

# Beyond tomorrow

## Discussion paper

Working together to create the  
Port of Brisbane of 2060

February 2024







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# Welcome to PortBris 2060

It is with great anticipation that we present the “PortBris 2060 Beyond Tomorrow” discussion paper.

The Port of Brisbane is Queensland's premier port and logistics hub. It provides critical export and import links to world markets. As the third largest container port and one of the most diverse multi-cargo ports in the country, it plays a vital role in driving Queensland and Australia's economic and trade growth.

As Port Manager, Port of Brisbane Pty Ltd (PBPL) works with our many customers and stakeholders to sustainably grow and develop the Port for the future.

Our vision is to be Australia's premier port and logistics hub; Here for the future. A port that provides the infrastructure to grow trade sustainably, driving prosperity for all.

However, we can't achieve this vision on our own. The Port's future is intrinsically linked to our customers, industry and government partners as well as our many valued stakeholders, including our community.

The Port of Brisbane has an established maritime history of proudly serving the Brisbane and Queensland communities. Among many other things, the Port facilitates the arrival of your consumer goods, the materials to build your homes, the fuel that's in your cars, as well as the cars themselves. We provide a property portfolio that enables efficient warehousing and storage of goods, critical tourism infrastructure through the Brisbane International Cruise Terminal and our community employs tens of thousands of workers up and down the supply chain. The success of the port is indelibly linked to the long-term prosperity of our region. It is through this lens that we stretch our gaze above and beyond the horizon to consider what our future could look like to deliver on our vision.

There is, however, no single future for our port. As a business, we are driven by a curiosity to better understand how the world operates today and how it could potentially operate tomorrow, which will lead to better planning and investment decisions for all.

This paper is an invitation to join us in a conversation on “PortBris 2060” – our capstone project designed to envision the future of the Port of Brisbane. Our aim is to present a set of possible and plausible future scenarios for your input and make this project as collaborative as possible, knowing that a diversity of perspectives enriches the work.

What makes this project both challenging and exciting is the vast array of industry trends, micro and macro-economic factors, technological breakthroughs and geopolitical frameworks that will undoubtedly impact what that future might be.

Whether you're a port customer, industry partner, policy maker, community advocate, local resident or simply an interested individual, what we do here every day at the Port of Brisbane impacts your life – and we want to hear from you.

We hope this document stimulates conversation on the scenarios that could shape the future of the Port and your organisation or business within it. We encourage you to review these scenarios and consider which best aligns with your view of the future. Perhaps one scenario stands out, perhaps it's a combination.

We look forward to receiving your feedback, and ultimately using that to help design one singular scenario, or a 'preferred future', for the Port of Brisbane in 2060. This blueprint will help guide long-term decision-making: not just for PBPL, but for all our customers and stakeholders that invest in the Port of Brisbane every year.

This is our commitment to co-designing the future with you – our customers, our partners, and the community. As this process evolves and our conversation continues, we look forward to working together so we truly can be 'here for the future'.

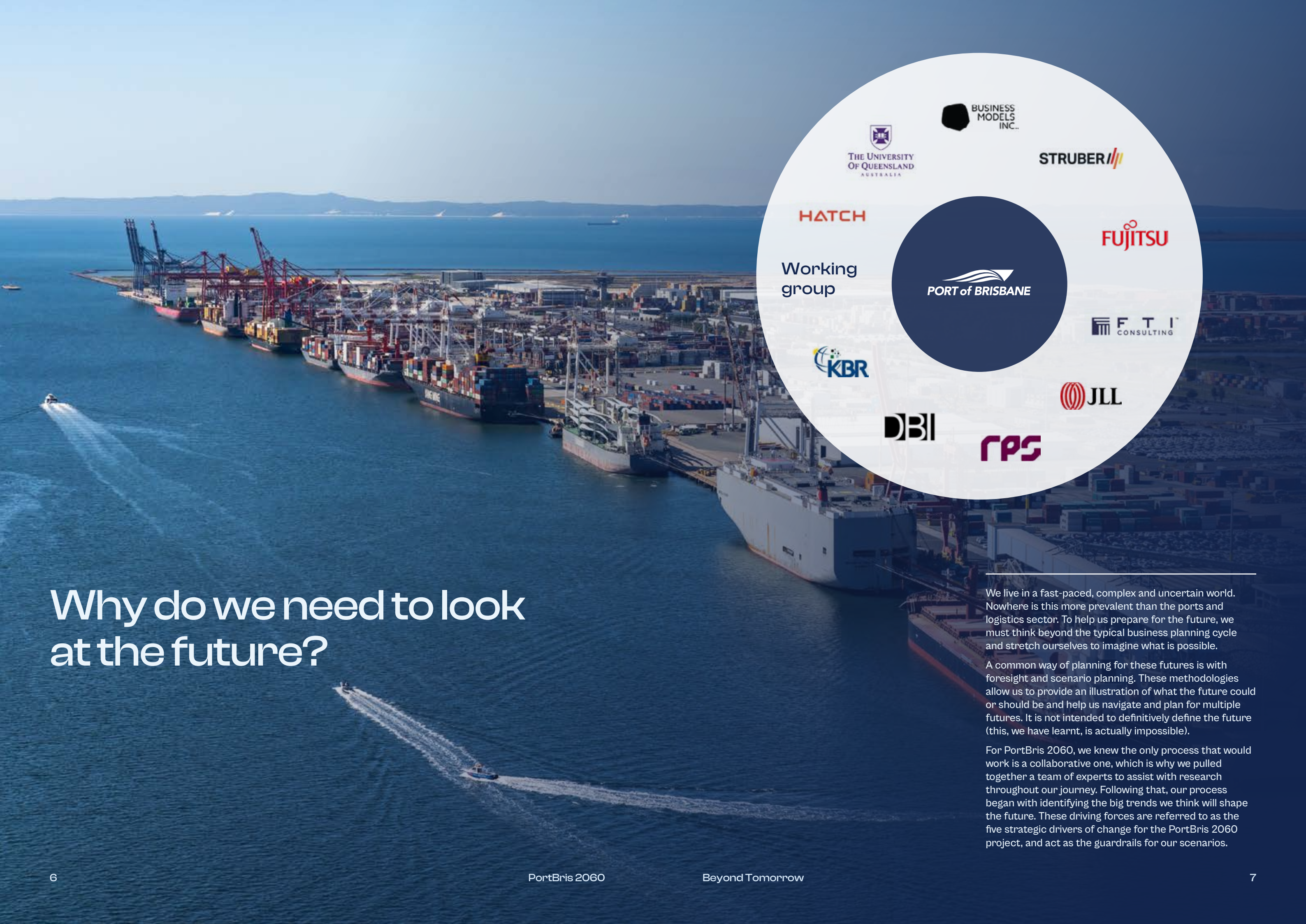


**Neil Stephens**  
Chief Executive Officer



**Brendan Connell**  
Executive General  
Manager Sustainability  
and Corporate Relations





# Why do we need to look at the future?

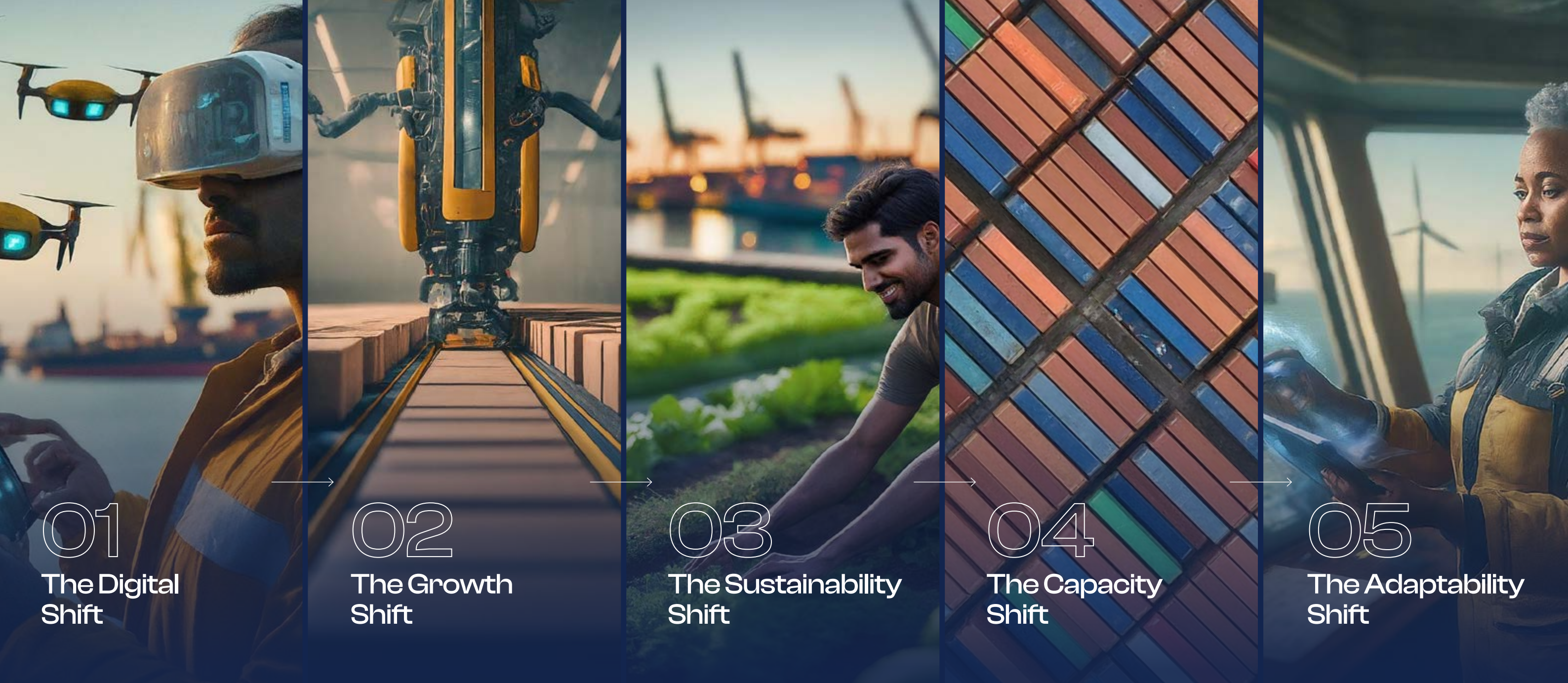


We live in a fast-paced, complex and uncertain world. Nowhere is this more prevalent than the ports and logistics sector. To help us prepare for the future, we must think beyond the typical business planning cycle and stretch ourselves to imagine what is possible.

