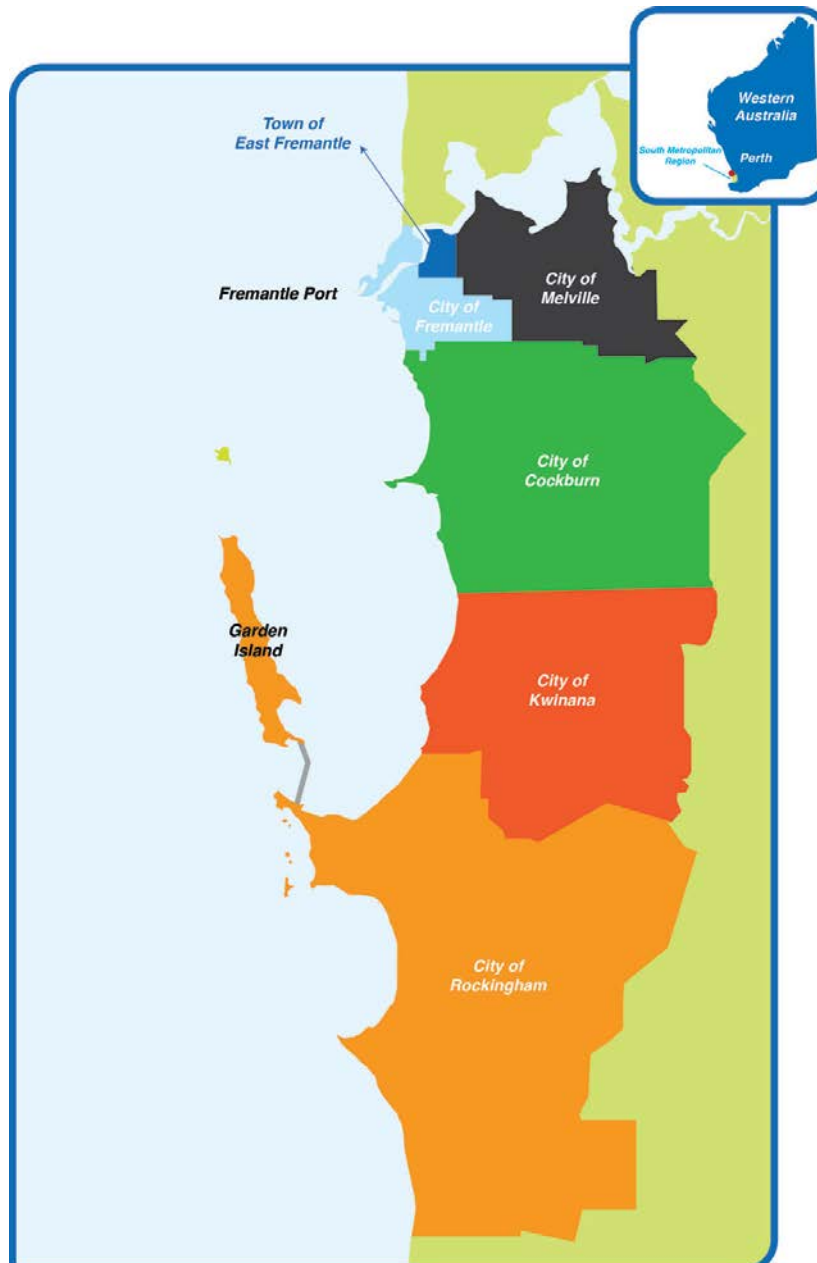


South West Group Submission to the State 20 Year Infrastructure Strategy (September 2017)



BACKGROUND AND CONTEXT

The South West Group is a voluntary regional organisation of councils (VROC) comprised of the cities of Cockburn, Fremantle, Kwinana, Melville and Rockingham and the Town of East Fremantle.



The South West Group undertakes a pro-active advocacy role in lobbying the State and Federal Government for regional infrastructure projects that contribute to the economic and social prosperity of the South West Metropolitan Region.

The South West Group commended the Federal and State Government on commitments to invest in the following transport infrastructure projects across the region as announced as part of the Federal budget in May 2017:

- **Cockburn Central to Thornlie Rail line** (\$474 million, subject to business case)
- **Armadale Road/North Lake Road Bridge** (\$237 million)
- **Additional Lane on Kwinana Freeway North – Russell Road to Roe Highway** (\$49 million)
- **Manning Road On Ramp to Kwinana Freeway South** as part of the Canning Bridge Upgrades (\$35 million)
- **Southern access of the Murdoch Activity Centre** to the Kwinana Freeway and Roe Highway via Murdoch Drive (\$100 million)
- **Leach Highway (Carrington Street to Stirling Highway) Upgrade** (\$118 million) – options on the alignment and design are under investigation
- **Karel Avenue (Farrington Road to Berrigan Drive) Upgrades** (\$15 million)
- **Smart Freeways Kwinana Freeway - Roe Highway to Narrows Bridge** (\$47 million).

The South West Group advocated for many of these projects in the lead up to Federal and State elections and assumes that these will be implemented based on funding commitments announced and will therefore be included in the State 20 Year Infrastructure Strategy as required.

The State Government has also committed \$20 million toward the detailed planning and the development of a business case for the Kwinana Outer Harbour, with a taskforce established to oversee this work.

The Kwinana Outer Harbour represents the most significant project in the region and has the potential to deliver the following economic and social benefits to the wider Western Trade Coast area:

- \$42 billion in annual revenue when fully developed
- 37,000 direct jobs and almost 50,000 indirect jobs
- Improved efficiency of port operations
- Industrial and business development opportunities along the Western Trade Coast

Project	Cost	Timeframe		Funding Contributions		
		Planning	Construction	State	Federal	Other
Kwinana Outer Harbour Planning & Business Case	\$20M	2017/18 to 2020/21	To be determined	\$20M		

The South West Group supports the Kwinana Outer Harbour proposal and recognises that the timeframes for its development are dependent upon the outcomes of the study and the recommendations of the taskforce.

