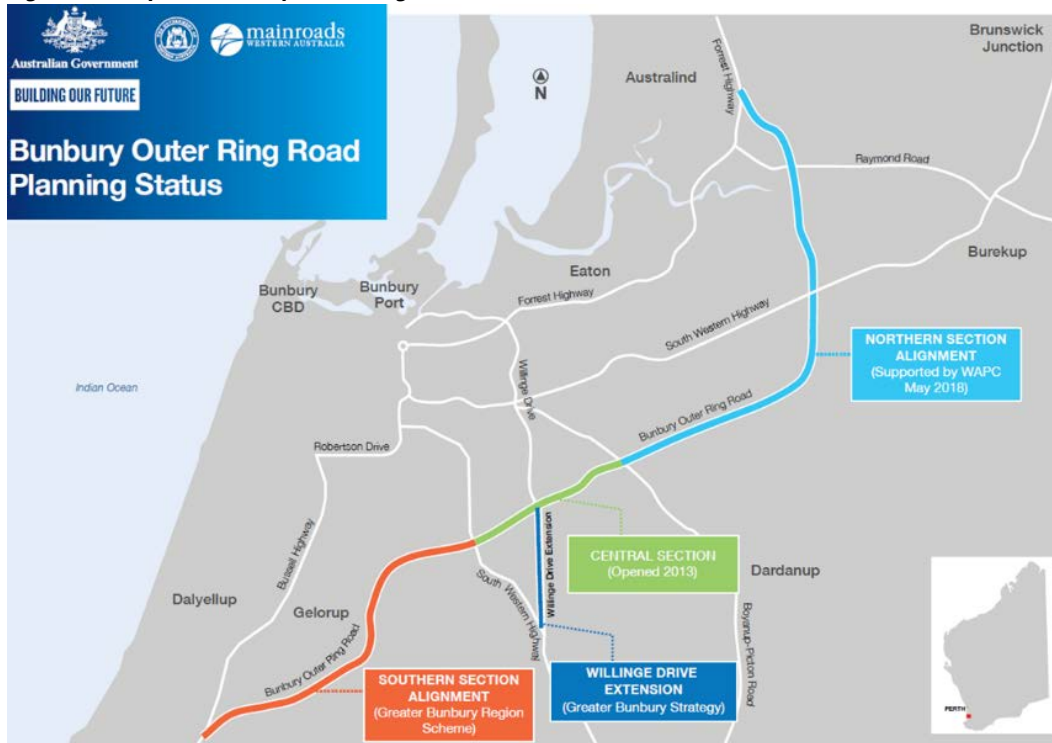
1.2 The proposed project

The need for the proposed Bunbury Outer Ring Road project (**BORR** or **Project**) was originally identified in the early 1970s and planning by Main Roads has been ongoing since this time.

The Project includes three sections, being the:

- **Northern Section** (blue line in Figure 8) connecting the Central Section (Boyanup Picton Road) and Forrest Highway
- **Central Section** (green and dark blue lines in Figure 8) comprising the existing Bunbury Outer Ring Road Stage One (green line), that connects Boyanup Picton Road and South Western Highway, (completed in 2013 as part of the construction of the Bunbury Port Access Road) as well as the proposed 3km Willinge Drive extension (dark blue line) to South Western Highway (south)
- **Southern Section** (orange line in Figure 8) connecting the Central Section (South Western Highway – near Bunbury Airport) and Bussell Highway.

Figure 8: Complete Bunbury Outer Ring Road



Source: Main Roads (2019).

In particular the Project will complete the Bunbury Outer Ring Road Stage 1 (constructed in 2013) and includes construction of a 27km free-flow four lane, grade-separated dual carriageway road at the outer edge of Bunbury connecting Bussell Highway to Forrest Highway.

1.3 The socio-economic impact assessment

1.3.1 Purpose

The purpose of this Socio-Economic Impact Assessment (**SEIA**) report is to outline the socio-economic impacts (positive, neutral and negative) resulting from the Project to inform the ongoing planning for the Project by Main Roads.

The scope of the study is focused on the socio-economic impacts on Greater Bunbury. Individual local community impacts have been considered in the context of the Greater Bunbury area.

1.3.2 Approach

This SEIA is broadly based on the New South Wales Roads and Maritime *'Environmental Impact Assessment Practice Note: Socio-economic assessment'* (EIA-N05) (the **RMS Practice Note**).

Socio-economic impacts (direct and indirect) have mainly been identified by undertaking an overview of publicly available information, Project planning documents (as published by Main Roads on its website) and targeted stakeholder and community face-to-face consultations (refer to Appendix B for further detail).

Key tasks included:

- determining the applicable 'level' of SEIA as described in the RMS Practice Note
- defining the study area
- evaluation of the social context (social impact baseline) including policy/ planning context
- identification of potential socio-economic impacts
- assessment of socio-economic impacts
- summarising the results of the SEIA.

The focus of this SEIA is on impacts during operations but impacts during construction have been identified at a high-level.

Applicable 'level' of SEIA

A 'moderate' level of assessment has been undertaken. The level of assessment has been determined with reference to the checklist provided in Table 1 of the RMS Practice Note. Refer to Appendix C for further detail.

Study area

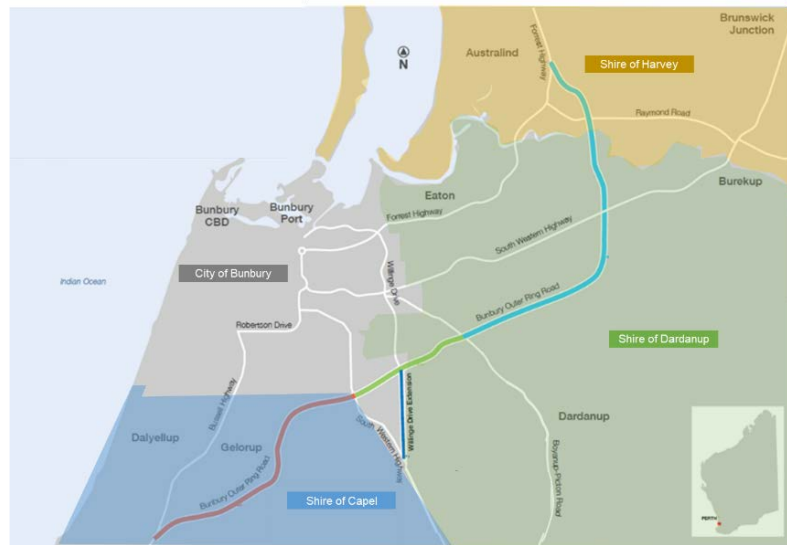
For the purpose of this SEIA, the study area is defined as the area in which the social values and characteristics of the community may change as a direct result of the Project. The study area captures the stakeholders in the immediate vicinity of the Project.

As identified in Figure 9, the study area includes the following Australian Bureau of Statistics (ABS) Statistical Area Level 2 (SA2) areas:

- Bunbury
- Harvey
- Capel
- Dardanup.

These four LGAs are collectively referred to as **Greater Bunbury** in this report.

Figure 9: SEIA study area



Source: KPMG analysis.

However, as the Project lies within a major north-south corridor, socio-economic impacts are likely to accrue to road users not based in the study area. Where applicable, this has been accounted for when identifying socio-economic impacts.

The key stakeholders include:

- the general community
- land owners
- businesses
- local councils
- regional economic development bodies
- industry representatives and associations
- social infrastructure providers.

Materiality

In the context of socio-economic impact evaluations, materiality is a process used to identify those impacts which, upon realisation, could influence the investment decision. Materiality is thus defined in terms of significance to the study area and relevance to stakeholders:

- **Significance to study area** describes the magnitude of the impact on the study area.
- **Relevance to stakeholders** describes the degree to which the impact results in outcomes that directly affects stakeholders.

It is acknowledged that all socio-economic impacts included within this SEIA will be important to affected stakeholders. However, the assessment of materiality of each socio-economic impact relates to the whole study area, rather than individual stakeholders.

Materiality was assessed with reference to a baseline for the study area. Where a particular impact could not be quantified it was described qualitatively.

Four categories were used to classify the magnitude of the impact (**positive, neutral or negative**) on the study area, being:

- **Negligible** – marginal change from the baseline conditions with no discernible effect expected or a functional recovery is expected to occur over a couple of months
- **Minor** – a small but measurable change from the baseline conditions is expected and the change is expected to be temporary and/ or only affect a small number of individuals with a functional recovery expected to occur over the short term
- **Moderate** – noticeable and relatively substantial change from the baseline conditions is expected and the change may be longer term and/ or affect groups of residents, special interest groups or businesses with functional recovery expected to occur over the short to medium term
- **Major** – fundamental change altering the baseline conditions is expected and the change may be long term and/ or affect a proportionally large number of residents or businesses with a functional recovery expected to occur over the long term, if it all.

2 Impact baseline

2.1 Overview of study area (Greater Bunbury)

Table 1 provides a high-level overview of each LGA comprising Greater Bunbury.

Table 1: Overview of each LGA comprising Greater Bunbury

LGA	High-level overview
Bunbury	<ul style="list-style-type: none"> Area of 65.7 square kilometres with an estimated resident population of 31,919 (Census 2016). Bunbury is the administrative centre of the South West and is largely zoned as 'urban' or 'urban deferred'. 2018 GRP is \$4.07 billion (c. 1.6 per cent of the State's GSP)¹². In comparison Bunbury's population represented a slightly lower proportion of the WA population at 1.2 per cent¹³. The Port of Bunbury is located within the City of Bunbury. The Port is one of Australia's biggest regional facilities servicing the export of bulk commodities such as alumina, woodchips and mineral sands. The Port also handles a range of other general cargo imports and exports. The majority of produce from the South West, whether the final destination is an Australian or international market, is transported by either road or rail for export through the Port. The Forrest Highway/ Bussell Highway corridor creates a divide between the Bunbury CBD and outlying areas of residential development as well as separating the industrial areas from the Port. Picton and Preston industrial areas are located within the Bunbury LGA.
Harvey	<ul style="list-style-type: none"> Area of 1,766 square kilometres with an estimated resident population of 26,553 (Census 2016). Harvey is predominantly rural apart from the key urbanised area of Australind (where the majority of the population reside) and the other main urbanised areas of Harvey and Brunswick. 2018 GRP is \$1.5 billion (c. 0.6 per cent of the State's GSP)¹². In comparison Harvey's population represented a slightly higher proportion of the WA population at 1.0 per cent¹³. Industry is diverse and includes agriculture, mining, timber and tourism. Key features include the following: <ul style="list-style-type: none"> The Shire has a variety of natural attributes (Jarrah forest, rivers, Leschenault estuary, dams, beaches, etc.) offering recreational activities and tourism attractions. The Kemerton industrial park. Agricultural sector comprising mixed farming, dairy and horticulture.
Capel	<ul style="list-style-type: none"> Area of c. 550 square kilometres with an estimated resident population of 17,123 (Census 2016). Capel is predominantly rural apart from the key urbanised/ peri-urbanised areas of Dalyellup, Gelorup, Peppermint Grove Beach, Capel and Boyanup, where the majority of the population reside.

¹² <https://www.economyprofile.com.au/rdasouthwest/industries/gross-regional-product> (based on latest REMPLAN data incorporating Australian Bureau of Statistics' (ABS) June 2018 Gross State Product, 2015/ 2016 National Input Output Tables and 2016 Census Place of Work Employment Data).

¹³ WA population is sourced from ABS 2018. LGA population is sourced from South West Development Commission (2018) <http://www.swdc.wa.gov.au/information-centre/statistics/population.aspx>.

LGA	High-level overview
	<ul style="list-style-type: none"> • 2018 GRP is \$749 million (c. 0.3 per cent of the State's GSP)¹². In comparison Capel's population represented a slightly higher proportion of the WA population at 0.7 per cent¹³. • Industry has been traditionally based on agriculture (dairy, beef, timber, orchards, etc.) and, more recently, viticulture as well mineral resources. In addition: <ul style="list-style-type: none"> – Tourism is a key focus and priority with the coastline on Geographe Bay, as well as native forests (Tuart Forest National Park and the Whicher Range) located within the Shire. – A major participant in the global mineral sands sector, Iluka Resources Limited, operates from Capel as one of its key locations.
Dardanup	<ul style="list-style-type: none"> • Area of 526.6 square kilometres with an estimated resident population of 14,033 (Census 2016). Dardanup is predominantly rural apart from the key urbanised area of Eaton where the majority of the population reside. A new urban area, Wanju¹⁴, and industrial area, Waterloo¹⁵, are being planned. • 2018 GRP is \$637 million (c. 0.2 per cent of the State's GSP)¹². In comparison Dardanup's population represented a slightly higher proportion of the WA population at 0.5 per cent¹³. • Economy based on agriculture (diary, beef, sheep and viticulture), timber and tourism. Key features include the following: <ul style="list-style-type: none"> – One of the largest integrated softwood milling and processing plants in Australia is also located in Dardanup. The plant produces sawn pine timber and a range of reconstituted wood-based panels. – Tourism is also a key industry, particularly the Ferguson Valley, with a number of heritage sites, wine estates, Crooked Brook Forest and various other tourist attractions.

Source: Websites for City of Bunbury, Shire of Harvey, Shire of Capel and Shire of Dardanup.

2.2 Planning context

Planning for the BORR is included in the Greater Bunbury Regional Scheme (**GBRS**)¹⁶ as a primary regional road. This GBRS road reserve for BORR is based on the concept design developed by Main Roads in 2002 with allowance for interchanges.

In 2017 the **Northern Section** was amended by the State Government to lie approximately 3.5km east of the GBRS alignment developed in 2002.

For the Northern and Central Sections of BORR, grade separated interchanges (where two roads are separated, with one going over the other) are planned at the following locations:

- Forrest Highway, near Australind (partial interchange providing access southbound into Bunbury via a free-slip indirect loop onto Forrest Highway and connection between Forrest Highway, Paris Road and Clifton Road)
- Raymond Road (full interchange providing an east-west connector between Coalfields Highway and South Western Highway and Forrest Highway)
- South Western Highway (near Waterloo Road) (partial interchange connecting regional and freight movements from South Western Highway east of BORR to and from BORR/ the Port. The

¹⁴ <http://wanju.dardanup.wa.gov.au/>

¹⁵ <https://www.dph.wa.gov.au/waterloo>

¹⁶ The GBRS provides the basis for land use planning in Greater Bunbury to ensure there is an adequate supply of commercial, residential and industrial land as well as conserving key environmental features to provide future growth. The GBRS was last updated in 2005.

interchange will also ultimately reduce the reliance on South Western Highway (north) through the Wanju and Waterloo development precincts

- Waterloo (located at Wireless Road) (grade separated roundabout at the center of the future Waterloo Industrial Development precinct to cater for a high percentage of freight traffic movements to and from planned light/ heavy industry
- Willinge Drive (grade separated roundabout catering for freight traffic movements to and from the Port and connecting Willinge Drive to South Western Highway (south).

For the **Southern Section** an alternative alignment option (also known as the 'green corridor') was considered by the State Government to avoid the environmentally sensitive area that is the habitat of the endangered Western Ringtail Possum. It is noted that, at the time of undertaking the consultations for the SEIA, the alignment decision by Government for the Southern Section of the Project was outstanding. However, subsequently on 4 June 2019 the State Government announced the original corridor (within the existing road reserve as per the GBRS and known as the 'red corridor') as the selected Southern Section alignment. Therefore, the SEIA is based on the approved original alignment corridor.

Main Roads is still investigating detailed connectivity options for the Southern Section which will predominantly follow the GBRS planned corridor. Grade separated interchanges are currently proposed at:

- Centenary Road (full interchange over Lillydale Road to allow heavy vehicle (quarry) movements to continue operating as they currently do)
- Bussell Highway (y-interchange north of the existing Lakes Road intersection to allow traffic to be free flow northbound from BORR to Bussell Highway and southbound from Bussell Highway to BORR as the main through route).

Planning for these grade separated interchanges is ongoing. Whether these are all built as part of the Project is likely to be decided in late 2019 but Main Roads' aspiration is to construct all grade separated interchanges as part of the Project. As an example, an intersection such as a roundabout may be determined by Main Roads to be sufficient in the medium term.

Figure 10 provides an overview of the land use (existing and future) surrounding the Project. Refer to Appendix F Figure 41 for an extract map of the *Greater Bunbury Structure Plan 2013*.

Figure 10 Land use surrounding BORR



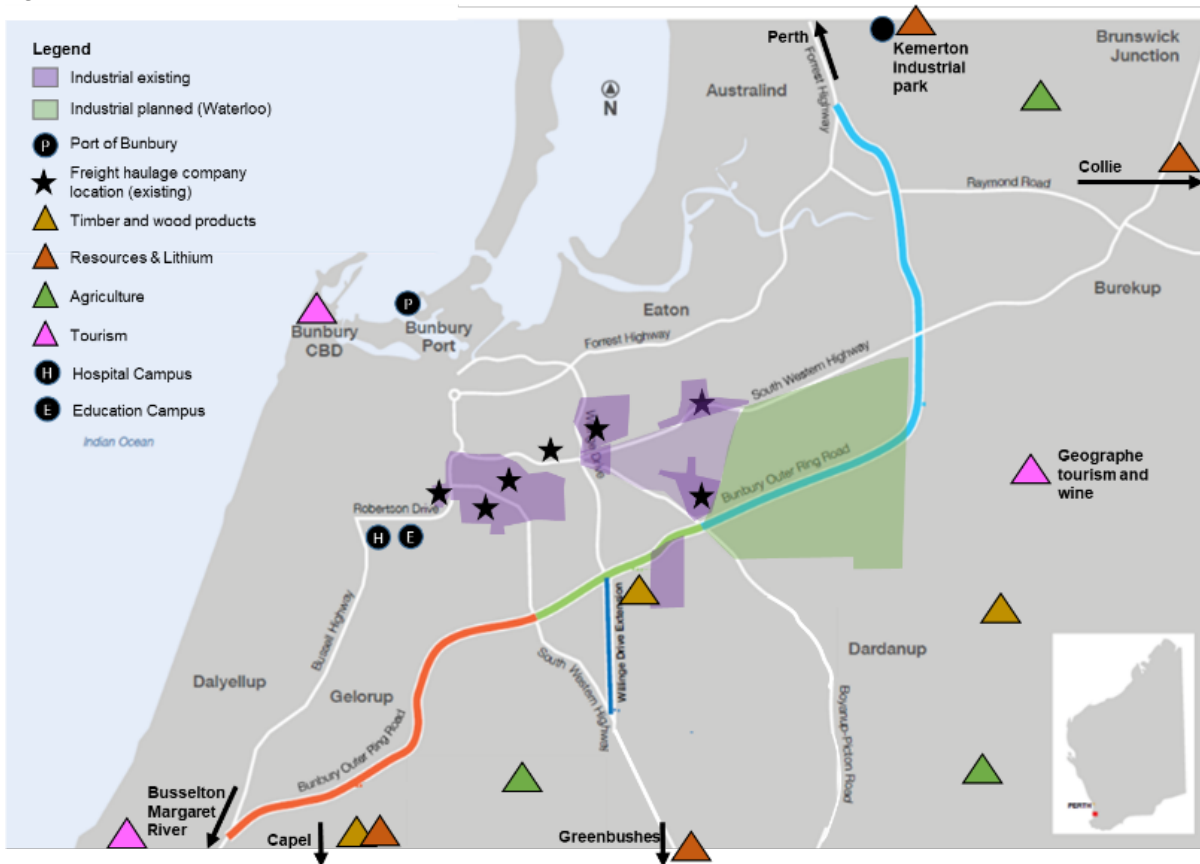
Source: KPMG analysis and BORR Project Team.

2.3 Economic context

The main economic drivers of Greater Bunbury (by employment and value added) are:

- health and education (reflecting the proximity of the area to the regional hospital and ECU campus)
- tourism and retail (including accommodation and food services)
- mining and manufacturing (including mineral processing and timber industry)
- construction
- agriculture/ viticulture.

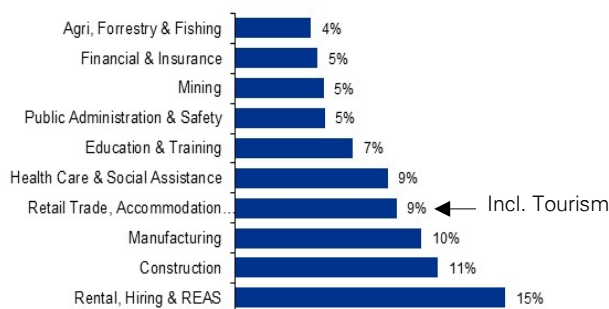
Figure 11 Economic context



Source: KPMG analysis, BORR Project Team and Bunbury-Geographe Growth Plan Partnerships (2017).

Figure 12 and Figure 13 show the share of value added and the share of employment, respectively, by industry for Greater Bunbury.

Figure 12: Share of value added by industry for Greater Bunbury



Source: Regional Development Australia South West for four LGAs comprising Greater Bunbury

Figure 13: Share of employment by industry for Greater Bunbury



Source: Regional Development Australia South West for four LGAs comprising Greater Bunbury

The future economic drivers and priority initiatives identified for the 2017 Bunbury-Geographe Growth Plan¹⁷ are summarised below.

¹⁷ Bunbury Geographe Growth Plan Partnership (2017). It is noted that the Bunbury Geographe includes Collie, Donnybrook and Boyup Brook in addition to the four LGAs in Greater Bunbury.

Table 2: Bunbury-Geographe key economic drivers and priority initiatives

Economic driver	Priority initiative
Agriculture and agribusiness (focused on premium agriculture and food)	<ul style="list-style-type: none"> • Agriculture precinct (Dardanup) • Catchment management • Industry appropriate water supply • Myalup-Wellington Water for Food (Harvey)
Brand and lifestyle (focused on regional branding & tourism, second city policy and community & culture)	<ul style="list-style-type: none"> • Fast passenger rail (Perth to Bunbury) • Bunbury CBD – people’s place • Transforming Bunbury’s waterways • Wanju new city (Dardanup) • Enhanced lifestyle choice • Second city policy (with Bunbury Development Committee formed) • Indigenous development • Regional brand
Emerging and transforming industries (including creative industries, sustainable timber products, mining and marine services)	<ul style="list-style-type: none"> • Marine industries hub (Bunbury) • Timber precinct upgrade (Dardanup) • Optimising the lithium boom for locals
Health and education	<ul style="list-style-type: none"> • Australia’s healthiest city • University city
Transport and logistics (including port and freight transport).	<ul style="list-style-type: none"> • Port of Bunbury upgrade • Rail network upgrade (Dardanup) • Bunbury Outer Ring Road

Source: Bunbury-Geographe Growth Plan Partnership (2017) and South West Development Commission Annual Report 2018.

2.4 Social context

Table 3 provides a summary of the existing social environment in the study area, outlining the baseline context for the identification of potential changes resulting from the Project that may affect the social environment. Unless otherwise stated, all information below is for Greater Bunbury and has been derived from the ABS 2016 Census of Population and Housing.

Table 3: SEIA social impact baseline

Demographic profile	
Population	<ul style="list-style-type: none"> • The estimated resident population for Greater Bunbury was 89,628 in 2016, representing around 3.5 per cent of the WA population. • Between 2011 and 2016, the population¹⁸ grew at an average annual rate of 2 per cent (similar to that of WA). According to the 2019 WA’s Government population projections¹⁹, by 2031 the population in Greater Bunbury is expected to reach approximately 112,040, an average increase of 1.5 per cent per annum. This is 0.3 percentage points lower than the forecast for WA (at 1.8 per cent).
Age profile	<ul style="list-style-type: none"> • As a population, Greater Bunbury has a demographic age profile broadly comparative to WA, with the largest proportion (60 per cent) being of working age (20 to 65 years).

¹⁸ Australian Bureau of Statistics 2011 and 2016 Census. Band C (mid-range) forecast is used.

¹⁹ Department of Planning, Lands and Heritage.

Demographic profile

Cultural diversity

- The majority of the resident population for Greater Bunbury is from European background (c. 61 per cent), which is broadly comparative to WA (at 62 per cent).
- Approximately 2 per cent of the resident population of Greater Bunbury identified as Aboriginal and/ or Torres Strait Islander, which is broadly comparative to WA (at 3 per cent).

Household and dwelling composition

- One family households were the most common household type in Greater Bunbury (64 per cent) followed by two family households and three or more family households (2 per cent altogether). For family households, couples without children represented 41 per cent of the total.

Density

- Population density is on average 31 persons per square kilometre which reflects the land use in the area. Bunbury's population density is significantly higher than the other three LGAs (in the study area) at 486 persons per square kilometre.

Department of Social Services payments

- Of the four LGAs, Bunbury has the largest proportion of people receiving government benefits (excluding family tax benefit) at around 35 per cent. This is over 10 percentage points higher than the other three LGAs and the WA average (at just under 25 per cent).

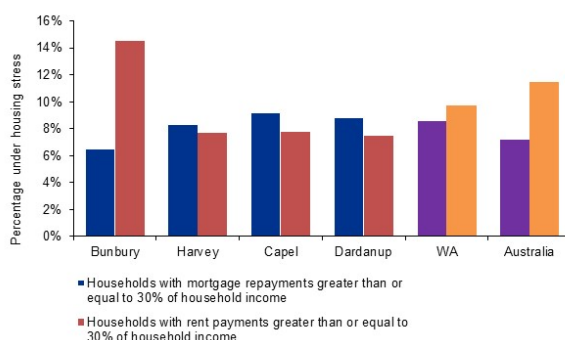
Household income

- The median weekly household income was \$1,197 for Bunbury, \$1,553 for Harvey, \$1,726 for Capel and \$1,546 for Dardanup, which are all broadly comparative to WA (at \$1,595).
- The rate of unemployment for Greater Bunbury was 7.5 per cent, which is comparable to WA (at 7.4 per cent).

Housing cost

- The key tenure types in Greater Bunbury are 'owned with mortgage' (33 per cent), 'owned outright' (24 per cent) and rented (22 per cent); with the remainder 21 per cent recorded by ABS as 'not stated' or 'n/a'. This is broadly comparable to the WA averages of 40 per cent, 28 per cent and 28 per cent respectively.
- The median mortgage payment per month for Bunbury, Harvey, Capel and Dardanup is \$1,600, \$1,842, \$1,950 and \$1,863 respectively, which is slightly below the WA median of \$1,993.
- The median rent payment per week for Bunbury, Harvey, Capel and Dardanup is \$295, \$320, \$350 and \$330 respectively, which is slightly below the WA median of \$347.
- By combining the household income and housing payment (mortgage and rent) data, housing stress can be measured. A household is deemed under housing stress when its housing payment is 30 per cent or more of its household income. Overall housing cost and affordability of Greater Bunbury is comparable to that of WA and Australia as a whole (refer Figure 14).

Figure 14 Housing stress for Greater Bunbury



Source: ABS 2016 Census.

ABS Socio-Economic Index for Areas (SEIFA)

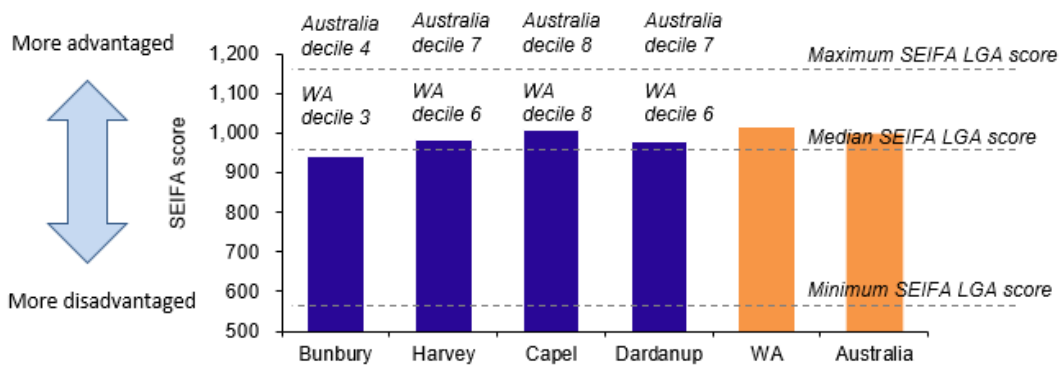
The SEIFA is a summary measure of the socio-economic condition of geographic areas across Australia based on a range of Census characteristics. The index is derived from attributes such as income, educational attainment, unemployment, and jobs/ occupations. SEIFA measures relative advantage and disadvantage at an area level (not at an individual level). A higher score on the index means a lower level of disadvantage and a lower score a higher level of disadvantage.

