ENABLING THE
WESTERN TRADE COAST
Creating WA’s World Class Industrial Destination
A Perspective from Industry
Note: All quotes used in the document have been taken from interviews across industry members and SMEs who conduct business within the WTC.

Photos provided by Kwinana Industries Council and Regional Development Australia Perth.

About the authors:

Saga Communications

Saga Communications offers a strategic communications consultancy by analysing businesses and articulating activities to communication outcomes. Annual Reports, online marketing, websites, newsletters, copywriting investor materials or social media – whatever communication channels are required to help you succeed. Saga provides personal service that is values driven.

Long Front Advisory Services

Long Front Advisory Services provides governance, strategy and policy advice with an emphasis on driving progress toward net-positive, fully costed economic and business arguments for reform and development programs. This includes consideration of wider costs and benefits to ensure investors, rate- and tax-payers avoid embedding hidden costs that cost productivity, undermine living standards and disrupt community wellbeing.

Regional Development Australia Perth (RDA Perth) has coordinated and helped to fund this report through Colleen Yates who has also been a co-author in shaping the ideas.

RDA Perth would like to thank its contributing partners: Kwinana Industries Council (KIC), Henderson Alliance and Li Valley Inc. A special thanks to Chris Oughton, CEO of KIC, who has provided detail from his member organisation regarding specific infrastructure needs for the district. This report was prepared through RDA Perth and does not represent the views of the Australian Government, its officers, employees or agents.
If Australia is the ‘lucky country’, Western Australia must be the luckiest of its States. Blessed with beautiful coastlines, a fertile wheatbelt, and abundant minerals, ours is a story of constant growth and achievement based on these natural resources.

Beyond stewardship of the land, Western Australia is defined by the capacity of its people to capitalise on these advantages and create social, economic and cultural wealth that makes the State the envy of the world.

Growth, and our ability to manage it, is the backbone of Western Australia’s story. Our high points are defined by those governments whose foresight has allowed us to profit from our natural benefits, and our lows by those who have simply taken them for granted.

When faced by challenges both internal and external, our survival and success has always been driven by leaders who can create opportunities from duress and channel the dynamism and optimism of the people to keep our forward momentum.

Recent years have seen such an environment of challenge, with the ups and downs of resource exports, global financial stresses, and an unimagined pandemic impacting on the lives and livelihoods of all Western Australians.

As a State we have become aware our social and economic security is transient and dependent on external factors. Reliance on past systems has shown vulnerabilities for our future, and as a people we are now looking for a way forward that lets us create our own security and identity.

We are recognising that a robust industrial sector provides jobs and economic self-reliance. We are recognising that selling our resources to others rather than processing them ourselves is a wasted opportunity. We are recognising that we are Australia’s connection to new markets that can bring untold wealth. We are recognising that we need to diversify our society and economy beyond the resource sector.

We have everything we need to move forward to the next stage of our growth.
While resources may have been the previous chapter of our history, the next will be defined by what we do with those resources and how we effectively trade them with the world.

The Western Trade Coast is our global gateway, linking us to billions of dollars of wealth in new markets across the Indian Ocean Rim and beyond. With a special economic zone to attract investment, a deep water port to manage the greatest of ships, effective transport arteries to carry goods, and a world class industrial sector employing thousands of skilled workers, it will rank in the top echelon of international trading hubs.

The future of Western Australia is being written now, and this document hopes to provide a measure of guidance to help us all take greatest benefit of the advantages our State has given us.
INTRODUCTION

The world is undergoing an industry renaissance, where sustainable innovation trumps productivity. Further triggered by COVID-19, we are finding new ways of living, working, interacting, innovating and doing business.

We are learning that we need to better capture downstream economies from our natural resources. This renaissance requires world class industrial estates to drive strong economic growth into the future. Western Australia is lucky to have such a location: the Western Trade Coast (WTC).

The WTC covers well over 5,000ha of industrial and defence facilities identified to be the strategic western gateway for Australia. Located 30 minutes south of the Perth CBD the facilities have direct links to air, sea, road and rail networks making it the ideal location for future investment opportunities to drive diversified economic development, future industries, new technologies and jobs growth for Western Australia. Within this area sits the following zoned activities:

- **Australian Marine Complex (AMC)** – a manufacturing, fabrication, assembly, maintenance and technology servicing the marine, defence, oil and gas, and resource industry;
- **Rockingham Industrial Zone** – The zone includes seven precincts covering 1,150ha suitable for warehousing, transport and logistics, medium to large fabrication works and maritime-related industries and will support future demand from the Kwinana Industrial Area for heavy industries;
- **Kwinana Industrial Area** – 2,400ha home to a highly diverse range of operations and industries including fabrication and construction services, heavy process industries such as alumina, nickel and oil refineries, and a port that currently handles bulk cargo including grain, petroleum, petroleum gas, alumina, mineral sands, fertilisers and other bulk commodities;
“The building of a new bulk and container port terminal is vital – it’s why we moved here. It’s vitally important and effective support infrastructure around it will be necessary.”
• HMAS Stirling – the Royal Australian Navy’s primary base on the west coast of Australia and the Indian Ocean region. Amenities included berthing and wharves, vessel repair and refit services, a ship-lift, and a helicopter support facility, as well as medical facilities, fuel storage and accommodation; and

• Latitude 32 Industrial Zone – a 1,400 Ha industrial land use zone flanking the AMC and the Kwinana Industrial Area to the east.

One of the fastest growing industrial zones in Australia, the WTC is a port region making it an ideal manufacturing hub. With access to the Indian Ocean, the WTC provides the nation’s most advantageous access to trading partners from South East Asia across to Africa and India, and is increasingly attracting businesses that are looking towards the next step in the State’s strategic economic development opportunity – the new energy economy. The WTC provides 11,000 direct jobs and 26,000 indirect jobs contributing $16B to the State’s economy.¹

Western Australia also has some of the world’s most abundant deposits of energy metals that can be used in advanced energy production and storage, such as lithium, nickel, and cobalt, placing it at the forefront of the global sustainable energy revolution.

