
CABINET IN CONFIDENCE

Preliminary Business Case – Temporary Berthing Options

October 2024



 **SPIRIT of TASMANIA**

Company Vision

TT-Line Company Pty Ltd (TT-Line) aims to deliver an unparalleled and unique sea transport service across Bass Strait.

Company Mission

A commercially sustainable ferry service built on a reputation for excellence in safety, reliability and exceptional passenger and freight services.

Business Objectives

TT-Line will manage and facilitate the operation of a shipping service to and from Tasmania in a manner that is consistent with sound commercial practice.

TT-Line will endeavour to do this through the provision of passenger and Freight services on the Devonport to Melbourne Bass Strait route.



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1 Executive Summary

This business case outlines the financial and operational considerations surrounding the modification and upgrade of Berth 1 to accommodate the new Spirit of Tasmania vessels (SOT IV and SOT V). Following the delivery of SOT IV on 12 September 2024, and with SOT V expected in early 2025, timely modifications to Berth 1 are critical to enable the new vessels to enter service. Berth 1 is currently unsuitable for these larger vessels due to limitations in length, depth, and multi-level access. The government has directed TasPorts and TT-Line to facilitate the necessary infrastructure upgrades to support these new vessels.

1.1 Financial Implications of Berth 1 Modifications

The potential financial benefit of these modifications lies in the economies of scale achieved by replacing the existing vessels (SOT I and SOT II) with larger, more efficient ones. This transition will allow TT-Line to meet current and future demand with fewer sailings. Having the new vessels in service earlier, will also enable the existing vessels to be sold and proceeds used to reduce debt levels within the Company.

However, the decision to proceed with the upgrade hinges on several critical assumptions and scenarios regarding timing, costs, and operational capacity. A key factor is the capacity constraints at Berth 1, where initial operations will be limited to one ramp, extending turnaround times and potentially affecting sailing schedules. Passenger and freight revenue is expected to remain at normal seasonal demand and current capacity constraints until Terminal 3 becomes operational, at which point additional capacity can be utilised.

1.2 Scenario Analysis

1. Base Case – Store Vessels Until Terminal 3 is Operational:

- In this scenario, upgrades to Berth 1 would not proceed. SOT I and II would continue to operate at Berth 1, while SOT IV and V would be temporarily stored at a different location until Terminal 3 is fully operational, anticipated for July 2026. This option maintains operational flow for SOT I and II and minimises any premature deployment risks. However, it incurs ongoing storage costs for SOT IV and V due to delaying their entry into service.

2. Alternative Case – Upgrade Berth 1:

- This option sees TasPorts undertaking upgrades to Berth 1, enabling safe temporary berthing for SOT IV and V, alongside SOT I or II, using only Deck 3 for loading and discharge in Devonport. This scenario requires Harbour Master approval based on a Non-Standard Vessel Assessment (NSVA) and involves ramp, fender, and mooring modifications, as well as the removal of the existing passenger walkway. While the existing sailing schedule is assumed to remain unaffected until SOT IV is in service, the turnaround time for SOT IV and V is expected to increase from 3 hours for the current vessels to approximately 5 hours due to their larger size and only one level loading and discharge.

The analysis further explores scenarios regarding the timing and scope of the upgrades:

- **Likely Benefit:** Modifications completed by July 2025, enabling phased service of SOT IV and V.
- **Upper Benefit:** Modifications completed by May 2025, expediting the commencement of service by the new vessels.
- **Lower Benefit:** Modifications completed by September 2025, resulting in a delayed commencement of service for SOT IV and V.

1.3 Storage Location Analysis

Should the upgrade of Berth 1 not be viable, this report evaluates potential storage and operational base locations for SOT IV and V during their transition period, focusing on cost-effectiveness and operational viability. The locations considered include Labuan (Malaysia), Hobart (Tasmania), Leith (Scotland), and Rauma (Finland).

- **Leith and Glasgow, Scotland:** Recommended as the most cost-effective option, benefiting from a cold climate that reduces maintenance needs and minimises biofouling.
- **Hobart, Tasmania:** A feasible, preferred domestic alternative, but more expensive than Leith due to higher holding costs.
- **Rauma, Finland:** Disqualified due to high fuel consumption and inefficiency in storage-related costs. It is also too high a risk to store a ship built for certain ambient temperatures to remain in ice conditions.
- **Labuan, Malaysia:** Competitive in storage costs but less viable due to tropical climate challenges and mitigations.

1.4 Benefits of Berth 1 Upgrades

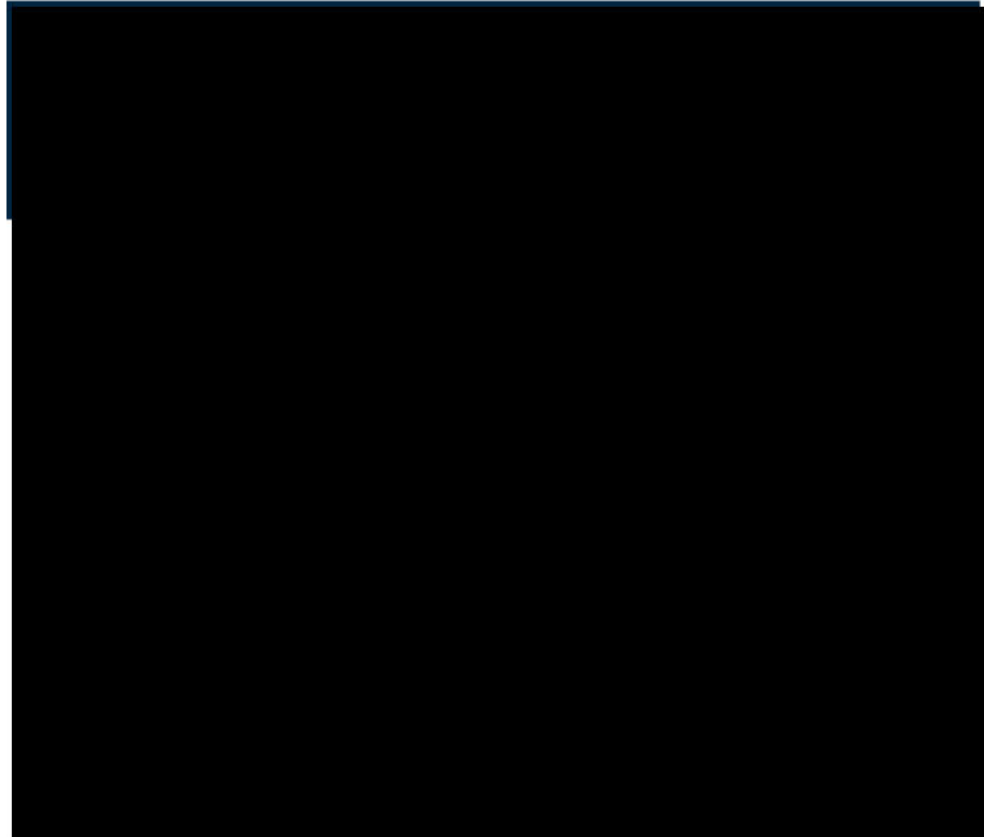
The benefits of the Berth 1 Proposal will include, but are not limited to:

- Having the ships delivered to Tasmania enabling a shakedown voyage with the new vessel to assess if there are any issues with the operations of the ship;
- Avoiding costs associated with storing the new vessels pending completion of Terminal 3;
- The ability to sell the existing vessels before the completion of Terminal Berth 3 therefore assisting in debt reduction;
- The potential for partial achievement of the capacity and efficiency commercial benefits of the new vessels before the completion of Terminal Berth 3; and
- The potential for partial attainment of the social, economic, and environmental benefits for Tasmania associated with the new vessels prior to the completion of Terminal 3 (e.g., attracting increased tourism).

However, it is crucial for TT-Line to identify and assess a 'Base Case' option for the temporary berthing of the new vessels pending the completion of Terminal 3 if a temporary operational Berth 1 is not achievable. The description and cost estimates of the 'Base Case' need to be detailed enough for a comparative assessment with the Berth 1 Proposal.

The direct financial benefits from new vessels comes from the utilisation of the additional capacity they offer. Given the constraints and risks associated with operating new vessels at Berth 1 (detailed below), no additional capacity utilisation has been modelled.

