

CANBERRA LIGHT RAIL – COMMONWEALTH PARK TO WODEN

Preliminary Environmental Assessment



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Canberra Light Rail –
Commonwealth Park to
Woden
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PRELIMINARY ENVIRONMENTAL ASSESSMENT

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EXECUTIVE SUMMARY

Background

Canberra's population is currently growing at an annual rate of 1.3 per cent and is projected to reach 703,000 in 2058 (ACT Government, 2019); a 70 per cent increase over 40-years. It is also predicted that the number of visitors to the city will increase with the addition of new international flights and global recognition as a tourist destination.

The 2017, ACT Household Travel Survey showed that 7.5 million kilometres were travelled each weekday by private vehicles, representing an average of 18.2 kilometres per person each day (ACT household travel survey, 2017). This, combined with the growing population, will mean more cars on the roads and more congestion (Transport Canberra, *Keeping Canberra Moving*, 2016). Infrastructure Australia reports in *Our Infrastructure Challenges* (2015) that this congestion would burden the economy with a forecasted cost of about \$700 million by 2031 compared to the \$208 million it cost in 2011, which is over a threefold increase in costs over 20-years. The Infrastructure Australia report also predicts public transport demand will nearly double.

Currently, most of Canberra's residents drive to work as this is a more convenient option than using the existing public transport infrastructure, which until, 2019 was limited to buses. In 2019, this was supplemented with the opening of the City to Gungahlin light rail.

This Project is to develop the light rail from Commonwealth Park to Woden light rail (the Project). It would connect into the City to Commonwealth Park light rail, which is being progressed under its own contract. These two projects are part of the plan to build a series of Projects across Canberra to form a light rail network.

This PEA covers the Project corridor from the proposed Commonwealth Park stop (north of Lake Burley Griffin) to the proposed terminus at Woden (in Canberra's south western suburbs). It comprises a nine new-stop light rail extending over nine kilometres. It would connect with the City to Commonwealth Park light rail at Albert Street on Commonwealth Avenue. The proposed route would cross the lake on a new bridge (final design to be confirmed) and then run in the median (middle) of Commonwealth Avenue to State Circle, where it would run around the eastern side of Capital Hill, following the internal side of State Circle, to Adelaide Avenue. It would then run to Woden in the median of Adelaide Avenue and Yarra Glen with a terminus at Callam Street.

Purpose of this preliminary environmental assessment

This preliminary environmental assessment (PEA) identifies potential environmental issues that may result from constructing and operating the Project. The PEA addresses all environmental impacts including impacts to matters of national environmental significance (MNES) and Commonwealth land values.

It has been prepared to assist:

- the Australian Minister for the Environment of the Commonwealth Department of Environment and Energy to determine whether the Project is a controlled action under the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) and the appropriate method for assessing the environmental impacts.

- the ACT Minister for Planning to define the scope of environment assessment needed to support a development application made under the corresponding *Planning and Development Act 2007* (P&D Act).

Key features of the Project

Key features of the Project include:

- a light rail extending nine kilometres south that includes nine stops between Commonwealth Park and Woden;
- landscaping features sympathetic with Canberra's design as envisioned by the Griffins';
- integration with the wider public transport network, including access improvements to bus services;
- road network alterations to accommodate the Project;
- dedicated traction power substations to provide electricity for the Project;
- combined services routes to the traction power substation noting that this would be under-bored (e.g. it would have no surface impact other than at the entry and exit points); and
- track infrastructure, including overhead wiring in some sections.

Key environmental aspects identified by the assessment

Key aspects (topics) of value and interest along the alignment identified by the assessment include:

- Aboriginal heritage
- historical heritage
- traffic and transport
- biodiversity
- noise and vibration
- urban design, landscape character and visual amenity.

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Specialists assessments have been carried out to assess the significance of the impact on the heritage and biodiversity values protected as matters of national environmental significance under the EPBC Act to support the referral made to the Commonwealth Minister for the Environment. This are appended separately to the referral and referenced throughout this document.

Next steps

The next steps in the approval process are:

- a referral will be made under the EPBC Act. This PEA will be provided as a supporting document for the referral;
- following Major Projects Canberra (MPC), formally Transport Canberra City Services (TCCS) application for an EIS scoping document, the ACT Planning and Land Authority (ACT PLA) will consult with relevant entities to prepare the EIS scoping document;
- the Department of the Environment and Energy (DoEE) will determine whether the Project is a controlled action and the appropriate assessment approach, which is likely to be an environmental impact statement;
- DoEE will prepare and issue assessment guidelines for the Project in collaboration with ACT PLA, who will provide its scoping document (assessment) requirements, and the National Capital Authority (NCA) to ensure consistency (refer to Section 3);
- MPC will prepare a draft EIS covering off all requirements from all authorities. This will be submitted for public exhibition
- MPC will consider the submissions to prepare a final EIS for the Project;
- ACT PLA will prepare an EIS Assessment Report and the relevant ACT Minister will make their determination on the assessment;
- DoEE will prepare its Recommendation Report for the Australian Minister for the Environment to decide whether to approve the proposed action;
- DoEE and ACT PLA will issue a final decision on the proposed action.

Note: a separate Works Approval will be needed for the locations of the Project taking place in Designated Areas.

1 INTRODUCTION

This Chapter overviews the Project, describing its purpose and summarising the content and structure of this report.

1.1 Background

Existing Transport Pressures

As Canberra's population and visitors to the city are forecasted to increase, it is necessary to act to reduce road congestion by improving public transport. About 85 per cent of people drive to work every day in Canberra despite the city having some of the shortest commutes across Australia (RMIT University, 2017). People also travel and visit Canberra from interstate and overseas to use its cultural amenities and facilities. This contributed \$1.9 billion to the ACT's economy in 2016 and 2017. Visitor numbers to Canberra are projected to increase following the addition of new international flights to the Capital and its global recognition as an emerging tourist destination. Canberra, rich with history, culture and entertainment, was named Lonely Planet's third best city in the world to visit in 2018. Considering these factors, ACT Government's goal is to increase visitor contributions to \$2.5 billion by 2020.

Public transport in Canberra is currently provided by a bus network and the C2G light rail. The bus network has been expanded as the city has grown, including the recent introduction of turn up and go services and nine Rapid Routes. Despite the broad coverage of the bus network, there is a limit to its capacity to meet the needs of a growing city and to support its projected population growth.

Reducing the city's dependency on cars

Transport Canberra released the draft of *Light Rail Network: Delivering a Modern Transport System for a Growing City* (ACT Government, 2015a) in 2015. This presented the idea, justification and options for bringing light rail to Canberra. The draft plan was updated with the release of the ACT Planning Strategy in 2018 (ACT Government, 2018a). The document states that the incorporation of an integrated light rail system into Canberra would:

- promote the city as a world class and liveable destination;
- encourage people to leave their car at home;
- assist the ACT Government to meet the goals of its transport, climate change and health strategies;
- increase the use of public transport by people to help reduce congestion and greenhouse gas emissions; and
- increase growth and regeneration in the neighbourhoods and precincts along the light rail transport corridors.

In 2019, the ACT Government released its draft of *Moving Canberra 2019 – 2045: Integrated Transport Strategy* (ACT Government, 2018b) in 2019. This complements the 2015 draft plan and the ACT Planning Strategy by encouraging people to travel by sustainable modes of transport, while focussing on building an effective integrated transport system across the city over the next 25 years. At its core is investing in "a modern and accessible public transport system focussed on light rail". Bringing light rail to Canberra is therefore a response to the above policies and strategies as it would service the city by helping provide an integrated public transport solution that would connect many suburbs, precincts, services and

amenities. The introduction of a light rail network will help reduce road congestion and its associated costs while helping form part of a smart, sustainable, integrated transport network.

Delivering light rail as separate projects

The basis of the light rail network is to create several key transport corridors into and out of the city. The priority under the 2018 update to the light rail network was to create a north-south and east-west spine. The north-south spine would run between Gungahlin and Woden via the city, while the east-west spine would run between Belconnen, Russell and the airport (refer to Figure 1.1).

The corridor to Gungahlin was the first scheme to be delivered, opening in April this year, which provides a 12-kilometre service from Gungahlin Place, via the racecourse and the Dickson interchange to Alinga Street.

The next priority is to extend the corridor across the city and then to Woden in two separate projects.

