NAPIER PORT

6 Wharf Development Justification

August 2018





1. INTRODUCTION

1.1. This document provides a high-level justification for the proposed 6 Wharf Development at Napier Port (The Port).

1.2. This report was originally developed in 2016 therefore this document has been updated to reflect changes resulting from new emerging issues such as greater than expected log volume growth, increasing port congestion and changes in the design for the proposed development.

1.3. Current forecasts are subject to further review including the results of the port master planning review, currently underway. This documents is not a full business case for the proposed 6 Wharf Development.

1.4. Napier Port is New Zealand's fourth largest container port – making a notable contribution to the national economy.

1.5. Napier Port is associated with 51% of the region's Gross Regional Product, with the port being at the heart of Hawke's Bay's $7.5 billion export economy.

1.6. Napier Port is a significant contributor to the local economy, with more than 500 people employed on-site and it is associated with 27,000 full and part-time jobs across the region in industries such as primary production, forestry and tourism.

1.7. Napier Port is owned by Hawke's Bay Regional Investment Company, which in turn is owned by Hawke's Bay Regional Council (HBRC). The regional ratepayers have a direct interest in the success of Napier Port as its dividend helps to fund the work HBRC carries out across the region.

1.8. Napier Port's main cargo trades include apples, logs and forestry products. Napier Port is also the gateway to the region's growing tourism industry with increasing numbers of cruise liners calling. While primarily servicing Hawke's Bay's export economy, there is a growing number of imports coming through the Port.

1.9. The Port is facing significant growth across its cargo trades.

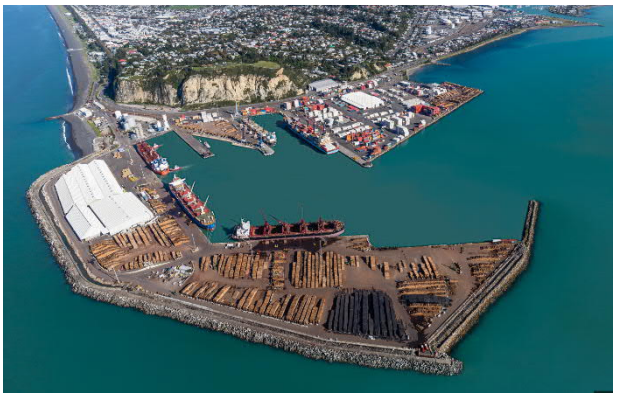
1.10. While forecasting growth, Napier Port suffers from limitations on wharf space and capacity to take larger ships, which is already reducing the number of vessels the Port can accept. Unless addressed, this will lead to increasing inefficiencies and affect the flow of cargo in and out of the region, which in turn will have a detrimental effect on the Hawke's Bay economy.

1.11. Planning for how to accommodate that growth, as the existing infrastructure reaches its capacity, started in 2015. Napier Port began planning for how it could future-proof its infrastructure and, after looking at a range of options, commenced work on the 6 Wharf proposal - a 350m wharf on the northern edge of its container terminal (see appendix 1) and a staged dredging programme to widen and deepen the shipping channel.

1.12. The continued efficient operation and development of Napier Port is essential to employment and prosperity across the region.

1.13. At the commencement of the project, forecasts were for significant growth over a 10 year period, indicating an additional wharf would be needed somewhere between 2022 and 2028.

1.14. However, the growth curve has been steeper than predicted and the triggers, such as port congestion, for needing an additional wharf have brought forward demand to the beginning of this period, around 2022.



2. SIX WHARF DEVELOPMENT

2.1 The proposed 6 Wharf Development is an accumulation of significant consultation and design effort.

2.2 The final design for which resource consent has been sought is with no breakwater or land reclamation and hence provides significant cost savings compared to previous thinking.

2.3 Although conventional thinking in the past has been that a breakwater would be required, dynamic mooring analysis has shown that the location can be utilised, albeit with some surge effects that would impact vessel exchange rates.

2.4 It is recognised that an alternative mooring system will be required to maximise the utilisation of the proposed wharf.

2.5 The proposed wharf is 350m long, and provides 360m of new additional wharf capacity to the Port.

2.6 A pair of mooring dolphins are proposed to allow mooring of larger vessels which do not need to utilise the full length of the wharf deck. In particular this will allow the mooring of the larger cruise vessels expected to call in the near future, including the Oasis Class.