This limits the financial benefits to be achieved from operating SOT IV and V at Berth 1. At a net income level, the likely benefit scenario offers at \$18.2m benefit over the 3 year period FY25-27 compared to the base case of storing new vessels until Terminal 3 is operational (refer supporting financial analysis at Section 8 and 9)



1.5 Conclusion

In conclusion, this business case would support the consideration of modifying Berth 1 (being the option that incorporates moving SeaRoad down Berth 2E by 34m) to accommodate new vessels, balancing financial and operational benefits with potential risks, subject to:

- **All safety and operational risks** identified being addressed and mitigated to the satisfaction of the Board; and
- **TT-Line not incurring any costs** for the modifications that are undertaken Berth 1E or 2E; and
- **Receipt and approval of the dynamic mooring analysis** for the identified option at Berth 1E, and
- **No Disruption to the Sailing Schedule:** Ensuring that current sailing operations continue without interruption; and
- **Securing Harbour Master Approval:** Gaining necessary approvals for the new vessel operations is vital; and
- **Unimpeded Access:** TT-Line must have unimpeded access to the port, with no additional manoeuvring requirements. This consideration accounts for the potential overlap of the SeaRoad vessel at Berth 2 when the new SOT IV and V are tied up at Berth 1; and
- **Manoeuvring Capacity:** It is a requirement that SOT IV & V will be able to utilise side thrusters at 100% capacity and main engines at 60% power for manoeuvring purposes.

While it is planned that costs associated with the Berth 1 upgrade will not be passed through to TT-Line, should this not be the case, the base case scenario of storing the vessels until Terminal 3 is operational may emerge as a more favourable outcome. Careful management of these critical assumptions, financial risks, and operational impacts is essential for ensuring minimal disruption to TT-Line's operations and achieving the best project outcomes.

2 Background

2.1 Context

TT-Line took possession of the first new Spirit of Tasmania vessel (i.e., SOT IV) on 12 September 2024, with the second vessel (SOT V) expected during the first half of 2025. Allowing approximately three months for travel and final fit-out in Hobart, SOT IV could be ready for service in Devonport by December 2024 / January 2025. However, Berth 1, the current berth for existing Spirit of Tasmania vessels in Devonport, is unsuitable for the new vessels due to its length, insufficient depth, and inability to provide multi-level access. There has been significant slippage of delivery timeframes and cost escalation for the projects required to deliver a new berth to accommodate the new vessels at the Port of Devonport.

There have been significant delays in delivery timeframes and cost escalations for the projects needed to develop a new berth for the new vessels at the Port of Devonport. On 17 July 2024, the Shareholder Ministers provided Directions to both TasPorts and TT-Line regarding the delivery of the TT-Line vessel replacement program and QuayLink projects, particularly Berth 1, 2 and 3. Under these Directions:

- TasPorts is to take all necessary action to facilitate and ensure the completion of Berth 1 and Berth 2 port infrastructure at Devonport that is required to support the new TT-Line vessels in Tasmania prior to the arrival of the vessels, so far as it is reasonably possible to do so and by minimising the impact on existing vessel operations.
- TT-Line is to take all necessary action to facilitate and ensure the timely completion of infrastructure works required to be undertaken at Devonport by the Company at Berth 3, and the required refuelling infrastructure for the new vessels so far as it is reasonably possible to do so and to take all necessary action to support TasPorts to complete the works required at Berth 1 and Berth 2 for the new vessels so far as it is reasonably possible to do so.

2.2 Terminal 3

The development of Terminal Berth 3 as the new berth for the new Spirit of Tasmania vessels is a multi-staged project primarily delivered by TT-Line as a lessee of port land, with some preceding and concurrent works coordinated with TasPorts, the lessor. The overall budget for the TT-Line project is estimated to be \$375 million. In July 2024, TT-Line contracted BMD for the initial stage of the development for approximately \$220 million. This contract excludes the final Terminal Building, a possible Temporary Terminal Building (modular construction), Passenger Vehicle Exit Screening Canopy/Building, Warehouse Building, Fixed Passenger Walkway, and security/CCTV. The initial completion date for the work outlined in the BMD contract is January 2026, with the contractor entitled to extensions of time under specific circumstances, including delays in design information provided by TT-Line's consultant design team. Currently, there are delays in supplying design information.

The geotechnical investigations on the critical path marine areas were completed in May 2024. The observed geology was significantly different from the assumed profiles, necessitating a

complete redesign of marine foundations, structures, and superstructures. Throughout the redesign process, the delivery team raised concerns about the lead designer's viability for the project. Design-related delays could impact the project timeline by 3 to 9 months, depending on how current and future issues regarding the design team's capacity are managed. To mitigate these delays and reduce the risk of future design-related issues, strategies are being implemented to assign additional or substitute design consultants for specific packages. The optimistic, realistic, and pessimistic operational dates for Terminal Berth 3 have been estimated based on the implementation of these strategies.

2.3 Berth 1 Upgrades

TasPorts was tasked with assessing the infrastructure requirements to enable the new vessels to use Berth 1 and understanding the operational challenges with TT-Line. A potential challenge identified was that the Harbour Master indicated the new vessels cannot be at Berth 1 while any SeaRoad vessel is arriving or departing from Berth 2.

In June 2024 it was agreed that the optimal solution for Berth 1 was to move SeaRoad down Berth 2 by 34m taking the risk of collision away from movements. TT-Line confirmed the functional user requirements (FUR) for the solution post the decision by the Cabinet Subcommittee.

The now evolved solution moving away from the original agreement involves installing one or more 'Dolphin' piles between Berth 1 and Berth 2. However, this solution would require more time to complete and restrict access to Berth 2. SeaRoad operations were simulated in early October 2024 to determine if this proposal is operationally functional and safe, and as a result it has now been ruled out.

Simulations will now be undertaken on the alternate option which involves moving SeaRoad further down the berth.

Even if the proposal proves functional and safe for the existing SeaRoad vessels, consideration must also be given to the wider new SeaRoad vessels expected to be commissioned in late 2025 or early 2026. TasPorts suggested that operational practices and risk mitigations could enable the new vessel to use Berth 1 before the Dolphin piles are completed in June/July 2025. However, consultations with TT-Line and the Harbour Master indicated that these operational measures might be impractical and potentially pose excessive risk. Further work is being undertaken on potential options.

2.4 Informed decisions in mid-October

It was agreed by TT-Line, TasPorts, and the Government that the documents prepared to inform decisions regarding the modification and upgrading of Berth 1 to accommodate both new and existing Spirit of Tasmania vessels shall primarily consist of:

- A 'Berth 1 Proposal' by TasPorts; and
- A 'Temporary Berthing of New SOT Vessels - Preliminary Business Case' by TT-Line (i.e., this document).

The Berth 1 Proposal will outline the proposed scope, cost, and timing of the upgrade works and the associated infrastructure risks and required risk management for the temporary use of Berth 1 by the new vessels. Additionally, it will define the FUR's delivered by the Berth 1 works and provide advice from the Harbour Master regarding any operational and safety considerations for TasPorts and/or TT-Line should the Berth 1 works proceed, and the new SOT vessels use the upgraded Berth 1 in the short term.

To the extent that Berth 1 works impact Berth 2, TasPorts will also need to agree on Functional User Requirements with SeaRoad. These FUR's were developed in consultation with TT-Line (and the Harbour Master), enabling TT-Line to assess the operational, commercial, and non-commercial advantages and disadvantages of the Berth 1 Proposal.

3 Objectives and Scope

The objective of this business case is to evaluate the differences between proceeding with the Berth 1 upgrade and considering storage options for the new vessels, SOT IV and V. The Berth 1 upgrade is critical to ensuring these vessels can become fully operational as soon as possible and ahead of Terminal 3 completion, which is expected to be operational by mid-2026. However, the upgrade works are not anticipated to be completed until mid-2025, creating a significant challenge that necessitates interim storage for the vessels before they can begin operating. Furthermore, the upgrade to Berth 1 will only permit the use of a single ramp system, which adds complexity to overall operational efficiency and vessel turnaround times.

This evaluation will explore the feasibility of both upgrading Berth 1 and the associated operational impacts, as well as the implications of storing the vessels until Terminal 3 becomes operational. The analysis will consider the cost, timing, and operational challenges of each option, ensuring that the long-term benefits of integrating the new vessels are balanced with the short-term risks and financial impacts.