As a consequence, it is not in a position to put forward the component infrastructure projects for the Outer Harbour and their preferred construction timeframes at this time as input into the State 20 Year Infrastructure Strategy.

The South West Group supports decisions by the State Government on the resolution of the critical factors as soon as possible to guide future investment and the planned development of the Kwinana Outer Harbour.

The South West Group supports the Outer Harbour Taskforce to:

- Develop regional land use planning and transport frameworks
- Provide certainty on the timing of the construction and operation of the Outer Harbour
- Determining the preferred capacity and efficient transition arrangements for the Inner and Outer Harbours
- Define intermodal terminal and industrial area support needs for the Outer Harbour
- Identify critical infrastructure requirements to support development of the Outer Harbour (rail, road, landside, intermodal and technology)
- Maximise opportunities for defence and marine support industries

The South West Group advocates for the above factors to be incorporated into the Terms of Reference for the taskforce and the scope of work for the study. The South West Group also welcomes the opportunity to be actively involved in the Outer Harbour study, taskforce and associated working groups over the coming years.

The establishment of Defence West also highlights the importance of the Australian Marine Complex (AMC) as a critical facility in securing a greater share of the Defence contracts to be built here in WA.

As well as the establishment of the AMC Technology Precinct with its Defence focus, there is a need to expand marine infrastructure at the AMC to meet increased demand as an essential wharf facility in the Western Trade Coast.

PROJECTS FOR CONSIDERATION OF THE STATE 20 YEAR INFRASTRUCTURE STRATEGY

The South West Group and its member Councils have identified a consolidated list of infrastructure projects across South West Metropolitan Region requiring construction over the next 20 years.

These projects will require funding commitments from the State Government and Federal Government.

The tables below provide a summary of the projects, cost estimates, timeframes for planning/design and construction and funding requirements. Attachment 1 provides a detailed description of the projects, including their economic and social benefits, and a schedule under the key infrastructure headings of:

- Ports
- Roads
- Freight
- Public Transport
- Other

It should be noted that some of the projects listed are at the conceptual state and require further work to accurately determine scope of work, costs, timing and funding contributions.

The South West Group and member Councils look forward to working collaboratively to further develop these projects to facilitate their inclusion in the State 20 Year Infrastructure Strategy.

PORTS

Project	Cost	Timeframe		Funding Contributions			
		Planning	Construction	State	Federal	Other	
Kwinana Outer Harbour Planning & Business Case	\$20M	2017/18 to 2020/21	To be determined		\$20M		
South Quay and Victoria Quay/Fremantle Train Station	\$3.6B	2017/18 to 2018/19	City Square and bus station 2019 to 2021 Victoria Quay 2021 to 2025 South Quay 2022 to 2027		\$500M	\$500M	\$2.6B

ROADS

Project	Cost	Timeframe		Funding Contributions			
		Planning	Construction	State	Federal	Other	
Spearwood Ave Bridge Duplication Across Freight Rail	\$5M	2017/18 to 2020/21	2021/22		\$3M		\$2M
Additional Lanes on Kwinana Freeway – Russell Road to Millar Road	\$200M	2018/19 to 2020/21	2021 to 2023		\$100M	\$100M	
Bartram Road Freeway Bridge	\$40M	2020/21 to 2021/22	2022/23		\$20M	\$10M	\$10M
Duplication of Canning Bridge	\$80M	2020/21 to 2022/23	2025 to 2028		\$40M	\$40M	
Fremantle Northern Access Corridor	\$84M	2022/23 to 2025/26	2026 to 2029		\$84M		

FREIGHT

Project	Cost	Timeframe		Funding Contributions		
		Planning	Construction	State	Federal	Other
Freight Rail Grade Separation – North Lake Road	\$50M	2017/18 to 2018/9	2019/20 to 2020/21	\$37.5M	\$12.5M	
Freight Rail Grade Separation – Rockingham Road	\$50M	2018/19 to 2021/22	2022/23 to 2023/24	\$37.5M	\$12.5M	

PUBLIC TRANSPORT

Project	Cost	Timeframe		Funding Contributions		
		Planning	Construction	State	Federal	Other
Multi-Storey Car Park Project – Murdoch Activity Centre	\$80M	2017/18 to 2018/19	2019/20	\$80M		
Relocation of Canning Bridge Bus Station	\$85M	2017/18 to 2018/19	2020/21 to 2022/23	\$85M		
Rockingham City Centre Transit System	\$150M	2017/18 to 2019/20	2021 to 2023	\$50M	\$80M	\$20M
Cockburn Central to Fremantle Passenger Rail	\$600M	2019/20 to 2023/24	2024/25 to 2028/29	\$300M	\$300M	
Murdoch to Fremantle Light Rail	\$350M	2017/18 to 2024/25	2025 to 2030	\$150M	\$150M	\$50M

OTHER

Project	Cost	Timeframe		Funding Contributions		
		Planning	Construction	State	Federal	Other
Rockingham Beach Foreshore Master Plan - Stage 2	\$30M	2017/18 to 2018/19	2019/20 to 2022/23	\$20M		\$10M
Fremantle Oval Redevelopment	\$100M	2017 to 2020	2022 to 2025	\$90M		\$10M
AMC Technology Precinct	\$40M	2017/18 to 2020/21	2021/22 to 2023/24	\$20M	\$20M	
East Fremantle Football Oval Precinct Redevelopment	\$15M	2017 to 2022	2023 to 2026	\$5M		\$10M
Cockburn Coast Switching Yard Relocation	\$70M	2020/21 to 2023/24	2024/25 to 2025/26			

