

# **Chapter 1**

## **Introduction and background**

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# 1 Introduction and background

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## 1.1 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 (the project): 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 subject of this environmental impact statement (EIS)).

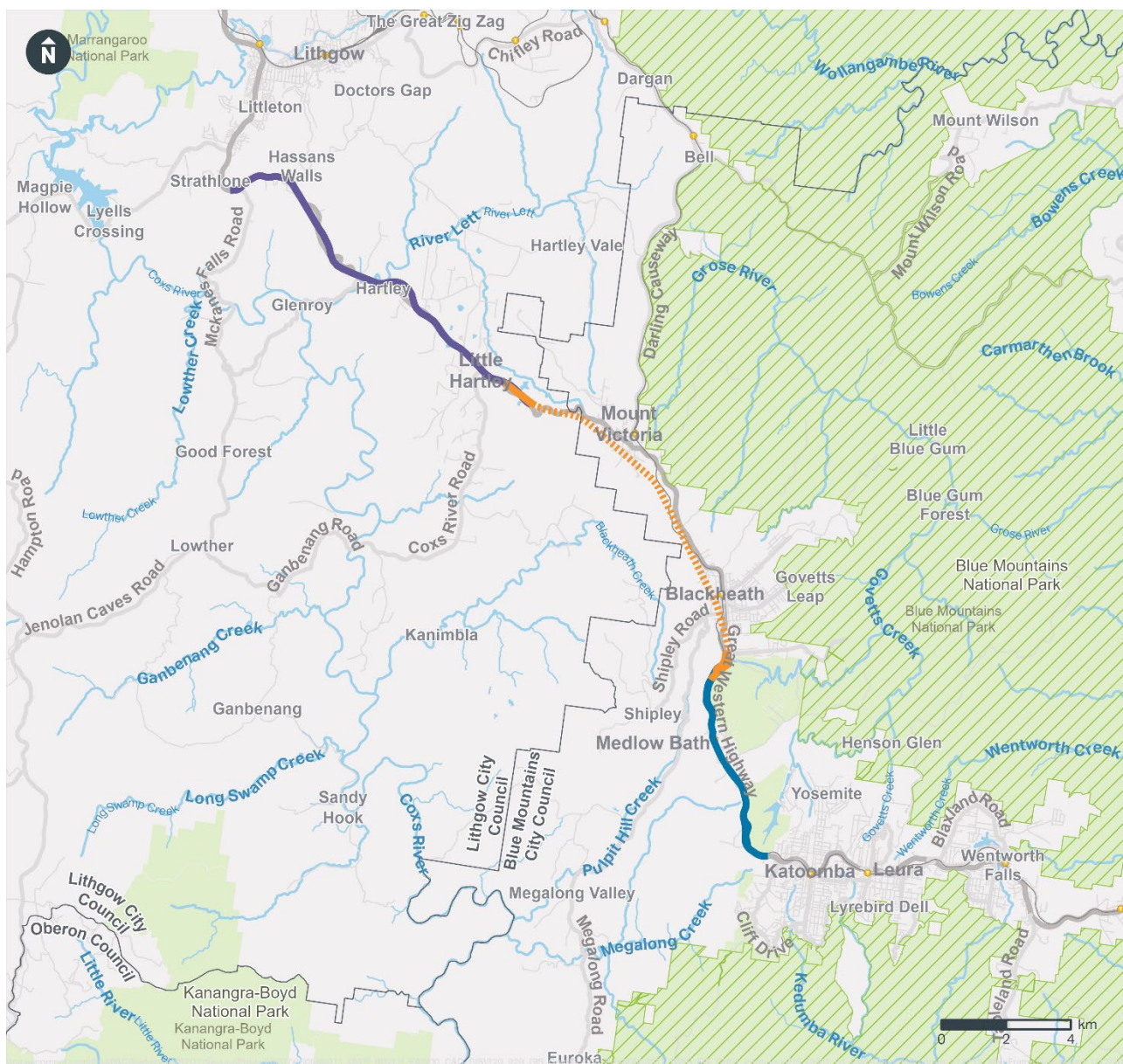
The components of the Upgrade Program are shown in Figure 1-1.

The Upgrade Program would support regional economic development by providing a more efficient connection between Central West NSW and the Sydney motorway network, as well as delivering improved safety conditions and travel times for freight, tourist, and general traffic. The Upgrade Program would also facilitate opportunities to improve connectivity, placemaking outcomes and liveability for residents of and visitors to the Blue Mountains. These benefits are discussed in Chapter 3 (Project alternatives and options).