All areas are ordered from lowest to highest score, the lowest 10% of areas are given a decile number of 1 and so on, up the highest 10% of areas which are given a decile number of 10. Decile 1 is the most disadvantaged relative to the other areas.

Of the four Greater Bunbury LGAs, Bunbury has the lowest SEIFA score while Capel has the highest (refer Figure 15). Greater Bunbury is on average below the WA and Australian index (falling within the 3rd decile for WA and 4th decile for Australia). Therefore Bunbury has a relative low incidence of advantage and a relative high incidence of disadvantage compared to other LGAs in Greater Bunbury, WA and Australia. Key contributors are summarised below. Refer to Appendix D for further detail.

- Bunbury has comparably lower weekly household medium income (\$1,197 compared to WA median of \$1,595).
- Bunbury has higher housing stress with comparably higher percentage of households with rent payments greater than or equal to 30 per cent of household income.
- Bunbury has a comparably lower labour market participation rate and higher unemployment rate with a higher proportion of people receiving government benefits.

Figure 15 SEIFA score for Greater Bunbury



Source: ABS 2016 Census, Index of relative socio-economic advantage and disadvantage (IRSID).

Transport use

There is a high reliance on private vehicles within Greater Bunbury. In 2016, 92 per cent of resident²⁰ travelled via private vehicle to work, while only 3 per cent travelled by public or active transport modes. Also, 96 per cent of households have access to at least one motor vehicle.

A large proportion of people in Greater Bunbury work in Bunbury requiring travel from Capel, Harvey or Dardanup. Also, a large proportion of business are located on the western side with the South Western Highway being a key route connecting east to west.

Source: ABS 2016 Census of Population and Housing.

Appendix D provides an overview of the socio-economic environment of Greater Bunbury.

2.5 Strategic policy framework

The Project aligns to key national, state and regional/ local priorities and policies.

Appendix E provides an overview of the strategic policy framework relevant to the Project.

²⁰ This only includes residents who travel to work, and does not include categories such as 'do not travel as work from home'.

3 Identification of socio-economic impacts

The following section outlines a range of potential changes to the socio-economic environment that may occur as a result of the Project's construction and operation. These impacts have been drawn from an overview of publically available information, Project planning documents (as published by Main Roads on its website) and targeted stakeholder and community face-to-face consultations.

The socio-economic impacts have been classified according to the time period in which the impact is realised - during construction or operation. This classification does not specify the duration of the impact.

Consistent with the RMS Practice Note, this impact assessment aims to weigh negative impacts upon certain businesses and community members with the positive impacts of the Project for transport users and the broader industry and community as a whole.

3.1 Environmental and heritage impacts

Environmental impacts have not been included in this report as these form part of the environmental approval process for the Project with detailed Environmental Impact Assessment reports prepared by Main Roads and referred (Northern and Central Section) or to be referred (Southern Section) to both State and Federal regulators for approval. Details on the process and the Environmental Impact Assessment reports (including mitigation measures such as development of an Environmental Management Plan) can be found on the Main Roads website. The Environmental Impact Assessment reports include consideration of:

- Clearing of native vegetation and mapped fauna habitat
- Matters of national environmental significance or other matters protected by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) including members of any listed species or any threatened ecological community (TEC)
- Interference with bed and banks of a watercourse or wetlands (clearing of vegetation and construction works).

Potential impacts on Aboriginal heritage sites associated with the Project will be managed through consultation with all relevant groups and undertaken in accordance with State and Commonwealth legislation (including the Aboriginal Heritage Act).

3.2 Impacts from construction

Construction of the Project is planned to commence in Quarter 1 (Q1) 2021 for a period of two to three years. The construction methodology for structures depends on their final form. Construction of the road will be undertaken using traditional earth-moving, equipment and construction techniques.

3.2.1 Positive impacts from construction

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations the following positive impacts have been identified.

Table 4: Construction impacts - positive

Ref	During construction	Significance to study area
Economic		
C1	<p>Employment during construction</p> <p>Direct employment opportunities during the construction phase, and indirectly through employment of those providing goods and services as inputs to the Project during the construction phase (including the construction services, professional services and manufacturing industries).</p> <p>Direct and indirect employment opportunities have not been quantified for the Project. Assessment of the significance of impact took into account the scale of the Project and the State Government's focus on promotion of local content for major projects.</p>	Moderate

Source: KPMG analysis.

3.2.2 Negative impacts from construction

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations the following negative impacts have been identified.

Table 5: Construction impacts - negative

Ref	During construction	Significance to study area
Environmental		
C2	<p>Noise from construction activities</p> <p>Localised change in local amenity due to increased noise levels as a result of construction activities associated with the Project. The impact of this noise will affect relatively small proportion of Greater Bunbury residents given that the Project is on the outer edge of Bunbury which is mostly zoned as rural land but also intersects land reserved as urban, urban deferred, regional open space and industrial.</p> <p>Main Roads will manage the construction of the Project using standard road construction management practices. Noise emissions will managed in accordance with the guidelines provided in State Planning Policy 5.4. Main Roads considers the impacts to be manageable²¹.</p>	<p>Minor</p> <p>Refer to section 3.3 for impacts resulting from operations</p>
C3	<p>Dust and vehicle emissions from construction activities</p> <p>Construction activities associated with the Project will contribute to dust and vehicle emissions. This will be generated by both construction dust near earthworks, stockpiling of materials and by dust and emissions associated with the haulage of</p>	<p>Minor</p> <p>Refer to section 3.3</p>

²¹ Bunbury Outer Ring Road Northern and Central Sections, EPA Environmental Referral Supporting Document, May 2019

Ref	During construction	Significance to study area
	<p>materials and equipment to and from the construction work site. The impacts associated dust and vehicle emissions during construction is not considered likely to be significant. Dust may be a nuisance to nearby sensitive receptors if unmitigated during construction activities, however it is not considered to have an adverse impact on local air quality.</p> <p>Main Roads will manage the construction of the Project using standard road construction management practices. Although there are no air quality policies or legislative requirements for pollutants from traffic, Main Roads does elective air quality modelling to the relevant Australian standards. Main Roads considers the impacts to be manageable²¹.</p>	for impacts resulting from operations
Economic		
C4	<p>Access and freight productivity during construction</p> <p>Disruptions and delays during construction may result in changes in the efficiency and reliability of freight movements and access to employment where existing routes are impacted by the Project. The impact of this is expected to be limited given that the Project is on the outer edge of Bunbury.</p> <p>Main Roads will manage the construction of the Project using standard road construction management practices.</p>	Minor
Health and social wellbeing		
C5	<p>Emergency vehicle access during construction</p> <p>During construction it is likely that due to temporary road closures or diversions emergency vehicle access (e.g. to allow firefighting and provide emergency egress to the community either side of the alignment) may be altered.</p> <p>Main Roads has consulted local emergency services (including impacted LGAs and the Bush Fire Service) to determine issues which will arise from severance to local roads and determined the requirements for the provision of additional water tanks and stand pipes. Local and access road connections are being planned where existing local and access roads will be disrupted.</p> <p>Main Roads includes requirements to maintain emergency routes during construction in contracts. The same would apply to standpipes and other fire response assets.</p>	Negligible
C6	<p>Road user and construction worker safety during construction</p> <p>Increase in safety risk for commuters and construction workers during construction as a result of increased construction traffic in the vicinity of construction worksites, and the perceived potential for the creation of unsafe places near worksites and surface works.</p> <p>Main Roads will manage the construction of the Project using standard road construction management practices.</p>	Minor
Quality of living environment		
C7	<p>Access to social infrastructure and services during construction</p> <p>Disruptions and delays during construction may result in changes in the efficiency and reliability of access to health care and medical facilities, education, social infrastructure and areas of recreation and leisure. The impact of this is expected to be limited given that the Project is on the outer edge of Bunbury.</p> <p>Main Roads will manage the construction of the Project using standard road construction management practices.</p>	Negligible

Source: KPMG analysis, BORR Alignment Section Report, Final, September 2018, Northern Alignment Selection Position Paper, Document No. BORR-01-PP-RD-0002, detailing the environmental and heritage considerations in refining the alignment and Bunbury Outer Ring Road Northern and Central Sections, EPA Environmental Referral Supporting Document, May 2019.

3.3 Project and operational impacts – Freight and related industries

3.3.1 Overview summary

The key freight and related industries in Greater Bunbury are mining and mineral processing (historically alumina, coal and mineral sands but with lithium emerging), construction, timber and agriculture/ viticulture, representing 30 per cent of the value added in Greater Bunbury (refer Figure 12).

Figure 16 highlights the key freight related industries (or related industrial areas) within Greater Bunbury (and immediate surrounds).

Figure 16: Key industries within Greater Bunbury and surround



Source: KPMG analysis and BORR Project Team.

- Port of Bunbury** –services the export of the majority of bulk commodities (e.g. alumina, woodchips and mineral sands) from the South West. One of Australia’s biggest regional ports and one of the world’s major alumina ports, exporting c. 12 per cent of the world’s alumina exports²²
- Proposed Waterloo Industrial Park** (Dardanup) – planned to deliver land for commercial, light and general industrial uses and has been identified as a suitable agri-food processing precinct. The area is expected to create around 4,000 jobs²³

²² South West Development Commission, 2017, Progress Indicators. Web link: http://www.swdc.wa.gov.au/media/256049/regional_per_cent20indicators_per_cent20report_2017.pdf
²³ Western Australian Planning Commission, 2017. Draft Waterloo Industrial Park District Structure Plan.

2. **Kemerton Industry Park** (Harvey) – includes silicon smelting, titanium dioxide producing, chlorine producing, mineral sand processing and so on. New Albemarle lithium plant is being built to process spodumene ore concentrates from Talison lithium greenbushes mine (expected to be operational by 2021)
3. **Picton and Preston Industrial Parks** – for Picton, the proposed southern precinct is located east of Picton, an existing industrial area
5. **Wood & timber milling and processing** (Dardanup) – with a new South West Timber Hub being planned (south of the BORR Central Section). Key business include Westpine, Laminex and Wesbean
6. **Mineral sand mines and quarries** (mainly Capel)
7. **Spodumene** ore concentrates at Greenbushes
8. **Coal and alumina production** (from and near Collie)
9. **Agriculture/ viticulture** (Greater Bunbury)

The location of the Port in the heart of the CBD presents a challenge in the facilitation of freight movement. The five major highways converge on the eastern outskirts of Bunbury and traverse through the CBD and residential precincts to the Port. As Bunbury has developed and become much more urbanised and, to a degree, being built to much higher density, freight access and efficiency is at odds with community amenity, land use and road safety outcomes.

3.3.2 Positive freight and related industries impacts

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations the following positive impacts have been identified.

It is noted that in general industry stakeholders consulted expressed strong support for the Project.

Table 6: Freight and related industries impacts - positive

Ref	During operations	Significance to study area
Economic		
11	<p>Heavy vehicle productivity</p> <p>Reducing travel times for freight movements typically reduce transport costs and improve the utilisation of road freight vehicles resulting in benefits to freight transport operators and the producers that use these services. Where the freight task remains fixed along with the fleet composition, freight productivity typically benefits from improved operating speeds and conditions for heavy vehicles.</p> <p>Industry stakeholders commented on the positive impacts the Project is expected to have on providing a faster and safer alternative route to transport product; with the completed Central Section already having had a positive impact.</p> <p>The freight movement travel time and heavy vehicle operating cost benefits resulting from the Project are captured within the economic appraisal for the Project and were estimated at c. \$90 million and \$30 million respectively over 30 years once BORR is operational²⁴.</p>	Major

²⁴ Bunbury Outer Ring Road, Stage 4 Infrastructure Australia submission. Economic benefits have been discounted at 7 per cent and is shown in net present value terms, in 2018 dollars.

Ref	During operations	Significance to study area
12	<p>Access and connectivity to the Port and existing/ proposed industrial parks</p> <p>The South Western Highway interchange as currently proposed provides for movements from South Western Highway (east) to BORR (south) and the Port and vice-versa.</p> <p>Industry stakeholders commented that the Project is expected improve the road network between key logistic centres (e.g. the Port, Kemerton industrial park and other production/ industrial sites) thereby positively impacting on supply chain connectivity and efficiency (including from Collie to Kemerton via Raymond Road interchange which has been confirmed as a full interchange).</p> <p>Key items commented on by industry stakeholders included opportunity for more direct access and connectivity via local roads between industry sites and BORR, such as:</p> <ul style="list-style-type: none"> • direct access for the timber industry via Moore Road instead of via a new road as currently proposed for BORR (considered to be critical for current freight movements as well as easy access to the proposed new Timber Hub (located south of the BORR Central Section)) • direct access for Lithium mine (for proposed lithium tailings collection and management at Dardanup waste site) via Waterloo Road (instead of via Wireless Road as currently proposed). However, it is noted that the use of the Dardanup waste site is still under discussion and considered by the community to be unsuitable for the long term accumulation of toxic waste like lithium tailings due to its close proximity to the township of Dardanup and the Ferguson Valley. 	Moderate
13	<p>Competiveness and employment</p> <p>Industry stakeholders commented that providing an effective freight transport network that provides efficient and safe access to the Port, Perth, the South West, industry and industrial expansion areas is essential for the long-term economic development of Greater Bunbury and the South West. Key reasons provided by stakeholders consulted include:</p> <ul style="list-style-type: none"> • expected reduction in freight cost resulting from free-flow traffic • seen as essential for future industry expansion and growth (e.g. lithium and proposed expansion by Iluka Resources in Capel) • support future travel demand to/ from industrial precincts (e.g. Port, Kemerton and proposed Waterloo) • support development of new/ planned industrial precincts • promotion of Greater Bunbury as a potential logistics / existing industrial hub. <p>Assessment of the significant of the impact took into account that freight and related industries in Grater Bunbury represent c. 30 per cent of the value added (refer Figure 12).</p>	Major
Health and social wellbeing		
14	<p>Road safety and amenity</p> <p>The Project will reduce freight traffic in the Bunbury urban area (refer Appendix F, Figure 47), reducing the conflict between heavy vehicle and local / tourism traffic movements, resulting in improved safety outcomes.</p> <p>Industry stakeholders commented that safety is currently of concern, specifically Robertson Drive, and noted that there are often near miss incidents that are not officially recorded.</p>	Major

Ref During operations

Significance to study area

The safety benefits, attributable to both freight and passenger road usage resulting from the Project is captured within the economic appraisal for the Project and was estimated at c. \$90 million²⁵ over 30 years once BORR is operational.

Source: KPMG analysis, stakeholder consultations, publicly available information and Project documentation as published by Main Roads on its website

3.3.3 Negative freight and related industries impacts

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations the following negative impacts have been identified.

Table 7: Freight and related industries impacts - negative

Ref During operations

Significance to study area

Economic

15 Increased local road maintenance

Minor

The completion of BORR will see increased use of certain sections of local roads by freight vehicles resulting in increased maintenance frequency and costs. Most of these roads are currently maintained by the corresponding local councils.

Key local roads commented on by stakeholders that may be subject to higher heavy vehicle traffic include:

- Centenary Road
- Jules Road (increased quarry traffic if Centenary Road is connecting road)
- a number of local roads in Dardanup that are used by freight vehicles to access the Picton East Industrial Park and the waste site in Dardanup (proposed to be used by Lithium mine).

However the service life of existing arterial roads bypassed by trucks will be extended, minimising future local upgrade treatments require.

Source: KPMG analysis, stakeholder consultations, publicly available information and Project documentation as published by Main Roads on its website.

²⁵ Bunbury Outer Ring Road, Stage 4 Infrastructure Australia submission. Economic benefits have been discounted at 7 per cent and is shown in net present value terms, in 2018 dollars.

3.4 Project and operational impacts – Tourism

3.4.1 Overview summary

Tourism

Tourism is a significant economic contributor for Greater Bunbury (including the Bunbury CBD and Ferguson Valley) and the South West, with the majority of domestic and international visitors using road transport to access the area. Tourism is a growing industry in the region and recognised as one with high development potential.

For 2018, the Bunbury-Geographe region’s contribution to tourism was around \$379 million (representing around 30 per cent of the South West region’s tourism output) providing employment to around 1,972 people²⁶. In aggregate retail trade, accommodation and food services (of which tourism forms part)²⁷ contribute around 9 per cent in terms of value added (refer Figure 12) and 20 per cent in terms of employment (refer Figure 13) for Greater Bunbury.

Visitor numbers for the Bunbury-Geographe region are provided in Table 8.

Table 8: Visitor number for Bunbury-Geographe region

Visitors per annum	YE Sep 2016	YE Sep 2017	YE Sep 2018	Per cent of total visitors
Domestic overnight visitors (with around 90 per cent from Perth and surrounds)	532,000	687,000	565,000	28 per cent
Intrastate daytrip visitors (with around 80 per cent from surrounding areas (e.g. Busselton and Margaret River))	1,373,000	1,232,000	1,416,000	70 per cent
International visitors	27,800	24,800	33,000	2 per cent

Source: Bunbury-Geographe Tourism Partnership (2018).

The most popular accommodation choice was the home of a friend or relative (around 88 per cent), with 24 per cent of domestic visitors and 27 per cent of international visitors staying in a hotel, resort, motel or motor inn²⁸.

The Bunbury Wellington & Boyup Brook Regional Tourism Development Strategy 2015-2019 identified the following key opportunities for the Greater Bunbury area:

- adventure-nature experiences
- themed routes (e.g. self-drive routes and maps)
- event generated trips
- branding and marketing (e.g. regional identify and promotion)
- tourism packages (e.g. collaboration among operators)
- sub-regional tourism organisation (e.g. unite and collaborate among operators).

Connectivity and collaboration among regions and operators has been identified as a key success factor for enabling the above opportunities. In addition, a safe and efficient road network has also

²⁶ Comprising the LGAs of Bunbury, Harvey, Dardanup and Capel; also referred to as the Greater Bunbury area.

²⁷ Tourism is not a separate industry classification by ABS but forms part of retail trade, accommodation and food services.

²⁸ City of Bunbury, 2017. Local Planning Strategy. City of Bunbury Overnight Visitor Fact Sheet claims that on average in 2011-2013.

been recognised as essential to connect key tourism sites (e.g. themed routes) and enhance travel experiences.

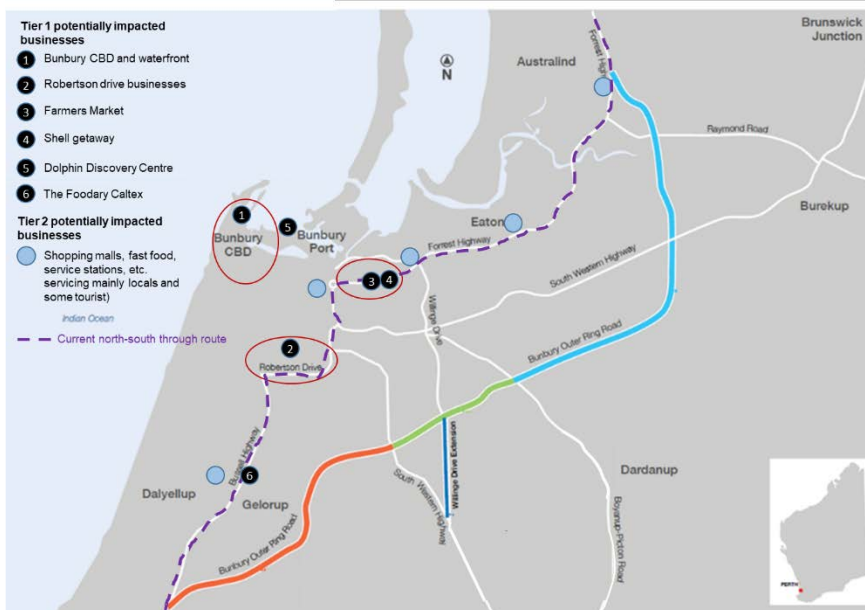
Potential Bunbury bypass effect

A key concern raised by stakeholders consulted related to the potential Bunbury bypass effect.

Introduction

As shown in Figure 17 (purple dotted line) the north-south through route (Forrest Highway, Robertson Drive and Bussell Highway) currently bypass the Bunbury CBD.

Figure 17: Key locations that may be subject to bypass effect



For **south bound trips** the current decision point as to whether to visit Bunbury CBD is Eelup roundabout, which is around 3.5km east from the CBD. With BORR the decision point will be further north, around 15km north of the Eelup roundabout. For **north bound trips** the decision point with BORR will be further south on Bussell Highway north of the existing Lakes Road intersection.

There are some businesses along the existing route that may be impacted by a reduction in passing trade. The impact on local businesses will vary depending on their location and customer base (e.g. locals and/ or tourists) with Tier 1 businesses identified as those that may be most impacted. The key locations identified as potentially key impacted areas are:

- Bunbury CBD (including Dolphin Discovery Centre)
- Forest Highway near Bunbury CBD (including Farmer's Market)
- Robertson Drive
- Fast food/ retail outlets along Sandridge Road
- a number of service stations along the route (e.g. Shell Gateway and Caltex).

Potential Bunbury bypass impact based on traffic surveys

In order to assess the potential Bunbury bypass impact two Origin and Destination (OD) surveys have been undertaken by Main Roads. The two OD surveys were:

- OD survey 1: Normal work day on a Thursday and Friday in 2018 (14 and 16 June) with a survey time of between 3am and 8pm on each day
- OD survey 2: Labour Day weekend in 2019 (Friday 1 March and Monday 4 March) with a survey time of between 3am and 8pm on each day.

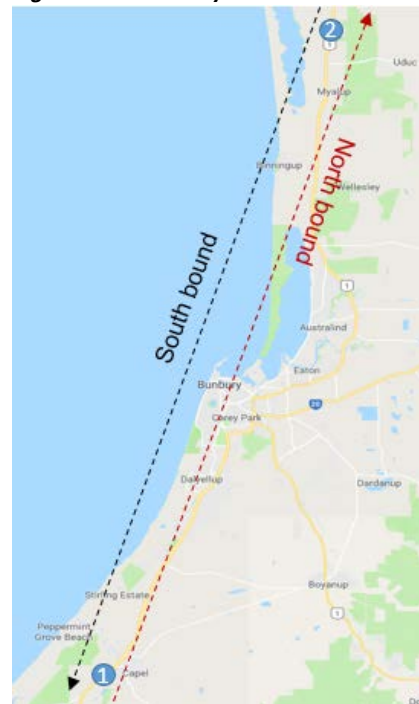
For the purpose of assessing the potential bypass impact two survey locations were used, being:

- (1) Bussell Highway south of Capel and
 - (2) Forrest Highway north of Forrest Road
- (as shown in Figure 18).

In total over the Labour Day weekend over 40,000 vehicles passed these two points (either travelling north or south; i.e. 1N, 1S, 2N or 2S).

Of these a number of vehicles could be matched (based on number plates) given that they passed a survey location more than once inbound to outbound during the survey time on each day (i.e. 1N-1S; 1N-2N, 2S-2N and 2S-1S). However some of the matched trips are not considered through trips as some vehicles entered and exited the same survey location (i.e. 1N-1S and 2S-2N) and therefore did not pass both survey locations (north bound or south bound as indicated in Figure 18).

Figure 18: OD survey locations



Source: BORR Project Team.

Table 9 provides a summary of total vehicles recorded, unmatched trips, matched trips and through trips. It is noted that through trips represent a small proportion of all trips as captured by the OD surveys, c. 25 per cent on the long weekend Friday, c. 40 per cent on the long weekend Monday and c. 15 per cent on the normal weekend Friday.

Table 9: Summary of OD survey results

	Thursday 21/ 06/ 2018	Friday 15/ 06/ 2018	Friday 1/ 03/ 2019	Monday 4/ 03/ 2019
Total vehicles recorded (i.e. 1N, 1S, 2N or 2S)	c. 23,400	c. 28,900	c. 42,800	c. 44,300
Total unmatched trips (passed survey point but stayed in Bunbury or surrounding areas)	c. 15,600	c. 18,300	c. 21,800	c. 16,900
Total matched trips (i.e. 1N-1S; 1N-2N, 2S-2N and 2S-1S)	c. 3,900	c. 5,300	c. 10,500	c. 13,700
<i>As a % of total trips (matched and unmatched)</i>	20%	22%	33%	45%
<i>Light vehicles</i>	87%	89%	85%	89%
<i>Light vehicles with trailer</i>	3%	3%	9%	9%
<i>Heavy vehicles</i>	11%	9%	6%	2%

	Thursday 21/ 06/ 2018	Friday 15/ 06/ 2018	Friday 1/ 03/ 2019	Monday 4/ 03/ 2019
Total through tips (i.e. 2S-1S and 1N-2N)	c. 2,200	c. 3,200	c. 8,100	c. 12,200
As a % of total trips (matched and unmatched)	11%	14%	25%	40%
South bound through trips (2S-1S)	39%	57%	72%	14%
North bound through trips (1N-2N)	61%	43%	28%	86%

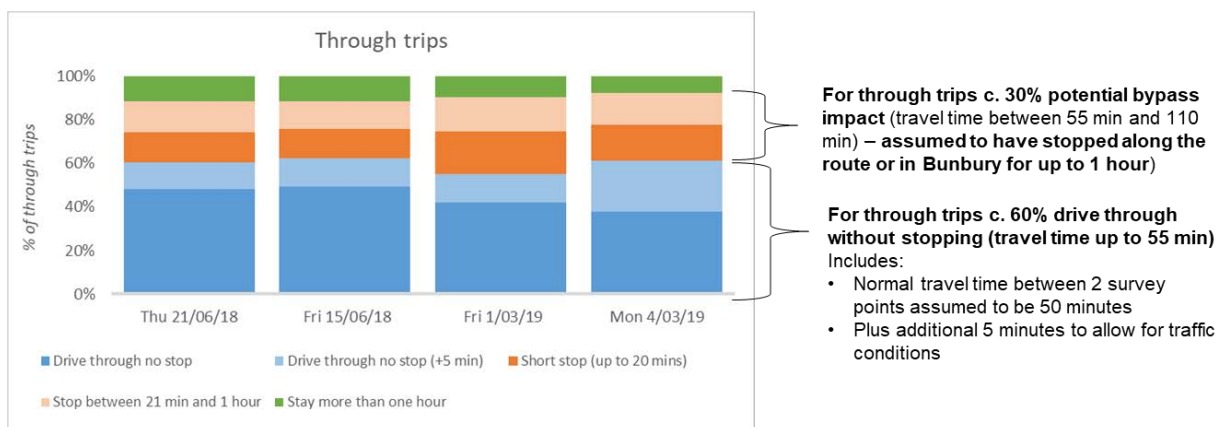
Source: OD Survey Results.

Matched trips represent those vehicles that passed a survey location more than once inbound to outbound during the survey time on each day (i.e. 1N-1S; 1N-2N, 2S-2N and 2S-1S).

Through trips represent those vehicles that travelled either all the way south bound - Forrest Highway (2S) to Capel (1S) or north bound - Capel (1N) to Forrest Highway (2N).

