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METRONET ON SWAN FERRY SERVICE EXPANSION

Business Case Summary

2025



Acknowledgement of Country

The Public Transport Authority would like to show respect by acknowledging the Traditional Custodians of the land we live and travel on. We wish to acknowledge and respect their culture and continuing contribution to land, waters and communities. We pay our respects to Aboriginal Elders both past and present.



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Introduction

Expanding Perth's ferry network is essential to improve how people move across Perth. Limited cross-river connectivity, constrained capacity at key bridges, housing and economic potential at riverfront precincts, and a growing demand for public transport have all emphasised the urgent need for investment to improve access and connectivity.

The Swan River presents a significant natural barrier dividing Perth into distinct urban regions, each dependent on integrated transport infrastructure for connectivity. Perth's existing transport network provides essential links, however vulnerabilities arise from heavy reliance on the limited number of crossings over the Swan River as critical bridges such as the Narrows and the Causeway regularly experience capacity constraints. Building additional road bridges would not only incur substantial costs but also present significant environmental challenges and constraints, while offering limited long-term effectiveness due to ongoing congestion and future proofing opportunities.

Historically integral to Perth's transport system since the early 19th century, Transperth's ferry service currently operates a single route between Elizabeth Quay and South Perth. While efficient, this is insufficient to meet the access and transit demands of growing riverfront precincts or address the broader issue of limited crossings over the Swan River.

Expanding the ferry network presents a strategic, long-term, and sustainable transport solution.

Establishing new ferry terminals at key waterfront locations will significantly enhance cross-river connectivity, support urban growth, and stimulate vibrant commercial and residential development.

Unlike road-based transport, ferry services are unaffected by limited road capacity and offer opportunities for scalable future capacity. Ferry services provide a reliable cross-river connection that is relatively cost-effective and environmentally friendly compared to building new road or rail infrastructure. Further, ferries offer a distinctive and enjoyable travel experience that appeals to both commuters and visitors.

An expanded ferry network improves access to both established and emerging riverfront precincts, supports urban revitalisation and infill, and promotes inner-city development, aligning with broader transport and urban planning objectives. Expanded ferry operations are easily integrated with existing public transport infrastructure, reducing travel times, enhancing accessibility, and supporting Perth's vision for an economically vibrant, connected, and sustainable metropolitan area that is attractive for tourism and local investment.