Attachment 1

Major Infrastructure Projects in the South West Metropolitan Region (September 2017)

PORTS		
Project 1	South Quay and Victoria Quay / Fremantle Train Station	
Project description	<p>Redevelopment of South Quay and the Fremantle Passenger Terminal as a world class tourism precinct and cruise ship terminus. We see this exciting two part project as encompassing the whole of the quay from the Maritime Museum up to the Fremantle Traffic Bridge as well as providing a closely-knit integration over the railway lines into the very urban fabric of the city. The two parts are:</p> <p><u>Victoria Quay / Fremantle Train Station</u> Work with the Port of Fremantle, Public Transport Authority and State Heritage Office to develop an Implementation Plan for Victoria Quay and Fremantle Station Precinct Plans which were approved by the WA Planning Commission in August 2015.</p> <p>Redevelopment of the Fremantle Train Station forecourt as new city square is a critical element for the City. Although the project is not costed, an order of estimate indicates some \$5m to \$8m may be required. The City seeks the active engagement of the state as well as funding for this work.</p> <p><u>South Quay</u> The key to activating this redevelopment is to shift the existing car and bulk goods trade away from South Quay. There may be opportunities for these trade functions to be relocated to the Kwinana Outer Harbour or alternatively the car trade being shifted to North Quay.</p>	
Need and alternatives assessed	The State Government is planning to undertake a \$20 million study of the Kwinana Outer Harbour, include detailed design and the development of a business case for Infrastructure Australia funding.	
Project timeframe	Victoria Quay/Fremantle Train Station	South Quay
- planning	Preparation of Implementation Plan 2017/18	Establish governance mechanisms – 2017/18
- design	2018/19	2018 to 2021
- approvals	2018/19	
- funding	2018/19	
- construction	City Square and bus station 2019 to 2021 Victoria Quay development 2021 to 2025	2022 to 2027
- completion	2021 (City Square and bus station) 2025 (Victoria Quay)	2027 (South Quay)

Project 1 cont.	South Quay and Victoria Quay / Fremantle Train Station
Economic benefits	<p>South Quay has the potential to attract:</p> <ul style="list-style-type: none"> • private investment of up to \$3.5 billion and provide 3,700+ new jobs. • an estimated \$946 million return for the State Government over 20 years in net land sale values, stamp duties, land tax, payroll tax and GST returns: a cost neutral project
Social benefits	<p>South Quay:</p> <ul style="list-style-type: none"> • A much improved entry statement for cruise ship passengers ~ a world-class first impression of WA • A redeveloped railway station forecourt will provide a safer, more attractive and legible pedestrian access to and from the train station and Fremantle city centre • Potential for a "bicentenary project" at the approximate location of the establishment of the Swan River Colony in 1829.
Costs	\$3,607 million
Funding splits	
- Federal	\$500 million
- State	\$500 million
- Local	
- Other	\$2,600 million

ROADS

Project 2	Spearwood Avenue Bridge Duplication Across the Freight Rail
Project description	The delivery of a widened road bridge across the freight rail for Spearwood Avenue.
Need and alternatives assessed	Bibra Lake is a regionally significant industrial area which creates significant value added wealth for the broader State economy. At its southern end there is a need to widen the Spearwood Avenue freight rail overpass bridge, in order to provide better regional connectivity in to the area. Current utilisation of Spearwood Avenue in the industrial area is 23,200 vehicles, with 9% of these being freight. The trigger for a dual carriageway is usually held at between 15,000 to 17,000. The delivery of the widened bridge is crucial to maintaining an efficient and low cost business environment for the regional industrial area of Bibra Lake.
Project timeframe	
- planning	2017/18
- design	2018/19
- approvals	2019/20
- funding	2020/21
- construction	2021/22
- completion	2021/22
Economic benefits	This infrastructure will provide for the necessary improvements in connecting businesses with their supply chains and target customer markets, through addressing congestion at the southern end of the industrial area.
Social benefits	Employment, industrial, commercial and broad based economic growth that will benefit the standard of living of the surrounding communities,
Costs	\$5 million
Funding splits	
- Federal	
- State	\$3 million
- Local	\$2 million
- Other	

Project 3	Additional Lanes on Kwinana Freeway North and South – Millar Road to Russell Road
Project description	<ol style="list-style-type: none"> 1. Kwinana Freeway lane widening - additional lane south of Gibbs Road and Russell Road to Millar Road (Kwinana North and Kwinana South) 2. Public Transport service increases including services in the KIA.
Need and alternatives assessed	<p>The rapid development of residential land along the Kwinana Freeway from Baldivis in the City of Rockingham through to Success in the City of Cockburn has significantly increased population and is a major contributor to traffic congestion as residents access the freeway.</p> <p>The additional lane on the Kwinana Freeway south from Roe Highway to Russell Road has provided increased capacity and reduced congestion to acceptable levels. The State Government is planning to complete the additional lane north on the Kwinana Freeway from Russell Road to Roe Highway.</p> <p>The City of Kwinana’s population is expected to double to over 80,000 people by 2031, with the City of Rockingham expected to grow another 50,000 people to a population of almost 190,000 over the same period.</p> <p>The section of Kwinana Freeway south of Russell Road to Millar Road experiences high levels of traffic congestion daily during peak periods. This section also heavily congested as a result of school holiday traffic, leading to long delays for commuters heading north and south.</p> <p>The additional lanes north and south on the Kwinana Freeway from Russell Road to Millar Road will provide much needed capacity and reduce congestion delays during peak periods, thereby improving travel times and productivity.</p>
Project timeframe	
- planning	Widening - 1 year Public Transport – 2 years
- design	Widening - 1 year in conjunction with planning Public Transport – 2 years in conjunction with planning
- approvals	Widening - 1 year in conjunction with planning Public Transport – 2 years in conjunction with planning
- funding	In conjunction with planning, design and approvals
- construction	Widening - 3 years in 3 stages Public Transport – 2 years
- completion	5 years from commencement

