

RIVER DERWENT FERRY SERVICE MASTER PLAN

NOVEMBER 2023

Acknowledgement of Country

We acknowledge Tasmanian Aboriginal people as the traditional owners of the Land and water on which Greater Hobart and the River Derwent is located. We pay our respect to Elders past and present, and to all Aboriginal people who live, work on and enjoy the River Derwent and its surrounds.

From the heights of kunanyi/ Mount Wellington to the depths of the River Derwent, the Country on which Greater Hobart and the River Derwent flows is deeply embedded within the history of thousands of generations of Tasmanian Aboriginal people, and bound up inseparably with their culture and identity. We recognise this deep history, and the continuing connection of Tasmanian Aboriginal people to Land, Waterway and Sky.

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Glossary

Direct network

A point-to-point ferry network made up of routes without intermediate stops (Brooke Street Pier to Bellerive is an example).

Stitched network

A network combining multiple stops into one service.

Peak time

The AM peak is typically the morning period where school and commuter travel creates increased traffic volumes, while the PM peak is longer, covering increased traffic volumes seen from school finishing time until commuter travel eases.

Off-peak time

Typically referred to as the time of less demand outside of peak times. Generally relevant for recreational and leisure purposes and non-traditional work patterns.

MCA

Multi Criteria Analysis.

SWOT analysis

Strength, Weakness, Opportunities, Threat analysis.

Functional specifications

Infrastructure elements required to create a safe, accessible, and comfortable journey and experience for a customer.

DDA

Disability Discrimination Act 1992.

DSAPT

Disability Standards for Accessible Public Transport 2002.

IPART

Independent Pricing and Regulatory Tribunal of New South Wales.

Landside infrastructure

Infrastructure elements on land – examples include shelters, seating and ticketing machines.

Waterside infrastructure

Infrastructure elements on water – examples include walkways, gangways and pontoons.

Placemaking

Creating and transforming areas into quality places to strengthen the connections between people and the place.

Active Transport (AT)

Alternative to car travel or public transport i.e., walking, wheeling, cycling and scooting, which can provide benefits such as increasing daily physical activity and/or reducing greenhouse gas emissions.

Introduction

The Tasmanian Government through the Department of State Growth is responsible for the planning, design and management of public transport in Tasmania. These services include public bus services, including school buses and the Bellerive to Hobart ferry service.

The Bellerive to Hobart ferry service initially commenced in 2021 as a trial, however, due to its popularity was made ongoing by the Tasmanian Government in 2022. The Tasmanian Government has committed to undertaking a Masterplan focusing on expanding ferry services on the River Derwent.

While the Masterplan looks to build on the popularity and success of the existing Bellerive to Hobart ferry service, the plan acknowledges that the River Derwent is an already busy, capital city waterway, with an active mix of commercial, recreational and educational and/or scientific users. The existing use of the River Derwent needs to be carefully balanced with the opportunity to expand public transport services that have shown to be well supported by Hobart commuters.

The Masterplan acknowledges that consultation with all river users and the community will be required as work progresses on the activation planning pathways and implementation planning. This includes existing work undertaken by Tasmanian Government partners, such as the four Greater Hobart Councils securing Australian Government funding for ferry site infrastructure.

The Masterplan is accompanied by a Strategic Overview document that outlines the activation planning pathways required to introduce expanded ferry services. Expanding River Derwent ferry services is a significant body of work that requires the development a detailed implementation plan needing coordinated input from multiple parties and levels of government.

Executive Summary

Masterplan context

As part of the Hobart City Deal, the 12-month River Derwent ferry trial commenced in 2021 to provide a cross-river connection from the eastern shore to the city of Hobart. Given the trial's popularity with commuters, the trial was extended for a second year and the Tasmanian Government committed \$19 million over four years to deliver ongoing services. The service currently runs 15 services a weekday, and 14 services on weekends, connecting Hobart CBD (Brooke Street Pier) to Bellerive (Bellerive Pier) with a one-way trip taking approximately 15 minutes.

The Tasmanian Government subsequently committed to expanding the ferry service to other locations in Greater Hobart under a River Derwent Ferry Masterplan. Initial Guiding Principles were developed to provide a framework for the Masterplan and underlying Planning Study. A five stage Planning Study has been undertaken to inform the River Derwent Ferry Service Masterplan.

River Derwent ferry service expansion planning study

The five stage River Derwent Ferry Service Expansion Planning project was undertaken by consultants WSP for the Department of State Growth to inform the development of this Masterplan. The Service Expansion Planning Study used a multi-stage approach to evaluating potential wharf sites and assessing the potential for a staged network of ferry services.

Stages one and two of the River Derwent Ferry Service Expansion Planning project evaluated 33 proposed wharf sites. The 33 sites were determined based on past state and local Government strategies and studies, parties with commercial interests, existing infrastructure and from local knowledge. This list was refined to eight sites in order of priority through a multi-criteria analysis (MCA).

In stage three the top eight results from the MCA were brought forward, with the addition of Kingston Beach (rank 20) and Geilston Bay (rank 22). These additional two sites were included for further analysis as they had been identified as key ferry sites by the four Greater Hobart councils. A detailed SWOT (Strength, Weakness, Opportunity, Threat) analysis was conducted for these 10 sites along with landside and waterside functional specifications.

In stage four, the 10 sites that had up until that point been assessed on their individual merits, were reviewed as part of a broader network planning approach. How the locations performed on an individual basis was no longer a driving factor, rather, how the locations complemented each other while meeting the Guiding Principles was the focus.

Six sites were identified to be included in a proposed ferry expansion plan to complement the existing Brooke Street Pier to Bellerive service in an expanded ferry service network, these are:

- Regatta Point.
- Sandy Bay (Casino).
- Wilkinsons Point.
- Howrah Point.
- Lindisfarne.
- Kingston Beach.

In stage five, the operational concepts, and staging considerations of the stage four proposed network design were expanded upon.

This included:

- Prioritising ferry routes that best align with strategic objectives and Guiding Principles.
- Considering how routes may vary between traditional commuter peaks and off-peak periods to provide different network connections.
- Placemaking.

River Derwent ferry service expansion stages

With six potential locations identified in stage four of the planning study and stage five providing some operational concepts and staging considerations an expansion plan focusing on two areas was suggested.

This includes an initial focus on improving commuter connectivity to the Hobart CBD considering ongoing traffic congestion issues with potential to provide increased connectivity to the eastern shore as an alternative to the Tasmania Bridge. For example, this could include local wharves at Lindisfarne and Howrah Point with separate direct services to the Hobart CBD. However, other locations may also be initially activated based on stakeholder consultation and localised conditions at proposed sites.

The next stage of expansion would be less focused on direct access to the CBD and introduces off-peak and events services and broadens the network across the remaining sites identified in stage 4, while meeting the consideration of stage 5. This step would aim at building connectivity along the River Derwent.