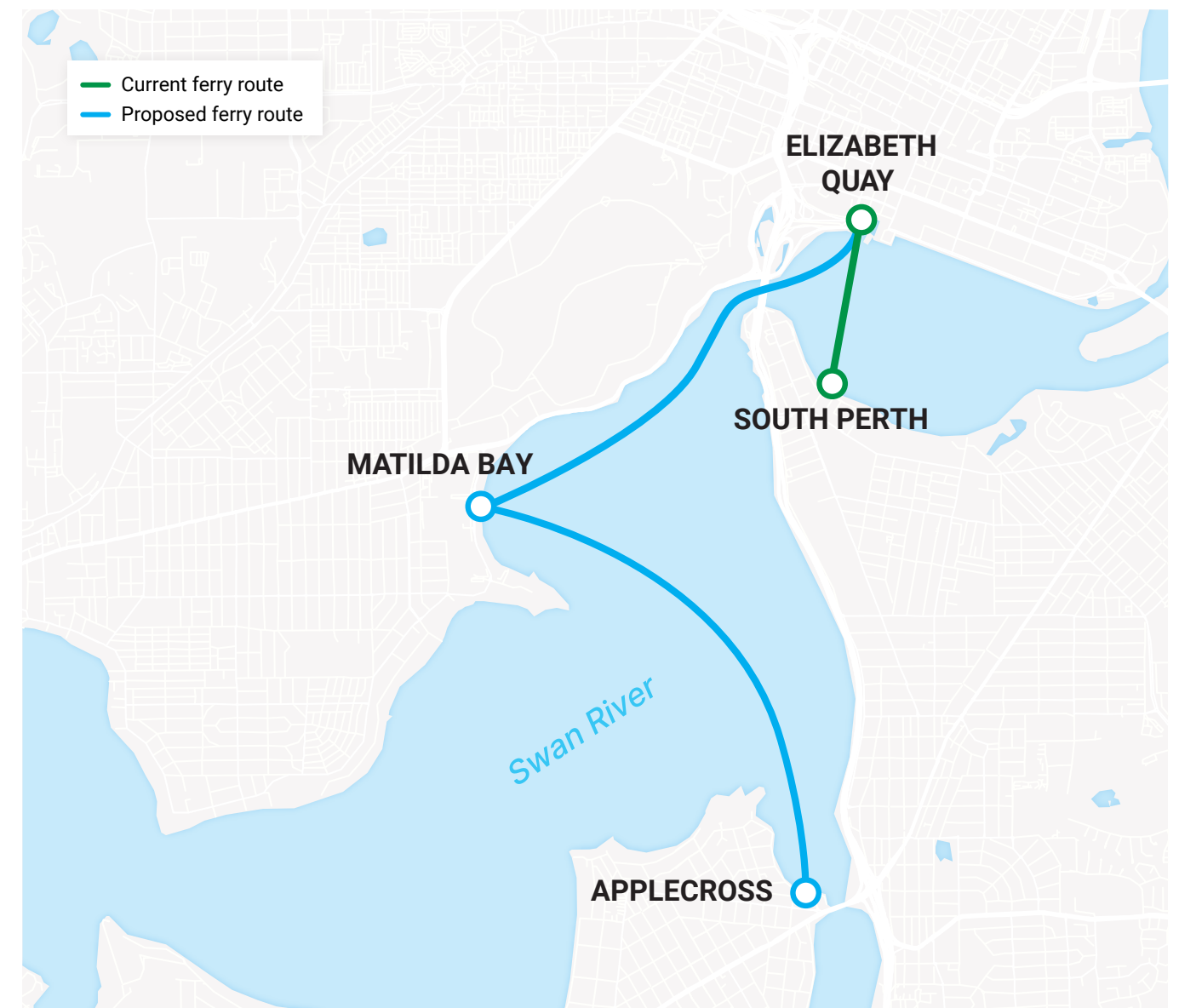
The Western Australian Government and the Commonwealth Government's METRONET on Swan Ferry Service Expansion is a strategic program designed to:

- Establish new ferry routes connecting critical urban and suburban areas, improving accessibility and providing a reliable alternative to road-based transport.
- Leverage the inherent advantages of the Swan River, enhancing overall mobility and connectivity while offering passengers an efficient and enjoyable travel experience.

Stage 1 of the program includes:

- Procuring five locally manufactured electric ferries.
- Upgrading Elizabeth Quay and Barrack Square jetties and building new terminals at Matilda Bay and Applecross.
- Installing charging infrastructure to operate the new electric ferry fleet.

The WA Government has approved \$107.5 million in funding, with \$60 million to be provided by the Commonwealth Government (\$50 million for Stage 1 infrastructure works and \$10 million for Stage 2 investigative works).



Why invest in expanding Perth's ferry services?



Recent investigations

People have been drawn to the Swan River for millennia. The Whadjuk Noongar People – the Traditional Owners of the land around modern-day Perth – have developed a profound and enduring spiritual, cultural and physical affinity with the Derbal Yerrigan.

There have been numerous government-led investigations into expanding Perth's ferry services, including:

- Swan and Canning River Ferry Study (1990)
- Feasibility Study of Ferry Service on the Swan River (1993)

- Additional Ferry Services on the Swan and Canning Rivers (2000)
- Perth's Ferry Services – Current Status and Future Use (2016)
- High Level Feasibility Study into Swan River Ferry Expansion (2023).

These reviews and studies – along with support from the tourism, local government and university sectors – identified opportunities for expansion while outlining the challenges that needed to be overcome for an expansion beyond the sole existing route.

