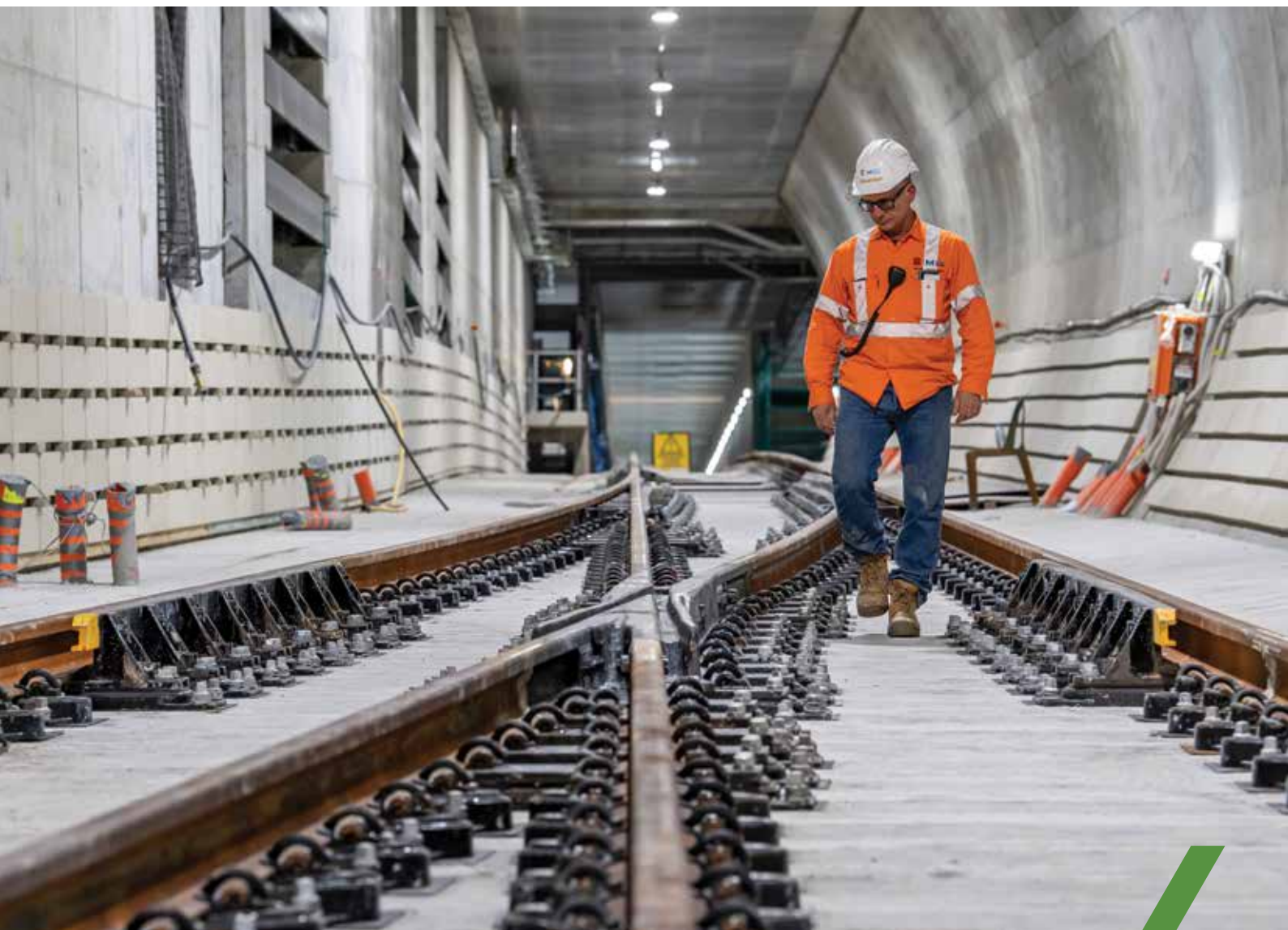


AUSTRALIAN RAIL MARKET OUTLOOK

DECEMBER 2022



About BIS Oxford Economics

Effective March 1, 2017, UK-headquartered Oxford Economics, one of the world's foremost independent global advisory firms acquired a controlling stake in BIS Shrapnel. BIS Shrapnel, which had been in continuous operation since July 1, 1964 as a completely independent Australian owned firm with no vested interests of any kind — providing industry research, analysis and forecasting services — merged with the Australian operation of Oxford Economics. The new organisation is now known as BIS Oxford Economics.

Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic forecasting and modelling to UK companies and financial institutions expanding abroad. Since then, we have become one of the world's foremost independent global advisory firms, providing reports, forecasts and analytical tools on 200 countries, 100 industrial sectors and over 3,000 cities. Our best-of-class global economic and industry models and analytical tools give us an unparalleled ability to forecast external market trends and assess their economic, social and business impact.

About the ARA

We are the peak body for the rail sector in Australia and New Zealand, and advocate for almost 200 member organisations across the rail industry.

Our members include every aspect of the rail industry, including:

The passenger and freight operators that keep essential rail services moving

The track owners, managers and contractors that deliver a safe and efficient rail infrastructure network

The suppliers, manufacturers and consultants that drive innovation, productivity and efficiency in the rail industry.

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01 EXECUTIVE SUMMARY



This report examines the outlook for Australia's railway construction and maintenance work for the next 10 years and presents the key drivers of activity at a national and state level.

Over the decade to 2032, Australia's population is projected to increase by 3.8 million to just under 30 million people – this is equivalent to an annual growth rate of 1.4%. In order to support this relatively strong growth in population and related passenger and freight tasks – as well as helping meet Australia's climate change objectives – further major investment in Australia's railway network is required. As such a number of key projects shape the forecast for construction activity.

Australian railways activity across construction and maintenance rose to a record \$12.9 billion in 2021-22, with activity forecast to average \$14.4 billion over the next five years as a swathe of large – and predominantly publicly funded – projects ramp up across Australia.

Railway construction work increased in real terms by 2.9% to \$10.73 billion in 2021-22, a record level of activity. This represents the sixth consecutive year of growth in rail construction following a sharp cooling in activity between 2011-12 and 2015-16 as predominantly privately funded projects driven by the resource boom were completed. The more recent growth phase has been driven predominantly by publicly funded projects, which has increased by 287% since 2014-15.

Railways maintenance activity is estimated at \$2.14 billion in 2021-22, a real 2.2% increase on the previous year. With strong growth in size and capacity of the rail network to be maintained, maintenance activity is expected to grow by nearly 20% in real terms over the coming decade.

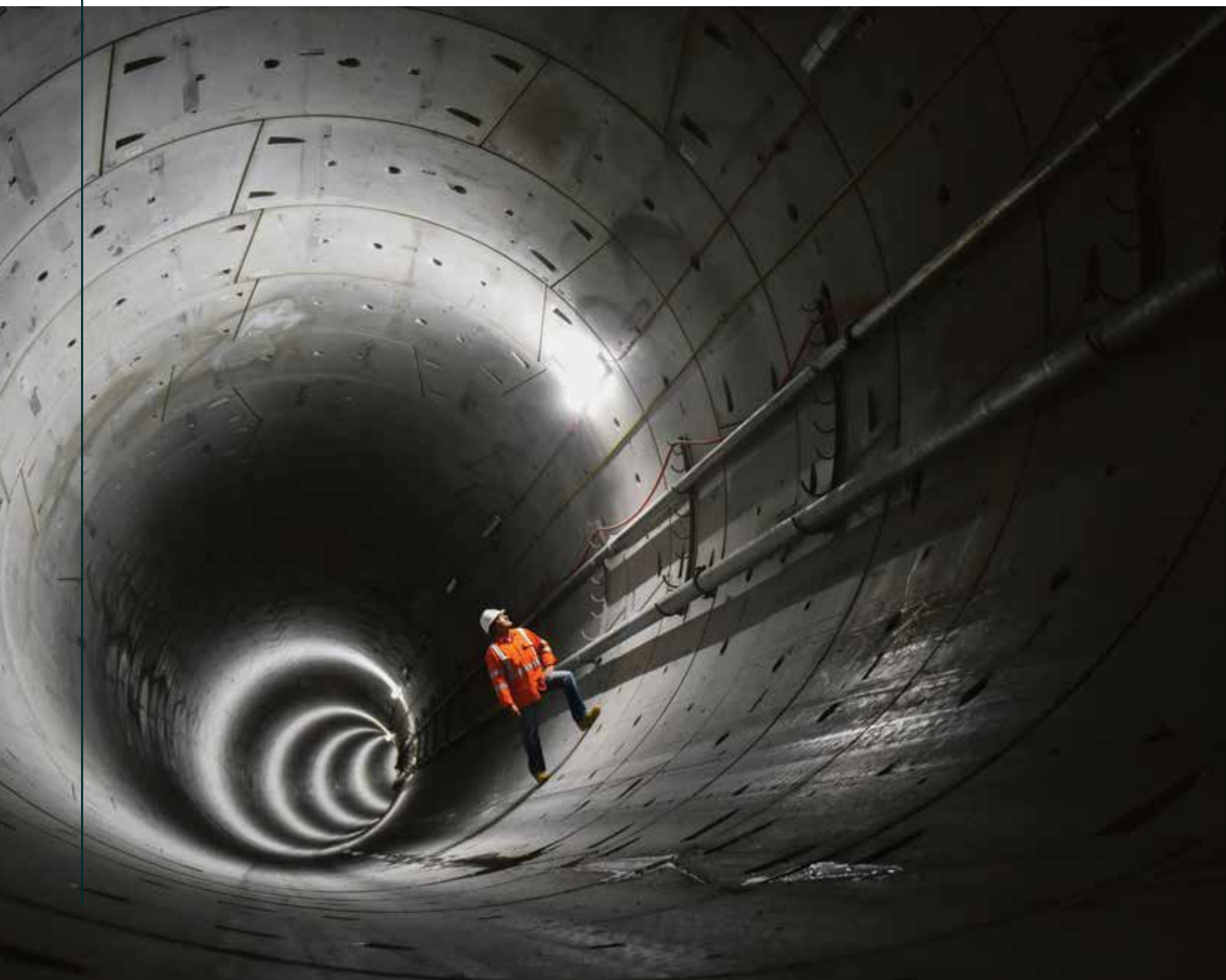
Overall, \$129 billion in rail civil construction and maintenance is forecast for the coming decade to 2031-32, compared to \$96 billion over the last decade. Over the next 15 years, \$154 billion in rail construction work is expected.

KEY OUTLOOK MESSAGES

- The forecast for railway construction activity over the short to medium term is driven by a strong, funded pipeline spanning heavy haul, freight and passenger projects. A positive longer-term outlook is driven by population growth; urban expansion; and environmental concerns, particularly the need to reduce carbon emissions in Australia's transport sector to help meet critical climate targets.
- Australian railway construction activity is set to continue to rise over the coming years, peaking at \$13.3 billion in 2023-24. This growth is driven by publicly funded major projects across the east coast states. Activity is set to remain above current levels until 2026-27 before dropping to \$8.6 billion in 2031-32.
- Publicly funded major projects across New South Wales, Victoria and Queensland will account for 77% of major project work in 2023-24. Megaprojects such as Sydney Metro, Inland Rail and the Melbourne Airport Rail Link (MARL) will drive growth over the medium term.
- Western Australian rail activity, whilst historically heavily driven by private funding, will be boosted over the next two years as the State Government's METRONET program ramps up. Australian Capital Territory activity will be elevated from 2023-24 by Canberra Light Rail Stage 2 developments.
- Rail maintenance activity is expected to increase each year over the forecast period for each state and territory. This is due to the need to maintain a growing rail network, but also reflects rising rail remediation works given the increasing frequency of climate change-influenced events (floods, droughts, bushfires and coastal erosion) impacting the Australian rail network.