A high-level footprint of the expansion plan is shown in Figure 1.1 Map of River Derwent and identified ferry terminal sites on shoreline.

Map description: The Map identifies the following sites: Wilkinsons Point, Lindisfarne, Regatta Point, Bellerive, Hobart (Brooke St Pier), Sandy Bay (Casino), Howrah Point and Kinston Beach.

Identified sites have descriptions of factors in selection including strong travel time advantages, good future and current employment demand, strong recreational attractors, and strong active transport links.

Map also describes reasons for three sites not being proposed, these are: Sandy Bay (Rowing Club), Battery Point (Derwent Lane) and Montagu Bay. Reasons for this non-selection include better alternative locations, no travel time benefit by ferry and weak catchment size.

Project Background

Public transport in Hobart

In 2019, the Hobart City Deal was developed which was a ten-year shared vision between the Australian, Tasmanian and Great Hobart Councils. The Greater Hobart Transport vision stated:

“We will deliver an integrated and collaborative approach to transport management and continue to invest in a reliable, sustainable and cost-effective transport system with a focus on prioritising active and public transport...”

Key focus areas highlighted in the City Deal included the River Derwent Ferry services and infrastructure to enhance user experience and improve access.

The Tasmanian Government is also currently investigating high frequency bus service improvements for Hobart, supported by bus priority measures on three corridors serving Hobart to complement the existing local bus network. The three corridors are:

- Northern Corridor between Claremont and Hobart.
- Southern Corridor between Blackmans Bay and Hobart.
- Eastern Corridor between Glebe Hill and Hobart.

The Tasmanian Government has also committed to developing new park and ride facilities for commuters in Greater Hobart. The first two state-owned park and ride facilities opened in 2022 in Kingborough, located at Huntingfield and Firthside. Planning is underway for an additional three state-owned park and ride facilities which will be located in the suburbs of Claremont, Rokeby and Midway Point, as part of the Government’s \$20 million park and ride election commitment.

River Derwent ferry trial

As part of the Hobart City Deal, a 12-month River Derwent ferry trial commenced in August 2021 which provided a cross river connection between Hobart CBD (Brooke Street Pier) to Bellerive (Bellerive Pier). With the popularity of the trial, the ferry service received additional funding of \$19 million over four more years including funds for infrastructure upgrades at Bellerive.

The existing River Derwent ferry service currently runs 15 services on a weekday during peak periods, and 14 services on weekends. This connects Hobart CBD to Bellerive with a one-way trip taking approximately 15 minutes. The ferry wharf at Bellerive is within walking distance to General Business zoned land on Percy Street (Bellerive) and Central Business zoned land on Bligh Street (Rosny Park). Brooke Street Pier is in close proximity to the Hobart CBD. These two ferry wharves were strategically chosen to link two strong employment and tourist attractors, within 400m of bus stops on Elizabeth Street (Hobart) and Cambridge Road (Bellerive) and with immediate proximity to good active transport facilities.

The ferry service uses a combination of vessels, Peppermint Bay II on weekdays and the Excella on Saturdays.

For integration with the existing public transport network, ticketing on the ferry service is linked to the Greencard system (smart card), and customers also have the option to pay via cash, credit card or EFTPOS.

Role of Ferries in Hobart

Greater Hobart public transport network

Greater Hobart has an extensive bus network comprising urban bus services broadly aligned with the three key road corridors (north, east, and south). This is supported by a network of urban fringe bus services that extend the public transport catchment by serving communities more distant from Hobart. The bus network is primarily focused on travel along the three corridors to the Hobart CBD, with a small number of bus routes that continue through the CBD.

Buses in the northern corridor use Main Road and the Brooker Highway to approach the CBD, while bus routes in the southern corridor use the Southern Outlet and Channel Highway as access routes. Eastern corridor bus routes are more dispersed along the East Derwent Highway, South Arm Highway, and the Tasman Highway. However, almost all eastern bus routes converge to cross the River Derwent via the Tasman Bridge and to a lesser extent the Bowen Bridge.

There are three road crossings of the River Derwent in Greater Hobart – the Tasman Bridge, the Bowen Bridge near Glenorchy and Bridgewater Bridge. The River Derwent is a substantial constraint to access the city from the eastern suburbs south of the Bowen Bridge, and the Tasman Bridge is a well-recognised bottleneck of congestion in the road network during peak periods.

Before the construction of the former Hobart Bridge in the early 1940s, and later the Tasman Bridge, ferries had an important role in providing connections across the river. Following the January 1975 Tasman Bridge disaster, ferry services were introduced from Lindisfarne and Bellerive to the city centre until the bridge was reconstructed.

Tasmanian Government objectives and principles for a River Derwent ferry network

The Tasmanian Government has established objectives and guiding principles for the River Derwent ferry network.

The Tasmanian Government's objectives for future ferry services build on the aims of the City Deal to:

- Reduce traffic congestion by providing peak time commuters with an alternative way to get around the Greater Hobart area.
- Support travel to events in key locations.
- Benefit and revitalize key locations on the River Derwent.

Guiding principles were expanded through the development of the draft Masterplan and provide the framework for the establishment of River Derwent ferry sites, these objectives are summarised as follows.

Guiding principles

A partnership approach

River Derwent ferry services will be a partnership between the Tasmanian Government and the Clarence, Glenorchy, Hobart and Kingborough Councils.

Improved efficiency and access

New routes and timetables must contribute to:

- Easing of traffic congestion in light of:
 - changing travel patterns
 - inter-peak commuter travel needs
 - leisure and recreational travel overlap.
- Improving Greater Hobart accessibility:
 - through promoting active travel
 - by improving cross river transport resilience.
- Encouraging public transport use:
 - increasing modal choice to areas which are infrequently serviced by public transport.
 - on the existing public transport network without undermining existing services.
- Mitigation of event management impacts.
- Opportunities for placemaking and local activation.

Reliable services.

Ferry sites need to be in locations with suitable waters to ensure services are not unreasonably impacted by weather and wave conditions.

Environmental awareness

To minimise the environmental impact of public transport:

- Ferry site location and routes must consider impacts upon coastal areas.
- Opportunities to reduce greenhouse gas emissions through mode shift and associated infrastructure will be considered.
- Exposure to sea level rise and inundation will be taken into account.

Other ferry networks

The objectives, principles, and frameworks for ferry networks in other cities in Australia and overseas provide useful insights for a River Derwent Ferry Service Masterplan based on best practice, including considerations of different ferry customer markets, the role of ferry services in complementing land based public transport and encouraging mode shift, transport strategy alignment and the importance of placemaking and landside elements.

Ferry network practice in the following cities was reviewed:

- Sydney, Australia.
- Brisbane, Australia.
- New York, USA.
- Auckland, New Zealand.
- Hamburg, Germany.
- London, England.

