Appendix P
Economics and business

Great Western Highway Blackheath to Little Hartley

Appendix P - Technical report - Economic and business

Client:Transport for NSW

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Glossary and abbreviations

Term	Description
ANZSIC	Australian and New Zealand Standard Industrial Classification
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act 1979
FTE	Full time equivalent (employment)
GRP	Gross Regional Product
GSP	Gross State Product
LGA	Local Government Area
NSW	New South Wales
SIA	Social Impact Assessment
Transport	Transport for NSW

1.0 Introduction

1.1 Project context and overview

The Great Western Highway is the key east-west road freight and transport route between Sydney and Central West New South Wales (NSW). Together, the Australian Government and the NSW Government are investing more than $4.5 billion towards upgrading the Great Western Highway between Katoomba and Lithgow (the Upgrade Program). Once upgraded, over 95 kilometres of the Great Western Highway will be two lanes in each direction between Emu Plains and Wallerawang.

The Upgrade Program comprises the following components:

- Great Western Highway Upgrade – Medlow Bath (Medlow Bath Upgrade): upgrade and duplication of the existing surface road corridor with intersection improvements and a new pedestrian bridge (approved)
- Great Western Highway East – Katoomba to Blackheath (Katoomba to Blackheath Upgrade): upgrade, duplication and widening of the existing surface road corridor, with connections to the existing Great Western Highway east of Blackheath (approved)
- Great Western Highway Upgrade Program – Little Hartley to Lithgow (West Section) (Little Hartley to Lithgow Upgrade): upgrade, duplication and widening of the existing surface road corridor, with connections to the existing Great Western Highway at Little Hartley (approved)
- Great Western Highway Blackheath to Little Hartley: construction and operation of a twin tunnel bypass of Blackheath and Mount Victoria and surface road works for tie-ins to the east and west of the tunnel (the project). This component is the focus for this economic assessment.

The components of the Upgrade Program are shown in Figure 1-1.

Transport for NSW (Transport) is seeking approval under Division 5.2, Part 5 of the Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act) to upgrade the Great Western Highway between Blackheath and Little Hartley (the project).

The project would comprise the construction and operation of new twin tunnels around 11 kilometres in length between Blackheath and Little Hartley, and associated surface road upgrade work for tie-ins to the east and west of the proposed tunnel portals.

The project would be located around 90 kilometres northwest of the Sydney CBD and located within the Blue Mountains and Lithgow Local Government Areas (LGA).

The majority of the project would be located below ground generally along or adjacent to the west of the existing Great Western Highway between around Blackheath and Little Hartley.

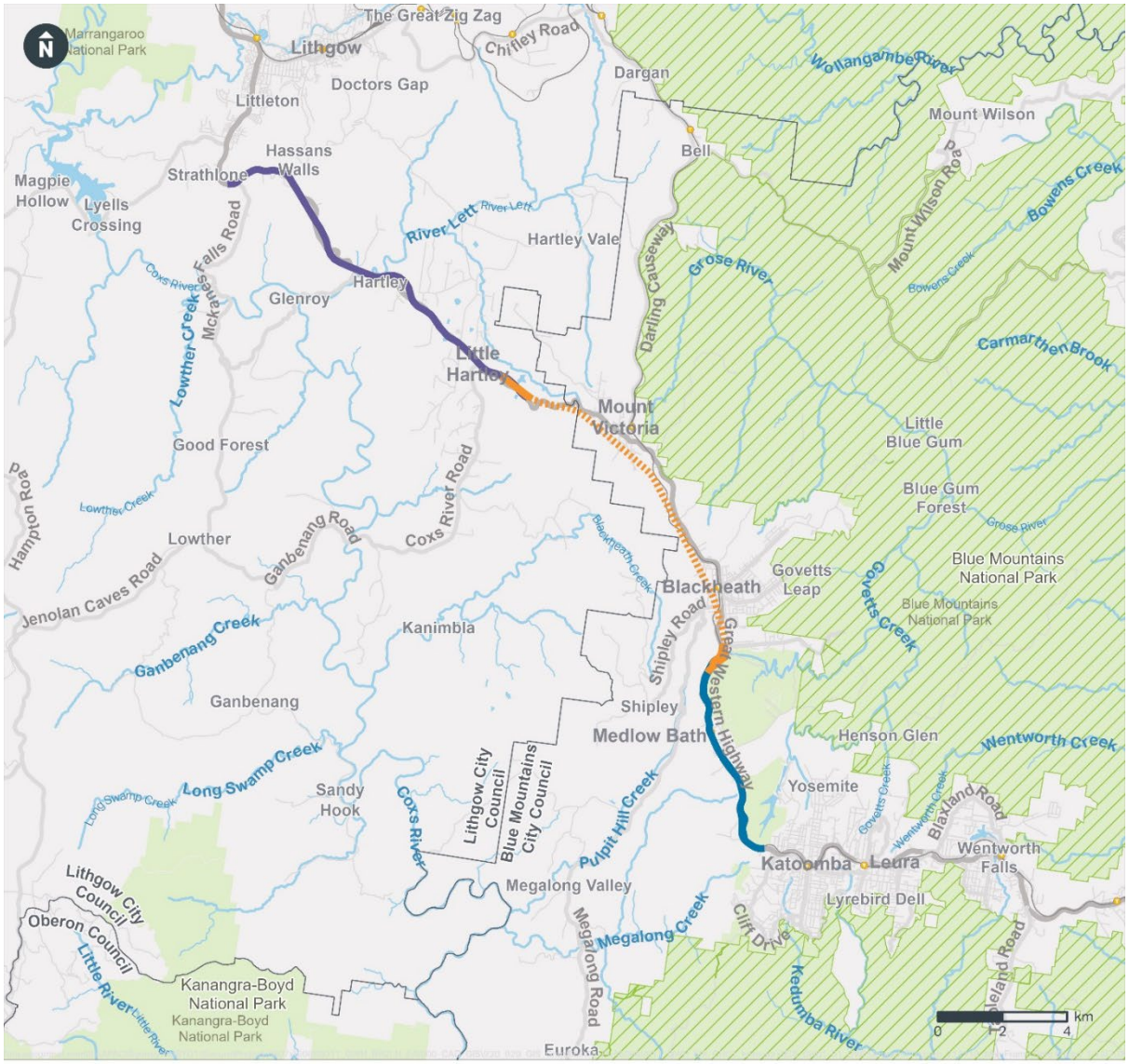

Figure 1-1 The Great Western Highway Upgrade Program

1.2 The project

1.2.1 Key components of the project

Key components of the project are summarised in Table 1-1 and shown in Figure 1-2. These components are described in more detail in Chapter 5 (Project description) of the environmental impact statement (EIS).

The indicative operational configuration of the surface road network at Blackheath and Little Hartley is shown in Figure 1-3 and Figure 1-4.

Subject to approval, the project is anticipated to be open to traffic in 2030.

Table 1-1 Key components of the project

Key project component	Summary
Tunnels	Twin tunnels around 11 kilometres in length between Blackheath and Little Hartley, connecting to the upgraded Great Western Highway at both ends. Each tunnel would include two lanes of traffic and road shoulders and would range in depth from just below the surface near the tunnel portals, to up to around 200 metres underground at Mount Victoria.
Surface work	Surface road upgrade work would be required to connect the tunnels and surface road networks south of Blackheath and at Little Hartley. The twin tunnels would connect to the surface road network via: • mainline carriage ways and on- and off-ramps at the Blackheath portal, located adjacent to the existing Great Western Highway and south of Evans Lookout Road • mainline carriageways at the Little Hartley portal, located adjacent to the existing Great Western Highway at the base of the western escarpment below Victoria Pass and southwest of Butlers Creek.
Operational infrastructure	Operational infrastructure that would be provided by the project includes: • a tunnel operations facility adjacent to the Blackheath portal • in-tunnel ventilation systems including jet fans and ventilation ducts connecting to the ventilation facilities • one of two potential options for tunnel ventilation currently being investigated, being: - ventilation design to support emissions via ventilation outlets; or - ventilation design to support emissions via portals • water quality infrastructure including sediment and water quality basins, an onsite detention tank at Blackheath and a water treatment plant at Little Hartley • fire and life safety systems, emergency evacuation and ventilation infrastructure and Closed Circuit Television • lighting and signage including variable message signs and associated infrastructure such as overhead gantries.
Utilities	Key utilities required for the project would include: • a new electricity substation at Little Hartley to facilitate construction and operation power supply • a new pipeline between Little Hartley and Lithgow to facilitate construction and operation water supply • other utility connections and modifications, including electricity substations in the tunnel.
Other project elements	The project would also include: • integrated urban design initiatives • landscape planting.

Figure 1-2 Overview of the project

Figure 1-3 Indicative operational configuration at Blackheath

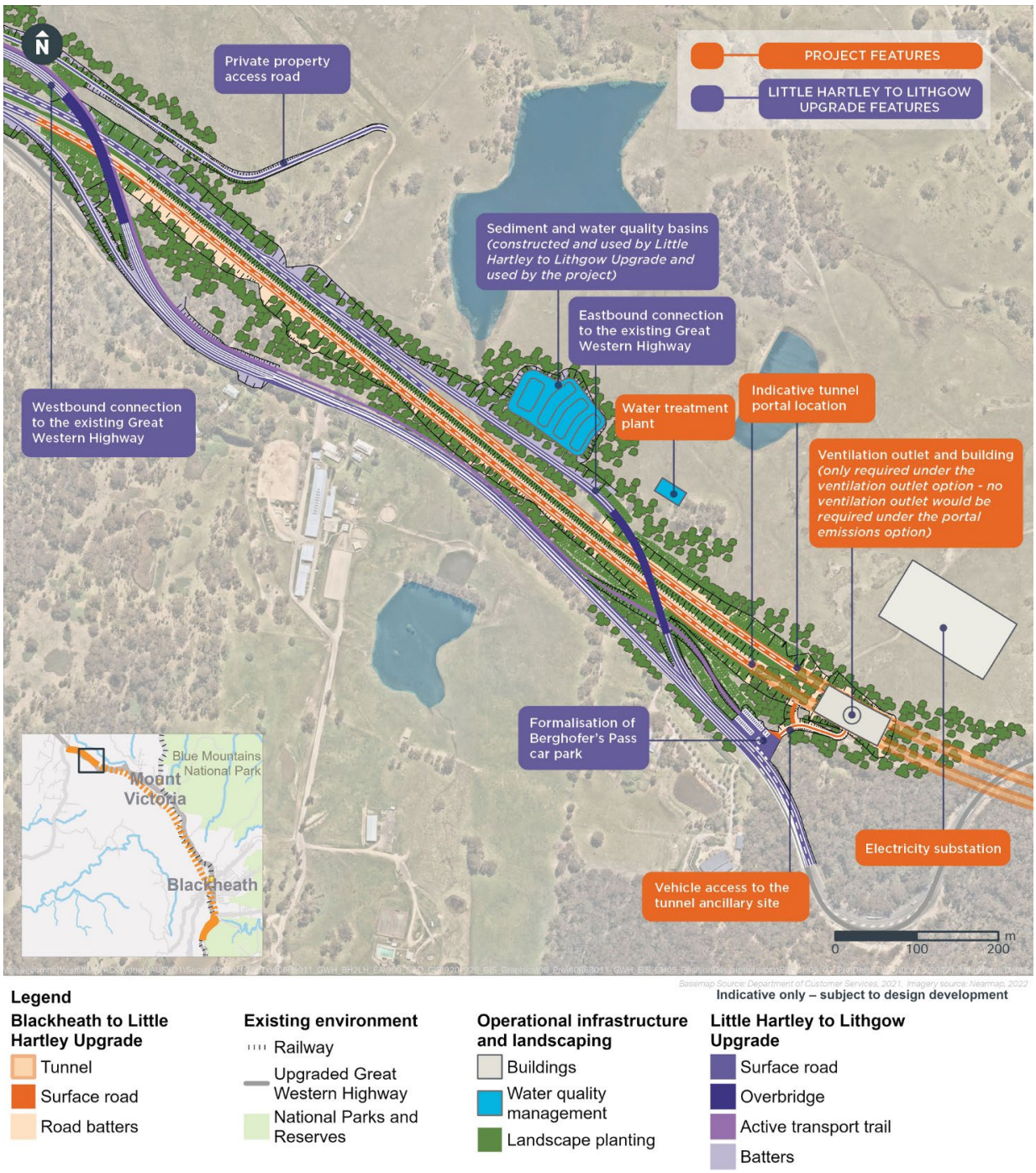

Figure 1-4 Indicative operational configuration at Little Hartley

1.2.2 Project construction

Construction of the project would include:

- site establishment and enabling works
- tunnel portal construction
- tunnelling and associated works
- surface road upgrade works
- operational infrastructure construction and fit-out, including construction of operational environmental controls
- finishing works, testing, and commissioning.