While the Berth 1 upgrade is not essential for long-term operations, it appears to be the best available temporary option for facilitating the prompt operation of the new vessels. Given the tight completion timeline and the imminent readiness of the SOT IV, which could potentially be operational in as little as three months, it is crucial to develop a plan that addresses both the temporary storage needs and the transition to operational status once the upgrade is completed. This plan includes an assessment of storage locations, ensuring compliance with regulations, maintenance costs, and potential biofouling risks. Additionally, it must consider how delays in the vessels' deployment could impact passenger services, tourism, and freight operations, ultimately supporting a seamless transition to operational efficiency.

The key areas of focus within this business case include:

- The timeline for the Berth 1 upgrade, its completion by mid-2025, and its necessity for accommodating the new vessels.
- The readiness of the SOT IV, which could be operational in as soon as three months, and the need for interim storage before Berth 1 upgrades are finished.
- The complexity introduced by the Berth 1 upgrade permitting only a single ramp system, which will affect vessel turnaround times and operational efficiency.
- Evaluation of storage options, including costs, maintenance, regulatory compliance, and associated risks.
- Consideration of operational efficiency, including the impact of delays on the sailing schedule, fuel costs, and potential disruptions to freight and passenger services.
- Risk mitigation strategies to manage the uncertainties related to both the upgrade and storage options, along with contingency planning for delays in construction or operational interruptions.

In conclusion, this business case seeks to balance the operational benefits of the Berth 1 upgrade with the need for temporary storage for the SOT IV and V vessels. The objective is to ensure that both options are thoroughly evaluated, with a clear understanding of the financial, operational, and long-term impacts on the overall fleet and service continuity.

4 Summary of Options

4.1 Base Case - Store Vessels Until Terminal 3 is Operational

In this base case option proposed by TT-Line, the upgrades to Berth 1 would not proceed. Instead, SOT I & II would continue to utilise Berth 1 in its current state (i.e. via deck 3 & 5), while SOT IV & V would be temporarily stored at an offsite location until Terminal 3 becomes fully compliant with all required authority approvals and becomes fully operational.

For Terminal 3 to be considered "fully compliant," it is assumed that the following key facilities would be functional:

- The Freight Yard
- The 4 x Passenger Check In Booths
- The Security Screening Area
- The Marshalling Lanes
- A Terminal Building (temporary or permanent)

Opting for storage of SOT IV and V rather than upgrading Berth 1 presents a strategic advantage to TT-Line by maintaining the existing operational flow for SOT I and II. By temporarily storing the new vessels, TT-Line can ensure they are deployed only when Terminal 3 is fully compliant and operational, minimising the risks of premature deployment and potential operational disruptions. This option also provides the necessary time to prepare critical infrastructure at Terminal 3, ensuring a seamless transition once the vessels are brought into service.

Conversely, the storage option does have its drawbacks, primarily the ongoing costs associated with keeping SOT IV and V at an offsite location until they can enter service and delay in selling current vessels. The delay could also hinder crew training and trial runs, which are important for operational readiness.

Under this base case:

- The existing sailing schedule, including day sailings will remain unchanged.
- The existing vessels will remain in full operation and consideration to maintenance and/or dry docking has not been considered here.
- The rate of depreciation for new or existing vessels has not been considered here.

Table 1. Base Case Scenario

#	Scenario	Description	Berth 1 Ready	Terminal 3 Ready	SOT IV Storage Period	SOT V Storage Period
1	Base Case	No Berth 1 modifications	NA	1-Jul-26	14 Nov 2024 – 1 May 2026	14 April 2025 – 1 May 2026

4.2 Alternative Case - Upgrade Berth 1

In this alternative case, TasPorts would undertake the upgrades to Berth 1, making it safe for the temporary berthing of SOT IV & V using only deck 3, as well as continued berthing of either SOT I or II. All operations of SOT IV and V at Devonport must receive approval from the Harbour Master, whose decision will be based on a Non-Standard Vessel Assessment (NSVA).

The works are expected to include, but are not limited to Ramp modifications, Fender modifications, Mooring modifications (mixture of existing & new bollards and AMU's), and removal of existing passenger walkway.

In this alternative case, the existing sailing schedule, including day sailings, are assumed to remain unaffected until SOT IV is brought into service. However, the current 3-hour turnaround time (inclusive of loading and unloading) for SOT I and II is anticipated to increase to approximately 5 hours for SOT IV and V due to their larger size and more complex operations imposed by having to load and discharge on a single ramp.

This alternative case explores three different scenarios, addressing the uncertainties related to the Berth 1 upgrade's scope, timing, and the completion target for Terminal 3. The consideration of turnaround times and operational impacts makes it crucial to assess the broader implications for the sailing schedule and port capacity, particularly as these upgrades are critical to ensure that larger vessels can operate safely and efficiently.

Table 2. Alternative Case Scenarios

#	Scenario	Description	Berth 1 Ready	Terminal 3 Ready	SOT IV Storage Period	SOT V Storage Period
2	Alternative Case 1 Likely Benefit	Berth 1 Modifications	1-Jul-25	1-Jul-26	14 Nov 2024 – 1 May 2025	NA
		SOT IV in service 1 July 2025				
		SOT V in service 1 October 2025				
3	Alternative Case 2 Upper Benefit	Berth 1 Modifications	1-May-25	1-Nov-26	14 Nov 2024 – 1 Mar 2025	NA
		SOT IV in service 1 May 2025				
		SOT V in service 1 July 2025				
4	Alternative Case 3 Lower Benefit	Berth 1 Modifications	1-Sep-25	1-May-26	14 Nov 2024 – 1 Jul 2025	14 April 2025 - 1 Jul 2025
		SOT IV in service 1 Sep 2025				
		SOT V in service 1 Sep 2025				

Notes:

Storage for up to two months before the in-service date is assumed to allow for commissioning in Hobart.

In both the Likely and Upper Benefit scenarios, storage for SOT V is not considered, as it is assumed that the vessel will travel directly from RMC to Hobart for commissioning.

Storage costs during the fit-out in Hobart are not accounted for, as these costs would apply irrespective of whether the Berth 1 upgrade (Alternative Case) proceeds.

4.3 Acceleration of Terminal 3 Operational Commencement

This option will be pursued regardless of whether the Base Case or Alternative Case are adopted. However, the cost benefits of investing time, money and resources into acceleration of Terminal 3 will be higher if the Base Case is adopted due to the higher operational costs being incurred for longer.

4.4 Other Options Considered

4.4.1 Temporary Operation of New Vessel(s) from Hobart

TasPorts undertook an assessment of the Port of Hobart as a temporary berth. Macquarie Wharf 6 is not an operational option as infrastructure is nearing end of life and limited to foot traffic only. Some passenger-only (vehicles and on-foot) services from Hobart may be possible, though vehicle queuing could be an issue.

4.4.2 Temporary Operation of New Vessel(s) or SeaRoad from Bell Bay

This has been ruled out due to the slack tides in this area that will have major impacts on schedules and reliability of a standard schedule. This area was also considered as a temporary storage area for the new vessels which we have been advised by the Harbour Master as not being suitable due to the amount of daily shipping already using this berth.

4.4.3 Sharing Berth 2 with SeaRoad

This option considers the feasibility of TT-Line and SeaRoad sharing Berth 2, which presents several significant challenges. Coordinating sailing schedules and cargo logistics between the two operators would likely result in considerable access issues and disruptions to both freight and passenger services. Additionally, SeaRoad primarily handles freight, while TT-Line focuses on both freight and passengers, further complicating operations and infrastructure requirements within a shared space.

Key concerns include the complexity of vessel manoeuvring, ensuring safety within the berth, and obtaining approval from the Harbour Master, which would require a thorough risk assessment. Upgrades to Berth 2 would be necessary to accommodate both operators, but these works could cause further disruptions to SeaRoad's existing operations. Infrastructure changes, security protocols, and the need to balance freight and passenger traffic would add to the operational complexity.

In this scenario, SOT I & II would continue to operate from Berth 1 without disruption, but the challenges of adapting Berth 2 would likely mirror the limitations of a Berth 1 upgrade, including the use of a single ramp system. This constraint could negatively impact vessel turnaround times and overall operational efficiency.