2.7 The proposed berth pocket is 14.5m deep and effectively future proofs the wharf in terms of vessel draft.

2.8 Due to the location the wharf can be extended in the future, providing greater flexibility in the future compared to other options considered.

2.9 The extra total wharf length will provide much greater flexibility to the Port, including the ability to handle two large cruise vessels simultaneously.

2.10 The wharf is designed to maximise the use of the current mobile harbour cranes (MHC's), and future upgrades to facilitate effective loading and unloading of wide vessels. This will provide flexibility in the mode of operation into the future.

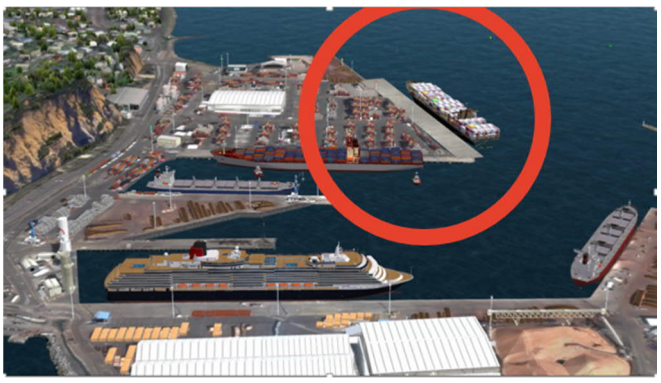
2.11 The location of the wharf allows easy integration with the existing container terminal, resulting in minimum additional investment in auxiliary infrastructure such as electrical (refrigerated container points).

2.12 Associated with the wharf is an expanded swinging basin (turning area for ships), and a widened and deepened approach channel. It is proposed to dredge these areas in a staged fashion, with stage 1 matching the current channel depth of -12.5m.

2.13 Further, future dredging stages allow the gradual deepening to 14.5m to match future demand.

2.14 Construction of the wharf and associated dredging will provide minimal impact to existing operations.

2.15 A total construction period, including mobilisation, of approximately 30 months is envisaged.



3. DEVELOPMENT CONTEXT

3.1 For a long term infrastructure provider, such as a port, to plan for the future, it is important to understand the type and size of vessels that will be servicing New Zealand over the next two or three decades. As experienced in the past, what the Port builds and operates from today will service the needs of the wider Hawke's Bay for many generations to come.

3.2 International shipping lines, ship owners and ship operators are multi-national operations driven by return on investment (ROI). The industry is global in nature, and New Zealand is subject to the whims of global supply and demand in any given year or cycle, in any given trade or sector.

3.3 The only stable driver in the shipping industry is generally the cargo interest i.e. cargo owner or shipper. In the Hawke's Bay context, long-term export trade is the 'life blood' of the region.

3.4 The Port has enjoyed a substantial period of growth in most trades for the past 10+ years. Since 2006, total tonnage has increased from 2.7 million tonnes to 4.75 million tonnes in 2017, an increase of 70%. (Figure 1). Much of this has been steady increases in log volume, expected to increase further in the coming years.

3.5 Container volumes have exceeded this growth increasing from 142,779 Twenty-Foot Equivalent Units (TEU) in 2006 to 288,000 TEU in 2017, up 102% (Figure 2).

Figure 1 - Growth in Overall Tonnage

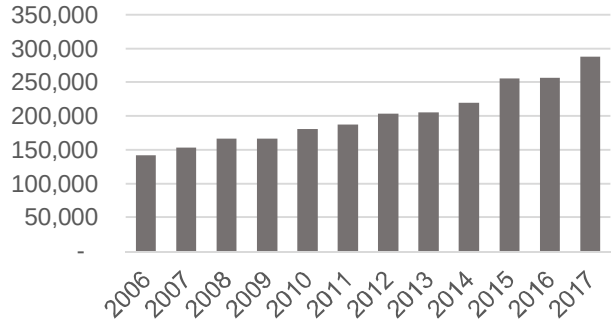


Figure 2 - Growth in Container TEU

3.6 From detailed trade analysis undertaken with key exporters and key commodity trades, and making allowances for natural growth, the Port expects cargo volumes to continue growing.

3.7 Estimated growth in the next 10 years sees overall tonnage increasing from 4.07 million tonnes in 2015 to 6.16 million tonnes in 2028, up 49% (Figure 3).

3.8 Container growth is forecast to see overall TEU volumes grow from 256,432 TEU (2015) to 313,000 TEU in 2028, up 22% (Figure 4).