Lessons in best practice

Some key characteristics of best practice ferry network planning and operations, as informed by this review include:

- Ferry network objectives often aim to maximise the use of ferries in the public transport network, noting however, the example cities have established ferry networks with existing practices and integration between public transport modes.
- Ensuring the role of ferries is maximised reflects the typically higher cost of ferries relative to other public transport modes. Using all available ferry capacity is important to achieving the most efficient outcome by maximising farebox revenue.
- Ferries can provide network resilience, particularly where ferry travel would offer customer benefits in travel time and directness compared with land-based modes and provide an alternative to congested network squeeze points.
- Ferries will rarely offer a travel time advantage over land-based travel unless there are other topographical or road network constraints. However, there are instances where this does occur, such as between Manly and Circular Quay, Sydney, where the ferry offers a substantially more direct service, complemented by fast ferries.
- Most mature and successful ferry networks offer all-day and weekend services, recognising that commuter work trips may require travel outside peak periods (such as when a commuter leaves work earlier or later than usual), and that casual and part-time work is increasing in most cities.
- A tension exists between ferries support of commuter demand and their use for recreational or leisure travel. In many cities with mature ferry networks, recreational

travel is a major component of overall patronage and revenue. The commuter role of ferries for work travel is generally minor compared with other public transport modes.

In catering to ferry travel for recreational purposes such as accessing shopping or other activities, public transport agencies need to be mindful that cities with river or harbour proximity will also usually have a tourist ferry market. This market often functions at its peak during the middle of the day or at weekends (traditionally off-peak times). Subsidised public transport ferry services should be designed to minimise the impact on the commercial tourist ferry market.

Most ferry patrons come from walking distance of ferry wharves. Park and ride access is discouraged, often as a result of high waterside land values. In addition to waterside land values typically being too high for use for car parking, providing capacity for large amounts of parking will tend to limit the opportunity for placemaking in areas around ferry sites and preclude other development which is more friendly to the wider community. Car parks can amount to a barrier to waterfront access and amenity, particularly for active transport.

There are also newly emerging objectives relating to improving sustainability and reducing environmental impacts of ferry operations, including replacing diesel fueled vessels with zero-emission technology. Such opportunities need to be considered in conjunction with other benefits. For example, a move to zero-emission technology may create a requirement for charging facilities which need to be considered alongside terminal amenity and capacity and placemaking outcomes.

Approaches to network design

In terms of network design, ferry routes generally fall into two broad categories:

- Direct services which offer point to point travel between two locations, such as from an island or cross-harbour or river waterfront location to the city centre, with no stops between like the current Bellerive to Hobart service.
- Stitched services, where the ferry stops at multiple wharves on its way to its destination (usually the city centre), such as along a river like the Brisbane River.

A direct service refers to the provision of services directly between sites without intermediate stops. This generally best suits peak period commuter demand where the shortest journey time is valued. Direct ferry services often have a higher fleet requirement to provide a service, since separate services would operate from each of the origin wharves and require separate fleets to operate at the same times.

In a stitched service, ferries may stop at one or more intermediate wharves on the route between sites. This may entail longer journey times for some customers, and hence are better suited to leisure travel rather than commuting but require fewer vessels to operate (depending on service frequency).

A ferry service can be primarily a direct service in weekday peak periods and a stitched service in off-peak when travel time and directness may not be as important to customers. Conceptual examples of direct and stitched networks are shown in Figure 2.1.

It should also be noted the ferry networks in Brisbane, Sydney and Auckland all have established guidelines and an understanding of their customers. A high-level summary of these is shown in Figure 2.2.

Figure 2.1 Example of direct services: Map of a direct service line between river shores. Shows a simple solid line connecting two destinations.

Figure 2.1 Example of stitched services: Map of multiple connected lines crossing river shores as a single service. Shows a solid line connecting multiple destinations.

Figure 2.2 Best practice considerations: Map of Australia's Easter Shore and New Zealand's Northern Island. Brisbane, Sydney, and Auckland identified on map. Best practice considerations across the locations shown detailed, including Brisbane; impact of leisure trips, Sydney; assessment criteria based on current and future demand, Auckland; clear understanding of success factors like travel time and frequency.

Local and Australian Government Partners

The Hobart City Deal brings together the Australian Government, the Tasmanian Government and the Clarence, Glenorchy, Hobart and Kingborough local governments to provide a combined vision and funding mechanism to “encourage investment to leverage Hobart’s natural amenity...”.

A River Derwent ferry service is a key component of the City Deal’s aim to reduce congestion and improve transport across Hobart.

While the Australian Government generally doesn’t provide funding for public transport services, there are circumstances under targeted programs or guidance where funding can be sought. Examples include:

- Infrastructure Australia (IA) support for infrastructure funding – this may require a strategic business case meeting IA guidelines which would require State Growth to be a proponent (rather than setting a framework to support initiatives from local Government).
- Australian Government support for ferry-related shipbuilding in Hobart.

Local partners have been supportive of a ferry network to date. Councils also have a role in various activities that will impact any expansion of services given their responsibility for certain land use planning and approvals. Additionally, councils will typically have oversight over surrounding infrastructure such as active transport facilities on local roads and would likely seek a significant role in surrounding placemaking and decisions on supporting infrastructure.

The Australian Government committed \$20 million to the provision of ferry infrastructure at the 2021 election. This funding will be administered by the four Greater Hobart Councils with input from Tasmanian Government through the River Derwent Ferry Service Expansion Project Steering Committee.

A coordinating role enables infrastructure development pursued by councils to achieve alignment with the expansion of River Derwent ferry services and to ensure ferries complement the existing and future public transport network.

Ferry Network Expansion Planning

Assessment of potential ferry wharf locations

State Growth commissioned this study of 33 potential ferry wharf locations, spanning New Norfolk (north-west of Hobart CBD), to Woodbridge (south of Hobart CBD), and Nubeena (south-east of Hobart CBD) (see list below).

- 1 Austins Ferry (*James Austin Park*)
- 2 Battery Point (*Derwent Lane*)
- 3 Blackmans Bay (*Illawarra Road*)
- 4 Bridgewater
- 5 Cornelian Bay
- 6 Geilston Bay
- 7 Howrah Point
- 8 Kettering
- 9 Kingston Beach
- 10 Lindisfarne
- 11 Lindisfarne (*rowing club*)
- 12 Lower Sandy Bay (*Long Beach*)
- 13 Lower Sandy Bay (*Nutgrove Beach*)
- 14 Montagu Bay
- 15 Montrose
- 16 New Norfolk (*New Norfolk Esplanade*)
- 17 New Norfolk (Rocks Road)
- 18 New Town (*Friends Rowing Sheds*)
- 19 New Town (*rowing centre*)
- 20 Nubeena (*Parsons Bay*)
- 21 Old Beach
- 22 Opossum Bay (*Pier Road*)
- 23 Prince of Wales Bay
- 24 Regatta Point
- 25 Sandy Bay (*Casino*)
- 26 Sandy Bay (*Derwent Sailing*)
- 27 Sandy Bay (*Red Chapel Beach*)
- 28 Sandy Bay (*rowing club*)
- 29 Sandy Bay (*Waimea Ave*)
- 30 South Arm
- 31 Taroonna (*Madges Park*)
- 32 Wilkinsons Point
- 33 Woodbridge

Rapid travel time assessment

The Rapid Travel Time assessment considered the potential for travel time benefits of a proposed ferry trip from the originating location to Hobart CBD compared to a peak period car trip, to highlight those sites which might offer a peak period travel time benefit and potentially encourage a change of mode. Public transport services are most attractive and therefore most likely to motivate mode shift when there is a time advantage over private car travel.