Project 3 cont.	Additional Lanes on Kwinana Freeway North and South – Millar Road to Russell Road
Economic benefits	Improved logistics efficiency Increased regional mobility Reduce lost time
Social benefits	Improved road safety Increased health
Costs	\$200 million
Funding splits	
- Federal	\$100 million
- State	\$100 million
- Local	
- Other	

Project 4	Bartram Road Freeway Bridge
Project description	The delivery of the Bartram Road freeway bridge in order to connect the suburban communities of Atwell and Success, and create better dimensional links for the broader Cockburn Regional Centre.
Need and alternatives assessed	The suburban communities of Atwell and Success share important infrastructure such as a high school, regional sporting facilities and associated local centres. These communities have long been identified to be connected through the provision of a new freeway bridge at Bartram Road. Delivery of this infrastructure would connect these communities as well as provide a more effective dimension to movement across and throughout the Cockburn Regional Centre. This will service a current population of 33,000 (2016), and ultimate population of more than 50,000 (2036). It will create the necessary permeability that the southern growth corridor requires in order to relieve pressure on the freeway and current east west links of Armadale Road/Beeliar Drive and Russell Road.
Project timeframe	
- planning	2020/21
- design	2020/21
- approvals	2021/22
- funding	2021/22
- construction	2022/23
- completion	2022/23
Economic benefits	This infrastructure will provide increased access to the local centres within the respective communities of Atwell and Success. This will help to support the viability of these centres, which will assist further in local employment and wealth generation.
Social benefits	The connection of two suburban communities, including the connection with local civic, education and recreational facilities will provide additional east west capacity over the freeway and significantly reduce travel times to access these destinations and facilities.
Costs	\$40 million
Funding splits	
- Federal	\$10 million
- State	\$20 million
- Local	\$10 million
- Other	

Project 5	Duplication of Canning Bridge Traffic Bridge
Project description	Construction of a new bridge to allow traffic to be relocated from the existing Canning Bridge.
Need and alternatives assessed	Reduce congestion on the bridge allowing better traffic movement. Activity Centre Plan suggests should be completed within medium term 11-20 years (2026-2035). Opportunities to integrate light rail or bus rapid transit corridor as part of bridge design and construction
Project timeframe	
- planning	Integral to Canning Bridge Activity Centre Plan, Preliminary designs completed and business case prepared
- design	Detailed design completed by Main Roads WA
- approvals	Concept and preliminary design approved by PTA, Main Roads WA, WAPC and local government through the Activity Centre Plan.
- funding	No funding currently allocated to this project
- construction	3 years
- completion	Activity Centre Plan suggests should be completed within medium term being 10 Years (2025-2030)
Economic benefits	Reduce congestion on the bridge allowing better traffic movement and reducing the number of traffic light movements. Improve bus services
Social benefits	Increased capacity and reduced congestion along Caning Highway and on Kwinana Freeway on ramps and off ramps. Improved pedestrian access to river, bus station and train station
Costs	\$80 million, based on Main Roads estimates
Funding splits	
- Federal	\$40 million
- State	\$40 million
- Local	
- Other	

Project 6	Fremantle Northern Access Corridor
Project description	<p>Council recognise the importance of the northern access into the City, with this project seeking to make this both attractive and establish a more pedestrian and cyclist friendly access over the river.</p> <p>The project involves building a new Fremantle Traffic Bridge once the existing, historic listed one reaches the end of its useful life, which is understood to be about 2025/2030. The existing bridge is retained and re-used by pedestrians and cyclists as well as, importantly, the bridge becoming an important public space in itself. The bridge would have seating, lookouts and perhaps be the focus of regular markets. The concept draws on New York's High Line park.</p> <p>In the lead-up to developing a business case the City seeks to work with the State Government to confirm vehicle access to the port's north quay, with a particular view to making North Fremantle an attractive activity centre with heavy port traffic being separated from the area. The City would also see development of the Leighton Marshalling Yards for its intended recreation purpose as part of this work.</p>
Need and alternatives assessed	A range of alternatives for the Fremantle Traffic Bridge have been canvassed by Main Roads, including workshops in 2012. A holistic review of the bridge and surrounding areas is required to ensure optimum use of existing and future infrastructure.
Project timeframe	
- planning	2022/23
- design	2023/24
- approvals	2024/25
- funding	2025/26
- construction	2026 to 2029
- completion	2029
Economic benefits	To be determined as part of the business case
Social benefits	To be determined as part of the business case
Costs	\$84 million
Funding splits	
- Federal	
- State	\$84 million
- Local	
- Other	

FREIGHT

Project 7	Grade Separation - Freight Rail and North Lake Road
Project description	To provide for the grade separation of the freight rail crossing which exists along North Lake Road, immediately north of Lakes Shopping Centre within South Lake. The proposal involves the vertical grade separation of the freight rail and North Lake Road, with the likely geometry being North Lake Road passing under the freight rail.
Need and alternatives assessed	This project has been identified previously as a short term priority in order to improve the productivity and efficiency of freight rail and road traffic movements, and importantly address safety concerns for the current at grade intersection of North Lake Road and the freight rail line. North Lake Road is a major north south distributor road equidistant between Kwinana Freeway and the highway of Stock Road, and provides a regional road distribution function. Grade separation will assist both freight movement and traffic movement, and safety.
Project timeframe	
- planning	2017/18
- design	2018/19
- approvals	2019/20
- funding	2019/20
- construction	2019/20
- completion	2020/21
Economic benefits	Efficiency in freight movement, both in respect of freight on rail and freight on road, will have positive economic benefit. Reduced congestion along the key transport link between Cockburn Regional Centre and Fremantle Regional Centre and Murdoch Activity Centre will reduce the opportunity cost of such.
Social benefits	The most significant social benefit will be safety - for road users, pedestrians and cyclists.
Costs	\$50 million (cost is indicative only)
Funding splits	
- Federal	\$25 million
- State	\$25 million
- Local	
- Other	