For through trips traffic was assessed in terms of travel time between the two survey locations. Figure 19 shows the proportion of vehicles travelling between the two points without stopping (normal travel time of 50 minutes plus 5 minutes to allow for traffic conditions, specifically on long weekends). Vehicles with travel times longer than 55 minutes were assumed to have stopped along the route or in Bunbury or surrounding areas.

Figure 19: Summary of OD survey results for through trips



Source: Analysis of OD Survey Results.

Accordingly, as shown in Table 10 and Figure 19, for through trips:

- **c. 60 per cent of vehicles currently drive through without stopping** and is assumed to continue this behaviour once BORR is operational
- **c. 30 per cent of vehicles stop along the route or in Bunbury for up to one hour** and is assumed to be at risk of potentially bypass Greater Bunbury once BORR is operational
- **c. 10 per cent of vehicles stop along the route or in Bunbury for more than one hour** and assumed to visit a place as a destination and to continue this behaviour once BORR is operational.

Table 10: Summary of OD survey results for through trips

	Thursday 21/ 06/ 2018	Friday 15/ 06/ 2018	Friday 1/ 03/ 2019	Monday 4/ 03/ 2019
Total through tips (i.e. 2S-1S and 1N-2N)	c. 2,200	c. 3,200	c. 8,100	c. 12,200
Drive through without stopping (travel time up to 55 mins)	c. 1,350	c. 1,980	c. 4,450	c. 7,470
<i>As a % of through trips</i>	60%	60%	55%	60%
Potential bypass impact (stop up to 1 hour)	c. 620	c. 830	c. 2,830	c. 3,780
<i>As a % of through trips</i>	30%	25%	35%	30%
<i>As a % of total trips (matched and unmatched)</i>	3%	4%	9%	12%
<i>Stop between 5 and 10 mins</i>	120	190	790	910
<i>Stop between 10 and 20 mins</i>	180	230	780	1,100
<i>Stop between 20 and 30 mins</i>	140	130	490	600
<i>Stop between 30 and 40 mins</i>	80	100	340	510
<i>Stop between 40 mins and 1 hour</i>	90	150	400	640
Stay more than 1 hour	c. 230	c. 390	c. 820	c. 950
<i>As a % of through trips</i>	10%	15%	10%	10%

Source: Analysis of OD Survey Results.

As shown in Table 10 around half of those subject to potential bypass impact only have a short stop for up to 20 minutes which is assumed to be for travel related need such as refuelling.

Summary of findings from analysis of OD surveys

Key findings are summarised below.

- Through trips represent a small proportion of vehicles recorded as part of the OD surveys, c. 25 per cent on the long weekend Friday, c. 40 per cent on the long weekend Monday and c. 15 per cent on the normal weekend Friday
- For through trips currently around 60 per cent drive through without stopping, 30 per cent stop along the route or in Greater Bunbury for up to one hour and 10 per cent stop for more than one hour.
- Bunbury CBD is already impacted by bypass effect (Forrest Highway, Robertson drive, Bussell Highway) given that c. 60 per cent of through trips currently drive through without stopping.
- For through trips, it may be considered that the 30 per cent of vehicles that currently stop along the route or in Bunbury for up to one hour may in future choose BORR over the existing route which may impact business along the existing route by a reduction in passing trade depending on location and customer base. This represent around 620 vehicles on a 'normal' Thursday, around 830 vehicles on a 'normal' Friday and between 2,830 and 3,780 on a long weekend Friday and Monday respectively. However, of these at least half of the vehicles only have a short stop for up to 20 minutes.

New Perth Bunbury Highway/ Forrest Highway which bypass Mandurah - a case study

Prior to opening of the new 70km Perth Bunbury Highway in 2009²⁹ (which bypass Mandurah) significant traffic used to travel through Mandurah CBD. With the Perth Bunbury Highway completed travel time between Perth and Bunbury has been reduced by approximately 30 minutes.

The key insights and lessons learnt from publicly available information and consultation with the City of Mandurah are summarised in Table 11. For Mandurah it is noted that north-south traffic used to go directly through Mandurah CBD (which is not the case for Bunbury).

Table 11: Key insights and lessons learnt from Perth Bunbury Highway

Key insights	Lessons learnt
<ul style="list-style-type: none"> • Congestion eased immediately after the opening of the Perth Bunbury Highway and the community and many businesses felt the positive impact (especially on main local roads which used to be very congested). • Some businesses located in the Mandurah CBD and on Old Coast Road have been negatively impacted. Retail, fast-food outlets and petrol stations were the most impacted businesses. It is noted that the opening of the Perth Bunbury Highway coincided with the Global Financial Crisis which contributed to the negative impact on businesses. • Over the longer term, businesses in some pockets of the Mandurah CBD have improved however this is not the case for most businesses on Old Coast Road. 	<ul style="list-style-type: none"> • Prior to opening of the Perth Bunbury Highway more marketing should have been done to promote Mandurah's identity as a tourism destination. • Signage is important. Mandurah has 6 signs (with funding assistance from the Chamber of Commerce) that indicate entries to Mandurah at multiple points of Forest Highway.

Further details on the case study are provided in Appendix H.

²⁹ The majority of the bypass opened in September 2009 but the final section connecting to Mandurah did not open till October 2010.

3.4.2 Positive tourism impacts

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations the following positive impacts have been identified.

Table 12: Tourism impacts - positive

Ref	During operations	Significance to study area
Health and social wellbeing		
T1	<p>Road safety and amenity</p> <p>Based on demand modelling undertaken by Main Roads it is forecast that the Project will divert around 34,000 vehicles onto the Northern Section of BORR and around 37,000 onto the Southern Section (refer Appendix F, Figure 47) for a Greater Bunbury population of 200,000, thereby removing around 71,000 vehicles from key local and tourist routes in Greater Bunbury (e.g. Forest Highway and Bussell Highway). The Project will therefore reduce freight traffic in the Bunbury urban area, reducing the conflict between heavy vehicle and local / tourism traffic movements, resulting in improved travel amenity and safety outcomes. This supports the Bunbury-Geographe region's tourism strategy for growth including potential 'themed routes'.</p>	Moderate

Source: KPMG analysis, stakeholder consultations, publicly available information and Project documentation as published by Main Roads on its website.

3.4.3 Negative tourism impacts

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations the following negative impacts were identified.

Table 13: Industry impacts - negative

Ref	During operations	Significance to study area
Economic		
T2	<p>Ease of access to Bunbury CBD and Ferguson Valley as tourist destinations</p> <p>BORR maintains access and connections to key tourism areas, including the Bunbury CBD (via Forrest Highway) and Ferguson Valley (via Raymond Road (and local Henty Road) or Wireless Road). As part of planning for the Project, Main Roads has commenced development of a signage and landscape strategy to promote Bunbury as a key destination.</p> <p>However, most community and small business stakeholders consulted expressed a preference for:</p> <ul style="list-style-type: none"> • Forrest Highway to be retained as the direct connection (primacy) to the Bunbury CBD with the BORR an 'alternative' route • For an earlier second connection to the Bunbury CBD at South Western Highway (with Willinge Drive and Wireless Road) not considered by stakeholders as appropriate given that this primarily provides access to industrial areas and/ or are located is past the Bunbury CBD • Opportunity to improve access to Ferguson Valley via South Western Highway • Opportunity to improve access from Dardanup to Ferguson Valley (other than via Wireless Road as currently proposed). 	Moderate

Ref	During operations	Significance to study area
	Stakeholders have also indicated that, in support of tourism, effective signage ³⁰ (allowing travellers sufficient time to make decisions on attractions to visit and where to exit from the road) will be important to assist travellers prepare for upcoming attractions and exit points from BORR.	
T3	<p>Tourism businesses and employment</p> <p>A number of businesses that service tourists (in addition to servicing local residents) may be impacted, for example:</p> <ul style="list-style-type: none"> • small retail and service businesses on Forrest Highway that rely heavily on through traffic (for example, the Farmer’s Market stated that they believe their client base to be c. 40 per cent non-local customers in general³¹) • businesses in Bunbury CBD (e.g. retail), but noting that north-south traffic does not currently need to pass through the CBD, these businesses are competing with major shopping centre developments such as in Eaton and Australind and that retail businesses are struggling across the country due to economic slowdown and online shopping • attractions in Bunbury CBD (e.g. Dolphin Discovery Centre), but noting that north-south traffic does not currently necessarily directly pass these attractions • food servicing businesses and service stations along Forrest Highway, Robertson Drive and Sandridge Road relying on high through traffic and visibility (those with a large proportion of tourist customers will be impacted more). <p>The impact may be greater on weekends and public holidays due to increased north-south tourism traffic.</p> <p>Assessment of the significance of the impact took into account that:</p> <ul style="list-style-type: none"> • tourism provided employment to around 1,972 people (or 4 per cent of total employment in the region)³² • around 80 per cent of daytrip visitors, representing around 70 per cent of total visitors, are from surrounding areas (e.g. Busselton and Margaret River) which suggests more familiarity with the area and key tourism sites • around 88 per cent visitors of are visiting friends and family (a visitor category with relatively lower spending) which suggests moderate ‘loss of business’ impacts • a subset of business in the three key impacted locations are expected to be affected due to their location and large proportion of tourist customers • OD surveys result shows that for weekends (other than long weekends) around 4 per cent (c. 830 vehicles) of total trips (matched and unmatched) may be subject to the bypass effect • OD surveys result shows that for long weekends between 9 and 12 per cent (c. 2,800 to 3,800 vehicles) of total trips (matched and unmatched) may be subject to the bypass effect • Farmers Market being recognised as a key attraction in its own right; listed as the number one attraction on TripAdvisor • stakeholders noted that the impacts are expected to be higher in the short to medium term (as was the case for the Perth Bunbury Highway and other studies³³) 	Moderate

³⁰ Effective signage to include multiple signs a few kilometres apart from each other to enable travellers to prepare for exit points.

³¹ This is a subjective assessment by the Farmer’s Market with no data provided to support the percentage stated.

³² Tourism Data (2018), the Bunbury Geographe Tourism Partnership.

³³ <https://www.rms.nsw.gov.au/.../projects/town-bypasses-literature-review.pdf...>

Ref During operations

Significance to study area

- stakeholders commented on mitigation measures that could reduce the impact, i.e. implementation of effective signage and advertising campaign, which is supported.

Source: KPMG analysis, stakeholder consultations, publicly available information and Project documentation as published by Main Roads on its website.

3.5 Project and operational impacts – Social infrastructure

3.5.1 Overview summary

Greater Bunbury includes a range of social infrastructure that supports community services, such as health and emergency services, schools, educational institutions, aged care facilities, libraries, police stations, sporting grounds, cultural heritage sites, aboriginal heritage sites etc.

In the context of the Project (at the outer edge of Bunbury) the South West health and education precinct intersecting Bussell Highway and Robertson Drive is of material importance (refer Figure 10).

Two hospitals and three educational institutions are located in this precinct, including

- Bunbury Regional Hospital³⁴ with 103 inpatient beds
- St John of God Hospital³⁵ with 145 inpatient beds
- Edith Cowan University (ECU) South West Campus³⁶, the largest university campus in WA outside the Perth metropolitan area, with a student enrolment of 1,231 in 2017
- South Regional TAFE Bunbury Campus, one of the largest campuses
- Manea Senior College³⁷ the only specialist senior school in the south west of WA with a total enrolment of over 1,000 in 2018.

The education and health industries are important for Greater Bunbury contributing around 20 per cent in terms of value added (refer Figure 12) and 20 per cent in terms of employment (refer Figure 13).

3.5.2 Positive social infrastructure impacts

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations the following positive impacts have been identified.

³⁴ Bunbury Regional hospital website: <http://www.ruralhealthwest.com.au/explore-wa/south-west-region/hospital-services-south-west>.

³⁵ St John of God Hospital annual report 2017/18.

³⁶ ECU Pocket Stats 2017: https://www.ecu.edu.au/__data/assets/pdf_file/0005/763484/Pocket_Stats_Guide_2017.pdf

³⁷ Manea Senior College annual report (2018): https://www.maneasc.wa.edu.au/Portals/0/AdminReports/Manea_per_cent20Senior_per_cent20College_per_cent20- per cent202018_per_cent20Final_per_cent20- per cent20LR.pdf

Table 14: Social infrastructure impacts - positive

Ref	During operations	Significance to study area
Economic		
S1	<p>Remove/ delay pedestrian over/ under pass investment</p> <p>Stakeholders commented that the need for a pedestrian over/ under pass, connecting the precinct to the proposed car park across Bussell Highway, may be removed/ delayed if road congestion is significantly reduced following completion of BORR.</p>	Minor
S2	<p>Education businesses and employment</p> <p>Stakeholders considered student experience an important factor for the education institutions to grow. Visual amenity and road safety has been an ongoing concern on Robertson Drive. For example, many students and staff want to take up healthier transport modes such as walking or cycling, and are currently not able to do so. Also, the hospitals have plans to upgrade and expand services to meet forecast demand which will require sufficient road capacity (for staff and patients).</p>	Minor
Health and social wellbeing		
S3	<p>Road safety and amenity</p> <p>Based on demand modelling undertaken by Main Roads it is forecast that the Project will divert around 11,000 vehicles from Robertson Drive (refer Appendix F, Figure 47) for a Greater Bunbury population of 200,000. Robertson Drive is identified as the 3rd least safe road in Greater Bunbury (refer Appendix F, Figure 49). Stakeholders expect positive amenity (noise, visual and air quality), safety (less severe crashes) and travel time impacts (e.g. currently 35 seconds waiting time to turn left/ right out of hospital) resulting from the Project. In addition, cycling and walking paths for staff and students may become viable in the future resulting in health benefits and improved promotion of facilities.</p>	Moderate
S4	<p>Access and connectivity</p> <p>Stakeholders commented that removing traffic from Robertson Drive should improve access to the precinct. For emergency vehicles the impact is expected to be neutral. Also, travel advantage expected between Busselton and Perth for patient transfers. For the hospital, having the ability for ambulances to access BORR via the South Western Highway (south) may assist in patient transfers to/ from Perth (noting that this is not currently proposed for BORR with South Western Highway (south) not having any on/ off ramps).</p>	Minor

Source: KPMG analysis, stakeholder consultations, publicly available information and Project documentation as published by Main Roads on its website.

3.5.3 Negative social infrastructure impacts

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations no relevant negative impacts have been identified.

3.6 Project and operational impacts – Residential/Community

3.6.1 Overview summary

In the context of the Project (at the outer edge of Bunbury) the key residential/ community areas likely to be most impacted are:

- Meadow Landing
- Gelorup
- Farmers on land being directly impacted
- Other landowners, including residents, farmers and other businesses

(refer Figure 20).

Figure 20: Key residential/ community areas impacted



Source: KPMG analysis and BORR Project Team.

The Northern Section is approximately 3.5 kilometres east of the existing GBRS corridor. The Greater Bunbury Strategy includes a proposed extension of Waterloo Road northwards to Raymond Road on a similar alignment as the BORR (refer Appendix F Figure 41).

The Southern Section is predominantly inside the existing GBRS corridor. It is noted that at the time of consultations the preferred corridor for the Southern Section was still under consideration by the State Government and therefore only high-level concept plans were available for comment as part of consultations undertaken.

3.6.2 Positive residential/ community impacts

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations the following positive impacts have been identified.

Table 15: Residential/ community impacts - positive

Ref	During operations	Significance to study area
Quality of living environment		
R1	<p>Proposed Wanju residential development – improved connectivity</p> <p>The proposed Wanju residential area, adjacent to the BORR, has been designated for future development (prior to 2021) in the GBRS. Stakeholders commented that the Project has the potential to positively influence this in terms of providing connectivity. Some concerns were noted around noise impacts which may require mitigation (for example noise walls or broader undeveloped area to create buffer).</p> <p>Contiguous to the established residential suburb of Eaton and employment areas, in the Waterloo and Preston Industrial Estates, the Wanju District site has the potential to offer a mix of high density housing (around 20,000 dwellings) and local centres suitable for commercial/ retail use in addition to a train station³⁸.</p>	Minor
R2	<p>Urban areas and other businesses not within direct proximity of BORR - improved local traffic conditions and amenity</p> <p>The majority of urban areas (including Australind, Eaton, Bunbury and Dalyellup) in Greater Bunbury are expected to experience improved road and residential amenity in terms of less congestion (especially on weekends), improved travel time, improved safety outcomes and lower noise impacts resulting from traffic diverted onto BORR. Without BORR population and traffic growth will exacerbate amenity, noise and safety impacts and result in increased traffic on other roads east of Forrest Highway that are not fit for purpose, resulting in further safety problems.</p> <p>The Project is therefore not expected to negatively impact and change existing access and connectivity for a large proportion of the Greater Bunbury resident population. Some stakeholders consulted also commented that BORR will positively connect Dardanup, (future) Wanju and Ferguson Valley.</p> <p>The light vehicle travel time and operating cost benefits resulting from the Project are captured within the economic appraisal for the Project and were estimated at c. \$500m million and \$108 million respectively over 30 years once BORR is operational³⁹.</p>	Major

Source: KPMG analysis, stakeholder consultations, publicly available information and Project documentation as published by Main Roads on its website.

3.6.3 Negative residential/ community impacts

Stakeholders consulted generally expressed in principal understanding of the need for a BORR but raised concerns over the details of the BORR design (e.g. alignment, interchanges, connections and amenity mitigation measures) and the subsequent impacts (e.g. amenity, noise, etc.).

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations the following negative impacts have been identified.

³⁸ Western Australian Planning Commission, 2016. Draft Wanju Structure Plan

³⁹ Bunbury Outer Ring Road, Stage 4 Infrastructure Australia submission. Economic benefits have been discounted at 7 per cent and is shown in net present value terms, in 2018 dollars.

Table 16: Residential/ community impacts – negative

Ref	During operations	Significance to study area
Quality of living environment, health and social wellbeing		
R3	<p>Resumption of land (including farm land)</p> <p>The resumption of land results in the loss of green space and a reduction in the available farm land for agricultural purposes. Main Roads’ consultation with landowners has shown the area hosts a diverse range of high to low intensity agricultural activities, as well as contracting and other businesses.</p> <p>In addition the Project may significantly affect the operation of small number of farming businesses that have been owned for generations, due to the resultant fragmentation of the farm land (severed by BORR). These families have a strong connection to their properties, the area and the families and community surrounding them.</p> <p>In terms of resumption, there are approximately 50 landowners in the Northern and Central Sections directly impacted and 30 to 40 landowners in the Southern Section (which is subject to more detailed work currently being undertaken by Main Roads). However it is noted that for the Southern Section the GBRS has set aside land for the Primary Regional Road Network and therefore landowners affected within the GBRS corridor should have been aware of the planning status for many years. For the Northern Section the majority of land required is within the future urban (Wanju) and industrial (Waterloo) developments, for which structure planning is well progressed.</p> <p>Land required for the Project will be acquired by Main Roads pursuant to section 28 (1) of the Land Administration Act 1997 prior to implementation.</p>	Major
R4	<p>Meadow Landing community – amenity, noise, property value, etc.</p> <p>Stakeholders consulted raised a number of amenity and noise concerns in respect of the Northern Section alignment and specifically the proposed Raymond Road interchange including:</p> <ul style="list-style-type: none"> • Lifestyle – some property owners, particularly on the eastern side, stated that they have selected the area for ‘semi-rural’ lifestyle reasons and at the time invested in properties (e.g. lifestyle blocks) with expectations of the 2002 BORR corridor • Residential amenity – some property owners commented that outdoor living and entertainment is expected to be impacted given proximity of BORR • Visual (including lighting) amenity – properties on the eastern side, currently with a natural landscape view (and in some cases designed accordingly), will face BORR in future. In addition the impact of lighting was raised as a key concern • Noise – concern raised around noise levels from Raymond Road and BORR as well as proposed interchange at Raymond Road. <p>In terms of the concerns raised above the following is noted:</p> <ul style="list-style-type: none"> • The Greater Bunbury Strategy includes a proposed extension of Waterloo Road northwards to Raymond Road on a similar alignment as the BORR (refer Appendix F Figure 40) • The Shire of Harvey has aspiration for a large urban development north of Raymond Road (refer Appendix F Figure 40) • Residents were unaware that the Raymond Road reserve was sufficient to allow for future dual carriageway and future interchange at Forrest Highway / Grand Entrance and are concerned about potential for this to be built with BORR (noting that a final decision on this has not yet been made) • The proposed Raymond Road interchange has been updated by Main Roads to include north facing ramps to improve amenity impacts for Meadow Landing community from reduced freight traffic on Raymond Road • Raymond Road has been configured over BORR to minimise impact to the local community of Meadow Landing. To further reduce impact, the interchange has also 	Moderate

Ref During operations

Significance to study area

been set up as a 'half-half' interchange, with the BORR mainline sunk as low as possible within groundwater constraints, at minimum grades

- Noise impacts will be managed by Main Roads under State Planning Policy 5.4 "Road and Rail Transport Noise and Freight Considerations in Land Use Planning". Main Roads has completed a noise study for the Ultimate Planning Design Concept of the Northern and Central Sections.
- Main Roads will develop mitigation for lighting impacts to comply with the Australian Standard for lighting of public roads (AS/ NZS 1158).

Other items raised by stakeholders were:

- **Pollution** – some stakeholders expressed concern over toxic waste risk, especially in respect of Lithium, being transported via Raymond Road/ BORR⁴⁰.
Main Roads has made a number of changes to the road design including north facing ramps at Raymond Road interchange to reduce freight traffic (including Lithium trucks) on Raymond Road.
- **Property values** – concerns around potential for reduced residential property value due to close proximity to BORR and subsequent noise and visual amenity impacts (with some stakeholders stating that they initially paid a premium for location and view with selected Northern Section alignment not included in the GBRS).
Some studies found that buyers are paying c. 3 per cent more per kilometre to be farther from a major road corridor⁴¹ whilst in other cases property values (such as multifamily development and most commercial properties) have increased due to improved transport connections⁴².
However many factors impact on property values including economic outlook, interest rates, population, supply and demand, etc. In general the housing market has softened significantly over the last couple of years with houses selling at cost or even a 24 to 40 per cent discount compared to purchase prices 10 to 11 years ago, however, in recent months there have been some signs pointing towards a slow recovery⁴³.

Stakeholders commented that BORR is already impacting them in terms of time spent participating in meetings as well as uncertainty on what the future holds.

Broadly the stakeholders requested:

- the Northern Section to be further east, away from the eastern side of Meadow Landing
A further east alignment has been considered by Main Roads and determined to be undesirable for a number of reasons (including negative transport planning and project objective impacts as well as difficulty to justify transfer of impacts onto other land owner groups) as outlined in the Alignment Selection Report dated September 2018 (page 30)⁴⁴.
- improved noise mitigation such as dense graded asphalt surface (instead of chip seal) on sections of BORR as is currently proposed on Raymond Road and noise

⁴⁰ Main Roads noted that although there are no air quality policies or legislative requirements for pollutants from traffic, Main Roads does elective air quality modelling to the relevant Australian standards.

⁴¹ Impacts of major roads on property values: An analysis of an existing and a proposed road corridor project Prasad Neelawala, Clevo Wilson and Tim Robinson School of Economics and Finance Faculty of Business Queensland University of Technology (https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=ACE10&paper_id=190)

⁴² For example the completion of the M7 ring road around Sydney opened up a large number of outer west suburbs and industrial areas, which has seen some appreciation in values.

⁴³ <https://www.communitynews.com.au/western-suburbs-weekly/real-estate/2018-a-tough-year-for-south-west-property-market/>

⁴⁴ [http://www.epa.wa.gov.au/sites/default/files/Referral_Documentation/Appendix per cent20B per cent20 per cent20Alignment per cent20Selection per cent20Report.pdf](http://www.epa.wa.gov.au/sites/default/files/Referral_Documentation/Appendix%20per%20B%20per%20cent20Alignment%20per%20Selection%20per%20Report.pdf)

Ref	During operations	Significance to study area
	<p>treatment (such as noise walls) for properties in close proximity to BORR even though the predicted noise level (based on studies undertaken by Main Roads) does not exceed the targets/ limits set out in State Planning Policy 5.4 (which is over 55 decibels during the day and over 50 decibels at night).</p> <p>Assessment of the significance of the impact took into account that the Meadow Landing resident population represents less than 0.9 per cent of the Greater Bunbury resident population⁴⁵ and that the impact is greatest for a subset of Meadow Landing.</p>	
R5	<p>Gelorup community – amenity, noise, property value, etc.</p> <p>Stakeholders consulted raised a number of amenity and noise concerns in respect of the Southern Section alignment including:</p> <ul style="list-style-type: none"> ● Lifestyle – some property owners selected the area for lifestyle reasons and at the time of purchasing properties stated that they were led to believe that although BORR was included in the GBRS it was unlikely to happen ● Noise – concern raised over noise levels for properties in close proximity to BORR ● Visual (including lighting) amenity – for those properties adjacent to BORR with the impact of lighting specifically raised as a concern. <p>In terms of the concerns raised above the following is noted:</p> <ul style="list-style-type: none"> ● Noise impacts will be managed by Main Roads under State Planning Policy 5.4 “Road and Rail Transport Noise and Freight Considerations in Land Use Planning”. Main Roads has completed a noise study for the Ultimate Planning Design Concept of the Northern and Central Sections. ● Main Roads will develop mitigation for lighting impacts to comply with the Australian Standard for lighting of public roads (AS/ NZS 1158). <p>Other items raised by stakeholders were</p> <ul style="list-style-type: none"> ● Pollution – some stakeholders raised concerns around potential impact of air pollution (and specifically in relation to rainwater tanks) <p>It is noted that the national standards for air and water quality apply for land and water managed under the Environmental Protection Act, but not necessarily water in rainwater tanks.</p> <p>It is recognised that pollutants are emitted from diesel and petrol powered vehicles, but the concentration levels of those chemicals have decreased with improved engine and fuel technology. There are various potential pollutant sources to consider in respect of rainwater tanks. Guidance issued by the Australian Health Protection Committee found that in most parts of Australia, industrial and traffic emissions are unlikely to cause significant impacts on the quality of rainwater collected in domestic tank⁴⁶.</p> <ul style="list-style-type: none"> ● Property value – concerns around potential reduced residential property value due to close proximity to BORR and subsequent noise and visual amenity impacts. Stakeholders also raised concern around potential damage to properties during construction of BORR. <p>Refer to item above for various factors that may impact property values.</p> <ul style="list-style-type: none"> ● Connecting local roads – residents are concerned around increased traffic on Jules Road (if connected to Centenary Road) and Yalinda Road as key connecting routes to 	Moderate

⁴⁵ This is based on the 2016 ABS for Roelands (given that ABS stats for Meadow Landing as part of Roelands is not available). 2016 ABS shows a population of 839 for Roelands and 89,622 for Greater Bunbury. With Meadow Landing comprising around 151 properties.

