31 Project justification and conclusion

This chapter presents a justification for the project and a conclusion to the environmental impact statement (EIS). The justification is based on the strategic need for the project and in particular, how the project would fulfil the objectives outlined in **Chapter 3** (Strategic context and project need). The justification also takes into consideration the objects of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Table 31-1 sets out the Secretary's Environmental Assessment Requirements (SEARs), as they relate to the justification of the project, and where these have been addressed in the EIS.

Table 31-1 SEARs – project justification and conclusion

SEAR	Where addressed
An analysis of feasible alternatives to the carrying out of the proposal and proposal justification, including: • an analysis of alternatives/options considered, having regard to the proposal objectives (including an assessment of the environmental costs and benefits of the proposal relative to alternatives and the consequences of not carrying out the proposal), and whether or not the proposal is in the public interest, • justification for the preferred proposal taking into consideration the objects of the *Environmental Planning and Assessment Act 1979*.	An analysis of the alternatives and options considered for the project is presented in **Chapter 4** (Project development and alternatives). Strategic justification for the project, and consideration of relevant strategic planning policies, is provided in **Chapter 3** (Strategic context and project need) and summarised in **Section 31.1**. The way in which the project meets the objects of the EP&A Act is presented in **Section 31.1.3**.

31.1 Project justification

This section considers how the project delivers strategic and project needs, while protecting the environment and the health and amenity of local communities. The project is required to meet the strategic need for a new motorway within the project corridor, as outlined in **Section 31.1.1**, and to achieve the project objectives outlined in **Section 31.1.2**. Justification for the project has been considered within the framework of the objects of the EP&A Act in **Section 31.1.3**.

31.1.1 Summary of strategic need and justification

The New M5 is a key component of the WestConnex program of works. WestConnex is the largest integrated transport project in Australia. Once completed, WestConnex would cut 20 minutes off an average peak hour trip from Kingsgrove Road to the Sydney CBD and bypass 12 sets of traffic lights. It would provide a continuous, free flowing motorway with connections to the city, airport and port.

WestConnex would deliver significant long-term benefits to the economic growth and development of NSW and Australia. This strong economic benefit is supported by the economic analysis conducted for WestConnex, which identified benefits that would outweigh the initial upfront construction cost and ongoing operational costs.

The population of Sydney is set to increase by 1.3 million over the next 20 years, and the city's transport infrastructure needs to improve in order to cater for this growth. Currently, congestion costs the NSW economy an estimated $5.1 billion each year or nearly $1,100 for every person living in Sydney. By 2020 the cost of congestion is expected to rise to $8.8 billion as Sydney's population grows and travel demand increases. WestConnex will be a major driver in meeting these demographic challenges by easing congestion along the M5 East Motorway, connecting communities and creating jobs.

The New M5 would double the capacity of the M5 East Motorway, which is the main passenger, commercial and freight route between Sydney Airport, Port Botany and South West Sydney. The M5 East Motorway currently experiences heavy congestion, slow speeds and unreliable travel times especially in the morning and afternoon peak, and increasingly at other times of the day and on weekends.

Travel times and speeds would improve along the M5 East Motorway following the completion of the New M5. Between 2021 and 2031, average travel times on the M5 East Motorway would generally be halved and average travel speeds would double during the morning and afternoon peak.

If the New M5 is not built, congestion on the existing M5 East Motorway will continue to negatively impact on the NSW economy. Future growth in traffic volumes along the project corridor will worsen congestion problems, leading to further loss of productivity and increased economic impacts in the future.

Further, the M5 Motorway corridor is an important connection for road freight transport. The New M5 would provide additional capacity, improving freight transport efficiencies and reducing transport costs. In particular, the project would support more efficient connections between south-west Sydney and the Sydney CBD, Sydney Airport and Port Botany. Consequently, the project would result in economic benefits for the State.

The heavy congestion in the M5 East Motorway has reduced amenity and traffic safety. This is because congested traffic generates more vehicle emissions than free flowing traffic, and stop-start traffic has a greater crash risk.