Strategic alignment

The METRONET on Swan Ferry Service Expansion business case identifies strong alignment to a suite of national and state strategies and policy frameworks:

- **State Planning Strategy 2050:** the ferry expansion will build transport corridors between economic activity areas and transport nodes.
- **Perth and Peel @3.5 million:** identified challenges to create additional river crossings so people can traverse the city without creating bottlenecks in the CBD.
- **Infrastructure WA's 2022 State Infrastructure Strategy:** expanded ferry services will help with population growth and transition to net zero emissions technology.
- **WA's Transport Portfolio Strategic Framework "Connecting People and Places":** identified the need for connected, resilient and sustainable transport solutions.
- **National Transport Decarbonisation and Net Zero Plan:** expanded ferry services support the achievement of national strategies and net zero goals.
- **Australia's Tourism Strategy Thrive 2030:** expanded ferry services will deliver quality experiences for visitors to Perth.
- **City of Perth's Transport Strategy:** includes greater use of water-based transport as development along the Swan River increases.

Collectively, these strategies document the critical role METRONET on Swan will play in delivering sustainable transport infrastructure that meets diverse policy objectives at multiple governance levels.

Rationale for investment

The 2025 business case found that government intervention in expanding Perth's ferry network was warranted on multiple grounds. This includes improving the limited connectivity and transit capacity across the Swan River, tackling congestion at key river crossings at the Causeway, Narrows and Canning bridges, and enabling the urban renewal of communities close to the Swan River transit catchment area.

Government investment is crucial to achieving

an integrated public transport network within metropolitan Perth. Without proactive government action, ferry services will remain confined, undermining the broader vision for a cohesive multimodal system.

Expanding ferry services requires government-led planning and infrastructure investment to enhance connectivity, ensuring the network meets the growing transit demands of a region currently exceeding 2.3 million inhabitants and projected to

Ferries offer a unique strategic opportunity for Perth

The METRONET on Swan Ferry Service Expansion will deliver significant transport improvements and social outcomes. Five objectives for the projects were defined.

Objective 1: Improve connectivity and transit capacity across the Swan River.

Extend ferry routes to bridge critical urban centres along the Swan River, thereby facilitating efficient transit across this natural divide. This initiative is designed to offer a viable alternative to congested road networks and ensure more reliable movement across the river.

Objective 2: Stimulate economic growth and urban revitalisation.

Enhance connectivity to support urban revitalisation and promote inner-city development, particularly in key areas such as Applecross. By improving accessibility across the river, the initiative is expected to foster the creation of new residential areas, commercial centres, and job opportunities, thereby contributing to a more vibrant and economically dynamic metropolitan region.

Objective 3: Enhance integrated transport accessibility and network efficiency.

Strengthen connectivity by integrating ferry services with existing train, bus and road networks. As a sustainable adjunct to the current system,

the proposed ferry operations are anticipated to alleviate future pressure on overextended road networks and increase public transport network resilience. This will aid in improving overall mobility for both commuters and tourists.

Objective 4: Foster sustainable mobility and environmental stewardship.

Transition to electric ferry vessels and adopt environmentally sustainable practices, in line with the State Government's net-zero emissions targets. This objective aims to promote a greener mode of transport while reducing the environmental impact of urban mobility.

Objective 5: Enhance service quality and passenger experience.

Upgrade ferry infrastructure and associated amenities to meet high safety standards and improve overall user experience. By providing reliable, comfortable, and direct travel alternatives, this objective reinforces the broader vision of a connected, accessible, and economically dynamic city that supports sustainable development and improved quality of life for residents.

Timing considerations

The timing of this initiative is critical to address multiple urgent challenges and capitalise on current opportunities. Key factors include:

Tourism and economic development

- Expanding ferry services is expected to enable economic activity (including more housing) and enhance Perth's tourism potential by leveraging the Swan River's unique appeal.
- Delaying the project may result in missed opportunities for tourism growth and broader economic recovery.