⁴⁶ [https://www1.health.gov.au/internet/main/publishing.nsf/Content/0D71DB86E9DA7CF1CA257BF0001CBF2F/\\$File/enhealth-raintank.pdf](https://www1.health.gov.au/internet/main/publishing.nsf/Content/0D71DB86E9DA7CF1CA257BF0001CBF2F/$File/enhealth-raintank.pdf)

Ref	During operations	Significance to study area
	<p>BORR (which is different from the previous Hastie Road connection outlined in the GBRS).</p> <p>Subsequent to these consultations Main Roads has made a number of changes to the road design including moving Hasties Road connection to Centenary Road (linking to Lilydale Road).</p> <ul style="list-style-type: none"> ● Uncertainty around alignment selection – the investigative process for the preferred Southern Section alignment has created conflict within the local community as most farmers supported the GBRS corridor and most Gelorup residents the alternative corridor. <p>Some stakeholders also commented that the Southern Section may not meet modern freeway design standards as the corridor width may need to be reduced from 100m to less than 80m along Woods Road. Main Roads has advised the road will be designed according to relevant standards and can be designed to fit within the available space. For example narrow median, and retaining walls where required.</p> <p>Broadly the stakeholders requested:</p> <ul style="list-style-type: none"> ● improved noise mitigation such as dense graded asphalt surface (instead of chip seal) on sections of BORR as is currently proposed on Raymond Road and noise treatment (such as noise walls) for properties in close proximity of BORR even though the predicted noise level (based on studies undertaken by Main Roads) does not exceed the targets/ limits set out in State Planning Policy 5.4 (which is over 55 decibels) ● improved community linkages east-west of BORR (the Yalinda Drive Bridge over BORR will maintain existing connectivity and community access) ● minimised impact of quarry traffic on local roads to BORR (current planning for quarry access is for Hanson access to remain as per existing routes with new access from Holcim to Hasties Road with Holcim access onto Jules Road to be light vehicles only) ● improved fire and emergency linkages east-west of BORR (this is being addressed by Main Roads through consultation with DFES, Shire of Capel and local fire brigades). <p>In addition Main Roads is considering planning impacts on protection of a tuart tree in Gelorup identified as important to the local community following the ministerial announcement on 4 June 2019.</p> <p>Assessment of the significance of the impact took into account that the Gelorup resident population represents 2.6 per cent of the Greater Bunbury resident population⁴⁷ and that the impact is greatest for a subset of Gelorup.</p>	
R6	<p>Amenity impact for Dardanup residents between BORR and Dardanup waste site</p> <p>The Dardanup waste site may be used in future by the lithium mines.</p> <p>Access via BORR is through the Waterloo interchange (at Wireless Road). This and Harris Road/ Waterloo Road/ Ferguson Road would be the route to the Cleanaway site from BORR.</p> <p>Some stakeholders expressed preference for a more direct route. Noting that a more direct route is also not proposed in the draft Waterloo Industrial Park District Structure Plan. The plan states that “with the construction of the BORR the existing Waterloo Road will not be a through route and all traffic wishing to travel from the southern part of the Waterloo Industrial Park to the northern part is expected to be required to pass across the BORR intersection with Wireless Road”.</p>	Negligible

⁴⁷ 2016 ABS shows a population of 2,300 for Gelorup and 89,622 for Greater Bunbury.

Ref	During operations	Significance to study area
R7	Kingston community (and planned East Treendale, between Raymond and Clifton Roads) – noise and lighting Stakeholders raised concern around noise and lighting impacts on the existing Kingston community in close proximity to the proposed Paris-Clifton Road interchange (and specifically the proposed elevation of the interchange).	Minor
R8	Amenity impact for farms along or adjacent to the BORR created by increased noise and decreased visual amenity. These impacts would vary according to individual circumstances.	Minor

Source: KPMG analysis, stakeholder consultations, publicly available information and Project documentation as published by Main Roads on its website.

3.7 Socio-Economic impact summary

Overall the Project would lead to both socio-economic benefits and impacts for some industries, land owners, businesses and communities in Greater Bunbury.

Based on desktop analysis of publically available information and Project planning documents (as published by Main Roads on its website) as well as targeted stakeholder and community face-to-face consultations the following positive and negative impacts have been identified.

3.7.1 Freight and related industries

The key freight and related industries in Greater Bunbury are mining and mineral processing (historically alumina, coal and mineral sands but with lithium emerging), construction, timber and agriculture/ viticulture, **representing 30 per cent of the value added in Greater Bunbury** (refer Figure 12).

In summary the socio-economic impacts of the Project for freight and related industries are predominantly positive.

Ref	Project impact	Positive	Negative
11	Heavy vehicle productivity through reduced travel times and free-flow traffic reducing transport costs and improving the utilisation of road freight vehicles resulting in benefits to freight transport operators and the producers that use these services	Major	
12	Access and connectivity to the Bunbury Port and existing/ proposed industrial parks thereby positively impacting on supply chain connectivity and efficiency and ultimately the competitiveness of the Bunbury Port	Moderate	
13	Industry competitiveness and employment through providing an improved freight transport network that supports growth and cost efficiency for industry	Major	
14	Road safety and amenity by reducing the conflict between heavy vehicles and local/ tourism traffic	Major	
15	Increased local road maintenance with certain sections of local connecting roads to BORR forecast to have an increase in heavy vehicle usage - Centenary (to be build), Jules (if connect to Centenary) and a number within Dardanup. However the service life of existing arterial roads bypassed by trucks will be extended, minimising future local upgrade treatments require		Minor

3.7.2 Tourism

Tourism is a significant economic contributor for Greater Bunbury (including the Bunbury CBD and Ferguson Valley) and the South West. **In aggregate retail trade, accommodation and food services (which includes tourism) contribute around 9 per cent in terms of value added** (refer Figure 12) **and 20 per cent in terms of employment** (refer Figure 13) **for Greater Bunbury.**

A key concern raised by stakeholders consulted related to the potential Bunbury bypass effect of the Project and the resulted impact that this may have on tourism. Key findings from analysis of two origin and destination (OD) surveys that have been undertaken by Main Roads are summarised below.

- Through trips⁴⁸ represent a small proportion of vehicles recorded as part of the OD surveys, c. 25 per cent on the 2019 labour day long weekend Friday, c. 40 per cent on the 2019 labour day long weekend Monday and c. 15 per cent on a Friday for a normal weekend.
- For through trips currently around 60 per cent drive through without stopping, 30 per cent stop along the route or in Bunbury for up to one hour and 10 per cent stop for more than one hour.
- Bunbury CBD is already impacted by bypass effect (Forrest Highway, Robertson Drive, Bussell Highway) given that c. 60 per cent of through trips currently drive through without stopping.
- For through trips, it may be considered that the 30 per cent of vehicles that currently stop along the route or in Greater Bunbury for up to one hour may in future choose BORR over the existing route which may impact business along the existing route by a reduction in passing trade depending on location and customer base. This represent around 620 vehicles on a 'normal' Thursday, around 830 vehicles on a 'normal' Friday and between 2,830 and 3,780 on a long weekend Friday and Monday respectively. However, of these at least half of the vehicles only have a short stop for up to 20 minutes.

In summary the socio-economic impacts of the Project for tourism are both positive and negative.

Ref	Project impact	Positive	Negative
T1	Road safety and amenity by diverting around 71,000 vehicles in the long term from key local and tourist routes in Greater Bunbury (e.g. Forest Highway, Robertson Drive and Bussell Highway) will improve safety and amenity outcomes to all road users (freight, local and tourist)	Moderate	
T2	Ease of access to Bunbury CBD and opportunity to improve access to Ferguson Valley as tourist destinations with most community stakeholders expressing a preference for Forrest Highway to be retained as the direct connection (primacy) to the Bunbury CBD with the BORR an 'alternative' route. Stakeholders also commented that the Project provides an opportunity to improve access to Ferguson Valley via South Western Highway. Noting that the Project maintains access and connections to key tourism areas		Moderate
T3	Tourism businesses and employment with some businesses along the existing route potentially impacted by a reduction in passing trade depending on location and reliance on pass through trade (for example, the Farmer's Market stated that they believe their client base to be c. 40 per cent non-local customers in general ⁴⁹) noting that the impacts are expected to be higher in the short to medium term (as was the case for the Perth Bunbury Highway)		Moderate

⁴⁸ Through trips represent those vehicles that travelled either all the way south bound - Forrest Highway to Capel or north bound- Capel to Forrest Highway.

⁴⁹ This is a subjective assessment by the Farmer's Market with no data provided to support the percentage stated.

3.7.3 Social infrastructure

In the context of the Project (at the outer edge of Bunbury) the **South West health and education precinct** intersecting Bussell Highway and Roberson Drive is of material importance from a social infrastructure perspective,

In summary the socio-economic impacts of the Project for the South West health and education precinct are positive.

Ref	Project impact	Positive	Negative
S1	Remove/ delay pedestrian over/ under pass investment from reduction in vehicle traffic on Bussell Highway	Minor	
S2	Support education businesses and employment by facilitating use of healthier transport modes and improving road capacity to accommodate future growth in staff and patients	Minor	
S3	Road safety and amenity by diverting around 11,000 vehicles in the long term from Robertson Drive resulting in improved road safety, amenity and travel time outcomes	Moderate	
S4	Access and connectivity improvements from reduction in traffic on Robertson Drive, however, for emergency vehicles the impact is expected to be neutral	Minor	

3.7.4 Residents and community

In the context of the Project (at the outer edge of Bunbury) the key residential/ community areas likely to be most impacted are:

- Meadow Landing
- Gelorup
- Farmers on land being directly impacted
- Other landowners, including residents, farmers and other businesses.

In summary the socio-economic impacts of the Project for the majority of the resident population of Greater Bunbury will be positive however there are a number of community groups that will be negatively impacted.

Ref	Project impact	Positive	Negative
R1	Proposed Wanju residential development with the Project having the potential to positively influence this proposed development in terms of improved road connectivity	Minor	
R2	Urban areas and other businesses not within direct proximity of BORR (including Australind, Eaton, Bunbury and Dalyellup) are expected to experience improved road and residential amenity in terms of less congestion (especially on weekends), improved travel time, improved safety outcomes and lower noise impacts resulting from traffic diverted onto BORR. Without BORR population and traffic growth will exacerbate amenity, noise and safety impacts and result in increased traffic on local roads that are not fit for purpose, resulting in further safety problems	Major	
R3	Resumption of land (including farm land) resulting in the loss of green space and a reduction in available farm land for agricultural purposes. Main Roads' consultation with landowners has shown the area hosts a diverse range of high to low intensity agricultural activities, as well as contracting and other businesses. There are approximately 50 landowners in the		Major

Ref	Project impact	Positive	Negative
	<p>Northern and Central Sections directly impacted and 30 to 40 landowners in the Southern Section. The process of land acquisition and planning for change could generate a feeling of stress and anxiety among the property owners.</p> <p>It is noted that for the Northern Section the majority of land required is within the future urban (Wanju) and industrial (Waterloo) developments, for which structure planning is well progressed. For the Southern Section, the majority of land has been identified for the Primary Regional Road Network in the Greater Bunbury Regional Scheme for many years</p>		
R4	<p>Meadow Landing community – lifestyle/ residential amenity, noise, visual amenity (including lighting), potential reduced property value and pollution impacts given proximity to BORR and Raymond Road (including proposed Raymond Road interchange)</p> <p>Assessment of the significance of the impact took into account that the Meadow Landing resident population represents less than 0.9 per cent of the Greater Bunbury resident population⁵⁰ and that the impact is greatest for a subset of Meadow Landing</p>		Moderate
R5	<p>Gelorup Landing community – lifestyle/ residential amenity, noise, visual amenity (including lighting), potential reduced property value and pollution impacts given proximity to BORR</p> <p>Assessment of the significance of the impact took into account that the Gelorup resident population represents 2.6 per cent of the Greater Bunbury resident population⁵¹ and that the impact is greatest for a subset of Gelorup.</p>		Moderate
R6	<p>Amenity impact for Dardanup residents between BORR and Dardanup Cleanaway site via proposed Wireless Road interchange with preference expressed for a more direct access route (potentially Waterloo Road) noting that a more direct route is not proposed in the draft Waterloo Industrial Park District Structure Plan</p>		Negligible
R7	<p>Kingston community (and planned East Treendale, between Raymond and Clifton Roads) – noise and lighting impacts from proposed Paris-Clifton Road interchange</p> <p>Assessment of the significance of the impact took into account that this is expected to affect a relatively small proportion of Greater Bunbury residents</p>		Minor
R8	<p>Amenity impact for farms along or adjacent to the BORR created by increased noise and decreased visual amenity. These impacts would vary according to individual circumstances</p> <p>Assessment of the significance of the impact took into account that this is expected to affect relatively small proportion of Greater Bunbury residents</p>		Minor

3.7.5 Environmental and heritage

Environmental impacts have not been included in this report as these form part of the environmental approval process for the Project with detailed Environmental Impact Assessment reports prepared by Main Roads and referred (Northern and Central Section) or to be referred (Southern Section) to both State and Federal regulators for approval. The Environmental Impact Assessment reports include consideration of:

⁵⁰ This is based on the 2016 ABS for Roelands (given that ABS stats for Meadow Landing as part of Roelands is not available). 2016 ABS shows a population of 839 for Roelands and 89,622 for Greater Bunbury. With Meadow Landing comprising around 151 properties.

⁵¹ 2016 ABS shows a population of 2,300 for Gelorup and 89,622 for Greater Bunbury.

- Clearing of native vegetation and mapped fauna habitat
- Matters of national environmental significance or other matters protected by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) including members of any listed species or any threatened ecological community (TEC)
- Interference with bed and banks of a watercourse or wetlands (clearing of vegetation and construction works).

Potential impacts on Aboriginal heritage sites associated with the Project will be managed through consultation with all relevant groups and undertaken in accordance with State and Commonwealth legislation (including the Aboriginal Heritage Act).

3.7.6 Impacts from construction

In summary the socio-economic impacts from the construction activities of the Project are mainly positive with some minor negative impacts which is expected to affect a relatively small proportion of Greater Bunbury residents given that the Project is on the outer edge of Bunbury which is mostly zoned as rural land but also intersects land reserved as urban, urban deferred, regional open space and industrial.

Ref	Project impact	Positive	Negative
C1	Employment during construction with direct employment opportunities during the Project's construction phase, and indirectly through employment of those providing goods and services as inputs to the Project	Moderate	
C2	Noise from construction activities		Minor
C3	Dust and vehicle emissions from construction activities		Minor
C4	Access and freight productivity during construction		Minor
C5	Emergency vehicle access during construction may be altered		Negligible
C6	Road user and construction worker safety during construction		Minor
C7	Access to social infrastructure and services during construction		Negligible

3.7.7 Mitigation measures and management strategies

To address the potential socio-economic impacts a number of mitigation and management measures are in place or will be put in place. Key measures include:

- Main Roads will continue to undertake regular and ongoing engagement with key impacted stakeholders including property owners affected by property acquisition, industry and community affected by access issues, community affected by amenity impacts and other key stakeholders regarding construction and operation impacts and management of those impacts.
- Main Roads will be required to adhere to the conditions set out in the environmental approvals for the Project and compliance with State and Commonwealth environmental legal requirements and adherence to Construction Environmental Management Plans (**CEMPS**). The CEMPS will include targets and key performance indicators, management actions, monitoring requirements and contingency measures.
- Potential impacts on Aboriginal heritage sites associated with the Project will be managed through consultation with all relevant groups and undertaken in accordance with State and Commonwealth legislation.
- Main Roads will manage the construction of the Project using standard road construction management practices.

- Land required for the Project will be acquired by Main Roads pursuant to section 28 (1) of the Land Administration Act 1997 prior to implementation.
- Strategies will be developed to comply with the Australian Standard for lighting of public roads (AS/ NZS 1158). Also, it is anticipated that only intersections and interchanges will be lit for safety reasons. Visual amenity is also a key consideration of the Urban and Landscape Design Framework that has been prepared for Project.
- Main Road will manage noise emissions in accordance with the guidelines provided in State Planning Policy 5.4.
- Although there are no air quality policies or legislative requirements for pollutants from traffic (in comparison to State Planning Policy 5.4 that deals with noise from traffic), Main Roads conducts elective air quality modelling to the relevant Australian standards.

As part of planning for the Project, Main Roads has commenced development of a signage and landscape strategy to promote Bunbury as a key destination. The aim of the strategy is to:

- provide a legible road network that is easily understood by all road users
- provide a consistent and legible signage strategy that integrates with the wider road network
- integrate BORR into the wider road network by maintaining a level of design consistency and integration of technology
- identify the locations of significant directional signage, including likely gantry requirements.

In addition councils, local businesses and the tourism industry will have the opportunity to prepare for the potential impacts of BORR through collaborative strategies to promote Greater Bunbury (and specifically Bunbury CBD and Ferguson Valley) as a destination - develop local and regional markets, appropriate and increased advertising, making adjustments to business models to cater to local and regional markets and promotion of other industries.

A. Appendix: Scope of Work

Scope of work

To assist Main Roads in completing a socio-economic assessment for BORR.

The NSW Road Maritime Services (RMS) Environmental Impact Assessment Practice Note – Socio-economic Assessment (EIA-N05) will be used as a guide when preparing the assessment.

The scope of work include:

Step 1. Confirm assessment scope

Undertake the assessment based on the 'moderate assessments' framework as detailed in Section 4.2.2 of the RMS Practice Note. This is based on our understanding of BORR (as a Nationally Significant Project) and high level assessment against the description/ criteria for each assessment level (using Table 1 of the RMS Practice Note).

Step 2. Description of the existing socio-economic conditions

To define baseline conditions of potentially affected groups or communities (without BORR), to provide a basis for predicting likely changes and future monitoring of impact management strategies.

Step 3. Impact assessment

Identify and analyse the likely benefits or impacts of BORR (focused on the Greater Bunbury geographic area) and qualitatively assess the magnitude, duration and likelihood of identified benefits and impacts.

Consider both direct and indirect, construction and operation phase impacts as indicated in Table 12 of the RMS Practice Note. The impact assessment will be undertaken in the context of the current demographic, economic, travel and social situation/ condition (output of Step 2 above). Main Roads will be responsible to provide an assessment of planning, land, environmental, aboriginal and heritage impacts (including ongoing monitoring of these issues).

Step 4. Identification of mitigation and monitoring measures

Include measures to enhance the project's benefits and avoid, manage or mitigate its potential impacts (across the planning, construction and operation phases). Measures to be provided by Main Roads.

This Step will largely build on Main Roads' stakeholder/ community consultation minutes and insights, and also the risk analysis work completed by Main Roads to date.

Data source

We will use publicly (including web based) available data such as Australian Bureau of Statistics (ABS), profile.id and Bunbury policy/ strategy documents, supplemented by traffic modelling data and any other project information/ data held by Main Roads (e.g. surveys and consultation minutes).

Where information is not available publically (e.g. land use, property information, origin and destination surveys and consultation minutes), KPMG will liaise with Main Roads to obtain information and input assumptions required to develop the BORR socio-economic assessment.

Targeted consultation with some key community and government stakeholders will be undertaken to identify specific impacts and mitigation measures. This may include local government, affected property or business owners, community groups, business / industry associations, etc.

B. Appendix: Reference information

Information used to inform this study has been obtained from a range of sources (referenced as applicable in footnotes in this report).

Reference documents

The key sources include:

- BORR project and consultation documents publicly available from Main Roads website
- draft BORR Stage 4 Infrastructure Australia submission (August 2019)
- government reports, plans, policies and web pages
- existing State and Local Government strategies relevant to the social and economic environment of the study area
- ABS 2016 Census of Population and Housing
- Department of Employment Small Area Labour Markets, December Quarter 2017
- MapInfo/ GIS Google maps data for social infrastructure
- two travel surveys conducted by the Main Roads' BORR project team
- outcomes of targeted consultations undertaken by KPMG
- BORR Southern Section GBRS and alternative alignment, Environmental Impact Assessment, June 2019
- BORR Southern Section access strategy
- BORR Southern Section alignment selection report
- BORR North Ultimate Design Report Rev C 20 May 2019.

Targeted stakeholder consultations

Table 17 provides a list of stakeholders consulted regarding potential socio-economic impacts of the Project. The consultation process focused on a representative sample of stakeholders to provide a reasonable coverage of geographical location and type of likely Project impacts (direct and indirect).

These consultations are in addition to those continuing to be undertaken by Main Roads in planning the Project.

Table 17 List of stakeholders consulted

Organisation category	Representative/ s from individual organisation
Local councils	<ul style="list-style-type: none"> • City of Bunbury • Shire of Harvey • Shire of Dardanup • Shire of Capel • City of Mandurah – regarding the impact of the Kwinana Highway extension as a case study
Regional economic development bodies	<ul style="list-style-type: none"> • Bunbury-Geographe Economic Alliance • South West Development Commission • Bunbury Chamber of Commerce
Industry associations	<ul style="list-style-type: none"> • Freight industry (including agricultural related freight) representatives <ul style="list-style-type: none"> ○ Live Stock and Rural transport Association • Mineral and Energy industry – <ul style="list-style-type: none"> ○ Chamber of Mineral ○ Energy WA South West • Timber industry – <ul style="list-style-type: none"> ○ Forest Industries Federation of WA ○ Westpine • South West Ports • Tourism – <ul style="list-style-type: none"> ○ Bunbury-Geographe Tourism Partnership ○ Businesses who serves (or partially serves) the tourism industry
Businesses	<ul style="list-style-type: none"> • Dolphin Discovery Centre • Bunbury Farmer’s Market • A sample of businesses along Robertson Drive • Industry representatives for retail business in Bunbury CBD • Industry representative for shopping centres in Eaton
Social Infrastructure providers	<ul style="list-style-type: none"> • ECU • WA Country Health Service South West
Community members	<ul style="list-style-type: none"> • Eight individuals including residents from Meadow Landing, Gelorup and Farming community

C. Appendix: Applicable 'level' of SEIA

Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of resident/ special interest groups/ businesses	Sections of the community/ economy	Towns/ suburbs/ town centres		
Property impacts	Are property acquisitions likely?	√					Around 70 to 90 properties require resumption
	Is there a potential for displacement of residents or businesses due to property acquisition?	√					Potentially, depends on whether farm remains viable following partial acquisition
	Will there be impacts on vulnerable groups (i.e. elderly, people in need of assistance, communities that demonstrate higher levels of disadvantage)?						Significant impact not expected
	Will the project impact upon any property improvements?						Significant impact not expected
Changes to population and demography	Does the project result in fragmentation of rural properties?	√					Yes, some farm properties
	Will residents need to relocate as a result of property acquisition?	√					Potentially, depends on whether farm remains viable following partial acquisition

KPMG |

Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of resident/special interest groups/ businesses	Sections of the community/economy	Towns/ suburbs/ town centres		
	Will the project's construction result in a large influx of workers to the study area?						Assume Project will mainly use local resources. But if labour from Perth is used, do not expect a large influx (also likely to be short term)
Economy	Will the project impact on local employment?	√					Significant impact not expected Construction of the Project is expected to create employment opportunities
	Will the local population benefit from improvements in income as a result of the project?						Significant increased income impact not expected, however Project expected to reduce freight cost for industry
Business and industry	Does the project impact (either directly or indirectly) on businesses/commercial enterprises, including agricultural businesses?		√				Positively impact on all industries other than retail businesses in and near Bunbury CBD, some farming businesses and tourism to some extent
	Are impacts on businesses likely to have flow on effects for employees?	√					Employees may benefit from expanding industry but some negative impacts expected for retail and tourism
	Is the project likely to have direct or indirect effects on the regional economy?		√				On balance positive impact due to BORR benefiting high value add industries
	Will the project result in changes in access to or bypass of businesses?		√				Will impact on some retail businesses in and near Bunbury CBD and some tourism reliant businesses

Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of resident/special interest groups/ businesses	Sections of the community/economy	Towns/ suburbs/ town centres		
	Does the project impact on the composition of regional industries (i.e. tourism, agriculture, mining and resources, manufacturing)?		√				Significant impact not expected, other than potentially tourism due to bypass affect
Social infrastructure	Will the project impact (directly or indirectly) any community services or facilities such as hospitals, schools, recreational facilities, aged care, etc.?	√					Significant impact not expected
Community values, including community health and safety, and community cohesion/severance	Does the project impact on any places of Aboriginal or non-Aboriginal heritage?						Significant impact not expected. Forms part of Environmental Referrals for Project
	Does the project impact on any places likely to be of importance to the local community (i.e. environmental areas, local parks, local monuments, etc.)?						Significant impact not expected. Forms part of Environmental Referrals for Project
	Do sections of the community have a strong attachment to place (e.g. large number of generations of a family have lived in the same area)?	√					Expect that some farms directly impacted are generational
	Is there a potential for impacts (real or perceived) on community health or safety due to emissions to air or water, noise or chemical hazards?		√				For some groups of residents in close proximity to BORR and some connecting roads

Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of resident/special interest groups/ businesses	Sections of the community/economy	Towns/ suburbs/ town centres		
	During construction, is there a potential for impacts (real or perceived) on community health or safety due to emissions to air or water, noise or chemical hazards?		✓				Significant impact not expected, given location of Project
	Is there the potential for severance of communities or towns?						Yes, Gelorup
	Will the project change the way people use and access community facilities?						Significant impact not expected
	Will the project change the unique character of the place or community in which it is located?		✓				Some communities (such as Meadow Landing and Gelorup)
Local amenity	Will the project change the amenity for residents, businesses, or community facilities? (i.e. through changes in air quality, visual and landscape impacts, noise and vibration)	✓					May affect some residents adjacent to BORR
	During construction, will the project change the amenity of residents, businesses or community facilities? (i.e. through changes in air quality, visual and landscape impacts, noise and vibration)	✓					May affect some residents adjacent to BORR

Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of resident/ special interest groups/ businesses	Sections of the community/ economy	Towns/ suburbs/ town centres		
Access and connectivity	Will the project change: <ul style="list-style-type: none"> ■ travel patterns (e.g. introduce turning restrictions, traffic signals, road closures, new connections, etc.) ■ cyclist facilities or access ■ pedestrian access (i.e. access to public transport, and to/ within commercial precincts, town centres, recreational locations, shops) ■ public transport services or facilities ■ parking ■ property access ■ access for people with special needs (i.e. people with mobility difficulties, elderly, children, etc.) During construction, will the project: <ul style="list-style-type: none"> ■ generate large volumes of traffic ■ change pedestrian, cyclist or property access ■ alter public transport services or facilities 			√			
			√				Significant impact not expected
							Significant impact not expected
							Significant impact not expected
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Issue	Consideration	Scale of impact				Is the impact manageable using standard mitigation measures? If yes, how?	Comment
		Individuals only	Groups of resident/ special interest groups/ businesses	Sections of the community/ economy	Towns/ suburbs/ town centres		
	<ul style="list-style-type: none"> ■ alter travel patterns ■ impact on traffic flow 		√				

D. Appendix: Socio-economic environment of Greater Bunbury (Baseline)

Greater Bunbury area overview

The Greater Bunbury area comprises the Bunbury, Harvey, Capel and Dardanup LGAs.

Bunbury LGA

Bunbury is located c. 170km south of Perth on the coast. Bunbury is the administrative centre of the South West. The main economic drivers of the South West are mining and mineral processing, tourism, construction, timber industry and agriculture/ viticulture.

The Port of Bunbury (**Port**) is one of Australia's biggest regional facilities. It services the export of bulk commodities such as alumina, woodchips and mineral sands. The Port also handles a range of other general cargo imports and exports. The majority of produce from the South West, whether the final destination is an Australian or international market, is transported by either road or rail for export through the Port. The closest alternative Port is Albany (350km by road) or Fremantle Port (420km by road).

Capel LGA

Capel is a predominantly rural community situated on the coast circa 180 kilometres south of Perth. The LGA is located between the regional centres of Bunbury and Busselton.

The Shire of Capel comprises six localities Capel, Boyanup, Dalyellup, Peppermint Grove Beach, Gelorup and Stratham as well as rural areas.

The LGA has approximately 28 kilometres of coastline on Geographe Bay, as well as native forests and the Whicher Scarp. The LGA comprises rural countryside, white sandy beaches, Jarrah forests and the Tuart Forest National Park.

The LGA is developing a more diverse economy which has traditionally been based on agriculture, predominantly dairying, beef, timber, orchards and, more recently, viticulture.

Historically, Capel is a farming area primarily for dairy and beef. In past decades, Capel has become popular for hobby farms, and a number of innovative agricultural pursuits have been introduced, including alpacas, viticulture, aquaculture and growing of blue gums. There is also some mining of mineral sands in the Shire, and tourism is increasingly important to the Shire's economy.

The largest industry in the Shire is Iluka Resources Limited which is involved in mineral sands mining. Iluka is the world's largest producer of zircon and the second largest producer of titanium dioxide minerals.