The project would form a key component of the Upgrade Program. Chapter 2 (Strategic context and project need) outlines the need for, objectives and benefits of the project. A discussion of the history of the project as well as key strategies adopted to avoid and/or minimise the impacts of the project is provided in Chapter 3 (Project alternatives and options). The justification for the project is provided in Chapter 25 (Justification and conclusion).

## 1.2 Consultation undertaken

Engagement with the community and key stakeholders regarding the project commenced in November 2019 and has continued through to the preparation of the EIS. Community and stakeholder feedback was a key input into the decision-making process for a preferred route option and design for the project. An overview of community engagement is provided in Chapter 7 (Community and stakeholder engagement). An overview of how community and stakeholder engagement has informed the project design is detailed in Chapter 3 (Project alternatives and options).



#### Legend

##### Centreline

Surface road

Tunnel

##### Katoomba to Blackheath Upgrade (including Medlow Bath)

Surface road

##### Little Hartley to Lithgow Upgrade

Surface road

##### Existing environment

Railway

Main road

Road

Watercourse

Indicative only – subject to design development

Greater Blue Mountains World  
Heritage Area

National parks and reserves

Local government area

Figure 1-1 The Great Western Highway Upgrade Program

## 1.3 The project

As the proponent<sup>1</sup>, Transport for NSW 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 project tunnel portals (i.e., the entrance and exit points for the tunnels).

Key components of the project are summarised in Table 1-1 and shown in Figure 1-2. Further description of the project is provided in Chapter 4 (Project description) and construction of the project is described in Chapter 5 (Construction).

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: <ul style="list-style-type: none"> <li>mainline carriageways and on- and off-ramps at the Blackheath portal, located adjacent to the existing Great Western Highway and south of Evans Lookout Road</li> <li>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.</li> </ul>  |
| Operational infrastructure | Operational infrastructure provided by the project would include: <ul style="list-style-type: none"> <li>a tunnel operations facility adjacent to the Blackheath portal</li> <li>in-tunnel ventilation systems including jet fans and ventilation ducts connecting to the ventilation facilities</li> <li>one of two potential options for tunnel ventilation currently being investigated, being: <ul style="list-style-type: none"> <li>ventilation design to support emissions via ventilation outlets; or</li> <li>ventilation design to support emissions via portals</li> </ul> </li> <li>drainage and water quality infrastructure including sediment and water quality basins, an onsite detention tank at Blackheath and a water treatment plant at Little Hartley</li> <li>fire and life safety systems, emergency evacuation and ventilation infrastructure and closed circuit television</li> <li>lighting and signage including variable message signs and associated infrastructure such as overhead gantries.</li> </ul> |

<sup>1</sup> Proponent details: Transport for NSW; 231 Elizabeth Street, Sydney NSW 2000, PO Box K659; ABN: 18 804 239 602



| Key project component  | Summary  |
|------------------------|--|
| Utilities              | <p>Key utilities required for the project would include:</p> <ul style="list-style-type: none"> <li>• a new electricity substation at Little Hartley for construction and operational power supply</li> <li>• a new pipeline between Little Hartley and Lithgow for construction and operational water supply</li> <li>• other utility connections and modifications, including electricity substations in the project tunnels.</li> </ul> |
| Other project elements | <p>The project would also include:</p> <ul style="list-style-type: none"> <li>• integrated urban design initiatives</li> <li>• landscape planting.</li> </ul>  |

### 1.3.1 Related development

The project would form a component of the Upgrade Program, which consists of the three other projects described in Section 1.1 and are subject to separate planning approval processes. Consideration of the potential cumulative impacts of the project in combination with the other projects that make up the Upgrade Program is provided in Chapter 24 (Cumulative impacts).

In addition, other work would be required to support construction and operation of the project. This work would be considered under separate assessment and approvals processes, and would include:

- a powerline connection to the new electricity substation at Little Hartley (delivered as part of the project) for construction and operational power supply
- a tunnel boring machine precast segment manufacture and storage facility and concrete batching plant likely to be located to the west of the project.

The potential cumulative impacts of these activities would be assessed in the relevant environmental assessments carried out for these projects.