3.9 In the next 10 years log volumes are expected to grow 42%, with a peak of 3.0 million tonnes in 2027 (Figure 5).

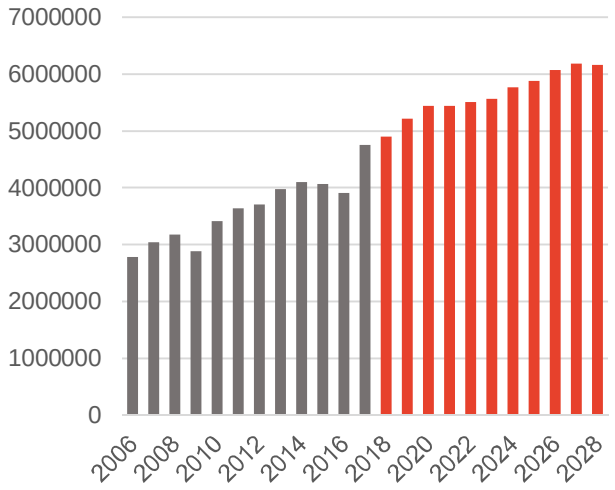


Figure 3 - Forecast Growth in Overall Tonnage (2006 - 2028)

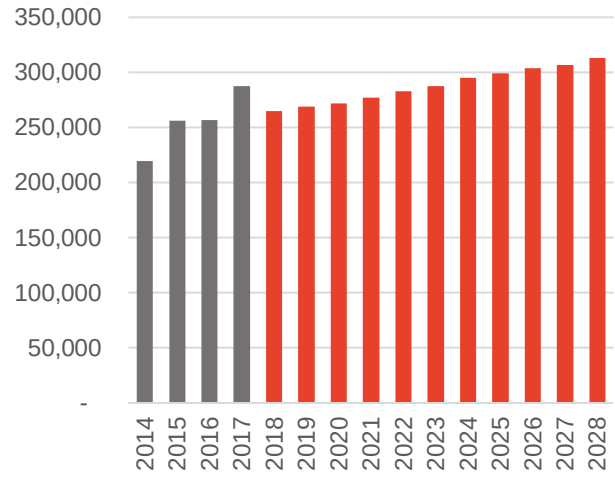


Figure 4 - Forecast Growth in TEU (2014 - 2028)

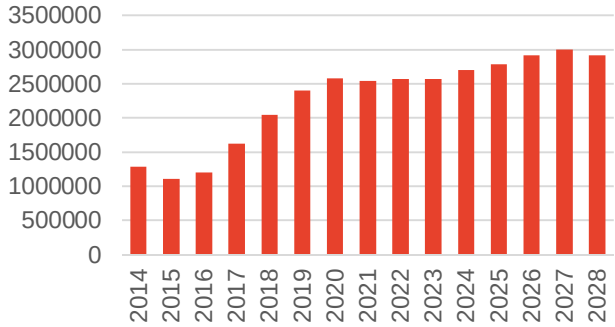


Figure 5 - Forecast Growth Logs (2014 - 2028)

3.10 Trade growth is linked to a number of key sectors (pipfruit, horticulture, viticulture, agriculture, forestry, pulp and cruise). The Port has worked closely with these sectors to understand their growth paths and their likely impacts on the Port, and the subsequent need for infrastructure. Forecasts have been made at the conservative end of the scale for projects that are likely to result in additional volumes in the future.

3.11 Overall trade growth is largely based on "In Region" volumes. The most economic method for these "In Region" exporters to move their products to international markets is via Napier Port, the next best alternative Port involves either additional road or rail transport, adding considerable costs (6-8 times greater).