- The first project would see an extension from Alinga Street to a terminus at the West Basin waterfront. It would run along the western side of London Circuit before continuing south on Commonwealth Avenue (the Project).
- The second project would continue along Commonwealth Avenue before crossing Lake Burley Griffin. It would then run via State Circle, around the eastern side of Capital Hill to Adelaide Avenue and then to Woden via Yarra Glen.

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To following objectives have been set to help develop and deliver light rail to Woden.

Connectivity



Objective 1: provide a north-south public transport spine that represents the next stage of a future city-wide light rail network connecting communities across Canberra.

Shape and place



Objective 2: frame the shape of future development along the corridor while reinforcing the identity of existing communities.

Objective 3: provide early delivery of city-wide initiatives for urban renewal and diversity of place.

Transport choice



Objective 4: provide Canberrans with an attractive, convenient, efficient and reliable integrated public transport system that facilitates choice, increases public transport patronage and reduces car dependency.

Value and innovation



Objective 5: deliver an affordable project solution to the Territory that drives innovation and provides a value for money outcome.

Environment



Objective 6: reduce emissions and promote sustainable urban form for the benefit of current and future generations.

Community benefits



Objective 7: provide a connected and accessible public transport network that strengthens opportunities for social and economic participation.

Liveable and productive



Objective 8: build a productive, diversified and smart economy by making Canberra a more attractive place to live, work and invest.

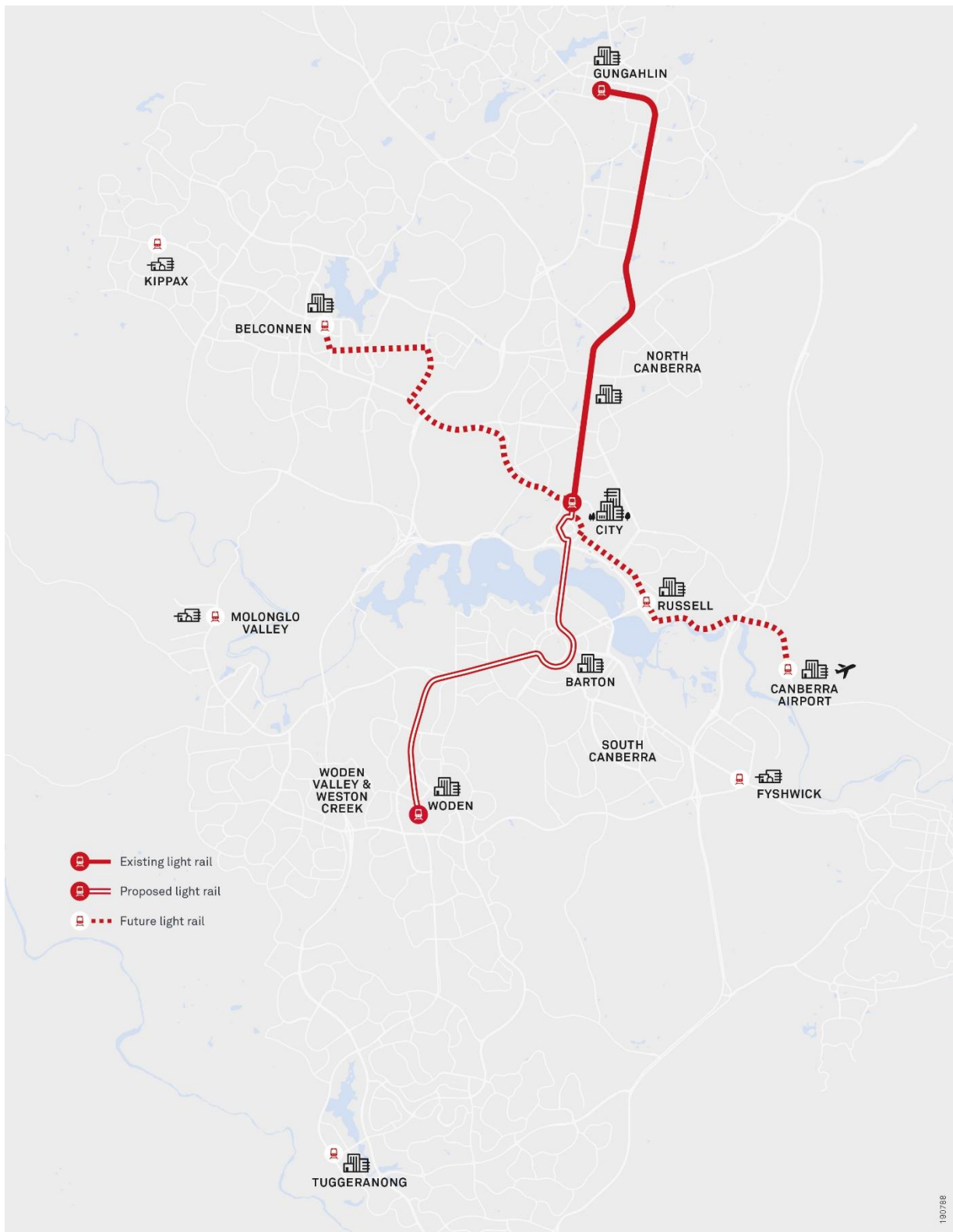


Figure 1.1: Planned light rail network

1.2 Purpose of this report

This preliminary environmental assessment (PEA) identifies potential environmental issues that may result from constructing and operating the Project. The PEA addresses all environmental impacts including impacts to matters of national environmental significance (MNES) and Commonwealth land values. It has been prepared to assist:

- the Australian Minister for the Environment of the Commonwealth Department of Environment and Energy to determine whether the Project is a controlled action under the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) and the appropriate method for assessing the environmental impacts.
- the ACT Minister for Planning to define the scope of environment assessment needed to support a development application made under the corresponding *Planning and Development Act 2007* (P&D Act).

Chapter 3 describes the planning and assessment framework and how this PEA would support the Project approval process.

1.3 Structure of this report

The report is structured as follows.

- **Chapter 1 – Introduction** outlines the Project and states the report's purpose.
- **Chapter 2 – Strategic context, options and benefits** details the key objectives, strategic need, options considered, and the anticipated Project benefits.
- **Chapter 3 – Planning and legislation** outlines the Project's planning approvals framework including applicable laws and planning policies.
- **Chapter 4 – Project description** details the Project's key features.
- **Chapter 5 – Preliminary risk assessment** describes the assessment process to identify issues and support the environmental assessment for the Project.
- **Chapter 6 – Key Environmental Issues** provides a preliminary assessment of the Project's key impacts.
- **Chapter 7 – Other Environmental Issues** provides a preliminary assessment of the Project's other potential impacts.
- **Chapter 8 – EPBC referral** summarises the potential whole environment impacts on Commonwealth land.
- **Chapter 9 – Conclusions and further assessments** details the key conclusions and summarises the additional assessments needed to support the environmental assessment.
- **Chapter 10 – References** includes the references used to develop the report.
- **Appendix A – Preliminary risk register** presents a preliminary risk assessment table for the Project.

1.4 PEA Study Area

This PEA considered the area that may be directly or indirectly impacted by the Project during its construction, operation or maintenance. This is defined as 50 metres either side of the centreline of the proposed light rail alignment (100 metres total width). The Study Area was chosen to provide a reasonable buffer at this stage of the design to account for refinement in key infrastructure and elements such as ancillary facilities and compounds.

1.5 PEA development

RPS has prepared this report in conjunction with MPC and Arup (MPC's Technical Advisor).

The information was reviewed as part of this PEA included preliminary specialist technical reports. Findings, recommendations and conclusions from these reports have been included within this report.

As heritage and ecology were identified as key environmental constraints to the Project, corresponding assessments have been reported in standalone documents for reference, and the outcomes summarised in this report. Other design specific documents, including design reports and alignment plans, have also been used for this assessment.

2 STRATEGIC CONTEXT, OPTIONS AND BENEFITS

This Chapter summarises key Territory and Commonwealth planning strategies and policies relevant to developing the Project. The Chapter also outlines the options considered for the route alignment and benefits of the preferred route.

2.1 Strategic planning context for the Project

The Project's preliminary design respects the guiding principles and Precinct Codes as defined under the *National Capital Plan, 2016* (NCP). Compliance with these principles would continue during development of the Project's detailed design.