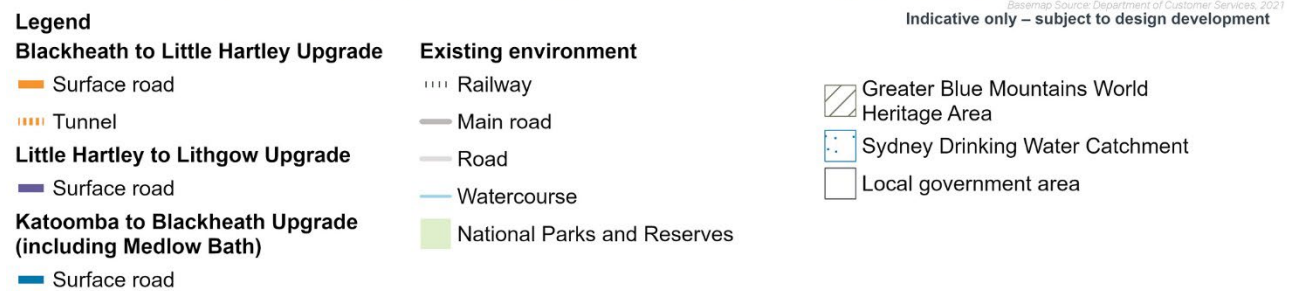
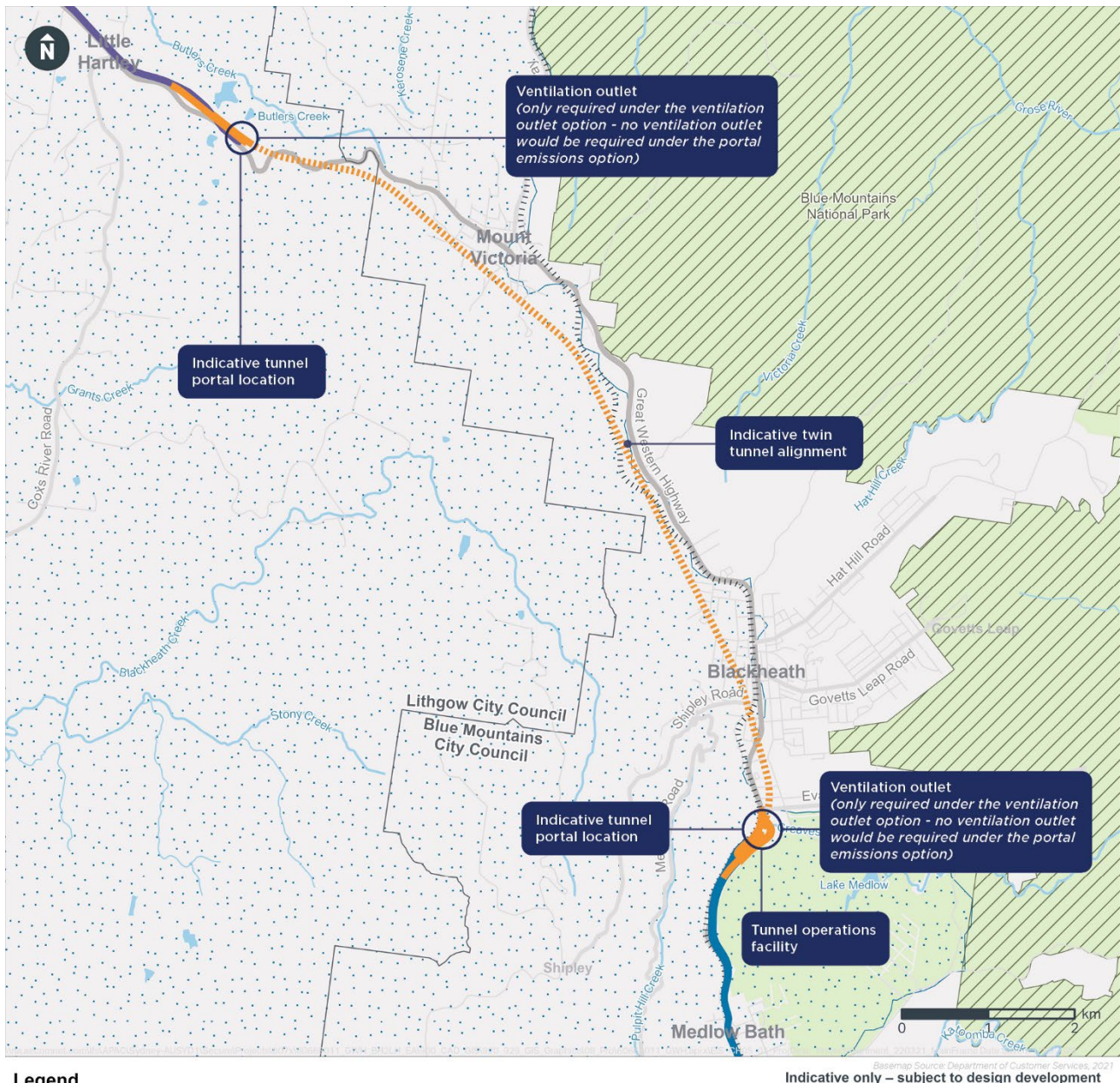