If the New M5 is not built, there would be further deterioration of amenity and traffic safety along the M5 Motorway corridor, whereas the New M5 would reduce congestion along the M5 East Motorway. The project would also provide additional route options along the corridor and therefore increase network resilience in the event of incidents, especially in the M5 East Motorway tunnel. Some improvement along parallel arterial roads is forecast, with some increases in volumes along other parallel routes.

Construction of the New M5 would also result in the closure and rehabilitation of the Alexandria Landfill, generating a beneficial end land use for this site. The strategic use of this parcel of land as the St Peters interchange will result in enhanced motorway, cycle path and pedestrian connections for the community.

31.1.2 Achieving project objectives

Project alternatives were considered as part of the design process for the project (refer **Chapter 4** (Project development and alternatives)). The project, as described in **Chapter 5** (Project description), was selected as the preferred option to best achieve the project objectives.

Eight project objectives were developed which:

- Respond to issues that underpin the strategic need for the project **Chapter 3** (Strategic context and project need).
- Are consistent with strategic objectives of State and national planning and policy documents, as discussed in **Section 3.5**.

Table 31-2 provides a summary of how the project would meet these objectives.

Table 31-2 Achieving the project objectives

Project objective	Comment
Support Sydney's long-term economic growth through improved motorway access and connections linking Sydney's international gateways and Western Sydney and places of business across the city.	The New M5 would improve the capacity of the NSW motorway network, particularly within the project corridor, and would support connections to Sydney Airport and Port Botany, assisting with growth in air travel and freight movements. The project would provide improved motorway access and efficiency within the project corridor by: • Improving the existing motorway capacity to reduce congestion and increase efficiency • Adding a motorway connection point immediately west of Sydney Airport, supplementing the existing motorway connection to the M5 East Motorway, east of Sydney Airport • Providing a future motorway connection point for the possible future M4-M5 Link • Safe guarding a potential future Southern extension link.
Relieve road congestion so as to improve the speed, reliability and safety of travel in the M4 and M5 Motorway corridor, including parallel arterial roads.	The project would reduce vehicle numbers and travel time along the M5 East Motorway, which would improve speed, journey reliability and safety in this corridor. The project would also provide additional route options along the corridor and therefore increase network resilience in the event of incidents, especially in the M5 East Motorway tunnel. Some improvement along parallel arterial roads is forecast, with some increases in volumes along other parallel routes.
Cater for the diverse travel demands along these corridors that are best met by road infrastructure.	The key customers who would benefit from the project include: • Highly dispersed and long distance passenger movements • Heavy and light freight and commercial services • Businesses whose travel patterns are highly dispersed and diverse. The transport demands of these customers are best served by an efficient motorway connection. The project would meet this project objective by relieving congestion within the project corridor and facilitating efficient passenger and freight movements through Sydney.
Enhance the productivity of commercial and freight generating land uses strategically located near transport infrastructure.	Commercial and freight generating land uses are located around Sydney Airport and Port Botany, in south-west Sydney and along the project corridor at Kingsgrove and St Peters. By providing a more efficient motorway between commercial and freight hubs, the project would enhance the commercial and freight generating land uses located within the Port Botany precinct, along the project corridor and towards south-west Sydney. The productivity of these land uses may be currently impeded by congestion. By providing additional capacity along the corridor, the project would improve transport efficiency, reducing costs to businesses. The project would also contribute to improved profitability for commercial and freight businesses through reduced transport costs, in terms of money and time lost to congestion and fuel consumption. It may also contribute to the desirability of services that rely on transport along the corridor.

Project objective	Comment
Fit within the financial capacity of the State and Federal Governments, in partnership with the private sector.	The project has been subject to a competitive tendering process and would fit within the financial capacity of the State and Federal Governments. The project would be funded by the NSW and Federal Governments. The government contributions would be supplemented by finance from the private sector, and a user-pays system, which would be introduced when the project opens.
Optimise user pays contributions to support funding in an affordable and equitable way.	The project would consist of a tolled motorway to facilitate user pays contributions and reduce the overall burden on the wider community in NSW. Inclusion of a toll makes construction of the project affordable and equitable, as the cost is shared between tax payers and individual users of the New M5.
Provide for integration with other WestConnex projects while not significantly impacting on the surrounding environment in the interim period.	The project has been designed to allow integration with other WestConnex projects, and would include tunnel stubs for connection with the future Southern extension and an interchange at St Peters for connection to the future M4-M5 Link. Notwithstanding these proposed connections, which would ultimately allow for through traffic, the project includes upgrades to local roads around St Peters interchange in order to avoid shifting congestion problems onto local roads. The project has been designed to minimise the project footprint and maximise the use of land already reserved for road infrastructure. Further, the project would involve the closure and rehabilitation of the Alexandria Landfill, for use as the St Peters interchange. This approach allows for integration with the future M4-M5 Link at St Peters, while realising an end land use for the Alexandria landfill that is beneficial to the wider community.