Harvey LGA

Harvey is located circa 140 kilometres south of Perth. It is bordered by the Shire of Waroona to the north, the Shires of Boddington and Collie to the east, the Shire of Dardanup and the City of Bunbury to the south. The western boundary of the Shire consists of 42 kilometres of coastline.

The Shire of Harvey comprises the urbanised locality of Australind, eight rural town sites, a variety of environmentally sensitive areas, a heavy industrial park, and a thriving agricultural sector. Harvey serves as the Shire's main administration centre. Australind is the LGA's main urban centre where the majority of the population reside.

The Shire's variety of natural attributes means it is a popular location for a range of recreational activities including crabbing, fishing and boating in the Leschenault estuary, water skiing, fishing, canoeing and camping at Logue Brook dam, off road cycling along the Munda Bidli trail, fishing and four wheel driving on designated areas of the coast line, and swimming at the sheltered beaches of Binningup and Myalup.

The Shire is known for the diversity of its environment with tracts of Jarrah forests, rivers, the Leschenault estuary, Harvey, Stirling and Logue Brook dams, beaches and agricultural land.

The Shire of Harvey has a number of major industries including orange juice and milk production, beef production, abattoirs, silicon smelting operations, titanium dioxide production, chlorine production and other industries at the Kemerton Industrial Park.

Dardanup LGA

The Dardanup LGA is immediately to the east and southeast of the City of Bunbury and circa 180 kilometres south of Perth. Eaton is its administrative centre and forms the largest part of Dardanup's population base.

Agriculture, particularly beef, sheep, dairy and viticulture, play an important role in the local economy. One of the largest integrated softwood milling and processing plants in Australia is also located in Dardanup. The plant produces sawn pine timber and a range of reconstituted wood-based panels.

Tourism spending data

Table 18 shows the number of days stayed and average spending for these visitor segments respectively for the South West, City of Bunbury and Shire of Harvey (where data is available).

Table 18 Visitor statistics for South West, Bunbury and Harvey

	Visitor profile	Domestic day	Domestic overnight	International
South West	Average stay (nights)	-	3	15
	Average spend per trip	\$121	\$551	\$987
	Average spend per night	-	\$170	\$68
Bunbury	Average stay (nights)	-	2	13
	Average spend per trip	\$120	\$300	\$823
	Average spend per night	-	\$131	\$61
Harvey	Average stay (nights)	-	3	31
	Average spend per trip	\$115	\$261	\$2,152
	Average spend per night	-	\$99	\$68

Source: Bunbury-Geographe Tourism Partnership (2018).

Population and demography

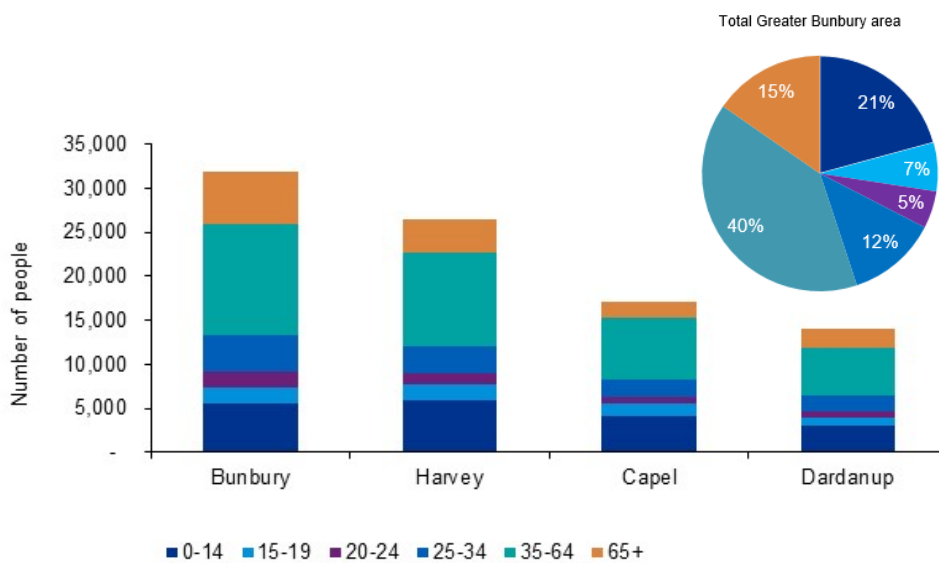
Population and age

In 2016 the population of Greater Bunbury was 89,622 (refer Figure 21). This was approximately 3.5 per cent of the population of WA (2,567,788) in 2016⁵².

The median age for residents in Bunbury, Harvey, Capel and Dardanup LGAs are 41, 34, 42 and 37 respectively, which is comparable to the median age of 37 for WA and Australia.

Nearly 60 per cent of the population in Greater Bunbury is between working age (20 and 65), which is broadly in line with WA (61 per cent) and Australia (59 per cent).

Figure 21 Population by age group for Greater Bunbury



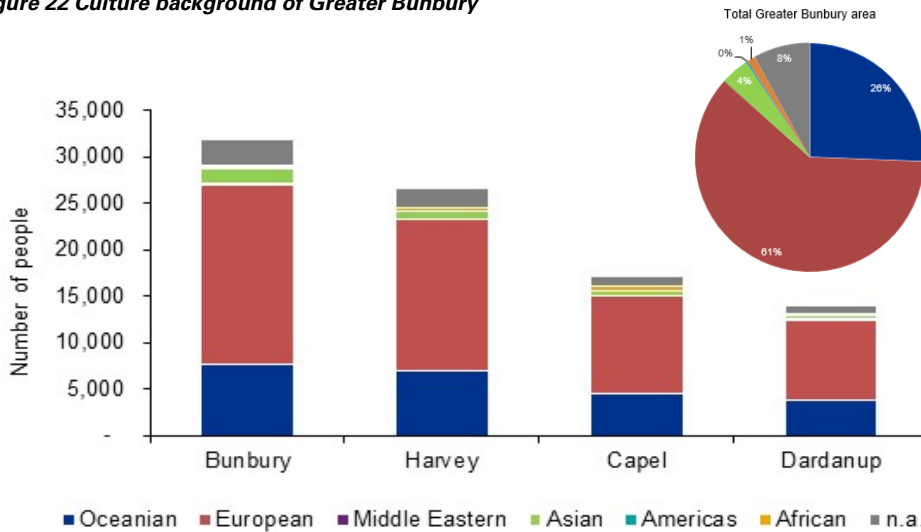
Source: ABS 2016 Census.

Cultural diversity

As illustrated in Figure 22, the majority of residents (61 per cent) in Greater Bunbury are from a European background, which is broadly in line with WA (62 per cent) and Australia (64 per cent).

⁵² ABS 2016 Census.

Figure 22 Culture background of Greater Bunbury



Source: ABS 2016 Census.

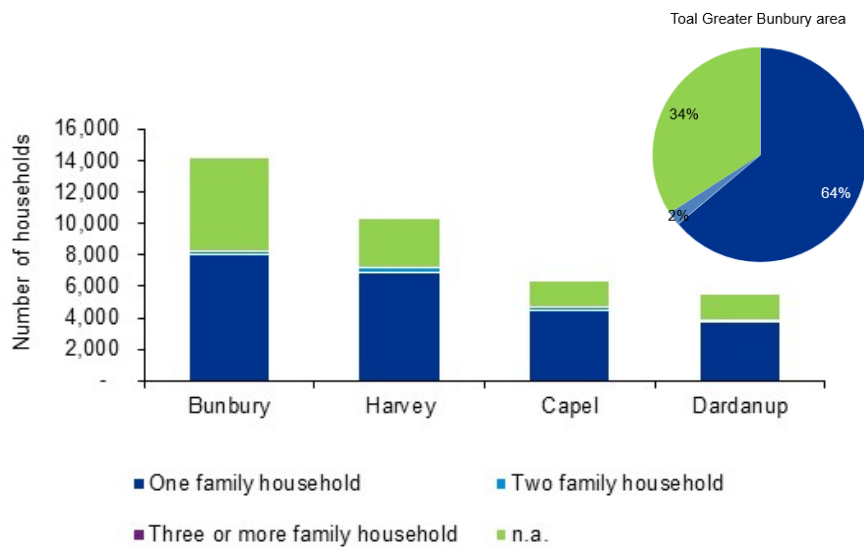
Approximately 2 per cent of residents in Greater Bunbury identify as aboriginal or Torres Strait Islanders, compared to 3 per cent for both WA and Australia.

Families and housing

One family households are the most common household type in Greater Bunbury (refer Figure 23). For one family households, couples with children accounts for 43 per cent of the total, followed by couple without children, accounting for 41 per cent of the total (refer Figure 24).

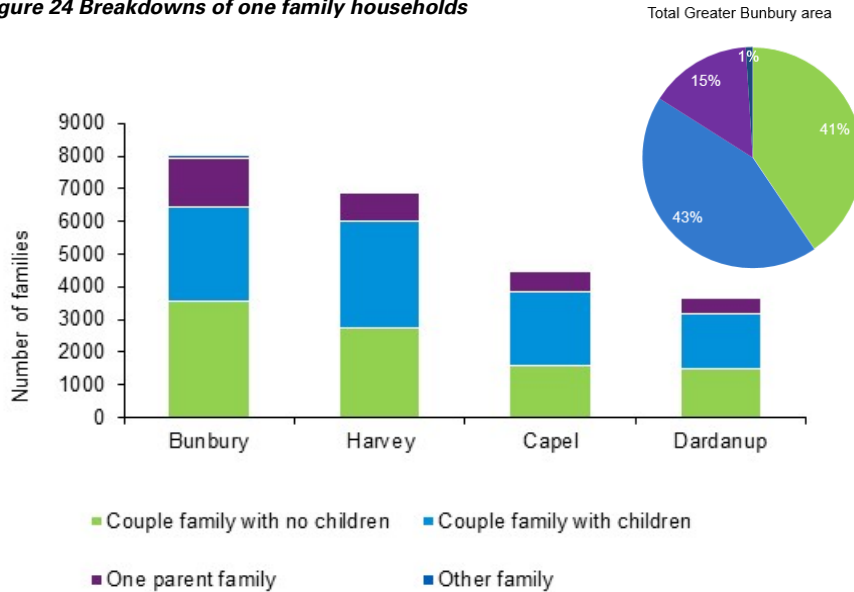
The share of couple families with children is slightly lower than the WA and Australia median of 45 per cent. The share of couple families without children in Greater Bunbury is approximately 5 percentage points higher than the WA and Australia median of 38 per cent.

Figure 23 Household composition for Greater Bunbury



Source: ABS 2016 Census.

Figure 24 Breakdowns of one family households

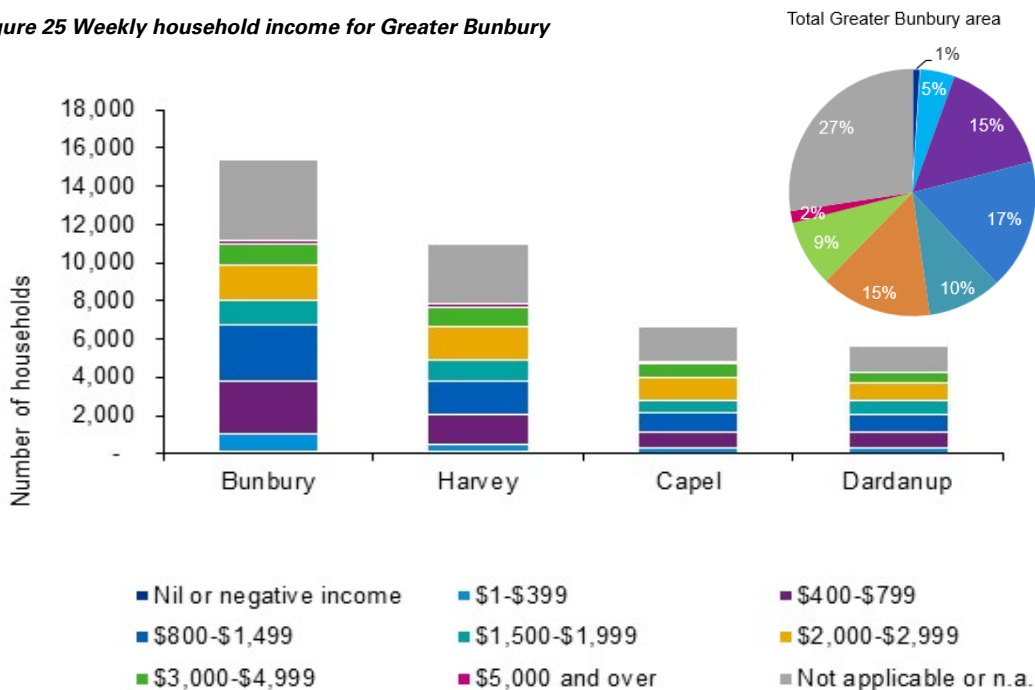


Source: ABS 2016 Census.

Figure 25 illustrates the weekly household income for Greater Bunbury.

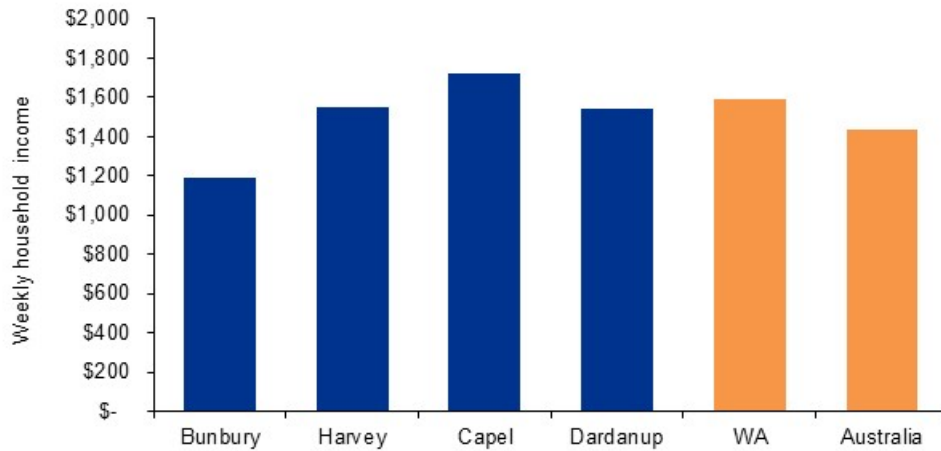
The median weekly household incomes are \$1,197, \$1,553, \$1,726 and \$1,546 for Bunbury, Harvey, Capel and Dardanup respectively (refer Figure 26), compared to the WA and Australian medians of \$1,595 and \$1,438 respectively.

Figure 25 Weekly household income for Greater Bunbury



Source: ABS 2016 Census.

Figure 26 Weekly household median income - Greater Bunbury compared to WA and Australia



Source: ABS 2016 Census.

Housing cost

Owned with a mortgage (33 per cent), owned outright (24 per cent) and rented (22 per cent) make up approximately 80 per cent of the tenure types in Greater Bunbury. This compares to the WA compositions of 40 per cent, 28 per cent and 28 per cent for owned with a mortgage, owned outright and rented respectively, making up 96 per cent of the total tenure types.

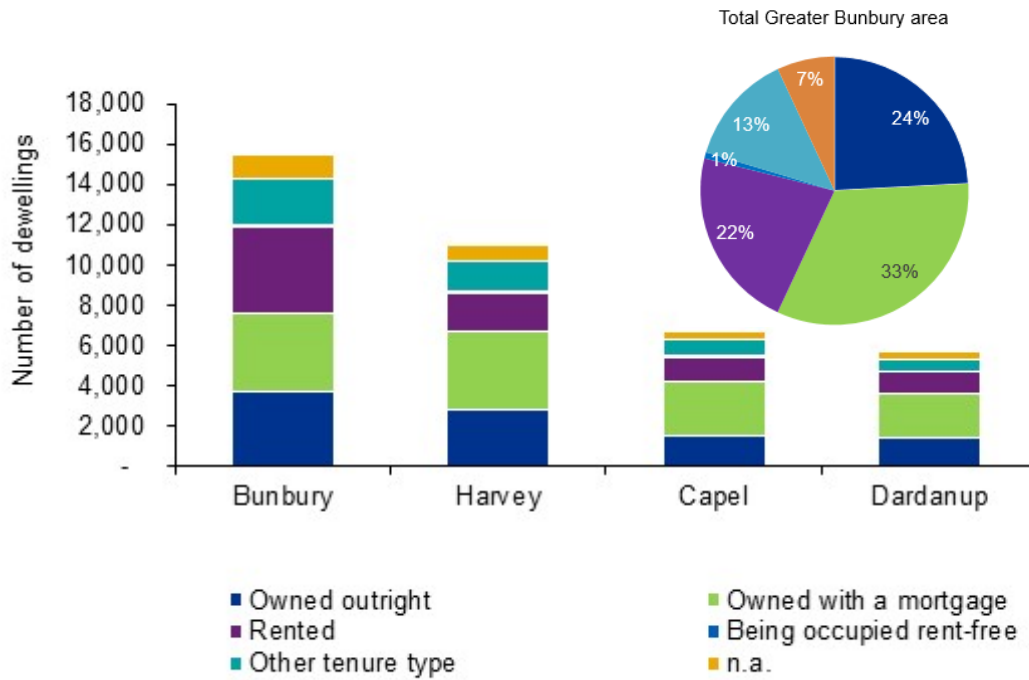
Compared to WA, Greater Bunbury has:

- A smaller proportion of owned and rented properties: 80 per cent versus 96 per cent; and
- A substantially higher proportion of other tenure types (e.g. life tenure scheme⁵³, shared equity scheme⁵⁴ and payment in kind): 13 per cent versus 1 per cent.

⁵³ The person(s) has/have a contract to live in the dwelling for the term of his/her life but without the full rights of ownership and usually has/have limited or no equity in the dwelling. This is a common arrangement in retirement villages.

⁵⁴ The household is both purchasing some equity in the dwelling, and paying rent for the remainder.

Figure 27 Tenure type for Greater Bunbury

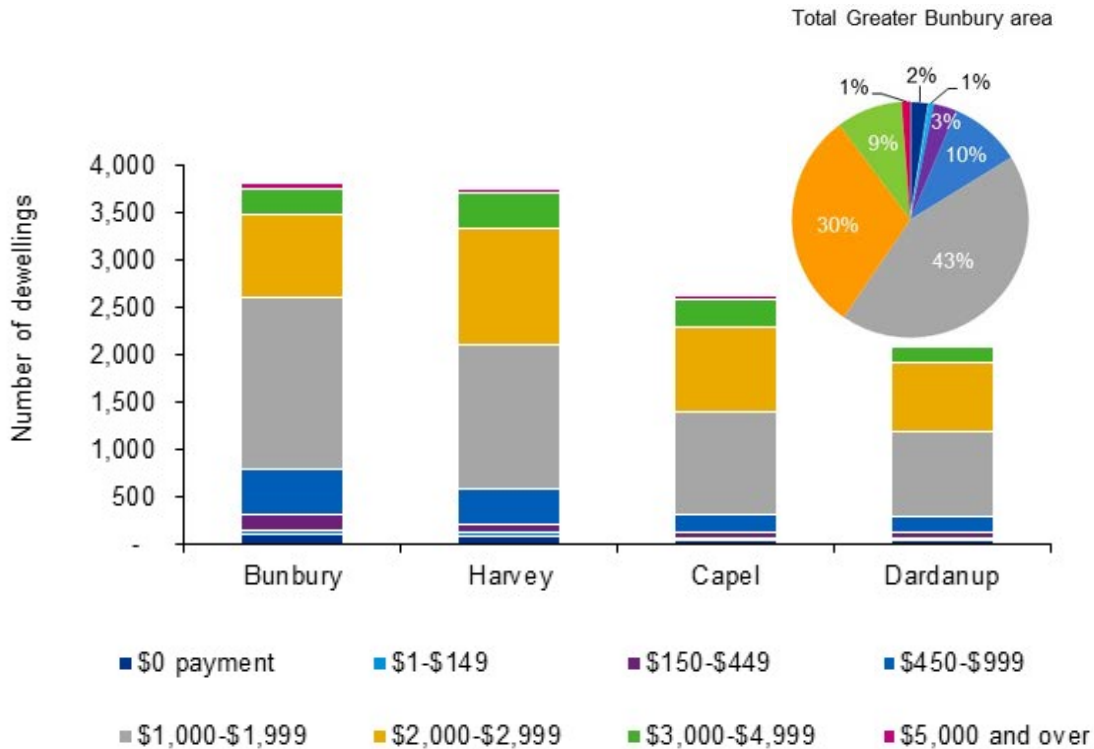


Source: ABS 2016 Census.

In Greater Bunbury 33 per cent of households own a property through mortgage, and thus subject to mortgage payment. This is a total of 12,315 households, with the majority (over 70 per cent) having a mortgage payment of between \$1,000 and \$3,000 per month (refer Figure 28).

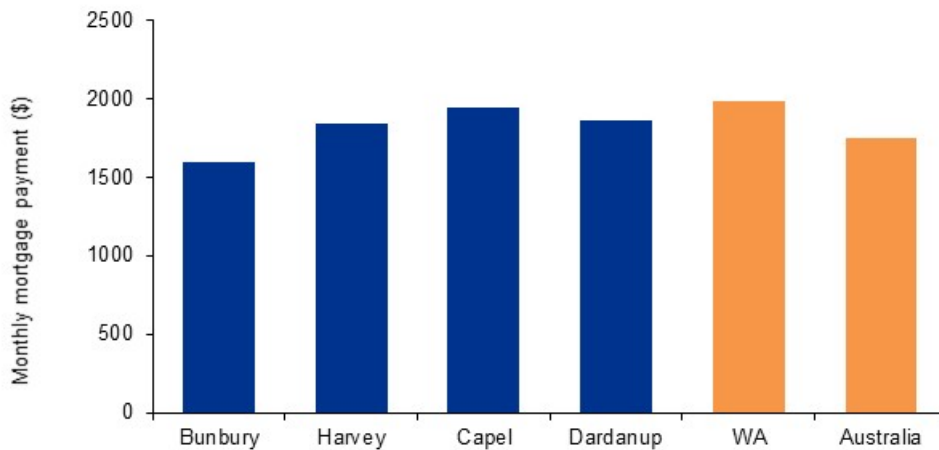
The median mortgage payments for Bunbury, Harvey, Capel and Dardanup are \$1,600, \$1,842, \$1,950 and \$1,863 respectively, which is below the WA median of \$1,993 but above the Australian median of \$1,755 (refer Figure 29).

Figure 28 Monthly mortgage payment for Greater Bunbury



Source: ABS 2016 Census.

Figure 29 Monthly mortgage payment - Greater Bunbury compared to WA and Australia

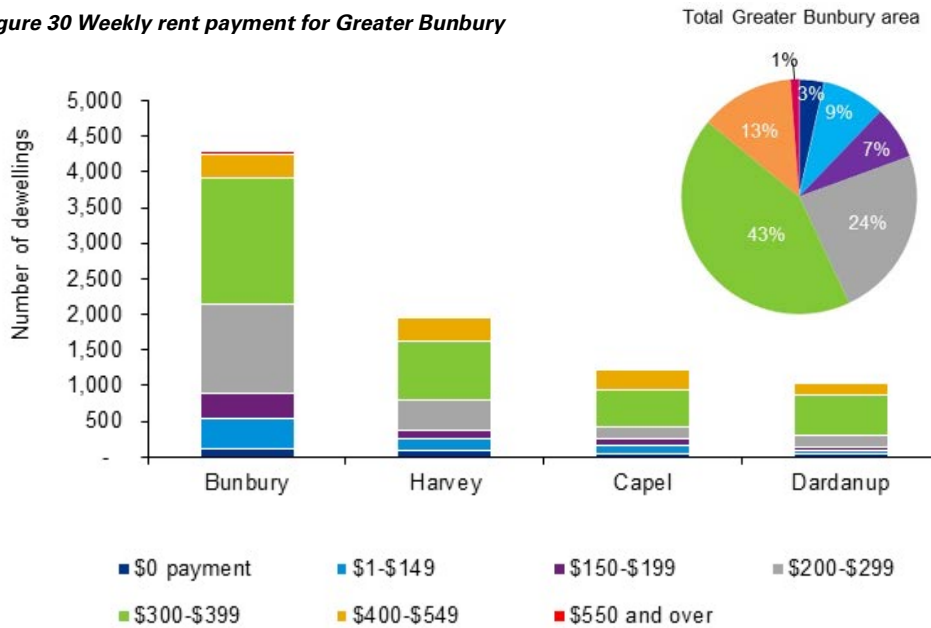


Source: ABS 2016 Census.

In Greater Bunbury 22 per cent of households rent a property. This is a total of 8,544 households, of which 24 per cent pay \$200-\$299 rent per week, 43 per cent pay \$300-399 and 13 per cent pay \$400-\$600 (refer Figure 30).

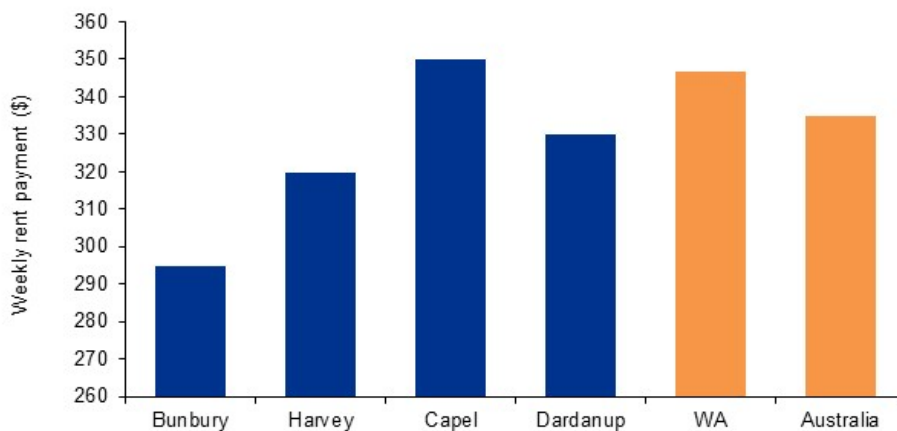
The median rent payments for Bunbury, Harvey, Capel and Dardanup are \$295, \$320, \$350 and \$330 respectively, which are on average below the WA and Australia median of \$347 and \$335 respectively (refer Figure 31).

Figure 30 Weekly rent payment for Greater Bunbury



Source: ABS 2016 Census.

Figure 31 Weekly rent payment - Greater Bunbury compared to WA and Australia

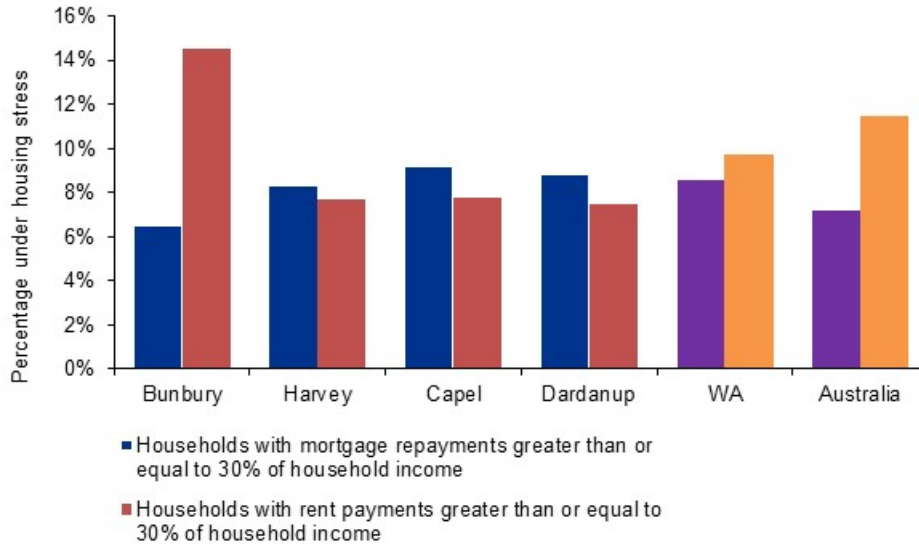


Source: ABS 2016 Census.