The Rapid Travel Time assessment eliminated Kettering and Woodbridge where there was no realistic travel time benefit for a ferry service. At the end of the Rapid Travel Time assessment 31 sites were taken forward for a multi-criteria assessment.

Multi-criteria analysis

Assessment criteria were developed in collaboration with State Growth and included the following criteria outlined below.

Direct Network

- Water depth.
- Exposure to waves.
- Potential conflict with other waterway users.
- Ease of navigation (approach).

Environmental suitability

- Protected areas.

Demand₁

- Future demand – population (400m).
- Future demand – population (2.5km).
- Future demand – employment (2.5km).

Accessibility and connectivity

- Directness.
- Distance.
- Existing and proposed active transport infrastructure.
- Existing and proposed public transport infrastructure.

Land use

- Proximity to key growth areas.
- Attractors.

Traffic performance

- Congestion index – AM peak.
- Congestion index – PM peak.

Network integration

- Public transport network integration.

Demand criteria only focused on the future demand as this project planning horizon is more strategic than immediate. Current demand for population and employment are also important, however, this information will help inform the next stages of this project and contribute to the network design stage.

Marine Suitability and Environmental Compatibility were identified as fundamental categories for the multi-criteria analysis. For example, a finding of inadequate water depth would prevent a ferry service to that location.

The assessment of these criteria determines the degree of additional investigation and funding that may be required to activate a potential location.

Demand is imperative to the analysis as it considers future increases in population and the number of jobs for each proposed location. These criteria are future-focused highlighting the importance of future demand as this aligns with the project vision of a strategic planning time horizon.

Current demand was able to provide valuable context for each proposed location, however, was not included as part of the analysis as the future demand proved to offer more relevant strategic inputs. Other criteria assessed include accessibility and connectivity, land use, traffic performance and network integration. Collectively, these criteria were able to provide locational context and assessed factors of customer utilisation.

The MCA ranked each potential wharf location and categorised these into low, medium, and high priority potential locations in table 4.2, shows the score and rank results for each location and Maps 1-4 illustrates the potential wharf locations and categories. In Table 4.2, highlights the high priority sites which include the top eight scoring sites. Further, Kingston Beach and Geilston Bay were included as these locations are among those identified as of priority interest to the four Greater Hobart councils.

Table 4.2 Results of MCA

1. Regatta Point 4.16
2. Sandy Bay (*rowing club*) 3.99
3. Sandy Bay (Casino) 3.87
4. Wilkinsons Point 3.85
5. Battery Point (Derwent Lane) 3.78
6. Montagu Bay 3.77
7. Howrah Point 3.73
8. Lindisfarne 3.72
9. New Town (rowing centre) 3.56
10. Prince of Wales Bay 3.53
11. Sandy Bay (Derwent Sailing) 3.46
12. Cornelian Bay 3.44
13. New Town (Friends Rowing Sheds) 3.44
14. Montrose 3.36
15. Old Beach 3.27
16. Austins Ferry (James Austin Park) 3.23
17. Lower Sandy Bay (Nutgrove Beach) 4.16
18. Lindisfarne (rowing club) 3.99
19. Lower Sandy Bay (Long Beach) 3.87
20. Kingston Beach 3.85
21. Sandy Bay (Waimea Ave) 3.78
22. Geilston Bay 3.77
23. Tarroona (Madges Park) 3.73
24. Nubeena 3.72
25. Sandy Bay (Red Chapel Beach) 3.56
26. Blackmans Bay (Illawarra Road) 3.53
27. Bridgewater 3.46
28. South Arm 2.4
29. Opossum Bay (Pier Road) 2.35
30. New Norfolk (New Norfolk Esplanade) 2.01
31. New Norfolk (Rocks Road) 1.98

SWOT analysis

A SWOT analysis was conducted for the eight priority sites, plus Kingston Beach and Geilston Bay to align with the council identified sites. The SWOT analysis was based on the questions and definitions in the below table, and the results are presented on the following pages.

The purpose of the SWOT analysis is to better inform the process for the network design phase.

SWOT definitions

Strength

Typically an internal characteristic, or in this case something inherent with the site. What does this site do well? What does this site facilitate immediately? What separates this site from others in a positive sense?

Weakness

Typically an internal characteristic, or in this case something inherent with the site. What does this site not do well? What does this site preclude? What needs to be improved for this site? What separates this site from others in a negative sense?

Opportunity

Typically an external characteristic that might bring future opportunity. What does this site allow for in the future?

Threat

Typically an external characteristic that might harm future opportunity, or that would threaten the selection of a ferry wharf at this site.

Rank 1: Regatta Point

Strength

- Strong recreational attractors and adjacent to future redevelopment of Macquarie Point and in proximity to the proposed CBD UTAS campus upgrade.
- Journey is unlikely to be impacted by ocean swell.
- Good connection to Intercity Cycleway and Macquarie Point Cycleway.

Weakness

- Short travel distance between the existing Brooke St ferry wharf and Regatta Point – approximately a 20-minute walk to the city. Ferry may not be attractive option for such a short trip. More likely to be a destination.

Opportunity

- Includes existing wharf structures which could potentially be utilised for future use.
- In close proximity to existing key public transport corridors.
- Could act as a catalyst for later stages of the Queens Domain Master Plan and the proposed Macquarie Point Precinct Plan.

Threat

- Navigation access to Regatta Point is unconstrained, however ferry services may conflict with current users of the existing jetty and maritime infrastructure.
- Establishing this location as a potential ferry wharf may increase access / travel time into the city centre from south.

Rank 2: Sandy Bay (Rowing Club)

Strength

- Journey is unlikely to be impacted by ocean swell.
- Has good connection to existing pedestrian path and cycle ways.

Weakness

- Attractors are present but are more local compared to other proposed sites.
- No existing waterside infrastructure.
- In very close proximity to the CBD.

Opportunity

- A combination of an origin and destination as it is surrounded by employment as well as residential zoned land.
- Potential to provide greater cross river connection benefits (Bellerive / Howrah Point).
- Potential for local shuttle or on-demand route (not currently planned or funded) to link wider catchment.