02

AUSTRALIAN RAIL OUTLOOK



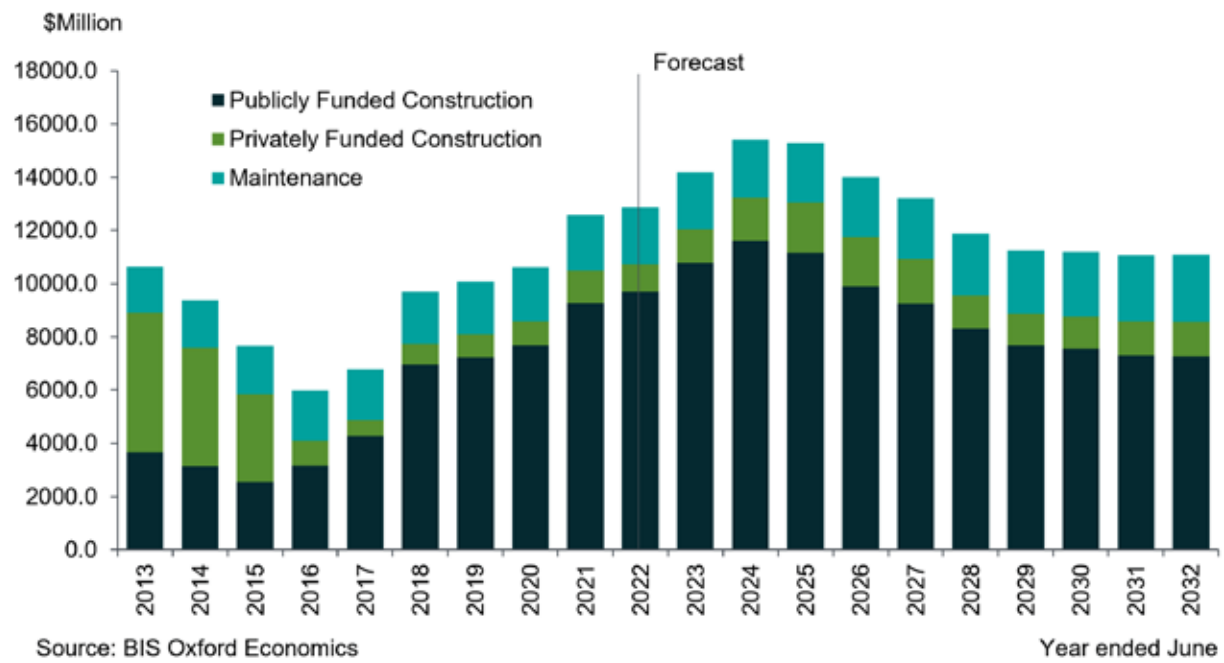
Australian railway construction activity increased by 2.2% in 2021-22 to reach \$10.73 billion – a record level of construction. Since 2015-16, work done has increased by 161% on the back of a 207% increase in publicly funded construction. Maintenance totalled \$2.1 billion across Australia in 2021-22, taking total railway activity to \$12.9 billion.

While total rail activity is currently in the midst of a strong growth phase, BIS Oxford Economics forecasts that medium to long term rail activity will be sustained at a higher plane (as shown in Figure 2.1) due to:

- Sustained strong urban and regional population growth necessitating further investment in new or upgraded passenger transport links
- A robustly growing freight task associated with population growth and increasing trade
- The relatively stronger environmental benefits from rail compared to road transport, particularly as electricity generation becomes less reliant on fossil fuels
- A growing maintenance task

Rail construction in recent years has been boosted by a range of publicly funded projects that aimed to close infrastructure gaps which have emerged given Australia’s very strong population growth during the 2000s and 2010s. While population growth slowed sharply during the pandemic – driven by a reversal in usually strong net overseas migration as Australia closed its international border – population growth is picking up strongly again, with net overseas migration now anticipated to reach 290,000 people in 2022-23, the highest level since the resources boom. Over the decade to 2032, Australia’s population is projected to increase by 3.8 million to just under 30 million people – an annual average population growth rate of 1.4%.

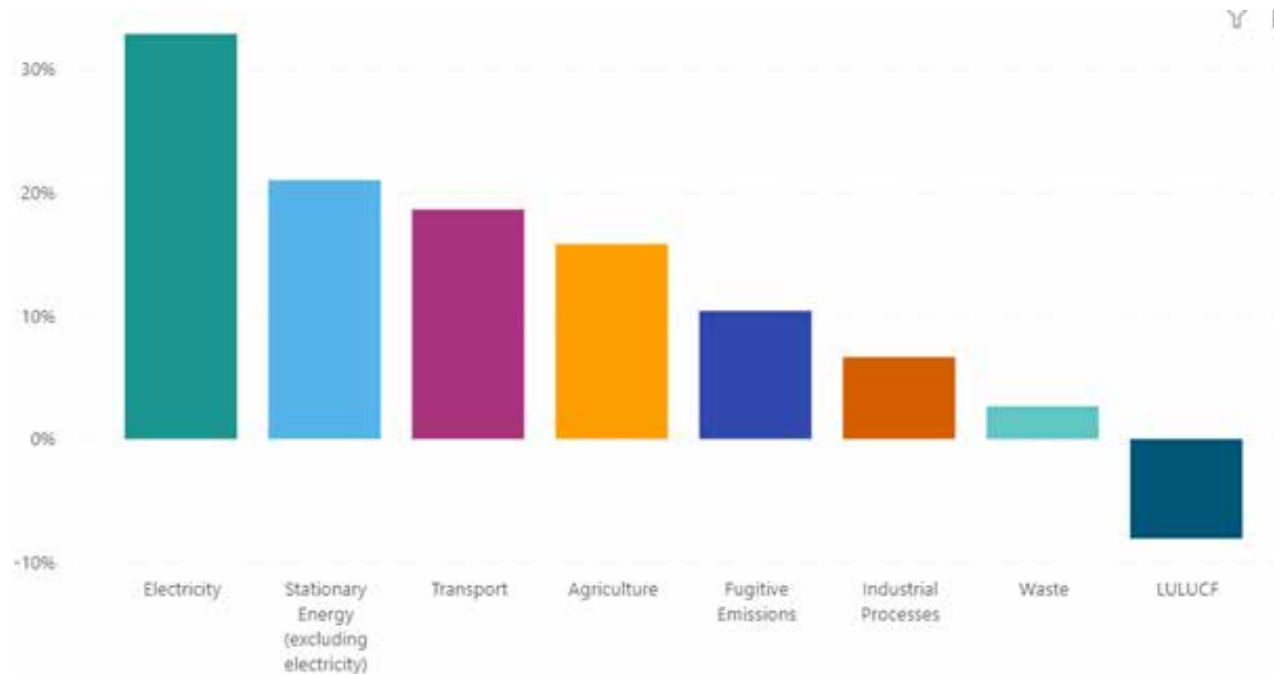
Figure 2.1 Australia railway construction and maintenance



With rising demand for transport driving investment in Australia's land transport networks, it is becoming increasingly important that this investment is consistent with broader social and environment objectives. As highlighted in the 2021 Australian Rail Supply Chain report prepared by BIS Oxford Economic¹, the transport sector accounts for nearly one-fifth of Australia's total carbon emissions and this share has been sustained over 2021 despite impacts from COVID-19 as shown in Figure 2.2.

Greater investment in relatively lower emission rail transport is likely to be part of the solution to decarbonise land transport and, combined with a consistent long term fuel and energy policy that encourages substitution of fossil fuels with renewables, can play an important role in meeting Australia's greenhouse gas targets and avoiding dangerous climate change.

Figure 2.2 Share of Greenhouse Gas Emissions by sector, Australia, 2021



Source: Department of Industry, Science, Energy and Resources.

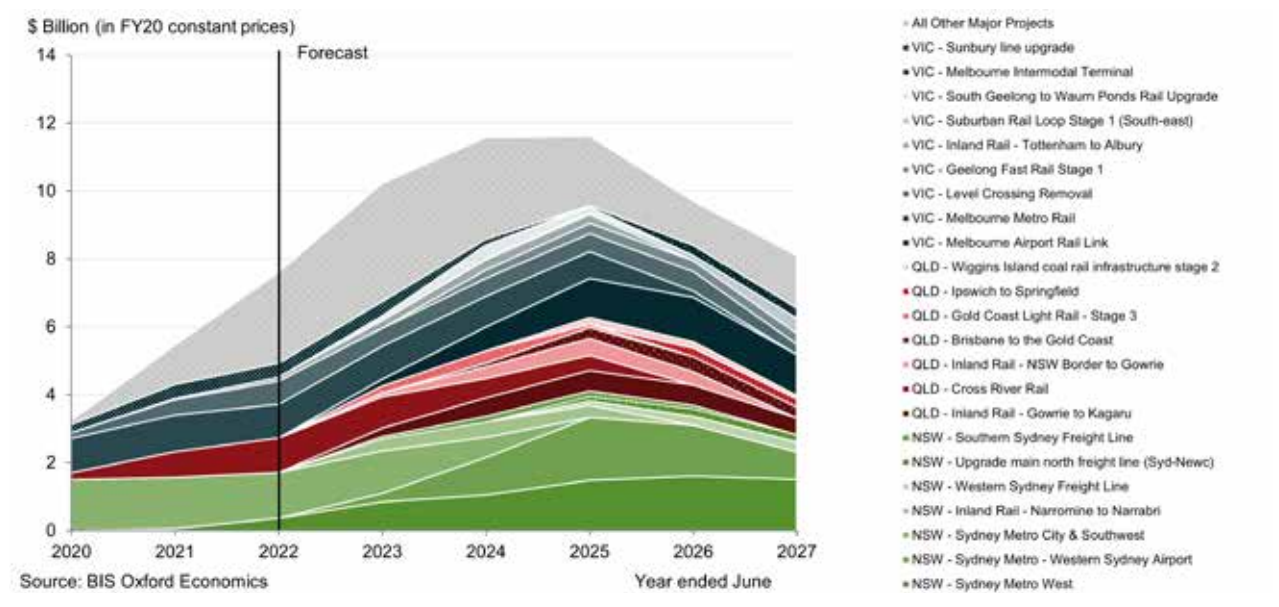
¹ Australasian Railways Association (2021) The Australian Rail Supply Chain State of Play, Challenges and Recommendations, prepared by BIS Oxford Economics. Viewed at: <https://ara.net.au/wp-content/uploads/Report-The-Australian-Rail-Supply-Chain.pdf>

The key projects boosting activity in the near term include metro passenger projects in New South Wales and Victoria, the Inland Rail project (spanning NSW, Victoria and Queensland), the Melbourne Airport Rail Link in Victoria and the Cross River Rail project in Queensland. Construction is set to peak in 2023-24 at \$13.2 billion before cooling as several key projects begin to wind down. Including maintenance, total activity will eclipse \$15.4 billion in 2023-24.