These activities are described in more detail in Chapter 6 (Construction) of the EIS.

The indicative construction footprint for the project is shown in Figure 1-5 to Figure 1-7, including construction site layout and access arrangements.

Construction of the project is expected to take around eight years. Subject to planning approval, construction is planned to commence in early 2024 and be completed by late 2031, however it is noted that the project will become operational in 2030.

Figure 1-5 Indicative construction footprint at Blackheath

Figure 1-6 Indicative construction footprint at Soldiers Pinch

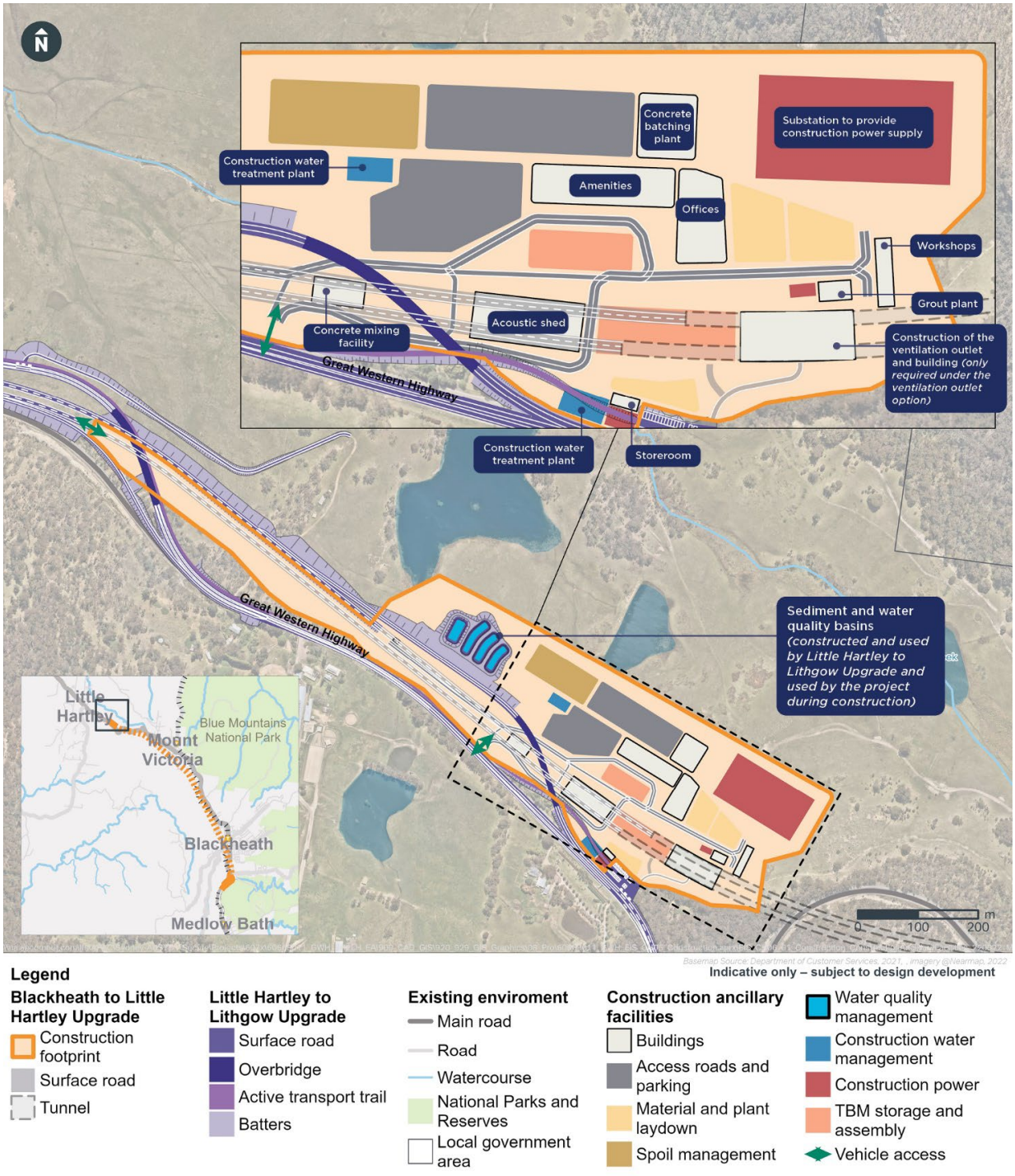

Figure 1-7 Indicative construction footprint at Little Hartley

1.2.3 Baseline environment

The Katoomba to Blackheath and Little Hartley to Lithgow Upgrades adjoining the project to the east and west respectively would be under construction when construction of the project commences (refer to Figure 1-8). To minimise environmental impacts, parts of the Katoomba to Blackheath Upgrade and Little Hartley to Lithgow Upgrade construction footprints would be used to support construction of the project.

As a result, the following activities will be undertaken at the construction sites as part of the Katoomba to Blackheath and Little Hartley to Lithgow Upgrades:

- vegetation would be cleared
- topsoil would be levelled and compacted
- site access tracks would be established
- water quality controls such as water quality and sediment basins would be installed.

The environmental impacts associated with these works have been assessed as part of the Katoomba to Blackheath Upgrade and the Little Hartley to Lithgow Upgrade.

The construction footprint for these projects are shown in Figure 1-9 and Figure 1-10 form the baseline environment considered at Blackheath and Little Hartley for this EIS.

No work is proposed at Soldiers Pinch as part of the Katoomba to Blackheath Upgrade or the Little Hartley to Lithgow Upgrade and therefore the existing environment forms the baseline environment for this EIS.