A common way of planning for these futures is with foresight and scenario planning. These methodologies allow us to provide an illustration of what the future could or should be and help us navigate and plan for multiple futures. It is not intended to definitively define the future (this, we have learnt, is actually impossible).

For PortBris 2060, we knew the only process that would work is a collaborative one, which is why we pulled together a team of experts to assist with research throughout our journey. Following that, our process began with identifying the big trends we think will shape the future. These driving forces are referred to as the five strategic drivers of change for the PortBris 2060 project, and act as the guardrails for our scenarios.





## 01 The Digital Shift

## 02 The Growth Shift

## 03 The Sustainability Shift

## 04 The Capacity Shift

## 05 The Adaptability Shift

# The five strategic drivers of change

These strategic drivers have helped frame a large-scale, rigorous research program that has included industry experts from Australia and around the world, across a diverse array of sectors, including economic forecasting, infrastructure, digital, property, master planning, sustainability and more. We have used this research to underpin the four scenarios this document outlines. Having used that work to pull together the threads of the future it's now time to test these scenarios with you – the Port's customers and stakeholders.

01

### The Digital Shift.

Digital and technological transformation of the transportation and logistics industry.

02

### The Growth Shift.

Population growth, urbanisation, and consumer-centric logistics.

03

### The Sustainability Shift.

Navigating the transition towards a sustainable, responsible and transparent future.

04

### The Capacity Shift.

Catering for investment in larger and more efficient assets.

05

### The Adaptability Shift.

Building resilience and diversification for future uncertainties.





What do our  
futures look like?

# What role will the Port of Brisbane play in the future?

The creation of future scenarios is both an art and a science. The creativity and rigour required to quantify and qualify the scenarios draws on the popular 2x2 scenario framework first developed by Royal Dutch Shell in the 1970s. This method helps us navigate two critical uncertainties facing the Port out to 2060.

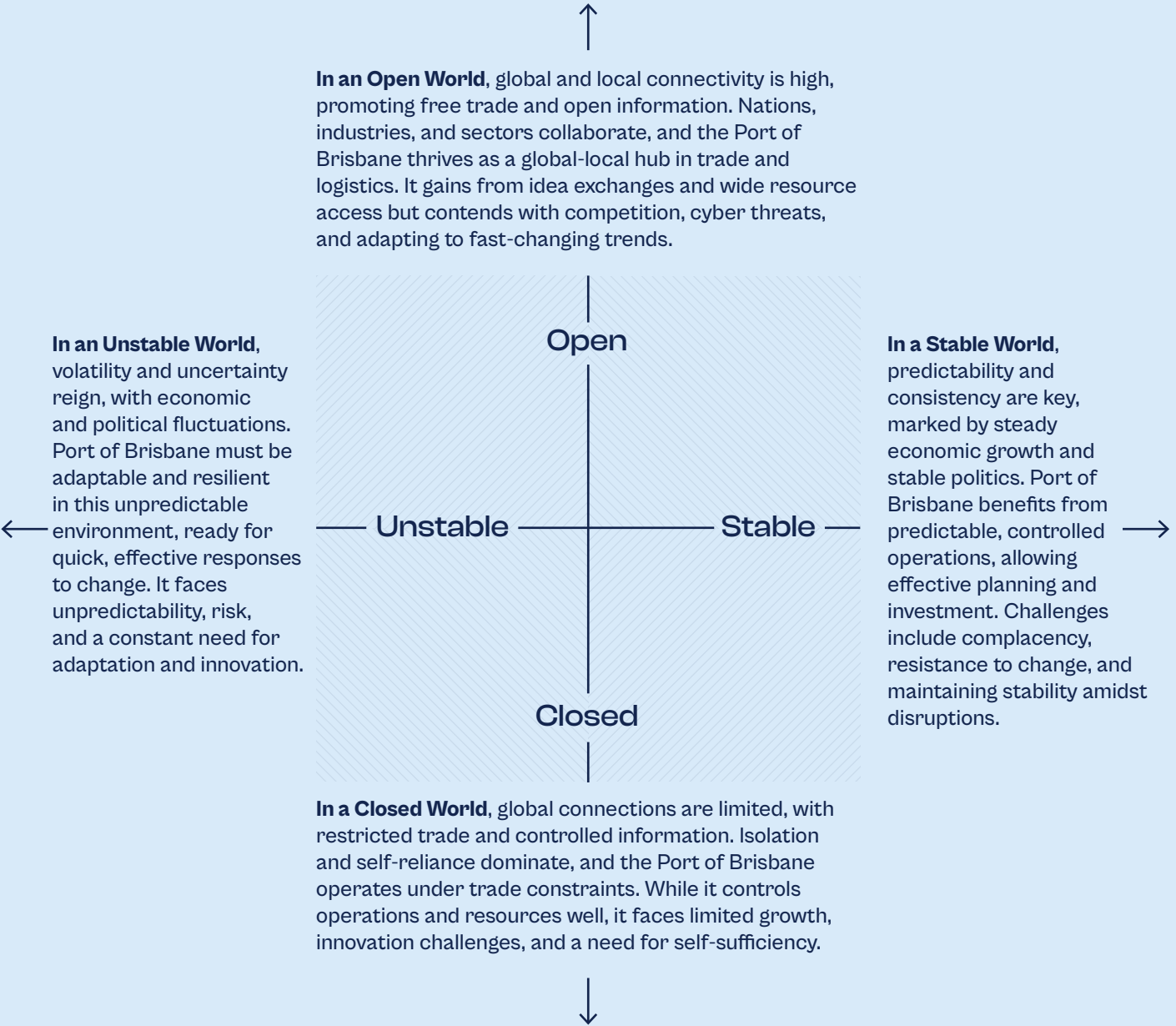
The vertical axis questions whether the Port will evolve in response to a more open world, where there is a high degree of global and local interconnectedness, with free trade and open information flows; or whether it will operate in a closed world characterised by isolation and self-reliance, with constraints to external trade and facing limited growth.

The horizontal axis asks whether the Port will flourish in a stable world characterised by predictable trends and consistency, steady economic growth and stable politics; or whether it will be transformed by a more unstable environment, one that is volatile and uncertain, with unpredictable trends, economic and political fluctuations.

This matrix helps us explore plausible outcomes and possible futures, called the 'world views'. These world views, together, help us make sense of the future and are used to construct future paths that lead to possible and plausible scenarios, each representing different illustrations of the future.

Reader note

Any reference to 'the Port' or 'the Port of Brisbane' refers to the Port of Brisbane community as a whole. Any reference to 'PBPL' indicates a direct reference to Port of Brisbane Pty Ltd, the business that acts as the Port Manager.



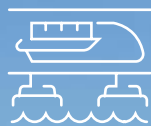
\*Disclaimer

All views expressed in this document represent scenario development only and are not to be construed as specific proposals from Port of Brisbane Pty Ltd.



# How will your world change?

Not every scenario will perfectly articulate how you see the future. But as big trends emerge, how will these transformative questions define your business or organisation in 2060?



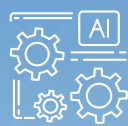
Ponder the role of strategic infrastructure investments in managing increased domestic trade volume efficiently

What if investing in local infrastructure, through road, rail and inland port development, was the key to the Port's sustainable future?



Envision leading the way with breakthrough innovations that redefine global logistics

What if the next big technological innovation could completely redefine maritime logistics, with sea ports evolving into sea-space ports?



Consider setting a new global standard for efficiency through the adoption of digital technology

What if digital transformation enabled the port to double its efficiency while halving its carbon footprint?



Consider the resilience required to thrive amidst the unpredictability of global trade networks

What if global trade networks become even more interconnected but face increasing instability?



Ponder the importance of diversifying into new industries for survival in an insular economy

What if investing beyond the port gate to support local industries was critical to the Port's survival and prosperity?



Imagine strengthening our social license to operate through deepened community ties

What if strong local community engagement was essential to the Port's growth in a time of social and geopolitical change?



Envision becoming a beacon of sustainability in the maritime industry through renewable energy

What if the Port became a global model for alternative energy use in maritime logistics?



Consider the implications of rising sea levels and more severe weather events

What if the global temperature increase was 2.5 degrees and the sea level rises 0.4m?





# Four scenarios can help us anticipate the future

Four scenarios were constructed from the two axes to represent different potential pathways and outcomes for the future out to 2060.

Each scenario is a structured description of a future situation, environment, or context that is informed by a set of assumptions, uncertainties, and drivers of change. They are informed by leading experts in the relevant fields and represent a narrative of the possible and plausible futures.

We hope you will explore the different possibilities each scenario presents, stretching your thinking and challenging your assumptions about both the present and the future that we will live in.