Improve connectivity and network resilience

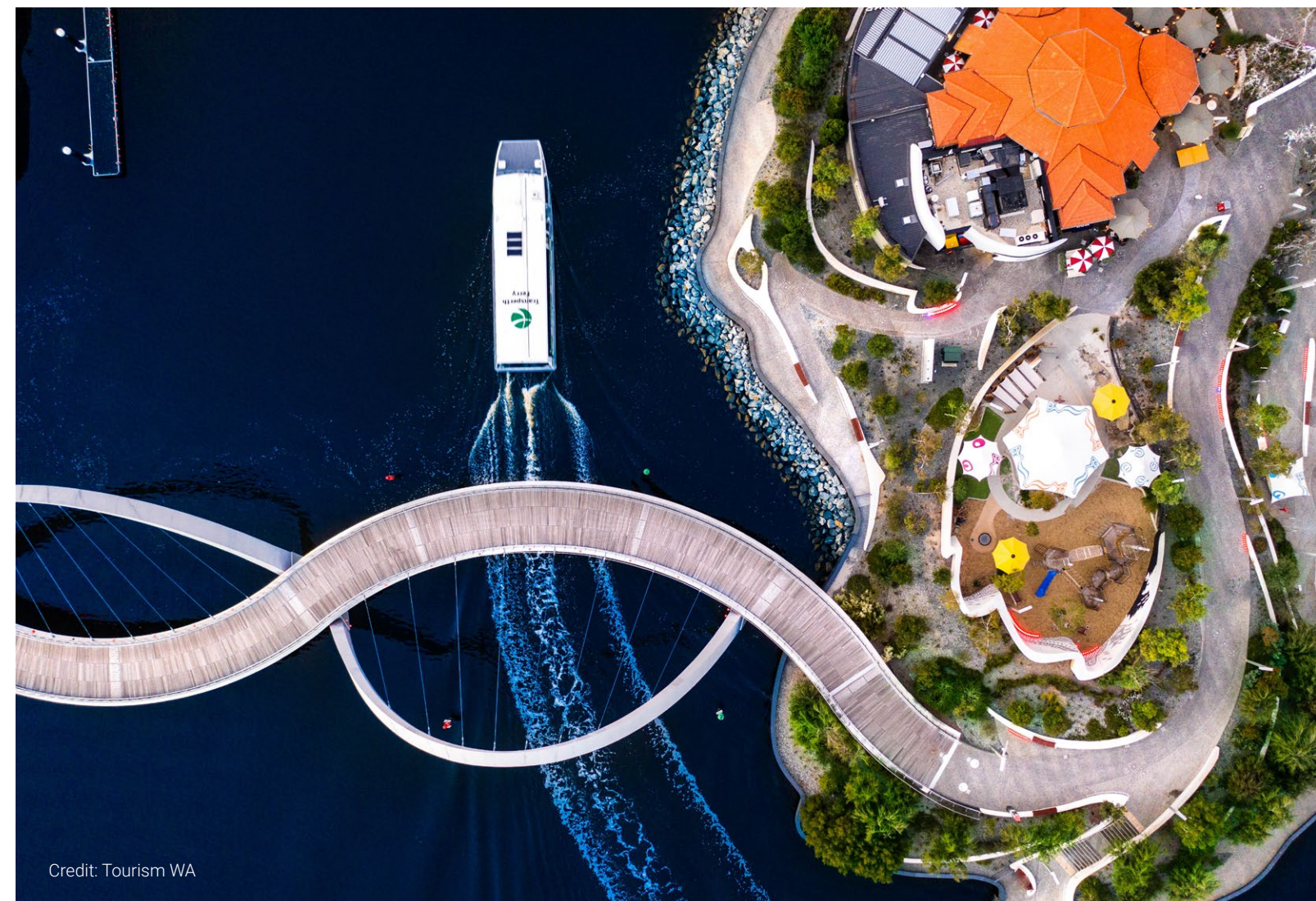
- Transport demands in areas such as Applecross and the University of Western Australia (UWA) Crawley campus are rising. Delaying the expansion of ferry services will result in reduced travel choices, which could exacerbate road congestion and further strain existing infrastructure.

Environmental and technological advances

- The current viability of electric ferry technology offers immediate environmental benefits by reducing greenhouse gas emissions and supporting net-zero targets.
- Postponing investment risks delaying these benefits and undermines the potential for local industry development in manufacturing electric ferries.

Government commitment and funding availability

- The recent allocation of \$107.5 million from the WA & Commonwealth Governments provides substantial momentum for the project.
- Aligning the expansion with current funding cycles is essential to ensure the project's feasibility and timely implementation.