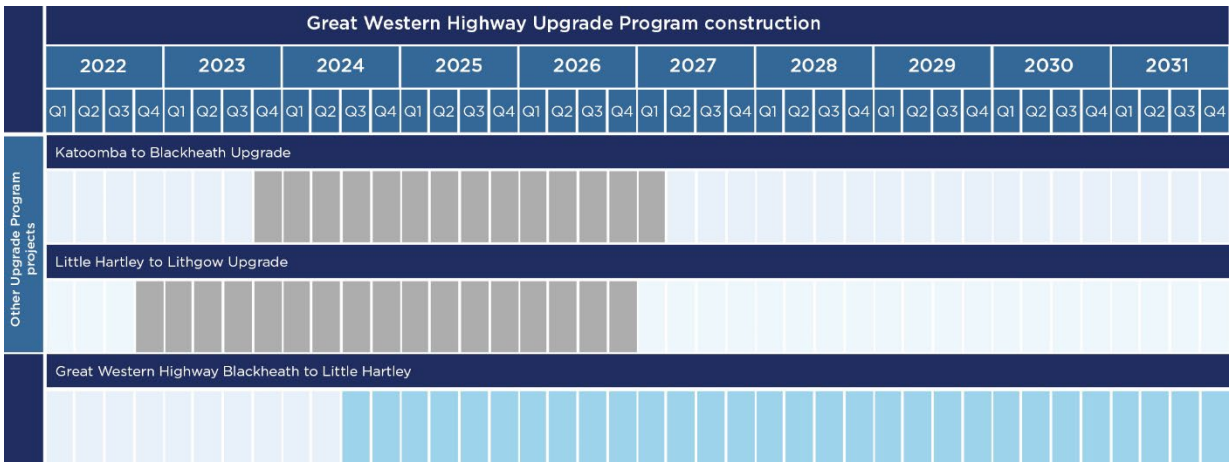

Figure 1-8 Great Western Highway Upgrade Program construction

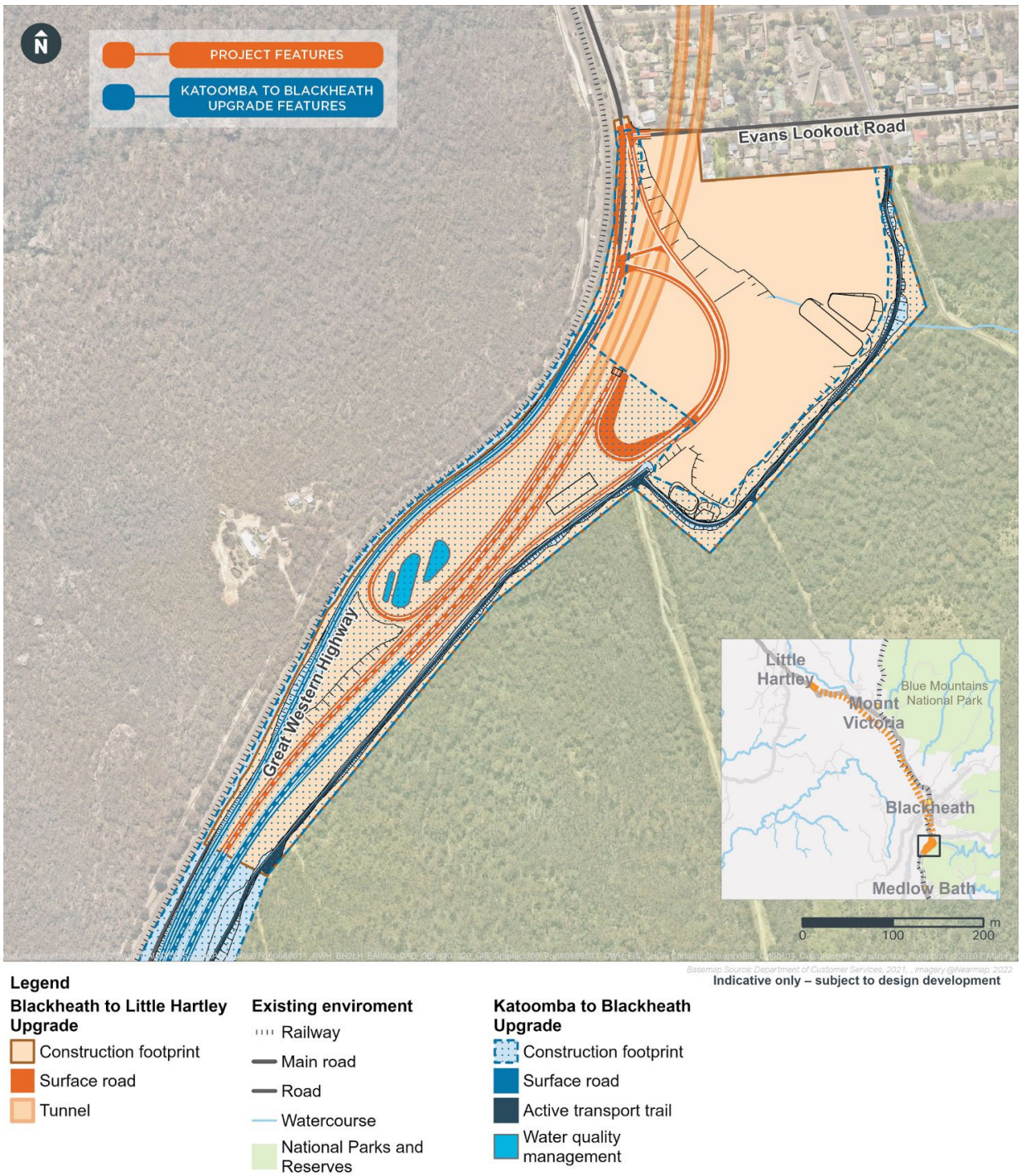

Figure 1-9 Baseline environment and Blackheath

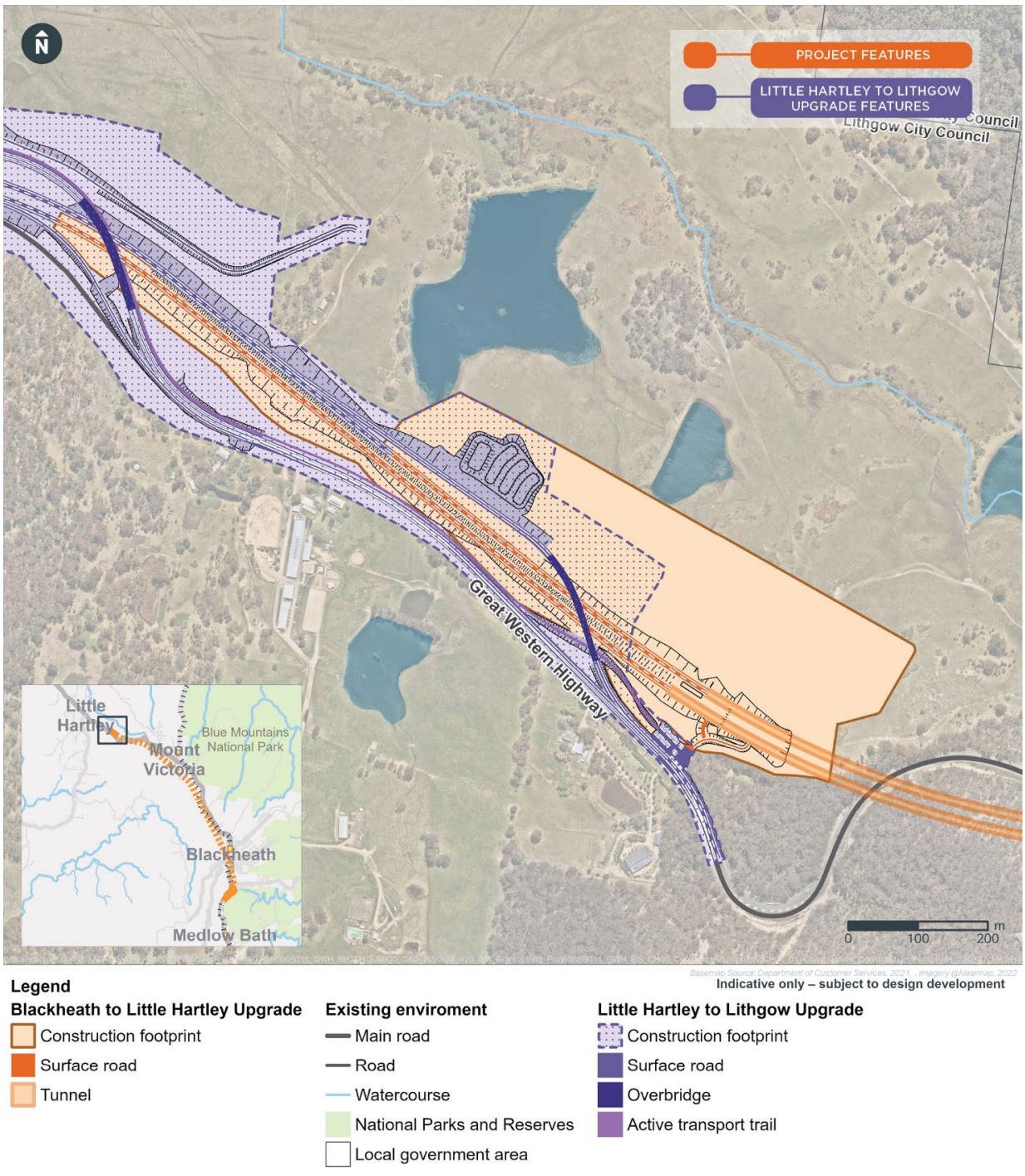

Figure 1-10 Baseline environment at Little Hartley

1.3 Purpose of this report

This economic and business impacts report is one of a number of technical documents that forms part of the EIS. The purpose of this technical report is to provide an assessment which addresses the requirements outlined in Section 1.3.1. This technical report provides an assessment of the potential economic and business impacts (both benefits and disbenefits) that may result from the project both during construction and once the project becomes operational. Elements of this report, including the quantitative and qualitative assessment of the economic impacts, have been used to inform the Appendix O (Technical report - Social) of the EIS.

1.3.1 Assessment requirements

The Secretary's Environmental Assessment Requirements (SEARs) issued by the NSW Department of Planning and Environment (DPE), relating to economic and business impacts arising from the project and where these requirements are addressed in this report are outlined in Table 1-2.

Table 1-2 SEARS relating to the Economic and business impact assessment

SEARs		
Business, Land Use and Property		
Desired performance outcome	**Requirement**	**Section where addressed in report**
The project minimises adverse impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land use activities, dwellings and infrastructure. The project maximises positive impact opportunities	The impacts of construction and operation on potentially affected properties (including property acquisitions/adjustments), businesses bypassed by the project, recreational users, land and water users, utility infrastructure, access, amenity and relevant statutory rights must be assessed	Business and economic impacts are described in Section 4.1 and Section 4.2. Impacts on residential property through acquisition, recreational users, land and water users, utility infrastructure, access, amenity and relevant statutory rights are considered in Chapter 13 (Groundwater and geology), Chapter 14 (Surface water and flooding) and Chapter 20 (Business, land use and property) of the EIS.

2.0 Assessment methodology

2.1 Relevant guidelines and policies

The purpose of this report is to identify and assess the potential economic and business impacts of the project. This report has been developed in consideration of relevant guidelines and policies. The following guidelines were referenced in carrying out this assessment:

- Principles and Guidelines for Economic Appraisal of Transport Investment (Transport, 2016)
- Environmental Impact Assessment Practice Note – Socio-economic assessment (Transport, 2020).

2.2 Overview

The purpose of this report is to identify the potential impact of the project on the local and regional economies. In doing so, this economic and business impact assessment has been undertaken in accordance with Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives Transport Economic Appraisal Guidelines' (Transport 2016), supplemented by a further qualitative assessment of additional economic impacts not captured within the quantitative analysis. This qualitative assessment has been undertaken based on community and stakeholder consultations and detailed literature review, details of which are provided below.

Elements of this report have been used to inform Appendix O (Technical report – Social) of the EIS.

2.3 Study area

For the purposes of this economic and business impact assessment, two key study areas have been defined which reflect the expected areas of influence for the economic impacts being assessed. The two key study areas that have been defined are:

- **regional area** – this area covers the LGAs of Blue Mountains City Council and Lithgow City Council, and represents the expected area of influence related to the expenditure and economic impacts quantified in Chapter 4.0
- **local area** – this area covers the suburbs of Little Hartley, Mount Victoria, Blackheath and Kanimbla, and represents the areas where the most immediate impacts are expected to occur, based on the project corridor.

2.4 Community and stakeholder consultation

2.4.1 Business surveys

Surveys were undertaken to understand the potential impacts of the project on local businesses. The operation of local businesses is a key element of sustaining people's livelihoods and way of life, including their capacity to sustain themselves through employment.

A desktop study was undertaken to identify businesses within the local study area. Businesses to be included in the survey were selected that were considered likely to be dependent on passing trade, as these were considered to be most likely to be impacted by the project. A range of business types considered dependent on passing trade were selected, including retail, food/beverage, grocery, automotive services etc.

Business survey questions were developed to understand respondents' level of knowledge about the project, their customer base and dependency on passing trade (i.e. customers who visit because they are passing through), and their perception as to how businesses may be affected (both positively and negatively) by the project.

Businesses were surveyed in the following areas:

- Blackheath town centre
- Mount Victoria town centre

- Little Hartley and Hartley
- other businesses along the Great Western Highway.

The business surveys were undertaken between 12 April and 14 April 2022; and between 26 April and 29 April 2022. A total of 45 businesses were approached to participate in the survey, of which 35 businesses participated (22 in Blackheath, nine in Mount Victoria and four in Little Hartley).

Information gathered by the business surveys was collated and analysed. An overview of the results of the surveys are included in Section 4 of Annexure O (Technical report – Social), with results presented in Annexure D (SIA Consultation analysis report) of Appendix O (Technical report – Social) of the EIS. Results of the surveys have been taken into account throughout the assessment of economic and business impacts.

2.4.2 Stopper surveys

Stopper surveys were carried out to supplement the findings of the business surveys and to better understand the demographics, travel patterns and spending habits of people stopping within the main shopping precincts within the social locality (referred to as 'stoppers').

The surveys aimed to find out if, or how, stoppers might change their behaviour during construction or operation of the project. This information has been used to further inform the consideration of business impacts throughout the assessment.

The surveys aimed to capture information from stoppers such as:

- demographic and geographic information (e.g. age, gender, place of residence)
- origin and destination
- method of travel to the area and number of passengers
- level of knowledge about the project
- reasons for stopping in the area
- approximate duration of their stop
- activities carried out during the stop
- approximate spend during the stop
- how often they currently visit the area and likelihood of returning if the project was operational.

The locations for the survey were determined through desktop analysis of town centres and local businesses in the social locality that were anticipated to have high numbers of stoppers. Stoppers were approached by members of the project team and asked to complete the survey. Stoppers were generally surveyed at the following locations:

- **Blackheath:** around the intersection of Govetts Leap Road and Great Western Highway, Blackheath
- **Mount Victoria:** outside Ampol Foodary Mount Victoria (36A Great Western Highway, Mount Victoria) and Mount Victoria General Store & Newsagency (109 Great Western Highway, Mount Victoria)
- **Hartley/Little Hartley:** outside Hartley Fresh (2430 Great Western Highway, Hartley).

The stopper surveys were carried during the NSW school holidays between 12 April and 14 April 2022. This period was selected to target a higher volume of potential visitors to the area during the school holidays. Most of the stopper surveys were carried out between 9am and 5pm over these days. 84 stoppers were surveyed overall during this time (46 in Blackheath, 21 in Mount Victoria and 17 in Little Hartley).

Findings from the stopper surveys have been analysed and summarised in Section 4 and Annexure D (SIA Consultation analysis report) of Appendix O (Technical report – Social) of the EIS. Results of the surveys have been taken into account throughout the assessment of economic and business impacts.

2.5 Economic impact assessment

The purpose of the economic impact assessment is to determine the expected net change in economic activity associated with the construction and operation of the project on the regional economy.

The direct economic impact during the construction phase has been estimated based on the expected investment in the region relating to material and resource requirements for the project. This investment will provide an injection of spending into the regional economy, resulting in a number of flow-on impacts that otherwise would not have occurred in the absence of the project.

During the operational phase of the project, the direct economic impact has been estimated based on the project's expected impacts on local worker, consumer and business activity, specifically the impact the project would have on worker productivity, tourism activity and expenditure related to passing trade.

For the purposes of this assessment, an input-output approach was used to estimate the indirect (flow-on) economic impacts generated by the project during both the construction and operational phases. Tailored input-output multipliers that reflect the specific characteristics of the regional study area were developed and used for the analysis.

The economic impact of the project has been estimated based on the following indicators:

- gross output – market value of goods and services produced, often measured by turnover/revenue. Gross output is also referred to as 'gross economic contribution'
- value added – market value of goods and services produced (wages, income and profits), after deducting the cost of goods and services used.