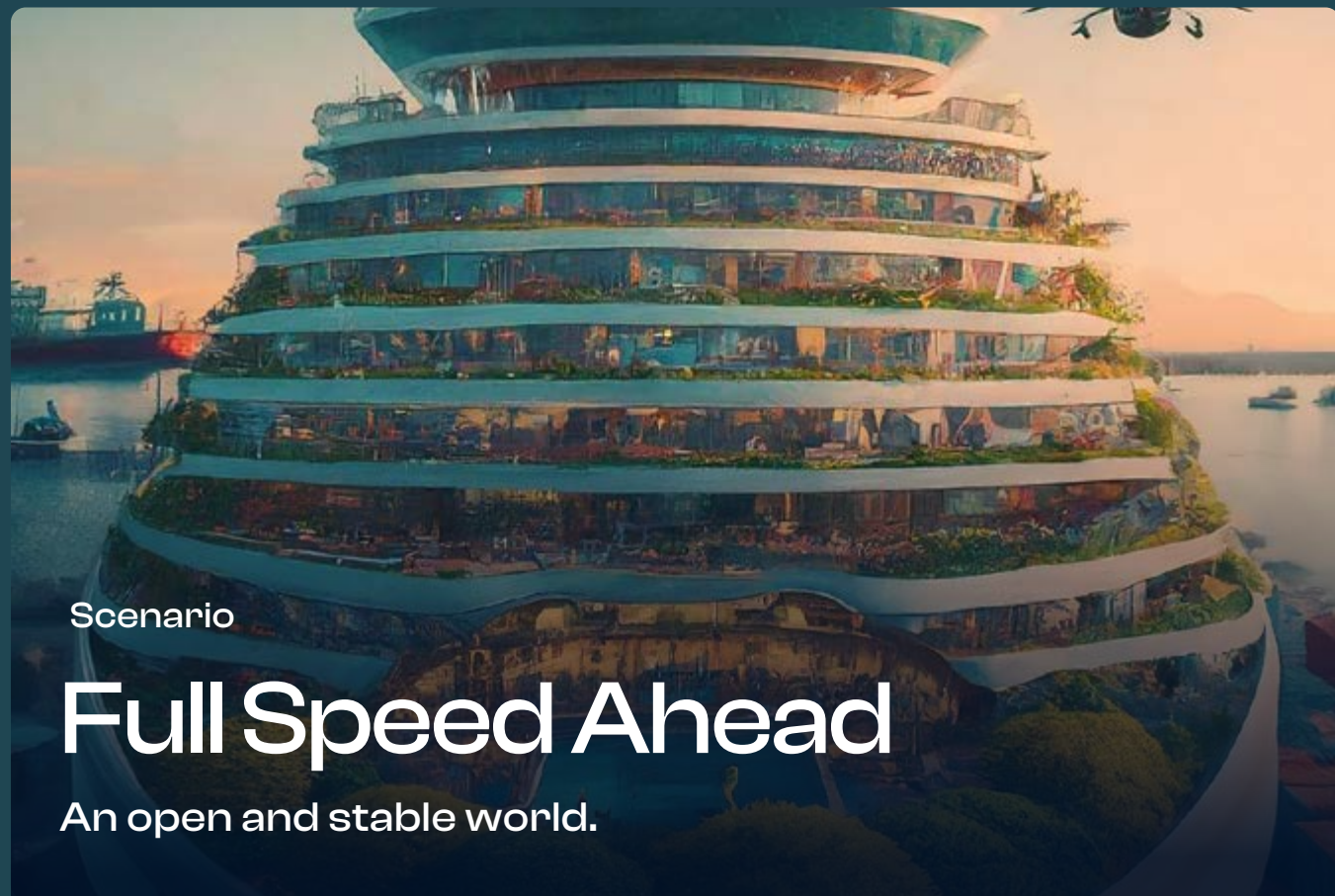
## How to read this document

As you read through the scenarios and consider their implications, ask yourself:

- 1. Does this scenario present a future world that feels likely to transpire, or is less likely?
- 2. In each scenario, what decisions should we make today to bring about our preferred future?
- 3. How do the five Strategic Drivers – Digital, Growth, Sustainability, Capacity and Adaptability – apply to your organisation's future?
- 4. Are there elements of multiple scenarios that, when combined, more accurately represent how you see the future unfolding?





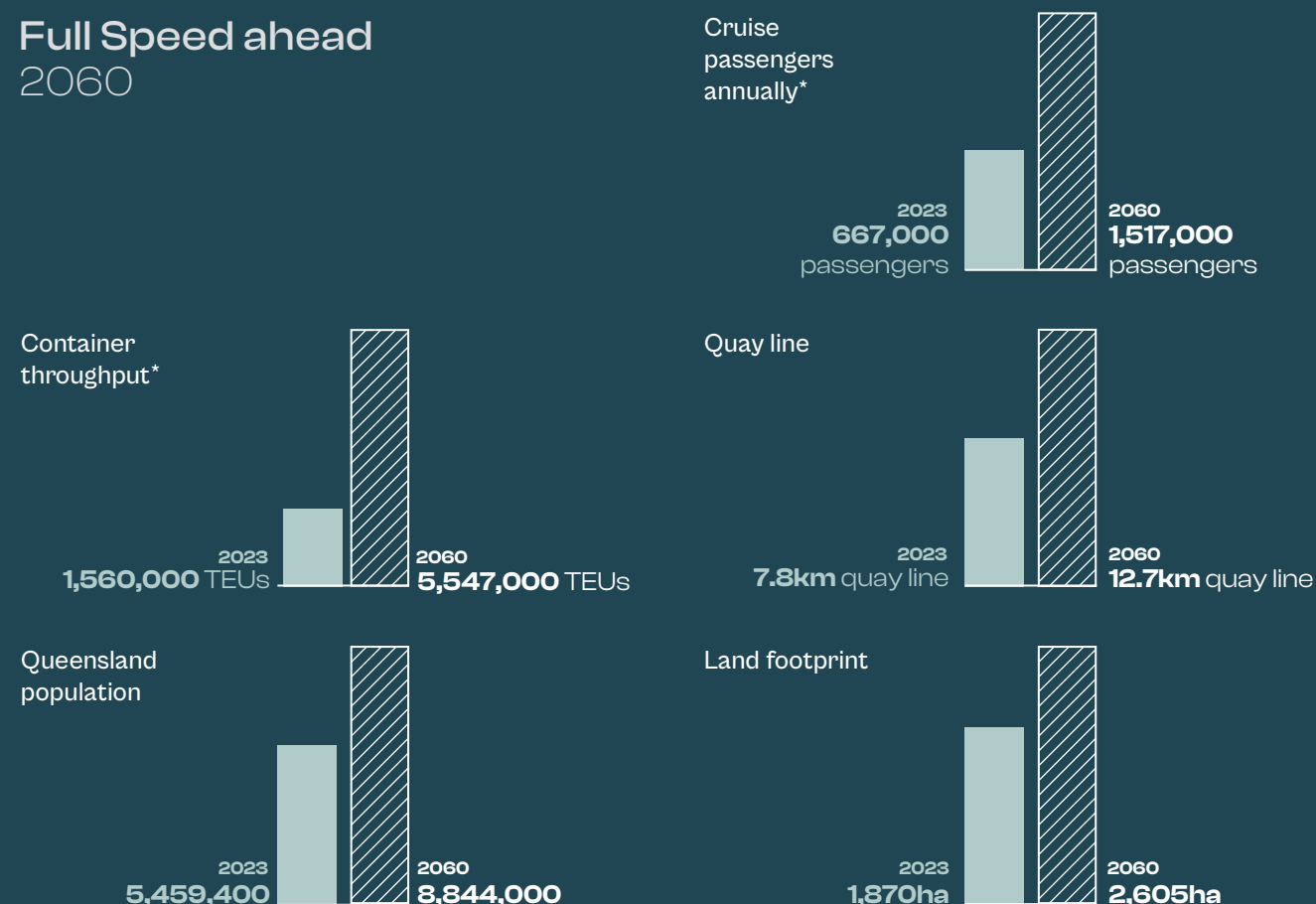


Scenario

# Full Speed Ahead

An open and stable world.

## Full Speed ahead 2060



\*Data based on financial year

By 2060, the Port of Brisbane stands as an exemplary model of growth management and future readiness. Balancing economic growth, technological innovation, and sustainability, it sets a new Australian standard for maritime ports. The Port experiences unprecedented trade volumes and cruise passenger numbers, reflecting a robust economy conducive to expansion and technological progress. It has worked closely with customers and partners to maximise productivity, leading to increased prosperity for all. Its alignment with global and regional economic trends, open immigration policies, and consistent government support catalyse steady growth and strong infrastructure investment.

The Port's precincts – Fisherman Islands, Port Gate, Port West, and Port North – all operate at a high capacity while exploring options and initiatives to grow. Successful master-planning limits urban encroachment on the port, ensuring growth potential can be realised without disruption. Consequently, the focus shifts towards warehousing, including innovative vertical warehousing solutions, and regional distribution centres, with a dedicated rail connection linking to inland ports, including at Ebenezer and the national freight rail network. This transition enables efficient connectivity and space optimisation.

The Port's evolution encompasses a broad spectrum of economic activities, ranging from traditional shipping and logistics to sectors like advanced manufacturing and green energy. Real estate and property planning emphasise efficient land use and sustainable design, including 10-star sustainability rated buildings and the reuse of dredged material to create land for expanded port operations as well as ecological habitats.

Technological advancements at the Port include a fully integrated whole-of-port digital twin, powered by extensive Internet of Things (IoT) and aiding in strategic and master planning, operations, and asset management. The Port also distinguishes its operations with clear separation between heavy vehicles and passenger vehicles, enhancing safety and efficiency. Autonomous cargo movement is integrated within the port, including trains and shuttles, and the provision of shore power for berthed vessels with a source that is 100% renewable, albeit limited due to vessels using zero-emissions fuel, the Port's commitment to innovation and environmental stewardship is celebrated.

This investment in renewable energy sources and a commitment to zero emissions energy sources, including up to 50MW solar system with storage, an extensive Virtual Energy Network (VEN), hydrogen fuelling stations enabling hydrogen-fuelled heavy vehicles and container handling equipment, as well as zero emission quay cranes and Automated Stacking Cranes (ASCs), enabling zero-emission operations across the port. The Port not only meets its energy needs but also contributes to the energy grid, reinforcing its position as an energy hub.

Notably, the Port's expanded quay line, nearing 12.7km, accommodates larger vessels and increased cargo volumes. Its footprint has grown significantly, and the Brisbane International Cruise Terminal has added another berth, cementing Brisbane's reputation as the South Pacific's cruising hub. There has also been a major commodity transition in the port, with fossil fuel imports and exports replaced by alternative fuels such as biofuels as well as critical mineral exports, mirroring a pivot towards sustainable trade practices globally.

In this scenario, the Port of Brisbane emerges as a self-sustaining ecosystem at Fisherman Islands, complete with self-reliance and integrated water, waste, and power systems. By 2060, it not only drives its own prosperity but also significantly contributes to regional and global economies, epitomising sustainable growth, technological innovation, and adaptive resilience.