Credit: Tourism WA

Patronage modelling

The Department of Transport’s Strategic Transport Evaluation Model (STEM) was used to determine and understand current and future ferry demand and mode switch from cars and buses to ferries. Patronage data was modelled for different years and service frequencies (15, 20 and 30 minutes), with additional modelling to validate the outputs based on observed (2021) and modelled patronage.

The aim of the modelling was to reduce uncertainty around how service frequency affects demand, as this directly impacts key capital decisions such as fleet size, charging infrastructure and berthing requirements.

Key findings

Overall, the modelling demonstrates a strong correlation between higher service frequency and increased patronage, with the 15-minute option showing the greatest benefit across all terminals and forecast years.

However, service frequency needs to allow for other influencing factors such as on-water speed limits and recreational and commercial vessel traffic. The 20 and 30-minute frequencies still provide significant increases in ridership, though less than the 15-minute option.

Projected additional annual trips across the public transport network:

15-minute service frequency
• 3.2 million extra trips by 2030
• 7.5 million extra trips by 2055

20-minute service frequency
• 3.1 million extra trips by 2030
• 7.2 million extra trips by 2055

30-minute service frequency
• 3.0 million extra trips by 2030
• 7.1 million extra trips by 2055



Economic and financial analysis



Cost Benefit Analysis framework

Transport modelling, tourism uplift and non-quantitative outputs were used in the Cost Benefit Analysis (CBA) framework to determine the project's economic, environmental and social benefits. The output of the CBA are the Benefit Cost Ratio (BCR) and Net Present Value (NPV).

A BCR above 1 indicates that the quantifiable benefits exceed financial costs and therefore, the project is worth investing in.

The NPV is also used to assist with determining whether a project's benefits outweigh its costs by converting future cash flows into today's dollars. A positive NPV indicates that the project adds financial value and delivers real economic impact.

Project benefits were quantified using Australian Transport Assessment and Planning (ATAP) guidelines to monetise project case transport outputs.

The ATAP and Infrastructure Australia (IA) guidelines were used as the basis to conduct the CBA. Assumptions included the following:

- The Rule of a Half was applied to induced demand.
- Decongestion benefits equated to \$0.80 per minute of travel time saving.
- Model shift assumption for car transport was 60 per cent and for bus trips 10 per cent.

- A seven per cent discount rate was applied in the final assessment.
- An appraisal period of 30 years (2026-2055) was used in the CBA and NPV methodology.
- Monetised impacts are presented in 2025 prices.

Quantified costs

The following details the project cost breakdown:

- **Planning and business case**
\$2.0 million
- **Capital costs**
Terminals: \$32.4 million
Electric Ferries: \$75.0 million
- **Operational costs**
An average of \$7.0 million in 2027-28
An average of \$14.3 million in 2028-29

Quantified benefits

The following monetised benefits were derived for the project:

- Car decongestion benefits
- Increase farebox
- Bus decongestion benefits
- Residual value

The undiscounted CBA results are shown in the table below.

Capital expenditure (CAPEX)	\$107,362,939
Operational expenditure (OPEX)	\$418,079,767
TOTAL COSTS	\$525,442,706
Car decongestion benefits	\$536,790,124
Increase farebox revenue (resource correction)	\$335,371,434
Bus decongestion benefits	\$6,078,318
Residual value	\$15,337,563
TOTAL BENEFITS	\$893,577,440
BCR	1.7
NPV	\$368,134,734

Analysis based on 20-minute service frequency

Non-quantified benefits

The CBA used for this project does not consider non-monetised economic benefits that standard strategic transport models are unable to calculate.

These non-monetised benefits include:

- Improved quality of life and urban amenity.
- Enhanced public space and connectivity around ferry terminal locations.
- Local economy uplift as economic activity increases in the areas surrounding ferry terminals.
- Activation of land development and precinct centres.
- Increased employment and skills development in the WA ship building and manufacturing sector.

Project overview

The following section details the scope of the METRONET on Swan Ferry Service Expansion program's first stage, the Elizabeth Quay to Applecross route.