Industry size is generally measured in terms of its 'value added'. Industry value added measures economic activities after deducting the costs of production (that is, inputs sourced from other sectors) from the industry's outputs. This avoids the inclusion of revenues to other industries and any associated double counting and can be interpreted as a proxy for the project's impact on Gross Regional Product (GRP) and/or Gross State Product (GSP).

2.5.1 Construction impact

The direct economic impact during construction has been estimated based on the expected investment in the region relating to material and resource requirements for the project (noting that these estimates are indicative only and may be subject to change). The direct economic impact on the regional area that would be provided by this investment only relates to the proportion of expenditure that is assumed to be spent on inputs within the region. This proportion has been estimated based on industry benchmarks and parameters sourced through REMPLAN[1].

The overall economic impact to NSW would likely be higher than what has been presented in this assessment, however, this has not been estimated as it is outside of the scope of the analysis.

2.5.2 Operational impact

The economic impact of the project during the operational phase has been estimated based on a combination of traffic modelling outputs, relevant industry benchmarks and the outcomes of the stakeholder consultation. The key modelling assumptions used to assess these impacts are presented in Table 2-1.

Table 2-1 Economic modelling assumptions

Assumption	Value	Source/ rationale
Construction period	2024-2031	Project assumption
Operational start date	2030	Project assumption
Tolls	No tolls	Project assumption

[1] REMPLAN Economy, Custom Dataset (Lithgow and Blue Mountains LGAs), 2022

Assumption	Value	Source/ rationale
Traffic model years	• 2018 (base) • 2026 (future year – construction) • 2030 (future year – year of opening) • 2040 (future year – year of opening + 10 years)	AECOM - Future years 2026, 2030 and 2040 modelled both with and without the project
Car users by type	Private – 87.7% Business – 12.3%	Transport Economic Parameter Values v2 – Table 5 Average hourly value of travel time by vehicle type – rural
Value of time ($FY2022)	Private car - $30.12 Business car - $74.73 Truck, Semi-Trailer, Truck and Dog - $44.50 Freight - $67.00	Transport Economic Parameter Values v2 – Table 5 Average hourly value of travel time by vehicle type – rural
Average travel time savings	8 minutes in each year between 2030 and 2040	Appendix D (Technical report – Transport and traffic) – East of Blackheath to Little Hartley (2030): • AM peak: – eight minutes (westbound) – nine minutes (eastbound) • PM peak: – eight minutes (westbound) – eight minutes (eastbound)
Passing trade - % of vehicles stopping	4.0%	Economics evaluation of town bypasses – Final report (2012)
Average daily spend ($FY2022)	Tourist - $133.80 Passing trade - $40.30	Social Impact Assessment (SIA) targeted consultation outputs – business and stopper surveys

2.6 Limitations of the study

For the purposes of this assessment, an input-output economic modelling approach has been used to estimate the indirect (flow-on) economic impacts generated by the project. Tailored input-output multipliers that reflect the specific characteristics of the regional study area were developed and used for the analysis. REMPLAN analysis is based on data sourced from the Australian Bureau of Statistics (ABS), primarily 2016, 2011, 2006 and 2001 Census data. REMPLAN uses ABS datasets and to define supply chain linkages between industries and generate industrial economic data estimates for defined geographic regions.

It is noted that input-output analysis has some limitations, primarily as it does not consider resource constraints and substitution effects as they relate to the economy. Due to these limitations, the results of the economic impact analysis provide an indicative estimate of the potential impacts of the project.

2.7 Assessment of additional economic impacts

The economic impact estimate does not fully capture the value that NSW would receive from the project as there are a number of additional economic impacts that are unable to be quantified. These additional economic impacts have been identified through a detailed literature review of previous studies and reports for previous town bypass projects.

Table 2-2 below provides an overview of the reports assessed as part of the literature review, and a summary of relevant findings from each.

Table 2-2 Literature review summary

Report	Key findings
Economic evaluation of town bypasses: Review of literature (Parolin, 2011)	The Parolin (2011) literature review summarised the findings of 30 studies from both Australia and the United States (US). The key findings of the literature review were: • retail sales were not significantly affected by a town bypass; the long-term impact of the bypass on highway generated trade and other retail sales was generally positive • commercial and industrial land use increased along both the old route and the new route, due to the impact of the bypass on land access. As a result, land values along the bypass increased across the majority of bypasses assessed. Bypasses also triggered new business location or re-location from the old route to the new route • some reviewed studies suggested that improved road conditions improved land accessibility, and this may lead to improved tourism and increased interaction with nearby townships • employment impacts were generally minimal and less than anticipated due to the emergence of new markets, the growth in non-manufacturing businesses and the establishment of highway service centres • additional employment opportunities may arise due to improved accessibility, locally and in surrounding regions • highway bypasses generally did not have long-term (more than two years) adverse impacts on highway generated trade and employment. In most cases, highway bypasses resulted in more positive long-term economic impacts on bypassed towns than negative impacts • adverse economic impacts that did occur in assessed townships were typically minimal and short-term.
Economic evaluation of town bypasses: Final report (Parolin, 2012)	Parolin (2012) presented the results of a re-evaluation study, undertaken to provide an update on a previous study (Parolin and Garner,1994), which investigated the economic impacts of bypass roads at selected towns along the Hume Highway – Gunning, Yass and Goulburn. The key findings of the study were: • in the long-term, highway bypasses generally did not have adverse economic impacts on towns that are bypassed, and in most cases, bypasses result in economic benefits for bypassed towns • the most significant economic benefits occurred at the medium sized town (Yass), not at the largest town (Goulburn), as the literature review findings would suggest • proximity to a larger centre was beneficial to highway related businesses, especially for medium and smaller towns.
Kempsey Post Bypass Impacts Monitoring Study: Final Report (Parolin, 2017)	This study was undertaken in 2017, four years after the Kempsey bypass became operational, to monitor the impacts of the bypass on local businesses. The study, based on a detailed survey of 124 local businesses, found that: • though 24 businesses had closed since the bypass opening, the bypass was not the reason for closure. During this time, 21 new businesses had also opened • 8.8 per cent of surveyed businesses indicated that they continued to be negatively affected by the bypass in 2017, and half of these had put off staff since the opening of the bypass • 67.3 per cent of businesses (which were also surveyed in 2013) reported improved turnover, 18.4 per cent reported that turnover had stayed the same and 14.1% reported that turnover had worsened, since 2013. • across the 92 businesses which had also been surveyed in 2013, gross annual turnover increased from $96.0 million to $133.4 million (38.9 per cent)

Report	Key findings
	between 2013 (in the immediate post bypass period) and the surveys in 2017. Clubs/hotels, food sector businesses, service stations and other retail sectors accounted for a major share of this increase. • an additional 135 jobs were created across the 92 businesses (which were also surveyed in 2013). This represents a 16.2 per cent increase in total jobs recorded across these businesses since the time of the 2013 study. Highway related sectors such as accommodation, clubs/hotels, auto services and service stations all experienced increases in employment since 2013.
Summary of highway bypass studies (Leong & Weisbrod, 2000)	This study assessed the economic impacts of highway bypasses on all 17 Wisconsin communities that had been bypassed since 1980 (up until the date of the study). The population of the 17 communities ranged from 304 to over 28,000. The study compared the 17 bypassed communities to 14 similar control communities without bypasses. The key findings of the study were: • in most communities, highway bypasses have little adverse impact on overall economic activity. The economies of smaller communities (less than 2,000 population) were at greater risk of adverse economic impacts • in the long-term, average traffic levels on the “old routes” in medium and large bypassed communities returned to or surpassed pre-bypass levels • very few incumbent businesses relocated or developed new operations in areas adjacent to the bypass route • communities generally viewed the bypasses as beneficial, for reasons including improved traffic flow, reduced congestion, reduction of truck traffic and opportunities for implementation of planned development.

In summary, most studies assessed reaffirm one or more of the three primary determinants of post-bypass economic change identified by Parolin (2011), these being:

- population size: Small towns (with populations less than 2,500) were generally more at risk of adverse impacts on highway generated trade and employment from a highway bypass than larger towns. Due to this, Kanimbla (with a population of 121), Little Hartley (506) and Mount Victoria (1,016) may be at higher risk of adverse economic impacts, while Blackheath (4,396) is expected to fare more favourably
- level of dependency on highway generated trade: Towns with a higher level of dependence on highway generated trade were generally more at risk to adverse economic impacts from a highway bypass, in comparison to towns with a lower level of dependence on highway generated trade. Blackheath, Mount Victoria and Little Hartley all feature businesses which are expected to have a high level of dependence on highway generated trade, such as food and take-away stores and other retail businesses. Blackheath and Mount Victoria possess a more diverse mix of businesses than Little Hartley, and for this reason may be more protected against adverse economic impacts. This determinant is not expected to impact Kanimbla, given its absence of businesses (outside of a few private accommodation options)
- proximity to larger economic centres: Towns in close proximity to other large town or city centres were generally more at risk to adverse economic impacts from a highway bypass than towns further away from other centres. However, some studies that were reviewed contradicted this sentiment, finding that remoteness from large centres was a risk to economic growth post bypass. Given the contradictory evidence, an assessment of the impact of this determinant on the townships which make up the local study area was not made.

3.0 Existing environment

This section of the report provides an overview of the key economic characteristics of each of the study areas and provides a baseline and context for the economic assessment.

3.1 Regional study area

3.1.1 Economic profile

The regional study area has been defined to cover the LGAs of Blue Mountains City Council and Lithgow City Council. The regional study area represents the expected area of influence relating to the economic impacts of the project. This study area was home to approximately 100,296 residents as of 2021. The GRP of the area accounts for approximately 0.9% of the total GSP for NSW.

Table 3-1 provides a summary of the economy of the regional study area:

Table 3-1 Regional area economic summary

Measure	Regional study area	NSW (State)
Population (1)	100,296	8,188,651
Land area (ha) (1)	594,340	80,079,765
Population density (persons / ha) (1)	0.2	0.1
Total employment (FTE) (1)	24,255	3,283,836
Gross regional/state product ($ million) (2)	$5,570 (GRP)	$643,145 (GSP)
Per hectare gross regional product (2)	$9,372	$8,031
Per capita gross regional product (2)	$56,844	$86,121
Per worker gross regional product (2)	$204,172	$191,519

Source: (1) 2021 estimates are based on AECOM analysis of ABS 2016 Census; (2) ABS June 2021 Gross State Product

3.1.2 Industry

In terms of economic activity, the regional study area is led by the mining industry, and the rental, hiring and real estate industry which together accounts for almost 30 percent of total value added in the region, as shown in Figure 3-1. It is noted that tourism is also a significant industry in the regional study area but is not defined as a stand-alone industry within the ABS Australian and New Zealand Standard Industrial Classification (ANZSIC) system presented below. Instead, the tourism industry is comprised of an amalgam of various industry sectors such as retail, accommodation and food services, and arts and recreation services. Section 3.1.5 provides further discussion on the tourism industry in the regional study area.