Australian railway construction activity is set to continue to rise over the coming years, peaking at \$13.3 billion in 2023-24. This growth is driven predominantly by publicly funded major projects across the east coast states. Activity is set to remain above current levels until 2026-27 before dropping to \$8.6 billion in 2031-32. **Overall, \$105 billion in rail civil construction is forecast for the coming decade to 2031-32, compared to \$77 billion over the last decade. Over the next 15 years, \$154 billion in rail construction work is projected.**

Strong and rising construction demand coupled with well noted supply chain pressures (both locally and globally) are driving stronger than anticipated growth in construction prices, increasing the risk that major rail projects will be delayed and/or cost more than previously planned, placing pressure on budgets. While the forecasts presented in this report represent BIS Oxford Economics' baseline view, there is a risk that some projects will be deferred in the current market environment. Under this scenario, weaker growth in the near term is supplemented by stronger growth in the second half of the decade as deferred projects or packages commence. Despite current market capacity challenges, our long term view holds that record levels of rail construction activity will be undertaken across the decade to 2031-32 given the size and scope of known projects either underway or to commence, medium to longer term transport plans from state and territory jurisdictions, growth in population and trade and increasing pressure on the transport sector to meet climate change emissions targets.

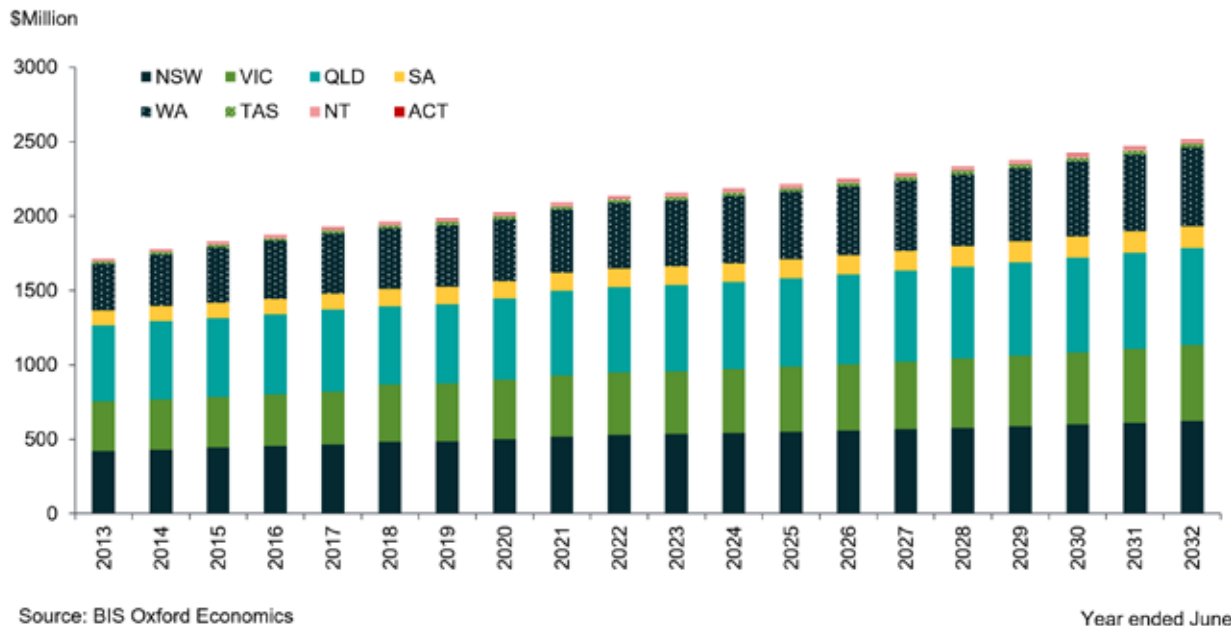
Figure 2.3 Major railway projects in Australia



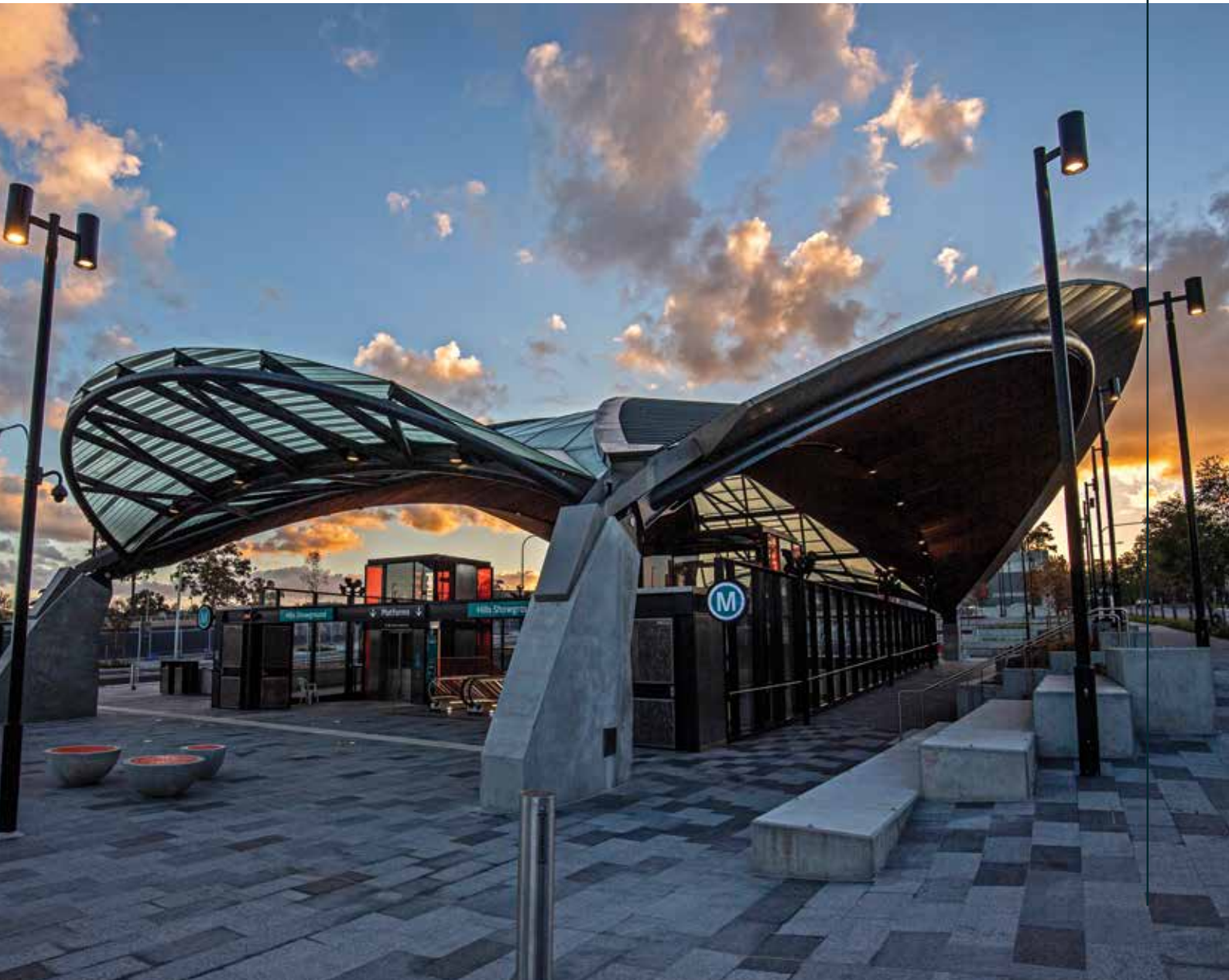
Rail maintenance across Australia is reflective of total stock of railway infrastructure and as such is dominated by the east coast states – with NSW, Victoria and Queensland accounting for 71% of estimated maintenance activity in 2021-22. Maintenance expenditure is forecast to average \$2.2 billion p.a. over the five years to 2025-26, 10% higher than the average over the five years to 2020-21. The long-term outlook for railway maintenance activity remains positive as the demand for rail as a form of transport increases, existing assets age and require

repairs (particularly in regional areas), and a large volume of new assets are added. As such, the longer-term forecast for maintenance is expected to grow by 17.8% to 2031-32 to reach \$2.5 billion. It is worth noting, however, that the short-term outlook may be understated due to the prolonged La Niña weather system bringing flooding and heavy rains to the east coast, which may drive higher than projected maintenance spending.

Figure 2.4 Australian railway maintenance



03 NEW SOUTH WALES



According to ABS data, NSW railway construction decreased marginally in 2021-22 to \$3.1 billion, following a fall in publicly funded construction. Despite the cooling, publicly funded construction remains at historically elevated levels, supported by the development of the Sydney Metro (City & Southwest). Following a dramatic increase in activity between 2014-15 and 2018-19, which saw a 194% increase in construction to \$3.7 billion, activity has since slowed over the past three years.

Publicly funded projects accounted for 93% of total railway construction work done (\$2.9 billion) in NSW during 2021-22 – close to the average for the last five years.

As seen in Figure 3.1, NSW railway construction is forecasted to increase by 26% to \$3.9 billion in 2022-23, surpassing the previous high-level set in 2018-19 (\$3.7 billion). Underpinning this growth is the continued increase in publicly funded projects, notably Sydney Metro (City and South West, West and Airport), Inland Rail (several packages), Parramatta Light Rail and various freight line upgrades. Total construction is set to peak at \$4.7 billion in 2024-25 before gradually decreasing to just under \$3.0 billion in 2031-32.