2.1.1 Australian Government (National Capital Authority)

Table 2.1 summarises the key Australian Government spatial plans relevant to the Project and its local context.

PRELIMINARY ENVIRONMENTAL ASSESSMENT

Table 2.1: Key Australian Government plans relevant to the project

Policy/Strategy	Overview	Relationship to the Project
The National Capital Plan 2016	<ul style="list-style-type: none"> Provides a strategic framework for land use and development throughout the Territory including ensuring the legacy of the Griffin Plan are incorporated. Objective is “to ensure that Canberra and the Territory are planned and developed in accordance with their national significance”. Defines development control within Designated Areas across the Territory. Sets out the general location of Inter-town public transport corridors within the Territory. 	<ul style="list-style-type: none"> The Project is in Canberra and would consider the Griffin Plan as well as impacts on Commonwealth land. Majority of the Project alignment is within a Designated Area so would need to consider specific development controls and approval pathways The Project would meet all the core objectives of the Plan related to Productivity, Sustainability, Liveability and Accessibility. The project is consistent with policies for the Inter-town public transport system.
The Griffin Legacy 2004	<ul style="list-style-type: none"> Provides a blueprint for Canberra and the Territory. It represents a renewed vision to unlock the Central National Area, its landscape setting and approaches. The strategy establishes eight core design propositions. 	<ul style="list-style-type: none"> The Project is in Canberra and would consider the Griffin Plan by minimising visual impacts in the Parliamentary Zone. The project would meet the following strategic initiatives of the Griffin Plan: <ul style="list-style-type: none"> Build on the Griffin Legacy Extend the city to the Lake Reinforce main Avenues Link national attractions.
Kings and Commonwealth Avenues Design Strategy (Draft, 2017)	<ul style="list-style-type: none"> Outlines the long-term vision and key principles to redefine the avenues and re-establish them as memorable and functional public spaces. 	<ul style="list-style-type: none"> The Project alignment is on Commonwealth Avenue and incorporates the objectives of this draft strategy. The Project would meet the following principles of the Strategy: <ul style="list-style-type: none"> Unified expression of the National Triangle Effective movement and connections for all High quality urban streetscapes benefitting their status and use Providing a robust landscape character that is consistent and sustainable.

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2.1.2 ACT Government Plans

Spatial Plans

The following ACT Government spatial and infrastructure planning policies were used to develop the Project as summarised in Table 2.2.

Table 2.2: Key ACT Government spatial plans

Policy/Strategy	Overview	Relationship to the Project
The Canberra Plan 2008	<ul style="list-style-type: none"> Developed to reflect the views and values of Canberrans through providing key directions for the municipality's continued prosperity. Seven strategic themes including: a vibrant city and great neighbourhoods, a sustainable future and high-quality services. 	<ul style="list-style-type: none"> The Project would assist Canberra in meeting the following strategic themes: <ul style="list-style-type: none"> strong, dynamic economy a vibrant city and great neighbourhoods a sustainable future high-quality services.
Territory Plan 2017	<ul style="list-style-type: none"> The key statutory planning document in the ACT, providing the policy framework for the administration of planning in the ACT. The purpose of the Territory Plan is to manage land use change and development in a manner consistent with the directions set by the ACT Government, Legislative Assembly and the community. Its policies are to be consistent with the National Capital Plan. Identifies the Intertown Public Transport Route 	<ul style="list-style-type: none"> Development approval is required from ACTPLA for the Project before starting work. This requires an environmental assessment, relevant design information and stakeholder consultation. Elements of the Project that are inconsistent with the Territory Plan may require a variation, prior to determining the outcome of the Project. This would also involve a separate public consultation exercise. The Inter Town Public Transport Route identified in the Territory Plan is being considered for the project.
Canberra City Plan 2014	<ul style="list-style-type: none"> Focusses on the city centre and provides a single over-arching strategic framework and vision for future development focussing on civic, cultural and recreational life. Determines development and growth and ensures projects and infrastructure are delivered efficiently and effectively. 	<ul style="list-style-type: none"> Investment in the Light Rail transit system has clear economic benefits for Canberra and would be transformational in changing the way people move in and around the city centre. The Project would assist the city centre in achieving its six themes of: <ul style="list-style-type: none"> growth land use and development transport and movement

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Policy/Strategy	Overview	Relationship to the Project
	<ul style="list-style-type: none"> 'Transport and movement' is one of the six components of the Plan's framework and aims to develop the city through providing a range of transport and movement options around it. 	<ul style="list-style-type: none"> community infrastructure public realm and design strengthening character.
ACT Climate Change Adaptation Strategy – Living with a warming climate, 2016.	<ul style="list-style-type: none"> This strategy brings together information on the latest advice on the climate change impacts and supports the community, city of Canberra and the natural environment to become more resilient to the impacts from climate change to 2020 by: <ul style="list-style-type: none"> communicating the key impacts of climate change on the ACT and what affects this will have mainstreaming climate change risk considerations and adaptation actions in ACT Government policies, programs and practices encouraging actions by households and businesses to increase resilience and foster emerging opportunities. 	<ul style="list-style-type: none"> Consider climate change adaptation throughout the planning and delivery of the light rail to meet the objectives of the Strategy relating to mainstreaming, resilience, leadership and effectiveness of adapting to the changing climate. <p>The design of urban areas, access to parks and recreation, and provision of public transport, walking and cycling facilities, encourages people to maintain a level of fitness which assists with climate change resilience.</p>
Woden Town Centre Master Plan 2015	<ul style="list-style-type: none"> Reflects key ACT Government policies: ACT Planning Strategy, Transport for Canberra, ACT Climate Change Strategy and Action Plan, ACT Water Policy and the Healthy Weight Initiative The main principles of this plan are to: <ul style="list-style-type: none"> further diversify land uses and character precincts improve the urban grain, streets and public spaces develop a strong community provide for pedestrians and cyclists encourage a built form that positively contributes to the open spaces and streets. 	<ul style="list-style-type: none"> The Project would align with the ambition of improving the transport network at Woden, which has included a corridor on Callam Street reserved for rapid transit to the town centre that is 'suitable for light rail'. The Project would meet the following: <p>Planning principles</p> <ul style="list-style-type: none"> improve the urban grain, streets and public spaces develop a strong community improve the centre's sustainability through the design of buildings and the public domain. <p>Spatial principles</p> <ul style="list-style-type: none"> improve the centre's sustainability through the design of buildings and the public domain provide a well-connected centre for transport and movement activate and enhance the public domain improve access to community, sport and recreation facilities.

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Policy/Strategy	Overview	Relationship to the Project
ACT Planning Strategy 2018	<ul style="list-style-type: none"> Directs the development of Canberra to help the city achieve its economic, cultural and environmental aspirations. The main vision is to be a “sustainable, competitive and equitable city that respects Canberra’s unique legacy” including providing a Compact and Efficient city, Diverse Canberra, Sustainable and Resilient Territory, Liveable Canberra and Accessible Canberra. 	<ul style="list-style-type: none"> Key directions from the Strategy related to the light rail are: <ul style="list-style-type: none"> Direction 1.1, support sustainable urban growth by working towards delivering up to 70 percent of new housing within our existing urban footprint, and by concentrating development in areas located close to the city centre, town and group centres and along key transit corridors. Direction 3.1, transition to a net zero emissions city through the uptake of renewable energy, improved building design and transport initiatives. Links to ACT Climate Change Adaptation Strategy 2016 Direction 5.1, enhance accessibility by better integrating transport and land use.

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Key Infrastructure plans

Key ACT Government Infrastructure plans related to the Project are summarised Table 2.3.

Table 2.3: Key ACT Government Infrastructure Plans

Policy/Strategy	Overview	Relationship to the Project
Infrastructure Plan Update 2017-18	<ul style="list-style-type: none"> • Outlines the key infrastructure projects being funded through the 2017-18 budget. 	<ul style="list-style-type: none"> • The Project would assist in achieving the following objectives: <ul style="list-style-type: none"> – Economic growth and diversification – Enhancing liveability and social inclusion – Suburban renewal and better transport.

Key Transport plans

Key ACT Government transport plans related to The Project are summarised within Table 2.4.