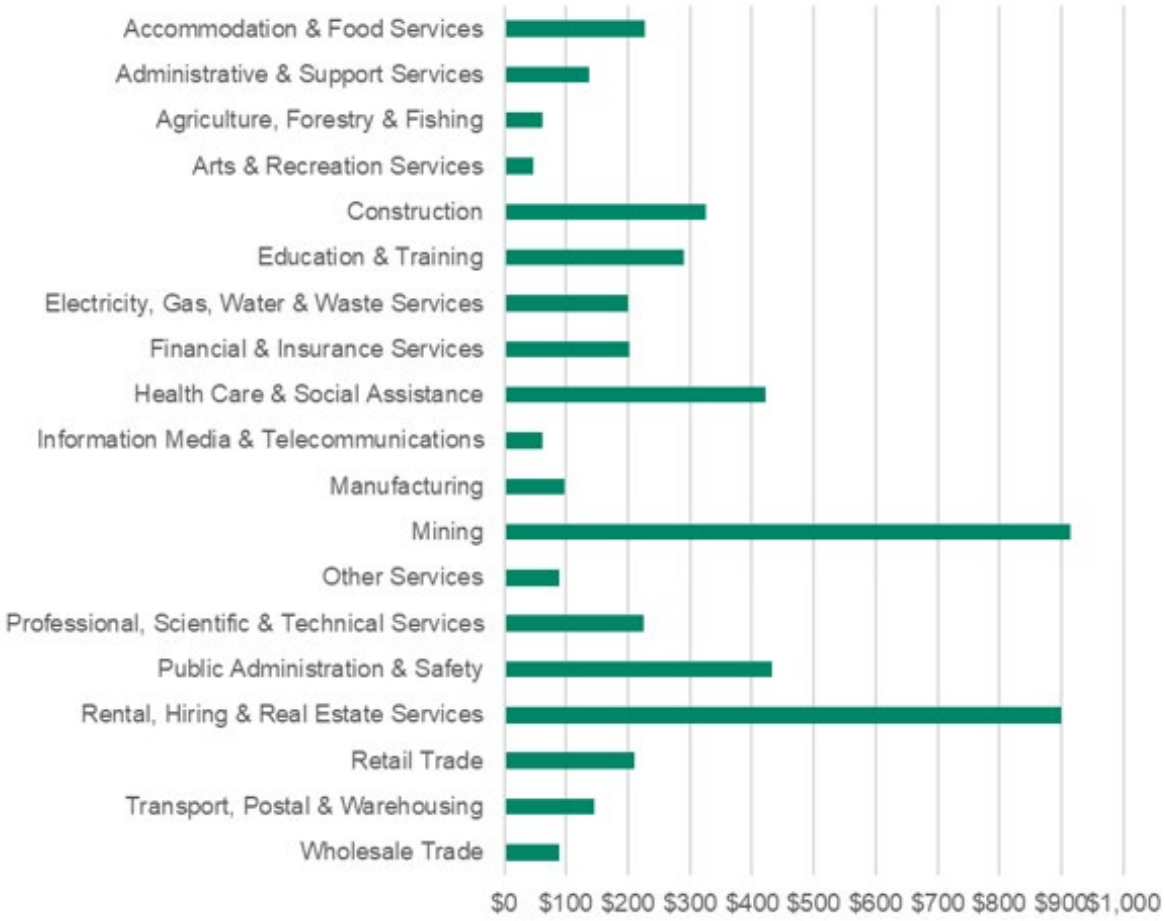

Figure 3-1 Regional area value added ($ millions)

Source: AECOM analysis of ABS June 2021 Gross State Product; ABS 2018 / 2019 National Input Output Tables

As seen in Figure 3-2 below, the proportion of the region's value add from Accommodation and Food Services is substantially higher than the average for the state which can be attributed to a high level of tourism expenditure. Similarly, the mining, and the rental, hiring and real estate services industry contributed a substantially higher proportion of the region's value add compared with the average for the state. Conversely, construction contributed a lower proportion of value added compared to the state.

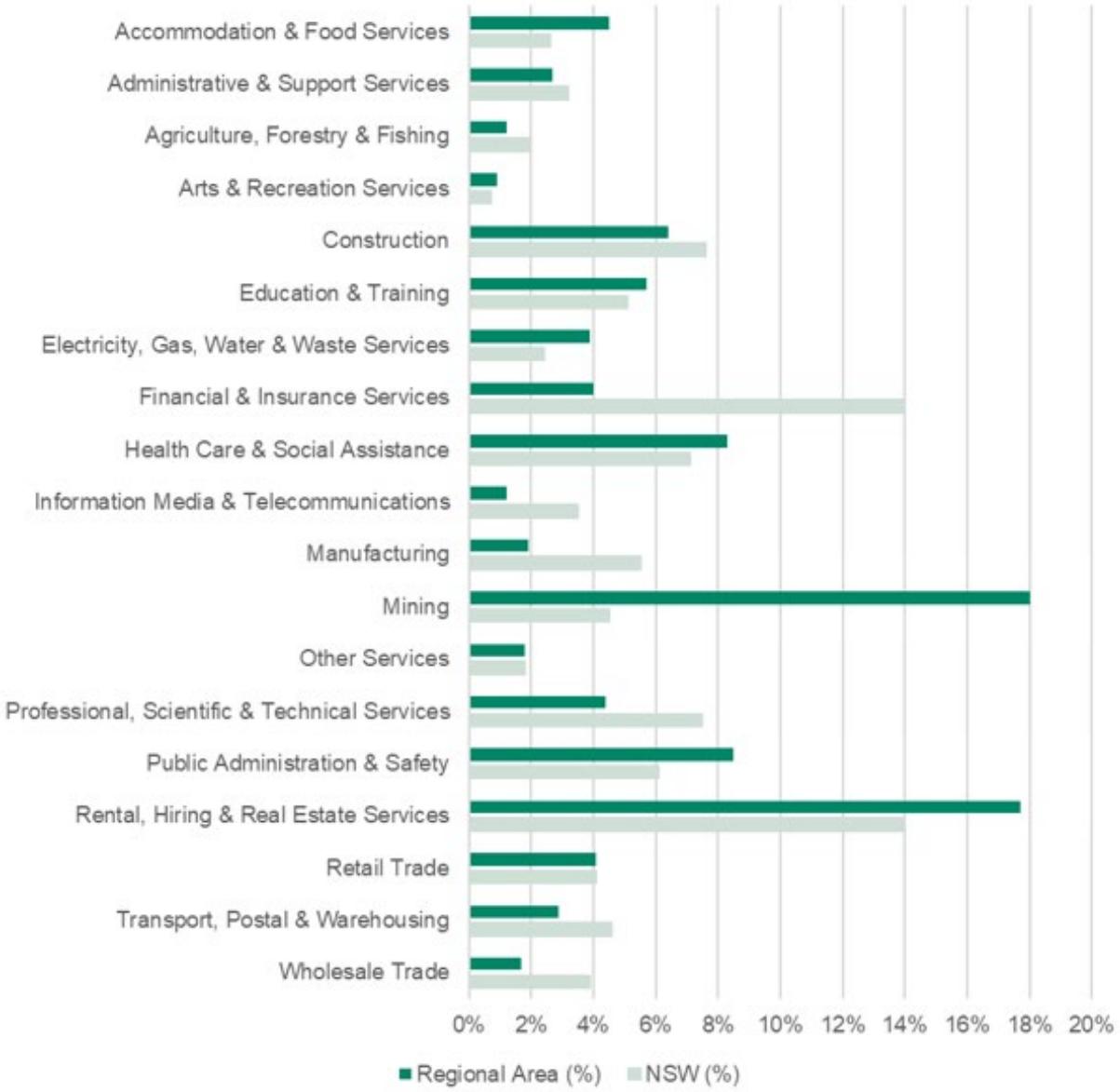

Figure 3-2 Industry value added (percent of total area value added)

Source: AECOM analysis of ABS June 2021 Gross State Product; ABS 2018 / 2019 National Input Output Tables

3.1.3 Employment

There are estimated to be 24,255 workers employed within the Lithgow and Blue Mountains LGAs, with a substantially proportion of workers employed in the health care and social assistance, accommodation and food services, and education and training industries. The public administration and safety, retail trade and construction industries also provide significant employment opportunities in the regional study area. Figure 3-3 provides a summary of employment by industry located in the regional study area.

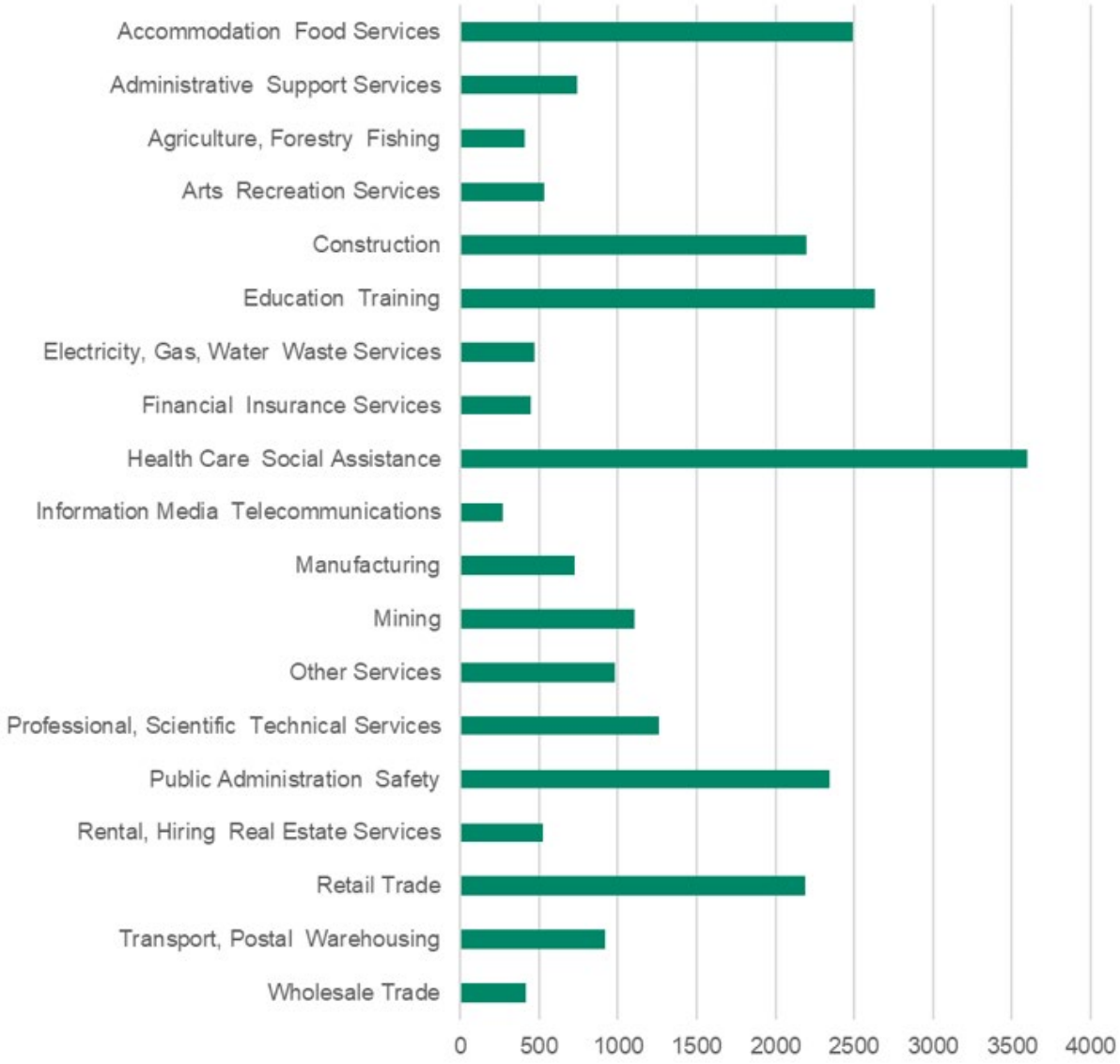

Figure 3-3 Regional study area employment by industry

Source: AECOM analysis of ABS 2016 Census

Figure 3-4 shows that relative to the rest of the state, the regional area possesses a higher proportion of employees working in the mining industry, accommodation and food services industry, health care and social assistance industry and public administration and safety industry. Conversely there is a lower proportion of employees working in the financial and insurance services industry, manufacturing industry and wholesale trade industry in the regional area compared to the state average.