Project objective	Comment
Protect natural and cultural resources and enhance the environment.	The design of the project avoided or minimised potential environmental impacts. For example, the design has: avoided high value ecological areas such as the Wolli Creek Regional Valley, and minimised impacts to Cooks River Castlereagh Ironbark Forest Critically Endangered Ecological Community and the Green and Golden Bell Frogs key population of the lower Cooks River. Where potential adverse impacts were not able to be completely avoided through design, additional mitigation and management measures have been identified. The measures identified to minimise potential impacts are described in this EIS and summarised in **Chapter 30** (Summary of environmental management measures). The mitigation measures proposed would minimise adverse social and environmental impacts in the local area during construction and operation of the project as far as feasible and reasonable. The project would enhance the environment through: • Allowing for improved efficiency of the road network and predicted travel time savings, resulting in lower vehicle emissions and a long term reduction in greenhouse gas emissions. • The closure and remediation of the Alexandria Landfill, which would improve the environment at this location, resolving impacts of this contaminated land and allowing for a more beneficial end use of this site. • Enhancing cycling and pedestrian infrastructure around the St Peters interchange, improving social welfare by providing greater connectivity for cyclist and pedestrian journeys.

31.1.3 Objects of the Environmental Planning & Assessment Act

The objects of the EP&A Act provide a framework within which the justification of the project has been considered. A summary of this assessment is provided in **Table 31-3**.

Table 31-3 Objects of the EP&A Act

EP&A Act object	Comment
To encourage the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, waters, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment.	The project has been designed to achieve an Infrastructure Sustainability Council of Australia rating of excellent, demonstrating a commitment to conserve natural and artificial resources. Where reasonable and feasible, the project has been designed to avoid impacts on the surrounding natural environment and minimise the need for land acquisition, impacts on existing development and local communities. The improved efficiency of the road network and the predicted travel time savings would result in lower vehicle emissions and a reduction in fuel use in the future. Additionally, the project would result in a long-term reduction in greenhouse gas emissions. By reducing congestion and improving transport efficiency within the project corridor for both people and goods, the project would promote social and economic welfare. The closure and remediation of the Alexandria Landfill would: • Improve the environment at this location, resolving impacts of this contaminated land and allowing for a more beneficial end use of this site. • Reduce the requirement for residential and commercial property acquisition to enable the project. Further, the project would enhance the cycling and pedestrian infrastructure around the St Peters interchange, improving social welfare by providing greater connectivity for cyclist and pedestrian journeys.
To encourage the promotion and coordination of the orderly and economic use and development of land.	The project would relieve congestion along the M5 East Motorway, including an improvement in travel times and improvements in road safety. The improved efficiency of the road network and the predicted travel time savings would result in economic benefits for NSW. By minimising its surface footprint, the project has been designed to reduce impacts to the surrounding natural and built environments, and to minimise disruption to existing development patterns, and the economic value of these land uses. Parts of the Alexandria Landfill site have been subject to local environmental plan provisions which expressly contemplate a future road use. Use of the site for the St Peters Interchange is therefore consistent with the orderly use and development of the land for that purpose. Further, provision of a mostly underground motorway is an orderly and economic approach to delivery of the project in the context of avoiding substantial impacts to existing residential, industrial, and commercial land uses within the project corridor.