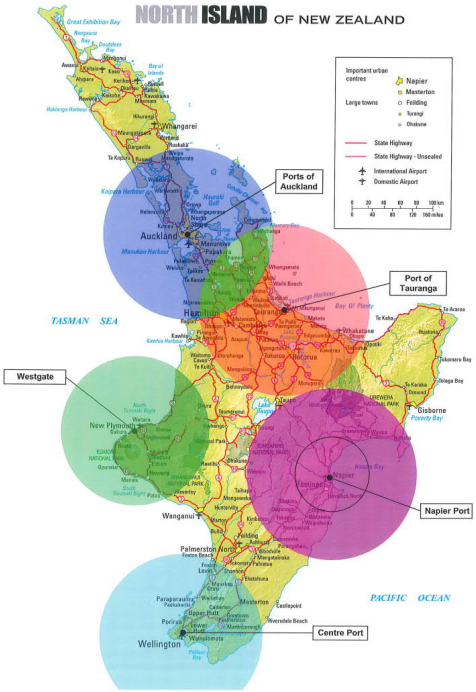


Figure 6 – Port Catchments

3.12 Out-of-region volumes represent less than 10% of total container volumes at year 10 of the forecast period.

Container Vessel Size

3.13 Since the introduction of containerised shipping into New Zealand, with the first call of the Columbus New Zealand in 1971, with a capacity of 1200 TEU, New Zealand has seen a steady increase in the capacity of container vessels

calling. Most services calling New Zealand now deploy vessels between 3500-4500 TEU, but can be up to 5500 TEU (Maersk L-Class) (Figure 7).

3.14 The large vessel in Figure 7 represents Maersk's Aotea Maersk, currently only calling at Port of Tauranga (POT), and part of NZ cargo owners and Maersk Line's "pursuit of bringing larger ships to New Zealand"[1]. This size vessel currently does not call at other New Zealand Ports, and is a direct east-west service.

3.15 Lyttelton Port Company (LPC) has recently been granted consent for dredging their channels to become 'big ship capable', with dredging expected to start in August/September 2018.

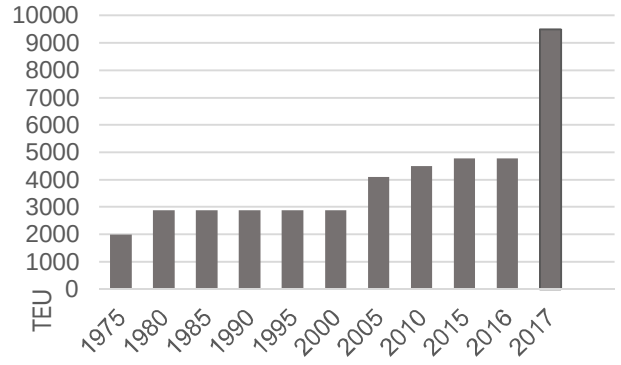


Figure 7 - Largest Container Vessels Calling New Zealand

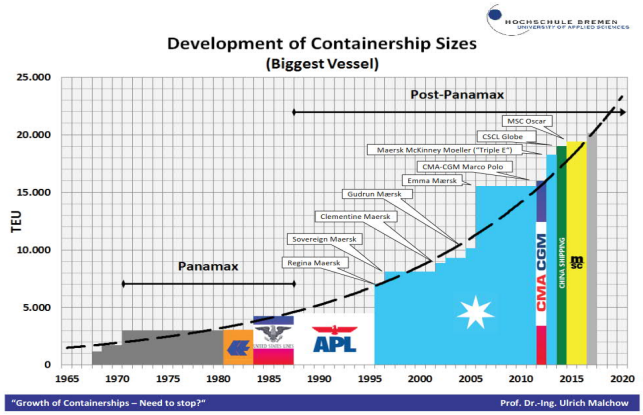


Figure 8 - Growth of Largest Container Vessels in the World

3.16 As vessels have increased their TEU capacities, their length and beam (width) have increased. The speed of this change is increasing as indicated in Figure 8.

3.17 As at February 2016, the global container fleet stood at 5162 vessels, with modest growth of 6% from February 2011. However, this represented a capacity of 20 million TEU, up 39% on 2011.

3.18 The growth in vessels over 5100 TEU was greater, with 1306 vessels - up 69% in the five year period. This represents approximately 25% of the global fleet.

3.19 We are now regularly rejecting requests from shipping lines for larger vessels to call due to a range of size-related restrictions.

3.20 Since February 2016, a net total of 132 vessels greater than 5100 TEU has been added, and this segment now makes up 25% of the global cellular fleet.

3.21 In 2015, six out of eight liner services needed to use the Port's main container berth due to their length. The same year seven out of eight liner services were gearless[2] and were reliant upon the integrated shore facilities to process containers on and off vessels.

3.22 Currently (2018) due to vessel length and demands for 1 Wharf, container operations are conducted almost exclusively on 5 Wharf.