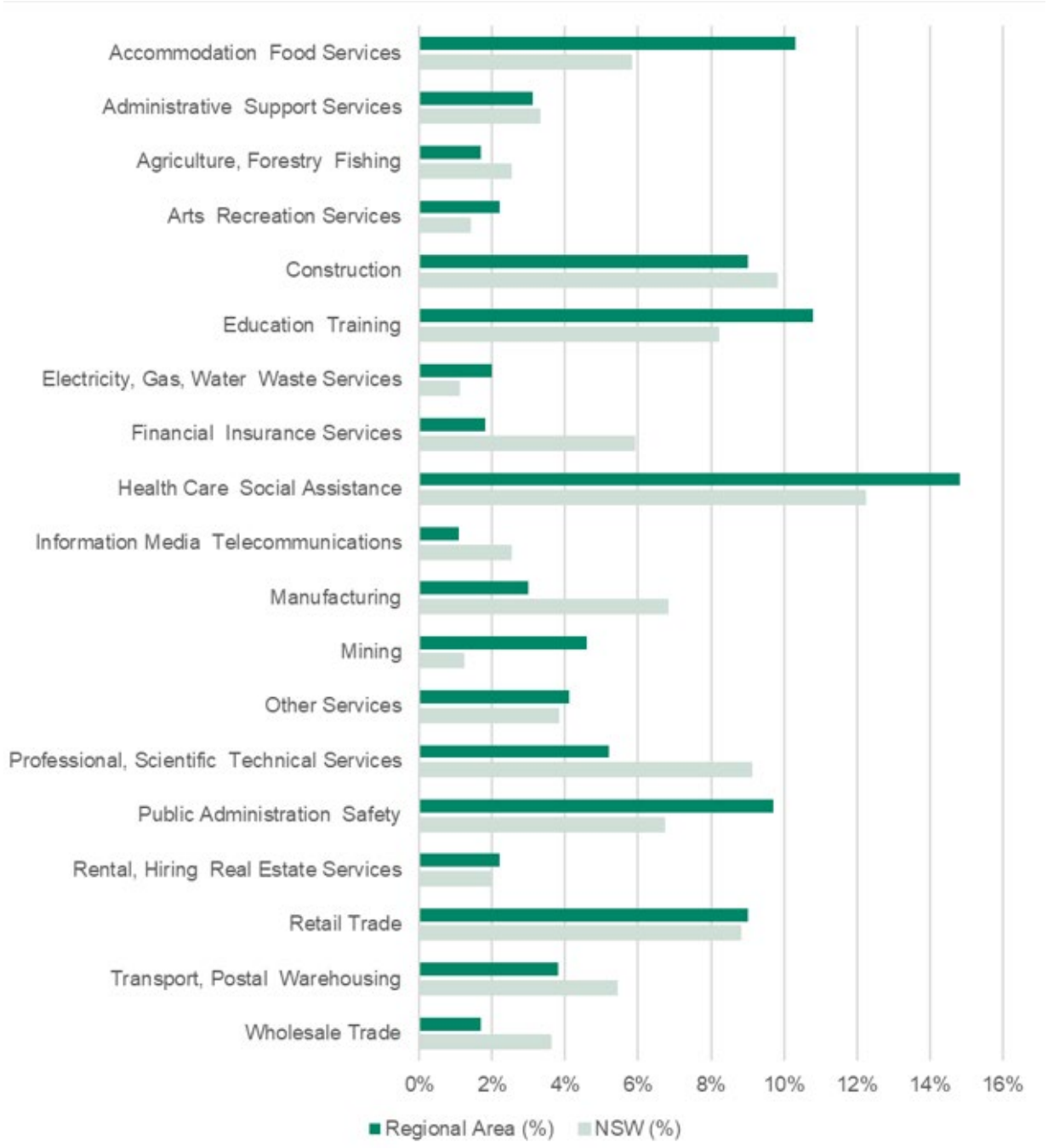

Figure 3-4 Industry employment (percent of total area employment)

Source: AECOM analysis of ABS 2016 Census

3.1.4 Local businesses

As of June 2021, there were a combined 6,850 local businesses in the Blue Mountains City Council and Lithgow City Council (ABS, 2021). As shown in Figure 3-5, the majority of businesses in the region are either non-employing or small businesses with less than 20 employees.

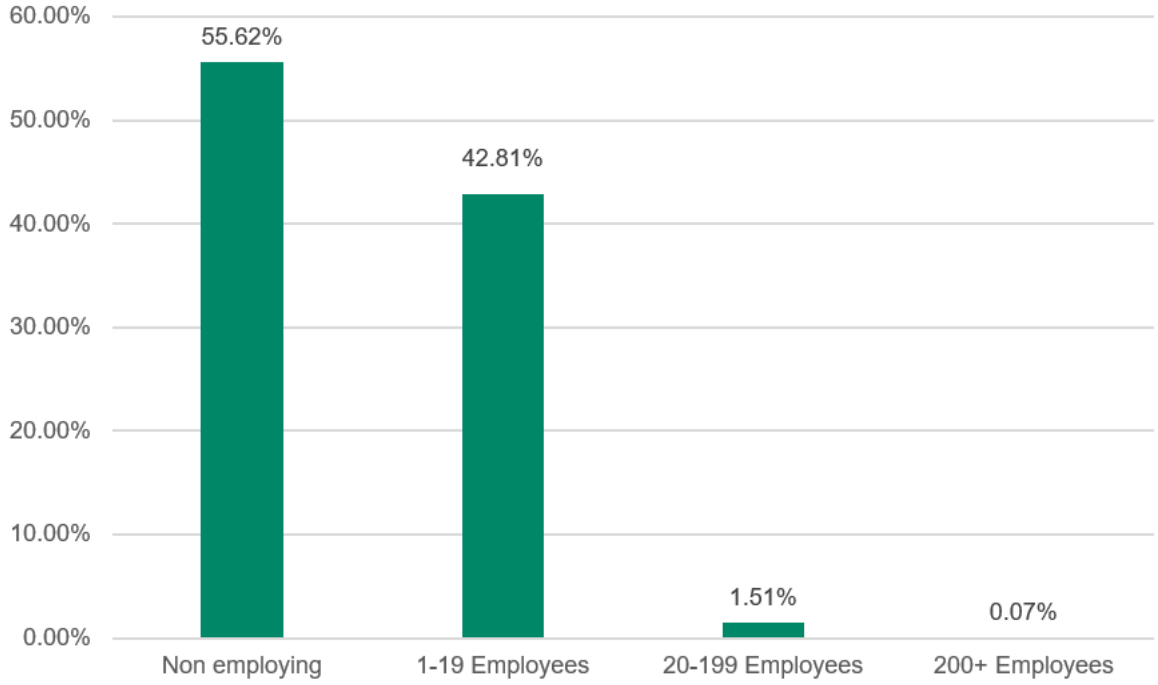

Figure 3-5 Proportion of businesses, by number of employees

Source: ABS 2021 - Businesses by Local Government Area by Industry Division by Annualised Employment Size Ranges

3.1.5 Tourism

The Blue Mountains City Council is a popular region for tourism in NSW, with a number of natural landmarks, walking and mountain biking trails and other destinations for recreational activities within the Blue Mountains National Park.

In 2018, it was estimated that 1.3 million domestic overnight visitors (domestic visitors who stayed in the region at least one night) and 3.2 million domestic day visitors visited the Blue Mountains National Park (Destination NSW, 2019). The Blue Mountains National Park has also been a destination for international tourism, with 115,200 international visitors in the year ending in 2018 (Destination NSW, 2019). The total tourist expenditure in the region in this period was $795.7 million.

From 2020 onwards, COVID-19 restrictions have resulted in temporary reductions to tourism in the Blue Mountains National Park. In 2021, it was estimated that approximately 1 million domestic overnight visitors and 1.8 million domestic day visitors visited the Blue Mountains National Park (Destination NSW, 2021). This represents a 30 percent decline in domestic overnight visitations and a 78% decline in domestic day visitations, as compared to the data from 2018. Data for international visitations was not available.

The Lithgow City Council LGA also includes a number of regional tourist attractions, such as the Hartley Historic Site which is located within the vicinity of the local study area. The LGA attracted 235,143 domestic overnight visitors in the 2020/21 financial year (Tourism Research Australia, 2022).

3.2 Local study area

As shown in Figure 3-6, the alignment of the project suggests that the most immediate impacts are likely to occur in the suburbs of Blackheath, Mount Victoria, Kanimbla and Little Hartley. For the purposes of this assessment, this highlighted region has been defined as the 'local study area.'

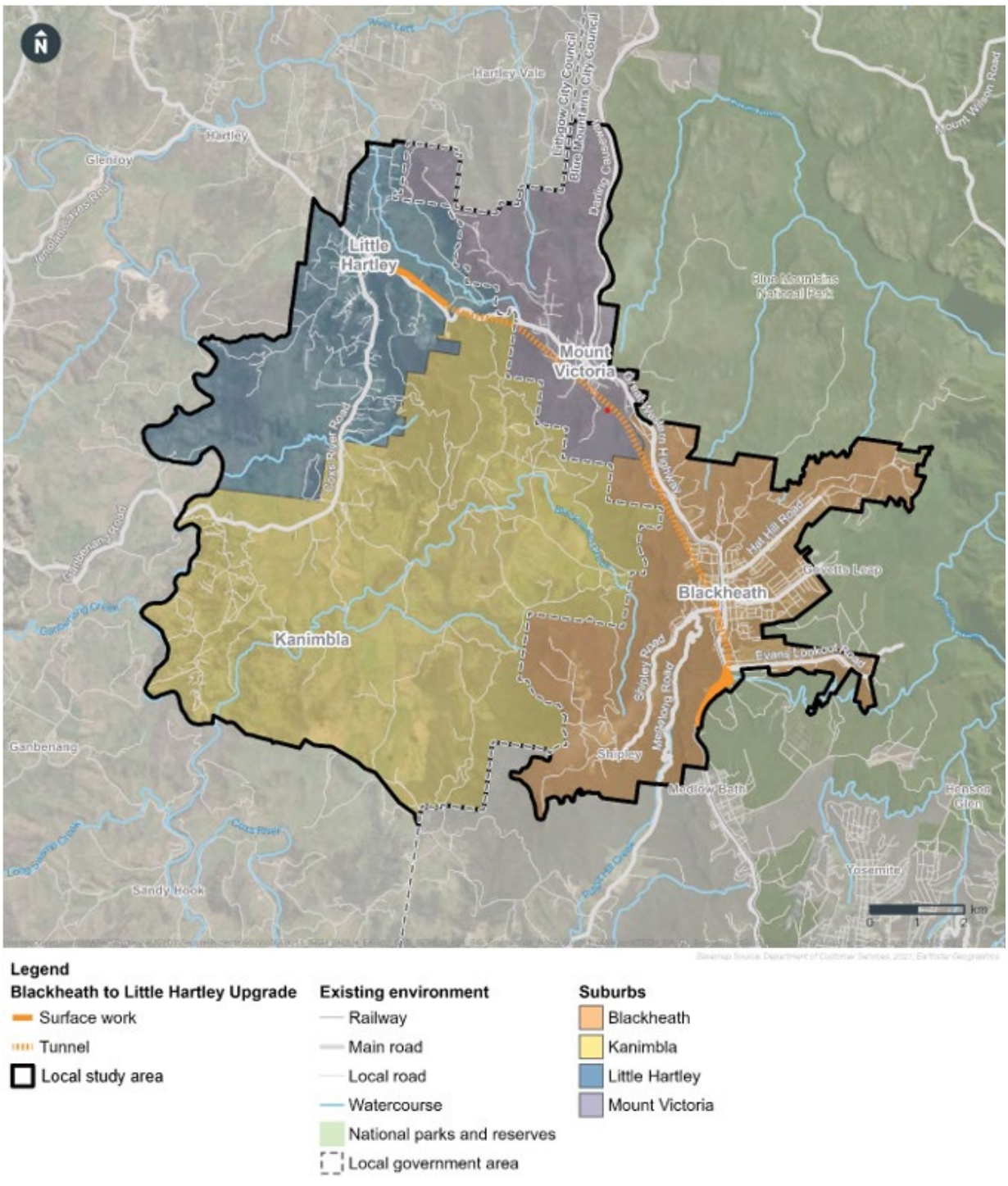

Figure 3-6 Local study area

3.2.1 Key economic indicators

Table 3-2 provides an overview of key economic indicators for each suburb within the local study area, relative to the average for regional NSW. Further detail regarding the economic characteristics for each of these suburbs are provided in the sections below.