Project 8	Grade Separation - Freight Rail and Rockingham Road
Project description	To provide for the grade separation of the freight rail crossing along Rockingham Road, within the suburb of Spearwood. The proposal involves the vertical grade separation of the freight rail and Rockingham Road.
Need and alternatives assessed	This project is necessary in order to improve the productivity and efficiency of freight rail and road traffic movements, and importantly address safety concerns for the current at grade intersection of Rockingham Road and the freight rail line. Rockingham Road is a major north south distributor road equidistant between the freight routes of Stock Road and Cockburn Road. It provides both a local and regional distributor function, in linking between these two freight routes. Grade separation will assist both freight movement and traffic movement, and safety.
Project timeframe	
- planning	2018/19
- design	2019/20
- approvals	2021/22
- funding	2021/22
- construction	2022/23
- completion	2023/24
Economic benefits	Efficiency in freight movement, both in respect of freight on rail and freight on road, will have positive economic benefit. Reduced congestion along the key transport link between Cockburn Road and Stock Road will also reduce the opportunity cost of such.
Social benefits	The most significant social benefit will be safety - for road users, pedestrians and cyclists.
Costs	\$50 million (cost is indicative only)
Funding splits	
- Federal	\$25 million
- State	\$25 million
- Local	
- Other	

PUBLIC TRANSPORT

Project 9	Multi-Storey Car Park Project – Murdoch Activity Centre
Project description	Relocation of the PTA train station commuter car park from the mixed use Health and Knowledge Precinct (Stage 2) site at Murdoch Activity Centre and the construction of a multi-storey car park at an alternative location
Need and alternatives assessed	<p>The development of the Murdoch Health and Knowledge Precinct (MHKP) is a priority for the establishment and activation of commercial and residential uses for both LandCorp and the City of Melville, with the Fini Group the preferred proponent to develop the Stage 1 of the MHKP including the Medihotel.</p> <p>The existing PTA car park west of the Kwinana Freeway servicing the Murdoch Train station is sited where Stage 2 of the MKHP is planned and it is now necessary to find an alternative location for the car park.</p> <p>The preferred option is for the PTA car park to be relocated and a multi-storey car park built on the eastern side of the freeway or an alternative location more suited to car and ride facilities (e.g. Bullcreek Train Station)</p>
Project timeframe	2017 to 2021
- planning	2017/18
- design	2017/18
- approvals	2018/19
- funding	2018/19
- construction	2020 to 2021
- completion	2021
Economic benefits	The removal of the PTA car park will unlock Stage 2 of the MHKP and attract investment from the private sector in the development of allied health and education facilities.
Social benefits	The development of Stage 2 of the MHKP will provide hundreds of construction jobs and be a contributor to the Murdoch Activity Centres anticipated 30,000 jobs, making it the largest employment centre outside the Perth CBD.
Costs	\$80 million
Funding splits	
- Federal	
- State	\$80 million
- Local	
- Other	

Project 10	Relocation of Canning Bridge Bus Station
Project description	Relocation of existing bus interchange on bridge over Kwinana Freeway and Canning Bridge Rail Station to a newly constructed Bus Station on the eastern foreshore immediately north of Canning Highway in accordance with approved Canning Bridge Activity Centre Plan.
Need and alternatives assessed	Reduce congestion on the bridge allowing better traffic movement and reducing the number of traffic light movements. Better pedestrian access. Improve access to and upgrade of river foreshore.
Project timeframe	
- planning	Integral to Canning Bridge Activity Centre Plan, preliminary designs completed, business case prepared
- design	Preliminary design completed by Public Transport Authority (PTA)
- approvals	Concept and preliminary design approved by PTA, Main Roads WA, WAPC and local government through the Activity Centre Plan.
- funding	No funding currently allocated to this project, but identified as a Priority 2 upgrade by Main Roads
- construction	2 years
- completion	Activity Centre Plan suggests should be completed within short term being 0-10 years (2015-2025)
Economic benefits	Reduce congestion on the bridge allowing better traffic movement and reducing the number of traffic light movements. Improve bus services
Social benefits	Better pedestrian access. Improve access to and upgrade of river foreshore. May integrate with a future river ferry service.
Costs	\$85 million, based on Main Roads estimates
Funding splits	
- Federal	
- State	\$85 million
- Local	
- Other	

Project 11	Rockingham City Centre Transit System ('RCCTS')
Project description	<p>Since 1995, the adopted planning framework for the Rockingham Strategic Metropolitan Centre has included provision for a public transit system that has had light rail or streetcars as the preferred mode.</p> <p>In 2002, the State Government decided that the Mandurah Railway would not pass through the Strategic Metropolitan Centre as planned. Instead the Rockingham Station would be built approximately 1.5km from the core of the Strategic Metropolitan Centre.</p> <p>At this time, the State Government committed to develop a rapid transit system to link the Station, City Centre, Murdoch University education precinct and Rockingham Beach area.</p> <p>A State Government Taskforce was established in 2003 which produced a Master Plan that determined an alignment that would allow bus and a light rail system to operate in the same corridor.</p> <p>Since the completion of the Rockingham Station in 2008, the RCCTS was partly implemented using dedicated buses traversing a combination of dedicated transit corridors and existing roads.</p> <p>The City's existing planning framework (<i>Rockingham Strategic Metropolitan Centre Activity Centre Plan 2009</i>) identifies the full alignment of the RCCTS as shown attached.</p>
Need and alternatives assessed	<p>Alternative alignments were assessed through the 2003 State Government Taskforce process.</p> <p>The approved alignment was deemed to be superior on operational grounds and its ability to stimulate development and investment as fore-shadowed in the endorsed <i>Activity Centre Plan</i>.</p> <p>The Taskforce also examined a range of technology options for delivery of the transit service including light rail/streetcars, replica trams, trolley buses and optical guided buses. The Taskforce concluded that light rail/streetcar was most appropriate, given its ability to stimulate investment and development, and contribute to place-making.</p>
Project timeframe	
- planning	Alignment dedicated in endorsed <i>Rockingham Strategic Metropolitan Centre Activity Centre Plan</i> .
- design	Following Commonwealth funding being secured for full prefeasibility.
- approvals	As above.
- funding	Options being examined including partnership with the Commonwealth Government through a value-capture model.
- construction	To be determined
- completion	To be determined