Ultimately, while sharing Berth 2 is technically possible, the significant logistical, safety, and infrastructure challenges make this a less favourable option, particularly given the long-term operational needs of both TT-Line and SeaRoad.

4.4.4 Leasing of Vessels until Terminal 3 is Operational

Leasing the new vessels SOT IV and V to another operator until Terminal 3 becomes operational presents an opportunity to reduce storage costs while ensuring the vessels are utilised in the short term. This approach could alleviate the financial burden of storing the vessels and negate the immediate need for upgrades to Berth 1. By generating revenue through leasing, TT-Line could enhance cash flow and optimise asset utilisation, potentially allowing for a smoother transition once Terminal 3 is operational.

However, this option carries significant drawbacks that warrant careful consideration. Leasing the vessels to another operator may result in a loss of control over their condition and operational use, raising concerns about warranties and maintenance. If the vessels sustain damage or incur wear during the lease period, TT-Line could face costly repairs or diminished asset value upon retrieval. Additionally, there are risks associated with another operator using TT-Line's vessels, which could impact brand reputation and customer trust.

Overall, while leasing may offer immediate financial benefits, the potential risks and long-term implications highlight why this option may be less favourable compared to the base case of storage or the alternative case of upgrading Berth 1.

5 Storage Options

5.1 Introduction to Location and Scenario Analysis

This report provides a detailed evaluation of several potential storage and operational base locations for the vessel during its transition period. The locations under consideration include Labuan (Malaysia), Hobart (Tasmania), Glasgow (Scotland), Leith (Scotland), and Rauma (Finland). The primary objective is to determine the most cost-effective and operationally viable storage solution. Key logistical factors such as a 46-day sail from Rauma to Hobart and a 6-week final fit-out period in Hobart are integral to the analysis.

The assessment is structured around four key cost management scenarios, with a detailed breakdown of each:

- **Scenarios 14A, 14B, and 14C (considers Alternative Case):** These scenarios analyse different timelines for Berth 1 availability, each based on varying degrees of overlap with Terminal 3's completion, which influences the duration of storage and transition periods.
- **Scenario 14D (Base Case):** This scenario assumes that the Berth 1 upgrade does not proceed, requiring extended storage until the completion of Terminal 3 in Devonport, which will eventually serve as the vessel's operational base.

It is essential to note that the costs outlined in this report are strictly related to storage expenses incurred during the vessel's transition phase. The financial impacts of the Berth 1 upgrade or Terminal 3 construction are not included in this analysis. Instead, the focus is on ensuring the selected storage solution meets regulatory requirements and minimises costs related to maintenance, crew manning (in compliance with AMSA), biofouling, and repainting needs.

Each port option is thoroughly evaluated based on its operational advantages and climate conditions. Particular attention has been paid to mitigating biofouling, reducing maintenance demands, and ensuring cost-effectiveness, all while maintaining compliance with applicable maritime standards.

In addition, although the option to sell the current vessels could potentially influence the overall transition strategy, this report does not account for such considerations, keeping the focus on the storage-related implications of the transition period.

This comprehensive location and scenario analysis aims to ensure that the vessel's transition is handled in the most efficient and financially sound manner, ensuring readiness for full operational integration when Terminal 3 becomes available.

Table 3. Storage Location and Scenario Analysis

ID	Consideration	Labuan, Malaysia	Hobart, Tasmania	Hobart, Tasmania (@ anchor)	Glasgow, Scotland	Leith, Scotland	Rauma, Finland
1	Minimum essential manning	18 (at anchor 100%)	18 (at anchor 50%) 5 (on wharf 50%)	18 (at anchor 100%)	5 (on wharf 100%)	5 (on wharf 100%)	Not Required, however assume equivalent of 2 Aust Officers.
2	Crew presence	Partial Australian, partial local.	Full Australian	Full Australian	Full Australian	Full Australian	Partial Australian, partial local.
3	Environment conditions	High temps, extremely high humidity.	Generally calm, moderate weather.	Generally calm, moderate weather.	Sheltered harbor, variable weather. Cold sea temp.	Sheltered harbor, variable weather. Cold sea temp.	Sheltered harbor, cold winters.
4	Bio fouling	HIGH	MEDIUM	MEDIUM	LOW	LOW	LOW (to zero)
5	Maintenance (ext)	HIGH	MEDIUM	MEDIUM	LOW	LOW	LOW
6	Dry dock required	YES	NO	NO	NO	NO	NO
7	Dry dock notes	Dry dock in Singapore (within 7 days prior to departing for Aust) for hull to be cleaned.	No dry dock, hull cleaning via underwater scrubber.	No dry dock, hull cleaning via underwater scrubber.	No dry dock required, no repainting. Cold environment = better protected.	No dry dock required, no repainting. Cold environment = better protected.	Initial low maintenance cost to prepare the ship for subzero temps. Ship remains on blocks.
8	Compliance with Australian Department of Agriculture, Fisheries and Forestry.	Strictly yes!	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
9	Repainting required	YES (paint bleaching due to tropical sun will also require repainting)	NO	NO	NO	NO	NO
10	Access to Services incl Fire Safety	Ample maritime services	Ample maritime services	Ample maritime services	Ample maritime services	Ample maritime services	Ample maritime services
11	Security	Secure port facilities	Secure port facilities	Secure port facilities	Secure port facilities	Secure port facilities	Secure port facilities
12	Insurance Considerations	Medium	Medium	Medium	Low	Low	Low
13	Recommissioning Plan	Not required	Not required	Not required	Not required	Not required	Not required
14A	Cost Management Likely benefit scenario	██████████	██████████	██████████	██████████	██████████	██████████
14B	Cost Management Lower benefit scenario	██████████	██████████	██████████	██████████	██████████	██████████
14C	Cost Management Upper benefit scenario	██████████	██████████	██████████	██████████	██████████	██████████
14D	Cost Management Base Case scenario	██████████	██████████	██████████	██████████	██████████	██████████

5.2 Scenario Analysis Key Findings

After evaluating the cost implications and operational considerations of various storage options, the following key findings have been established:

Rauma, Finland: No longer a feasible option due to the high fuel consumption required to maintain appropriate temperature and humidity levels for the ship. While Rauma has operational advantages, the storage-related costs during the transition period, coupled with fuel consumption, render it inefficient.

Leith, Scotland: The most cost-effective location in terms of storage expenses. Leith's cold climate reduces the need for repainting and minimises biofouling, resulting in lower overall maintenance requirements during the storage period. This makes it the most cost-effective storage solution across all scenarios.

Glasgow, Scotland: This location offers advantages similar to Leith, with the cold climate reducing biofouling and repainting requirements. However, Glasgow incurs higher storage costs in long term scenarios compared to Leith, making it a less optimal choice in that instance.

Hobart, Tasmania (50/50 and 100% @anchor): A viable domestic alternative, though slightly more expensive than Leith. Hobart offers reliable services and favourable conditions for storage, though it comes with higher maintenance and biofouling mitigation costs during the storage period. The 100% option saves on Facility costs but this saving is outweighed by the increased manning costs when storing the vessel for extended period at anchor.

Labuan, Malaysia: While Labuan offers competitive storage costs, the tropical climate presents challenges such as high biofouling rates, resulting in increased maintenance and repainting needs during the storage period. This diminishes its long-term viability compared to cooler climate options.

Geelong, Australia: Geelong has been excluded as a viable option due to the high volume of port traffic, which would necessitate frequent vessel manoeuvres and increased costs associated with berthing and unberthing. The associated operational disruptions make it a less practical choice for long-term storage.

Batam, Indonesia: Batam is not considered a viable option because it only offers a limited storage window of 3 months. This short-term availability does not align with the vessel's projected transition period, making it unsuitable for long-term storage planning.

Additional Options for Consideration:

New Zealand (Under Consideration): Evaluated for its proximity to Australia, this option balances climate-related maintenance costs with logistical convenience, offering potential savings similar to Leith, Glasgow and Hobart.

Bell Bay, Tasmania: Under review for its logistical benefits and climate, Bell Bay is expected to offer similar cost-saving advantages to Hobart, minimizing maintenance needs.

These locations are currently being assessed for both operational feasibility and cost-efficiency.