Essential to this is the capacity to capture downstream processing making the WTC an ideal location as it possesses an integrated ‘industrial symbiosis’; where companies located within the district engage in innovative collaborations with over 158 continuous exchanges between them.

¹ Western Trade Coast Integrated Assessment 2014 – Environmental, Social and Economic Impact. Sinclair Knight Merz
The WTC has come to a developmental crossroad, where there is pressures that threaten to remove the WTC advantages and render the area unable to further optimise the unique benefits it has. There are some significant constraints impeding the area from becoming a true jewel in the crown for the state. Some of these constraints include:

- A weakly defined and preserved industrial buffer zone
- Adequate supply of industrial process water – current supplies at limits
- Rail / port infrastructure at capacity
- Inefficient State and local governance
- Lack of a strategic plan
- Reduction of ready-to-market industrial land availability
- Regulatory red tape issues

This document, supported by industries and SMEs located across the WTC, identifies recommendations essential to the future of the district. Some recommendations have already been addressed through other initiatives and are supported by industry, such as the Westport process, have been listed as part of this document. Other recommendations have been generated through interviews with key industrial players and SMEs across the WTC to provide insight into what industry sees as solutions to some of the WTC’s constraints.

Development of this area would be a statement to the world that Western Australia is on the cutting edge of industrial development and will position it as an industrial, freight logistics and export driver of the Indian Ocean Basin.

“Protecting the WTC from encroachment is vital. Residential buffer zones need to be firmly established to allow business to flourish.”
Australia ranks less competitively than many other countries when it comes to incentivising trade, particularly in areas such as labour, infrastructure, tariffs and competition in services.

WA fails to capture much of its value-add manufacturing opportunities across agri-business and the energy metals supply chain. Instead, WA exports these raw materials unprocessed to other countries who in turn add value and re-export for global consumption.

Additionally, ad-hoc decisions can invariably lead to losses in opportunity when assets become under utilised or provided for scenarios of low value turning away potential strategic prospects of higher value. The consequences of this decision making reduces long term net gains to the State and industry.

The Western Trade Coast encompasses a range of industry and maritime freight and logistics activities. It is the premier industrial zone in Western Australia and is adjacent to the preferred location for the State’s primary container, bulk and general cargo port.

---

2 Cain, C, Accelerating Global Competitiveness: Special Economic Zones, 2019
Considerable planning is under way into how this new port will be designed and connected to inland supply chains. Equal attention to how it will be governed will be just as important. The arrangements will determine the State’s capacity to scale public and private investments in industrial and freight logistics, jobs and growth over time. The ideal framework will maximise agility and connectivity between private industry within these assets and without compromising government oversight or community values. The Western Trade Coast is a patchwork of titles, zonings and governance arrangements that retard growth and investment, and limit productivity. Once consolidated, the value of the combined assets is projected to attract significant investment and ongoing returns to Government and the economy. Legislation to manage the two as an integrated asset is projected to substantially increase their joint value, because of the scale of the synergies between industry, the port, and inland and global supply chains. This value is greater than the cumulative value of the port and industrial area managed separately.

Recommendation 1.1:
It is recommended that the Western Trade Coast encompasses WA’s premier marine freight and strategic industry hubs and are strategic assets of significant value. To realise this value, significant consolidation under the auspices of a development authority is proposed.
The Indian Ocean is a region of growing geostrategic significance. It is a crucial conduit for global trade, accounting for half the world’s container traffic, one-third of bulk cargo transport and around two thirds of the world’s maritime oil shipment. It includes some of the world’s fastest growing economies, driven by large, youthful and upwardly mobile populations, and huge reserves of natural resources. It is also home to some of the world’s largest energy exporters and consumers.³

Global Competitiveness
In order for the Western Trade Coast to exist as a world-class trade and manufacturing zone, a world-class port is a necessity. A future-proofed port facility is not only a practical requirement to manage the increased trade demands of the WTC, but also stands as a symbol of Western Australia’s commitment to be a leading trade player in the Indian Ocean Region. Development of a world-class port is the trigger for the next step in the evolution

³ Joint Standing Committee on the National Capital and External Territories; Inquiry into the Strategic Importance of the Indian Ocean Territories; January 2017
of Western Australia’s economy. It signals that our State recognises the need for a diversified economic base including new industry and increased manufacturing capacity. It tells investors that our government and populace are willing to commit to a new chapter of trade and engagement, and provides local industry with the confidence to ramp up operations.

The primary needs of globally-competitive ports are:

• A deep water port access that can support current and incoming generations of vessels.
• Container management capacity that not only matches forecasts but allows adaptive response to changing conditions.
• Transport arteries that provide free and efficient access to surrounding industrial areas and regional locations.

This document supports Westport Option 23 because it fulfils the criteria required to allow Western Australia to assume and remain at the leading competitive edge of Indian Ocean trade. While other options presented provide some measures of increased capacity, updating existing infrastructure only provides a stop-gap solution. Any new development needs to be fully realised, rather than a partial solution that introduces uncertainty or barriers to access.
Kwinana port infrastructure

In addition to the need for a new port, a primary barrier to the growth of the Western Trade Coast have been the limitations of the Government’s port infrastructure, Bulk Terminal (KBT) and the Kwinana Bulk Jetty (KBJ). Both facilities are operating at (or are close to) operating capacity, and require major technological and infrastructure capacity upgrades in order to competitively service the needs of the area.

As it stands, limited berth availability results in significant delays with up to 33% excess of target service capacity. Upgrading the channel and depth capacity of both facilities to be able to berth capsize vessels (such as Very Large Bulk Carriers, Very Large Ore Carriers and Very Large Crude Carriers) would remove this growth constraint and allow them to provide significant support to help facilitate the development of the WTC.

These channel and depth requirements align with those of the new port, allowing multiple berthing points along the WTC coastal areas that are able to manage capesize vessels, providing full flexibility for managing service capacity and easing navigation congestion.

In addition to full-depth berths and channels, for the new port to operate at peak efficiency, Intermodal Terminal (IMT) design is recommended as the backbone premise of the precinct, both for the new port and the KBT and KBJ.