Project 11 cont.	Rockingham City Centre Transit System ('RCCTS')
Economic benefits	<p>There are numerous examples where light rail transit has been the catalyst for significant economic up-lift.</p> <p>The 2003 State Government Taskforce referred to examples of light rail infrastructure projects that have resulted in significant economic returns through increased property prices and accelerated investment. For example, in Portland USA, it was estimated that \$1.23 billion worth of development had occurred adjacent to the eastside light rail infrastructure. Also, in Dallas, property values in proximity to the DART light rail transit increased by an estimated 25%.</p>
Social benefits	<p>Based on the minimum residential density requirements within the walkable catchment of the RCCTS alignment, it is forecast that the light rail/streetcar infrastructure would result in an additional 24,000 people will be living within the Rockingham Strategic Metropolitan Centre.</p> <p>The enhanced residential population will directly increase the potential for additional employment opportunities and improved social outcomes with more people being closer to services and facilities. It also has the potential to increase vibrancy and result in reduced social dislocation and crime.</p>
Costs	<p>Estimated at \$150 million based on \$25 million/kilometre including 3 x light rail vehicles at \$5 million each</p> <p>The City, in conjunction with the South West Group, is developing a Business Case which introduces value capture as a means to assist in funding the RCCTS.</p>
Funding splits	
- Federal	\$50 million
- State	\$80 million
- Local	
- Other	\$20 million (value capture based on 15%)

Project 12	Cockburn Central to Fremantle Passenger Rail - Metronet
Project description	The delivery of the southern Metronet passenger rail legs associated with the broader cross corridor Metronet proposal.
Need and alternatives assessed	East west links across the south east and south west growth corridors are limited, and essentially non-existent in respect of passenger rail. The creation of the Metronet proposals for the southern corridor will link the opportunity for the significant growth of communities and centres along these routes. The likes of Fremantle and Cockburn will become major interchanges as the southern metropolitan stations that link to all parts of the metropolitan passenger rail network.
Project timeframe	
- planning	2019/20-2020/21
- design	20/21-2021/22
- approvals	2022/23
- funding	2023/24-2027/28
- construction	2023/24-2027/28
- completion	2024/25-2028/29
Economic benefits	This infrastructure will provide for the necessary improvements in connectivity across the south east and south west growth corridors, creating new accessibility for jobs and business growth along the communities that exist on the route.
Social benefits	Employment, industrial, commercial and broad based economic growth that will benefit the standard of living of the surrounding communities,
Costs	\$600 million
Funding splits	
- Federal	\$300 million
- State	\$300 million
- Local	
- Other	

Project 13	Murdoch to Fremantle Light Rail
Project description	<p>Creation of a light rail system from Murdoch Specialised Activity Centre to Fremantle train station, primarily using a corridor along South Street.</p> <p>The project has two initial objectives:</p> <ol style="list-style-type: none"> 1. Refine the proposed corridor to a route alignment based on development potentials along the corridor's length. 2. Working through the SW Group, and with landowners and the state government, develop a business case for implementation of the proposals. <p>Implementation actions will arise from the business case.</p>
Need and alternatives assessed	The Murdoch to Fremantle light rail transit (LRT) corridor was identified during the planning of Cockburn Coast, with further evaluation of the route alignment undertaken by UWA as part of a research project. The South West Group has worked with the Cities of Fremantle and Melville in further refining the route and development nodes.
Project timeframe	
- planning	2017/18 to 2018/19
- design	2019/20
- approvals	Business case by 2020
- funding	2021 to 2025
- construction	2026 to 2029
- completion	
Economic benefits	<p>Depending on the service headway provided, very preliminary figures indicate a light rail system will unlock the potential for some 3,500 to 13,000 new dwellings. These figures will need refining as the business case develops, and made particular to the Murdoch-Fremantle corridor as they, at present, relate to all routes looked at in Perth's SW area.</p> <p>In addition it can be expected that the system will contribute to business activity in Fremantle's CBD, which is already seeing some \$1.4 billion in new investment including the regeneration of King's Square. Through linking light rail to the cruise ship terminal at the inner harbour, further patronage can be expected, especially if the light rail links down to the Cockburn Coast.</p> <p>The business case will detail economic benefits.</p>
Social benefits	The business case will need to develop measures for these which can be expected to focus on lower levels of air pollution (and better health) by removing cars from the road, improved travel times benefiting health and family life and delivery of the state's planning objective requiring 47% of new development to be within the existing urban area.