5.3 Location Scenario Analysis

Each storage location has been assessed based on various timeframes and their respective cost impacts:

5.3.1 Cost Management (14A): Alternative Case - Likely benefit scenario

- **Timeframe:** Berth 1 available July 2025
 - SOT IV Storage: 5.5 months (14 Nov 2024 to 1 May 2025, 168 days)
- **Key Costs:** [REDACTED] (Labuan), [REDACTED] (Hobart 50/50 anchor & wharf), [REDACTED] (Hobart 100% @anchor), [REDACTED] (Leith), \$ [REDACTED] (Glasgow), [REDACTED] (Rauma)
- **Conclusion:** Leith and Glasgow emerge as the most cost-effective option, offering storage savings due to its climate advantages.

5.3.2 Cost Management (14B): Alternative Case - Lower benefit scenario

- **Timeframe:** Berth 1 available September 2025
 - SOT IV Storage: 7.5 months (14 Nov 2024 to 1 July 2025, 229 days)
 - SOT V Storage: 2.5 months (14 April 2025 to 1 July 2025, 78 days)
- **Key Costs:** [REDACTED] (Labuan), [REDACTED] (Hobart 50/50 anchor & wharf), [REDACTED] (Hobart 100% @anchor), [REDACTED] (Leith), [REDACTED] (Glasgow), [REDACTED] (Rauma)
- **Conclusion:** The extended storage period makes Leith and Glasgow the most cost-efficient choice, with Labuan and Hobart trailing due to increased maintenance and operational complexities.

5.3.3 Cost Management (14C): Alternative Case - Upper benefit scenario

- **Timeframe:** Berth 1 available May 2025
 - SOT IV Storage: 3.5 months (14 Nov 2024 to 1 March 2025, 107 days)
 - SOT V Storage: 0 months, straight into commission
- **Key Costs:** [REDACTED] (Labuan), [REDACTED] (Hobart 50/50 anchor & wharf), [REDACTED] (Hobart 100% @anchor), [REDACTED] (Leith), [REDACTED] (Glasgow), [REDACTED] (Rauma)

Conclusion: In this shortened scenario, Leith and Glasgow continue to offer the best cost advantage, minimising financial impact during the transition.

5.3.4 Cost Management (14D): Base Case, assumes Berth 1 upgrade does not proceed

- **Timeframe:** Berth 1 unavailable; awaiting Terminal 3 completion in July 2026
 - SOT IV Storage: 17.5 months (14 Nov 2024 to 1 May 2026, 533 days)
 - SOT V Storage: 12.5 months (14 April 2025 to 1 May 2026, 382 days)

- **Key Costs:** █████ (Labuan), █████ (Hobart 50/50 anchor & wharf), █████ (Hobart 100% @anchor), █████ (Leith), █████ (Glasgow), █████ (Rauma)
- **Conclusion:** With extended storage periods, Leith and Glasgow remain the lowest-cost option, though all scenarios reflect a significant financial burden.

5.4 Strategic Advantage of Proximity: Australia vs. New Zealand

Whether the new vessels, SOT IV and SOT V, are stored in Australia or New Zealand, or begin operating out of an upgraded Berth 1, the proximity offers several strategic advantages for both crew training and operational readiness:

- Having completed a 13,500 nautical mile mobilisation voyage, the crews would have gained valuable operational experience. Being close to the final operating region allows for essential trial runs, enabling crews to troubleshoot and fine-tune operational procedures before the vessels enter full-scale service.
- These trials are essential for identifying and addressing any technical issues locally, minimising potential delays once the vessels are fully operational. Moreover, the proximity enables streamlined crew training, allowing personnel to familiarise themselves with the vessels in realistic, operational conditions.
- This setup enhances both the vessels and crew's readiness, ensuring a smooth integration into the regular sailing schedule. Trialling the vessels at Berth 1 offers an opportunity to assess and optimise their performance with the completed Geelong Terminal's three-level ramp system, ensuring compatibility and operational efficiency.

5.5 Conclusion and Recommendation

Based on the evaluation of storage locations, the **Leith and Glasgow, Scotland** options presents the most cost-effective solution for the SOT IV and SOT V vessels across all scenarios. The cold climate minimises repainting and biofouling costs, making it the preferred choice. **Hobart, Tasmania**, while a close second, comes with higher maintenance costs, though it remains a feasible domestic alternative.

As part of contingency planning, **New Zealand** is being considered as a potential alternative, offering strategic advantages in terms of proximity and potential cost savings. This option should be further evaluated to confirm its financial and operational viability.

The **Berth 1 upgrade** remains a critical factor in determining the long-term strategy for the vessels. If the upgrade proceeds as planned, transitioning to an operational schedule rather than extended storage may present the most efficient solution, with trial runs providing critical insights for smooth integration into full service.

6 Sailing Schedule and Operational Considerations

6.1 Executive Summary

This business case focuses on the critical need to maintain the sailing schedule as the key factor in upgrading Berth 1 at Devonport. The introduction of new vessels, SOT IV and V, brings significant operational challenges due to the current limitations of Berth 1. Although TasPorts would undertake the upgrade, the timeframe is tight with SOT IV available to enter service within three months. The single-deck ramp and insufficient depth at Berth 1 would reduce the new vessels' efficiency and increase turnaround times by two hours, leading to higher fuel and operational costs. Compounding these issues is the significant delay in the delivery of Terminal 3, which was designed to fully utilise the new vessels' capabilities. Therefore, this business case addresses the sailing schedule as one of the central points for decision-making, alongside cost, capacity, staffing and passenger/tourist impacts.

6.2 Background

The Spirit of Tasmania currently operates two vessels (SOT I and II) between Devonport and Geelong. Berth 1 at Devonport effectively uses a multi-deck ramp for loading and unloading, but even with these vessels, capacity is not being maximised. The newer, larger vessels, SOT IV and V, are designed with approximately 140% more capacity (depending on the configuration of the vehicle decks), but even with upgrades to Berth 1, they can only utilise 60% of this capacity until we have the vessel at Berth One for testing on tidal and weather conditions safely. Furthermore, due to the berth's structural limitations, only a single-deck ramp will be available for these vessels, which will increase the loading and unloading times from 3 hours to 5 hours, directly affecting the sailing schedule.

Geelong has already been fully redeveloped to handle these new vessels efficiently, with a three-level ramp system that matches the new vessels' full capacity. However, Terminal 3 in Devonport, now has a likely operational delivery date in 2026, which has resulted in the consideration of Berth 1 as the primary focus for this business case, emphasising the sailing schedule's importance, which will be heavily impacted if construction and operational disruptions occur.

6.3 Sailing Schedule Considerations (Key Factor)

The sailing schedule is the most critical aspect of this business case. Any delays or interruptions to this schedule will have a cascading effect on revenue, passenger numbers, and freight volumes. With the possibility of SOT IV coming into operation in as soon as three months, and with consideration of not sending the new vessel directly to a storage option, there is an extremely tight window to complete the necessary upgrades at Berth 1.

Staging the work to minimise disruptions is difficult, and even with careful planning, the risk of schedule interruptions remains high. Additionally, the increase in loading and unloading times due to the single-deck ramp poses further threats to the schedule, as it will extend the turnaround by two hours. This not only affects operational efficiency but also leads to increased fuel consumption and staffing hours.

The table below shows the current and projected impacts on the sailing schedule:

Table 4. Sailing Schedule Impacts

Vessel	Current Capacity		Proposed Capacity		Berth Utilisation	Turnaround Time	Fuel Consumption Increase
	Available	Usage	Available	Usage (65%time)			
SOT I & II	100%	92%	N/A	N/A	Multi-ramp system	3 hours	Standard
SOT IV & V	N/A	N/A	100% **	100%	Single-deck ramp	5 hours	25% increase due to extra 2 hours

** This is 100% until the vessel can be tested at Berth one where this figure may increase depending on tides, weather, etc.

6.4 Fuel Increase

The table highlights the significant increase in turnaround time for SOT IV and V, which is projected to lead to a 25% increase in fuel costs. This increase is due to the need for the vessel to make up time enroute to Geelong if freight discharge in Devonport is delayed, resulting in a later departure. Delays in Devonport would impact the return freight from Hobart, potentially causing the vessel to consume more fuel to maintain the scheduled arrival in Geelong. The longer turnaround also leads to a higher potential for schedule delays, which could deter passengers and further decrease already declining tourist numbers.