Intermodal terminals are the interface between different transport modes and are essential to efficient freight movement. Ships do not make the most money while docked, nor do goods awaiting transport, so facilitating the most rapid loading and unloading processes provide an exponential return on investment. IMT facilities aim to move containers seamlessly between ships and waiting transport, for example high-stacking options that provide autonomous high-volume container movement with a low land footprint due to vertical processing.

By allocating sufficient industrial land around the port facilities, ongoing development on medium/long term planning scales can be enabled. If insufficient land is allowed, then growth chokepoints are expected where expansion necessitates an ongoing process of renegotiating surrounding land use. A clear plan to provide a measured allocation in the port facility boundary area will create a sustainable investment and development environment.

---

Transport Capacity

The new port will function as a gateway from Western Australia to the world, and in order to function as a world class facility it requires the most efficient transport infrastructure. For goods to travel most rapidly and economically to and from the port, road and rail access both directly into the port area and integrated within the greater WTC needs to be viewed holistically.

To provide a major freight route linking the Kwinana Freeway with Rockingham Road, constructing Rowley Road to a four-lane highway standard and extending it west from the Kwinana Freeway (Frankland Avenue) to Rockingham Road would be the most cost and time effective solution. This would also directly service the Latitude 32 industrial area and provide a transport load balance between northern and southern WTC access points.
“A framework is necessary from government to provide targets for what industry needs to plan for in terms of zero carbon landscape.”
Direct road access to the Southern sector of the new port area with a high freight capacity is necessary to support increased transport load for existing industry and to sustain the growth trajectory of the WTC. Extending Anketell Road east to Tonkin Highway and west of Rockingham Road would allow this, ensuring it is grade separated as well as high and wide load enabled. In order to allow for long term capacity development, a freight-only corridor along the middle of the road is suggested, providing the ability to manage double stacked container trains or platooning trucks.

The Fremantle-Rockingham Controlled Access Highway was previously conceptually developed as a primary connecting artery for the old proposal for a Garden Island freight port. Although that is no longer necessary, a four grade separated lane freeway standard between Russell Road and Anketell Road, with interchanges at Russell Road, Rowley Road and Anketell Road, is recommended to reduce traffic congestion. The Kwinana Triangle rail interchange involves adding a second entry and exit point in a narrow-gauge extension towards East Rockingham. The Triangle is currently at capacity, with trains heading north and south on the triangle currently meet 65 times a day at a crossover point. With no ability to service increased demand, the existing network is a chokepoint for industrial expansion and development in the southern WTC. Adding the Triangle modifications would allow more freight to be transported via rail to the new port and reduce load on the other parts of the Triangle.

The Kwinana Loop Railway is a long-proposed connector to the south of the Rockingham Industry Zone, connecting the rail facilities in the vicinity of CBH to the Mundijong Line. The provision of this east/west connector will greatly improve existing rail capacity as currently the whole industrial area (Kwinana and Rockingham) is at capacity and operates as a ‘one way in, same way out’ configuration.

Fremantle Port Opportunities

As outlined in the recent announcements, Fremantle Inner Harbour is not recommended as a viable option for managing Western Australia’s increasing freight task. The cost and disruption involved in upscaling the port facilities and its road and rail access is estimated to be in excess of that required to create a new port, making it
While Fremantle will continue to operate as WA’s primary container port until the new port is operational, recognition of the potential of Fremantle as a tourism location and development of this in tandem with the shift its freight task is strongly recommended.

Fremantle is ideally situated to be a world class tourism port, with a wide range of cultural attractions, service industry precincts, historical interest elements, and visually attractive locations. It has an ideal climate, and represents the perfect ‘jumping off point’ for tourism visitors to WA.

The next decade is expected to be a post-COVID 19 world in terms of tourism, with the effects of the virus on the industry largely unknowable at this point. It is expected that coming years will see a sustained contraction of international tourism and recovery will not only take considerable time but is likely to mean new paradigms will be developed in terms of ship-based tourism.

Observation of this process and using it to guide development of Fremantle’s tourism port capabilities will ensure that WA is able to capitalise most effectively on these changes, providing a firm basis for the support of tourism efforts State-wide.

The economic benefits of developing Fremantle as a leading tourism port extend far beyond the income derived from overseas visitors. Fremantle has struggled in recent years to maintain a vibrant social atmosphere, with service industry businesses suffering a lack of confidence and economic sustainability. This has negatively affected Fremantle’s social atmosphere, property values, and infrastructure planning.

The proximity of Victoria Quay to Fremantle is expected to see it prioritised as a cruise-
ship-oriented district with boarding facilities, hospitality, and entertainment options. Surrounding uses are likely to be mixed-use commercial, retail and hospitality, tying in with Kings Square and the Fremantle City Centre.

North Quay is projected to be more focussed on day-visitors within a mixed-use commercial, retail, hospitality, and residential district. This is expected to rival Cottesloe, with 3500 high-value apartment dwellings, a 10,000 to 15,000 sqm boutique commercial precinct providing 500 office jobs and similar floorspace for boutique retail, café and restaurants sector creating another 500 jobs.

Contamination remediation measures will delay development of North Quay, but its location and value are expected to drive timely investment. These costs and high land values may require higher densities.  

Similarly, the relocated freight task in Fremantle will free up industrial land currently associated with the port, such as that to the south of Leighton and the various marshalling yard areas, which are currently under pressure for rezoning to facilitate urban growth.

Focusing on development of tourism opportunities as container operations shift to a new port, would provide a major internal boost to all of these factors. While realisation of the economic and social benefits of external tourism is a long-term goal, domestic use of Fremantle’s social capabilities will surge if a clear vision of its development is presented. Increased business and consumer confidence will breathe new life into Fremantle, which not only provides an immediate social and financial benefit but also paves the way to making it an extremely vibrant and attractive destination for overseas visitors.

A rejuvenation of Fremantle would not only be limited to the immediate city centre, but would also bring significant economic and social benefits to surrounding suburbs. A vibrant Fremantle would act as the linchpin for Perth’s southern suburbs, boosting residential growth and investment confidence along the coastal stretch. Sinking passenger rail from south of the Swan River to the Cockburn Coast residential development has been recommended by Westport to reconnect Fremantle with the waterfront.