Figure 1-2 Project overview and key features

## 1.4 Project location

The project would be located around 90 kilometres west of the Sydney central business district and within the Blue Mountains and Lithgow local government areas (LGAs). The regional context of the project is shown in Figure 1-3.

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



The Blue Mountains National Park and the Greater Blue Mountains World Heritage Area are located generally to the east of the existing Great Western Highway alignment. A large part of the project is also located within the declared drinking water catchment for Sydney. Low density and medium density residential and commercial areas are generally located in the town centres of Blackheath, Mount Victoria and Little Hartley.

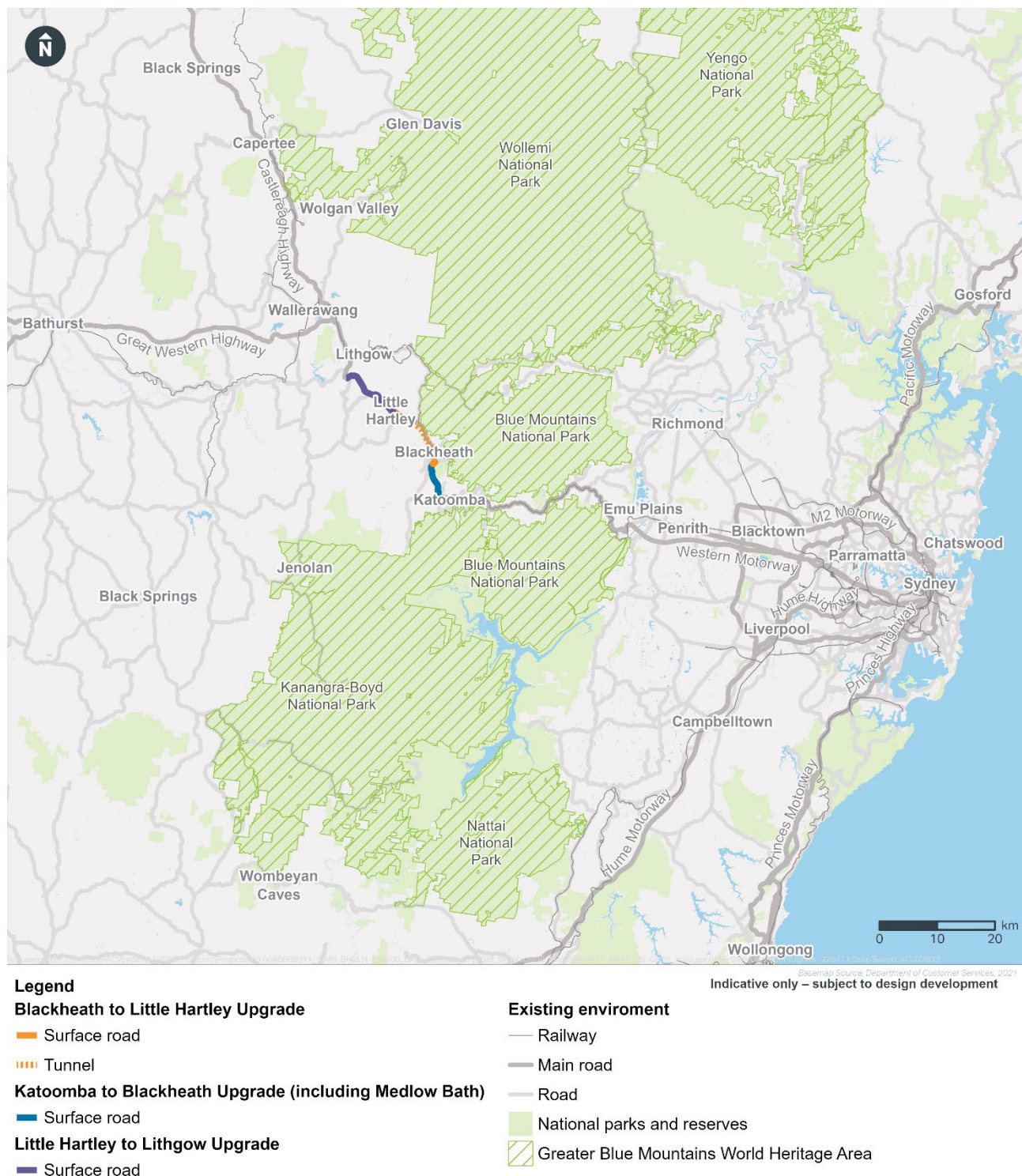


Figure 1-3 Regional context of the project



## 1.5 Purpose and structure of this environmental impact statement

The purpose of this EIS is to provide a detailed description of the project to allow an assessment of its potential impacts, including a description of the existing environment and assessment of potential direct, indirect and cumulative impacts. This EIS also identifies measures and strategies to be implemented to avoid, minimise, manage, mitigate, offset and/or monitor the potential impacts.

This EIS has been prepared to comply with the requirements issued by the Secretary of the NSW Department of Planning and Environment (DPE) on 27 August 2021 and the relevant provisions of Division 5 of Part 8 of the *Environmental Planning and Assessment Regulation 2021* (NSW).

An assessment of the project's potential impacts on Commonwealth matters of national environmental significance (MNES) (as discussed in Chapter 12 (Biodiversity) and 17 (Non-Aboriginal heritage)) has found that the project's impacts on MNES would not be significant. Notwithstanding, Transport has referred the project to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to confirm that approval under that Act would not be required. At the time of finalisation of this EIS there has been no decision by DCCEEW on whether the project is a controlled action or not.

This EIS is presented in two parts:

- Part 1 comprises the main body of the EIS and includes summaries of the technical environmental assessments
- Part 2 comprises the appendices to the EIS and includes the technical environmental assessments and other supporting information.

The structure and content of the EIS is outlined in Figure 1-4.

## Part 1

### Main environmental impact statement

|               |  |
|---------------|--|
| Chapter 1     | <b>Introduction and background</b><br>Provides a broad overview of the project and where it is located   |
| Chapter 2     | <b>Strategic context and project need</b><br>Provides the strategic context, explains the need for the project and identifies the project objectives                     |
| Chapter 3     | <b>Project alternatives and options</b><br>Reviews the alternatives and options considered in developing the project including the consequences of not proceeding        |