Table 2.4: Key ACT Government Transport Plans

Key plans	Summary	Relationship to the Project
Transport for Canberra 2012-2031	<ul style="list-style-type: none"> • Anticipates investment into transport infrastructure and services, including the introduction of light rail into the public transport network. • Prepared in conjunction with the ACT Planning Strategy to support land use and transport planning for sustainable transport in Canberra. Defines the basis against which the light rail network was planned and developed. 	<p>Transport for Canberra strategic goals:</p> <ul style="list-style-type: none"> • Integrated transport system • Active travel • Efficient and cost effective • Accessible and socially inclusive • Sustainable • Safe.

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Key plans	Summary	Relationship to the Project
Moving Canberra 2019 – 2045: Integrated Transport Strategy (draft for consultation) 2018	<ul style="list-style-type: none"> Provides the vision for Canberra’s transport future and the city’s ambitions of: Economic growth, diversification and competitiveness; Net zero emissions by 2045; Urban renewal, increased vibrancy and liveability; A smart and connected digital city; and Social inclusion. Enforces the importance of an integrated public transport network focussing on prioritising light rail and a bus network. It reinforces updates Transport for Canberra (ACT Government, 2012) to include north-south and east-west public transport spines. Draws on the inter-relationships between Planning, Transport and Climate Change Adaptation Strategies. 	<p>The following are relevant excerpts from the Strategy that specifically mention the Project:</p> <ul style="list-style-type: none"> “The City to Woden project is preparing to commence planning and environmental approval processes to confirm the alignment and commence construction by 2021.” “Investment in light rail will support national objectives for continued economic growth and improved productivity, while helping the city to remain a liveable destination of choice.” “The ACT Government is committed to delivering a city-wide light rail network as part of our integrated public transport network. A North-south and east-west light rail public transport spines are fundamental to the functionality of the network.” “The north-south spine was commenced first to maximise patronage, urban uplift and connectivity of employment, residential and cultural centres.”

3 PLANNING AND LEGISLATION

This Chapter overviews relevant Commonwealth and Territory legislation and the overall planning approval process for the Project.

Legislation

The Project is subject to both Commonwealth and Territory planning and environmental assessment processes.

The following legislation defines the overall planning approval process:

- *ACT Planning and Development Act 2007 (P&D Act)*
- *Commonwealth Planning and Land Management Act 1988 (PALM Act)*
- *Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*
- *Commonwealth Parliament Act 1974.*

Coverage of this legislation over the alignment is shown in Figure 3.1 and the relationship of the planning and approval processes is illustrated in Figure 3.2.

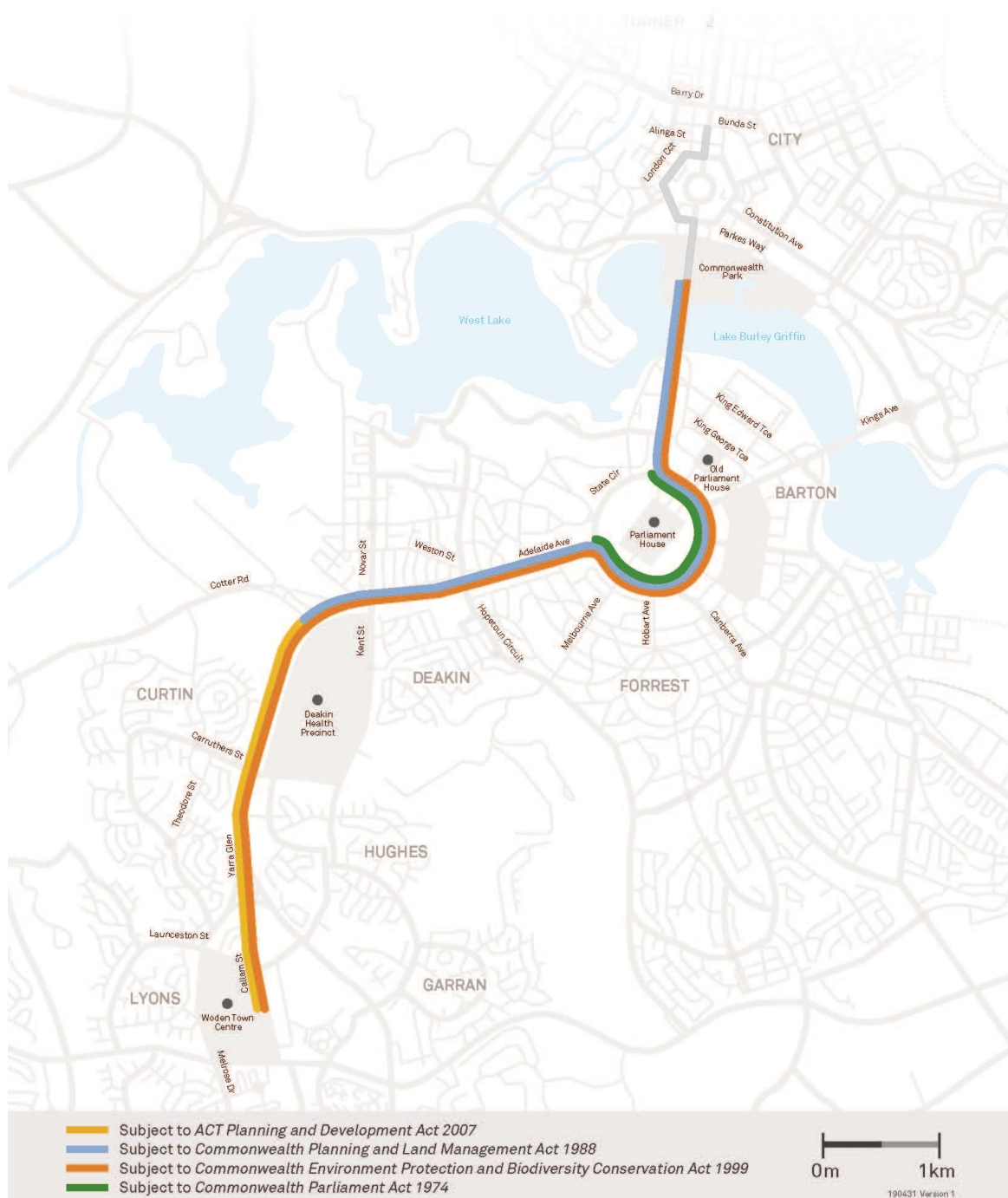


Figure 3.1: Controlling provisions along the alignment

PRELIMINARY ENVIRONMENTAL ASSESSMENT

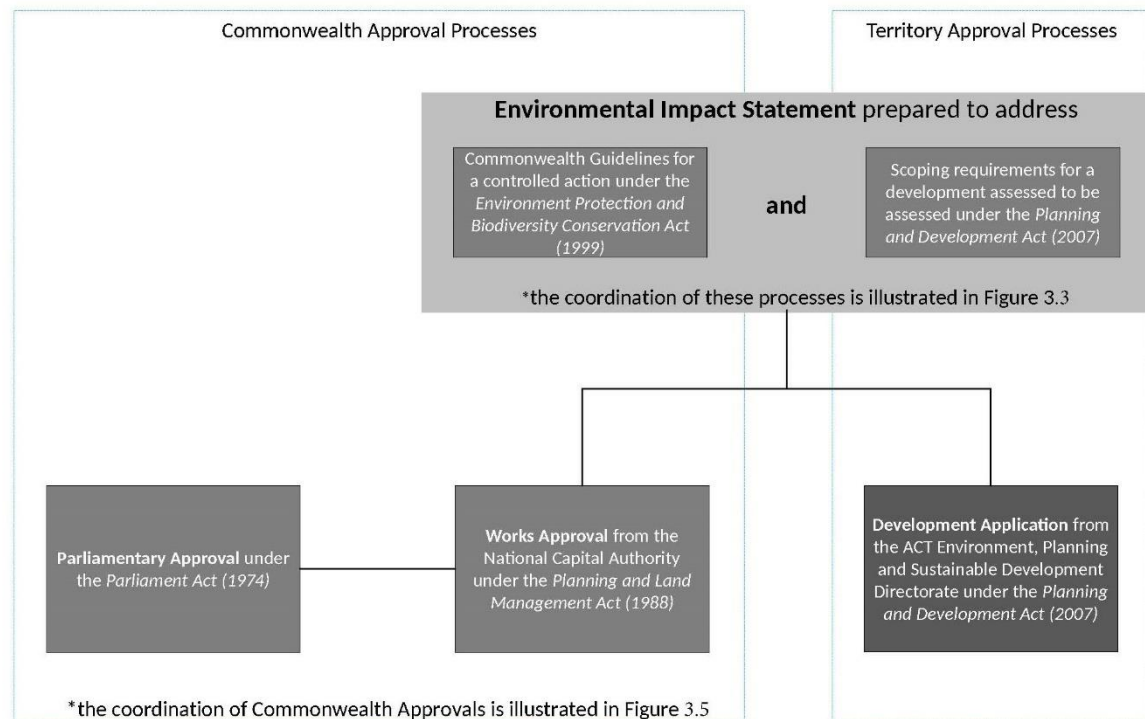


Figure 3.2: Relationship of the Approval Process in Commonwealth and Territory entities

Approval process

Each of the development controlling provisions above have separate independent assessment and approval requirements under their corresponding Commonwealth and Territory jurisdiction.