Threat

- Site specific Planning scheme identifies that wharves are of 'prohibited use'.
- Navigation is constrained by private single point moorings which could affect the speed of the journey.
- Public transport network - Well serviced by multiple frequent bus routes on Sandy Bay Road which link to the CBD.
- Establishing this location as a potential ferry wharf may increase access / travel time into the CBD from south.

Rank 3: Sandy Bay (Casino)

Strength

- The casino is a major tourist attractor and employer.
- Close to residential land and existing UTAS Sandy Bay Campus.
- Journey is unlikely to be impacted by ocean swell.

Weakness

- The land is privately owned (Federal Group) – this poses a high risk as ferry patrons may use the existing carpark as a 'park and sail'. Access to active transport network is poor (disconnected pedestrian path).

Opportunity

- Includes existing wharf structures which could potentially be used for future use.
- Potential to provide more direct cross river connections (Bellerive / Howrah Point) (rather than simply to/from CBD).

Threat

- Private owner may oppose ferry service due to potential 'park and sail' demand.
- Establishing this location as a potential ferry wharf may increase access / travel time into the city centre from the south.
- Navigation is unconstrained; however, ferry services may conflict with current users of the existing jetty and maritime infrastructure. Multiple bus routes servicing the city, Sandy Bay, and Kingston

Rank 4: Wilkinsons Point

Strength

- Strong recreational and event attractors.
- Journey is unlikely to be impacted by ocean swell.
- Access to good active transport network.
- Navigation access is not constrained.

Weakness

- Less direct than car – may be better as part of an off-peak ferry network.
- Modest residential catchment in walking distance.
- Public transport integration opportunity is low as the adjacent bus network service (Brooker Hwy/Goodwood Rd) is lower frequency. Unlikely to be integrated with public transport - closest bus stop is 850m away.

Opportunity

- Includes existing wharf structures which could potentially be used for future use.
- Plans for redevelopment – potential for stronger leisure trips and increased number in commuter trips.
- Potential for local shuttle or on-demand route (not currently planned or funded) to link wider catchment.

Threat

- Strong bus (Main Road) corridor to city.
- Private site operator may oppose ferry service due to potential park and sail demand.

Rank 5: Battery Point

Strength

- Journey is unlikely to be impacted by ocean swell.

Weakness

- Location is more of a local attractor than a trip origin.
- Disconnected active transport network.
- Short travel distance between Brooke St and Battery Point means ferry journey may not be attractive compared with walk, cycle, and bus.
- Unlikely to be integrated with public transport - closest bus stop is 700m away.

Opportunity

- City of Hobart is planning to restart the investigation of a coastal pathway from Battery Point to Sandy Bay. Includes existing wharf structures which could potentially be used for future use.
- Potential to provide more direct cross river connections (Bellerive / Howrah Point) (rather than simply to/from CBD).

Threat

- Ferry services may also conflict with current users of the existing jetty and maritime infrastructure.

Rank 6: Montagu Bay

Strength

- Has good connection to existing pedestrian path and cycleways (Clarence Foreshore Trail).

Weakness

- No existing waterside infrastructure.
- Navigation access to Montagu Bay is constrained by single point moorings.
- Modest residential catchment in walking distance.
- The existing bus route has a lower service frequency with passengers most likely to be inclined to walk rather than take the bus to the ferry wharf.

Opportunity

- Location can provide good travel time benefit.
- Short travel time by car but can provide resilience and reliability during peak times on the Tasman Bridge.

Threat

- Likely to be exposed to ocean swell and cross currents.

Rank 7: Howrah Point

Strength

- Navigation access is not constrained.
- Access to a grid like footpath network and the Clarence Foreshore Trail.
- Access to an extensive residential catchment.
- Ferry would provide a more direct route for commuters and avoid congestion on the Tasman Bridge.

Weakness

- No existing ferry infrastructure.
- No major local attractors located at the southern end of Howrah Beach or at the small commercial area. Not a major destination.

Opportunity

- Opportunity for a faster and more direct service by ferry compared with bus and car.
- Only 100m to nearest bus stop with opportunity for public transport integration.
- Clarence City Council Little Howrah Beach Master Plan considering changes to surrounding land use.

Threat

- Future demographics demonstrate potential low population growth.
- Likely to be exposed to ocean swell and cross currents.

Rank 8: Lindisfarne

Strength

- Strong destination – attracts day trippers.
- Has good connection to existing pedestrian path and cycle way.
- Residential catchment within walking distance.

Weakness

- Navigation access to Lindisfarne is significantly constrained by single point moorings and high concentration of sailing in the area and associated activities.

Opportunity

- Existing wharf structures could be used.
- Located across the river from CBD providing good travel time benefit and provides alternative to Tasman Bridge with resilience and reliability benefits.

Threat

- Journey will likely be exposed to ocean swell and cross currents.

Rank 20: Kingston Beach

Strength

- Major recreational destination, especially during weekends.
- Has unconstrained navigation access and good connection to existing pedestrian path and cycleways.

Opportunity

- Opportunity for a faster and more direct service by ferry compared with bus and car.
- Only 100m to nearest bus stop with opportunity for public transport integration.
- Clarence City Council Little Howrah Beach Master Plan considering changes to surrounding land use.

Threat

- Future demographics demonstrate potential low population growth.
- Likely to be exposed to ocean swell and cross currents.

Rank 8: Lindisfarne

Strength

- Strong destination – attracts day trippers.
- Has good connection to existing pedestrian path and cycle way.
- Residential catchment within walking distance.

Weakness

- Navigation access to Lindisfarne is significantly constrained by single point moorings and high concentration of sailing in the area and associated activities.

Opportunity

- Existing wharf structures could be used.
- Located across the river from CBD providing good travel time benefit and provides alternative to Tasman Bridge with resilience and reliability benefits.

Threat

- Journey will likely be exposed to ocean swell and cross currents.

Rank 22: Geilston Bay

Strength

- Has good connection to existing pedestrian path and cycleways.

Weakness

- Existing private infrastructure is unlikely to be suitable for a service.
- Only a small residential catchment within walking distance.
- Navigation access to Geilston Bay is significantly constrained by single point mooring and existing waterway users.

Opportunity

- Location can provide good directness and travel time benefit compared with on-road route, including bus travel time, and avoids Tasman Bridge and Rosny Park.
- Future development for a subdivision at 240 Geilston Bay Road which could benefit from the proposed ferry wharf.

Threat

- Journey will likely be exposed to ocean swell and cross currents.
- Would compete with existing bus services to city via East Derwent Highway.

Weakness

- Would provide little to no travel time benefit compared with on-road transit during the off-peak.

Opportunity

- There is existing infrastructure with plans for improvement.
- Under certain peak traffic conditions, the location can provide a travel time benefit compared with private cars and buses.
- Has good potential for public transport integration with the bus network.