Figure 3.1 New South Wales railway construction and maintenance

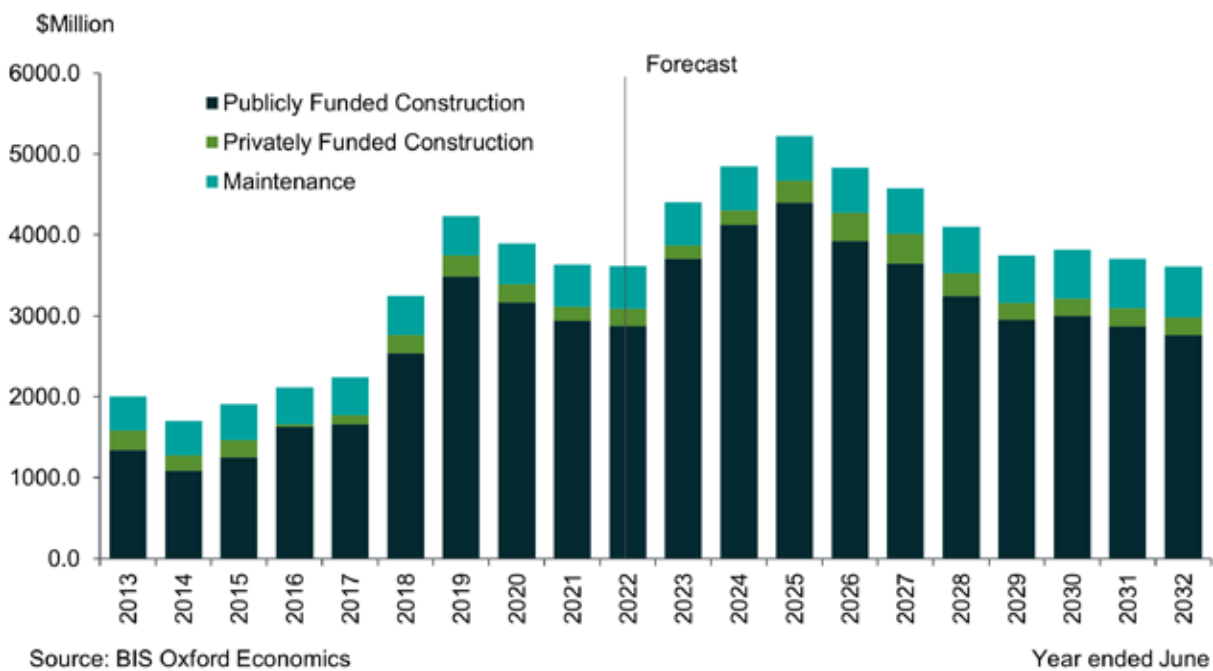
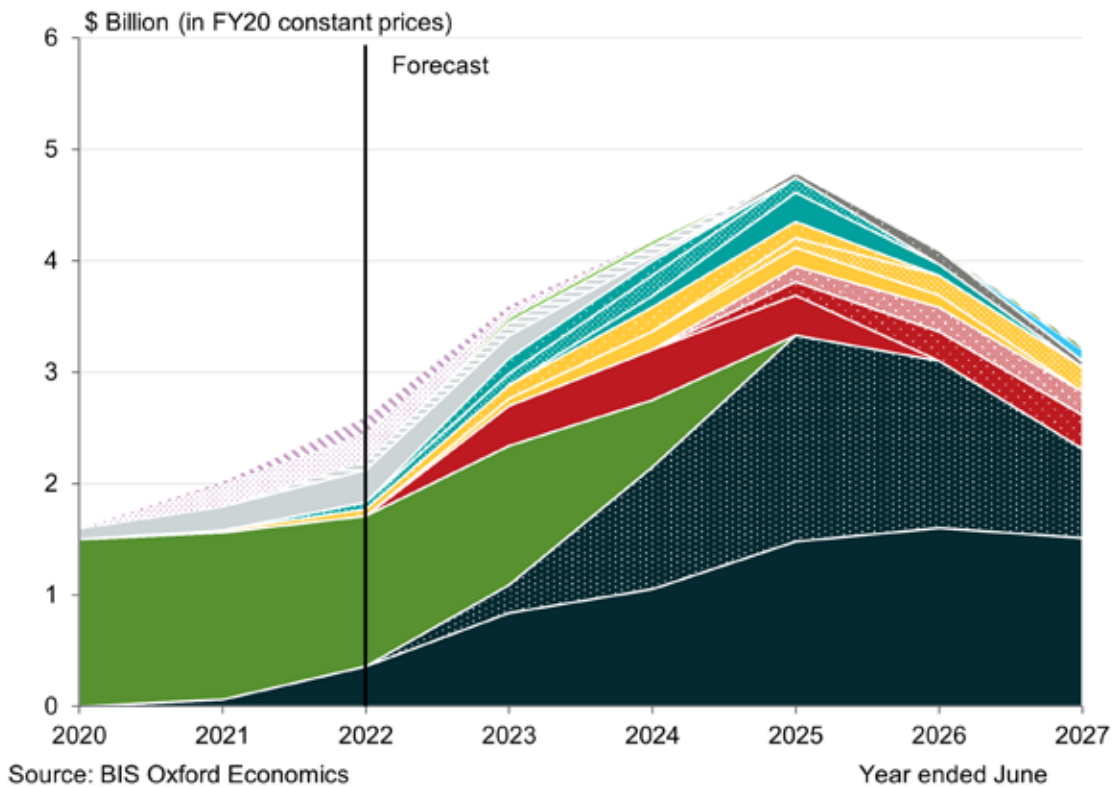


Figure 3.2 shows the significance of the continued development of the Sydney Metro, in particular the ramping up of the Western Sydney Airport and Metro West development. The Sydney Metro is Australia’s biggest public transport project – by 2030 it will comprise four lines, 46 stations and 113km of new rail². The

various Sydney Metro projects are set to account for nearly two-thirds of all NSW major project work done in 2023-24 and will continue to drive the outlook over the next 5 years as work done peaks at \$4.9 billion in 2024-25.

Figure 3.2 New South Wales major railway projects



Maintenance activity for NSW is forecasted to follow a similar trend described for Australia with consistent growth over the forecast horizon. For 2021-22, maintenance activity

covered \$529.6 million, a 2.1% increase on the previous year. Maintenance activity is expected to grow by 17.9% to \$624.3 million by 2031-32.

² Sydney Metro – NSW Government <https://www.sydneymetro.info/>

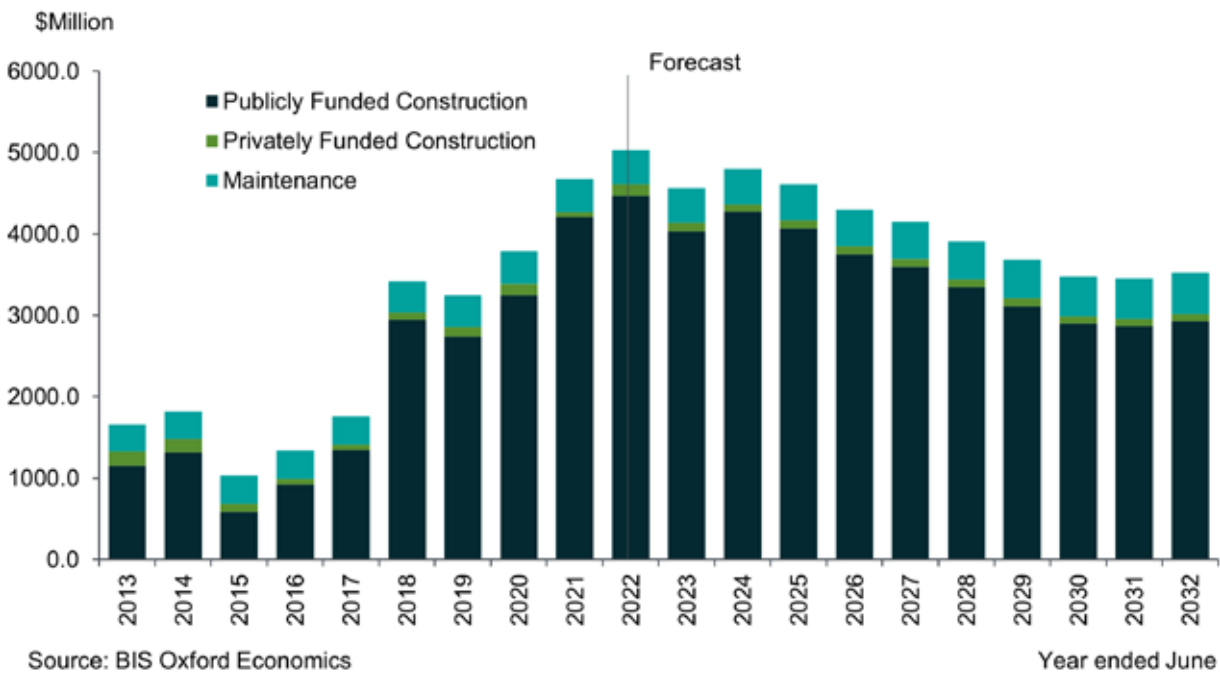
04 VICTORIA



Victorian railway construction increased by 8.0% to \$4.6 billion in 2021-22, a record level of activity. The Victorian railway construction profile is similar to that of NSW. Following a weak period during the resources boom, activity rose dramatically over the later years of the 2010s as publicly funded projects ramped up. However, unlike NSW,

Victoria has experienced three consecutive years of positive growth, with total construction activity increasing by 61% since 2018-19. Construction activity over the forecast period is expected to be at its highest in 2021-22, but future construction activity is projected to remain near this level to provide a sustained profile of work.

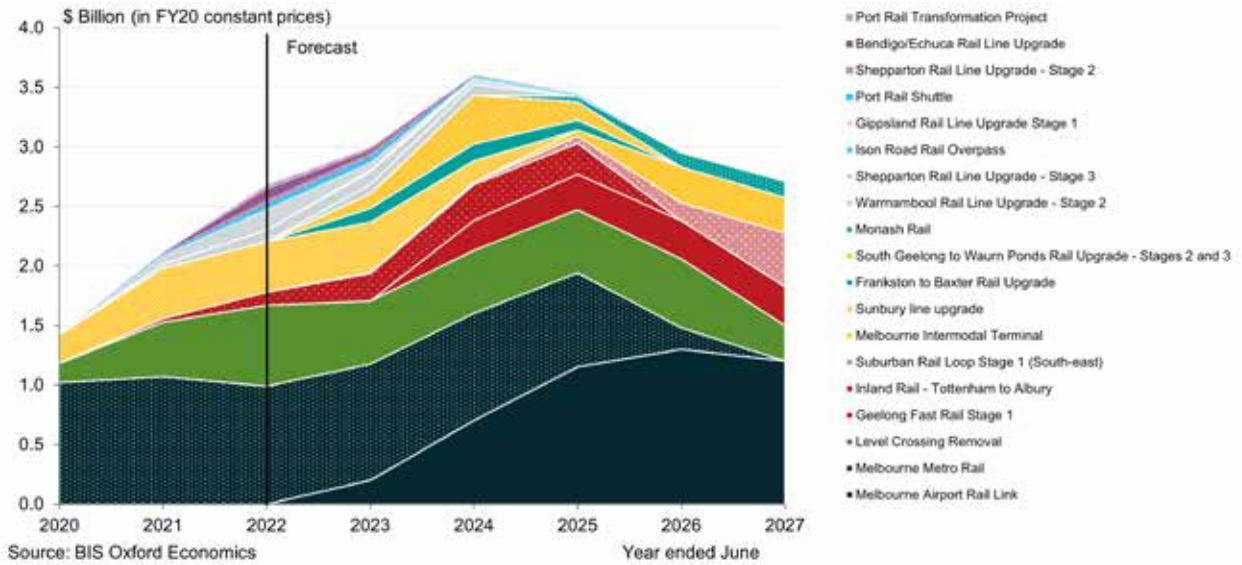
Figure 4.1 Victoria railway construction



With a limited resource sector, work done has historically been dominated by publicly funded projects, accounting for an average of 93% of total construction activity since 2012-13. Of note is an earlier peak in construction than other states and territories, reflecting the five-fold increase in work done since 2014-15, Construction is set to begin to decline from 2022-23, excluding a 5.4% increase in 2023-24 construction.

Current activity is dominated by the Melbourne Metro Rail and Level Crossing Removal, with these two projects expected to account for nearly half the major project work done in 2022-23 (45.2%). Whilst these projects are expected to remain firm contributors to Victorian railway construction, the Melbourne Airport Rail Link is set to ramp up from 2023-24 and will account for 43.9% of major project work in 2026-27.