“(In an open and stable world), the Port of Brisbane has experienced a major modal shift from road to rail. Rail share within the supply chain has grown from 1% in 2021/22 to become the dominant mode of transport in 2060”

KBR





Scenario

## Full speed ahead

**2045**

Net Zero emissions achieved by the Port

**62%**

Increase in QLD population

**Digital twin**

Enabling ubiquitous connectivity

**4.9km**

Additional quay line

**1.3°C**

Global warming

**256%**

Increase in shipping volumes

**Autonomous**

Vehicles, warehousing, and precincts

**Diverse**

Trade and property business

**0.2m**

Sea level rise

**1.5 million**

Cruise passengers annually

Brisbane International Cruise Terminal

Port North

Port West

Port Gate

Port of Brisbane

PortBris 2060

In the Full Speed Ahead scenario, Port of Brisbane's transformation is shaped by:

### Digital Shift

The Port of Brisbane's digital transformation is exemplified by its whole-of-port digital twin, facilitating sophisticated strategy and master planning, operations and asset management. With ubiquitous connectivity now across all its operations, the port seamlessly integrates AI and robotics to significantly enhance operational efficiency and safety. This digitalisation paves the way for innovations such as autonomous vehicles, intelligent warehousing, and smart precincts, and more sophisticated IoT (Internet of Things) deployments for more accurate and efficient cargo and passenger movements, predictive asset management, and data management.

### Growth Shift

Accommodating a 57% increase in the Australian and 62% Queensland populations, the Port expands to over 256% increase in shipping volumes (3.5x baseline growth) and a 75% increase in cruise ship berthing demand to 1.5 million passengers per year. This growth necessitates a more consumer-centric logistics approach, focusing on fast, efficient delivery methods while also addressing environmental concerns and reducing carbon emissions. This is underpinned by the Port's approach to community building and community-led objectives, leading to a strong reputation and social license to grow.

### Sustainability Shift

Global warming has been limited to a 1.3° C average temperature increase, and a 0.2-metre sea level rise. Fossil fuel trade has been phased out, reflecting national and global energy transition objectives, with a shift to alternative fuels and critical minerals well underway and the Port adopting renewable energy sources such as wind, solar, and hydrogen, as the green corridors of global trade expand. The Port achieves net zero emissions by 2045 and this strategy extends to every aspect of operations, including re-purposing waste, enhancing ecological habitats, and adopting circular economy principles. This shift underscores the PBPL's commitment to environmental stewardship, and alignment with the United Nations' (UN) goal of reducing global warming.

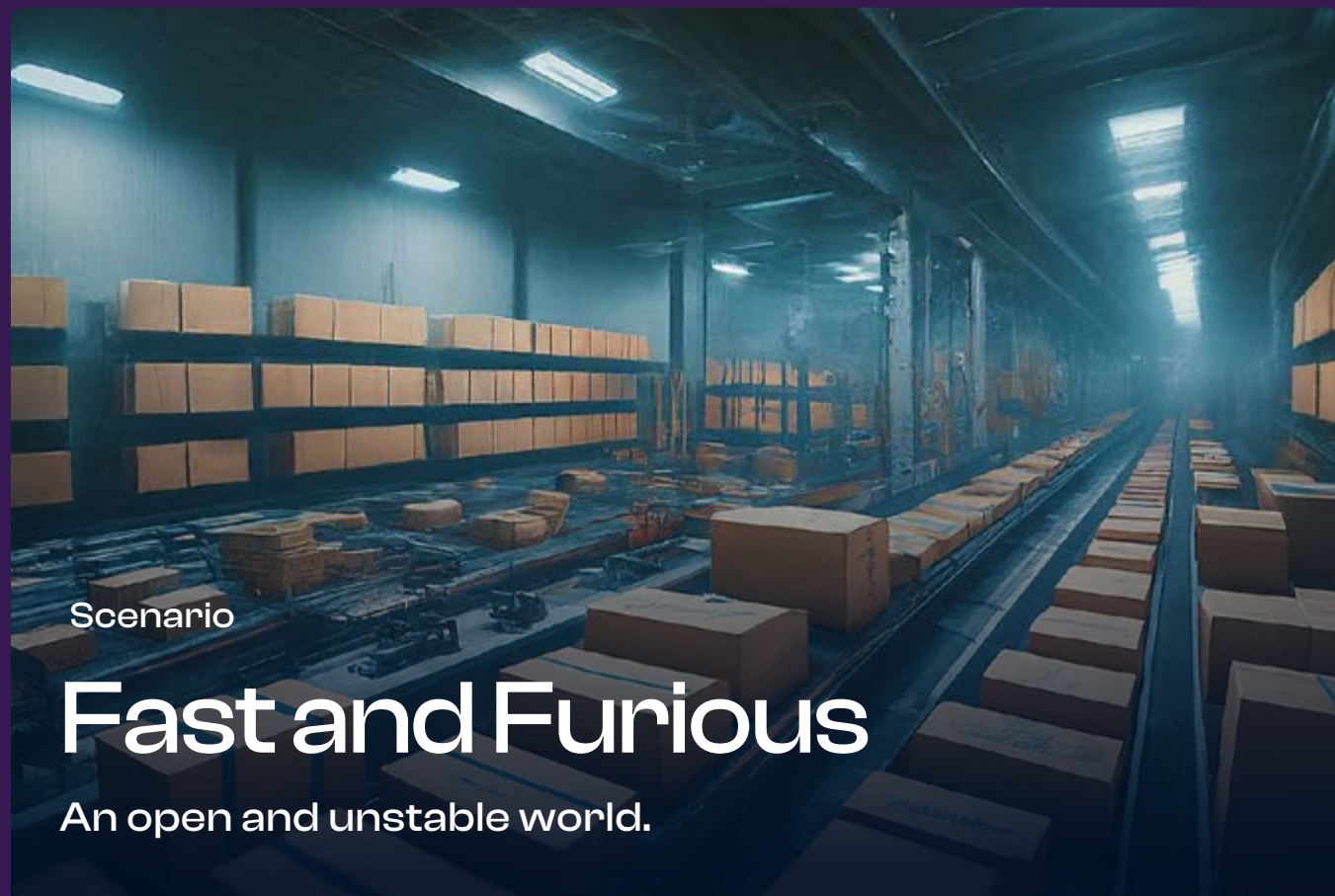
### Capacity Shift

The Port's expansion includes accommodating vessels around 14,000 TEU with complex systems, reflecting its advancement as a global trade hub. This shift requires the Port to extend its quay line by approximately 4.9km. Dedicated freight rail for inland transport and advanced warehousing solutions, along with seamless and autonomous connectivity between the quay line and container parks, ensure the efficient movement of increased cargo volumes in a predictable and controlled environment. This allows all stakeholders to collaborate and share open-data, to plan and invest effectively for the long term. The separation of heavy vehicles (HVs) and passenger vehicles is a key aspect of these developments.

### Adaptability Shift

The Port's adaptability is highlighted by the diversity of its trade, as well as PBPL's continued investment in resilient infrastructure and initiatives to improve resilience to flooding, erosion and biodiversity delivering long-term resilience against potential disruptions like severe weather events and climate change. Its ability to navigate and respond to changing global conditions, including geopolitical shifts, technological advancements and the required skills and capabilities across the Port's workforce and supply chain, limit economic fluctuations and underpin prosperity.



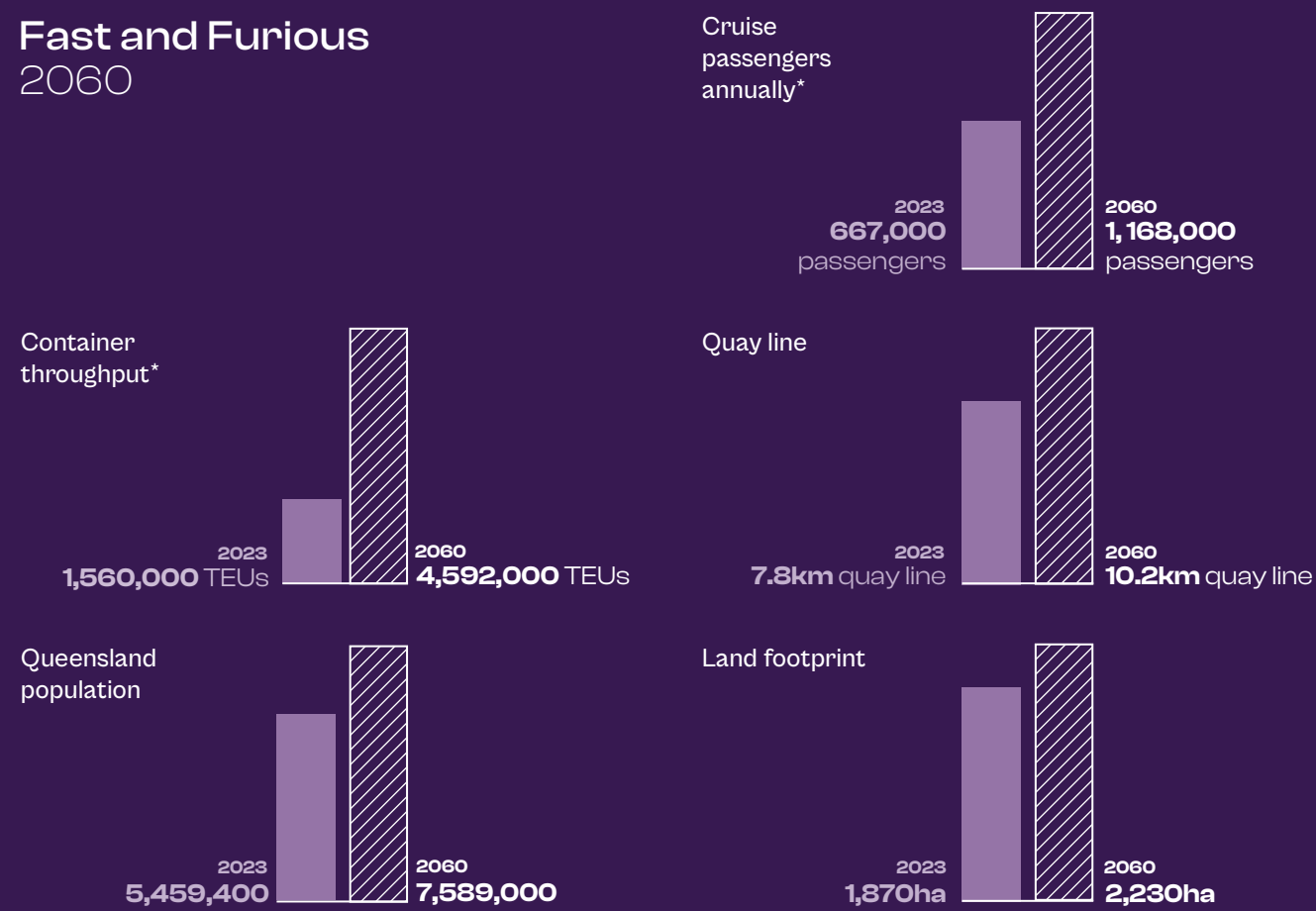


Scenario

# Fast and Furious

An open and unstable world.

