WESTPORT Beacon 13

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Future-proofing Perth's freight network

An indicative illustration of an uninterrupted, modern freight corridor via Anketell Road and Tonkin Highway

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Kwinana freight corridors

The State Government has endorsed Westport's preferred option for the location and footprint design for Western Australia's next primary container port.

The development of new port infrastructure in Kwinana provides a prime opportunity to design freight corridors to efficiently move containers across the Perth metropolitan area with minimal impact on existing road users.

The new port will have good access to an enhanced rail freight network and a high-standard freight corridor, both of which will take heavy freight traffic away from busy highways in the metropolitan area.

The Anketell Road corridor location was chosen due to its proximity to the proposed port site, the ability to achieve good freight efficiency, and minimal urban development planned along that corridor.

See *Westport Beacon 11: Perth's future port* to read the details about the options, the benefits of a new port and the drivers that may trigger the need for Perth's new port.

The importance of an efficient supply chain

Western Australia's population is increasing and with it, the demand for more imports and exports to be carried along our roads and railways, and through our ports.

As the Outer Harbour and the industrial areas along the Cockburn and Kwinana coastlines develop and expand over the coming years, the east-west connections to the Kwinana Freeway and the logistics hubs in outer metropolitan areas will become increasingly vital in supporting the effective movement of freight.

The development of new port infrastructure in Kwinana is a significant opportunity to design robust supply chain infrastructure that will provide efficient freight access for the future.

Through detailed investigations including several multi-criteria analyses, risk analyses and cost-benefit analyses, as well as comprehensive collaborations with stakeholders, Westport has identified the best-performing port options and supply chain connections to handle WA's growing container trade task.

More consultation and engagement with local communities will take place as technical investigations continue and plans become more detailed and better understood.

Westport's supply chain investigations

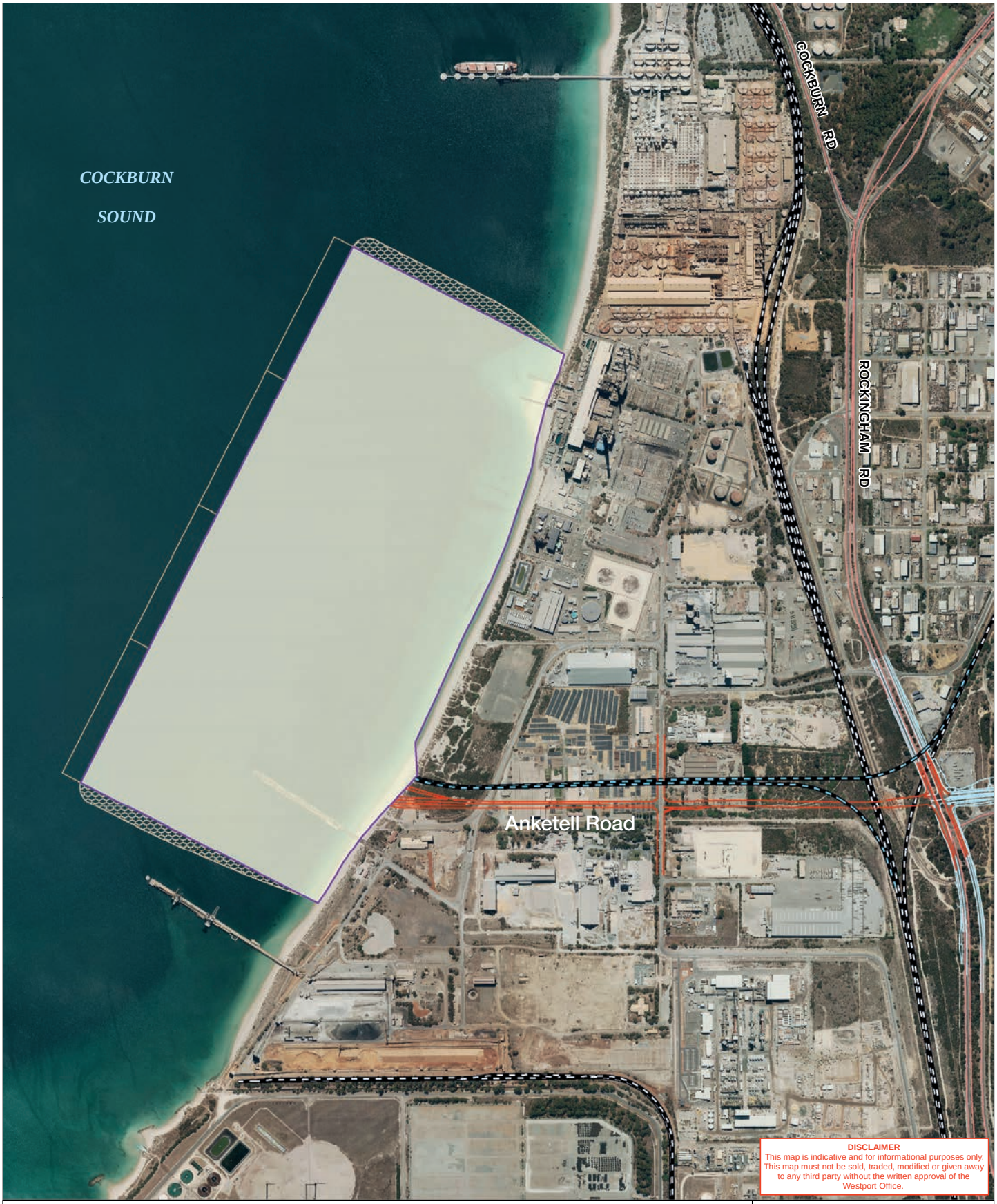
To understand the required road and rail connections, Westport's Stage 2 investigations provided a holistic review of the WA container port and supply chain in a strategic context. Considerations included changing circumstances, planned investment, forecast trade growth and local and global trends not recognised or apparent in previous port planning exercises.