16 Figure 4.2 Victoria Major Railway Projects



Rail maintenance contributed \$417.3 million worth of activity in 2021-22, according to BIS Oxford Economics estimates, taking total railway work done to \$4.8 billion. As is the case with

NSW, Victorian rail maintenance is forecasted to undergo consecutive growth over the forecast horizon, reaching \$508.4 million by 2031-32.



05 QUEENSLAND



Queensland railway construction decreased by 1.7% to \$1.5 billion in 2021-22, due to a 54% decrease in privately funded construction (essentially investment in coal heavy haul networks).

Despite the decrease, construction activity in 2021-22 was the second highest level in the recorded series, having been boosted by a strong pipeline of publicly funded projects.

Figure 5.1 Queensland railway construction

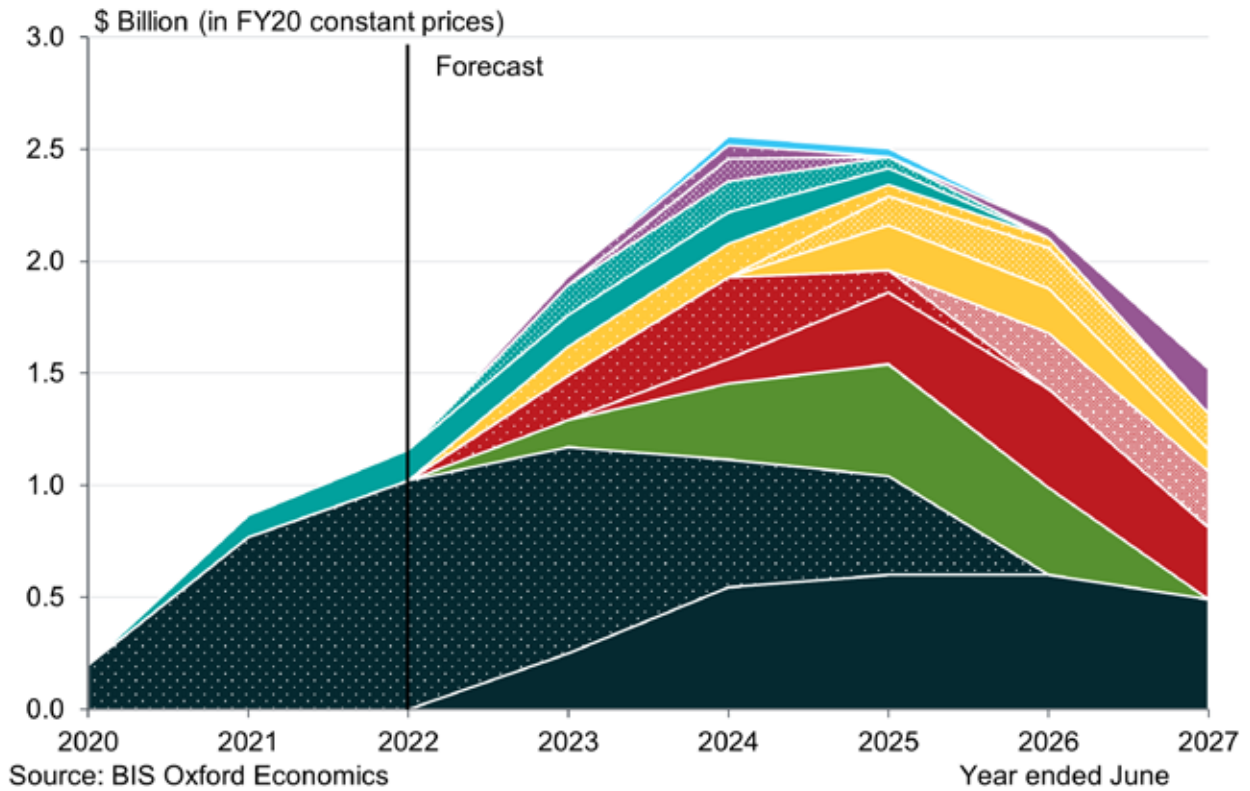


As is the case with the other resource-strong states of Western Australia and the Northern Territory, private-funded activity plays a significant role in Queensland's outlook profile. Privately funded construction accounted for 19% of the total construction profile in 2021-22. This share is set to rise to 34% in 2024-25 due to the substantial Gowrie to Kagaru stage of Inland Rail, which will involve tunnelling through the Toowoomba Ranges and be delivered as a Public Private Partnership (PPP). Overall, the Inland Rail projects of Gowrie to Kagaru and NSW Border to Gowrie will account for a large share of total rail

activity in the staet as they ramp up over the next few years, accounting for 42.1% of total major project activity in 2024-25, following a peak in major project activity in 2023-24 (\$2.7 billion).

In total, Queensland rail construction is forecast to peak in 2023-24 at \$2.8 billion before falling back after the middle of the decade. Publicly funded rail projects in South East Queensland will also drive activity in coming years as the region accelerates infrastructure investment to accommodate a fast growing population and the Olympic Games in 2032.

Figure 5.2 Queensland railway major projects



- Pimpama, Helensvale North and Worongary - Stations
- Inland Rail - Kagaru to Acacia Ridge & Bromelton
- Wiggins Island coal rail infrastructure stage 3
- North Coast Connect: CAMCOS rail
- Moura Link - Aldoga Rail Project (Wiggins)
- Brisbane Metro
- Beerburrum to Nambour duplication
- Varsity Lakes to Elanora extension
- Wiggins Island coal rail infrastructure stage 2
- Ipswich to Springfield
- Gold Coast Light Rail - Stage 3
- Kuraby-Beenleigh Faster Rail Upgrade
- Inland Rail - NSW Border to Gowrie
- Cross River Rail
- Inland Rail - Gowrie to Kagaru

Maintenance work has historically comprised a significant share of the total railway work done given the large stock of rail assets, particularly heavy haul assets supporting resources projects. In 2021-22, rail maintenance in Queensland was estimated at \$576.6 million, around 27% of total railway work in Queensland. This is a relatively larger share than the other east coast states,

whose maintenance activity only accounted for 14.6% and 8.3% in NSW and Victoria respectively. Maintenance for the Queensland rail network is forecast to reach the highest levels of any state by 2031-32 – contributing \$654.4 million to total rail activity.

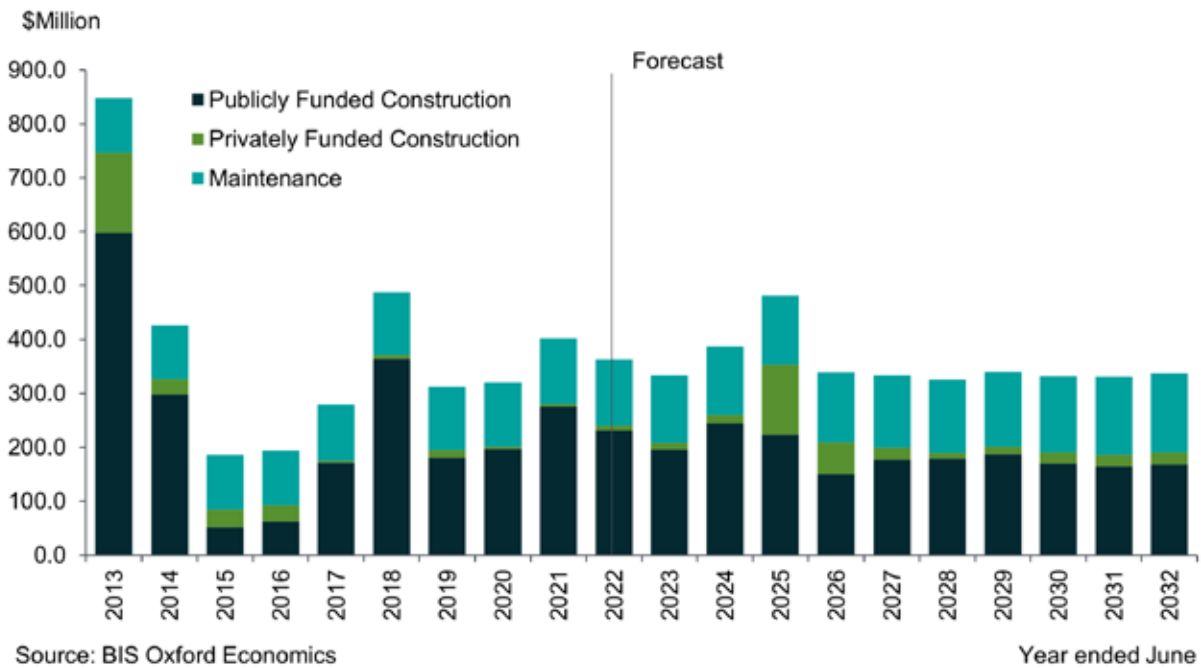
06 SOUTH AUSTRALIA



South Australia railway construction fell 15% to \$240 million in 2021-22 as a result of a 16% decrease in publicly funded activity. Since the resource boom (and in particular, rail works associated with the Olympic Dam project in the early 2010s), South Australia has seen relatively weaker levels of rail activity. Construction peaked in 2012-13 at \$746.4 million and has since decreased by 68%.

The outlook for South Australian rail construction is relatively stable, with activity forecasted to peak at \$352 million in 2024-25 (based on further resources investment) before continuing to range from \$185 million to \$210 million over the forecast period.

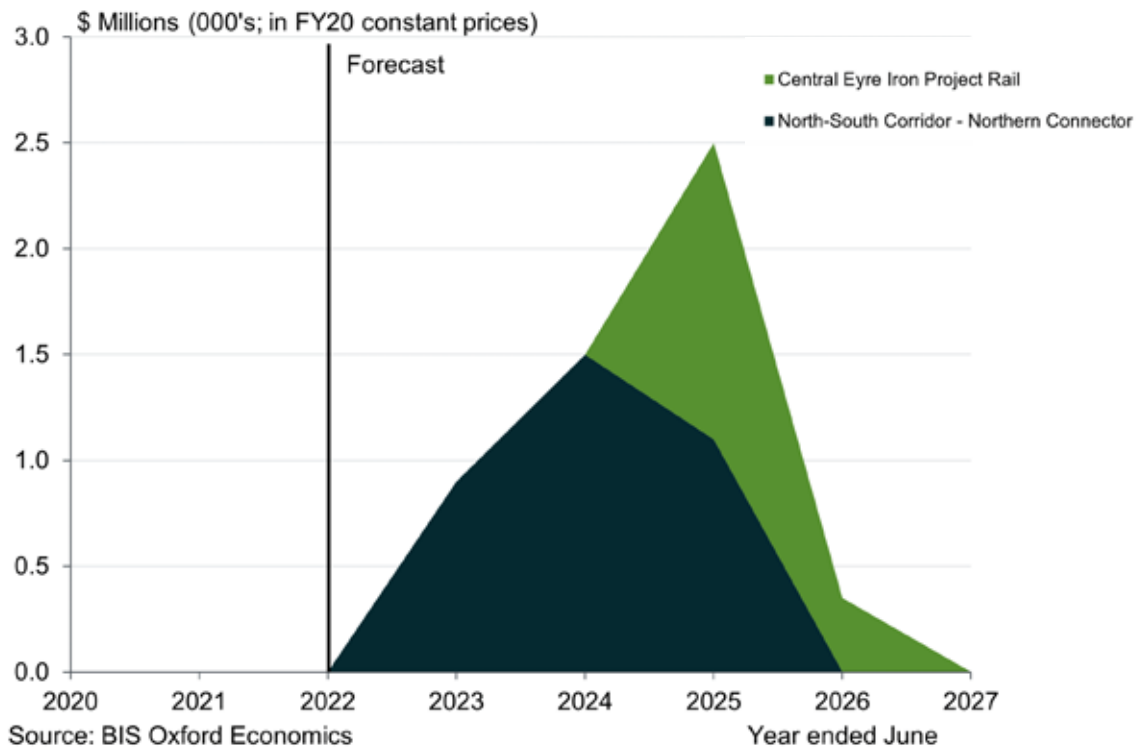
Figure 6.1 South Australia railway construction



As shown in Figure 6.2, only two rail projects are expected to exceed \$100 million in spending over the next few years: the North-South Corridor (Northern Connector integrated road and rail project) and Central Eyre. Their activity is set to peak in 2024-25 at \$250 million. This level of construction is unsurprising given the

smaller base of railway activity experienced in South Australia and, with a smaller increase in population over the next 30 years (an increase of 0.4 million to 2.2 million), the demand for larger scale projects is not at the same level as the larger states

Figure 6.2 South Australia railway major projects



Rail maintenance work in South Australia reached a historically high level of \$124 million in 2021-22, taking total railway work to \$364 million. Maintenance work is forecast to grow by 18% by 2031-32 to \$147 million.