3.23 Manoeuvres of container vessels up to 280m are able to be accommodated onto 5 Wharf without affecting vessels on 1 and 2 Wharves, in normal conditions. Vessels of between 280-295m (the maximum length that can be manoeuvred onto 5 Wharf) can be accommodated, however, there are restrictions covering daylight hours and 1 and 2 Wharves being empty at the time. These restrictions will be more and more difficult to accommodate as vessel numbers and cargoes grow – creating more congestion.

[1] Gerard Morrison, Bay of Plenty Times, 12th July 2016.

[2] Ship's gear are small cranes on-board a ship that allow a ship to load without land-based cranes. Gearless ships are those without on-board cranes.

3.24 Another key trend, is the cascading of larger vessels into smaller trades, such as New Zealand. As shipping lines continue to build larger and larger vessels, they cascade the older larger tonnage into smaller trade lanes. A 12,000 TEU vessel will now be used in a trade where 8,000 TEU vessels were once used, while those 8,000 TEU sized-vessels move to a trade that was serviced by 6,000 TEU vessels. There is a trend developing where vessels are starting to be allocated "where they fit" rather than "where they are needed". The key implication is ports that cannot handle larger vessels risk being omitted from these service strings, which would have serious implications on Hawke's Bay's export-dominated economy.

3.25 Figure 9 below shows the delivery breakdown by container vessel capacity (TEU). This shows a clear trend toward the delivery of 10,000+ TEU vessels, which will displace lower capacity vessels, and reinforces the concept of the cascade effect.

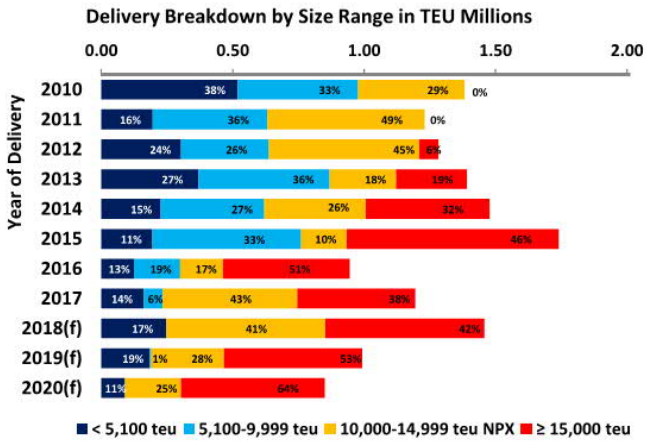


Figure 9 - Delivery Breakdown[3]

Cruise Vessels

3.26 Napier Port is the gateway for the cruise industry into the region. In the past 10 years, visitor numbers have grown significantly, with an average of approximately 125,000 per year (based on last 5 years). In the last 10 years, over 900,000 passengers and crew have disembarked at Napier Port (Figure 10).

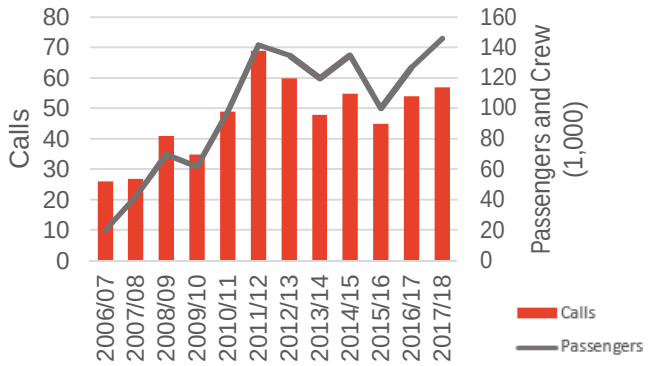


Figure 10 - Cruise Calls, Passengers & Crew (2006 - 2018)

3.27 The Port regularly rejects bookings for additional and dual vessel calls due to berths being unavailable (typically 4-7 per annum). This represents a significant loss of potential revenue to the Hawke's Bay economy.

3.28 Cruise vessels are increasing in size globally, including the Oceania market. See the graphic chart tracking growth.