Overall, the NCA prepares and administers the NCP and, in accordance with the PALM Act, the NCA is required to approve all 'works' (including alteration to buildings or structures, demolition, landscaping or excavations) within Designated Areas. A 'Designated Area' is an area of the ACT that has been identified as having special characteristics of the National Capital. Designated Areas include the National Triangle (including the Parliamentary Zone), Lake Burley Griffin and its foreshores, main avenues and approach routes and the hills, ridges and buffer system. Written approval of these works by the NCA is known as a 'Works Approval'.

The current provisions streamline environmental assessment processes between the Commonwealth and ACT Governments under a Bilateral Assessment Agreement. However, these do not apply to the Project given it is partly located on Commonwealth land.

A coordinated approach has been scoped with both Government planning authorities to simplify documentation requirements and more easily engage with the community throughout the approval process of this Project. This process is outlined in Figure 3.3.

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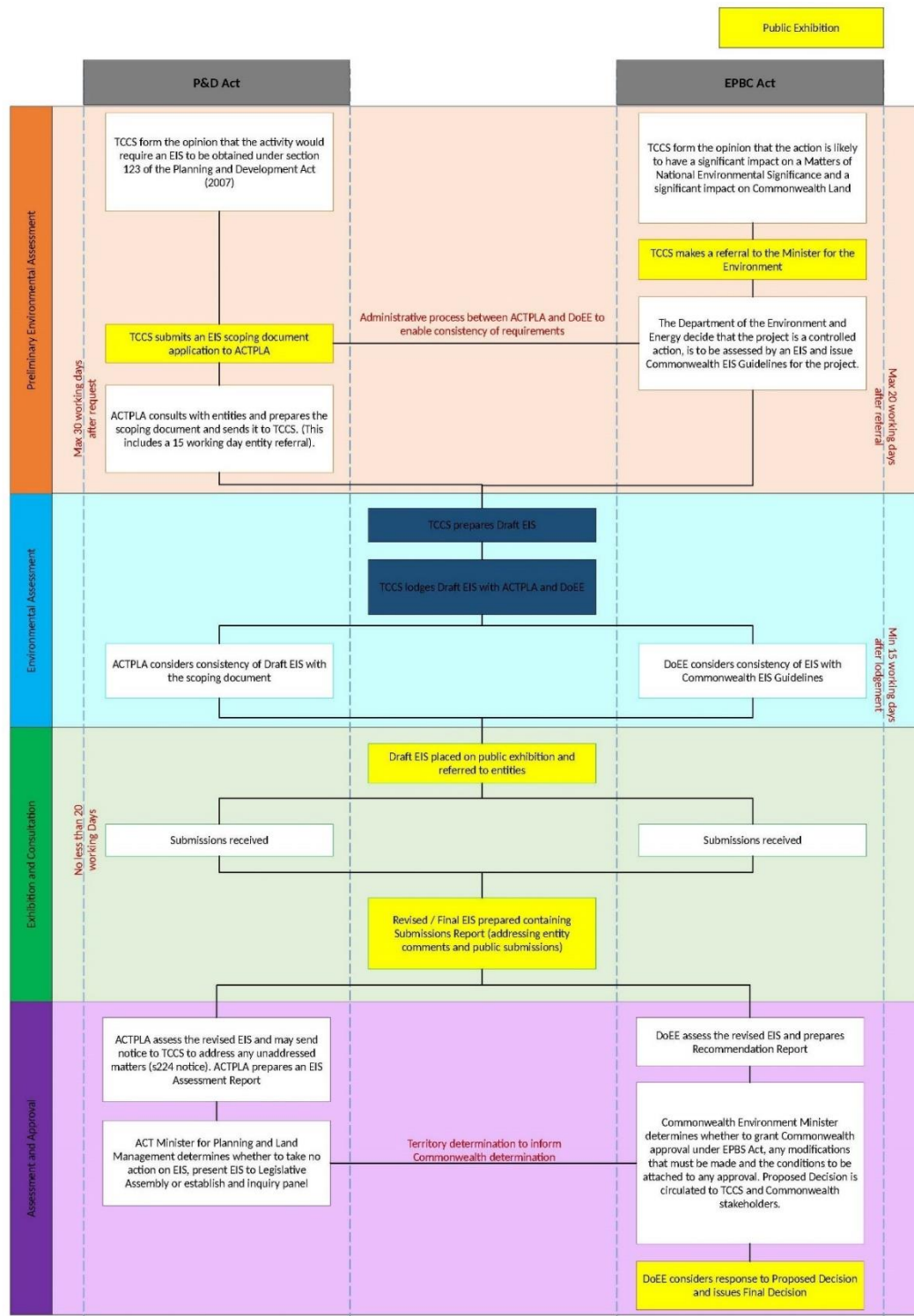


Figure 3.3: Summary of the Environmental Assessment process under the EPBC Act and P&D Act.

Environmental assessment process

An EIS is required by ACT PLA for any Project development application that, which either due to its inconsistency with the Territory Plan, National Capital Plan, and/or the nature and scale of impacts, is expected to have a more major significant impact. This is termed an 'impact-tracked' Development Application (DA) under Section 123 of the P&D Act, unless an EIS exemption is granted based on the submission of an environmental significance opinion.

A referral to the Commonwealth DoEE is needed for the Project under the EPBC Act as it is a proposed action that has the potential to significantly impact on matters of national environmental significance and the environment of Commonwealth land. The Australian Minister for the Environment will decide whether assessment and approval is needed under the EPBC Act due to the significance of the actions of the Project on the receiving environment. It will also decide on the form and type of assessment.

Commonwealth planning approval

As identified above, the Project would require a Works Approval from the NCA for development proposed within the Designated Areas shown below in Figure 3.4. This covers most of the Project footprint from Commonwealth Park to Yarra Glen.