## Fast and Furious 2060



\*Data based on financial year

By 2060, the Port of Brisbane is a thriving maritime hub that has successfully adapted to the challenges and opportunities presented by an Open and Unstable future scenario. In this future, the Port continually evolves to meet the demands of a rapidly changing world.

Recognising the increasing volatility and uncertainty in the world, the Port has focused on building resilience and diversification into every facet of its operations. This includes physical infrastructure, human resources, and technological capabilities. The ability to adapt quickly and efficiently to disruptions has been a priority. New technologies and innovative solutions, as well as collaboration across industries and nations, have created a networked ecosystem that responds effectively to changes.

The Port has adapted to the changing landscape and pressures of increased urbanisation and ever-evolving consumer preferences. Sustainable and resilient supply chains, coupled with consumer-centric logistics systems, have become paramount. Speed is the new intellectual property as the delicate balance between urban liveability and the movement of goods presents ongoing challenges.

As in the Full Speed Ahead scenario, the Port has fully embraced digital technologies with a fully integrated whole-of-port digital twin, powered by extensive Internet of Things (IoT), aiding in planning and operational agility. However, challenges related to infrastructure interoperability, workforce adaptation, and cybersecurity vulnerabilities remain, with a commitment to 'secure by design' practices instrumental in navigating this digital transformation.

Likewise, the Port is at the forefront of the maritime industry's transition towards sustainability and accountability as concerns about climate change, increasing environmental regulations, and community demands have driven this shift. All Port stakeholders have adopted clean energy solutions, embraced circular economy principles, and strengthened its ESG reporting and accountability. This commitment to sustainability has maintained trust with stakeholders and ensured competitiveness in a changing market, however the costs associated with sustainability measures present challenges.

Whilst still experiencing significant growth, the lower trajectory has led to less trade throughput, a slightly slower path towards net zero emissions, and less demand for land take-up, reducing the overall footprint of the Port, compared to a Full Speed Ahead scenario.

While growth is lower, investments in larger and more efficient assets have been a priority to meet the growing demands of global trade and supply chains. Industry consolidation and the pursuit of economies of scale have driven the demand to accommodate larger vessels and more complex logistics systems.

The Port of Brisbane has emerged as a resilient and adaptive maritime hub in this Open and Unstable future scenario. It has successfully balanced economic growth with environmental responsibility and efficient planning amidst capacity and expansion challenges. While the Port continues to play a central role in global trade, ensuring its place as a vital component of the maritime industry in 2060 and beyond, it must remain vigilant in preparing for severe weather events, geopolitical shifts, and other unexpected disruptions.

“(In an open and unstable world), adaptive frameworks are critical to be able to respond swiftly to economic fluctuations and trade dynamics. Leading to an opportunity to share solutions to common challenges across borders.”

Hatch





Scenario

## Fast and Furious

**2060**  
Net zero emissions  
achieved by the Port

**2.0°C**  
Global warming

**0.25m**  
Sea level rise

**39%**  
Increase in QLD  
population

**194%**  
Increase in shipping  
volumes

**1.17 million**  
Cruise passengers  
annually

**'Secure by  
design'**  
To adapt to challenges

**Autonomous**  
Vehicles, warehousing,  
and precincts with  
instability

**2.4km**  
Additional quay line

**Resilient**  
Networks developed to  
adapt to volatility

Brisbane  
International  
Cruise Terminal

Port  
North

Port  
West

Port  
Gate

Port of  
Brisbane

PortBris 2060

In the Fast and Furious scenario, Port of Brisbane's transformation is shaped by:

### Digital Shift

As with the Full Speed Ahead scenario, the transportation and logistics industry undergoes a relentless digital transformation. While the Port experiences significant efficiency gains in warehousing, containerisation, and intermodal transport, along with a focus on increased safety; challenges related to interoperability, complex logistics, workforce displacement, and skills gaps are always present. The Port therefore embraces a 'secure by design' approach, investing in new systems and protocols, and intensifying training of the workforce. Ongoing innovation is expected, requiring agility, adaptability, and a commitment to safety and compliance.

### Growth Shift

Accommodating a 40% and 39% increase in the Australian and Queensland populations respectively, the Port expands to manage a 194% increase in shipping volumes (2.9x baseline growth) as well as a 30% increase in cruise ship berthing demand which brings almost 1.17 million passenger arrivals per year. The lower growth is due to some disruption and inefficiencies in supply chains with partners being affected geopolitical tensions, as well as disruptions such as pandemics and cyber-attacks. Consumer preferences and logistics demands change frequently making it difficult to predict trade and resulting in the need to work closer with governments and communities to balance liveability pressures with the movement of goods.

### Sustainability Shift

Global warming has been pushed out to a 2.0°C average temperature increase, and a 0.25-metre sea level rise sees the Port maintaining existing and investing in new resilient infrastructure. Sustainability takes centre stage, with the goal of net zero emissions by 2060. This is driven by increased community concerns around climate change and Environmental, Social and Governance (ESG) accountability, with fossil fuel-related infrastructure transitioning to zero emission commodities and the Port adopting more inclusive labour practices while driving carbon emissions reduction and renewable energy growth in line with the Full Speed Ahead scenario. Increasing levels of ESG reporting add to the regulatory burden but also build trust within the community and contribute strongly to the Port's social license.

### Capacity Shift

Demand for larger, more modern and efficient assets grows but vessel size remains at 14,000 TEU. Industry consolidation and competition drive investments with an intense focus on land use as constraints imposed by urbanisation limit expansion. This is despite a clear need for more facilities, which forces more robust planning at a time when global instability and data sharing shutdowns caused by increased cyber-attacks make it difficult for the Port to consistently understand its capacity requirements, leading to occasional bottlenecks and inefficient use of berths. The Port extends its quay line by just under 2.4km and, as with the Full Speed Ahead scenario, dedicated freight rail connectivity and advanced warehousing solutions, with seamless and autonomous connectivity between quay line and container parks developed, but the instability often leads to disruptions and inefficiencies.

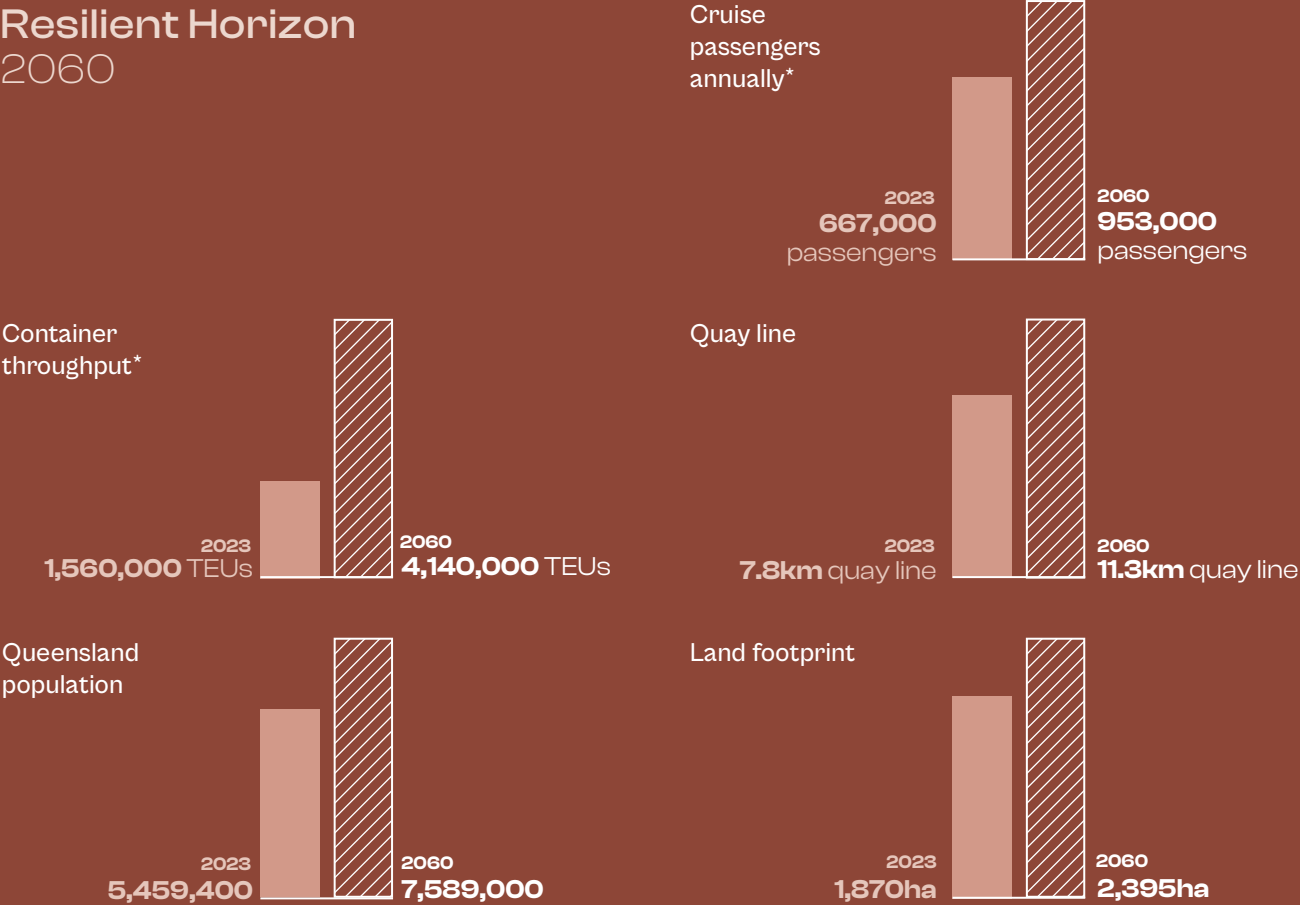
### Adaptability Shift

Increasing volatility and uncertainty necessitates greater adaptability and resilience in both place and people. The Port is better prepared for disruptive forces like extreme weather, pandemics, and geopolitical shifts by embracing new technologies and collaborating across sectors to create a networked ecosystem that can respond quickly to disruptions. This increased flexibility is critical to reduce dependence on specific systems or actors, and the creation of diversified and resilient networks.