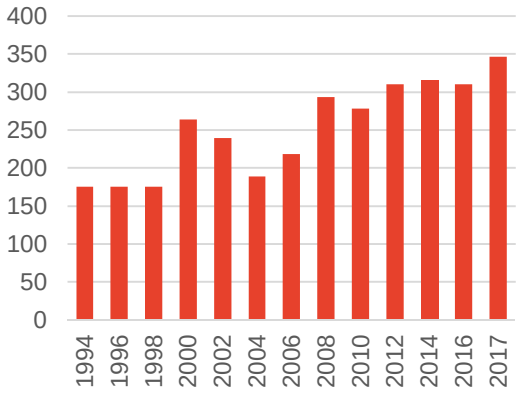


Figure 11 - Cruise Ship Length (LOA) Growth

3.29 The 'Ovation of the Seas' is currently the largest cruise vessel that can be handled by the Port. This has only been achieved through significant effort in pilot simulation and upgrade of wharf infrastructure to take the heavier bollard pull.

3.30 The ability to handle the 'Ovation of the Seas' is subject to tight weather restrictions which may

[3] Source: Alphaliner July 2018

impact calls and hence potential lost opportunity to local business.

3.31 Royal Cruise Caribbean Ltd (RCCL) have advised that New Zealand ports, including Napier Port, should be planning now for the Oasis class of vessel – 360m Length Overall (LOA), which they foresee coming to Australasia within 5-10 years. The port is not currently able to accommodate such vessels.

Operational Capacity

3.32 The Port's container terminal is currently reliant on one 390 metre berth to work gearless vessels (5 Wharf). Most lines calling into the Port now operate gearless vessels. In the past, shorter vessel lengths meant two vessels could be accommodated simultaneously on 5 Wharf. However, container ship sizes are now of such size that this is uncommon – further reducing the Port's limited wharf space.

3.33 As shown in Figure 12, in 2014 the Port's average berth use over the full year, being the period (October to September), on the container terminal's 5 Wharf was 46%. This includes a peak utilisation of 73% in March corresponding with the peak season.

3.34 In 2015, Napier's average berth use over the full year in the container terminal was 48%, however, during the 2015 peak season (Feb to May) utilisation reached 60%.

3.35 This average utilisation has increased gradually to a point where, in 2018 (year to August), an average of 60% utilisation for the year has been reached for 5 Wharf.

3.36 This coincides with a dramatic increase in utilisation of 1 Wharf associated with the increase in log volume.

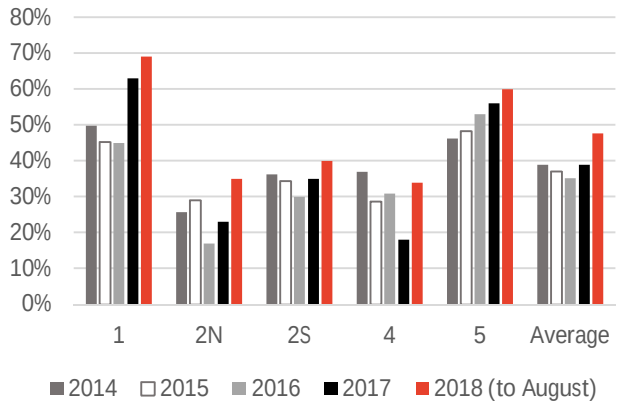


Figure 12 - Evolution of Berth Occupancy

3.37 Typically, the industry recognises that new berth capacity is required whenever utilisation of existing facilities exceeds 50%. This approach acknowledges that ships waiting for a berth incur non-productive time, sufficient to justify looking for alternative ports where they don't have to wait as long.

3.38 Vessels requiring the services of the container terminal have coped with high-berth utilisation to date because of Napier's approach to providing fixed-berth windows, which are pre-allocated time slots in which a shipping line must call each week to be guaranteed service.

3.39 An increase in vessel size results in larger exchanges. This will have the effect of providing less flexibility in providing pre-allocated windows.

3.40 Napier is focused on improving productivity per hour (the number of containers moved); this is another means of reducing working time at the berth. However, as the average size of cargo exchanges has risen, this has had the opposite effect of increasing time at the berth.

3.41 Effectively, 63% of peak season berth use in a 168-hour week converts to more than 105 hours of physical occupancy. Based on 12 hours for the movement of vessels to/from the berth, 6 weekly services x 2 hours to manoeuvre - occupancy exceeds 70%. That is significantly greater than the crossover point of 50% when it is generally accepted that a new berth is needed. Increases in cargo exchanges and ship numbers will exacerbate this situation during the peak season in particular.

3.42 Clearly, it is challenging to manage a scarce berth resource – particularly in the peak season – until such time as a new berth is available for terminal use.