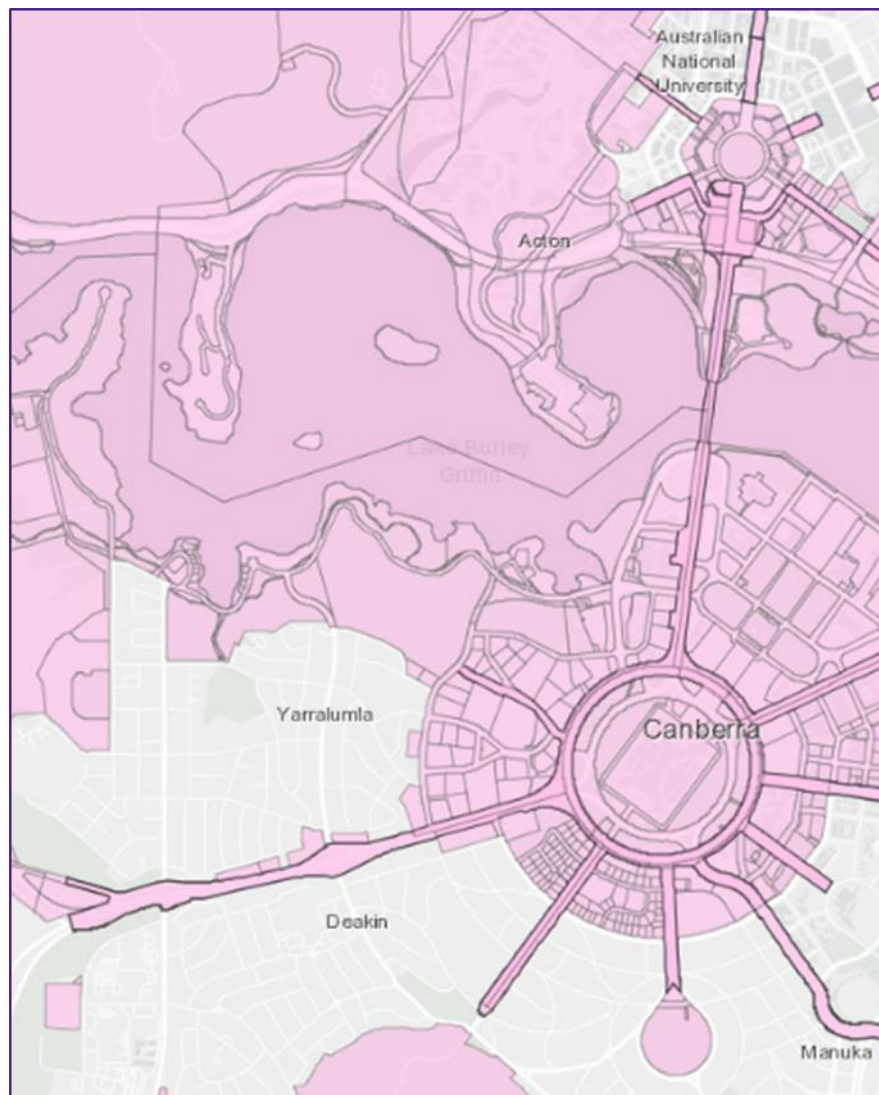


Figure 3.4: Location of Designated Areas Source ACTMAPI

Works that are not maintenance, repair or internal works, and that are proposed within the Parliamentary Zone (as defined in the *Parliament Act 1974*), are also subject to approval from both Houses of Parliament. The coordination of these Commonwealth planning approvals processes is illustrated in Figure 3.5.

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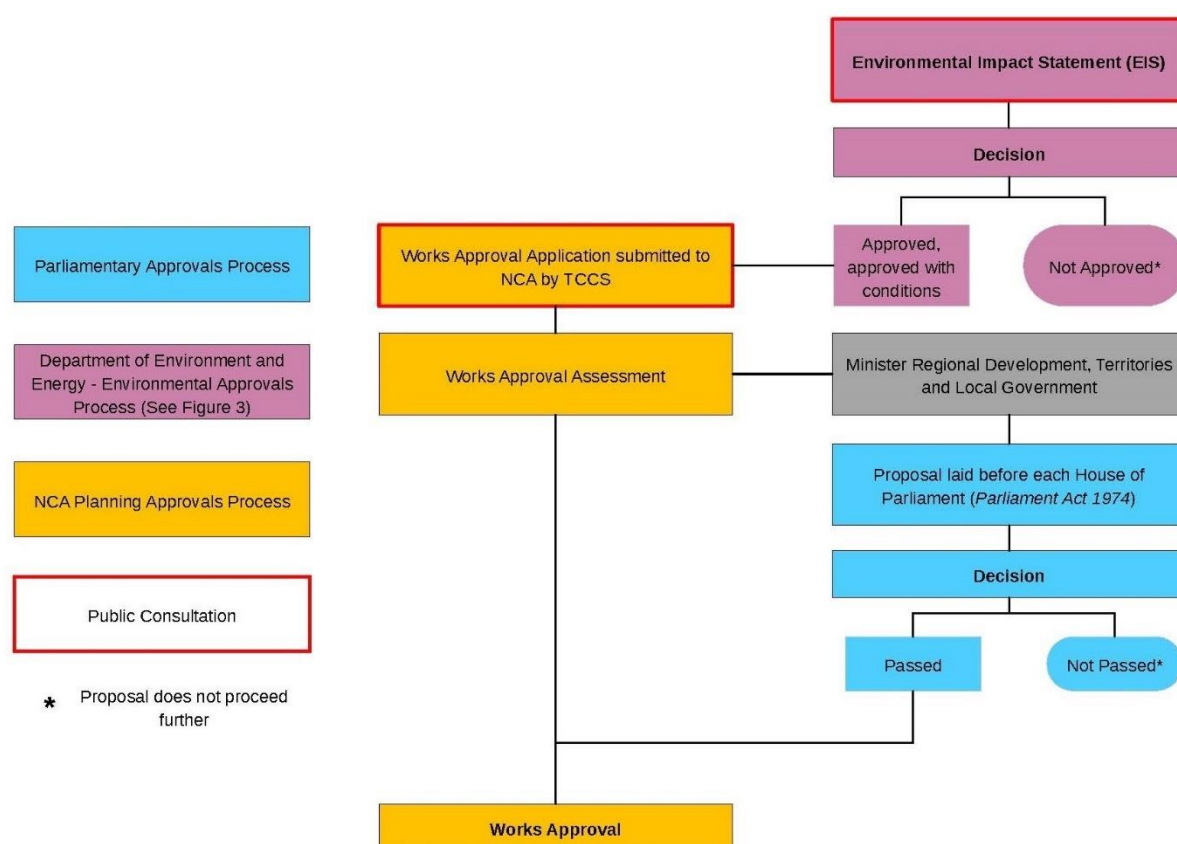


Figure 3.5: The Project's Commonwealth planning and environmental approvals processes

There cannot be any inconsistencies between the Project and the NCP. Any elements of the Project that are inconsistent with the NCP would require it to be amended before the Works Approval can be determined. This would involve a separate public consultation exercise.

Transport Canberra and City Services presented the Project to an inquiry held by the Joint Standing Committee on the National Capital and External Territories (JSCNCET) on its Commonwealth and Parliamentary planning approvals process in May 2018. The *Commonwealth Approvals for ACT Light Rail: Commonwealth and Parliamentary Approvals for the Proposed Stage 2 of the Australian Capital Territory Light Rail Project* (JSCNCET Inquiry Report) was prepared to outline the planning approvals pathway and process. The Report noted, amongst other things, that a light rail route essentially has 'in principle' Commonwealth planning approval without the need to amend the NCP providing it is consistent with its policies. This is because it reflects the Inter-Town Public Transport System defined in the NCP.

Table 3.1 summarises the recommendations from the JSCNCET inquiry and the Australian Government response.

Australian Government Response

The Australian Government Response to the JSCNCET Inquiry Report provided in March 2019, recorded agreement or agreement-in-principle to each of the JSCNCET's six recommendations. These responses are detailed in Table 3.1.

Table 3.1: Recommendations from the Joint Standing Committee

Subject	Detail	Australian Government Response	Actioning within the Current Project
1 Commonwealth jurisdiction and approval processes	The committee recommends that the Minister responsible for territories refer any Works Approval application or any amendment to the National Capital Plan relating to the light rail project to the JSCNCET for inquiry, prior to its tabling in the Parliament.	Agreed. The Australian Government recognises the potential impact of this project on the Central National Area and supports the ongoing scrutiny of the Joint Standing Committee on the National Capital and External Territories.	Continued engagement with the NCA.
2 Light rail alignment	<p>If the ACT Government chooses to pursue a route alignment that is only partially consistent with the National Capital Plan, the committee recommends that there be a two-stage process for seeking Commonwealth approval:</p> <ul style="list-style-type: none"> • Stage 1: the ACT Government works with the NCA to ensure Commonwealth approval of the route alignment, by way of amendment to the National Capital Plan • Stage 2: completion of Works Approval application and other Commonwealth approval processes. 	<p>Agreed. The Australian Government notes that the National Capital Authority, through the National Capital Plan, has previously identified options for inter-town public transport routes through the Central National Area.</p> <p>This recommendation captures approvals like those under the EPBC Act. The NCA does not grant Works approval until all EPBC matters are resolved to ensure its decision is consistent with the Act.</p>	The State Circle route is consistent with the NCP (refer to Section Error! Reference source not found.)
3 Commonwealth Avenue bridge	<p>The committee recommends that the NCA require any light rail bridge design on either the Commonwealth or Kings Avenue bridges to:</p> <ul style="list-style-type: none"> • be of equal quality to that of the existing bridges • have the same column spacing as the existing bridges • not reduce existing lake-to-underside of bridge clearances • be slimmer than the existing bridges so as not to visually impact on the existing two bridges • have no impact on the structural soundness of the existing bridges. 	Agreed. Noting the final design of any new structure must be agreed by the NCA and will potentially be subject to a heritage impact assessment by the Department of Environment and Energy, the Australian Government agrees that the design of any new structure must not impact on the existing bridges.	Continued engagement with the NCA.