Combining the household income and housing payment (mortgage and rent) data above, housing stress is measured. A household is deemed under housing stress when it's housing payments (rent or mortgage repayments) are 30 per cent or more of its income.

In general mortgage stress is more prevalent than rent stress within Greater Bunbury (refer Figure 32). The exception is the Bunbury LGA, where rent stress is more prevalent than mortgage stress, which is consistent with the WA and Australian pattern (refer Figure 31).

Figure 32 Housing stress for Greater Bunbury



Source: ABS 2016 Census.

Labour force, income and employment

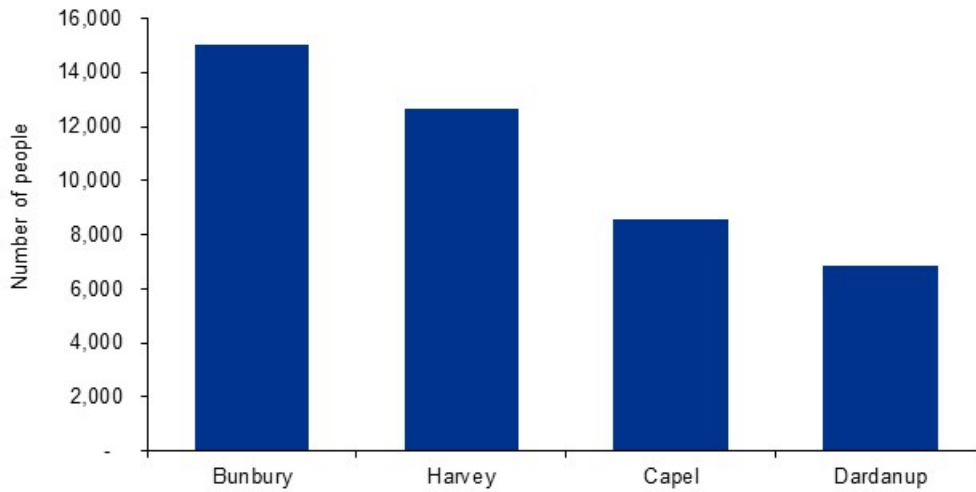
Employment

Figure 33 shows the number of people participating in the labour market (employed and seeking employment) in Greater Bunbury. Within Greater Bunbury, the Bunbury LGA exhibits the lowest labour market participation rate, being approximately 10 percentage points below Capel which has the highest participation rate (refer Figure 34).

The unemployment rate for the four LGAs are provided in Figure 35. Bunbury has the highest unemployment rate whereas Capel has the lowest.

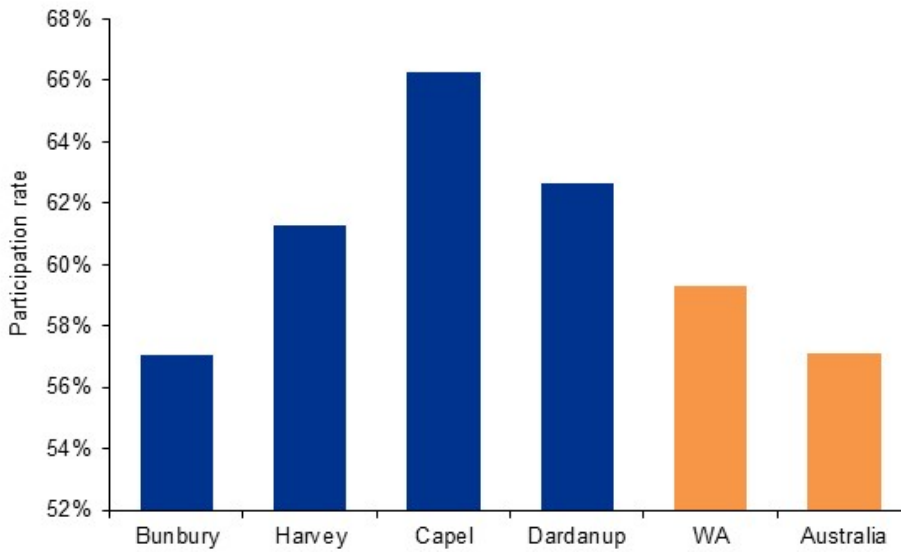
Overall, Greater Bunbury has a higher participation rate and lower unemployment rate than WA and Australian, with the Bunbury LGA being an exception.

Figure 33 Labour force size for Greater Bunbury



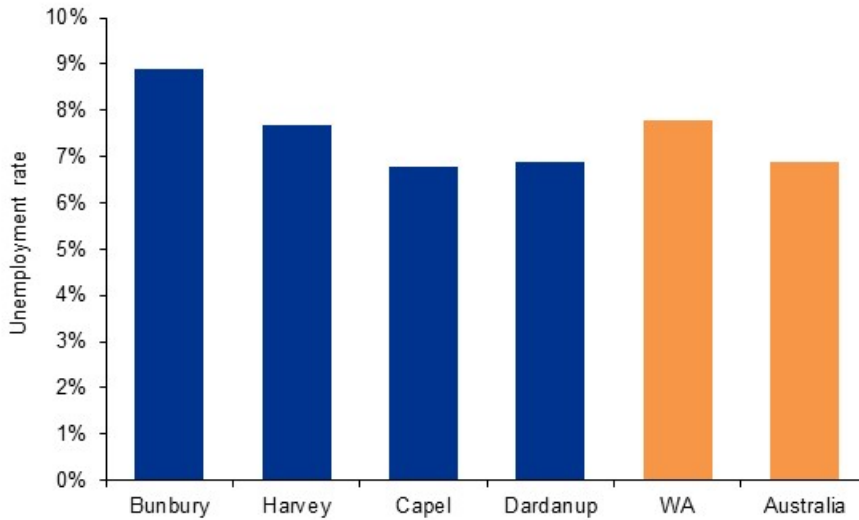
Source: ABS 2016 Census.

Figure 34 Participation rate for Greater Bunbury



Source: ABS 2016 Census.

Figure 35 Unemployment rate for Greater Bunbury

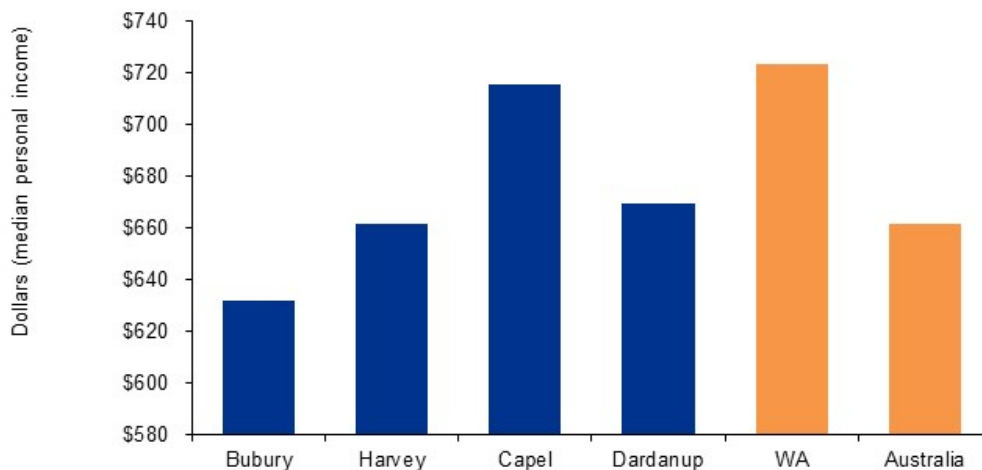


Source: ABS 2016 Census.

Income

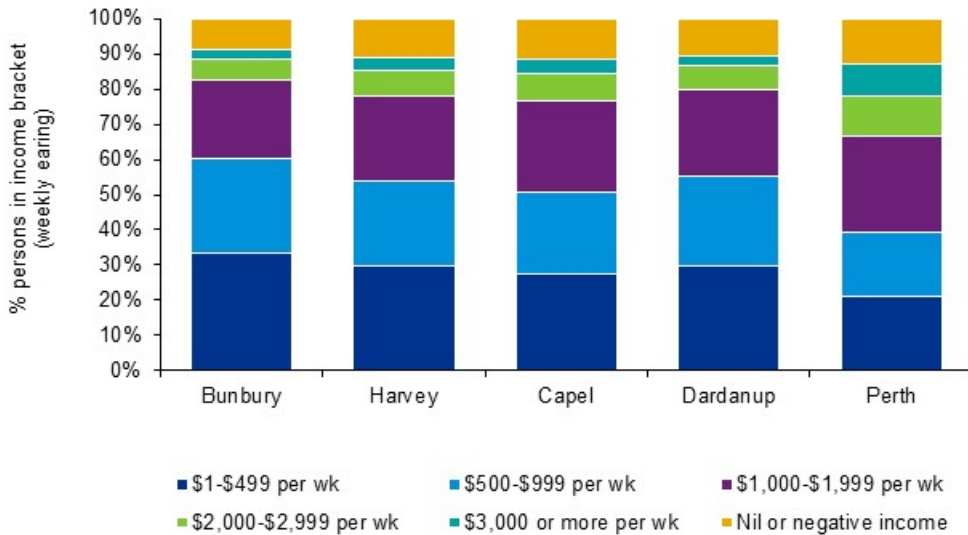
Relative total median personal income levels (refer Figure 36) among the Greater Bunbury LGAs are consistent with median household income levels (refer Figure 26). Bunbury has the lowest median personal income and Capel has the highest. Greater Bunbury is below the WA median for personal income but above the Australian median. The distribution of workers by income bracket is provided in Figure 37.

Figure 36 Median total personal income



Source: ABS 2016 Census.

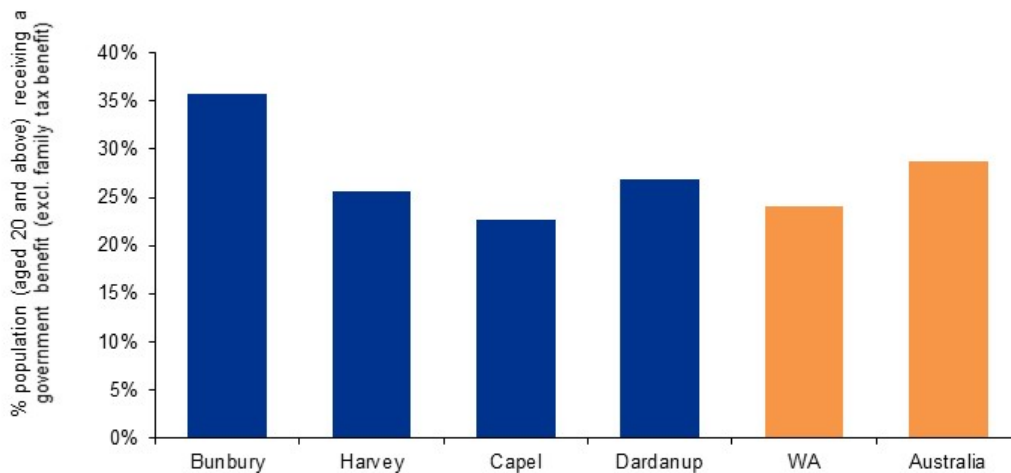
Figure 37 Percentage of workers by income bracket



Source: ABS 2016 Census.

Bunbury has the largest proportion of people receiving government benefits (excluding family tax benefit). This is over 10 percentage points higher than the other three LGAs in Greater Bunbury and the WA average, and is 7 percentage points higher than the Australian average.

Figure 38 Percentage of population (aged 20 and above) receiving a government benefit (excl. family tax benefit)



Source: ABS 2016 Census.

Socio-economic indicators for areas (SEIFA)

The Socio-Economic Indexes for Areas (**SEIFA**) is a summary measure of the socio-economic condition of geographic areas across Australia based on a range of Census characteristics. The index is derived from attributes such as income, educational attainment, unemployment, and jobs/occupations. SEIFA measures relative advantage and disadvantage at an area level (not at an

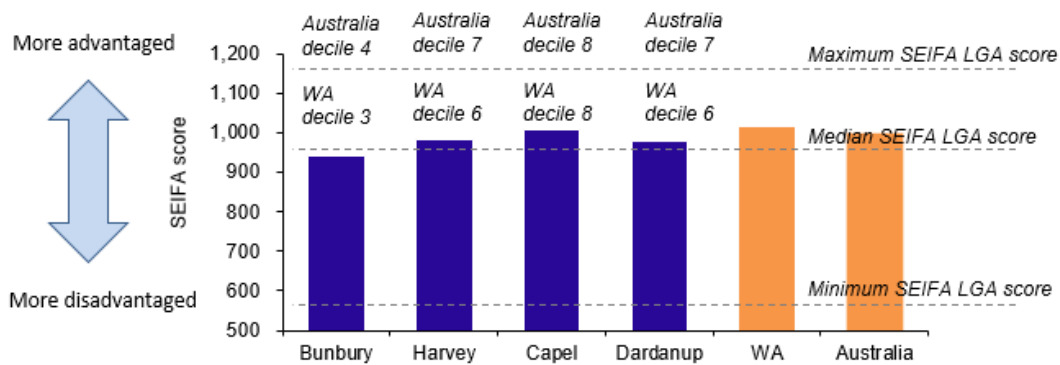
individual level). A higher score on the index means a lower level of disadvantage and a lower score a higher level of disadvantage.

All areas are ordered from lowest to highest score, the lowest 10% of areas are given a decile number of 1 and so on, up the highest 10% of areas which are given a decile number of 10. Decile 1 is the most disadvantaged relative to the other areas.

Of the four Greater Bunbury LGAs, Bunbury has the lowest SEIFA score while Capel has the highest (refer Figure 39). Greater Bunbury is on average below the WA and Australian index (falling within the 3rd decile for WA and 4th decile for Australia). Therefore Bunbury has a relative low incidence of advantage and a relative high incidence of disadvantage compared to other LGAs in Greater Bunbury, WA and Australia. Key contributors are summarised below.

- Bunbury has comparably lower weekly household medium income (\$1,197 compared to WA median of \$1,595).
- Bunbury has higher housing stress with comparably higher percentage of households with rent payments greater than or equal to 30 per cent of household income.
- Bunbury has a comparably lower labour market participation rate and higher unemployment rate with a higher proportion of people receiving government benefits.

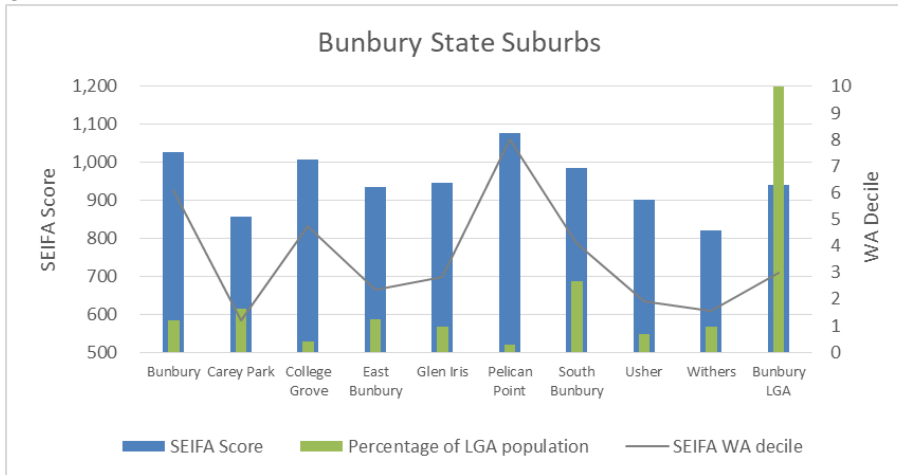
Figure 39 SEIFA score for Greater Bunbury



Source: ABS 2016 Census.

Figure 40 provides a further breakdown of SEIFA scores for State suburbs within each LGA.

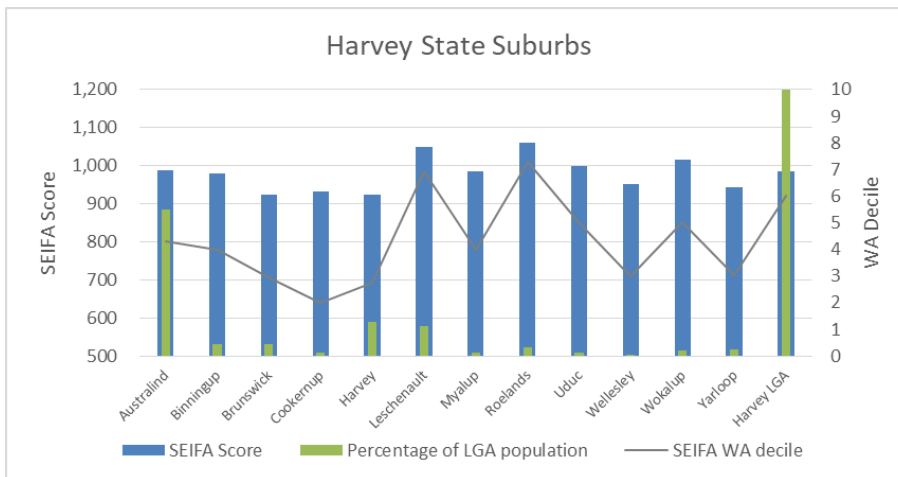
Figure 40 SEIFA score for each LGA



The suburbs with SEIFA scores below 900 are Carey Park, and Withers.

The suburbs that fall below WA decile 5 are:

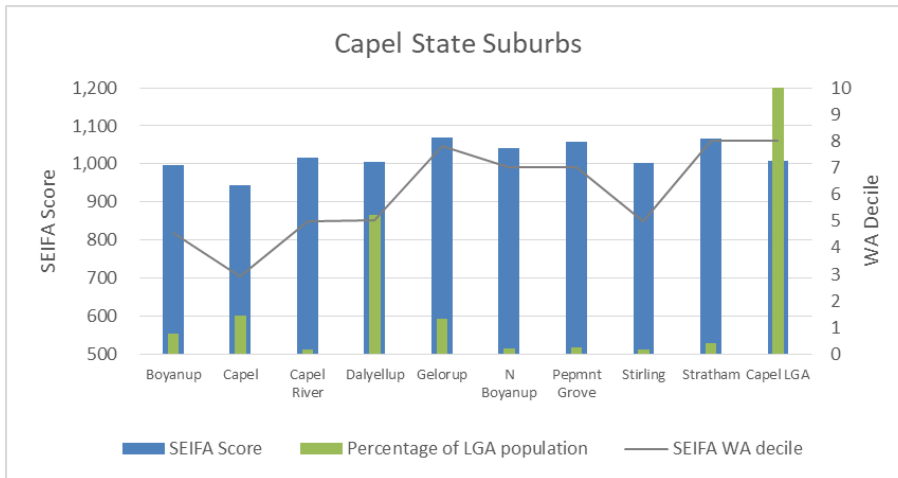
- Carey Park (decile 1 and with 16 per cent of resident LGA population)
- East Bunbury (decile 2)
- Glen Iris (decile 3)
- South Bunbury (decile 4 and with 27% of the LGA resident population)
- Usher (decile 2)
- Withers (decile 2)



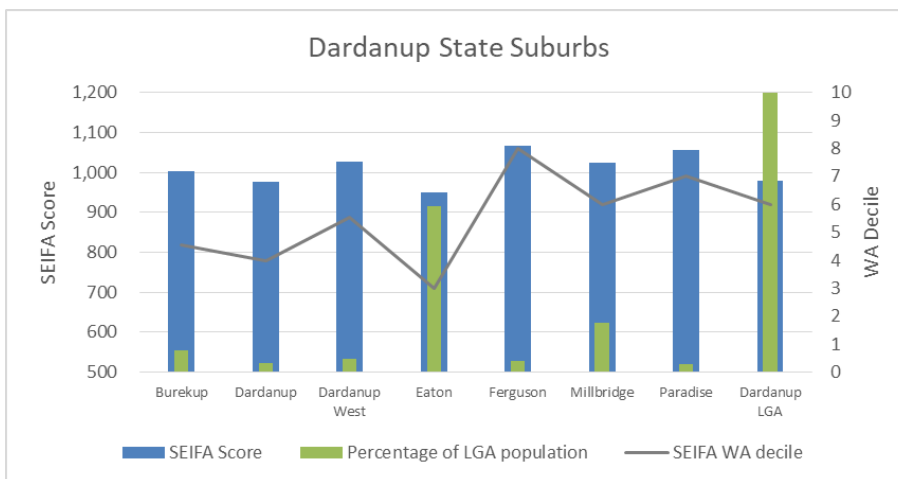
No suburbs have SEIFA scores below 900.

There are however a number of suburbs that fall below WA decile 5 with those with a high percentage of resident population being:

- Australind (decile 4) and with 55% of the LGA resident population
- Harvey (decile 3 and with 13% of the LGA resident population)



No suburbs have SEIFA scores below 900. Only Capel (decile 3) fall below WA decile 5. Capel also represent 15% of the LGA resident population.



No suburbs have SEIFA scores below 900. There are two suburbs that fall below WA decile 5 being: Eaton (decile 3) and with 59% of the LGA resident population Dardanup (decile 4 and with 3% of the LGA resident population

Source: ABS 2016 Census.

Public transport

Greater Bunbury has public transport (inter-regional bus services, local bus services, passenger rail) but utilisation is comparatively low. Public transport includes:

- 12 town bus routes and over 20 school specials operated by PTA (TransBunbury), all of which operate west of the proposed BORR alignment except for one school bus
- Recent bus trial from Eaton to Dardanup and Burekup
- About 50 regional coach services through Bunbury each week, operated by PTA (Transwa) and South West Coach Lines. Australind to Perth passenger rail operated by PTA (Transwa) twice daily.

E. Appendix Strategic policy framework

Table 19 provides an overview of the strategic policy framework relevant to the Project and the socio-economic environment of Greater Bunbury.

Table 19: Strategic policy framework relevant to the Project

Strategy	Key goal of strategy	Relevance to BORR
National Priorities, Policies and Initiatives		
Infrastructure Australia Plan.	Regional economies produce key exports such as minerals, energy, agriculture and tourism. In the next 15 years the growth of Asian consumer wealth will increase demand for these products.	The Port of Bunbury and the surrounding land provide a key source of alumina and other commodities within the global market. Major quality road infrastructure is key to freight efficiency and competitiveness of the Port, the South West and Western Australia.
National Land Freight Strategy. (Standing Council on Transport and Infrastructure.)	<ul style="list-style-type: none"> • Improve efficiency of freight movements across infrastructure networks • Invest in right infrastructure • Promote multimodal development and undertake planning for road and rail in an integrated fashion • First and last mile challenge • Major productivity vehicles • Community impacts. 	<p>Project development considered the whole freight network and interactions of road, rail and port as well as the wider interactions with non-freight transport.</p> <p>The Bunbury Outer Ring Road will form part of the key national freight route.</p> <p>The Project will benefit the community by decreasing freight on mixed used roads and improving the level of service provided to residents and tourists and local roads.</p>
National Ports Strategy. (IA.)	Improve the efficiency of port-related freight movement across infrastructure networks.	<p>Project development recognised port infrastructure requirements including road and rail links.</p> <p>Improving road efficiency and supporting rail improvements will enable further investment at the Port of Bunbury by providing infrastructure capable of supporting an increased freight task. There are major efficiency implications for Australia if significant improvements are not made to our ports and related landside road and rail systems over the coming decades.</p>
National Road Safety Strategy.	Disaggregation of heavy and light vehicles - implement and promote a range of Safe System demonstration projects in urban settings, with a focus on the safety of vulnerable road users.	Safety is an important driver for the Project. Completion of the Bunbury Outer Ring Road would allow separation of traffic streams and bypass a number of areas with poor safety performance.
Western Australian Priorities, Policies and Initiatives		

Strategy	Key goal of strategy	Relevance to BORR
WA State Labour Government election commitment. ⁵⁵	Make priority application to IA to complete the Bunbury Outer Ring Road as a major economic driver for Bunbury, the South West and Western Australia.	Completion of the Bunbury Outer Ring Road will provide more efficient access for freight to the Port of Bunbury and enable the expansion of the industrial centres leading to more manufacturing, agricultural processing and more jobs.
<i>* indicates a goal that is not directly covered by this Project but that will be supported by its implementation.</i>	Create a \$30 million Rail Futures Fund to support upgrades to the Australind service and to continue planning for a Major speed rail from Perth to Bunbury. *	Rail planning is not mature in the vicinity of the proposed Bunbury Outer Ring Road. However, road planning can proceed to ensure maximum flexibility to accommodate subsequent rail planning. The eastern section of the Project significantly increases passenger rail options and provides the potential for improved rail outcomes.
	Consult with the City of Bunbury and local community to confirm a site for a future train station closer to the City Centre. *	The eastern section of the Project was identified after this commitment was made and may change the desired rail solution.
	Revitalised train service to Bunbury and the South West bringing tourists to the South West and offering a faster journey between Bunbury and Perth. *	There are significant operational constraints that limit these desired outcomes; primarily sharing of the rail line between passengers and freight, which significantly limits capacity.
	Develop the capacity of the Port of Bunbury as part of an integrated solution to WA's transport needs.	The Project will support and facilitate expansion of the Port by maximising the efficiency of the surrounding road network, allowing the Port to be a competitive freight solution.
	Regional Development Australia Regions 2030 Unlocking Opportunity.	Regional Australia is serviced by Major-quality and safe land transport infrastructure that connects communities with markets and new opportunities, and enables safe journeys from home, to work and across the country.
Westport: Ports and Environs Strategy. (Westport Taskforce.)	To be confirmed.	Discussions are ongoing with the Westport Taskforce to ensure optimal alignment between these two initiatives.
WA Regional Freight Transport Plan.	Highlights increase in capacity at the Port of Bunbury and completion of the Bunbury Outer Ring Road as key priorities. <ul style="list-style-type: none"> ● Direction 10 – Improve landside access to regional port authority ports. ● Direction 11 – Alleviate the impact of heavy freight movements on regional centres. 	Completion of Bunbury Outer Ring Road will: <ul style="list-style-type: none"> Improve landside access to the Port of Bunbury, facilitating increased capacity and enabling investment at the Port; and Provide a bypass for freight vehicles, alleviating pressures on the existing network.
Main Roads Strategic Direction:	Aspiration: Provide world class outcomes for the customer through	The Project will improve the efficient transport of freight in the South West, including to Port of