WA-made electric ferries

In line with the WA Government's commitment to build up a new manufacturing base, in part to complement the AUKUS Agreement, the Public Transport Authority (PTA) will procure five locally made passenger vessels. Tenderers were required to demonstrate how they will support local employment and industry in line with the WA Jobs Act 2017 and Western Australian Industry Participation Scheme (WAIPS).

The WA Government has invested heavily into ensuring it has the capability and capacity to achieve its AUKUS goals, and this includes

building up a WA-first boat and ship building and maintenance industry. This project is a critical aspect in achieving this objective.

Electric ferries will help Western Australia reach its transport decarbonisation goals and reduce polluting emissions going into the environment.

Battery-electric propulsion technology delivers efficient, quiet and clean operations, providing a more enjoyable journey for passengers.

Earlier investigations by the Transport Portfolio have confirmed that electric ferries are a viable and safe option for Swan River operations.

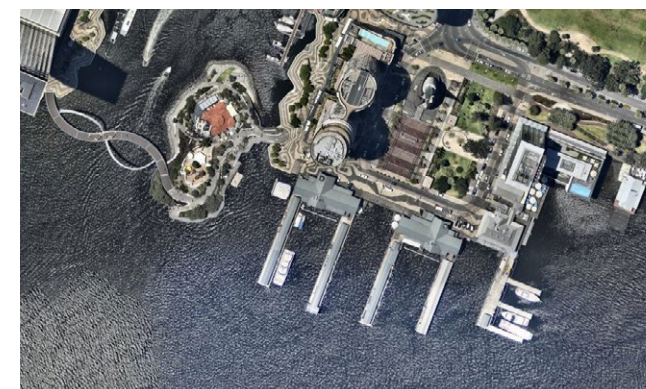


New and improved ferry terminals

The project scope includes upgrades to existing terminals and the construction of two new terminals.

The terminal at Elizabeth Quay requires an additional access point to the existing jetty, which will allow passengers for both routes to board at the same time.

New modern and architecturally sensitive ferry terminals are required at Matilda Bay and Applecross. Each site has undergone extensive investigations to reduce environmental disturbance, consider existing land and water use, ensure safe use of waterways, and provide maximum transport connectivity.



Overnight berthing facility

Upgrades are also required to the Barrack Square Jetty where most of the new fleet will berth overnight. The existing jetty infrastructure is managed and operated by the Department of Transport and Major Infrastructure's Maritime division.

Electrical charging infrastructure

A key component of this project is to introduce electric ferries into the PTA's asset base. The existing diesel fleet will continue to service the Elizabeth Quay to South Perth route.

The Matilda Bay terminal will be supported by a high-speed charging system for on-route charging. This will include two 1.5MW chargers and two 60kW chargers to ensure operations can maintain a 25-minute frequency.

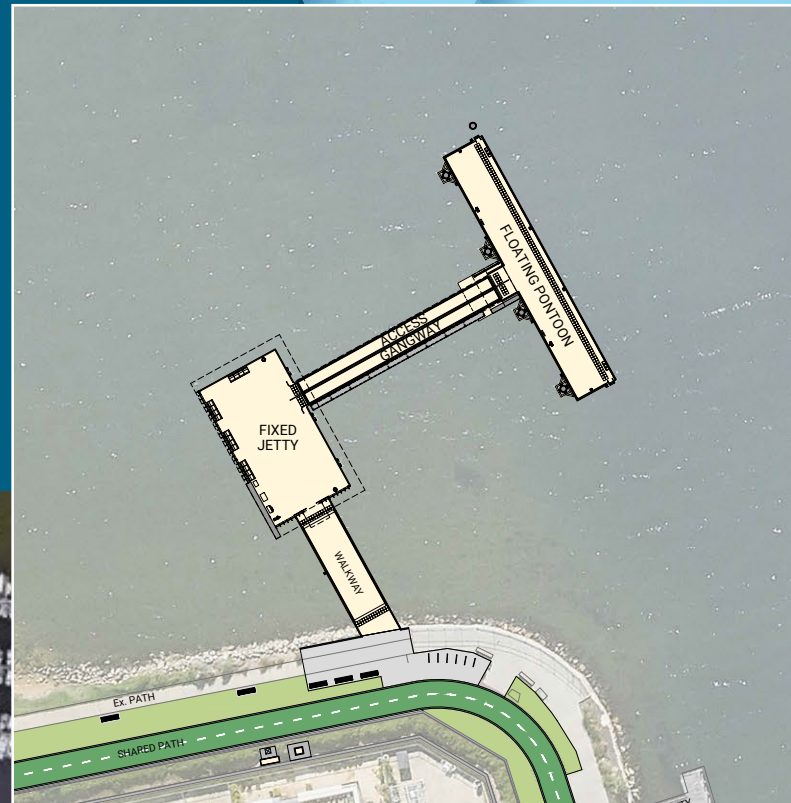
Most of the required infrastructure will be integrated into a brand-new public toilet block, replacing the current facilities just north of the planned terminal.