| Chapter 4     | <b>Project description</b><br>Provides a summary of the project including the alignment, design standards and key features   |
| Chapter 5     | <b>Construction</b><br>Provides a summary of the proposed construction methodology for the project   |
| Chapter 6     | <b>Statutory context</b><br>Outlines the statutory requirements and explains the steps in the assessment and approval process  |
| Chapter 7     | <b>Community and stakeholder engagement</b><br>Outlines the consultation activities undertaken to date, key issues raised and how these have been addressed              |
| Chapters 8-24 | <b>Environmental assessment</b><br>Provides the results of the environmental assessment and outlines environmental mitigation measures                                   |
| Chapter 25    | <b>Justification and conclusion</b><br>Provides a conclusion to the EIS, including justification for the project and whether the project achieves the project objectives |
| Chapter 26    | <b>References and terminology</b>  |

## Part 2

### Appendices

|            |   |                                     |
|------------|---|-------------------------------------|
| Appendix A | Assessment requirements                               | Technical environmental assessments |
| Appendix B | Statutory compliance                                  |                                     |
| Appendix C | Community engagement                                  |                                     |
| Appendix D | Technical report – Transport and traffic              |                                     |
| Appendix E | Technical report – Air quality                        |                                     |
| Appendix F | Technical report – Human health                       |                                     |
| Appendix G | Technical report – Noise and vibration                |                                     |
| Appendix H | Technical report – Biodiversity                       |                                     |
| Appendix I | Technical report – Groundwater                        |                                     |
| Appendix J | Technical report – Surface water and flooding         |                                     |
| Appendix K | Technical report – Contamination                      |                                     |
| Appendix L | Technical report – Aboriginal heritage                |                                     |
| Appendix M | Technical report – Non-Aboriginal heritage            |                                     |
| Appendix N | Technical report – Urban design, landscape and visual |                                     |
| Appendix O | Technical report – Social                             |                                     |
| Appendix P | Technical report – Economics and business             |                                     |
| Appendix Q | Technical report – Climate change and sustainability  |                                     |
| Appendix R | Compilation of environmental mitigation measures      |                                     |

Figure 1-4 Structure and content of this environmental impact statement