Threat

- Potential conflict with boat ramp users and associated parking.
- Location across the river may experience swell.
- Would compete with existing Kingston Beach bus services to city via Southern Outlet.

Functional Specifications for Ferry Wharves

Accessibility considerations

Any ferry service must be accessible and inclusive for all users. Effective since 2002, *the national Disability Standards for Accessible Public Transport 2002 (DSAPT)* set out minimum accessibility requirements to be met by public transport providers and operators to eliminate discrimination as per the *Disability Discrimination Act 1992 (Australian Government) (DDA)*. Accessibility guidelines specific for ferry wharves are yet to be developed, however State Growth's Moving Towards Accessible Bus Stops could be used as an initial guide for accessibility for ferry wharves.

Guidelines for accessible ferry wharves, vessels and local connections will need to be developed.

The Tasmanian Government has published Our Infrastructure Future, Tasmanian Urban Passenger Transport Framework; and Tasmanian Walking and Cycling for Active Transport Strategy. The implementation of the ferry service is consistent with the aim and objectives of these documents and strategically aligns to State Growth's aim of expanding an accessible and inclusive public transport network.

Other examples

Other jurisdictions with mature ferry networks have published more specific ferry design considerations and manuals. These include Queensland's Public Transport Infrastructure Manual; the New South Wales Ferry Wharf Design Considerations; Auckland's Transport Ferry Terminal Design Manual; and the London Station public realm design guidance. Functional specifications for the River Derwent ferry service have been developed by reviewing manuals, considering the strategic goals outlined by State Growth and the local Hobart context.

These functional specification recommendations include:

- Modal integration - the wharf project scope should include required connections to walking, cycling and some vehicle facilities, such as passenger drop off/pick up and/or accessible parking, to ensure the catchment of the wharf is maximised.
- Placemaking - the scope of ferry wharf projects should respond to the surrounding urban setting and include allowance for contributions to improved public domain, including providing space for commercial and community activity.
- Environmental Sustainability (infrastructure) - consider embodied energy in design and materials used. Encourage electrification including provision for e-bike charging at wharves, inclusion of solar photovoltaics and storage to support wharf lighting, e-ink (low power changeable sign faces) passenger information displays etc.

- Environmental sustainability (natural habitat) - undertake natural value and marine assessments to minimise impacts on the immediate environment.
- Accessibility and safety - while meeting or exceeding DDA and DSAPT standards, there should be an emphasis on supporting and encouraging access to the ferry wharf and waterside access.
- Quality - high quality passenger waiting facilities should be provided to improve passenger comfort and amenity.
- Communications - high quality passenger information and wayfinding should be provided, including static and digital (real-time tracking and route information, wharf name visible from land and water) information incorporating e-ink.

Functional specifications

From a best practice review of ferry wharf design guidelines and functional specifications in Australian and overseas cities and consideration of the Hobart setting, two categories of ferry wharf for the River Derwent ferry wharves are recommended:

- Local wharf.
- City centre wharf.

The main differences are that the city centre wharf may be staffed, have ticket sales and have multiple loading areas; and could have a greater integration with commercial activities. The city centre wharf would therefore be larger than local wharves to cater for multiple ferries using the wharf at the same time. This is not a representation of the current functional specifications of the Brooke Street Pier, but rather recommendations for a wharf that is central to a ferry network. The following dot points summarise recommended and optional wharf elements of a local wharf and city centre wharf.

LOCAL WHARF

- DDA and DSAPT compliance (or exceeding)
- Wharf name visible from land and water
- Ferry terminal specific information (passenger information display)
 - Schedule for ferries and connecting services
- Network information and mapping
- Local wayfinding map
- Tactile Ground Surface Indicators (TGSIs)
- Ramp access
- Allocated disability parking space
- Shelter
- Seating and leaning rails
- Bin (optional)
- Ticketing machine (Top-up machine) (optional)
- Off-board tap on terminal
- Lighting
- Safety and security measures
- Provision for commercial (e.g., vending machines, advertising panels, retail) (optional)
- Community elements (information, support service information)
- Hard and soft landscaping
- Artistic and cultural elements
- Active access paths to/from broader precinct
- Bicycle/micro-mobility device parking
- Flexible kerb space to cater for potential bus stops, passenger drop off/pick up and taxi facilities
- Solar photovoltaics
- e-bike charging
- Barriers and handrails
- Walkway
- Gangway
- Pontoon
- Gangplank bridge (if required) (optional)
- Piles (optional)
- Marine environment improvements

CITY CENTRE

- DDA and DSAPT compliance (or exceeding)
- Wharf name visible from land and water
- Ferry terminal specific information (passenger information display) – schedule for ferries and connecting services
- Network information and mapping
- Local wayfinding map
- Tactile Ground Surface Indicators (TGSI's)
- Ramp access
- Allocated disability parking space
- Shelter
- Seating and leaning rails
- Bin (optional)
- Ticketing machine (Top-up machine)
- Off-board tap on terminal
- Ticket window / customer service / information kiosks (optional)
- Lighting
- Safety and security measures
- Toilet (optional)
- Parenting / carer facilities (optional)
- Provision for commercial (e.g., vending machines, advertising panels, retail)
- Community elements (information, support service information)
- Staff facilities (office, toilet)
- Hard and soft landscaping
- Artistic and cultural elements
- Active access paths to/from broader precinct
- Bicycle/micro-mobility device parking
- Flexible kerb space to cater for potential bus stops, passenger drop off/pick up and taxi facilities (optional)
- Solar photovoltaics
- e-bike charging
- Barriers and handrails
- Gangway
- Pontoon
- Gangplank bridge (if required) (optional)
- Piles (optional)
- Marine environment improvements

Placemaking

Successful ferry networks are a catalyst for placemaking opportunities. The selection of the wharf locations in the proposed ferry networks have undergone evidence-based assessments to ensure the wharf locations would be the best fit in terms of marine and environmental suitability, future demand, accessibility and connectivity, land use, traffic performance and network integration. However, given ferries' propensity to attract leisure customers in addition to commuters, ferry wharf locations can present opportunities to contribute to urban renewal as well as helping to support commercial, community or cultural activities that contribute to a sense of connection and belonging for local communities.

While the State Growth principles for ferry network development exclude providing specifically for the tourism market, there are good reasons to allow incidental and leisure travel for a River Derwent ferry network. Demand that supports off-peak ferry travel can help to provide travel options for commuters who may need to travel at different times (such as travelling to the city in the morning peak period, but back home in the evening or middle of the day), so supporting leisure travel can also support peak commuter needs. In addition, recreational ferry travel can also promote ferries as an attractive commuting option for irregular public transport users.