Table 3-2 Local study area key economic indicators

Measure	Blackheath	Mount Victoria	Kanimbla	Little Hartley	Regional NSW
Population	4,396	1,016	121	506	1,005,080
Median age	51	45	54	50	45
Median total personal income ($/weekly)	$606	$548	$678	$677	$564
Total employment (no. of workers)	1,839	412	55	264	413,955
Unemployment rate	5.1%	6.7%	7.0%	4.0%	5.9%
Participation rate	52.3%	53.0%	44.1%	63.6%	53.6%
Highest employing industries (% of workforce)	Health Care and Social Assistance (15.1%) Education and Training (12.5%) Accom. and Food Services (12%)	Health Care and Social Assistance (13.6%) Accom. and Food Services (11.2%) Retail Trade (10.9%)	Arts and Recreation Services (14.6%) Health Care and Social Assistance (10.9%) Agriculture, Forestry and Fishing (10.9%)	Health Care and Social Assistance (12.1%) Public Administration and Safety (11.4%) Accom. and Food Services (9.5%)	Agriculture, Forestry and Fishing (12.8%) Health Care and Social Assistance (11.9%) Retail Trade (9%)

Source: Australian Bureau of Statistics (ABS) (2016)

3.2.2 Blackheath

Blackheath is a township in the Blue Mountains City Council, located approximately 110 kilometres west of Sydney. Surrounded by the Blue Mountains National Park, Blackheath is a popular hiking destination with several bushwalks and views that attract visitors. Blackheath also hosts several markets and events throughout the year, most famously the Rhododendron Festival, a week-long event which takes place in November each year.

Businesses within the township include cafes and restaurants, an antique store, several gift stores, a supermarket and general store. There are two fuel stations in Blackheath, both situated on the current route Great Western Highway. Blackheath provides a variety of accommodation options for visitors, including hotels, cottages, cabins and motor inns.

Blackheath has a population of 4,396 and unemployment rate of five percent, which is below the average for regional NSW. As described in Table 3-2, the highest employing industries in Blackheath are Health Care and Social Assistance (15.1 percent), Education and Training (12.5 percent) and Accommodation and Food Services (12 percent) (ABS, 2016).

3.2.3 Mount Victoria

Mount Victoria is a small, heritage listed township in the Blue Mountains LGA, located approximately 120 kilometres west of Sydney. The town has several historic attractions dating back to its origins as a stockade for convicts, including the Mount Victoria Museum building. The museum building was once part of the town's railway station and features information and artefacts from the town's history.

Mount Victoria has a retro-style cinema, public gardens and is in close proximity to several walking trails and lookouts. The businesses in Mount Victoria's township includes a news agency, a post office, and several retail stores and food and beverage venues. There is also a fuel station on the corner of the current route of the Great Western Highway and Mount York Road. Mount Victoria has a range of accommodation options for visitors, including several old grand homes which have been converted to guesthouses.

Mount Victoria has a population of 1,016 and unemployment rate of 6.7 percent, which is above the average for regional NSW. As described in Table 3-2, the highest employing industries in Mount Victoria are Health Care and Social Assistance (13.6 percent), Accommodation and Food Services (11.2 percent) and Retail Trade (10.9 percent) (ABS, 2016).

3.2.4 Kanimbla

Kanimbla is a small area in the Lithgow LGA, located approximately 130 kilometres west of Sydney. While Kanimbla is relatively close to the larger centres of Blackheath, Mount Victoria and Katoomba, it does not contain any businesses except for several accommodation options. There are a number of walking trails, lookout points and campgrounds around Kanimbla which attract visitors.

Kanimbla has a population of 121 and unemployment rate of seven percent, which is above the average for regional NSW. As described in Table 3-2, the highest employing industries in Kanimbla are Arts and Recreation Services (14.6 percent), Health Care and Social Assistance (10.9 percent) and Agriculture, Forestry and Fishing (10.9 percent) (ABS, 2016).

3.2.5 Little Hartley

Little Hartley is a small village in the Lithgow LGA, located around 130 kilometres west of Sydney. The Little Hartley village has a lolly shop, a café, a pizza shop and a pub, though this is currently closed (Ambermere Inn, 2022). The village also has an art gallery, hosts garden shows throughout the year and is located a short distance from a range of activities including horse riding, fishing and bushwalking. Aside from a caravan park on Browns Gap Road, there are relatively limited accommodation options in Little Hartley.

Little Hartley has a population of 506 and unemployment rate of four percent, which is below the average for regional NSW. As described in Table 3-2 the highest employing industries in Little Hartley are Health Care and Social Assistance (12.1 percent), Public Administration and Safety (11.4 percent) and Accommodation and Food Services (9.5 percent). Retail Trade (nine percent) is the next highest employing industry (ABS, 2016).

4.0 Economic and business impact assessment

The project is expected to have an overall positive economic impact to the regional area during both the construction and operational phases of the project. These impacts, described in further detail below, are largely driven by the injection of capital expenditure into the region, and the subsequent impacts on visitor expenditure once the project becomes operational.

4.1 Potential construction impacts

4.1.1 Economic impact

During the construction phase of the project, there is expected to be an increase in economic activity within the regional study area. The capital expenditure required would create increased opportunities for both businesses and workers associated with construction, while also resulting in substantial flow-on impacts to other parts of the local economy, including for local businesses and the local workforce.

As a result of the expected capital expenditure during the construction phase, it is estimated that the project could increase the gross output of the regional area (i.e. Lithgow and Blue Mountains LGAs) by an average of around $300 million a year over the construction period, resulting in an annual boost of around $130 million to the gross regional product. This estimate is based on input-output modelling undertaken and represents the proportion of total capital expenditure that is expected to be spent on goods and services sourced within the region, and the associated flow-on impacts of that expenditure.

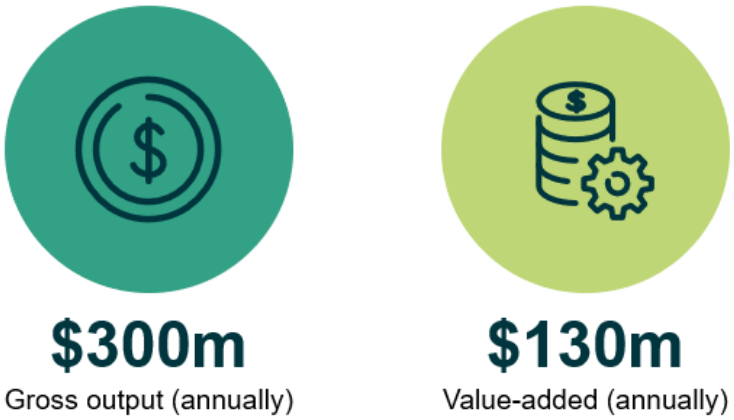

Figure 4-1 Economic impact during construction (2024 to 2031)- Regional study area

Source: AECOM analysis (rounded estimates)

4.1.2 Business impact

As estimated in Appendix D (Technical report – Transport and traffic) of the EIS, the impact of the additional construction traffic generated by the project is expected to be minor. Average per vehicle travel time in 2026 is estimated to be around three per cent higher with the project than without the project. Therefore, freight and commercial vehicle transport costs are not expected to be greatly affected.

The construction footprints would be located at a distance from townships along the Great Western Highway and residential areas and would be over one kilometre away from town centres in Blackheath and Mount Victoria. Furthermore, the indicative construction strategy has been developed to minimise the number of heavy vehicles that need to travel through the Blackheath and Mount Victoria townships, while it is expected that on-street parking supply would be maintained during construction of the project. The interaction between heavy vehicles and foot-traffic for local businesses is therefore likely to be minimal.

It is anticipated that any negative business impacts related to construction of the project, such as an increase in travel time or increased noise, would be more than offset by the increased economic activity related to the capital expenditure during construction.

The key flow-on impacts that would be provided to businesses in the local area as a result of construction include:

- temporary uplift in local commercial accommodation occupancy during the construction phase
- temporary uplift in revenues of retail business as a result of spending from construction workers during the construction phase of the project (i.e. workforce spending)
- temporary uplift to revenues for local construction related business located within the regional area.
- no businesses are being acquired as part of the project.

These impacts are described in further detail below.

4.1.2.1 Accommodation businesses

The project is expected to support a large workforce of employees during the construction period. As provided in Appendix O (Technical report – Social) of the EIS, the construction workforce would likely be sourced from across the local area and broader region, with a preference for local employees where practicable. Workers may also be sourced from larger towns and centres outside the regional study area.

The construction of the project would likely require short and long-term occupancy of accommodation within the regional study area for employees sourced from outside the region, which may result in increased demand for local accommodation businesses and rental properties. This may lead to shortages in accommodation during the construction period, and potentially increase accommodation costs.

Worker accommodation is a focus area of the Skills, Employment and Industry Development Strategy of the Upgrade Program which was developed as part of Transport's Social Procurement and Workforce Development program (Transport, 2022). Implementation of this strategy would therefore reduce the impacts upon local accommodation businesses.

4.1.2.2 Retail businesses

The project is expected to result in an increased expenditure at local and regional businesses through purchases by construction workers. Businesses which supply goods to the construction workers, such as food and beverage retailers and other retail outlets, are expected to experience increased revenues as a result of catering to the day-to-day needs of the construction workforce.

This temporary increase in revenue may lead to increased employment opportunities locally, which would subsequently inject additional money back into the local economy.

4.1.2.3 Construction businesses

The project would result in direct expenditure associated with on-site construction activities. As a result of this, local and regional construction contractors and businesses who service or supply goods to the construction industry are expected to experience an increase in business activity. The project would also result in indirect expenditure and employment through the provision of goods and services required for construction.

4.2 Potential operational impacts

4.2.1 Economic impact

Once operational, the project is expected to provide an ongoing economic impact on the regional economy through three key drivers outlined in Figure 4-2.

Increased productivity due to faster and more efficient business and freight related trips

Increased tourism spend as a result of improving the accessibility and attractiveness of key tourist attractions within the region

Modest decline in passing trade activity due to the bypass and a reduction in through traffic for local towns

Figure 4-2 Key economic impacts during operations

Using a combination of traffic modelling outputs, relevant industry benchmarks and the outcomes of targeted consultation, these impacts have been quantified for the years 2030 (opening year) to 2040 (10-years-post opening year). The assessment has used a 10-year evaluation period to evaluate the immediate operational impact of the project noting that the actual operational life of the project will extend well beyond this period.

It is estimated that during the first ten years of operations, the project would provide a direct impact of between around $8 and $10 million per annum in net output for the regional study area. As shown in Figure 4-3, this impact would be largely driven by the productivity uplift associated with business and freight related benefits and increased tourism spend within the regional area. However, this is expected to be offset by a modest decline in passing trade activity, due to a reduction in local through traffic.

Figure 4-3 Direct impact on output during operations – Regional study area

Source: AECOM analysis

In the first ten years after the project becomes operational, it is estimated that the project would increase total gross output in the regional study area by an average of around $15 million a year, with total value added in the region increasing by around $8 million a year.