6.5 Passenger and Freight Volume Trends

Recent trends in passenger and freight numbers show a concerning decline in tourist activity, which has impacted overall revenue. The table below outlines the data for the past 12 months and projected volumes over the next 12 months based on the current sailing schedule for SOT I & II.

Table 5. Volume trends

BERTH 1 OPTIONS BASE CASE	FY2024	FY2025
	Actual	Forecast
Voyage #	905	872
Passenger Numbers	419,349	415,718
Freight Volumes (TEU's)	106,500	110,363
Revenue (\$'000)	303,211	318,448

While freight volumes are projected to increase slightly due to the larger capacity of the new vessels, passenger numbers continue to decline due to a variety of factors, including delays in Terminal 3 and negative public opinion surrounding the delays. If a decision to upgrade Berth 1 is made but not upgraded in a reasonable time, further delays and cancellations could reduce these projections, directly affecting revenue.

6.6 Vessel Capacity Utilisation

Table 6: Comparison of Vessel Capacity Utilisation

Vessel Type	Total Capacity	Usable Capacity	Percentage of Usable Capacity
Existing Vessel (SOT I & II)	100%	100%	100%
New Vessel (SOT IV & V)	140%	100%	71.43%

6.6.1 Analysis and Utilisation Comparison

Utilisation Details:

- The current vessel operates at 100% of its total capacity.
- The new vessel, despite having 140% capacity, is limited to using only 71.43% of its capacity, matching the current vessel's maximum due to berthing depth constraints.

Note: This 71.43% utilisation is 100% of the current vessel's capacity. This figure may increase once the new vessel is tested at Berth 1, depending on factors such as tides, weather, and other operational conditions.

6.7 Cost-Benefit Analysis

The cost implications of the upgrade are significant, particularly due to the tight timeframe and operational risks. Key cost factors include:

- **Fuel Costs:** With an extended turnaround time, fuel consumption will increase. The additional two hours spent in port will lead to a 25% rise in fuel costs. While this is a secondary concern compared to the sailing schedule, it cannot be overlooked.
- **Staffing Costs:** Longer loading and unloading times will require additional staffing hours, driving up operational expenses.
- **Revenue Impacts:** If the sailing schedule is disrupted, it will likely lead to further reductions in passenger numbers, impacting overall revenue. Conversely, if the new vessels are fully integrated without disruption, the larger capacity could lead to revenue recovery and growth in both passenger and freight numbers.
- **Tourism:** Declining tourist numbers could be reversed if the new vessels can bring additional passengers to Tasmania, but this is contingent on ensuring the sailing schedule is not interrupted.

6.8 Project Risks and Challenges

- **Sailing Schedule Risk:** Any disruption to the sailing schedule, whether due to construction delays or operational inefficiencies, presents the greatest risk to this business case. A smooth transition to the new vessels is essential.
- **Tight Timeframe:** With SOT IV potentially entering service within three months, the window to complete the upgrade is extremely limited, making staged work highly challenging.
- **Fuel and Staffing Costs:** While these are secondary concerns, they will still impact the overall operational budget and need to be considered as part of the cost-benefit analysis.

6.9 Recommendations

Given the critical importance of maintaining the sailing schedule, it is recommended that the following steps be taken:

1. **Conduct a detailed sailing schedule impact analysis:** This should include a review of current and projected passenger and freight numbers, as well as the operational impacts of longer turnaround times.
2. **Prioritize minimising disruptions:** Work with TasPorts to explore options for completing the Berth 1 upgrade in a staged manner that minimises any interruptions to the sailing schedule.
3. **Monitor and adjust:** Closely monitor fuel and staffing cost increases and explore operational efficiencies to offset these costs where possible.
4. **Prepare for Terminal 3 delays:** Given the delays at Terminal 3, contingency plans should be made to handle the full capacity of the new vessels at Berth 1 for an extended period.

Table 8. Existing Sailing Schedule 2024/2025

Date		Lay Days		Good Friday		Dry Dock		GEXDPO Only		DPOGEX Only		Single Double AM GEXDPO / PM DPOGEX		No sailing due to weather event Reschedule to 2 Sept		Reschedule to DPOGEX 0730 1 Sept depts due to weather event		SOT 1 17 Aug departs Dpo for Hbl		SOT 1 13 Aug departs Dpo for Gax		SOT 2 13 Aug departs Dpo for Syd		SOT 2 3 Sep departs Gax for Dpo		2024/2025																																																																																															
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7 Assumptions and Considerations

7.1 Introduction

This section has been prepared with the understanding that it should be read alongside the Alternative Case being put forward by TasPorts, i.e. the upgrade of Berth 1.

The following narrative outlines the critical assumptions, considerations, and acknowledgments regarding the upgrade of Berth 1, emphasising the operational, risk management, and technical aspects crucial to this significant infrastructure project. The upgrade is expected to impact various facets of TT-Line's operations, including the ability to maintain an uninterrupted sailing schedule, ensure unimpeded access to the port, and meet all necessary regulatory and safety requirements. Central to these considerations is the Harbour Master's approval, which serves as a benchmark for ensuring that the modifications to Berth 1 can safely accommodate the new SOT IV & V vessels while adhering to the highest standards of maritime safety and operational efficiency.

It intends to provide stakeholders with a comprehensive framework for decision-making, presenting key insights into the logistical and operational challenges posed by the upgrade. By addressing potential risks, technical constraints, and cost implications, this narrative aims to foster informed discussions and strategic planning. It underscores the importance of minimizing disruptions, maintaining compliance with safety standards, and aligning design solutions with operational needs. As the project advances, this report will serve as a vital reference, ensuring that all relevant factors are thoroughly evaluated and managed to achieve successful outcomes.

7.2 Operational Assumptions

7.2.1 Sailing Schedule

The current existing vessels (SOT I & II) sailing schedule must be strictly maintained, i.e., zero disruption. Refer to Sailing Schedule Table 8.

7.2.2 Unimpeded Access

TT-Line must have unimpeded access to the port, with no additional manoeuvring requirements. This consideration accounts for the potential overlap of the SeaRoad vessel at Berth 2 when the new SOT IV and V are tied up at Berth 1.

7.2.3 Manoeuvring Capacity

It is assumed that SOT IV & V will be able to utilize side thrusters at 100% capacity and main engines at 60% power for manoeuvring purposes.

7.2.4 Turnaround Time for New Vessels

The estimated turnaround time for both existing SOT I & II vessels and new SOT IV & V vessels via Deck 3 only is assumed to be 5.0 hours. The increased turnaround time is due to the reduced availability of access ramps during the upgrade. However, operational efficiency is expected to improve over time.

7.2.5 Refuelling Strategy

SOT I & II will refuel with Very Low Sulphur Fuel (VLSFO) at Geelong only.

SOT IV & V will load LNG at Devonport (current agreement with BOC).

SOT IV & V will refuel with Marine Gas Oil (MGO) in Geelong.

7.2.6 Alternative Case Costs

We assume the costs related to the alternative case for Berth 1 (including associated Berth 2 implications) will not be passed to TT-Line.

7.2.7 Insurance Implications

There are no anticipated insurance implications for bringing SOT IV & V into a modified Berth 1, assuming the Harbour Master deems it safe and appropriate procedures are followed.

7.2.8 Written Notice for Operational Interruptions

Confirmed written notice requirements from TasPorts for non-operational periods are:

- 1 day: 3 months
- 1 weekend: 3 months
- 1 week: 3 months

7.2.9 Mechanical Plant Outages

Any potential outage of mechanical plant associated with TT-Line Berth 1 operations must occur outside of scheduled operational times and must not impact the sailing schedule.

7.2.10 Maritime Security Plan

We assume that the security integrity of Berth 1 and the TT-Line facility site will be fully maintained during all aspects of the Berth 1 upgrade works, as approved by the Department of Home Affairs in accordance with the TT-Line Maritime Security Plan.

7.2.11 Berth 1 Upgrade Program

We assume that any operational and essential services related to TT-Line operations will not be affected during the upgrade works. These may include, but are not limited to:

- Communications services
- Firefighting services
- Power, including emergency power
- Potable water
- Sullage
- Lighting
- Security
- Bunkering

7.2.12 Sailing Schedule Impact

With the estimated turnaround time of 5.0 hours for new vessels, day sailings may not be viable, as departures would occur at 1 AM. Current operations may occasionally manage this with double sailings, but crew STCW hours will present issues and need to be addressed.