The Tasmanian Government will work closely with local Government and other agencies to facilitate or initiate developments or activities that may support off-peak travel to ferry wharves and capitalise on the potential of ferry services to trigger passenger engagement with ferries and the environment in a way that road transport typically does not. Well-chosen associated developments and activities bring opportunities to enhance the public realm and community contribution. These can include:

- Broader public domain quality improvements through ferry wharf development.
- Cafes and restaurants.
- Recreational activities such as sporting facilities, cycle trails and the like.
- Cultural and community activities such as sculpture and other art activities, markets and pop-up food vendors, festivals, events and other expressions of cultural diversity.

Activities and developments such as these can help make ferry wharves trip attractors in their own right, encouraging origin and destination trips to increase revenue and offset ferry operating costs (although it is noted that ferries are a high-cost mode and there are very few examples of public transport ferries across the world that generate revenue even approaching the cost of operations).

A further component of placemaking is creating space for people to belong. This is a further reason why car parking (park and sail/ ride) either at surface level or multi-story is discouraged for the waterfront as it creates barriers between places and the water's edge.

Localised engagement is required to formulate placemaking strategies relevant to each wharf and community. The placemaking strategy may run as a program, however, the outcomes for each wharf should be specific to the local area and community and will require dedicated community engagement for each wharf.

Transition to Zero Emission Technology

There are relatively few zero emission passenger ferries on the market at present, but indications are that early models could cost substantially more than their diesel equivalents. Zero emission ferries generally comprise battery-electric versions, or hydrogen fuel cell, or hydrogen combustion versions. Some conventionally designed ferries are being redesigned for conversion to zero emission propulsion and some vessels already in service are being considered for conversion. It can be expected that battery-electric and hydrogen fuel cell ferries will be available on the market for potential use in Hobart, although the lifecycle cost remains to be seen. However, the primary contribution of a public transport ferry to reducing emissions will be through mode shift from private cars.

As zero emission technology is slowly being adopted across the public transport industry, many Australian states are planning to adapt their service models to accept responsibility for funding zero emission bus procurement, power grid costs and bus infrastructure modification and provision. However, it is noted that the technology for zero emission buses is more advanced than that of ferries.

Risks

Throughout the course of the project a number of risks and challenges have been captured. They are noted below:

RISKS AND CHALLENGES

- Development of the ferry wharf may cause conflict with current users of the existing jetty and maritime infrastructure.
- Increase in travel time compared to on-road or active transport options. Navigation may be constrained by existing waterside infrastructure.
- There is the potential that ferries compete with the existing public transport network.
- Private owners in surrounding area may oppose ferry service due to park and sail impacts or parking demand of local streets.
- Journey may have exposure to ocean swell and cross currents. Special interest groups advocating for alternative sites.
- Ferries more prone to extreme weather conditions resulting in cancellations than other public transport options.
- Service provision may not make direct fiscal sense. High cost of provision – or cost to provide is higher than benefit.
- Differing views on priority between the Tasmanian and local Governments.
- Potential impacts on commercial tourist/leisure water services.
- Private operator introduces commercial ferry service in competition with subsidised public ferry services.
- Consider pricing approaches to assist cost recovery, for example NSW prices public transport ferries at a premium, higher than bus fares.
- Proposed wharf locations will need extensive engagement with all partners.
- Early engagement with commercial operators with advanced notice of timings for new public ferry services.
- Early engagement with commercial operators with advanced notice of timings for new public ferry services.

MITIGATIONS

- Consultation and engagement with existing users through clubs and associations.
- Ferries provide another travel alternative but will not replace existing bus services. Ferries are likely to have reliable travel times.
- Detailed navigation planning required.
- Potential to relocate existing waterside infrastructure where feasible.
- Network design has considered this and attempts to deprioritise wharf locations that would result in competing with existing bus networks.
- Engagement and consultation with local communities. Enhance the localised placemaking aspects to build support for wharves.
- Ensure active transport to ferry wharves is maximised.
- Work with local Government to ensure appropriate parking controls in nearby streets.
- This remains a risk.
- Wave modelling could be done to understand this in more detail.
- The assessment process was comprehensive as it evaluated 33 sites.
- Proponents should be encouraged to consider how their preferred locations enhance the public transport network, not how the wharf would enhance the location.
- Possible need for bus replacement standby contract/s.
- Additional arm of public transport network provides resilience and makes use of a currently underutilised asset.

Ferry Network Options

To establish the conceptual ferry network expansions, a range of factors have been considered. It is not simply the case that a location with strong future demographics and existing infrastructure will fit into a sustainable or operable network. Nor is it the case that the top ranked sites from the MCA process are guaranteed to be included in the network. The evolving guiding principles, demographics, recreation attractors, cross-river connections, travel time benefits, network operability and ability to support future expansion have been considered to determine the initial proposed network expansions.

Any significant changes to a River Derwent Ferry service, including any staged expansion, will need to be triggered by appropriate criteria. This includes, but is not limited to:

- Securing recurrent funding to enable the procurement and operation of expanded ferry services.
- Detailed proving up of the proposed terminal site such as environmental assessment.
- Feasible land and water side infrastructure for use as a ferry terminal is agreed upon by partner councils and the Tasmanian Government.
- Allocation of adequate funding by partner councils for ferry terminal and landside infrastructure, including funding and program works for supporting active transport infrastructure, and relevant parking strategies relating to surrounding streets and public land.

The above triggers are minimum requirements. At individual terminal locations, network impacts, and other strategic or localised factors will also need to be considered. For example, approval or commencement of specific developments that suitably activate a potential location may be required, such as the future development of Wilkinsons Point.

Easing congestion

An initial focus on easing congestion is the highest priority for additional ferry network connections in terms of the ability to achieve outcomes consistent with the guiding principles. Providing direct ferry connections to the CBD from the east side of the river at Lindisfarne (and potentially Howrah Point) aligns with aims to replicate the success of the Bellerive trial from other origins.

Providing an alternative connection across the river would best deliver a ferry service that can help reduce traffic congestion at peak times by offering a faster and more reliable public transport alternative to road links to the city via the Tasman Bridge given it is a recognised bottleneck in the road network during peak periods with upstream consequences for the approaches. These locations may also offer potential for mitigation in the event of a major incident on the bridge.

The future ferry network options are driven by a network planning approach that aims to best meet the guiding principles while being operationally efficient. All the principles are important, however, the primary principle focused on for initial expansion is improved efficiency and access - easing of congestion.

While an expanded ferry network will not alleviate Tasman Bridge congestion issues as a singular initiative it is well understood that a relatively small reductions in vehicle numbers (such as school holidays) can have material impacts on travel reliability and resilience in the road network.

Direct ferry services to the city would provide the shortest travel time, a key consideration for private vehicle commuters. Based on this, an initial ferry network expansion is proposed to provide direct ferry links to the city from Lindisfarne and other select sites based on localised issues and stakeholder consultation.

The initial ferry network expansion assumes the Bellerive ferry service would continue.