07 WESTERN AUSTRALIA



Western Australian railway construction fell marginally to \$1.1 billion in 2021-22, as a result of a 6% decrease in publicly funded construction. Following the collapse in record privately funded rail project work after the resource boom in the earlier part of the 2010s, activity has picked up again in recent years on the back of elevated levels of publicly funded projects.

As seen in Figure 7.1, rail construction in Western Australia is forecast to peak at \$1.4 billion in 2022-23 due to continued public investment, although rail construction will still be only around one-third of the level experienced in 2012-13.

Figure 7.1 Western Australia railway construction

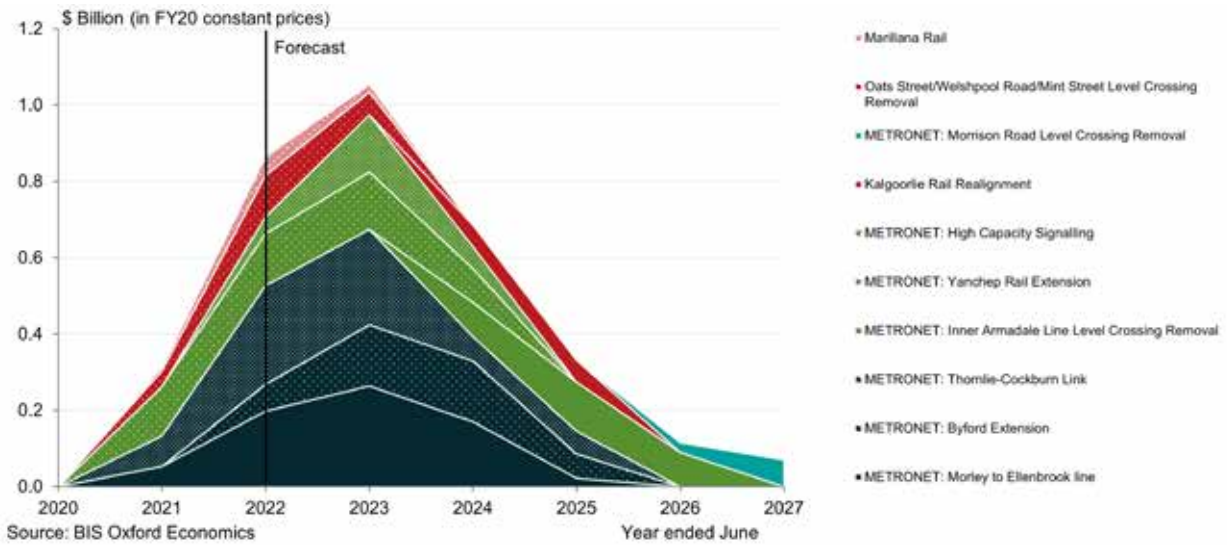


Driving the current increase is the METRONET program, which is the single largest investment in public transport that Perth has experienced³ and accounts for just over \$2 billion in rail construction major project work over the next five years (Figure 7.2). The project is expected to deliver 72km of new passenger rail and 22 new stations. The project is aimed to help connect Perth to the surrounding suburbs and provide the basis for future urban growth.

Despite METRONET-related activity decreasing rapidly from 2023-24, total activity for WA will remain stable as private investment increases over the next 10 years – from 2025-26 the majority of rail construction work will come from privately funded activity.

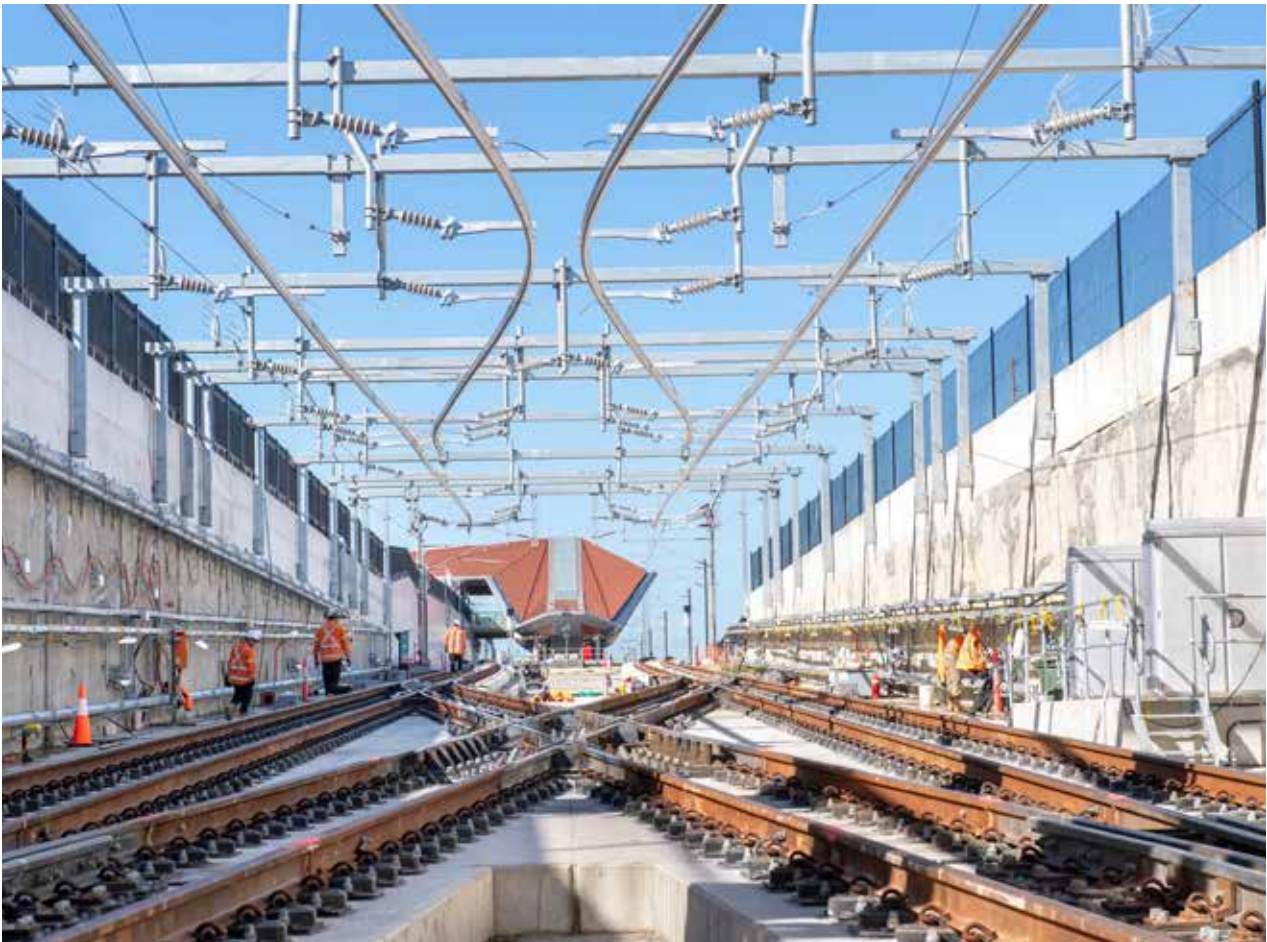
³ METRONET Project – Government of Western Australia <https://www.metronet.wa.gov.au/>

Figure 7.2 Western Australia railway construction



Following the elevated levels of railway construction in the resource boom, rail maintenance in WA is now estimated at nearly \$440 million in 2021-22, elevating total railway work across construction and maintenance to \$1.6 billion. With consistent growth expected over the

forecast horizon and the slowdown in projects as part of the METRONET program, maintenance work will account for a greater share of railway work by 2025-26 before reaching \$525 million by 2031-32.



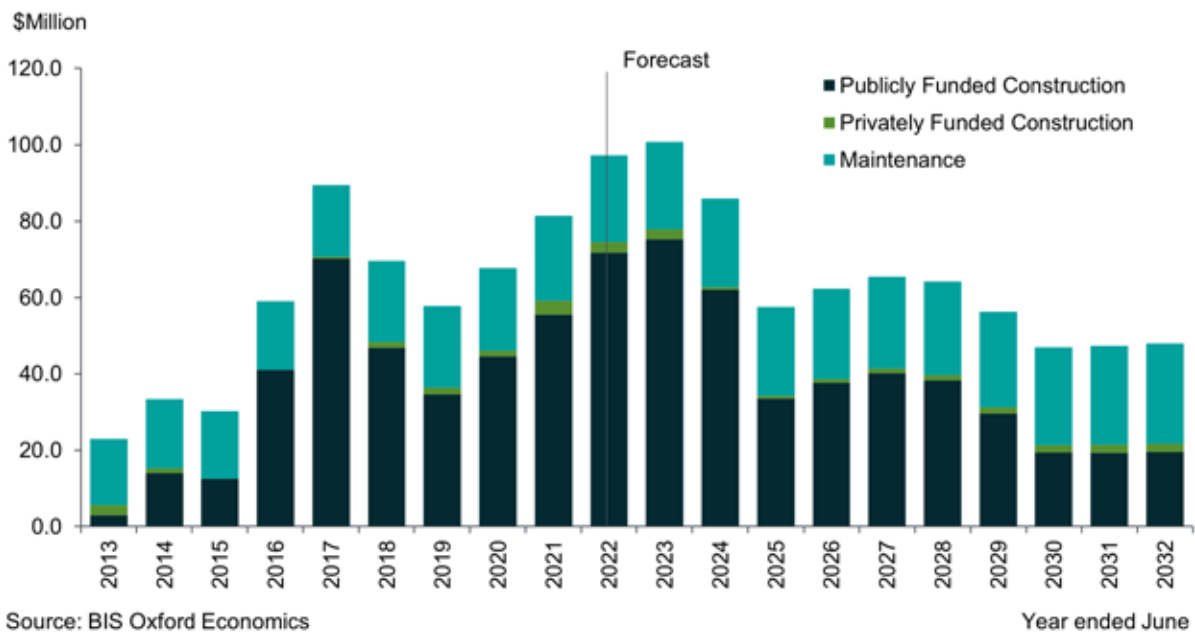
08 TASMANIA



Tasmanian railway construction activity increased by 26% to \$74.5 million in 2021-22, the highest historical level of activity. Despite the substantial increase in 2021-22, rail construction activity in Tasmania only accounts for 0.7% of total Australian construction. The Tasmanian rail system comprises mostly of freight services supported by State Government funding and the majority of ongoing projects are focused on revitalisation and upgrades to the existing network.