3.43 While there is clear evidence that vessel sizes are increasing, the exact size and the timing into the Oceania (New Zealand) trades of vessels that are outside Napier Port handling parameters is uncertain. However, given the 24 to 30 month construction period, if a decision wasn't made to add capacity until such vessels started calling at NZ ports, Napier Port would be approximately two years behind the requirement for additional wharf space.

3.44 Operational capacity is tested every year at the Port due to the very pronounced export seasonality profile of the Hawke's Bay, typically at a peak from February to May. This is directly related to the type of products handled, such as apples, stone fruit and squash. This seasonal pattern has been part of the Port's core business for a considerable period of time.

3.45 The exact make-up and timing of the peak volumes is difficult to predict given it is dictated by climatic conditions for production in the first instance, and then by overseas market demand profiles in the second.

3.46 The Port's ability to defer peak season volumes is very limited as commodity based products (apples, squash and onions) target very particular markets for very specific timings. For example, when Northern Hemisphere growers can't provide supply i.e. Taiwan for apples in earlier February.

3.47 The Port is able to forecast overall volumes of production quite accurately, and using peak month factors, can estimate the size of the expected peaks in future years. The Port is then able to model its productivity against those volumes to estimate when current Port capacity will be exceeded.

3.48 In our modelling, we have factored in productivity improvements due to additional crane capacity (newer mobile cranes and experienced drivers), more continuous working and greater planning efficiencies with central planners providing greater crane utilisation.

3.49 In 2014, the Port achieved an average 38 moves per hour in the peak month. The Port's current service delivery to customers was not acceptable to the shipping lines when compared to other New Zealand ports.

3.50 In 2015, the Port achieved an average 46 moves per hour in the peak month (on a lower volume).

3.51 The Port has demonstrated that over 50 moves per hour is achievable when required.

Port Congestion

3.52 Port congestion is fast becoming one of the major issues for the port, with unproductive vessel shifts costing both the port and its customers in additional costs and lost productivity.

3.53 With the "Wall of Wood", berth utilisation on the General Cargo wharves is now very high, in particular 1 Wharf is now at 69% occupancy (2018 YTD).

3.54 The Port's strategy to incentivise log turnover will, together with the growth of log volume in the immediate future, result in an increase in berth occupancy.

3.55 The need to temporarily shift vessels to anchorage when larger container ships enter and leave the port is expected to cause significant issues for the Port's ability to meet the expected demands of the increased log volume.

3.56 Since 2015/16, with the regular call of the HS Beethoven (282m) and the CMA CGM Puget (282m), a total of 82 calls have required over 20 vessel to be shifted (25% of visits).

3.57 Depending on where they are in the loading process, at worst up to 24 hours can be lost due to the need for temporary lashing and unlashing. A minimum of four hours are lost during the shift. There are also operating implications, such as increased marine and mooring requirements, resulting in increasing operating costs.

3.58 Any increase in calls of container vessels of 280m and above will increase the frequency of shifts and hence impact the ability to meet the growing log volume demands.

3.59 Ships of 280m LOA and 40m beam also mean 4 Wharf, adjacent to 5 Wharf, becomes unavailable for use due to the lack of space to manoeuvre ships in and out.

5 Wharf Restrictions

3.60 Built in the 1960's and extended in the 1970s, 5 Wharf is getting closer to the end of its useful life as a container vessel berth.

3.61 Remedial work recently undertaken is expected to result in a 15 to 25 year life expectancy.

3.62 5 Wharf was designed for a maximum 20,000 Dead Weight Tonnes (DWT) vessel. With vessels calling now regularly in excess of 50,000 DWT, 5 Wharf is at its limit in terms of maximum ship DWT it can take. Recently, the Port has had to reject the call of a large beam container vessel at over 90,000 DWT due to the limits of berthing capacity.

3.63 As with the design for vessel sizes; 5 Wharf was never envisaged to handle forklifts with 80-110 tonne per axle loads. It is a credit to the designers at the time that the wharf is handling these loads today, but this does come at the price of durability, decreasing the useful life and increasing on-going maintenance costs.

3.64 A maximum of 220 tonne pad load has been calculated for the use of MHCs (which have four pads). This results in the current 6 Series of MHCs being restricted. This results in limitation of crane reach or container weight that can be lifted onto the far side of vessels. A recent initiative to use technology to maximise lifting capacity will provide some increased capability, but ultimately there will still be restrictions on rows on the far side of vessels with larger beams visiting Napier Port.