To support transport connectivity, the Matilda Bay site will also include additional bus embayments. These will assist in providing more legible, regular services between the UWA campus and the QEII Medical Precinct, as well as to residential areas in Crawley, Shenton Park, Subiaco and West Leederville.

The Applecross terminal, located north of the Raffles complex, will service a growing high-density population in the Canning Bridge precinct. The terminal will be supported with a 60kW reserve charger.



Terminal locations



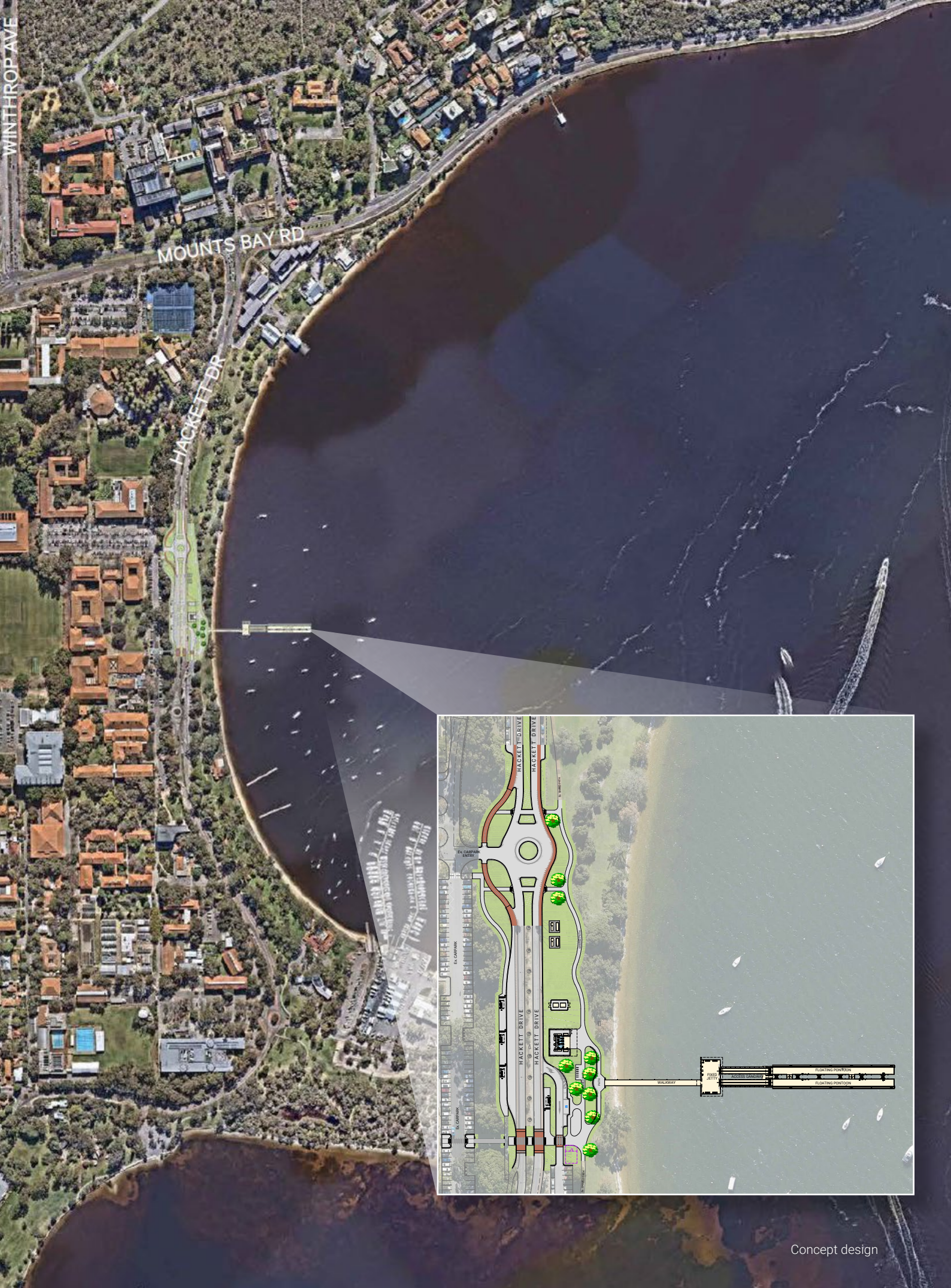
Stage 1 of the METRONET on Swan Ferry Service Expansion will see a new route established between Elizabeth Quay and Applecross via the University of Western Australia (UWA).