The assessment of the potential volumes of WA container freight was predicted based on 50-year forecasts of trade activity, and forecast global and Australian macro-economic indices.

A working assumption was made that containers would be distributed from the port by rail (30%) and road (70%).

This assessment of required road and rail capacity subsequently was used to determine future supply chain infrastructure needs such as intermodal hubs.

In arriving at the preferred location and freight options, Westport considered what freight system infrastructure would look like for all shortlisted port development options to the year 2067-68. Assessment of road and rail capacity was undertaken in collaboration with Main Roads Western Australia and Arc Infrastructure. In addition to container freight, the studies considered non-container freight heavy vehicles, passenger vehicles, and non-container rail freight in the capacity assessments, using road capacity modelling tools such as Main Roads' Regional Operations Model (ROM24), microsimulation and Arc Infrastructure's in-house modelling methods for rail capacity.



Port Footprint
Rock Revetment
Berth

Freight Rail Track (Indicative)
Last Mile Road Design (Indicative)
Road Network Design (Indicative)

Freight Rail (Existing)
Freight Road (Existing)

N

0 500

Metres

Produced by the Westport Taskforce, DoT WA.
Base Information: WALIA, DOT, SLIP 1047-2017-1 & WAPC.
File: \\esssvr01\Archive\Westport\MapDocuments\COMMS_ShortListOption_B_Stage1_A3.mxd

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GOVERNMENT OF WESTERN AUSTRALIA

WESTPORT
Port and Environs Strategy

SHORTLIST OPTION B STAGE 1

What infrastructure is needed for the new Kwinana port?

The new port located between the Kwinana Bulk Terminal and the Alcoa jetty, would be serviced by an extended Anketell Road corridor connecting to Tonkin Highway and by an improved South West Main railway line.

Road

Road infrastructure upgrades would be required to service the forecast traffic demand, including port freight movements. The primary road freight access to the future port would be via Anketell / Thomas Road extending from the port to Tonkin Highway, with Tonkin Highway providing regional connectivity to strategic industrial areas. Anketell / Thomas Road would be upgraded to a high-standard, four-lane divided freight route with central median.

In order to increase freight efficiency and safety, direct property access would be removed from the freight route by providing service roads, and grade separation would be provided at high-volume cross roads. The new port will be connected by an uninterrupted, modern freight corridor via Anketell Road and Tonkin Highway.

Rail

Westport has assessed the ability of the railway system to accommodate the likely increased container numbers moving by rail. Bottlenecks in the current rail infrastructure have been identified which will impact on future port operations – as well as Kwinana industry more broadly – if not addressed.

Tackling critical constraints that could hinder future growth in the freight supply chain is one of Westport's key objectives.

Rail upgrades under investigation include duplication of a 13km section of track between Kwinana and Cockburn and a marshalling yard at Kwinana. An upgraded rail network could support at least 1.7M TEU* on rail and also provide efficiencies for bulk freight traffic servicing export berths and industrial facilities in Kwinana.

A further advantage of these upgrades is the operational flexibility they provide, which helps the rail system provide low cost freight options to its users.

Intermodal terminals (IMTs)

Supply chain infrastructure is being planned to efficiently distribute up to 2.6M TEU by road and up to 1.2M TEU via rail by 2068. To handle this volume on rail requires a network of efficient IMTs, able to process trains, trucks and containers quickly and at low cost. WA is currently in the early stages of developing its metropolitan and regional IMT network to handle greater volumes, at speed and with improved reliability.

The new port and upgraded rail corridors will remove network constraints and make expansion of IMT facilities viable. Hence this will likely act as a catalyst for private sector investment in IMT capacity and improved network integration.

* TEU = Twenty-foot equivalent unit, which is the volume measurement for shipping containers.

FREIGHT RAIL UPGRADES WITHIN THE SUPPLY CHAIN NETWORK

Intermodal Terminal Site (Proposed)

Intermodal Terminal Site (Under Construction)

Intermodal Terminal Site (Existing)

Freight Road (Existing)

Freight Rail (Existing)

0 10

Kilometers

Produced by the Westport Taskforce, DoT WA.
Base Information: WALIA, DOT, SLIP 1047-2017-1 & WAPC.
File: \\esssvr01\Archive\Westport\MapDocuments\
WP18_Reports\Stage2_Outcomes_Report\Technical_Report\Maps\
WP_MCA2_IMTSites_A3.mxd
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INTERMODAL TERMINAL SITES

There's more work to be done

New port infrastructure in Kwinana will require investment in the major road and rail freight corridors. The full extent and specific nature of these upgrades will be determined during the next stage of Westport's work and will be subject to environmental approvals.

A summary of additional road and rail work to be undertaken in Westport's next stages will include:

- detailed rail and road planning and design;
- refinement of previously undertaken traffic modelling;
- comprehensive environmental and heritage investigations;
- noise modelling;
- investigations to progress corridor protection;
- specific consultation with impacted landowners and other stakeholders; and
- services investigations, including electricity, water, gas, telephone and NBN.

Where can I find out more information?

For more details on Westport's future port and supply chain options and recommendations, please visit **mysaytransport.wa.gov.au/westport**