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Subject	Detail	Australian Government Response	Actioning within the Current Project
4 Heritage	<p>The committee recommends that the Parliament require any light rail to be wire-free running along or when crossing:</p> <ul style="list-style-type: none"> • Commonwealth Avenue • Kings Avenue • State Circle • Brisbane Avenue • Sydney Avenue • Canberra Avenue (to Manuka Circle) • Hobart Avenue • Melbourne Avenue • Adelaide Avenue (to Kent Street) • in the Parliamentary Zone. 	<p>Agreed in principle. The Australian Government supports the recommendation, subject to further information about the viability of a wire-free route. The Australian Government notes that this recommendation is intended to conserve the heritage and character of the Central National Area and Parliamentary Zone.</p>	<p>This is being considered within the detailed design (refer to Section 4.2)</p>
5 Heritage	<p>The committee recommends that Parliament requires the placement and appearance of light rail stops, landscaping, and signage to be unobtrusive and complementary to the heritage value of nearby buildings, views of Parliament, and the character of the Central National Area and Parliamentary Zone.</p>	<p>Agreed in principle. This recommendation is intended to conserve the heritage and character of the Central National Area and Parliamentary Zone.</p>	<p>This is being considered within the detailed design (refer to Section 4.2)</p>
6 Heritage	<p>The committee recommends that Parliament requires that the removal of any trees with heritage value, be met with an appropriate replanting and landscaping strategy that maintains heritage values in the Central National Area and the Parliamentary Zone.</p>	<p>Agreed in principle. Without restricting future change, the Australian Government agrees that the landscape setting of the Central National Area must be preserved. The Government notes that any changes to the landscape must be agreed by the Australian Parliament and the NCA, and will be subject to heritage impact assessment.</p>	<p>This is being considered within the detailed design (refer to Section 7.3)</p>

Territory planning approval

Development approval is needed from ACT PLA for those sections of the Project taking place on zoned Territory land outside of Designated Areas before starting work. This requires an environmental assessment, relevant design information and stakeholder consultation. Elements of the Project that are inconsistent with the Territory Plan may require a variation to the Plan before Government could consent to development. This would also involve a separate public consultation exercise.

Other relevant legislation and approvals

The Project would likely be subject to the provisions of a range of other planning and environmental statutes and instruments that may include:

- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth)
- *Environment Protection Act 1997*
- *Heritage Act 2004*
- *Nature Conservation Act 2014*
- *Waste Management and Resource Recovery Act 2016*.

These obligations and requirements would be further explored in carrying out the environmental assessment.

Gaining approval for the extension of the Project

As identified within Section 1.3, the purpose of this PEA is to inform the Australian Minister for the Environment of the potential significant environmental impacts on matters of national environmental significance and the values of Commonwealth land under EPBC Act and the ACT Minister for Planning as to the scope of the environmental assessment for an application made under P&D Act.

To start this process a referral is being made to the Commonwealth Government under EPBC Act (refer to Chapter 8).

This is the initial step of the environmental assessment process shown in Figure 3.3.

4 PROJECT DESCRIPTION

This Chapter describes the extension of the light rail to Woden and outlines construction method and operational requirements.

4.1 Overview

The Project would provide access to defined activity centres including residential areas, educational institutions, major retail, entertainment and employment areas, and key landmarks in the city and to its south. The Project would extend the light rail from Commonwealth Park to Woden thus completing the Gungahlin to Woden north/south spine. This light rail route assists in helping to form an integrated public transport network across the city.

Key landmarks serviced by the Project would include:

- Canberra Museum and Gallery
- Canberra Theatre Centre
- Casino Canberra and National Convention Centre
- Commonwealth Park
- Questacon, the National Science and Technology Centre
- National Library of Australia
- High Court of Australia
- National Portrait Gallery
- Museum of Australian Democracy
- Old Parliament House
- National Archives of Australia
- Parliament House
- Royal Australian Mint
- Woden town centre.

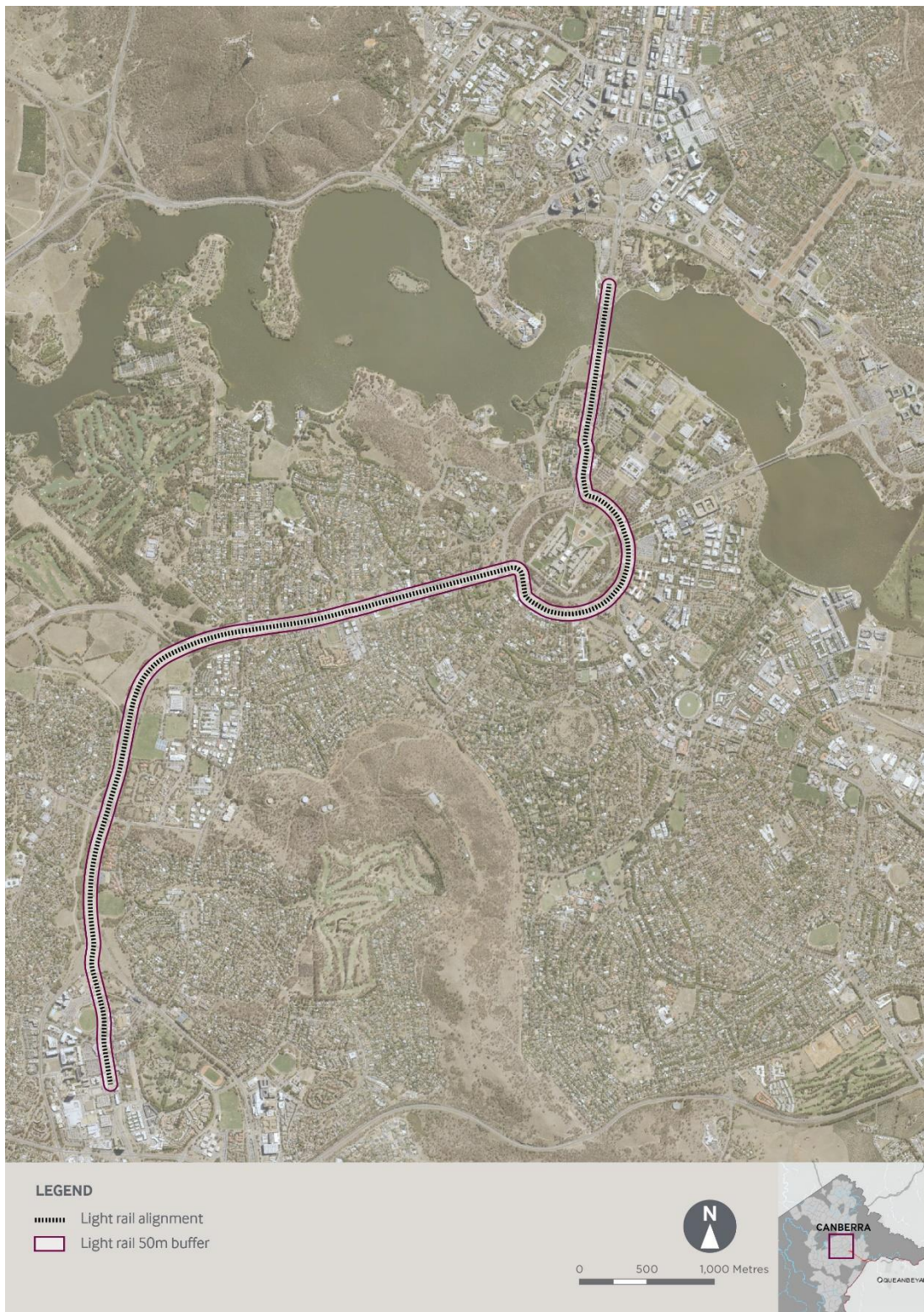


Figure 4.1: Commonwealth Park to Woden light rail Study Area

4.2 The Project

4.2.1 Project details

Key features

The Project's key features include:

- a light rail extending nine kilometres south that includes nine stops between Commonwealth Park and Woden;
- landscaping features sympathetic with Canberra's design as envisioned by the Griffins';
- integration with the wider public transport network, including access improvements to bus services;
- road network alterations to accommodate the Project;
- dedicated traction power substations to provide electricity for the Project;
- combined services routes (CSR) along the alignment as well as to the traction power substation which will be contained within trenches adjoining the track. A majority of these trenches would be constructed before the track slabs are laid. Under-boring will be considered at intersections with existing roads to minimise surface impacts (other than at the entry and exit points); and
- track infrastructure, including overhead wiring in some sections.