Project 13 cont.	Light Rail from Murdoch to Fremantle
Costs	\$350 million estimate based on \$25 million/kilometre plus light rail vehicles
Funding splits	
- Federal	\$150 million
- State	\$150 million
- Local	
- Other	\$50 million (value capture, based on 15%)

OTHER

Project 14	Rockingham Beach Foreshore Master Plan Stage 2
Project description	<p>In mid-2015, the City of Rockingham adopted the <i>Rockingham Beach Foreshore Master Plan</i> to provide direction to the evolution of this regional foreshore asset.</p> <p>The foreshore is 4km in length and contains the historical Rockingham Beach townsite which has changed in its role and function as the greater Rockingham region has experienced sustained growth.</p> <p>The <i>Master Plan</i> seeks to improve the public spaces, including the foreshore itself and some adjacent roads within the Rockingham Beach townsite, to move from a car focussed to a pedestrian orientated destination.</p> <p>Stage 1 of the <i>Master Plan</i>, comprising an upgrade to Railway Terrace, the creation of a sophisticated public meeting/events space (the 'Beach Plaza') and an upgraded boardwalk that connects a row of restaurants to the beach, will commence in April 2018 at a cost of \$12.5M.</p> <p>Stage 2 involves implementing the balance of the <i>Master Plan</i> and includes a major upgrade of Rockingham Beach Road, the creation of a regional water play facility, a new town jetty, improvements to existing building/fixtures and coastal protection (refer to attached plan).</p>
Need and alternatives assessed	<p>The <i>Master Plan</i> project was an outcome from <i>City of Rockingham Economic Development Strategy 2014 – 2017</i>. It was recognised that by improving the public spaces and attracting more people to the precinct, existing traders would benefit, jobs would be created and there would be greater incentive for under-developed sites to reach their potential.</p> <p>Through the <i>Master Plan</i> process, numerous design alternatives were established prior to the final plan being adopted.</p> <p>The process preceding the adoption of the <i>Master Plan</i> involved two rounds of consultation with the various stakeholders. The initial stage allowed the stakeholders to set the design vision with the second stage involving input to assist in refining the design.</p>
Project timeframe	
- planning	Master Plan completed, July 2015.
- design	Stage 2 detailed design – 12 months from funding commitment.
- approvals	Unlikely that approval required – land vested in City of Rockingham and works consistent with purpose of reserves.
- funding	To be determined
- construction	24 months from funding commitment.
- completion	36 months from funding commitment.

Project 14 cont.	Rockingham Beach Foreshore Master Plan Stage 2
Economic benefits	<p>As detailed above, the project has economic growth at its core being an action from the City's <i>Economic Development Strategy</i>.</p> <p>Through an <i>Economic and Social Evaluation</i> (RPS, 2015), it has been established that the implementation of the <i>Master Plan</i> will:</p> <ul style="list-style-type: none"> - increase visitation to the foreshore by at least 5% per year. - directly and indirectly support over 808 FTE jobs. - accelerate the estimated \$769M of potential private redevelopment. - increase safety by reducing vehicle accidents by 63.5%.
Social benefits	<p>Rockingham is a socially disadvantaged region, compared to the greater Perth region, with respect to unemployment, employment self-sufficiency, income, general health and crime.</p> <p>It has been demonstrated through a 'Social Impact Assessment', within the <i>Economic and Social Evaluation</i>, that implementation of the <i>Master Plan</i> will assist in addressing these social inequities by:</p> <ul style="list-style-type: none"> - Resulting in less social dislocation and crime. - Improved vibrancy through increased visitation. - Increased active transport and exercise opportunities. - Increased job opportunities (as detailed above) and wage growth.
Costs	\$40 Million
Funding splits	
- Federal	\$10 million
-	
- State	\$20 million
- Local	\$10 million
-	
- Other	

Project 15	Fremantle Oval Redevelopment
Project description	<p>Fremantle Oval has been a major sporting venue in the heart of the city since its opening in 1897. With the Fremantle Dockers football club re-locating to Cockburn, the opportunity now arises to re-integrate the oval into the heart of the city.</p> <p>The project involves:</p> <ul style="list-style-type: none"> • re-establishing strong pedestrian links across Parry Street, which is an effective barrier at present • re-developing the Stan Riley site as part of a wider activation of the street edge along South Terrace from the Fremantle Markets to the Fremantle Hospital • examining, and activating, the development potential of the hospital now that emergency services have moved to Fiona Stanley Hospital • establishing more intimate links between the Fremantle Prison Heritage Precinct and the central business district • establishing better connectivity between the Prison and Alma Street and Hampton Road • implementing an integrated process with the hospital to identify development opportunities on the hospital site and bring these to market
Need and alternatives assessed	A range of alternatives have been assessed, with the redevelopment as part of the wider prison and hospital precincts and increased public access, providing the greatest potential
Project timeframe	
- planning	2017 to 2019
- design	2019 to 2020
- approvals	2020/21
- funding	2021/2022
- construction	2022 to 2025
- completion	2025
Economic benefits	Significant, but requires further assessment as part of the business case
Social benefits	The redevelopment of the precincts will create greater diversity of uses, vibrancy and activation of the area. The improved public access will enhance amenity and better utilise an area that currently experiences limited public.
Costs	\$100 million
Funding splits	
- Federal	
- State	\$90 million
- Local	
- Other	\$10 million

Project 16	Australian Marine Complex Technology Precinct
Project description	The delivery of the next stage of the Australian Marine Complex, being the technology park, which requires final land acquisition and commitment to land subdivision and development, including location and attraction of key R&D based firms.
Need and alternatives assessed	There has been a lack of commitment to the delivery of the next stage of the AMC, being the technology and research precinct located on the corner of Rockingham Road and Russell Road. Remaining competitive in the ship building, oil, gas and deep sea exploration industry cluster that AMC is regarded for requires emphasised investment in the research and development components. This links with the future of AMC as being a key strategic defence construction hub, as well as position for the next phase of oil and gas production/exploration.
Project timeframe	
- planning	2017/18
- design	2018/19
- approvals	2019/20
- funding	2020/21
- construction	2022/23
- completion	2023/24
Economic benefits	This infrastructure will provide for the necessary next steps that the AMC needs to take in respect of being recognised as the world leader in ship building, oil, gas and deep sea exploration. This will enable the continued exportation of products that have been valued added through knowledge and manufacturing expertise that is unique to the AMC.
Social benefits	Significant employment, industrial, commercial and broad based economic growth that will directly benefit the standard of living of the surrounding communities,
Costs	\$40 million
Funding splits	
- Federal	\$10 million
- State	\$30 million
- Local	
- Other	