Building connectivity

The next step in the ferry expansion process aims to build connections along the River, (further incorporating the Bellerive ferry service) and involves layering up the network over time. In off-peak times when travel time isn't as sensitive and a greater number of recreational and leisure customers are likely to be using the ferry services, a stitched network is best to maximise connectivity. Off-peak networks can be more encompassing and less time critical. Locations such as Regatta Point, Sandy Bay (Casino) and Wilkinsons Point are suitable locations with strong recreational attractors and are put forward for network expansion 2. In addition, all three above do, or have the potential to, attract regular commuters during the off-peak. Kingston Beach is also included, however for different reasons, including the potential to relieve the Southern Outlet demands particularly during peak travel times. Summaries are noted below:

Site: Regatta Point

Score: Macquarie Point has attracted funding commitments and there is a planning pathway for development. It will act as a strong recreational and event destination which will warrant the inclusion of a Regatta Point wharf in the proposed ferry network.

Site: Sandy Bay (Rowing Club)

Score: One wharf in the Sandy Bay area is considered suitable for an initial expansion. Sandy Bay (Rowing Club) has fewer attractors and workforce than Sandy Bay (Casino) and is therefore excluded from expansion 1 and 2.

Site: Sandy Bay (Casino).

Score: Strong employment catchment, recreation attractor and citybound trip origin.

Site: Battery Point (Derwent Lane).

Score: The location on the western side of the river close to the CBD is not likely to provide strong travel time benefit over walking and cycling.

Site: Howrah Point

Score: The location on the eastern side of the river will provide strong travel time benefit and support for public transport benefits. Directly aligns with the principle to reduce peak traffic congestion as this location provides an alternative route to road connections via the Tasman Bridge. No competition with potential rapid bus services.

Site: Montagu Bay

Score: The potential wharf location on the eastern side of the river is too close to the Tasman bridge to provide travel time or directness benefit. The catchment size is also constrained.

Site: Lindisfarne

Score: Lindisfarne has a strong sporting and recreational attractor and will be a citybound trip origin. Additionally, there is a potential public transport benefit through a more reliable and direct service on the water.

Site: Kingston Beach

Score: Lower priority as part of an off-peak or event overlay, or if employment demographics change. Kingston Beach has a strong recreational attractor, citybound trip origin, and potential to relieve Southern Outlet demands during peak periods. Otherwise limited public transport benefit because of the strong bus connections to the city along the Southern Outlet which will be further improved with the creation of the transit lane.

Site: Geilston Bay

Score: Geilston Bay is close to Lindisfarne, but Geilston Bay's demographic demand and recreational attraction is lower than Lindisfarne. This would also place two sites in close proximity.

Network expansion proposals

A network staging plan will build upon each previous network stage with the aim of providing a coherent plan for delivering a ferry network for the River Derwent that maximises customer benefits, consistency with State Growth's objectives and principles, and avoiding redundant investment.

High Level Costings

High level costs are based on benchmarks from local and national ferry projects, adjusted for 2022 values (latest inflation adjustments available) and for the likely scope of a Hobart ferry network.

In general, in franchised ferry service arrangements, the service provider would provide the ferry, the supporting staff, administration and repairs/maintenance facilities, with the payment model covering operating costs and overheads, as well as depreciation for the vessels. The Tasmanian Government would generally be responsible for the wharf infrastructure and any supporting works that may be necessary for ferry navigation.

Capital costs for ferry wharves will vary depending on the scope of the project (i.e., whether the ferry wharf is new or an upgrade of an existing facility, the extent of landside and waterside works and site constraints). Under the revised principles and framework in the River Derwent Ferry Service Engagement Strategy, it is recommended that ferry wharf proposals include substantial landside components that may not be included in typical ferry wharf projects such as active transport links, bus stops where network integration is appropriate, and more.

The New South Wales Government operates ferries under the same type of private franchise model that is used for bus service contracts, with wharf infrastructure provided by the state. Costs and operations are reviewed by the Independent Pricing and Regulatory Tribunal of New South Wales (IPART) and this framework is used here to inform this assessment. In 2022, ferry operating costs for services of the scale likely to be provided in Hobart are in the order of \$225.00 per service hour. Operating costs for conventional bus services in Australia are in the order of \$100 per hour.

Previous State Growth 2009 cost estimates for new and upgraded wharves have been updated to 2022 costs using the Reserve Bank of Australia Inflation Calculator(<http://www.rba.gov.au/calculator/>). Additional bus and active transport links allowances have been included (sourced from Greater Hobart Bus Rapid Transit Feasibility Study) to arrive at indicative wharf costs (for shortlisted wharves) as follows: Lindisfarne - \$2.0M; and Howrah - \$1.9M.

However, recent ferry wharf projects in Australia show substantial variations in costs, strongly suggesting a greater capital allowance is needed. Comparing other examples such as the Bulimba CityCat ferry terminal (Brisbane) and the Kamay Ferry wharf proposal (Sydney) indicates a range of \$1.9m to \$12.15m for a wharf.

Given procurement and supply challenges since Covid, unknown environmental constraints and aged costings there is little certainty to be gained from this range of costs. More detailed cost estimations are required from industry experts.

Next steps

This study is still in the pre-planning and concept stage. The next steps are deliberately set at a high-level to assist in guiding the way forward. The planning and implementation activities outlined in the table below are high level tasks around which a program and targeted projects can be built.

Planning: Stakeholder consultation.

Consultation required: Yes.

Implementation: Multi-tiered consultation process, continued across planning stages.

Planning: Patronage modelling.

Consultation required: No.

Implementation: Establish data needs for level of service, service performance monitoring and evaluation.

Planning: Revenue forecasting consultation.

Consultation required: No.

Implementation: Mitigate impacts and improve local environmental conditions.

Planning: Environmental impact assessment.

Consultation required: Yes.

Implementation: Mitigate impacts and improve local environmental conditions. Finalise course of ferry services.

Planning: Maritime impact studies and wave and fetch analysis.

Consultation required: Yes.

Implementation: Mitigate impacts and improve local environmental conditions.

Planning: Market sounding and consultation Existing operators, TasPorts. Stakeholder engagement to agree across agencies/local government the intent of the ferry network.

Consultation required: Yes.

Implementation: Confirmation of staging, timing, and prioritisation of infrastructure. Establish commissioning process.

Planning: Confirm funding mechanism.

Consultation required: No.

Implementation: Establish tendering and evaluation process Determine vessel and fuel type.

Planning: Landside infrastructure concepts. Waterside infrastructure concepts. Waterside infrastructure concepts Wharf delivery strategies.

Consultation required: Yes.

Implementation: Construct / reconstruct infrastructure including auxiliary requirements such as moorings, fueling and sillage.

Planning: Identify local supporting or enabling projects identified through strategic planning or budgeting exercises or funded projects such as active transport links and new or relocated bus stops.

Consultation required: Yes.

Implementation: Delivery of supporting or enabling projects such as active transport links and new or relocated bus stops. *Subject to policy decision on fuel type.

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