RECOMMENDATIONS

2.1: The New Port
This document supports the State Government’s decision to relocate the freight task port from Fremantle to Kwinana as a land-backed port the Kwinana Industrial Area, connected by an uninterrupted freight corridor via Anketell Road and Tonkin Highway.

2.2: Critical Competitive Advantage Assessment
It is recommended that the State consider undertaking a competitive advantage assessment across the Perth, Peel and South West regional Strategic Industrial Areas to determine best use that will focus change energies to efforts and remove the unnecessary competition across the industrial sites. This would include the options for alternative trade routes across the Indian Ocean basin.

2.3: Transport Artery – Anketell Road to Tonkin Hwy
This document supports the extension of Anketell Road east to Tonkin Highway and west of Rockingham road and down onto the dock facilities, ensuring it is grade separated as well as high and wide load enabled. Additionally, in order to allow for long term capacity development, a freight-only corridor along the middle of the freight highway is suggested, providing the ability to manage double stacked container trains or future [possibly automated] platooning trucks.

2.4: Transport Artery – Rowley Road Extended from Rockingham Road to Kwinana Freeway
It is recommended Rowley Road should extend west of Frankland Avenue all the way to Rockingham Road as a dual-lane, dual-direction freight highway. Major freight routes linking the Kwinana Freeway with Rockingham Road, thus servicing the yet to be developed Latitude 32 industrial area are a requirement for a northern access into the port, and to facilitate heavy industrial development within the Latitude 32 precinct.

2.5: Fremantle–Rockingham Controlled Access Hwy
It is recommended a four-lane freeway standard between Russell Road and Anketell Road, with interchanges at Russell Road, Rowley Road and Anketell Road, is recommended to reduce traffic congestion. The remainder of the reservation southwards from Anketell Road to Rockingham is no longer needed and its removal recommended.
2.6: Rail – Kwinana Rail Loop and the Kwinana Triangle

It is recommended that the Kwinana Triangle be modified by adding a second entry and exit point to the Kwinana rail Triangle in a narrow-gauge extension towards East Rockingham. This would allow more freight to be transported on rail to the new port.

In addition, the reinstatement of the Kwinana Loop Railway reservation, or similar equivalent, to provide an east/west link to the south of the Rockingham Industry Zone from CBH to the Mundijong Line is recommended for urgent attention.

2.7: Port Infrastructure Development

To upgrade KBT and KBJ an increase and deepening of the number of berthing pockets would be required, with a depth of 18.5 metres as an initial standard, allowing for a final increase to 21.5m to provide full capesize vessel service capabilities.\footnote{KIC Trade Flows Report 2 p36 – 2018 Kwinana Industries Council}

2.8: Inner Harbour Opportunities

It is recommended that Fremantle be developed as a world class tourist port destination. Establishment of a planning control area to create a long term rejuvenation plan for the attractions, activities, and service industry capabilities of Fremantle is suggested, along with downstream financial incentivisation once the plan is structured.

2.9: Land Integration

It is recommended that a significant long-term expansion buffer (industry transition zone or interface) be considered for the land surrounding the port. This could be provided under the auspices of a planning control area through the current Development WA legislative framework and form the boundary for the SEZ, reflecting the alignment of the existing Kwinana Industrial Buffer Zone. This ‘boundary’ would clearly define the Western Trade Coast.
Behind the projection of Western Australia to become a dominant Indian Ocean trade player, the Western Trade Coast also holds the key to the State’s manufacturing future.

WA’s historical reliance on raw mineral extraction and trade has had its vulnerabilities exposed in recent years due to economic downturns and there is a growing national awareness that onshore manufacturing needs to be part of a post-COVID world. While the WTC area already holds a significant percentage of WA’s manufacturing capability, physical expansion and synergising with new transport and trade developments will ensure it is market-ready at a globally competitive level. This part of the State has long existed notionally as our manufacturing heart, and successive governments have worked to support development of the residential, transportation and infrastructure supports it needs.

However, never before in the history of Western Australia has an opportunity existed for a government to crystallise that vision into the foundation of a multi-generational success story that leads the State’s future security.

A unique confluence of situations drives the need for the WTC to move Western Australia’s economy to its next stage, and the consolidation and growth of our manufacturing sector is a primary driver of that impetus.

While the prosperity of the State is au fait accompli as the global need for our raw materials grows year on year and we connect with new markets across the Indian Ocean rim, the ability to make the most of that opportunity is based on the ability to support a diverse and robust manufacturing base.

In order to achieve this, it is essential that enough land is available to support growth and that it is managed thoughtfully and sustainably.

**Land Allocation**

At this point in time, industrial land within the Kwinana Industrial Area is close to being fully allocated (refer to map on page 28). In order to provide growth space for future heavy industry, Latitude 32 needs to be readied for use and promoted as a key driver of the WTC’s development (refer to map on page 28). To make the site both market ready and to encourage investment a quarrying approach is suggested, allowing the land to be prepared for the entry of large heavy industrial companies, while creating a stockpile of mineral resources that can be used in construction efforts. In addition, this area is ideally situated to provide space for the arrival of the support industries that exist to service the heavy industrial
core. They are an essential element of the trade and resource flow of the precinct. Siting heavy industry capacity here reduces transportation, pollution and utility concerns, while enabling synergy chains with surrounding businesses. Maintenance of a clearly and strongly defined buffer area is essential [refer to map on page 28] in order to provide certainty to industry, and appropriate ‘transition–industry’ separation between residential and heavy industry allocations. As well as ensuring the new industrial land is market-ready, appropriate lot-sizing based on industry consultation is necessary.

AMC Growth

The Australian Marine Complex (AMC) is a crucial fixture of the Western Trade Coast and an essential aspect of the State’s defence and economic future. As the greater WTC is ideally situated to enter an explosive growth period, the AMC can also grow into its greater potential with careful guidance. The siting of a new port in the Cockburn Sound provides a major opportunity for the expansion of the AMC, with defence industry facilities able to synergise closely with port capabilities.