Resilient Horizon  
2060



\*Data based on financial year

By 2060, the Port of Brisbane operates within a distinctive global landscape, characterised by a closed and stable environment. This scenario envisions a future where global interconnectedness is significantly reduced, leading to restricted trade flows and controlled information exchange. Despite these constraints, there is a high degree of predictability and consistency in economic and political systems, providing a stable backdrop for port operations.

Similar to the Full Speed Ahead scenario, the Port embraces the digital shift, yet in this scenario it is done with a more controlled approach. The Port of Brisbane community still leverages AI and automation to optimise operations, ensuring security and efficiency in logistics and container tracking within a tightly regulated environment.

The stable scenario has allowed the Port to implement far-reaching sustainability initiatives, including comprehensive renewable energy projects, waste management systems, and climate resilience measures. These efforts are bolstered by strategic partnerships and local collaborations, underscoring the Port's commitment to environmental stewardship.

Investments in infrastructure is somewhat dictated by lower throughput and lower demand for additional land. However, macro factors lead to a forward-thinking approach to accommodating larger vessels and more complex logistics systems, all within the confines of a stable, lower growth, yet closed world. This includes the development of green energy sources, advanced cybersecurity measures to protect against global threats, and innovations in transport modalities.

Recognising the importance of stability for staff and the wider port community, the Port of Brisbane has invested in developing a skilled, adaptable workforce. Initiatives focus on training for new technologies, enhancing safety and security across the port community, and this fosters a resilient culture. The port cautiously engages with its community, aligning its operational goals with local and regional development objectives.

In this scenario, the Port has evolved to become a stable hub for maritime logistics and a pioneer in sustainable port management and operations. The Port's infrastructure, logistics systems, and business models have been meticulously adapted to thrive in a world where self-reliance is paramount. Strategic investments in technology, sustainability, and workforce development underpin its operations, ensuring efficiency and resilience despite the broader global limitations on trade.

In this scenario, the Port of Brisbane evolves with a distinct emphasis on leveraging domestic capabilities, diverging from the global interconnectedness of both open scenarios. This difference is marked by a shift towards hyper-localised supply chains and a focus on technological self-sufficiency. The Port invests more in domestic tech startups for smart logistics solutions through a local maritime innovation hub. Allowing the Port to maintain operations and growth and prioritise the development of local manufacturing hubs to reduce reliance on imported goods. By 2060, the Port is leading in the adoption of Australian-made renewable energy solutions, setting up operations that contrasts with the global energy partnerships seen in other futures.

“(In a closed and stable world) a lack of international cooperation contributes to unchecked global cyber-crime activity. However, the Port of Brisbane's investment allows effective cyber defense posture, limiting successful attacks and deterring attackers.”

FTI Consulting





Scenario

## Resilient Horizon

**2060**

Net zero emissions achieved by the Port

**40%**

Increase in QLD population

**Digitalisation**

For more efficient and secure operations

**3.5km**

Additional quay line

**2.0°C**

Global warming

**Lower**

Shipping volumes per year

**'Scale up'**

Readiness for larger vessels and complex systems

**Robust**

Flexible systems to manage disruptions

**0.3m**

Sea level rise

**Lower**

Annual cruise passengers

Brisbane International Cruise Terminal

Port North

Port West

Port Gate

Port of Brisbane

PortBris 2060

In the Resilient Horizon scenario, Port of Brisbane's transformation is shaped by:

### Digital Shift

The Port of Brisbane's strategic investments in digitalisation including AI, robotics, and cybersecurity, align with the industry's transformation towards more efficient and secure operations. These technologies are pivotal for achieving significant efficiency gains in warehousing, containerisation, and intermodal transport, addressing interoperability challenges, and upskilling the workforce to bridge skills gaps.

### Growth Shift

With a 40% growth in population, demographic trends and urbanisation drive the need for consumer-centric logistics and sustainable supply chains. Although container volumes and cruise passenger numbers are down on forecasts compared to other scenarios, the Port's focus on infrastructure and technology investment, in light of population growth and urban demands, underpins its strategy to develop resilient and adaptable logistics systems that can meet changing consumer preferences and reduce carbon emissions.

### Sustainability Shift

Global warming pushed temperatures up 2.0°C and with a sea level rise of 0.3 metres, PBPL's commitment to sustainable practices is slow in the beginning but clean energy solutions, and ESG accountability gains momentum in the second half of the 2040's, to reach net zero targets by 2060. This slower but steady shift reflects a global effort towards environmental responsibility. Investments in clean energy and sustainable infrastructure, along with strong ESG reporting, position the Port of Brisbane as a leader in sustainable maritime operations, ready to meet future regulatory and stakeholder demands.

### Capacity Shift

To accommodate the demand for larger vessels up to 14,000 TEU, and more complex logistics systems, the Port's planning for infrastructure upgrades and technological advancements ensures readiness for the 'bigger everything' trend. This includes expanding quay line lengths, enhancing cargo handling capabilities, dedicated freight rail, and exploring innovative solutions for capacity enhancement beyond traditional port boundaries.

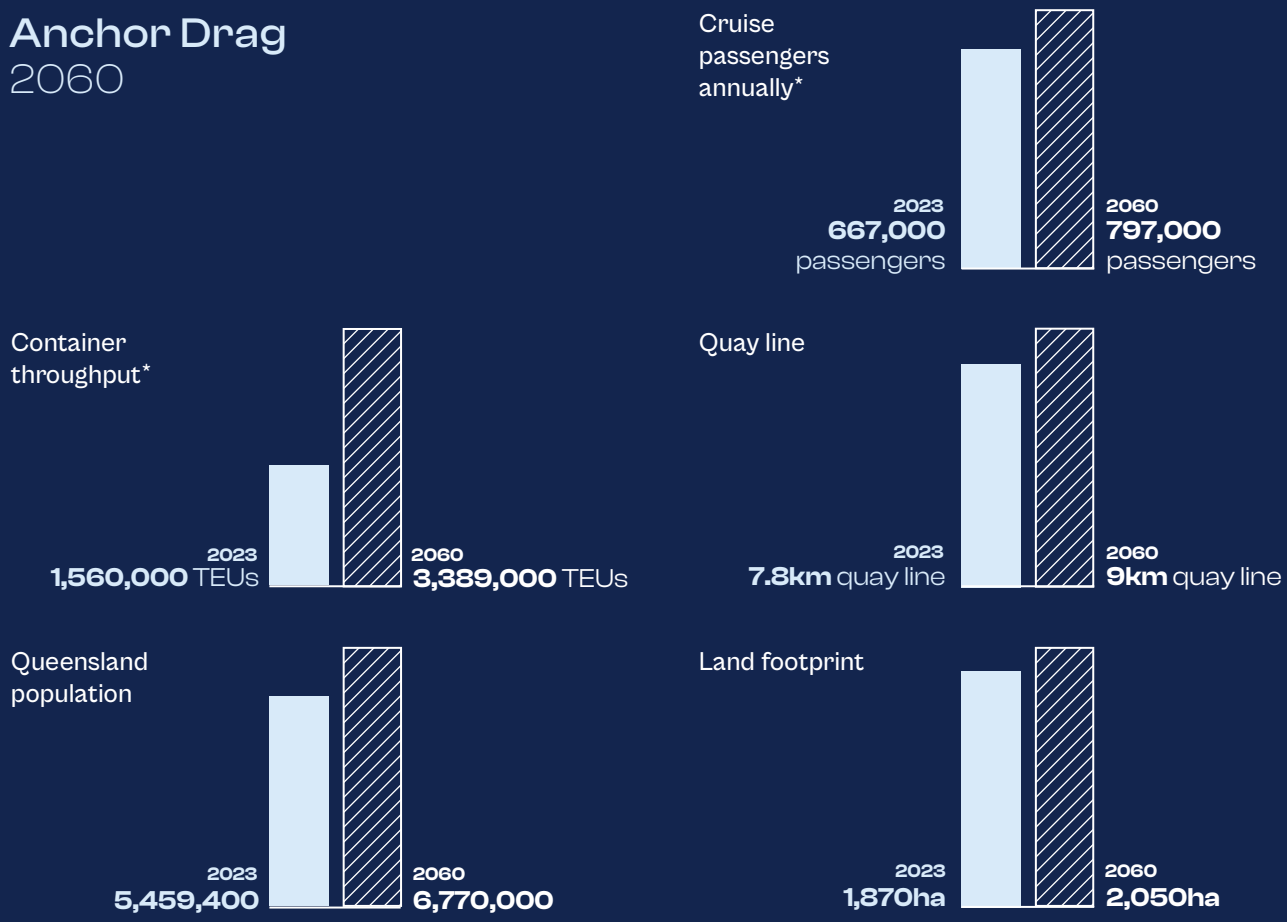
### Adaptability Shift

Building resilience against future uncertainties requires the Port to diversify its operations, embrace new technologies, and foster collaborations. By developing flexible and robust systems, the Port can better manage disruptions, ensuring operational continuity and long-term viability in a volatile global landscape.





## Anchor Drag 2060



\*Data based on financial year

By 2060, the Port of Brisbane finds itself navigating a complex and challenging landscape defined by a Closed and Unstable world. This scenario, marked by reduced global interconnectedness and heightened geopolitical volatility, presents a unique set of challenges that impact every aspect of port operations, from infrastructure and technology to environmental sustainability and workforce dynamics.

In a world where international trade, migration and the flow of information is constricted, the Port has had to navigate the future largely alone.

Technological advancement is underway, but with increasingly protectionist policies across the globe and the inability to draw on international expertise, it is moving at a slower pace than in other scenarios.

The reliance on manual and mechanised systems, in the absence of significant automation and advanced logistics systems, constrains the Port's throughput and responsiveness to market demands. The Port's inability to accommodate larger vessels efficiently and the lack of advanced logistics systems also lead to operational bottlenecks and lower trade volumes, impacting its competitive edge.

In this hybrid technology environment, the workforce grapples with rapid changes and requires enhanced training to diversify its skills and build adaptability. This occurs against a broader backdrop of workforce shortages thanks to increasingly closed global borders and low-to-moderate population growth here at home.