7.3 Technical Assumptions

7.3.1 Harbour Master Approval

All aspects of SOT IV and V using Devonport must be approved by the Harbour Master, his assessment for deciding this will be through his Non-Standard Vessel Assessment (NSVA).

7.3.2 Authority-related Approvals

All necessary approvals from relevant authorities must be obtained before the start of the upgrade works.

7.3.3 Timeline and Schedule

It is assumed that all design works and construction phases will be completed with due urgency and consideration of the overall timeline. The process must ensure that there is no interruption to the existing sailing schedule.

7.3.4 Passenger Boarding Walkway

We understand that the existing passenger boarding walkway may need partial or complete removal to accommodate the upgrade. This outcome would introduce the need to transfer foot passengers onto the vessel via a bus service, something that is not a current operational requirement or cost consideration.

7.3.5 Technical Design Assumptions

The following assumptions have been made regarding the design and technical aspects of the Berth 1 upgrade:

- The new berth design will meet current Australian Maritime Safety Authority (AMSA) standards.
- Adequate space and infrastructure will be provided for ongoing operations during construction.
- All existing services will remain operational, including mooring and passenger access services.

7.3.6 AMU Utilisation

The use of 2 x AMUs at Berth 1 is supported until Berth 3 becomes operational. It is assumed that they will be supplemented with appropriate mooring lines to safely moor SOT IV and V.

7.3.7 Sufficient Power Supply

It is assumed that there will be sufficient power available to operate the AMUs, with appropriate design considerations in place.

7.3.8 AMUs from Berth 3

We understand that the 2 x AMUs scheduled for installation at Berth 3, currently stored in Burnie, are being considered as an option for the Berth 1 upgrade works. If this option proceeds, the design elements and associated risks will be borne by the designers. The following assumptions apply:

1. Due care and consideration will be given to ensure there is sufficient hull strength at the specified position to use the AMUs.
2. Cavotec will be engaged in the design process and advised on the mooring line configuration.
3. An intrinsically safe environment will be maintained due to the proximity of the existing LNG bunkering.
4. Sufficient power will be made available or is already available to operate the AMUs.

7.3.9 No Channel or Swing Basin Amendments

We assume there will be no requirement to amend the port channel or swing basin during or after the upgrade.

7.3.10 No Amendments to Port Services or Aids to Navigation

It is assumed that no changes will be required for existing port services or Aids to Navigation.

7.3.11 Tide Predictions

Tide predictions can be determined and are published 12 months in advance, subject to changes due to storms or low-pressure systems. We assume no dredging operations are planned for the upgrade to berth 1.

7.4 Risk and Compliance Considerations

7.4.1 Occupational Health & Safety Risk

Crew Fatigue: Crew fatigue resulting from the scheduling of double sailings poses an increased risk of non-compliance with occupational health and safety regulations.

7.4.2 Non-Conformance with Policies

STCW Code of Hours of Work and Rest: Increased turnaround times and double sailings could introduce non-conformance with TT-Line policies, particularly regarding crew rest periods as defined by the STCW Code.

7.4.3 Security Integrity of Berth 1

To ensure compliance with the TT-Line Maritime Security Plan, the following security aspects must be included:

- Access control
- Security screening
- Surveillance and monitoring
- Intrusion detection systems
- Emergency response protocols

7.4.4 TasPorts Risk Assessment

It is assumed that TasPorts will undertake a risk assessment to ensure that the Berth 1 upgrade is delivered on time and remains functional.

7.4.5 Existing Infrastructure Risk

The freight yard is presently strained under existing vessel capacity. Increased cargo volumes with SOT IV & V may exacerbate this, risking traffic congestion on Norton Way and Wright Street. Such congestion may impact not just TT-Line operations, but also other businesses, staff, and the community.

7.5 Cost Implications

7.5.1 Operational Interruptions

Potential cost implications from operational interruptions include:

1. Loss of passenger revenue where passengers are not able to be moved to alternative sailings estimated 15% of booked passengers on any one sailing.
2. Loss of Freight Revenue: Freight revenue loss is estimated at \$700K per week due to cancelled sailings.
3. Overtime Costs: Overtime incurred from scheduling double sailings to accommodate passengers to be determined.
4. Cancelled Sailings: Costs associated with crew, stevedoring, security, and terminal services staff are still incurred even with short-notice cancellations and are to be determined.

7.5.2 Increased Operations (Additional 2-Hour Turnaround)

- Staffing Costs:
 1. Vessel crew
 2. Freight services personnel
 3. Terminal services staff

4. Stevedores
 5. Security personnel
- Utilities Costs:
 1. Additional vessel fuel consumption
 2. Increased power requirements for terminal operations

7.5.3 Existing Infrastructure

- Parking Demand Monitoring:

Continuous monitoring of parking demand is necessary. Should demand exceed current capacity, overflow scenarios must be planned. Associated costs may include:

 1. Additional staffing for off-site parking
 2. Security for off-site facilities
 3. Signage to direct passengers and freight to overflow areas

7.6 Summary

The upgrade of Berth 1 is predicated on several key assumptions and considerations to ensure minimal disruption to TT-Line's operations. One of the most critical factors is maintaining the current sailing schedule of SOT I & II without any interruptions. This includes ensuring that turnaround times remain within acceptable limits, despite the temporary limitations posed by the reduced access during construction. Additionally, TT-Line must retain unimpeded access to the port, with no additional manoeuvring requirements, even when the new SOT IV and V vessels are tied up at Berth 1 alongside the SeaRoad vessel at Berth 2.

Harbour Master approval is another crucial aspect, as all works related to the new vessels must comply with the Non-Standard Vessel Assessment (NSVA). This ensures that the modifications to Berth 1 are safe and compliant with maritime regulations. Moreover, the security and integrity of the port and surrounding infrastructure must be upheld throughout the construction period to avoid any operational or security-related disruptions. Ensuring these elements are managed effectively will allow for a seamless transition to the upgraded berth while safeguarding operational efficiency.

In addition to the operational and technical considerations, potential cost implications need to be thoroughly evaluated. Operational interruptions could result in significant financial impacts, including passenger refunds, loss of freight revenue, overtime costs, and expenses from cancelled sailings. A separate review focused on these cost considerations, including outcomes from operational and infrastructure assessments, should be undertaken to ensure all financial risks are accounted for and mitigated.

8 Supporting Financial Analysis

High level financial analysis has been undertaken to inform decisions on whether TasPorts should proceed with modifying and upgrading Berth 1 to accommodate new and existing Spirit of Tasmania vessels.

The primary benefit of replacing the current vessels with similar larger vessels is the economies of scale achieved. Replacing the existing Spirit of Tasmania vessels (SOT I and SOT II) with larger, fit for purpose vessels (SOT IV and SOT V) enables current and future demand to be carried on less sailings.

Sea trials of SOT IV have identified fuel consumption savings over existing vessels, and whilst the cost per metric tonne of MGO used by new vessels, is higher than the VLSFO used by existing vessels, the overall consumption savings results in the fuel cost per voyage being circa \$5k less with new vessels.

The requirement for TT-Line to fund and develop the required port infrastructure at Terminal 3 in Devonport, significantly increased the borrowing requirements for the vessel replacement project. This debt level will be reduced by the sale proceeds of SOT I and SOT II which can occur once SOT IV and SOT V are in service.

8.1 Assumptions

In preparing the analysis contained in this paper, TT-Line used a series of key assumptions regarding timing, revenues, capital costs, operating costs and financing costs. This section describes the key methodology used to derive and/or source these assumptions and the outcome of the financial analysis. These assumptions are critical to the financial analysis, and if they do not materialise, could impact the decisions to be made.

8.2 Scenarios

TT-Line currently has no information on when the required modifications to Berth 1 could be completed. Given the uncertainty, a number of scenarios have been modelled, being:

1. Base Case – No modifications to Berth 1 are undertaken:

- Berth 1 would not be modified for use with new vessels
- New vessels would be stored at an appropriate location until Terminal 3 is operational in July 2026
- Existing Vessels would operate from Berth 1 until new vessels are in service, and then sold.