EP&A Act object	Comment
To encourage the protection, provision and co-ordination of communication and utility services.	Where practicable, the project has been designed to minimise impacts on communications and utility services. Utility services would be relocated, adjusted or protected where affected by the construction of the project. Communication and utility service providers would be consulted during detailed design and the implementation of relevant works to ensure coordination and delivery of new and / or modified communications and utility infrastructure.
To encourage the provision of land for public purposes	The project would facilitate the provision of land for public purposes through: • Utilising land within road reserves for additional transport infrastructure, allowing public use of the land in a way that enhances connectivity between the Sydney CBD and south-west Sydney • The closure and rehabilitation of the Alexandria Landfill, which would: – Resolve the impacts of this contaminated land – Allow the land to be used for transport infrastructure for use by the public – Create open space for public purposes around the completed St Peters interchange.
To encourage the provision and coordination of community services and facilities.	Provision of a mostly underground motorway would minimise direct impacts on community services and facilities during construction and operation. Further, the project would improve a transport corridor that currently experiences heavy congestion and on which the community relies. The project would also provide improved pedestrian and cycle path connections: • Through and around the St Peters interchange • Between Alexandria and Sydney Park • Between St Peters and Mascot, completing a regional cycle connection. The quality of the shared paths in Kingsgrove would also be improved at the completion of the project construction. Temporary construction compounds have been designed and located to minimise direct impacts to community facilities and services.

EP&A Act object	Comment
To encourage the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats.	The design of the project, as a mostly underground motorway, has avoided impacts to areas of high ecological value within the Wolli Creek valley. Further, the design of the surface works of the project has minimised impacts to threatened species, populations and ecological communities and their habitats as follows: • The project footprint has been minimised to reduce direct impacts to the Green and Golden Bell Frog key population of the lower Cooks River (at Arncliffe) • The construction footprint has been minimised to reduce direct impacts to Cooks River Castlereagh Ironbark Forest at Beverly Grove • Groundwater modelling confirms that the project will not significantly impact on groundwater dependent ecosystems Potential impacts of the project on terrestrial and aquatic ecology and measures to avoid, mitigate and offset potential impacts on native plants and animals, and their habitats, have been identified and are summarised in **Chapter 21** (Biodiversity).
To encourage ecologically sustainable development.	The project has been designed to achieve an ISCA rating of excellent. Further, sustainability initiatives, described in **Chapter 28** (Sustainability) would be implemented during construction and operation. Ecologically sustainable development has been considered in the development of the project and is discussed in **Chapter 28** (Sustainability).
To encourage the provision and maintenance of affordable housing.	The project would encourage and support the NSW Government's goals for housing and land supply by providing improved access to new housing areas. The M5 Motorway corridor (comprising the M5 East Motorway and the M5 South West Motorway) is a well-established route serving suburbs and growth centres in south west Sydney and supports planned residential and employment growth in the south-west region. The New M5 would double the capacity of this corridor.
To promote the sharing of the responsibility for environmental planning between different levels of government in the State.	Consultation has been undertaken with the relevant local councils and government agencies throughout the development of the project and the preparation of this EIS. All levels of government have been encouraged to be actively involved in and to contribute, to the evolution of the project and this EIS. Further, a referral to the Commonwealth Government under the EPBC Act has been made for the project.
To provide increased opportunity for public involvement and participation in environmental planning and assessment.	The project development process has involved extensive consultation with the community and relevant stakeholders, as detailed in **Chapter 7** (Consultation).

31.2 Conclusion

This EIS addresses the key issues identified in the SEARs issued under Part 5.1 of the EP&A Act and the relevant provisions of Schedule 2 of the EP&A Regulation.

The project is a component of the WestConnex program of works, which is a proposal to provide a 33 kilometre motorway linking Sydney's west and south-west with Sydney Airport and the Port Botany precinct. The project is a key transport infrastructure project, required to improve connections for the growing economic growth areas in Sydney's south-west, address traffic congestion and provide additional capacity along the M5 East Motorway corridor in line with State and national planning strategies.

The merits of the project were considered in the context of a range of other alternatives. Alternatives to the project were considered based on the extent to which they could meet the project objectives and how well they performed with reference to other transport, environmental, engineering, social and economic factors.