⁵⁵ Source: WA Labour's Plan for Bunbury – Jan 2017, cited 21/06/17

Strategy	Key goal of strategy	Relevance to BORR
Keeping WA Moving.	a safe, reliable and sustainable road based system	Bunbury, thereby achieving a sustainable, safe and reliable road based system in the South West for industry, tourists and the community.
Regional / Local Priorities, Policies and Initiatives		
South West Development Commission's South West Planning and Infrastructure Framework.	<p>Highlights:</p> <ul style="list-style-type: none"> • The Bunbury Outer Ring Road as Infrastructure Project SW1 • Road and rail upgrades required to facilitate growth at Port • Need for passenger and freight rail links. 	<p>The Bunbury Outer Ring Road will provide efficient linkages to the Port of Bunbury, significantly reduce heavy vehicles from suburban road systems and improve public road safety by separating heavy vehicle and domestic traffic.</p> <p>The Project will facilitate road and rail access improvements for Port of Bunbury and is cognisant of future plans around rail.</p>
Road to Export (Greater Bunbury Infrastructure Investment Plan, 2010).	<p>The Plan recommends that unfunded infrastructure components, including Bunbury Outer Ring Road, should be commenced as soon as possible.</p> <p>The Plan states that: "Completion of Bunbury Outer Ring Road will complete Bunbury port-linked transport infrastructure and underpin the continuation of the decade-long trend of increasing productivity".</p> <p>A key objective of the Plan is to seek opportunities to separate inter-regional and port freight traffic from local commuter and tourist traffic.</p>	<p>Construction of the Bunbury Outer Ring Road and Bunbury Port Access Road will bring a range of important benefits to domestic, tourist and freight traffic. It will:</p> <ul style="list-style-type: none"> • Improve access to the Port of Bunbury from industrial locations in the South West • Improve level of service on the existing network • Improve travel times and freight efficiency • Improve safety for all road users.
South West Regional Blueprint (SWDC, Dec 2014).	<p>The Bunbury Outer Ring Road will be required as truck movements between industrial areas and the Port of Bunbury increase.</p> <p>The Project will also separate regional traffic from Greater Bunbury urban traffic.</p>	<p>Completion of the Bunbury Outer Ring Road will provide a bypass for freight vehicles resulting in safety improvements from separating freight and passenger vehicles.</p>
Greater Bunbury Strategy 2013. (WAPC, Dec 2013.)	<p>Identify locations to accommodate urban growth & future industrial area.</p>	<p>The Bunbury Outer Ring Road provides access to existing (Picton, Kemerton) and future industrial areas. It facilitates urban growth by removing heavy freight and facilitating the future use of non-car modes of transport (e.g. cycling, transit route) at future development areas.</p>
Greater Bunbury Structure Plan 2013. (WAPC, Dec 2013.)	<p>Shows a future road to the east of the future City of Wanju and the future Waterloo industrial expansion area.</p>	<p>The proposed eastern section of the Project reflects this goal. It achieves a number of desirable planning outcomes including access and separation.</p>
City of Bunbury Local Planning Strategy – Integrated Transport Study.	<p>The Strategy highlights the importance of:</p> <ul style="list-style-type: none"> • Early construction of Bunbury Outer Ring Road to facilitate Port of Bunbury and other expansion 	<p>The Project achieves this goal.</p> <p>As set out above, the Project will facilitate sustainable transport solutions within the developed area.</p>

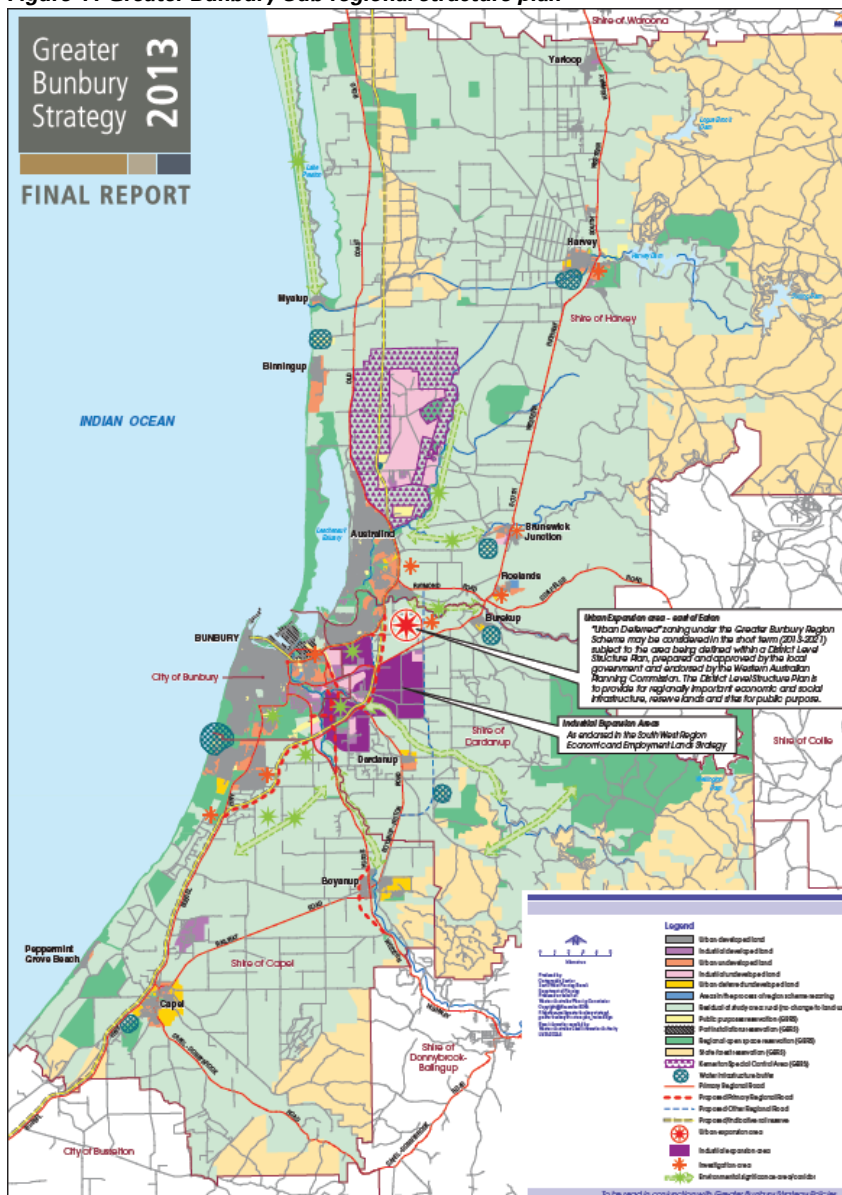
Strategy	Key goal of strategy	Relevance to BORR
<p>Bunbury-Geographie Growth Plan. (Collaborative approach between City of Bunbury, Shire of Capel, Shire of Dardanup, Shire of Harvey, Bunbury Wellington Economic Alliance, SWDC & SPA). (Report Dec 2016).</p>	<ul style="list-style-type: none"> ● Minimising segregation of adjacent communities by maximising opportunities to create safe, convenient crossing for pedestrians, cyclists and local roads. <p>Priority goal: ensure that transport and logistics networks are developed to their full capacity so the region is both connected and hardwired to Asia’s growing markets.</p> <p>Secondary approaches:</p> <ul style="list-style-type: none"> ● The Second City Policy will direct the decentralising of over 200,000 people from Perth-Peel to generate a regional population of 300,000 and provide a major impetus for the development of Wanju and other towns in the region. ● ID growth drivers: Creative industries & the arts; marine services; industry and mining; and sustainable timber products. ● Initiative 2.2 - Complete Bunbury Outer Ring Road and extend/improve 36.5m (RAV7) road train links to the Port of Bunbury. 	<p>Port of Bunbury capacity and growth is directly related to the international standing of the South West. By facilitating efficient port related freight movements, the Bunbury Outer Ring Road will contribute to achieving these outcomes.</p> <p>Promotion of industries including timber products and agribusiness will have an associated road / rail freight task and may also be linked to port capacity (for export and import). By improving network efficiency, the Bunbury Outer Ring Road will also benefit local industries.</p>
<p>Wanju District Local Structure Plan & Waterloo industrial district structure plan (Picton Industrial Park).</p>	<p>The Plan aims to facilitate successful strategic planning for the area (including Wanju and Waterloo) including identification of complementary projects required, such as the Bunbury Outer Ring Road.</p>	<p>The success of Wanju will require a Major degree of connectivity to the rest of Greater Bunbury. The Bunbury Outer Ring Road will be a key impetus to this development by providing inter-regional links.</p> <p>The successful development of Waterloo will require a Major degree of connectivity to the rest of Greater Bunbury and the South West. Bunbury Outer Ring Road will be a key impetus to the development at Waterloo by providing key inter-regional north-south and east-west highway, including improved access to the Port of Bunbury.</p>

F. Appendix: Project data

Greater Bunbury Structure Plan, 2013

Figure 41 provides a summary of The Greater Bunbury Structure Plan 2013 that identifies land ahead of the rezoning process so that future development can occur in a logical manner in response to future growth trends.

Figure 41 Greater Bunbury Sub-regional structure plan



Map: Greater Bunbury Sub-regional Structure Plan 2013

Greater Bunbury road network

Figure 42 provides the road network in Greater Bunbury, with primary routes (red lines), secondary routes (green lines) local routes (purple lines) and tourist trails (yellow lines). The state road network carries a mix of freight, local and tourist traffic with no separation of traffic streams.

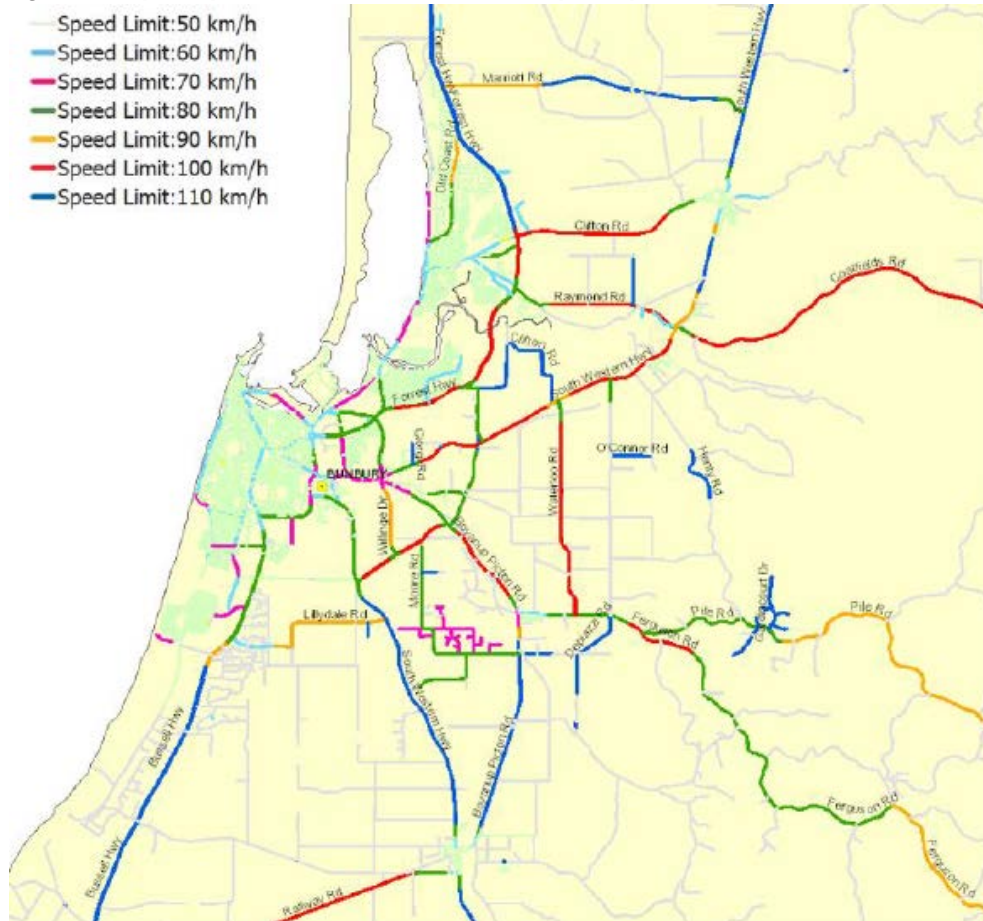
Figure 42 Roads in Greater Bunbury



Source: Main Roads, 2018.

The speed limit in Greater Bunbury varies significantly and leads to inefficiency for freight vehicles, as shown in Figure 43. It is envisaged that, with increasing urban and industrial development pressures surrounding Greater Bunbury as well as increasing freight demands, safety and efficiency pressures on the road network will continue to increase.

Figure 43: Key transport infrastructure around Bunbury and speed limits

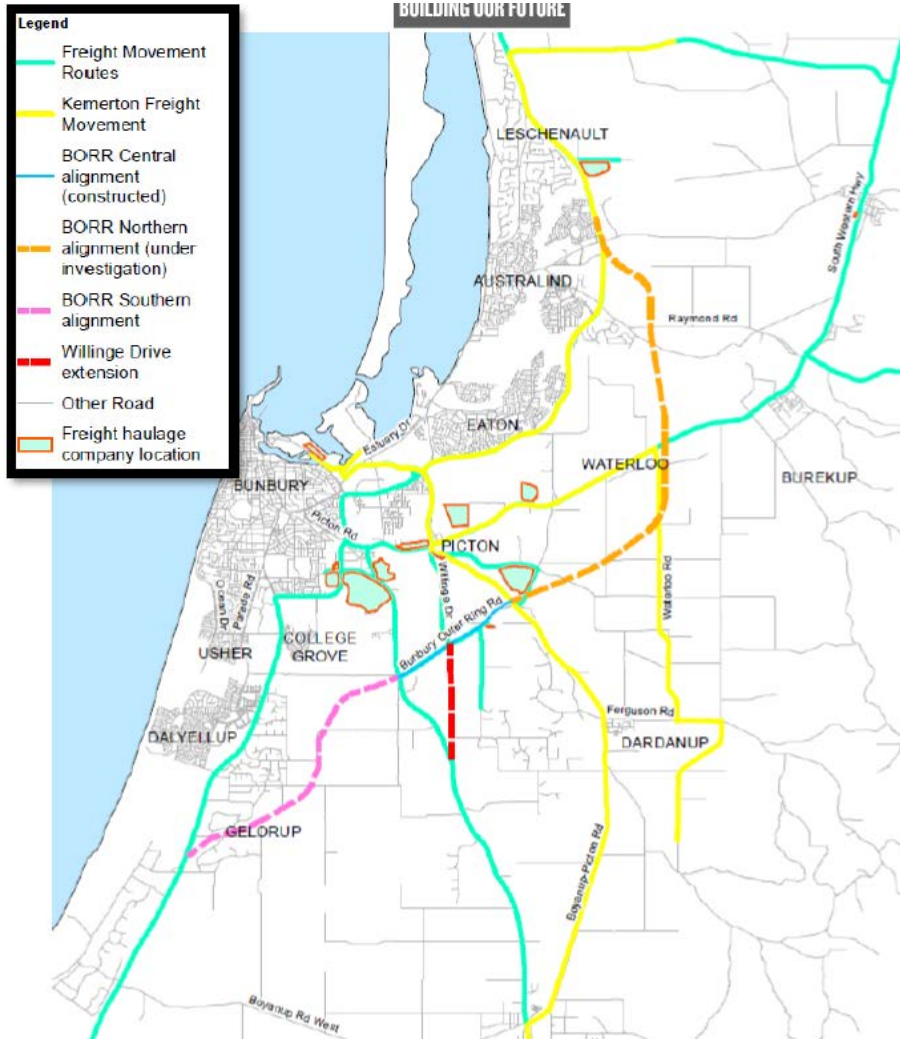


Source: Main Roads (2018)

Greater Bunbury key freight routes

Figure 44 shows the key freight routes and the key freight haulage company locations in Greater Bunbury.

Figure 44 Freight routes and haulage company locations in Greater Bunbury

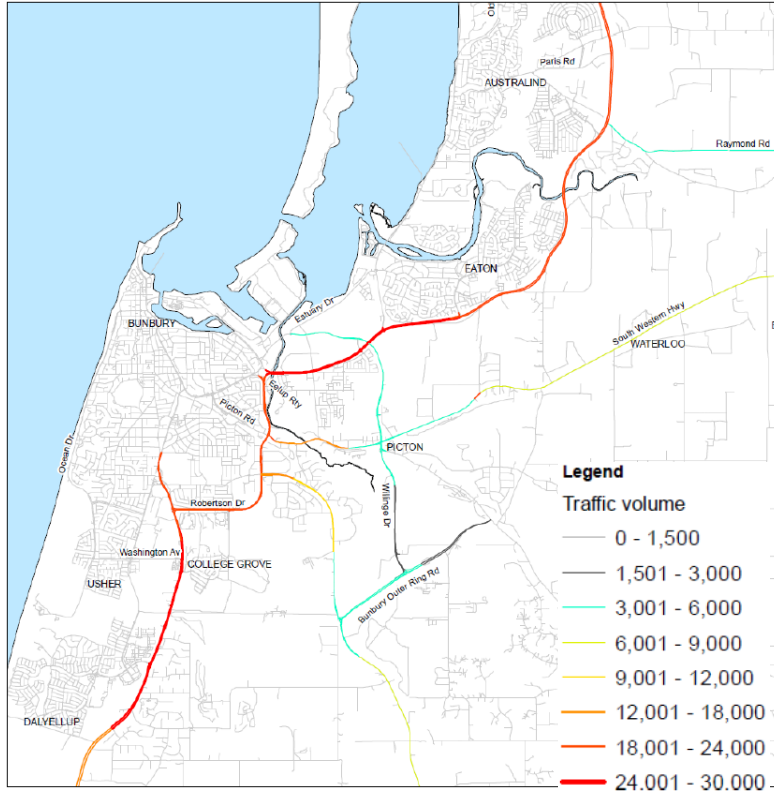


Source: Main Roads, 2018.

Historic traffic volumes for Greater Bunbury

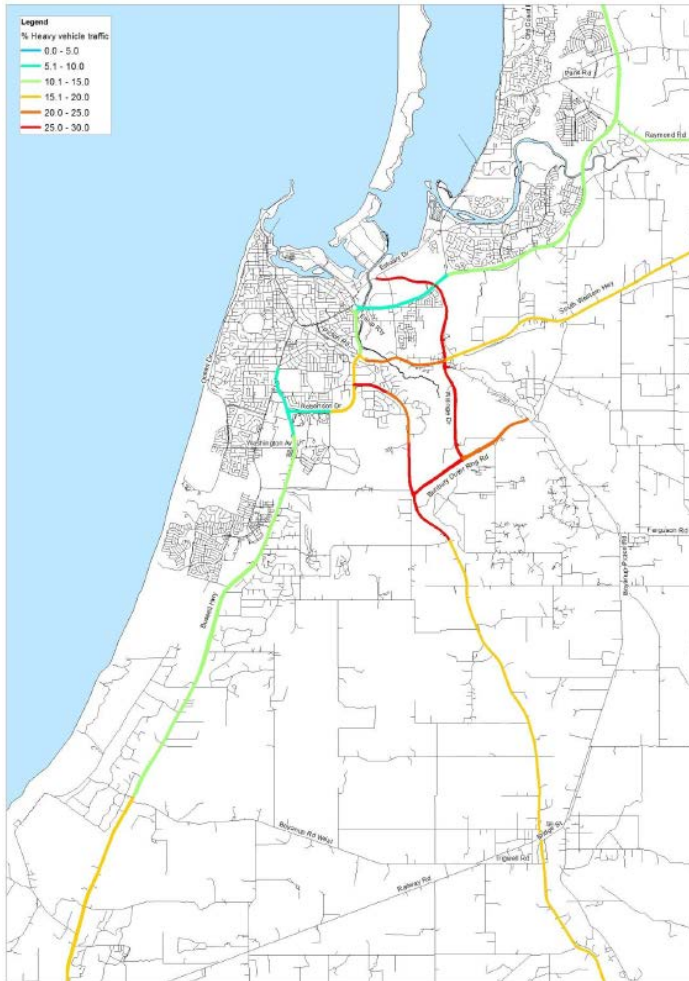
Freight traffic together with passenger traffic (local and tourist) results in high traffic volumes in Greater Bunbury as illustrated in Figure 45.

Figure 45 Traffic volumes on key routes in Greater Bunbury



Source: Main Roads, 2018.

Figure 46 Existing heavy vehicle percentage along major corridors

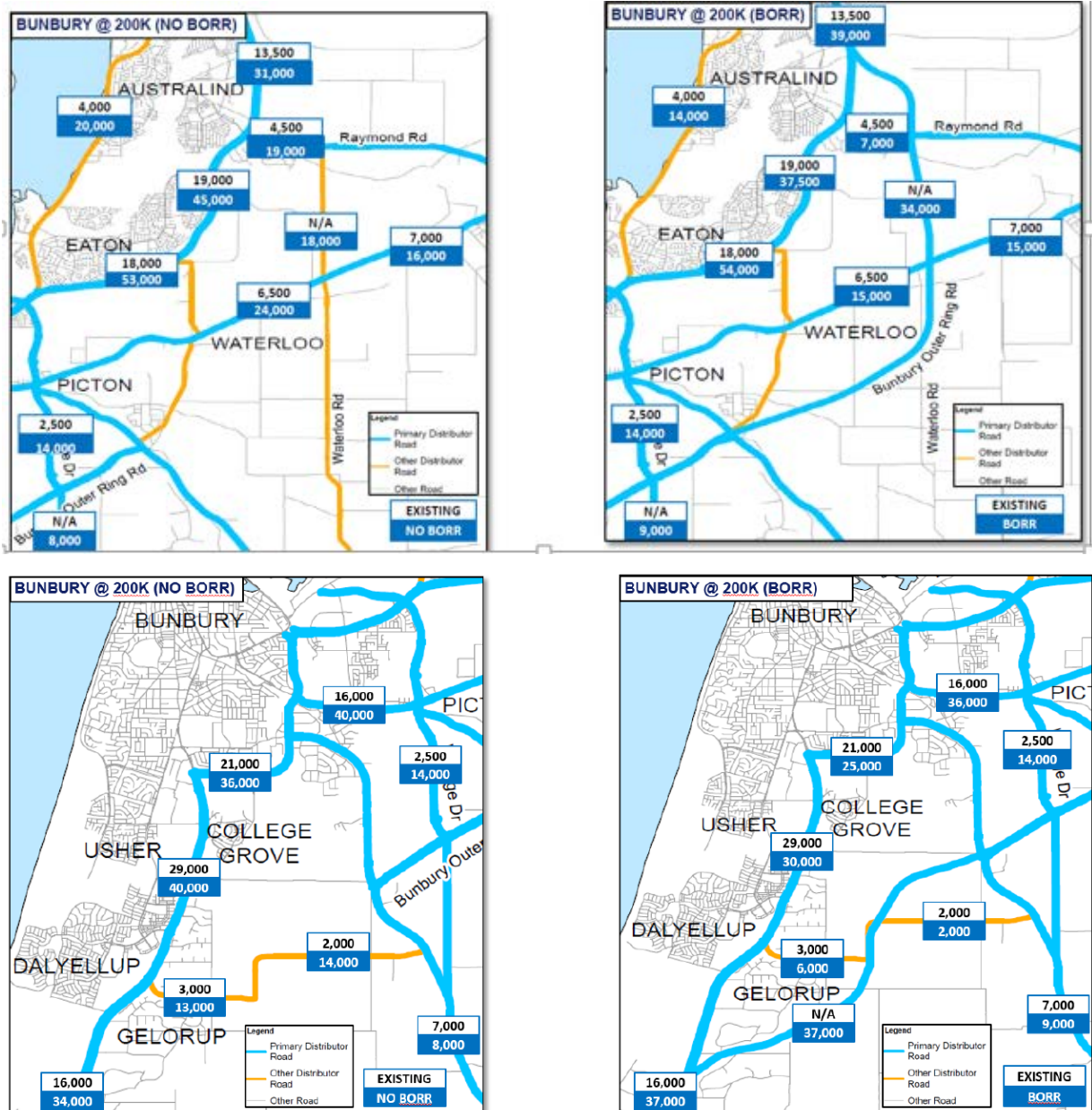


Source: Main Roads, 2018.

Heavy vehicle traffic forecast with and without BORR

Figure 47 shows the vehicle traffic forecast (light and heavy vehicles) with and without BORR for a Greater Bunbury population of 200,000. The white box numbers are existing traffic and the blue box numbers are forecast traffic.

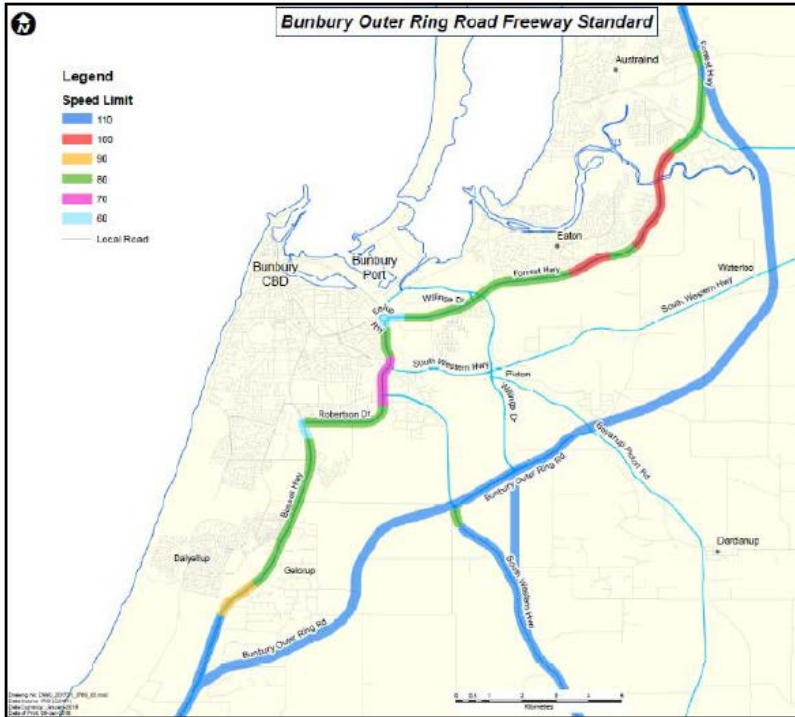
Figure 47 Heavy vehicle traffic forecast with and without BORR



Source: Main Roads traffic modelling (2018).

Figure 48 shows the speed limits on key north-south freight routes with and without BORR.

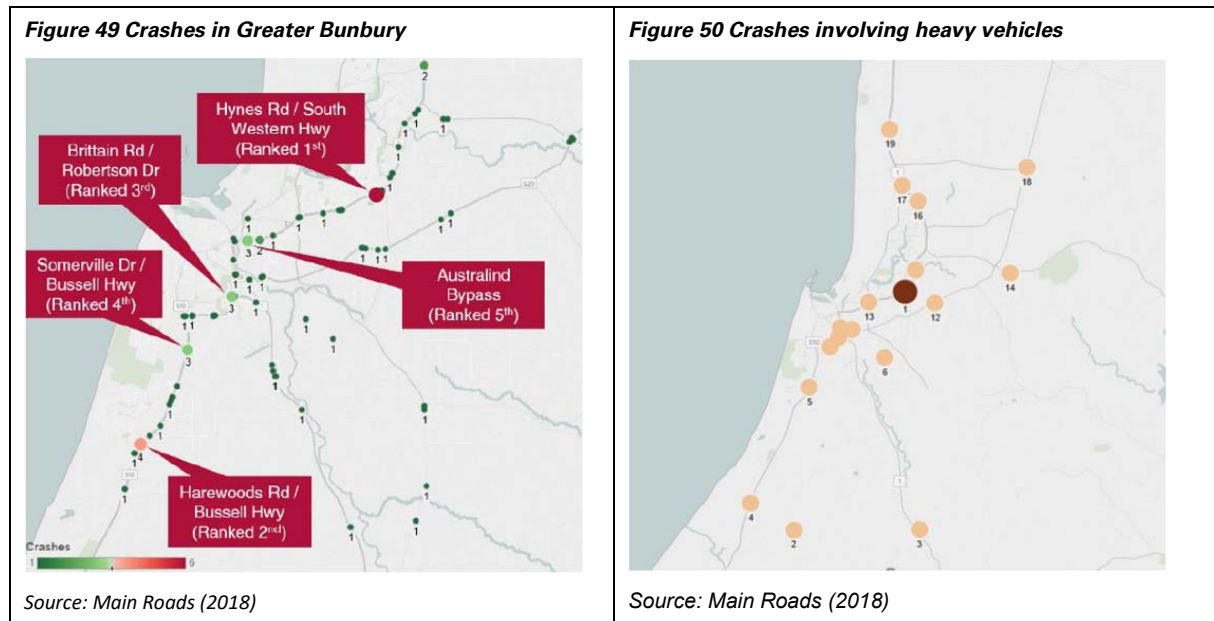
Figure 48 Speed limit with and without BORR



Source: BORR team

Historic crash statistics in Greater Bunbury

Figure 49 shows the historic crash statistics for Greater Bunbury (with higher crash rate locations highlighted in text boxes). Figure 50 shows the crash locations that involved heavy vehicles. Among all crashes, 14 per cent involved heavy vehicles. The majority of freight vehicle crashes are along the main freight routes into and through the City of Bunbury.