The AMC is a contained example of the value of Government investment in shared economic infrastructure and privately managed / government overseen industrial and port activities. It also shows the natural synergy that exists between heavy industry and port operations. The legacy of growth this arrangement and associated AMC infrastructure investments have delivered to Western Australia is substantial. Government’s decision to build the infrastructure to facilitate market-driven entry and growth of private industries is an outstanding example of how governments can stimulate economic development, without trying to pick winners.

Following the relocation of the freight task to Kwinana, it is suggested that a floating wharf to complement AMC-related activities, such as sustainment, and to double up as an offshore high and wide transport route between the AMC and Anketell Road, be considered.

Special Economic (Industrial) Zone

A Special Economic (Industrial) Zone (SEZ) is a legislatively-enabled area under a single management authority, and represents the most effective way to manage the confluence of public and private interests within the WTC\(^13\). This single-focus authority would be able to raise revenue to support workforce and business development...
activities within the WTC, interface between government and private sector operations, and act to incentivise new developments and investment within the area. SEZs can act as both a management tool to guide investment/marketing/zoning/planning and as a means of providing incentivisation and direction for investment.

**Concierge Service**

While support for the physical requirements of businesses within the WTC is the most obvious driver for global competitiveness, communication and presentation of the capacities within the area is equally important. While most large-scale industrial firms have their own sophisticated administrative and promotional resources, there is significant value to be derived from access to a shared resource that not only supports smaller operators, but works to synergise and streamline efforts across the entire WTC. As well as cost and efficiency savings, shared marketing efforts strengthen the overall brand identity of the WTC and provide a primary communications interface point between WA and major trading partners. Globally, the capacity to present a precinct as a unified entity is considered best practice in driving brand capital differentiation from ‘everyday’ trade and manufacturing operations. Currently, organisations such as the Kwinana Industries Council provide a scope of services in these areas that would better be delivered by a legislatively-backed governance body operating in many respects as a Government Trading Enterprise under the auspices of a Development Commission or Board.
RECOMMENDATIONS

3.1: Heavy Industrial Core Expansion [Latitude 32]
It is recommended that significant land within the Latitude 32 area (refer to map on page 28) be allocated to provide for heavy industrial expansion.

3.3: Quarry into Latitude 32
It is recommended that a quarry be cut across this area, through to the level of Rockingham Road. This will allow the land to be readied for sale/lease and will provide a stockpile of raw material that can be leveraged to support the new port build and many other ‘fill-dependent’ developments cost effectively.

3.3: Designation of the WTC Special Economic (Industrial) Zone
In addition to the direct physical allocation of land within the WTC to support industrial growth, it is recommended firstly that the WTC be strongly defined under a Planning Control Area (or similar) reflecting the existing Kwinana Industrial Buffer Zone, and that the area contained within be designated as a Special Economic (Industrial) Zone [SEZ].

3.4: Dedicated Marketing and Industry Concierge Service
A dedicated marketing and industry concierge service is recommended to sit within the WTC governance body, providing shared services accessible by all businesses within the WTC and acting as a means of promoting the WTC as a unified whole to domestic and international audiences.
By opening up trade and transport, it provides more opportunities that will allow industries to reconsider where they are located.
Changes in regional economic and political tides along with major disruptions such as COVID-19 have brought the internal security of the State into sharp relief, with clear electoral support for consolidating our manufacturing, energy, and defence capabilities.

Investment in industries supporting these security pillars is a wise course, with the effects of COVID-19 and regional power shifts expected to be major modulating factors for years to come. Reducing WA’s reliance on external supports is both economically and politically expedient, and represents an ideal opportunity to stimulate local employment and commercial growth.

As recommended above, boosting local manufacturing capabilities by realising the potential of the WTC around the focus of a new port will provide an immediate driver for investment and employment, as well
as cultural focus for the next step in WA’s economic evolution. In addition to bringing new trade opportunities, raising WA’s profile across the Indian Ocean rim will generate potential Defence synergies with non-traditional partners, allowing growth of local manufacturing and export capacity.

With the recent announcement of a major shift in Australia’s defence priorities and concurrent funding changes, it is essential that WA be a leading national player both for our own safety and as part of the national strategic landscape. As gateway to the Indian Ocean region and its existing and new political and trade partners, the WTC is an enabling factor for Australia to forge a more self-managed path as our traditional defence connections shift and we are forced to accommodate and grow.

Local Capabilities and Infrastructure Requirements

Over 40 significant Defence supply manufacturers and SMEs are housed in the AMC, supporting Defence capabilities locally and beyond the State borders. The majority of these businesses have a naval focus, though synergies exist with land and air warfare capabilities. There is significant room for new industry development in this sector, both in terms of boosting local capacity and extending into export markets.

With new funding available for defence, a growth in new defence products and a re-examination and shifting of existing priorities, it is essential that WA’s defence industry be able to rapidly reposition to take advantage of opportunities.

The AMC Strategic Infrastructure & Land Use plan14 formulates a clear direction for infrastructure development in the AMC and is supported as the guideline for strategic planning. While the plan is a comprehensive...
examination of AMC infrastructure, the most focal recommendation for enabling future AMC development is a floating offshore wharf connecting the AMC and the WTC port precinct, incorporating a seamless connection for high and wide loads, to enable a wide range of synergies to be developed, including protection of the cliffs, which are part of the Beeliar Regional Park, and located in the area.

**Defence Trade Outreach**

Expansion of the WTC will expose the local Defence industry to closer relationships with new markets across the Indian Ocean rim, with tremendous scope to expand local production of equipment and services to meet their unique strategic and tactical needs. As well as direct export of materiel and expertise, connection with defence industries in the region will open new and alternative supply and value chain linkages to allow local companies to expand operations and reduce costs. In addition to the support of Defence industry businesses through direct physical expansion of the AMC, Indian Ocean rim engagement programs can be developed to build and enrich these relationships. By assessing existing and future WA Defence industry capabilities and aligning them with potential new market connections, significant cost savings and defence capability potentials will be realised.