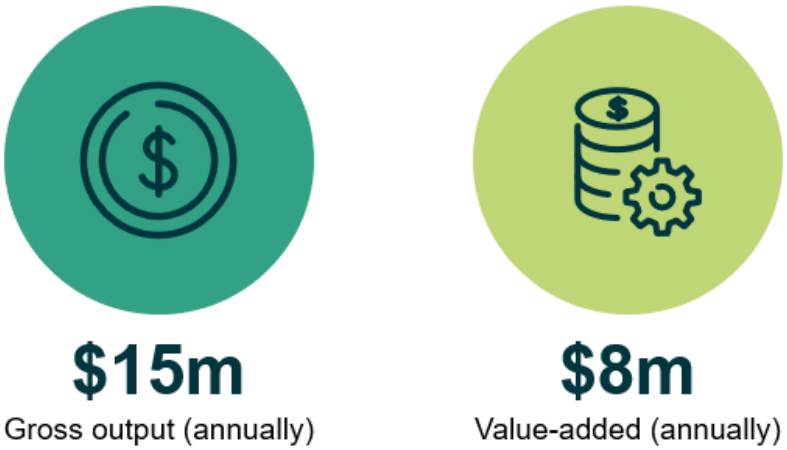

Figure 4-4 Economic impact during operations (2030 to 2040) – Regional study area

Source: AECOM analysis (rounded estimates)

4.2.2 Business impact

Businesses within the regional study area are likely to be affected once the project becomes operational as a result of changes to passing trade and local amenity. Depending on the nature of the business – specifically its type of industry, location and reliance on passing trade – the actual impact would vary.

The expected impact of the project on different businesses within the regional study area during the operational period is presented below:

4.2.2.1 Tourism and accommodation businesses

Five of the 35 businesses surveyed were tourism businesses – one of which related to accommodation: the Venice Caravan Park (Little Hartley). The business representative from the caravan park expressed concerns over loss of trade during operation, while responses from the other tourism businesses indicated that they were unsure how the operation of the bypass would affect their business.

The literature review indicated that tourism businesses of bypassed local townships may experience growth as the areas become more attractive to visit due to decreases in traffic, in particular heavy vehicles, and the improvements in amenity that would arise. Once operational, businesses which cater to tourists, such as accommodation, speciality shops or restaurants, are generally more likely to be visited as destinations and rely less on passing trade.

By improving access to the Blue Mountains National Park and other cultural and recreational opportunities (e.g. Mount Victoria Museum), walking trails and sporting facilities, the project is expected to increase tourism expenditure within the region. It is estimated the project could help to increase tourism expenditure in the region by an average of around $8 million per year due to improved accessibility and increased attractiveness of tourism destinations within the regional area. Accommodation and tourism businesses in Blackheath and Mount Victoria may benefit from an increase in demand due to improvements in amenity associated with decreased traffic on the highway. As the project would not result in a bypass of Kanimbla or Little Hartley, it is unlikely that accommodation and tourism businesses in these townships would be affected by the project. Tourism businesses may benefit from improved accessibility provided by the project.

Accommodation requirements for employees of the project are likely to be limited and are not expected to have a material impact on accommodation businesses within the regional study area.

4.2.2.2 Retail businesses

During the operation of the project, it is anticipated that a substantial proportion of vehicles would travel via the project, thereby reducing their opportunity to visit business in bypassed areas.

In Blackheath and Mount Victoria, businesses such as petrol stations, take-away food businesses and other retail stores would be most likely to experience a reduction in business activity due to reliance on passing trade.

However, it is suggested that the impact on Little Hartley may be greater, given the town's smaller population and relatively higher reliance on passing trade for businesses such as food and beverage outlets. Based on the findings from the literature review and targeted community and stakeholder consultation, it is anticipated that Little Hartley may experience a more substantial downturn in trade (relative to Blackheath and Mount Victoria). However, the reviewed literature also suggests that negative downturns are likely to be short-term, and the long-term impacts on passing trade are generally positive, even for small towns like Little Hartley. The reasons for this include improved road conditions, land accessibility and amenity in the township, which may increase local trade and attract tourism.

4.2.2.3 Productivity impact

Traffic congestion and increasing travel times were key concerns identified through consultation with the local community. In Blackheath and Little Hartley, traffic congestion and travel time concerns were the most commonly raised, with 48 and 67 percent of respondents' answers relating to this issue, while 44 percent of respondents in Mount Victoria expressed concerns about this issue.

Respondents who currently had traffic congestion and travel time concerns felt that, once operational, the project could help address these concerns by reducing traffic and congestion on the existing highway, taking trucks off the surface roads, and reducing the risk of accidents. This would also help to improve travel times for both local traffic and freight traffic using the project, which would provide productivity improvements for business and freight related road users. It is also likely that the project could result in improved access to more job opportunities for local residents, while also improving access to the region for other workers.

4.2.3 Land use impacts

It is anticipated that the project may attract new business to the local area along the existing Great Western Highway, however it is anticipated that this impact would likely be minimal. Research from Thompson et al. (2001) suggests that new businesses may be attracted to locate along the new bypass, and that those that do decide to locate on the bypass are most likely to be retail businesses that are new to the area, rather than businesses moving from the bypassed township. However, given that the project involves a tunnel bypass, those opportunities would be limited to locations around the entry/exit of the tunnel.

Over the long term, the presence of new businesses to the area and resulting increase in demand may lead to some improvement in the value of land, however it is anticipated that the key driver of increased land value would be due to the improvements in accessibility and amenity as opposed to the increased commercial opportunities in the area.

5.0 Assessment of cumulative impacts

Cumulative impacts have the potential to occur when benefits or impacts from a project overlap or interact with those of other projects, potentially resulting in a larger overall effect (positive or negative) on local communities. Cumulative impacts may occur when projects are constructed or operated concurrently or consecutively. Once the project is operational, other projects which interrelate may enhance the project and create positive cumulative benefits.

Four projects were reviewed against the following screening criteria for this cumulative impact assessment:

- spatially relevant (i.e., the development or activity overlaps with, is adjacent to or within two kilometres of the project)
- timing (i.e., the expected timing of its construction and/or operation overlaps or occurs consecutively to construction and/or operation of the project)
- scale (i.e., large-scale major development or infrastructure projects that have the potential to result in cumulative impacts with the project, as listed on the NSW Government Major Project website and on the relevant council websites)
- status (i.e., projects in development with sufficient publicly available information to inform this environmental impact statement and with an adequate level of detail to assess the potential cumulative impacts).

Projects identified as contributing to potential cumulative impacts have met these criteria and include:

- Katoomba to Blackheath Upgrade (including Medlow Bath Upgrade)
- Little Hartley to Lithgow Upgrade.

Given the regional setting of the project primarily within the Blue Mountains Local Government Area (LGA) and a small portion within the Lithgow LGA, there are fewer major projects within the locality.

Figure 1-8 shows the interface of the Katoomba to Blackheath Upgrade (including Medlow Bath) and the Little Hartley to Lithgow Upgrade with the project. Chapter 24 (Cumulative impacts) details the full cumulative impact assessment methodology adopted for the project.

5.1 Construction

The cumulative capital expenditure and number of workers associated with the project and the Katoomba to Blackheath Upgrade (including the Medlow Bath Upgrade) and Little Hartley to Lithgow Upgrade would result in additional economic benefits, including increased output and jobs created for the Lithgow and Blue Mountains LGAs compared to the project in isolation. An increased proportion of construction related jobs located in these regions would also be expected during construction of the Upgrade Program, which is expected to span for around nine years.

The economic benefits of the Upgrade Program are likely to include higher levels of spending at local accommodation and retail businesses over the duration of construction compared to the project in isolation. While the increase in the number of workers in the area may put pressure on accommodation supply and result in shortages in accommodation in the short-term, this impact is expected to be partially mitigated by the sourcing of local workers who already live in the area.

No businesses would be acquired as part of the Upgrade Program.

5.2 Operation

During operation, the cumulative impacts of the project and the Katoomba to Blackheath Upgrade (including the Medlow Bath Upgrade) and Little Hartley to Lithgow Upgrade would include large travel time reductions, increased vehicle speeds and improved road safety for drivers travelling through the Blue Mountains. It is anticipated that this would result in increased productivity for local workers, as well

as further improving the accessibility and attractiveness of local tourist attractions, with the impacts resulting from the Upgrade Program likely to be greater than changes by the project in isolation.

The cumulative impact from the Upgrade Program is also likely to result in greater changes to passing trade activity across the Lithgow and Blue Mountains LGAs. Depending on the nature of the business – specifically the type of industry, location and reliance on passing trade – the extent of these impacts would vary, however retail passing trade businesses in Blackheath and Mount Victoria may be more affected.

6.0 Management of impacts

6.1 Performance outcomes

Performance outcomes have been developed that are consistent with the SEARs for the project. The performance outcomes for the project are summarised in Table 6-1 and identify measurable, performance-based standards for environmental management.

Table 6-1 Performance outcomes for the project – economics and business

SEARs desired performance outcome	Project performance outcome	Timing
The project minimises adverse impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land use activities, dwellings and infrastructure. The project maximises positive impact opportunities	Design and implement the project to provide a net positive property, businesses and land use outcome, including: • avoiding or minimising the environmental impacts of the project during construction and operation (refer to project objectives in other areas) • minimising the construction and operational footprints of the project • avoiding or minimising disruptions to local businesses during construction • rehabilitating disturbed land that is not required for operational infrastructure to a state comparable with its pre-disturbance condition.	Design, construction and operation

6.2 Management and mitigation measures

A construction environment management plan (CEMP) would be prepared for the project. The CEMP would detail the proposed approach to environmental management, monitoring and reporting during construction. A number of sub-plans (and other supporting documentation, as required) would also be prepared as part of the CEMP.

A community and stakeholder engagement plan (Engagement Plan) has been prepared for the Upgrade Program and would be used to guide community and stakeholder engagement activities during construction of the project. Engagement during construction would include updates on planned construction activities and would respond to concerns and enquiries in a timely manner, seeking to minimise potential impacts where possible.

Management and mitigation measures are outlined in Table 6-2. These measures complement other measures developed for the project and have been identified to manage potential economic and business impacts and enhance economic and business benefits which arise as a result of the project. Note that the management of other environmental impacts (such as traffic and transport, and social impacts) would contribute to the management of economic and business impacts, due to their interrelated nature.

Table 6-2 Mitigation measures – economic and business

ID	Mitigation measure	Timing
BU1	The Skills, Employment and Industry Development Strategy for the Great Western Highway Upgrade Program will be applied to the project, with project-specific measures developed and implemented during construction of the project, including: • opportunities to promote and deliver upskilling and training for the local workforce • a strategy for jobs, diversity and business initiatives to achieve local economic and social outcomes in areas affected by the project • a strategy, developed in consultation with the relevant local councils, to provide early notification and information to local business to allow time to prepare for and respond to changes in traffic during construction of the project. Project-specific skills, employment and industry development measures will be identified and implemented taking into account the requirements of, and to be complementary with, the Social Impact Management Plan (SIMP) for the project (refer to environmental mitigation measure SI1).	Construction
BU2	Access to local businesses will be maintained during construction of the project. If existing access arrangements cannot be maintained, an acceptable alternative access will be provided in consultation with the affected business owner.	Construction

7.0 Conclusion

Overall, the project is expected to deliver positive economic and business impacts to the region during both the construction and operational phases.

During the construction phase, the substantial capital expenditure and worker activity in the region is expected to provide a boost to the local economy, providing benefits to local businesses and workers both directly involved in the construction of the project, and those in adjacent industries that would benefit from the flow-on impacts associated with construction. Furthermore, while it is expected that average travel time may increase during the construction period as a result of additional congestion from construction vehicles, this impact is expected to be minor. Additionally, these impacts are only expected to last during the course of construction, and would not occur once the project is complete.

Once the project becomes operational, the improved accessibility provided would help generate sustained benefits for local businesses and the local economy. It is projected that these impacts would provide around $15 million in additional output and around $8 million in value added to the regional area each year the project is operational.

In terms of the business impacts during operation, the project would likely have a positive impact on tourism and accommodation related businesses as a result of the increased accessibility to local tourist attractions, thereby increasing demand. However, this would likely be partly offset by a modest decline in passing trade activity due to a reduction in local traffic as a result of the bypass.

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