Service infrastructure

Detailed description of service infrastructure surrounding the BORR or likely to be impacted by the BORR is provided in the BORR Ultimate Design Report (2019). In summary, key current service infrastructure (refer Figure 51) include:

- Western Power transmission lines
- High voltage distribution lines
- Optic fibres
- Gas
- Water irrigation channels
- Water Corporation main drainage
- Synergy power station (north point)

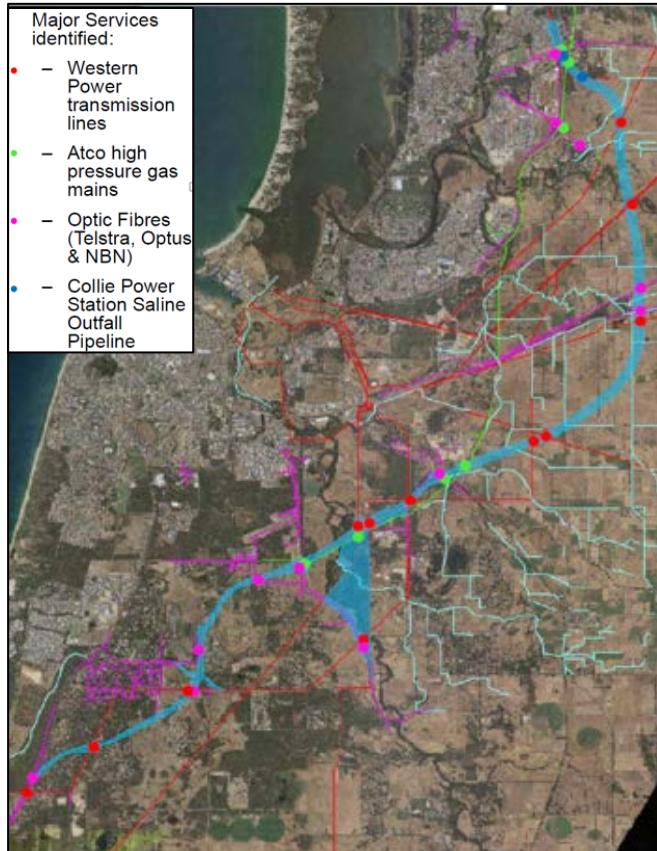
Some service relocation will be required, including:

- 20 West Power transmission and distribution line to be relocated
- There are about 15 optic fibres as part of BORR scope
- 6 high pressure power lines
- 15 Harvey water irrigation channels

- 15 Water Corporation main drainage
- Synergy power station (north end) which is already in a replacement age.

Main Roads does to foresee significant issues in relocating the above services.

Figure 51 Service surrounding BORR



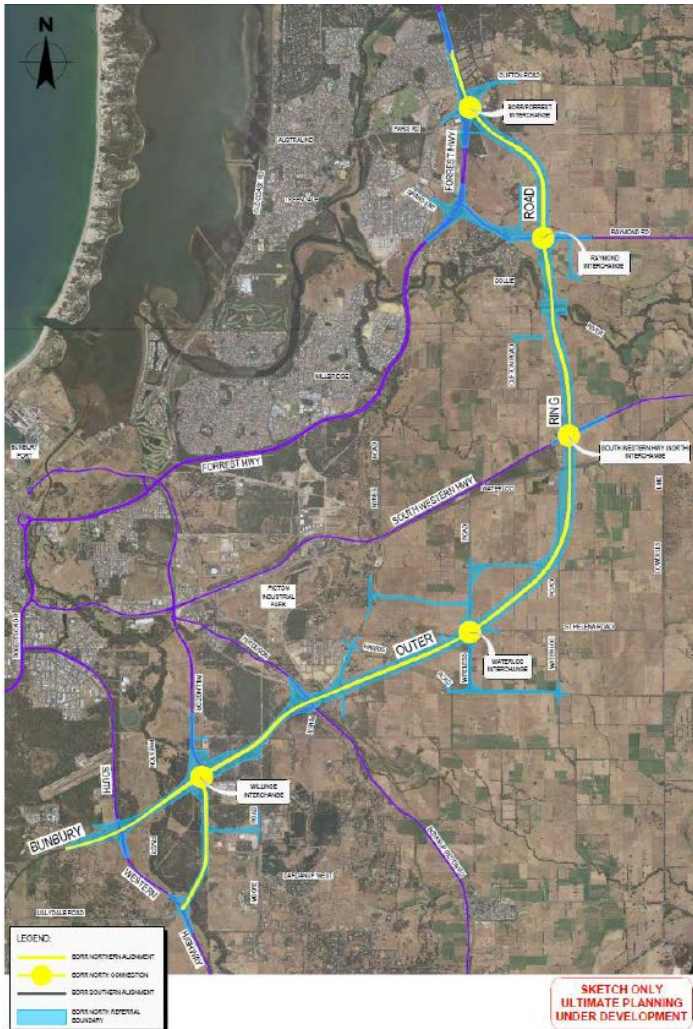
Source: BORR Project Team, 2018.

G. Appendix: BORR Design concept

Northern and Central Sections

Figure 52 provides the ultimate design concept for the BORR Northern and Central Sections including key road alignments and interchange locations.

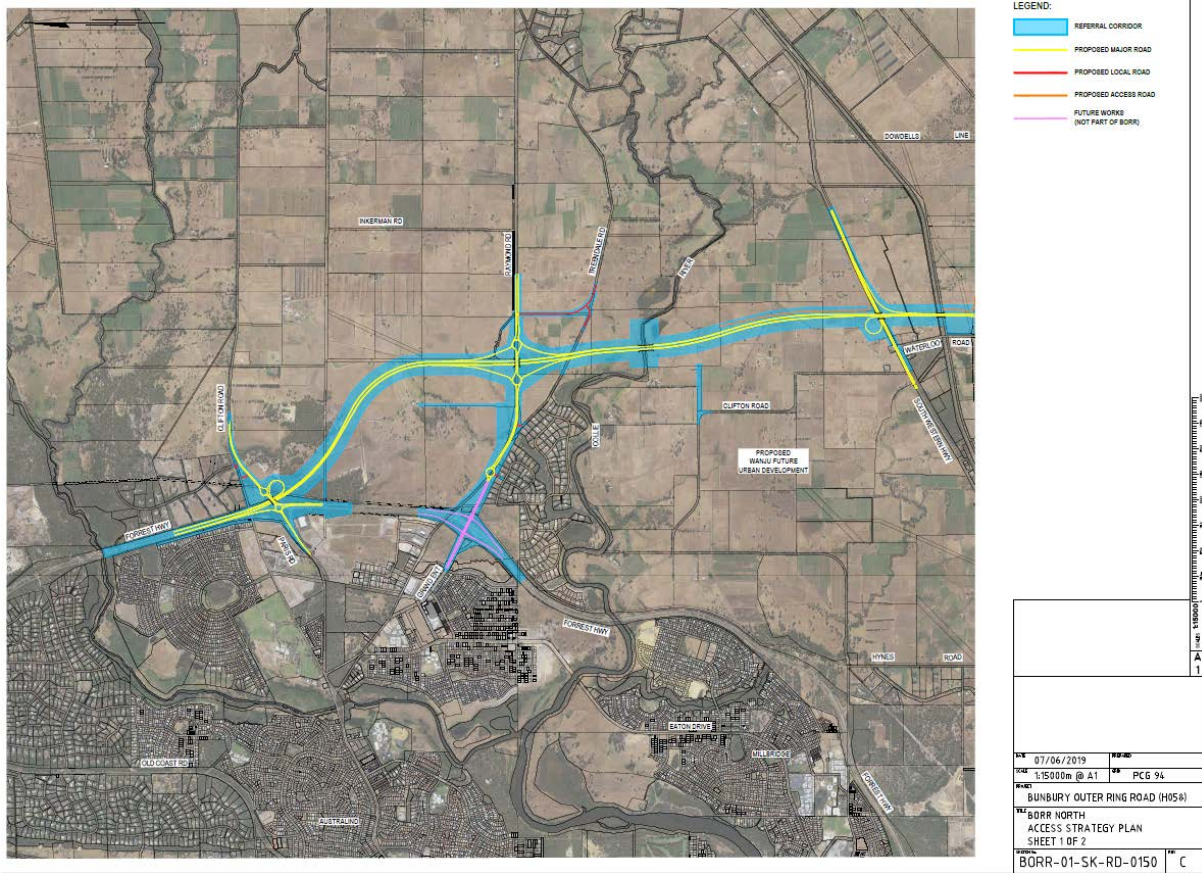
Figure 52 Ultimate design concept for Northern and Central Sections



Source: BORR North Ultimate Design Report (2019).

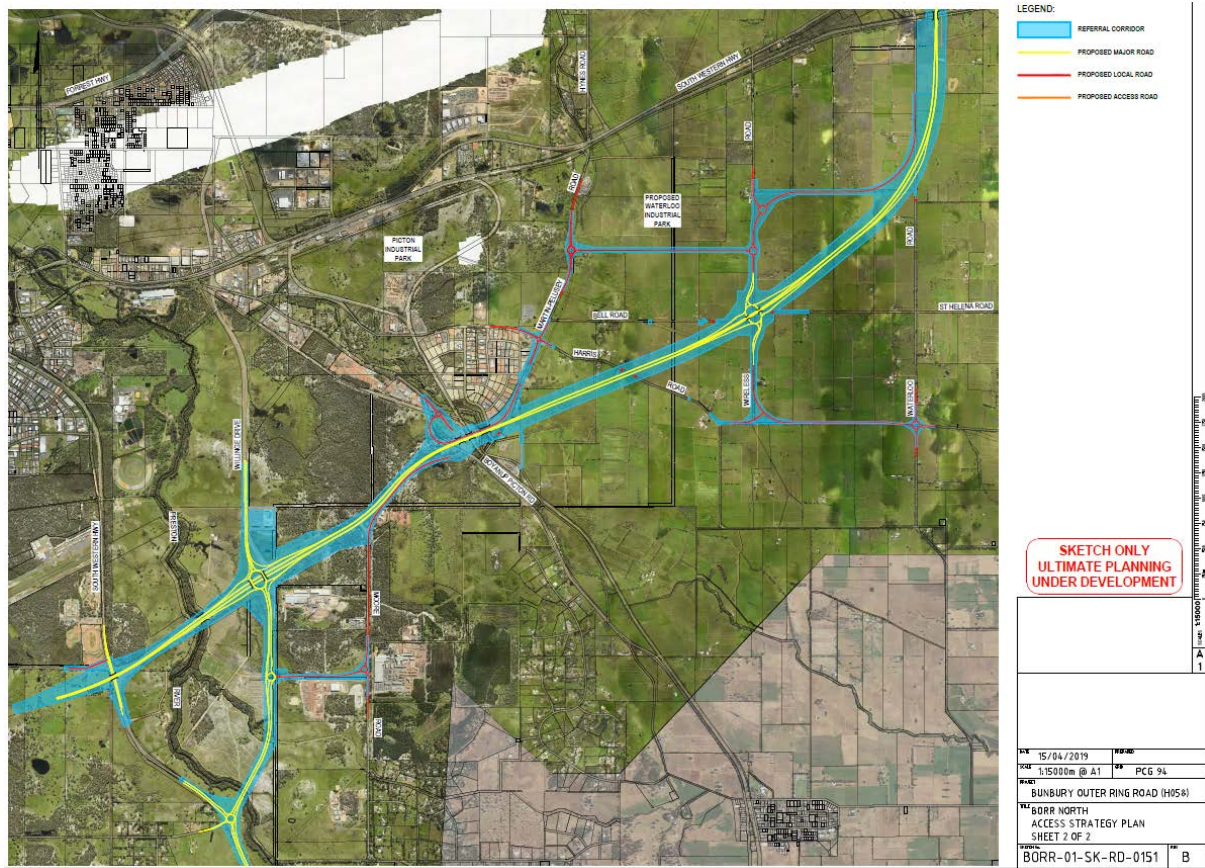
Figure 53 and Figure 54 present the access strategy plan for the BORR Northern and Central Sections.

Figure 53 BORR northern section from Paris/ Clifton to South Western Highway east



Source: BORR northern section access strategy plan, 22 June 2019.

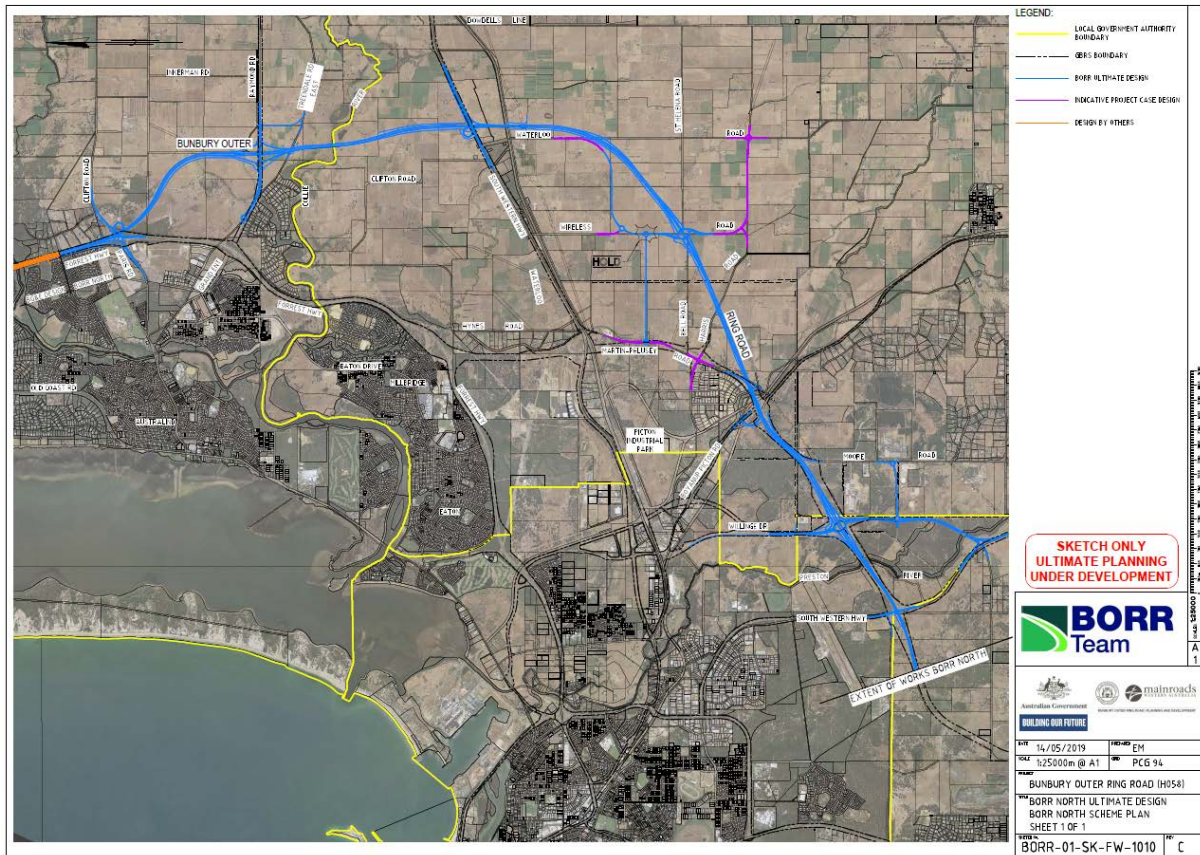
Figure 54 BORR northern section between South Western Highway east and South Western Highway south



Source: BORR northern section access strategy plan, 22 June 2019.

The BORR may result in the severance of local roads. The BORR northern ultimate design report, 2019, provides solutions proposed by the BORR project team for connection.

Figure 55 BORR northern section

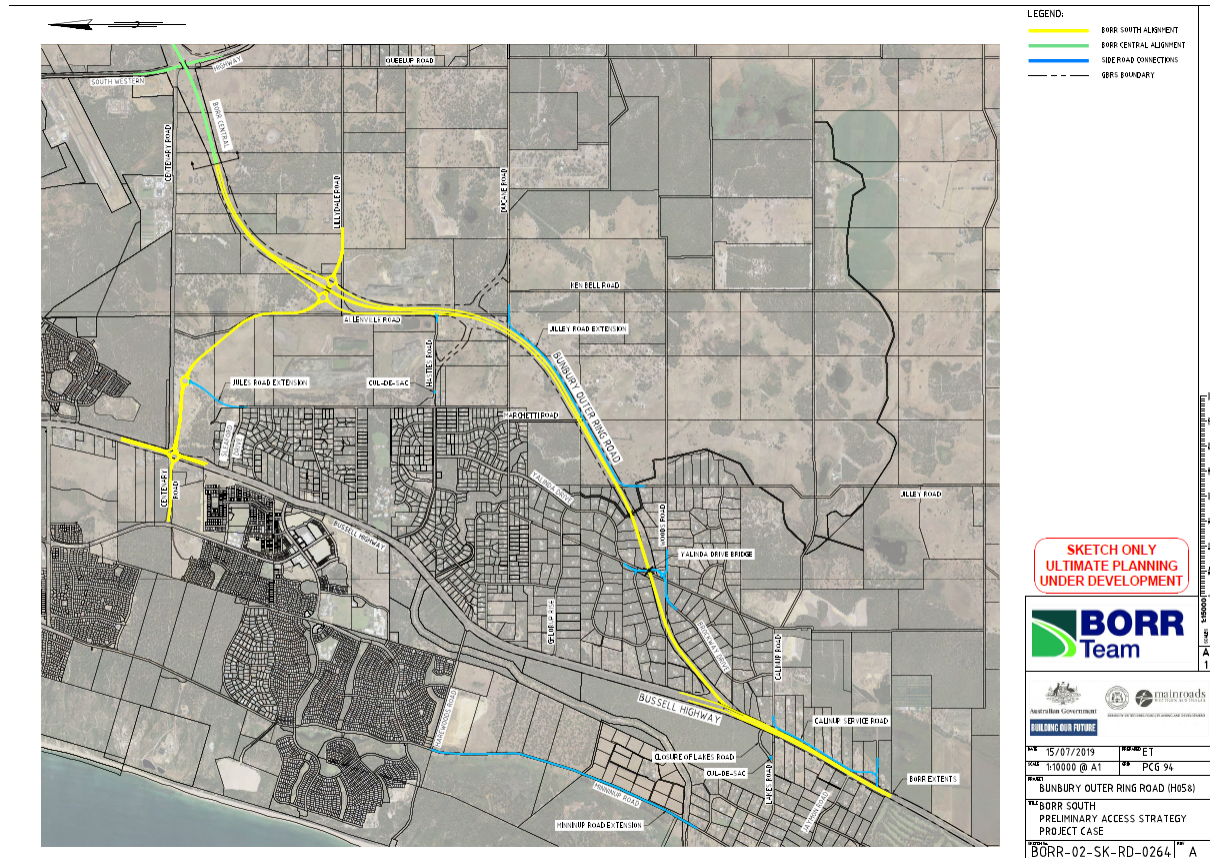


Source: BORR northern section access strategy plan, 14 May 2019.

Southern Section

Figure 56 shows the recommended connectivity by the BORR Project Team for the connection between Bussell Highway and BORR via Centenary Road linking to Lilydale Road. Further work is being undertaken to resolve local access requirements.

Figure 56 BORR Project Team recommended connectivity for Southern Section



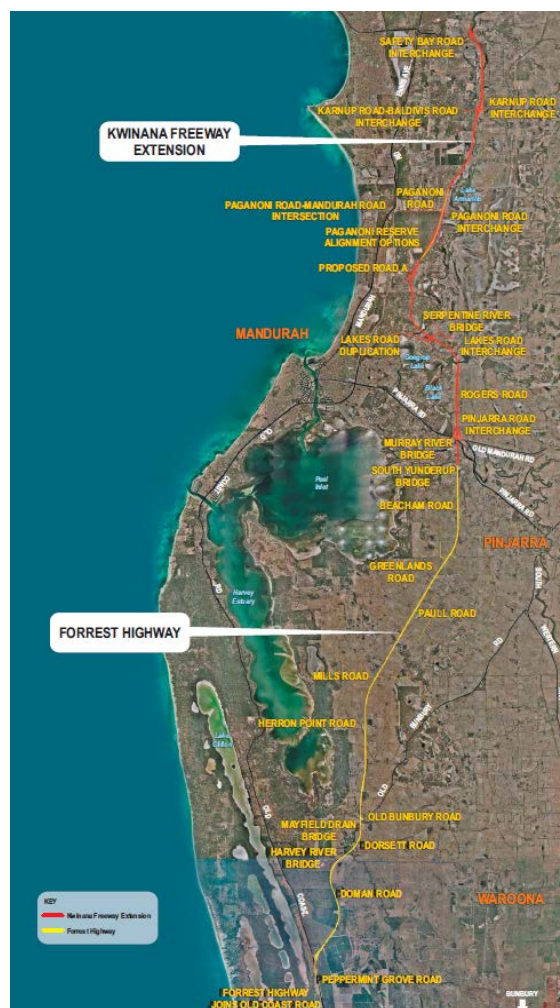
Source: BORR South Preliminary Access Strategy, July 2019.

H. Appendix: Perth Bunbury Highway Highway case study

The opening of the 70km long new Perth Bunbury Highway in 2009⁵⁶ (as depicted in Figure 57) provides some insights as a case study for the potential impact of BORR on local businesses, economy and community.

Significant traffic from Perth, going south, used to have to travel through Mandurah CBD before the Perth Bunbury Highway was completed. The Perth Bunbury Highway reduced travel time between Perth and Bunbury by approximately 30 minutes.

Figure 57 New Perth Bunbury Highway



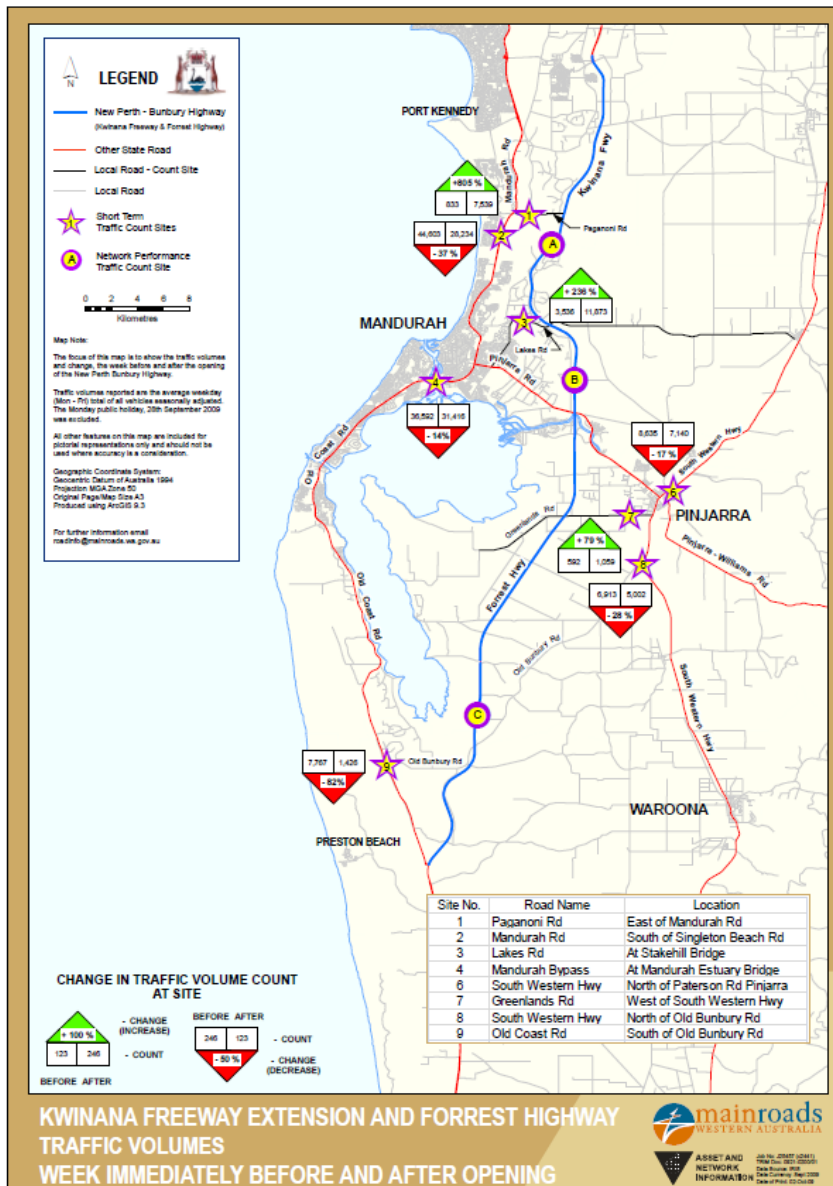
Source: Main Roads.

⁵⁶ The majority of the bypass opened in September 2009 but the final section connecting to Mandurah did not open till October 2010.

For the purpose of the case study, both traffic survey analysis and stakeholder interviews were undertaken to understand the impact the Perth Bunbury Highway, that bypass Mandurah, had on the Mandurah CBD.

The immediate traffic impact is shown in Figure 58 and is based on a traffic study undertaken by Main Roads within one year after the opening of the highway. Traffic that continued to drive through the Mandurah CBD dropped from 24,000 to about 10,000 per day. The Mandurah-Murray area was impacted most and traffic on Old Coast Road, south of Mandurah, decreased from 8,800 to just 1,700 per day.

Figure 58 Traffic impact of Kwinana Freeway extension and Forest Highway



Source: Main Roads.

Stakeholder consultations were also undertaken to understand the impact that the highway had on local businesses, economy and community.

However, as noted by the stakeholder interviewed, the Perth Bunbury Highway is not directly comparable to BORR given that:

- The highway opened during the Global Financial Crisis (**GFC**) when Mandurah was hit particularly hard. Businesses were already in hardship before the opening of the highway. As a result, it is hard to distinguish between the impacts of the Perth Bunbury Highway and the impacts of the GFC (with the community reaction to the new highway potentially overstated to some degree); and
- Significant traffic from Perth, going south, used to have to travel through the Mandurah CBD before the Perth Bunbury Highway opened. In the case of BORR, however, despite the impact of traffic potentially bypassing some local businesses, north-south traffic does not currently have to pass through the Bunbury CBD.

The key insights from the stakeholder consultation are summarised below:

- Congestion eased immediately after the opening of the Perth Bunbury Highway and the community felt the positive impact especially on the main local roads which used to be very congested
- Businesses in the CBD and Old Coast Road have been negatively impacted by the Perth Bunbury Highway. Retail, fast-food stores and service stations were the most impacted businesses. It is hard to separate the impact of the new highway from the GFC
- Over the longer term, businesses in some pockets of the CBD have recovered but Old Coast Road has become a quiet road and businesses have not recovered
- Tourism may have been affected by the Perth Bunbury Highway to some degree. Since the GFC, overnight stays (by mainly Perth based tourists) have dropped significantly. It is hard to separate the impact of the new highway from the GFC
- Property prices remained low since 2009 and hotel development stagnant.

The stakeholder consultation also offered the following lessons learnt:

- More marketing could have been done to promote Mandurah's identity and improve tourism before the opening of the new Perth Bunbury Highway
- Signage is important. Mandurah has 6 signs (with funding support from the Chamber of Commerce) that indicate entries to Mandurah at multiple points on Forest Highway.