2. Optimistic Likely Benefit – Modifications to Berth 1 completed by July 2025:

- Commencement of use of Berth 1 by SOT IV once upgrades are completed sufficiently to enable SOT IV to arrive and depart without the need to coordinate its movements with other vessels (e.g. SeaRoad) any different than is currently required
- SOT IV ready and Berth 1 completed for commencement of use by SOT IV on 1 July 2025
- SOT V ready and commences use of Berth 1 on 1 October 2025

- New vessels would be stored at an appropriate location until 2 months prior to in service dates
- Berth 3 completed for commencement of use by SOT IV and SOT V on 1 July 2026.

3. Pessimistic Upper Benefit – Modifications to Berth 1 completed by May 2025

- Commencement of use of Berth 1 by SOT IV once upgrades are completed sufficiently to enable SOT IV to arrive and depart without the need to coordinate its movements with other vessels (e.g. SeaRoad) any different than is currently required
- SOT IV ready and Berth 1 completed for commencement of use by SOT IV on 1 May 2025.
- SOT V ready and commences use of Berth 1 on 1 July 2025
- New vessels would be stored at an appropriate location until 2 months prior to in service dates
- Berth 3 completed for commencement of use by SOT IV and SOT V on 1 November 2026.

4. Realistic Lower Benefit – Modifications to Berth 1 completed by September 2025:

- Commencement of use of Berth 1 by SOT IV once upgrades are completed sufficiently to enable SOT IV to arrive and depart without the need to coordinate its movements with other vessels (e.g. SeaRoad) any different than is currently required
- SOT IV and SOT V ready and Berth 1 completed for commencement of use by SOT IV on 1 September 2025
- New vessels would be stored at an appropriate location until 2 months prior to in service dates
- Berth 3 completed for commencement of use by SOT IV and SOT V on 1 May 2026.

8.3 Revenue Assumptions

8.3.1 Passenger Revenue Assumptions

Current demand has seen a decline in recent times, driven by the cost of living crisis being experienced. It is expected that this softening in demand will continue until the introduction of the new vessels.

It is assumed that there will be no impact on current operations whilst modifications to Berth 1 are undertaken, and therefore no negative impact on revenue forecasts.

Whilst the new vessels have an additional 40% capacity, depending on deck configuration, it cannot be assumed that this additional capacity can be utilised for operations at Berth 1. Until the safe operation of a new vessel has been proven, it is assumed that new vessels will only operate at the capacity of existing vessels. This will require the same number of sailings (day and night) as currently required with the existing vessels, deferring the identified benefits of reducing sailings that could be achieved with additional capacity.

If it can be established that additional volumes can be carried, the additional over height capacity will be utilised for the demand from caravans and campervans that cannot be met on the existing vessels.

Loading and discharge of a new vessels at Berth 1 will be undertaken using a single at grade ramp at, and as such it is anticipated that turnaround will initially take 5 hours (currently 3 hours). This will put pressure on the ability to do a day sail with a likely departure on the subsequent night sail of 1am.

Once Terminal 3 is operational, it is assumed that the new vessels can operate to the capacity needed to meet the demand identified in the recently submitted 2024/25 Corporate Plan.

8.3.2 Freight Revenue Assumptions

The Freight market is also experiencing a softening. As identified with passengers, additional capacity of new vessels is not expected to be utilised until Terminal 3 is operational. Until that time TEU volumes are expected to remain steady, and then increase in line with Corporate Plan demand. With new vessels operating Berth 1, the increased turnaround times potentially leading to a departure time of 1AM for a night sailings after a day sail, the freight market will be severely disrupted. This will reduce freight volumes carried, but for the purposes of the financial analysis, it has been assumed there is no impact.

8.4 Cost Assumptions

Cost modelling is based on the underlying operating cost structure and assumptions set out in the 2024/25 Corporate Plan which reflected the introduction of the new vessels at Terminal 3. Operation of new vessels from Berth 1 was not considered within that Plan.

This same cost structure has been used as a basis for modelling the costs of the new vessels operating at a modified Berth 1, with the following material amendments and excluding volume related costs:

8.4.1 Storage Costs

New vessels will be stored at an appropriate location until able to be put into service (at either Berth 1 or Berth 3. Various options have been analysed – refer 5. Storage Considerations.

For the purpose of this analysis it is assumed that new vessels will be stored at Leith, Scotland for the required periods under each scenario.

The storage cost for the existing vessels prior to sale have also been reflected and it is assumed this will occur at a location in Asia.

8.4.2 Fuel Costs

In order to try and maintain the schedule integrity with the additional turnaround times for new vessels at Berth 1, vessel speed will be increased on the relevant sailings (linked to day sailings). This will increase fuel consumption and costs for those sailings by 25%.

8.4.3 Insurance Costs

The additional costs of insuring existing and new vessels concurrently for an extended period is reflected, and an estimated cost to ensure for an international layup for the required periods under each scenario.

8.4.4 Repairs and Maintenance Costs

Where existing vessels are operational for an extended period, additional dry dock and repairs and maintenance have been calculated, in addition to that required by new vessels. The age of existing vessels means the repairs and maintenance requirements are higher than new vessels.

8.4.5 Port Costs

There has been no additional costs included for capital or operational lease costs associated with the modifications to be undertaken at Berth One. These costs are assumed to be the responsibility of TasPorts.

8.4.6 Loading and Discharge Costs

Loading and discharging a new vessel at Berth 1 will be undertaken using a single at grade ramp at, and as such it is anticipated that turnaround will initially take 5 hours (currently 3 hours). This will add stevedoring, security and terminal operation labour costs. It is estimated this will be \$3.2k per voyage into Devonport.

8.4.7 Tonnage Costs

Channel fees charged by Ports Victoria are based on vessel gross tonnage, this is 29,338 for existing vessels, but 47,994 for new vessels, increasing per voyage costs by circa \$6k.

8.4.8 Vessel Depreciation and Valuation

New Vessels

As per the 2024/25 Corporate Plan, the new vessels will initially be held at purchase price and then reduced by forecast depreciation until valuation trends can be established. This is estimated to be circa \$24m per annum reflecting estimated useful life, residual value and forward FX rates. The only revaluation adjustment in the early period is for the capitalisation of dry dock costs as per the policy.

Existing Vessels

Useful life has been revised to reflect the forecasted extended operational periods under the scenarios, and the subsequent revaluation adjustment. It is assumed the value will decline at the same historical forecast rate 2.5 million euros per vessel adjusted to AUD using the forecast forward FX rates.

8.4.9 Vessel Sale

The sale of existing vessels is expected to occur once new vessels are successfully in operation. Forecast sale proceeds reflect valuations, with a 10% broker fee assumed and forecast forward FX rates. Net proceeds from the sale of the vessels will be used to repay debt. This has been estimated to be \$71.5m per vessel.

8.5 Summary

The following table shows the results of the scenarios modelled and the likely impact on funding requirements and payback period.

Assumption	Impact*	Notes
1. Base Case – Terminal 3	<ul style="list-style-type: none"> required funding: \$1,105m payback period remaining: 13 years 	<p>Long delay in being able to utilise additional capacity of new vessels increases borrowing requirements and timeframes.</p> <p>Current borrowings limits are exceed from July 2025 until vessel sales.</p>
2. Likely Benefit Scenario – Berth 1	<ul style="list-style-type: none"> Required funding: \$1,105m payback period remaining: 12 years 	<p>Having new vessels in service but only operating at existing vessel capacity does not materially change borrowing requirements or timeframes, but does allow debt levels to be reduced earlier with the sale of existing vessels.</p> <p>Current borrowings limits are exceed from July 2025 until vessel sales.</p>
3. Upper Benefit – Berth 1	<ul style="list-style-type: none"> Required funding: \$1,005m Payback period remaining: 12 years 	<p>Delays in Terminal 3 readiness defers the ability to utilise new vessel capacity and impacts borrowing timeframes, but the earlier in service dates allow debt levels to be reduced earlier with the sale of existing vessels.</p> <p>Current borrowings limits are exceed from July 2025 until vessel sales.</p>
4. Realistic Benefit – Berth 1	<ul style="list-style-type: none"> Required funding: \$1.015m Payback period remaining: 12 years 	<p>Bringing forward in Terminal 3 readiness allows the utilisation of new vessel capacity earlier, but the later in service dates increases storage costs and defers the sale of existing vessels.</p> <p>Current borrowings limits are exceed from July 2025 until vessel sales.</p>