Tasmanian rail construction is forecasted to peak at \$77.9 million in 2022-23, a 4.5% increase on the volume in 2021-22. This increase will be driven by a 4.8% increase in publicly funded works.

Figure 8.1 Tasmania railway construction



Given the size and age of Tasmanian rail assets, and the absence of major construction projects, rail maintenance plays a significant role in total railway activity. In 2021-22, maintenance

contributed an estimated \$22.8 million to total rail activity (\$97.3 million). From 2029-30, maintenance is projected to account for the largest share of total rail work (55%) and will reach \$26.3 million by 2031-32.



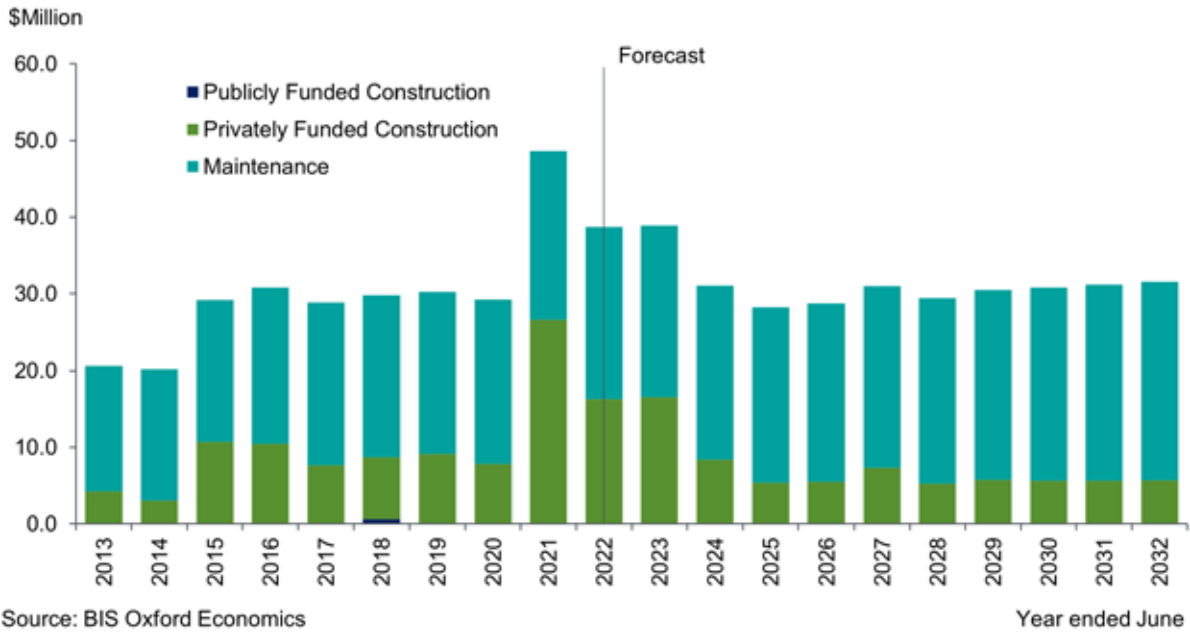
09 NORTHERN TERRITORY



Northern Territory railway construction decreased by 39% to \$16.3 million in 2021-22, accounting for only 0.2% of total Australian activity. Historically, activity in the Territory has mainly comprised of privately funded construction, accounting for 99.4% of construction since 2012-13.

Construction peaked in 2020-21 at \$26.7 million and is expected to remain relatively steady over the forecast period, averaging \$5.8 million from 2024-25 onwards.

Figure 9.1 Northern Territory railway construction



Maintenance work in the Territory totalled an estimated \$22 million in 2021-22, around 58% of total railway activity. Maintenance work is forecasted to reach \$26 million by 2031-32 and account for 82% of total rail activity.



10 AUSTRALIAN CAPITAL TERRITORY



Australian Capital Territory railway construction has been near zero in recent years following the completion of the Canberra Light Rail Stage 1 (Gungahlin to City).

As illustrated in Figure 10.1, rail construction activity in the ACT is forecasted to experience a prolonged increase in work done, with a peak level

of activity expected in 2026-27 at \$224.2 million. This delayed peak, relative to other states, is due to the timing of Stages 2A (City to Commonwealth Park, expected 2023-24 to 2026-27) and 2B (Commonwealth Park to Woden, expected 2026-27 to 2030-31) of the Canberra Light Rail Network.

Figure 10.1 Australian Capital Territory railway construction

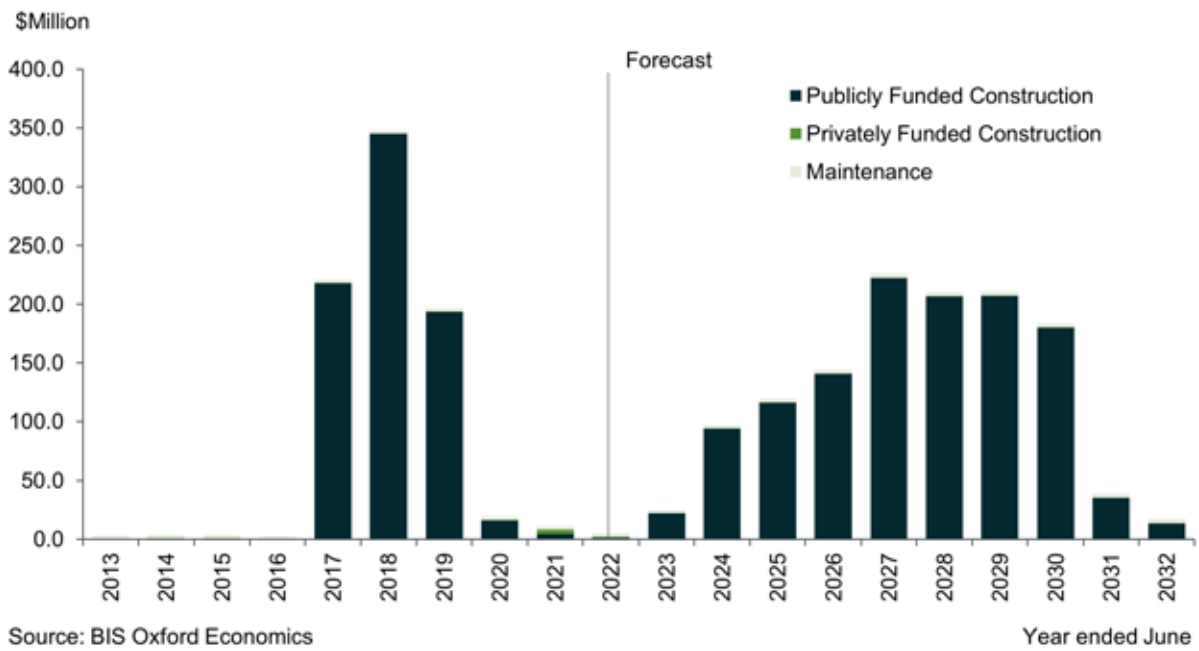
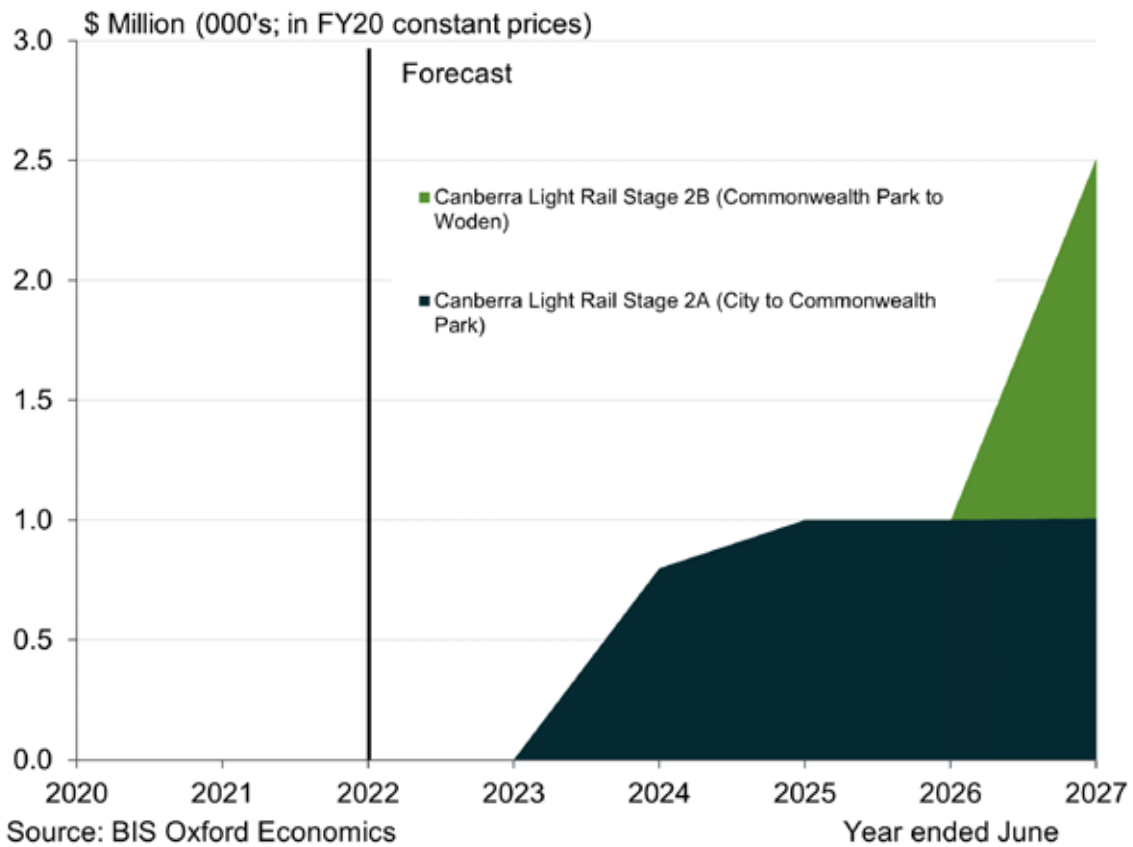


Figure 10.2 Australian Capital Territory railway major projects



With a limited existing railway system, the ACT maintenance expenditure accounts for a more moderate share of total activity than the other states. In 2021-22, estimated maintenance contributed \$3.0 million elevating total railway work to \$5.2 million. By 2031-32, maintenance work is forecast to reach \$3.8 million.