Applecross terminal

Several locations in the Applecross area were investigated, with the location north of the Raffles complex found most suitable for the following reasons:

- No dredging required.
- Greatest navigational safety, with clear waterways and minimal potential for vessel conflict.
- Alignment with nearby high-rise development and local planning objectives (Canning Bridge Activity Centre Plan).
- Strong tourism potential due to proximity to the iconic Raffles Hotel.
- Supports active transport through nearby Principal Shared Paths.
- Best connectivity to existing public transport.
- Avoids conflicts with marine park zones, minimising environmental impact.





Concept design

UWA terminal

Initial feasibility investigations were undertaken for a potential terminal location in the northern area of Matilda Bay, near the UWA Boat Shed. Following feedback received from key stakeholders engaged during this phase of the project, a detailed multi-criteria analysis (MCA) of five potential terminal locations was completed.

Criteria assessed included waterways safety, water and land use, environment, and connectivity, along other considerations such as water depth, existing infrastructure required for charging, expected patronage, capital and operational costs, heritage, and constructibility.

A review of the MCA following a workshop held with key stakeholders in May 2025 saw minor adjustments to the scoring, however these changes did not alter the overall outcome.

MCA summary

Criteria	North Matilda Bay	Central Matilda Bay	South Matilda Bay	Pelican Point boat ramp	Jo Jo's Jetty
Environmental impact	⊖ Some seagrass	⊖ Some seagrass	⊖ Some seagrass	⊗ Marine park; protected habitat for migratory birds; significant seagrass population; bush forever site; higher flooding risk	⊗ Adjacent to marine park; significant seagrass population; adjacent bush forever site; higher flooding risk
Transport connectivity	⊖ Moderate pedestrian connectivity to UWA campus	✓ Best pedestrian connectivity to UWA campus	✓ Good connectivity to UWA campus	⊗ Low pedestrian connectivity to UWA campus	⊗ Lowest pedestrian connectivity to UWA campus
Waterways safety	✓ Best option to manage from a safety perspective	✓ Manageable option from a safety perspective	⊖ Proximate to swimming area closed to motorised vessels	⊗ Unacceptable safety risk to windsurfers and kiteboarders; ferry route crosses over vessel traffic flow	⊗ Unacceptable safety risk to windsurfers and kiteboarders; ferry route crosses over vessel traffic flow
Land and water use compatibility	⊗ Impact on proximate clubs for water activities	⊖ All water activities can continue with adjustments; preservation of recreational green space	⊗ Proximate to area designated for swimming	⊖ Impact on informal windsurfers and kiteboarders; no impact on Matilda Bay users	⊖ Impact on informal windsurfers and kiteboarders; no impact on Matilda Bay users

Legend:

✓

 Strong suitability

⊖

 Moderate suitability

⊗

 Significant concerns or risks

The central Matilda Bay option was identified as the best site when all criteria were considered.

While deemed the preferred site, the MCA also identified challenges that need to be overcome during the final design and delivery phase. These include:

- managing potential conflict with non-motorised boat and water users; and
- relocation of some existing moorings.



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