The following alternatives to the project were considered:

- Alternative 1 – The base case or 'do nothing / do minimum'
- Alternative 2 – Optimising the performance of existing infrastructure
- Alternative 3 – Investment in public transport and rail freight improvements
- Alternative 4 – Demand management
- Alternative 5 – Construction of the New M5 as part of the WestConnex program of works

These options were considered and assessed against the project objectives and resulted in Alternative 5 - Construction of the New M5 as part of the WestConnex program of works being determined as the preferred strategic alternative.

The project is considered to be in the public interest by providing the following key benefits:

- Between 2021 and 2031, average travel times on the M5 East Motorway would generally be halved and average travel speeds would double during the morning and afternoon peak, improving the efficiencies of intrastate and interstate freight movements through travel time saving and reduced operating costs.
- Providing new connections for the residential, commercial and industrial growth in Sydney's south-west, including along the M5 corridor
- Doubling the capacity of the M5 corridor
- Providing a new and improved land use for the Alexandria Landfill site
- Improving pedestrian and cycle path connections:
  - Through and around the St Peters interchange
  - Between Alexandria and Sydney Park
  - Between St Peters and Mascot, completing a regional cycle connection.
- Improving shared facilities in Kingsgrove.

With the completion of the WestConnex program of works, average travel times and speeds would improve further. The project would have an average travel time of between nine and 10 minutes at a speed of 68 kilometres per hour in both directions during the morning and afternoon peak in 2021 and in 2031.

The project has been designed to minimise land acquisition and limit the impact on private properties. Some short-term property access impacts during construction may occur; however, these are not expected to be significant and alternative access would be provided at all times.

There are 30 properties that would be directly impacted by the temporary construction compounds and construction activities. Of these properties:

- Five are already owned by Roads and Maritime
- Four are owned by other NSW Government agencies
- Fifteen are owned by Local Government
- Six are privately owned.

In most cases, land that is occupied for construction compounds and construction activities would be rehabilitated at the end of the construction period and returned for potential development for permissible uses under land use zoning provisions.

There are 143 properties that would be directly impacted by operational infrastructure and would require permanent acquisition. Of these properties:

- Thirty-nine are already owned by Roads and Maritime
- Six are owned by other NSW Government agencies
- Seventeen are owned by Local Government
- Five properties are owned by utility providers
- Seventy-six are privately owned.

All acquisitions would be undertaken consistently with the principles in the *Land Acquisition (Just Terms Compensation) Act 1991* and the *Land Acquisition Information Guide* (Roads and Maritime, 2014b). The extent of property acquisition would be reviewed and confirmed during detailed design of the project.

The construction of the project would also result in short-term air quality and noise impacts. However, these impacts would be minimised through the development and implementation of construction environmental management plans and careful planning of the construction schedule and methodologies.

Impacts to biodiversity features have been minimised as far as reasonable and feasible during design, including minimising impacts to the Wolli Creek Regional Park and the Roads Transport Authority (RTA) Ponds, which are known to provide breeding habitat for the Green and Golden Bell Frog. Although impacts have been minimised, the project would still involve the clearance of about 20 per cent of available foraging, sheltering and dispersal habitat for the Green and Golden Bell Frog Key Population of the Lower Cooks River within the Kogarah Golf Course at Arncliffe. The project would also require the clearance of about 3.31 hectares of native vegetation, including 1.4 hectares of Cooks River Castlereagh Ironbark Forest.

Mitigation and management measures would be implemented during the construction phase to minimise impacts to biodiversity. Where direct impacts to threatened ecological communities and threatened fauna are unavoidable, offsets would be provided. Biodiversity offset calculations identified that 261 credits would be required for impacts to threatened ecological communities and impacts to the Green and Golden Bell Frog (*Litoria aurea*). Opportunities to minimise impacts to biodiversity would be considered further during detailed design of the project.

Operational impacts of the project such as noise and flooding would be further investigated during detailed design to confirm the need for appropriate mitigation measures or, where relevant, design refinements.

WestConnex would result in both positive and adverse cumulative impacts in relation to noise and traffic in particular. One key cumulative benefit of WestConnex would be the improved movement of freight around Sydney. The construction of WestConnex progressively would also result in prolonged impacts on some areas which are located in close proximity to multiple stages. Cumulative impacts from other projects are not considered to be significant.

This EIS includes a suite of management measures that aim to ensure the best possible environmental outcomes are achieved during its construction and operation.