Australia’s Defence Industry has for many years had a domestic focus, with communication and outreach being primarily the province of major industry players. While there is value in a robust domestic defence promotion industry, the lack of a unified international outreach approach has hampered penetration of overseas markets. The collection of promotional efforts under the control of a
small number of major firms also prevents smaller players having as effective an impact as possible, weakening the overall WA Defence Industry brand. With major long term shifts occurring in the regional defence landscape it is essential that this pattern be realigned to focus more on external rather than domestic connections.

Formation of a central WA Defence Industry Trade Outreach office, which could possibly be co-located with the World Trade Centre at the Western Trade Coast Business Precinct, would allow development of rapid and effective plans to strengthen existing international defence trade relationships and build new relationships. Analysis of existing export offerings and examination of potential re-shaping to meet changing theatre needs is essential if WA is to act as a defence trade leader. An Outreach Office that sits between the proposed governance structure of the WTC and the strategic defence structures of the WA government is the ideal catalyst to bring together trade and defence connections and create collective promotional strategies that project the WA Defence Industry brand internationally as a leading regional player.

Improved cross border collaboration and trade through a Defence Outreach Program could also take up issues such as exemptions to the US export control program as one of the key priorities for the growth of WA’s defence industries and local development of onshore sovereign capabilities and the subsequent flow-on opportunities for exports to like-minded nations on the global marketplace.

“There is great value in analysing, highlighting and showcasing the contributions of the WTC to the local extended community and to the State as a whole.”
RECOMMENDATIONS

4.1: High and Wide Access Floating Wharf
It is recommended that a floating offshore wharf be planned between the AMC and the new port site to allow for AMC expansion and a direct high and wide transport route between the AMC and Anktell Road, and on to the Tonkin Highway.

4.2: AMC Infrastructure Development
The development of the AMC Strategic Infrastructure & Land Use Plan is supported as a guide for building future growth capability at the AMC.

4.3: Defence Trade Outreach Office
It is recommended that a Defence Trade Outreach office be established to provide a collective external communication and marketing resource for WA Defence Industries.
“Having a local statutory authority that represents small business effectively, is an enabler in terms of strategic planning and access to infrastructure development.”
The current workforce demographics of the WTC are the result of decades of sustained growth in terms of physical occupancy and skill development. With a major generational shift underway, ensuring transference of skills and knowledge is a matter of priority for many businesses in the area.

This transference is part of a holistic process – as a generation retires, its replacements not only fill the jobs it occupied but the residential environments that support the workplaces.

Analysis of demographic trends is essential to ensure effective strategic planning, as these issues and their solutions have lead times of years rather than months. For decision makers to make the best decisions, effective data-gathering processes need to be set in place alongside best practice policy frameworks.
• While the WTC workforce is still male-dominated, gender representation has continued to improve in 2013 from 2007 and 2002, primarily in professional, trades and production and transport roles.

• The average age of the workers employed in the WTC continues to increase.

• While the WTC workforce is increasingly being sourced from suburbs and areas outside the traditional catchment zone of Cockburn, Rockingham and Kwinana, local employment provided by the WTC remains high.\textsuperscript{15}

Training

With a dense industrial and commercial mix, the WTC is a primary competitor with Western Australia’s resources sector to secure trained professionals in an extensive range of professions. Ensuring that the area is able to draw upon a pool of suitably skilled workers is essential to prevent bottlenecking and ensure sustained growth. As the WTC develops to meet the needs of the global workforce, a changing mix of skill sets that include new and emerging technologies and processes is essential. To remain internationally competitive, businesses in the WTC need to be sure that workers are trained in these skills for when they are needed.

Ensuring increased local skills capacity has been a focus of educational programs run by industry in conjunction with schools\textsuperscript{16} but increased engagement from the wider WA skills and training landscape is needed to make the most of the opportunities the WTC presents.

Transportation

Delays in commute times impact workflows directly, while poor access to amenities can damage staff health and morale with flow-on effects to productivity. Ensuring staff can

\textsuperscript{15} P102 Western Trade Coast Integrated Assessment 2014 – Environmental, Social and Economic Impact. Sinclair Knight Merz

access their workplaces with a minimum of delay and can find their daily health and comfort needs met will secure their ability to work at their capacity.

Personal vehicles represent the primary means of commute for the majority of workers in the WTC. This reliance on a singular means of access creates significant vulnerabilities for an industrial zone, as blockages to transportation routes can rapidly halt movement. With a limited number of arterial access points, flow-on effects from traffic issues can create major impacts for local businesses.

Alternative means of access such as public transport and bicycle routes are limited within the WTC and have not necessarily played a major role in prior planning consideration. Effective strategic transportation planning that integrates these methods and promotes their use to workers will provide a significant buffer to the negative impacts of traffic issues and secure significant financial and environmental benefits.

“Having a local statutory authority that represents small business effectively, is an enabler in terms of strategic planning and access to infrastructure development.”
WA is behind the rest of the country in terms of manufacturing and the WTC provides the opportunity to not only catchup but leapfrog the rest of Australia. We don’t have the right set up so getting a port situated correctly is essential."
5.1: Innovation Hubs
It is recommended that the development of Innovation Hubs within the Western Trade Coast is supported. These hubs will focus on the needs of industry to solve problems through access to common user facilities across industries located within the WTC.

5.2: Public Transport
Establishment of transport hubs at key delivery points connecting to existing public transport networks is supported to reduce commute times, pollution and road use conflict with commercial vehicles.

5.3: Transport Planning Governance
It is recommended that holistic transportation plan through the development authority be undertaken in conjunction with industry to ensure that the best mix of public transportation and commercial road and rail access is achieved, increasing safety, reducing costs and minimising environmental impact.

5.4: Fremantle Planning Control Area
As part of Fremantle's shift to becoming a Tourism Port it is recommended that a Planning Control Area be created over Fremantle that includes a focus on developing the employment base needed to manage and sustain the transition. This initiative would work in conjunction with the WTC governance recommendation to ensure the most efficient use and sharing of domestic workforce resources in feeder areas.