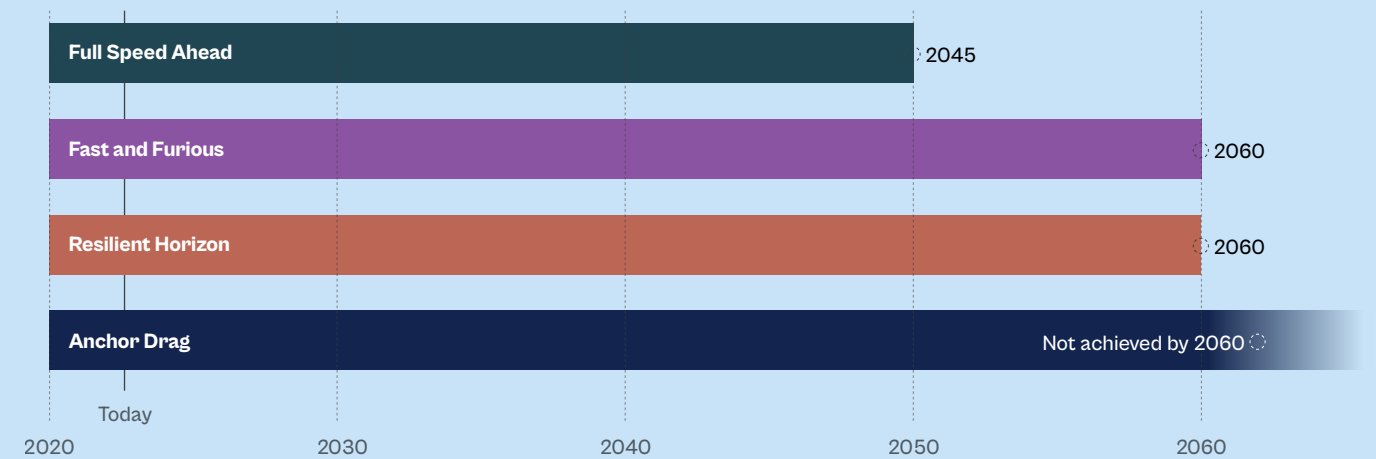
Infrastructure investment and development struggles to keep up with efficiency requirements and the Port's strategic planning is complicated further due to economic instability and inconsistent policy frameworks. Investment decisions and growth plans must account for these fluctuations, demanding a high degree of flexibility and foresight.

Resistance to sustainability practices and environmental compliance poses another significant hurdle. Facing a world-wide increase in climate change-induced displacement, the UN has set even more aggressive goals for carbon reduction. However, while the global maritime industry continues to move towards transparency and responsible practices, industry scepticism persists and it remains a challenge for the Port to align its business priorities with these evolving expectations. As a result, while the Port continues to try and address its environmental impact, it is yet to achieve net zero.

In this scenario, the Port of Brisbane operates without the forward-looking infrastructure projects and technological collaborations that distinguish other futures. Absent are the initiatives for integrating advanced digital logistics platforms, while an increasing reliance on road transport for freight movements leads to crippling congestion for Brisbane commuters. This continued underinvestment in rail infrastructure, which in other scenarios, underpins the Port's dedicated freight rail and inland port connectivity, sees the Port's relentless pursuit of progress amidst unparalleled challenges a solitary struggle well beyond 2060.

## Whole of Port Net Zero Trajectory

Under four scenarios, as forecast by RPS







Scenario

## Anchor Drag

### Net Zero

Not achieved by 2060

### 2.5°C

Global warming

### 0.43m

Sea level rise

### 24%

Increase in QLD population

### Modest

Increase in shipping volumes

### Modest

increase in annual cruise passengers

### Cybersecurity

Vulnerabilities and operational inefficiencies

### Strategic

Infrastructure development to maintain competitiveness

### Growth

Within current land footprint

### Short-term

Focus due to disruptions

In the Anchor Drag scenario, Port of Brisbane's transformation is shaped by:

### Digital Shift

Unlike the Full Speed Ahead and Fast and Furious scenarios, in the Closed and Unstable scenario the Port of Brisbane faces challenges with digital transformation, notably in cybersecurity and workforce adaptability. While the industry is moving towards AI, robotics, and advanced digital systems, competing business priorities mean the Port's progress is hindered by limited investment, leading to cybersecurity vulnerabilities and operational inefficiencies due to frequent disruptions and interoperability issues. This gap not only impacts its competitive edge but also reflects a broader need for upskilling the workforce in digital literacy to fully leverage emerging technologies.

### Growth Shift

The Port's demand dynamics is shaped by a 27% increase in the Australian population, and 24% in Queensland. However, despite this growth, the Port's actual increase in shipping volumes is modest. Supply chain disruptions and the Port's limited capacity prompt it to focus on developing sustainable and resilient supply chains that can adapt to changing market conditions and evolving consumer preferences.

### Sustainability Shift

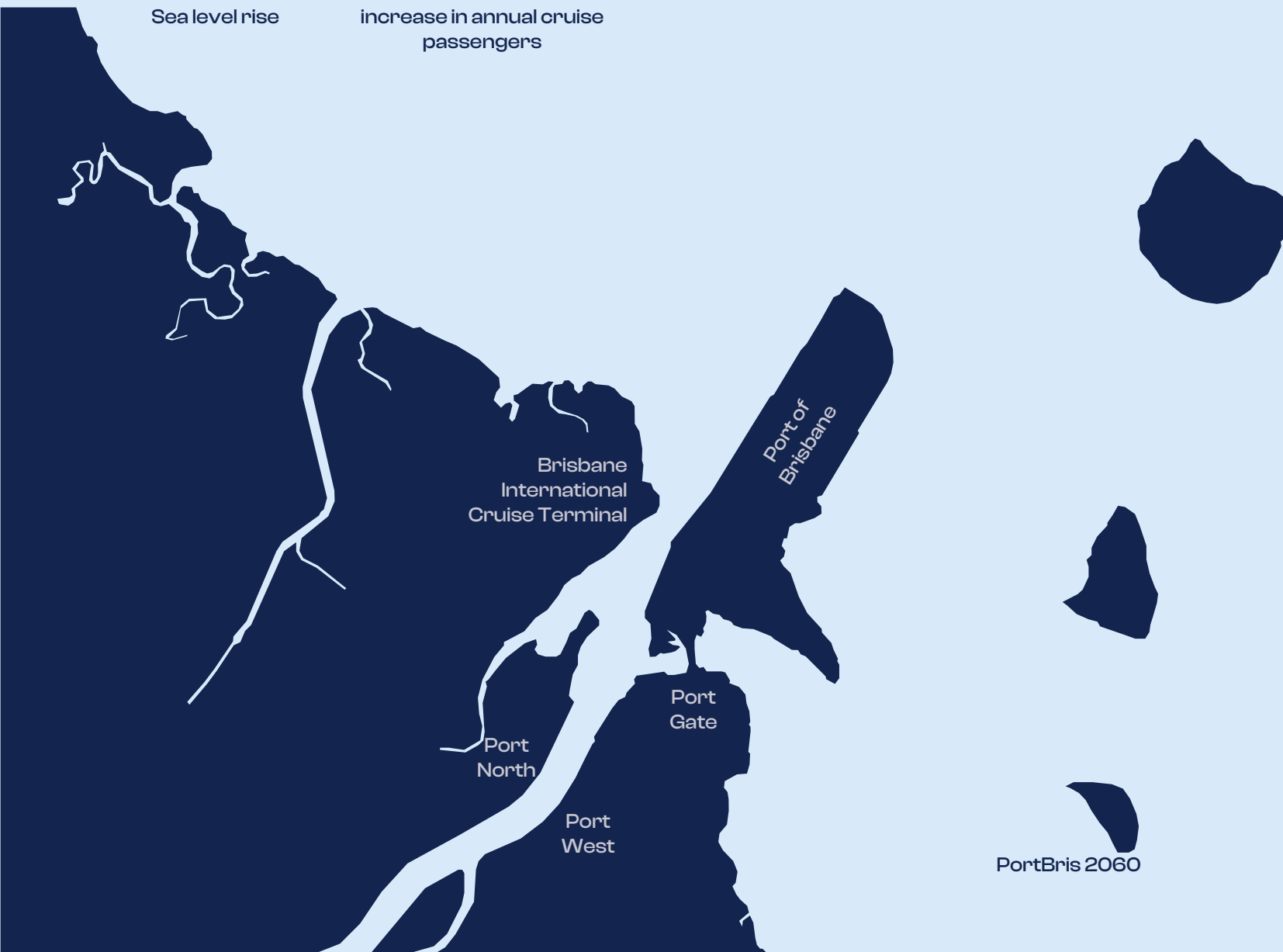
With global warming reaching a 2.5°C average temperature increase and a subsequent 0.43-metre sea level rise, the Port has invested to ensure its infrastructure is resilient. The Port's approach to waste management and climate change resilience, while slow, indicates a stance towards environmental challenges, underscoring the necessity for proactive, sustainable practices and alignment with global sustainability standards. This includes the need for measuring and reporting carbon costs and embracing circular economy principles. However, industry resistance to sustainability practices, coupled with difficulties in environmental compliance in the face of other business challenges, sees the slowest reduction in emissions of all the scenarios.

### Capacity Shift

Infrastructure constraints, including an inability to accommodate vessels up to 14,000 TEU in an efficient manner, and the lack of advanced logistics systems or shore power pose operational challenges. While the industry moves towards larger and more efficient assets, PBPL's partial infrastructure advancements, such as smaller scale shipping channel capacity enhancements, do not fully meet these evolving demands. In this smaller growth scenario, the Port shifts its focus to strategic infrastructure development and innovative space optimisation solutions to enhance its capacity and maintain competitiveness.

### Adaptability Shift

The Port's response to the Closed and Unstable scenario is characterised by its efforts to build resilience against environmental changes and market uncertainties, however the approach is more reactive than proactive. Day-to-day challenges such as maintaining operational integrity in the face of cybersecurity threats and infrastructure inefficiencies reduce the Port's capacity to look to the longer term and anticipate future events ahead of time.







# Where do we go from here?

The scenarios presented offer a plausible view of possible futures for the Port of Brisbane by 2060, each underpinned by varying degrees of openness and stability in the global landscape. These scenarios not only reflect diverse pathways for technological, economic, and environmental developments but also underscore the critical importance of adaptability, sustainability, and strategic planning in navigating future uncertainties.