The following sections detail some of these key features.

Track alignment and form

The Project will travel through land within the following Precincts:

- Commonwealth Avenue
- Parliamentary Zone (including State Circle)
- Adelaide Avenue
- Yarra Glen
- Woden

The light rail alignment would use existing roads passing through and along:

- Commonwealth Avenue
- State Circle
- Adelaide Avenue
- Yarra Glen
- Callam Street (terminus in Woden).

Proposed stop locations

Table 4.1 indicates the stop locations. The final number and location of each stop would be confirmed in refining the alignment and will be dependent on:

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- where wire-free technology is implemented, which will define the maximum distance between stations to allow for charging the light rail vehicle at stops; and
- ongoing community consultation to ensure their locations best serve community needs.

Table 4.1: Proposed stop locations along the alignment

Indicative stop locations	
Commonwealth Park (connection to other light rail stages)	Hopetoun Circuit
Albert Hall	Kent Street
Kings Avenue	Carruthers Street
Sydney Avenue	Phillip Oval
Melbourne Avenue	Woden (proposed terminus)

Changes to access and road configuration

The following access and road configuration changes would be needed to support the running of light rail:

- new bridge(s) on Commonwealth Avenue over Lake Burley Griffin and Flynn Drive;
- traffic arrangement changes in the Parliamentary Zone, notably crossing the Avenues of State Circle;
- intersection layout, traffic signal phasing and footpath modifications where needed;
- access to properties or existing car park access and specifically changes to accessing the Woden retail district, including the closure of Callam Street to private vehicles between Matilda Street and New Bradley Street;
- new traffic signals where needed;
- road carriageway widening and kerb line changes where needed; and
- uncontrolled pedestrian crossing removal where needed.

Power supply and substations

Overhead wiring and on-board energy storage would power the light rail vehicles. It is anticipated that approximately five traction power substations would be needed to service the Project. The optimal substation locations will be determined following discussions with power network providers. Indicative substation locations would be identified prior to lodging and EPBC Referral for the project. The detail, location and power specification of each substation would be confirmed during detailed design.

Wire-free operation

Wire-free technology would be used to reduce potential visual impacts within areas of cultural value and amenity sensitivity where feasible and reasonable. Indicatively, wire-free running would continue from the City through the proposed Commonwealth Park stop to the Melbourne Avenue stop and then between the proposed stops at Phillip Oval and Woden town centre.

The JSCNCET recommended that wire-free running be within all Designated Areas (refer to Table 3.1 for detail). This would include the alignment along Adelaide Avenue. However, the extent of wire-free running

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needs to consider current technology. This technology is developing rapidly, and the design may see wire-free running through Designated Areas as far as is reasonably practical.

The light rail vehicle will be fitted with an onboard energy storage system to allow for wire-free running rather than using a continuous buried third rail. To facilitate this, ground-level charging points or overhead charging bars would be provided at the stops to charge the batteries.

The details of the Project's design would clarify options for the wire-free operations and further investigate the most appropriate form of technology to be used.

Drainage infrastructure

The Project's requirements are expected to include:

- additional drainage for the light rail track zones to meet required design standards;
- modifications to the existing drainage network to accommodate new track footings and changes to road heights and kerb lines;
- modifications to existing surface drainage because of minor level changes, local catchment boundary changes, and increased runoff from paving previous permeable areas; and
- additional drainage, including environmental management controls, to reduce the likelihood of flooding in the Yarralumla Creek catchment (refer to Section 7.4).

Utilities

The Project would cross utilities and services that would either need protecting, adjusting or relocating. Specific requirements would be confirmed during detailed design. They are existing gas mains, electrical cables, water supply mains, sewerage and stormwater, street lighting and telecommunications infrastructure located in the road reserve that would need protecting and adjusting with additional infrastructure included to support the Project.

4.2.2 Construction

Construction activities would be required both within and near the rail corridor. Indicative construction tasks are likely to include the following:

- building a bridge over Lake Burley Griffin at Commonwealth Avenue;
- early/enabling works;
- earthworks/civil works;
- track route and slabs;
- light rail stops, including access, facilities, security, closed-circuit television, lighting and furniture, and other customer facilities (e.g. passenger information display systems);
- surfaces and paving;
- power supply, including traction power substations, combined services routes, and overhead lines;
- rail systems and signalling as needed;
- temporary and permanent changes to property access, existing traffic movements and car parking;

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- temporary and permanent road, traffic and intersection modifications;
- modifications to the public domain along the route, including:
 - interaction of rail/road transport including traffic signal prioritisation; and
 - temporary and permanent removal and/or relocation of existing facilities.

Construction compounds

Compounds would be needed to support the construction works. They would be used to temporarily store materials, equipment and waste; carry out certain maintenance work; and house site offices and worker amenities. The appointed contractor is expected to determine suitable locations in consultation with, and under the approval of, MPC and the ACT and Australian Governments.

Compounds would be located and installed in line with relevance guidance documentation and would consider those included within the NSW Roads and Maritime “Site facilities: Specification D&C G4” (RMS, 2019) as there is no similar guidance document in the ACT.

They would be located to avoid the following sensitive locations where feasible and reasonable and exclude the following where possible:

- areas identified in the land release program prior to 2025, the estimated completion date for the Project;
- heavily used surface car parks;
- areas of imminent future development; and
- other environmentally, culturally and socially sensitive areas.

Indicative locations of compounds are as follows:

- Commonwealth Avenue: area under bridge (south west abutment)
- Alexandrina Drive
- State Circle

4.2.3 Operation

The Project would operate as part of the overall Canberra light rail network with the common features as summarised in Table 4.2. These details are indicative and are expected to be refined as detailed design progresses.

Table 4.2: Operational features of the Project

Feature	Description	Additional detail
Services	<ul style="list-style-type: none"> ▪ Every 6 minutes in peak periods ▪ at least every 10 minutes between 7am and 6pm on weekdays 	<ul style="list-style-type: none"> ▪ Light rail vehicles would typically have priority.

Feature	Description	Additional detail
	<ul style="list-style-type: none"> ▪ Every 15 minutes at other times on weekdays, and all day on Saturdays, Sundays and Public Holidays. 	
Light rail vehicles	<ul style="list-style-type: none"> ▪ Electric-powered ▪ Capacity for approx. 200 customers ▪ Maximum speeds of 70 km/h (using wire) and 50-60 km/h (using wire free) ▪ Nominally 2.65 metres wide ▪ Approximately 33 metres long but expandable to 45m ▪ Capable of wire-free operation ▪ Heating, ventilation and air conditioning. 	<ul style="list-style-type: none"> ▪ On-board space provision to carry up to four bicycles. ▪ Real-time passenger information displays. ▪ Public announcement system. ▪ Wi-Fi service. ▪ Closed-circuit television. ▪ Features to reduce energy consumption.
Light rail stops	<ul style="list-style-type: none"> ▪ step-free access ▪ Passenger information displays, audio announcements and signage. 	<ul style="list-style-type: none"> ▪ Additional facilities at interchange and terminal stop(s) ▪ Cycle racks would be provided where possible to encourage connectivity between the two modes.
Ticketing	<ul style="list-style-type: none"> ▪ Adoption of the MyWay ticketing system. 	<ul style="list-style-type: none"> ▪ Required at each stop including installation of card validators as well as ticketing and top-up machines where required.
Accessibility	<ul style="list-style-type: none"> ▪ Fully accessible vehicles in accordance with the Commonwealth <i>Disability Discrimination Act 1992</i>. ▪ Offer low-floor level access at all passenger doors, with a height difference of less than 50mm between the light rail vehicles and stop platforms. 	<ul style="list-style-type: none"> ▪ Design consideration also taken for the elderly and those travelling in wheelchairs or with prams.

4.3 Project timeframe

The environmental assessment would be prepared in 2019 to support an estimated construction start date in 2020/2021. The Project is expected to commence operation 2024/20A25. The Project includes infrastructure that has a design life of up to 100 years.