5.5: Port and Industry Apprenticeship Programs
Noting the current workforce development initiatives undertaken by the State Government, initiation of Apprenticeship Programs aimed at supporting port and industry workforces is strongly supported. Focal aspects of the programs would include requisite skills training, upskilling, and negotiation of transitions to similarly skilled and salaried jobs across other industries.
5.6: Future Skills Training

Noting the current workforce development initiatives currently undertaken by the State Government, development of training programs at apprentice and skilled worker levels for advanced industry and manufacturing capabilities is supported. This would need to also focus on the digital aspects of contemporary manufacturing and other ‘4th Industrial Revolution’ skillsets as well as upskilling existing training to adapt to incoming technological advancements.

“We employ warehouse storemen which we train on the job who we can manage easily. In terms of professionals we have chemists and engineers but we compete with mining so need to recruit externally to WA when there is a boom. We sometimes recruit overseas for specialist roles as it can be difficult to find those skills in Australia.”
As Western Australia’s next economic phase approaches, being viewed as an Indian Ocean trade leader and critical raw materials supplier will lift the WTC into a new level of global prominence. Increased trade demand focused on the WTC will bring significant growth and investment to the area, both from within Australia and overseas.

In order to make the most of these opportunities, it is essential that the WTC be at the leading edge of the global shift towards a (Net) Zero-Carbon economy, both to satisfy the expectations of overseas investors and to allow local businesses to be ahead of the global best practice curve rather than playing costly catch-up to uplift their operations.

This will require regulatory and planning frameworks that acknowledge the crucial role of a (Net) Zero-Carbon economy as a driver of prosperity and inform decision-making based on international best practice for economic, environmental and social environments.

The WTC will attract significant investment from companies already operating in nations that are moving rapidly towards Zero Carbon economies and while direct policy frameworks on a Federal or State level may not be politically manageable at this
point in time, adaptation of elements from frameworks such as the EU’s 2050 Strategy\textsuperscript{17} into a localised strategy for the WTC will be a significant attraction factor for investment.

**Global Net Zero Carbon trends**

Within the boundaries of the WTC Western Australia must present a space that not only equals the best in the world but exceeds it. As more and more globally significant companies decide to open operations in the area, ensuring they find an environment that not only welcomes them but challenges them to improve will return generous dividends to the State. Many major trading partners such as the EU and Asian nations either have robust requirements for Zero–Carbon industrial capacity or are developing plans currently, and having a clear and effective suite of options for potential investors is essential.

Before a full Zero–Carbon economy can be developed, where no harmful emissions are created, a Net Zero–Carbon economy is the transitional stage, where emissions are offset to the point where the offsets and emissions reach a net zero point. This is an essential step towards Zero–Carbon, not only in terms of allowing industry to physically adapt but also as a means of developing a cultural shift that makes it a sustainable process.

**Gas – The Transitional Energy Source**

Gas is widely accepted as a crucial pathway energy source toward Zero–Carbon transmission, and Western Australia is extremely fortunate to not only have abundant natural gas deposits but a strong background of expertise in extraction and application of LNG. Gas provides the high baseload energy needed to ensure all industries are able to act at capacity, while not having the cultural and infrastructure

\textsuperscript{17}https://ec.europa.eu/clima/policies/strategies/2050_en
issues that act as barriers to renewable uptake in many sectors. WA is ideally situated to rapidly provide competitively priced and easy access to widespread gas energy, allowing industry to move towards a Zero-Carbon economy at a structured pace. Allowing businesses in the WTC to take advantage of cost-effective gas resources via subsidy and creation of a domestic gas reserve would be a major support for the development of longer-term Zero-Carbon energy solutions, enabling industry to map out a clear and fiscally responsible pathway. In addition to cost and efficiency savings, access to a gas reserve provides confidence for industry development and investment in terms of providing a guarantee of supply in the face of local or global stress points.

**Carbon Offsets**
Carbon offset processes are an essential aspect of the Net Zero-Carbon transition process, both from the practical effect and for the capacity to appeal to those more resistant to the more dynamic pathways to change. Either as part of a State-wide initiative or localised to the WTC, providing businesses with clear pathways to mitigate their emissions will allow local operators to sustainably transition their businesses. It is also essential to provide encouragement for overseas investors with an expectation that some form of carbon trading scheme be in place, such as those used to the EU ETS. As well as a generalised carbon trading process, programs can be developed to allow activities in local conservation districts to act as offsets. This allows participants to feel directly invested in the process, see the results of their efforts, and provides a source of positive stories for use in education and promotion.

**Recycling and Industrial Symbiosis**
The WTC area currently experiences some of the most exemplary industry symbiosis in the world, with in excess of 150 formally identified exchanges between industries. These range from micro-scale cost and resource saving initiatives to major endeavours such as coal companies supplying flyash to cement firms, the neutralisation of alumina residue via carbon dioxide from local chemical plants, and a pigment plant supplying hydrochloric acid to a chemical manufacturer to produce sodium hyperchloride. This provides the ideal basis for creating a formalised Recycling and Industrial Symbiosis plan, providing direct guidance and support for
‘closing the circuit’ of waste production and allowing it to be a revenue generator for industries within the WTC rather than a cost burden. By incentivising interstitial recycling agents to develop technologies to ease and enable a circular waste flow, not only can cost and production efficiencies be found for businesses but environmental impacts can be reduced in multiple areas.

Renewable Energy Opportunities

Renewable energy sourcing is the end-goal of a Zero Carbon economy, with all energy coming from emissions-free generation. Western Australia has some of the highest potential renewable energy generation capacity in the world, with abundant sunlight, wind, and ocean resources for solar, wind and hydropower generation. In addition, our unique local geological profile makes us ideally situated for large and small scale geothermal generation, with a shallow depth access to heat energy and the capacity to reverse-cycle into air-conditioning, one of WA’s primary sources of energy consumption. Local companies¹⁹ are already aiming to provide low cost emission-free geothermal power but with government investment in the sector a

“Clarity and efficiency in terms of environmental and sustainability policy is essential to protect and encourage investment. Red tape is seen to create impediments to overseas investors investing in the area.”
significantly improved return on investment is possible, opening up wider-scale SME-focused geothermal initiatives. As the WTC grows, its power demands will expand in inverse proportion to the available space for power generation and transmission infrastructure. In order to prevent potential growth chokepoints, promotion of rooftop solar and wind power is seen as a preferred means of small scale renewable generation that can alleviate grid pressure, with scaling reduction of cost based on scope of uptake. While open land will reduce as part of the WTC’s growth, the expansion of rooftop space provides an ideal landscape for solar panels, with wind turbines and battery solutions, linked via smart grid technologies.