## Full Speed Ahead vs. Fast and Furious

Both scenarios envision significant technological advancements and digital transformations, leveraging AI, automation, and a fully integrated digital twin. However, the **Full Speed Ahead** scenario benefits from a stable global environment, enabling more predictable growth and investments in infrastructure and sustainability, leading to a pioneering role in port development. In contrast, the **Fast and Furious** scenario marked by an open yet unstable world, faces erratic global growth. This requires the Port to be more agile and adaptive to rapid changes and uncertainties, with an emphasis on increased cybersecurity risk and innovation required to manage unpredictable global trends.

## Resilient Horizon vs. Anchor Drag

**Resilient Horizon** portrays a future where limited global interconnectedness does not hinder the Port's advancements. Instead, it focuses on sustainability, self-sufficiency, and controlled digital innovation within a predictable and consistent world, becoming a model of resilience. **Anchor Drag**, on the other hand, represents a future hampered by reduced global interconnectedness and high volatility, with significant challenges in operational efficiency, cybersecurity, and environmental sustainability. This scenario requires the Port to navigate through more complex and uncertain conditions, highlighting the importance of adaptability and strategic foresight.

## Technological Integration and Security

Across all scenarios, the importance of technological advancement and cybersecurity is evident. The **Full Speed Ahead** and **Resilient Horizon** scenarios depict a more successful integration of technology and security measures, contributing to efficiency and resilience. In contrast, **Fast and Furious** and **Anchor Drag** highlight the challenges and risks associated with rapid technological changes and cybersecurity threats, stressing the need for continuous innovation and vigilance.

## Sustainability and Environmental Commitment

Sustainability emerges as a key theme, with the **Full Speed Ahead** and **Resilient Horizon** scenarios showcasing comprehensive efforts towards environmental stewardship, including investments in clean energy and sustainable infrastructure. The **Fast and Furious** scenario also emphasises sustainability but within the context of balancing economic viability and environmental responsibilities amidst global instability. **Anchor Drag** reflects a slower progression towards sustainability, underscoring the challenges in aligning with global sustainability standards amidst economic and policy volatility.

## Adaptability and Resilience

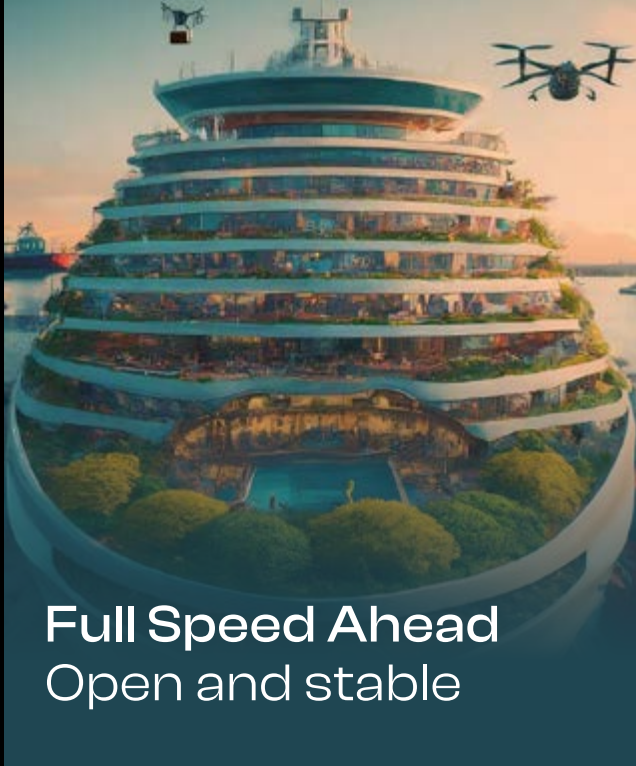
The capacity for adaptability and resilience is a critical differentiator among the scenarios. **Full Speed Ahead** and **Resilient Horizon** demonstrate a proactive approach to embracing change and preparing for the future, with strategic investments in infrastructure, technology, and workforce development. **Fast and Furious** requires the Port to maintain agility and forward-thinking to manage the unpredictable landscape. **Anchor Drag**, however, illustrates a more reactive stance, with efforts to build resilience against environmental changes and market uncertainties being pivotal in navigating future challenges.

In conclusion, each scenario presents a unique set of opportunities and challenges for the Port of Brisbane, highlighting the importance of strategic planning, technological innovation, environmental sustainability, and adaptability in shaping the future of maritime logistics and port operations. The Port's success in navigating the future will depend on its ability to anticipate changes, embrace innovation, and commit to sustainability, while fostering resilience and adaptability in the face of global uncertainties.



# 2060 scenarios at a glance

Data is sourced from the PortBris 2060 working group research



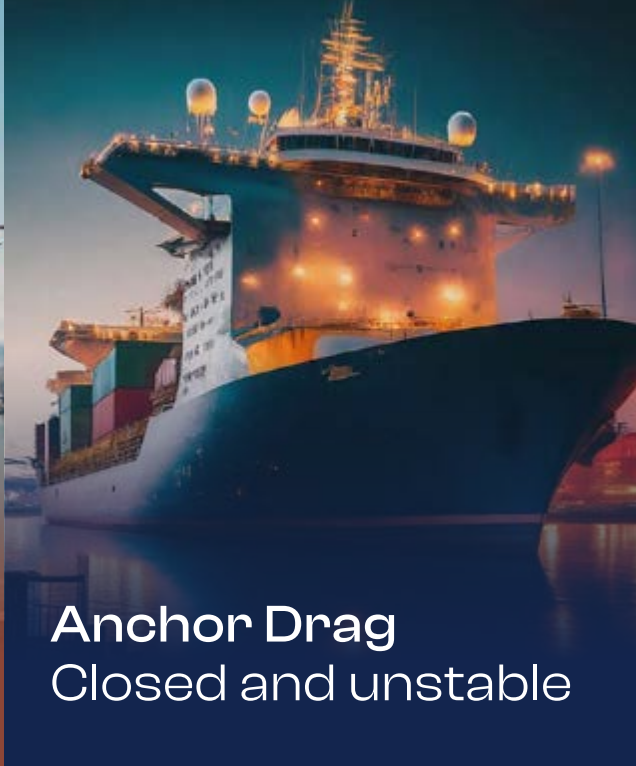
Full Speed Ahead  
Open and stable



Fast and Furious  
Open and unstable



Resilient Horizon  
Closed and stable



Anchor Drag  
Closed and unstable

## QLD population

2023  
5,459,400



8,844,000  
62% increase



7,589,000  
39% increase



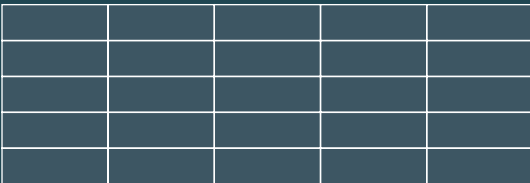
7,589,000  
39% increase



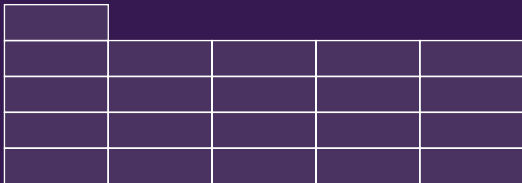
6,770,000  
24% increase

## Container throughput\*

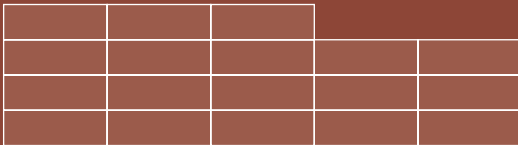
2023  
1,560,000 TEUs



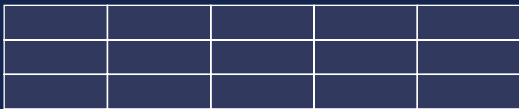
5,547,000  
TEUs



4,592,000  
TEUs



4,140,000  
TEUs



3,389,000  
TEUs

## Cruise passengers annually\*

2023  
667,000



1,517,000  
passengers



1,168,000  
passengers



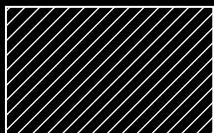
953,000  
passengers



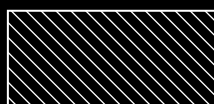
797,000  
passengers

## Land footprint

7.8km quay line



1,870ha



12.7km quay line



2,605ha



10.2km quay line



2,230ha



11.3km quay line



2,395ha



9km quay line



2,050ha



\*Data based on financial year



How can you shape the future?

# Let's shape the future together.



We're at a really exciting point for the Port of Brisbane. We've looked into the future and seen several paths we could take as a port community. These futures are full of opportunity and growth, while also presenting real challenges we must navigate.

This is where we need your help. We believe that by working together, we can choose the most anticipated path forward.

## We need you!

We're calling on everyone connected to the Port to join in on the biggest conversation we've ever had about our future - whether you work here, run a business that relies on us, or that we rely on you for, live nearby, or care about the Port. Your thoughts and ideas are important to help us build a future we all want to live in.

### Why your voice is important

The Port of Brisbane isn't just a place where ships come and go. It's a community and a catalyst for shaping South East Queensland.

By sharing your ideas you'll help us figure out how best to grow, innovate, and take care of our environment, all while staying true to what makes our community special.



[portbris.com.au/portbris-2060](https://portbris.com.au/portbris-2060)

### How you can get involved

We want to hear what you think, what you're worried about, where you see challenges and/or opportunities, what your visions are for the future and how we can help you achieve them. No matter how you're connected to the Port, your views matter to us.

Scan the code above to complete a short survey or visit the website.

### What we want to find out

- We have some big questions, and we need your help to answer them.
- From understanding how we use new technology to improve security and efficiency in operations, to making sure everyone is safe and have the skills they need to navigate the future of work.
  - From how we can look after our environment for future generations and achieve our net zero goals, to managing growth demands and embedding resilience across all activities.
  - Identifying what infrastructure the port of the future will need: at what speed can we transition from an emissions-heavy, road-reliant facility to a low-emission, modally-diverse, highly-efficient trade hub?
  - And determining what's important to you and your organisation and working out how the Port's evolution can propel your own growth.

### Together, we can shape our future

This is our chance to work together to make sure the Port of Brisbane is here for the future. It's not just about dealing with whatever comes our way; it's about identifying a preferred future that's good for everyone.

Please – get involved and join us on this exciting journey.





**PortBris 2060**  
Beyond Tomorrow  
Discussion Paper  
February 2024

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For more information please contact  
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