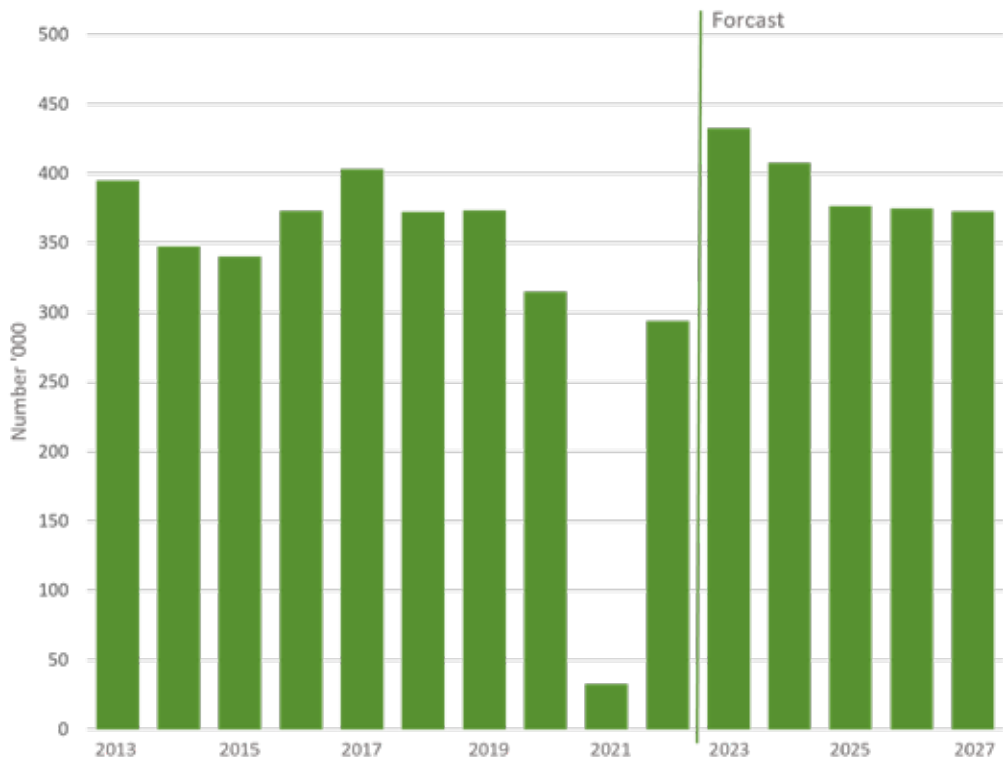
The outlook for ACT railway construction continues to be dominated by the Light Rail Network with stage 2A set to commence in 2023-24 and stage 2B in 2026-27. As seen in Figure 10.2, these stages will drive total activity to peak much later than in the other states. Activity will remain at relatively high levels until 2030-31 when activity is set to decrease to \$35.8 million.

11

THE GROWING FREIGHT TASK



34 Population increment, AUS



Source: ABS, BIS Oxford Economics

Components of population increase, AUS



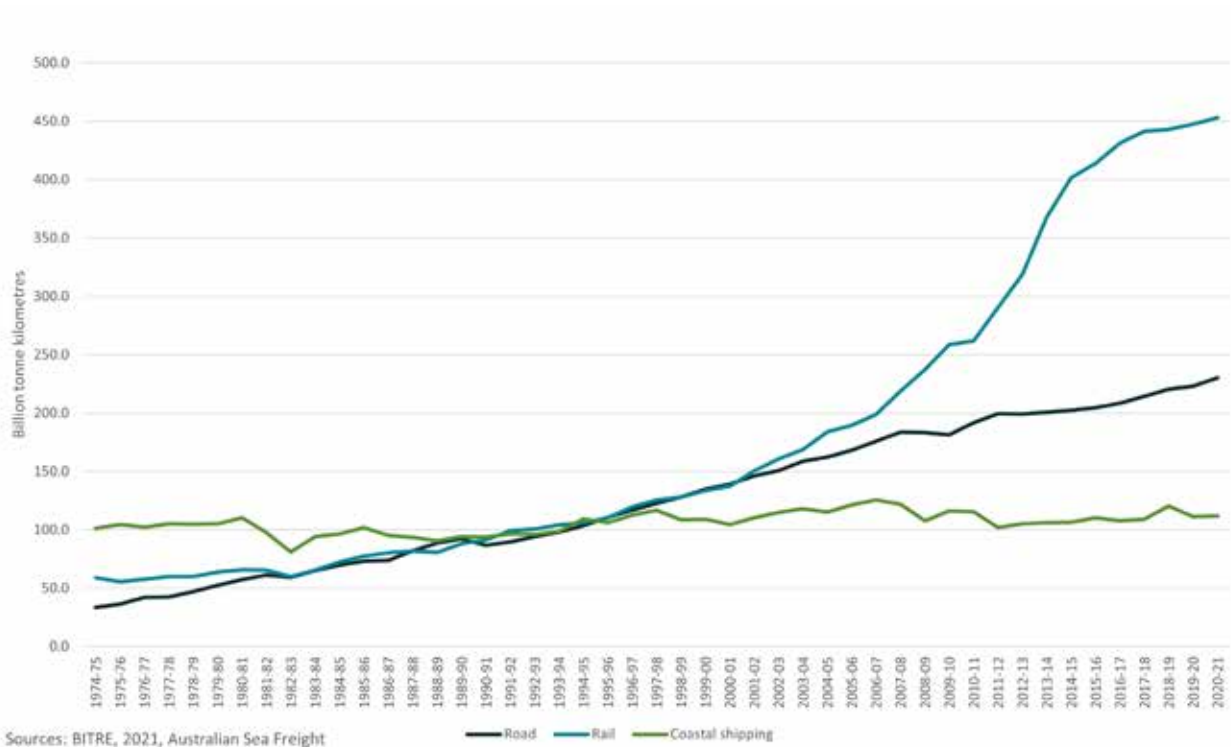
Source: ABS, BIS Oxford Economics

Growing rail freight task

Rising rail investment and construction is also being driven by rail's increasing share of Australia's growing domestic freight task. The resources investment boom (which ushered in strong growth in mining production) has added substantially to the freight task. While mining production has eased marginally over FY21 and

FY22, agricultural output has surged by 58 per cent during this period as a result of easing in drought conditions. Looking ahead, the rail freight task is expected to rise further due to population and trade growth and modal shift of freight from road to rail.

AUSTRALIAN DOMESTIC FREIGHT TASK, BY MODE OF TRANSPORT



12 APPENDICES

APPENDIX A: NOTES ON THE DATA

11.1 Rail construction

Railway construction historical data (up to and including FY2021-22) contained in this report is sourced from the Australian Bureau of Statistics' Engineering Construction Survey (Cat. No. 8762.0). This data is presented in 2019-20 constant prices. This means that changes in activity are expressed in real (not nominal terms) and hence reflect real increases in activity and not changes in the price of that activity.

Railway construction forecasts presented in this report are provided by BIS Oxford Economics from its regular forecasting service Engineering Construction in Australia. These forecasts are based on an analysis of expenditure on known projects (from Budget Papers and other published private and public sector sources) and consideration of supply constraints as well as medium to longer term projections based on forecast demographic and macroeconomic factors and longer term investment plans published by government agencies and the private sector.

Rail construction includes tracklaying, overhead power lines and signals, platforms, and tunnels for underground railways. As per explanatory notes from the Survey, construction activity excludes a number of major expenditure items associated with the rail network, notably the purchase of plant and equipment not considered an integral part of the rail structure (e.g. rollingstock), the value of land and buildings from projects, and maintenance (see 11.2 below).

11.2 Rail maintenance

Maintenance can be defined as expenditure which brings an asset back to – but does not improve upon – its original design standard. Historical rail maintenance estimates and forecasts in this report are based on analysis undertaken by BIS Oxford Economics and provided in our Maintenance in Australia subscription service. Rail maintenance includes spending on 'below rail' assets and infrastructure (track, signalling etc) and excludes maintenance of rollingstock.

A range of approaches to estimating and forecasting rail maintenance has been utilised, drawing on BIS Oxford Economics' diverse capabilities. We compile numerous published and unpublished sources of information

including existing contracts in each segment (from our related Australian Maintenance Masterplan service), regulatory determinations, government budgets and news from asset owners and service providers. We supplement this data by undertaking interviews with asset owners, gathering data and qualitative responses to issues impacting the maintenance sector.

11.3 Rollingstock

It is important to note that the rail construction and maintenance activity data in this report excludes spending on rollingstock. Appendix B (overpage) provides the latest update of rollingstock procurement by Australian state and territory governments. Apart from the large size of recent contracts (to support the recent strong expansion of passenger rail investment, as well as replacement of ageing rollingstock), this table reveals significant differences in where rollingstock is sourced, with Victoria and Western Australia generally supporting a greater focus on Australian rollingstock manufacture than other Australian jurisdictions.

APPENDIX B: PUBLIC SECTOR ROLLINGSTOCK PROCUREMENT

State	Date	Project	Source	Client	Cost	Quantity	Consortium (Manufacturer)
NSW	2019	Regional Rail Fleet	Spain	NSW Government	\$1.3bn	117 cars	Momentum Trains
NSW	2016	Sydney Growth Trains (Waratah 2)	China	Sydney Trains	\$1bn+	192 cars	Downer Edi (Changchun Railway Vehicles)
NSW	2016	New Intercity Fleet	South Korea		\$3.9bn	520 cars	RailConnect (Hyundai Rotem)
NSW	2014	Sydney Metro Stage 1	China		\$3.7bn	132 cars	Northwest Rapid Transit (Alstom)
NSW	2006	Waratah	China / Australia	Sydney Trains	\$3.6bn	626 cars	Reliance Rail (Changchun Railway Vehicles / Downer)
VIC	2022	X'Trapolis 2.0	Australia	Metro Tunnel	\$1bn	150 cars	Alstom
VIC	2022	Next Generation Tram	Australia	VIC Government	\$1.85bn	100 trams	Bombardier
VIC	2019	New Vlocity Trains	Australia	V/Line network	\$0.34bn	119 cars	Alstom
VIC	2019	New E-Class Trams	Australia	VIC Government	\$0.34bn	20 trams	Bombardier
VIC	2017	New E-Class Trams	Australia	VIC Government	\$0.27bn	10 trams	Bombardier
VIC	2016	X'Trapolis	Australia	Public Transport Victoria	\$0.1bn	54 cars	Alstom
VIC	2016	High Capacity Metro	China / Australia	Victorian Government	\$2bn	65 trains	Evolution Rail (CRRC / Downer)
QLD	2022*	Rollingstock Expansion	TBA	TBA	\$1.8bn	520 cars	TBA
QLD	2019	New Generation Upgrade	India	Gold Coast Light Rail	\$0.34bn		Qtectic (Bombardier)
QLD	2016	FLEXITY 2	Germany	Gold Coast Light Rail		18 cars	GoldLinq (Bombardier)
QLD	2014	New Generation	India	Queensland Rail	\$4.4bn	450 cars	Qtectic (Bombardier)
WA	2019	WA Railcar Program	Australia	METRONET	\$1.2bn	246 cars	Alstom