Project 17	East Fremantle Football Oval Precinct Redevelopment
Project description	The redevelopment of the East Fremantle Football Oval Precinct for recreational, community and residential uses.
Need and alternatives assessed	<ul style="list-style-type: none"> - Provide improved and efficient uses on an underutilised site. - Provide recreational land south of Canning Highway. - Rationalise and provide synergies for local community groups and clubs. - Increased residential developments to accommodate Perth and Peel @3.5 million densities.
Project timeframe	
- planning	18 months
- design	24 months
- approvals	24 months
- funding	60 months
- construction	36 months
- completion	2029
Economic benefits	<ul style="list-style-type: none"> - Synergies with sporting clubs and organisations, including additional community facilities. - Suitable use of underutilised land. - Potential for increase of residential development therefore additional rates and businesses.
Social benefits	<ul style="list-style-type: none"> - Improved community and club facilities. - Additional residential development for the area, creating communities. - Suitable place-making and urban regeneration of an underutilised site.
Costs	\$15 million (estimate only)
Funding splits	
- Federal	-
- State	\$5 million
- Local	\$5 million
- Other	\$5 million (public/ private partnership)

Project 18	Cockburn Coast Switching Yard Relocation
Project description	To provide for the relocation of the South Fremantle Power Station Switching Yard from its current coastal location to a location further inland in order to fast track implementation of the Cockburn Coast redevelopment and specifically the power station precinct.
Need and alternatives assessed	LandCorp has investigated the feasibility of relocating the current Western Power switching yard and high voltage power line infrastructure from its location adjacent to the former South Fremantle Power Station. The current switching yard is located in a prime development site identified in the Cockburn Coast Structure Plan. Given the significance of this infrastructure and the potential future investment and economic costs in delaying the implementation of the Cockburn Cost development, this project represents a critical infrastructure constraint required to be removed to enable future development stages of this urban renewal project to occur.
Project timeframe	
- planning	2020/21
- design	2021/22
- approvals	2022/23
- funding	2023/24
- construction	2024/25
- completion	2025/26
Economic benefits	Will remove a significant constraint limiting the implementation of the intended urban renewal of the South Fremantle Power Station precinct as part of Cockburn Coast. This will create opportunity for commercially based mixed use development, including opportunities for a major coastal tourism node with potentially national or international draw in terms of the iconic architecture of the retained power station building and its breathtaking coastal views.
Social benefits	The creation of a major tourism and residential draw card coupled with a new regionally significant beach node environment.
Costs	\$70 million
Funding splits	
- Federal	
- State	\$70 million
- Local	
- Other	

PROJECT	COST EST. (\$M)	TIMEFRAME																			
		2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38
PORTS																					
Kwinana Outer Harbour Planning & Business Case (#)	\$20	\$10	\$5	\$5																	
South Quay and Victoria Quay/Fremantle Station (*)	\$3,607		\$5	\$10	\$5	\$170	\$170	\$170	\$150	\$150	\$0	\$175	\$175	\$175	\$350	\$180	\$180	\$180	\$450	\$450	\$462
ROADS																					
Spearwood Ave Bridge Duplication over Freight Rail	\$5					\$5															
Additional Lanes Kwinana Freeway-Miller to Russell Rd	\$200					\$50	\$50	\$50	\$50												
Bartram Road Freeway Bridge	\$40						\$40														
Duplication of Canning Bridge	\$80								\$20	\$20	\$20	\$20									
Fremantle Northern Access Corridor	\$84										\$21	\$21	\$21	\$21							
FREIGHT																					
Freight Rail Grade Separations - North Lake Road	\$50			\$25	\$25																
Freight Rail Grade Separations - Rockingham Road	\$50					\$25	\$25														
PUBLIC TRANSPORT																					
Multi-Storey Car Park- Murdoch Activity Centre	\$80		\$80																		
Relocation of Canning Highway Bus Interchange	\$85			\$30	\$30	\$25															
Rockingham City Centre Transit System	\$150			\$50	\$50	\$50															
Cockburn Central to Fremantle Passenger Rail	\$600							\$120	\$120	\$120	\$120	\$120									
Murdoch to Fremantle Light Rail	\$350								\$50	\$50	\$75	\$75	\$100								
OTHER																					
Rockingham Beach Foreshore Redevelopment	\$40		\$10	\$10	\$10	\$10															
Fremantle Oval Redevelopment	\$100				\$25	\$25	\$25	\$25													
AMC Technology Precinct	\$40				\$10	\$20	\$10														
East Fremantle Football Oval Precinct Redevelopment	\$15							\$5	\$5	\$5											
Relocation of Cockburn Coast Switching Yard	\$70							\$35	\$35												
TOTAL ANNUAL FUNDING (\$M)	\$5,666	\$10	\$100	\$130	\$155	\$380	\$325	\$405	\$430	\$340	\$236	\$411	\$296	\$196	\$350	\$180	\$180	\$180	\$450	\$450	\$462
Total State Funding (\$M)	\$1,718	\$10	\$95	\$75	\$95	\$133	\$137	\$152	\$166	\$105	\$110	\$150	\$115	\$40	\$35	\$40	\$40	\$40	\$60	\$60	\$60

(#) Outer Harbour and component infrastructure components construction to be included following completion of planning and business case

(*) See MacroPlan report on City of Fremantle website.