**Energy Storage**

With abundant access to the requisite materials, WA is one of the world’s most suitable locations for a robust energy storage manufacturing sector. While traditionally these resources have been exported, the cost effectiveness of onshore processing and manufacturing is now being politically and culturally recognised as the leading edge of the next stage of the State’s economic development. The siting of new energy metal companies has heralded the first step in this process and as the global realignment towards battery use picks up speed, WA will become the location of choice for storage manufacturers who want a cost-effective and secure environment for their facilities and direct links into their up and downstream supply chains.

**Water Use**

Ensuring sustainable access to industrial process water is essential for the growth of the WTC, with limited water access being a significant cost and development chokepoint. Growth of the WTC will see a rapid increase in water demand that existing
Future proofing is important in terms of skills, making sure that succession planning is undertaken by both government and industry. A mix of generational capabilities is the way to prevent the creation of skills gaps.

Infrastructure will struggle to satisfy sustainably, with requirements expected to be up to 25GL by 2031. In order to meet the needs of the area in an environmentally appropriate way, high grade reclaimed (including managed aquifer recharge) water is the most cost-effective approach, following models such as Singapore’s NEWater. Applying ultrafiltration/microfiltration, reverse osmosis (RO) and ultraviolet (UV) disinfection to the abundant wastewater resources available within the WTC opens up a massive resource of potential water for both direct non-potable use (DNPU) and indirect potable use (IPU) by industry. In addition to industrial provision, this treated water can be mixed with rainwater in reservoirs to provide directly potable water if needed.

**Waste to Energy**

The Kwinana Waste to Energy (WTE) project current has a processing scope of up to 400,000 tons of waste per year and has a projected production capacity of 36 MW, equivalent to the power consumption of 50,000 homes. Sited ideally in the WTC, the WTE project has the ability to develop numerous linkages with local businesses, procuring waste and becoming an important part of the energy landscape. With the WTE as a model, and a second one under construction, it is recommended that significant investment be focused on the waste to energy sector, not simply in terms of expanding physical scope and reach but in research and development, and in creating the most efficient synergies across the WTC.

---

20 Local economic growth projections for the Western Trade Coast to 2031 2014 – REU for Department of Water
RECOMMENDATIONS

6.1: Wastewater Reuse for Kwinana and Rockingham
It is recommended that high grade wastewater treatment options be expanded for the WTC, for re-use in industrial applications. In addition, potable resourcing through rainwater reservoir mixing can be investigated for non-potable if required.

6.2: Power Efficiencies through Solar and Wind – Utilising Roof Space Across the WTC for Panels and Turbines
In order to prevent potential growth chokepoints, it is recommended that a decentralised, data-driven and democratised power plan be developed for the WTC, either as a standalone endeavour or as a signal part of the State Government Distributed Energy Resources Roadmap.
Under the SEZ, and through the Development Authority, this would potentially establish the district as a micro-grid or series of micro-grids allowing exemptions from prohibitive regulations restricting the ability of power producers to deliver their own power to other users by transversing public roads.

6.3: A Gas Reserve for Industry
With significant global gas players already well established in WA, this document supports the recent State Government’s domestic gas reserve is for the use of industry. Delivery would best be structured to allow equitable access for local businesses, both in terms of pricing and physical access to gas energy delivery. Term of contract needs to be long to ensure stable offtake agreements, price needs to be competitive, and volume needs to be made available to meet industry’s requirements.

6.4: Utilities Market Desk
It is recommended that, as part of the Authority, a utilities marketing desk be established to smooth over some of the complexities between supply and demand for industry.

6.5: Recycling and Industrial Symbiosis
It is recommended that this environment provide the basis for development of a WTC Recycling and Industrial Symbiosis Resource Database, registering by-product and utility exchange capabilities creating a central information
and action point for businesses in the area to find resource and cost-saving synergies with each other.

6.6: Carbon Offset Capacity Trading Highway
Development of a Carbon Trading scheme for businesses within the WTC is recommended as an engagement protocol for Net Zero-Carbon transition.

6.7: Carbon Sequestration
Incentivising businesses in the WTC to link with carbon sequestration companies, both located within the area and externally, is recommended as a baseline of Zero-Carbon planning.

6.8: Environmental Offsets
In addition to supporting carbon sequestration in a direct sense, it is recommended that local environmental support activities such as tree planting, green belt remediation, and protection of marine assets across the district be supported within a framework of carbon offsets.

“A strategic overview of power use and generation within the WTC would allow new and existing power developments to operate more effectively.”
Western Australia is at possibly one of the most dynamic points in its history so far, where the decisions made in the near future will shape the State for decades. Never before has such a range of challenges and threats been faced by our populace alongside opportunities to make us a world-leading trade and manufacturing locus.

The historical paradigms that have informed State and National trade, defence, and political policy for decades have all been subverted within the space of a matter of years, and new direction is required.

As Australia’s most isolated city, facing the Indian Ocean rim, and steward of natural resources critical to the functioning of modern society, WA is better placed than anywhere in the nation to forge its own path to success and lead the nation into a more productive and secure future.

The decision makers of industry and government have already set us on this path and this document offers a range of recommendations to support that forward impetus. In whole or in part, acceptance of these suggestions will enhance economic and social outcomes in ways that brings benefit to all, and allows the Western Trade Coast to be the key that unlocks the future prosperity of State for generations to come.
Green belts and traditional lands need to be respected and ensure we make decisions that respect the original owners."