3.65 At a declared depth of 12.6m, no further deepening at 5 Wharf can be undertaken due to the depth of the piles – meaning going deeper to accommodate deeper ships would effectively undercut the existing wharf piles.

3.66 The 95 tonne bollard capacity is not expected to meet the demands of the larger and heavier vessels expected and will require upgrades.

3.67 Built to 1960s technology, the wharf is more susceptible to earthquake damage than an equivalent modern design.

3.68 Currently, 5 Wharf is insured for replacement value, which will no longer be possible once the remaining functional life reduces to 15 years, when indemnity cover will be the only available option.

4. ALTERNATIVE OPTIONS

Status Quo (5 Wharf)

4.1 This option positions the Port to handle some limited growth long-term and would see Port management focusing on ways to reduce the impact of the peak season volume, while endeavouring to increase productivity past the 53 moves per hour mark.

4.2 Given Napier's mix of vessel sizes and capacities, increasing productivity on average over the peak period will remain challenging. However, working three cranes continuously at every opportunity and smaller vessels on 4 Wharf is expected to allow the achievement of the required productivity.

4.3 Port management do have a number of strategies available to influence the peak volume, however they come with downsides. A decision to stop seeking cargo from out-of-region customers, in doing so reducing the peak volumes, will also reduce overall volumes and be keenly felt in the off season months and through port returns to shareholders.

4.4 Where larger vessels, anything over 295 metres, were scheduled to call on New Zealand then the Port would not be considered. This is not to say Napier wouldn't continue to handle direct liner calls. However, Napier Port would likely lose fringe cargoes to Ports of Auckland and Port of Tauranga as they are capable of handling larger vessels and be in theory able to enjoy the benefits of the economies of scale these larger vessels provide shippers.

4.5 Wider vessels will continue to remain a challenge due to crane outreach and wharf capacity.

4.6 The key assumption for the status quo strategy is that there will always be a number of international lines whose strategy will be to call at multiple ports directly, to pick up cargo versus a hubbing strategy. This will have the effect of a decrease in choice for the region's exporters and importers, and may affect shipping rates.

4.7 Relying on the status quo would reduce the Port's ability longer term to grow its container base and to remain relevant to international shipping lines. As they continue to grow their capacity they are looking to ports to provide that cargo base. The Port would first and foremost focus on servicing the needs of local shippers to provide the best economic efficiency for shipment.

4.8 Maintaining the status quo, and maintaining our current infrastructure is an option that has the minimum CAPEX requirement, but that will in the longer term constrain the Port and the region's growth. More intensive use of labour to manage congestion issues over time adds to operating costs, resulting in higher prices and/or lower returns. As a long-term infrastructure provider, the Port needs to provide fit-for-purpose facilities for its customers to use, and to achieve the productivity required to be competitive.

4.9 This option does not address the age and limited lifespan of 5 Wharf.

Redevelopment of 5 Wharf to a Gantry Compatible Status

4.10 The redevelopment involves building new piles in front of the existing berth to accommodate the front gantry rail. The reason for building in front of the current wharf is that strengthening the current structure has too many unknown factors. In order to achieve the pile depth the existing pile would need to be removed. The removal of piles is costly and dangerous given they can and often break and have to be drilled out.

4.11 As new piles would be built in front of the current wharf, this has the effect of reducing the distance between berthed vessels at 5 and 4 Wharves.

4.12 This option only accommodates the current maximum size of vessel (LOA) at 285 metres without affecting other vessels on 1 or 2 (North) Wharves. The 5 Wharf option will only be able to accommodate a maximum of 295 metres LOA, but at this length the Port would have to vacate and move more vessels on 2 (North) Wharf and 1 Wharf, which as noted earlier results in significant disruption.

4.13 With an estimated build time of between 12-18 months, container operations would need to move to an alternative working berth to ensure continued service levels.

4.14 The only practical option to accommodate the vessel LOA would be 2 Wharf (North).

4.15 2 Wharf (North) represents a difficult working model for container operations, with a full truck and trailer operation required.

4.16 While the container terminal is operated from 2 Wharf (North), the Port would have to accommodate charter vessels that traditionally use the berth, namely cruise vessels, oil tankers and fertiliser vessels.

4.17 While fertiliser vessels can be accommodated at 1 Wharf and 4 Wharf, oil and cruise vessels are more problematic.

4.18 1 Wharf could be used for cruise vessels, including the Ovation Class, but this would require investment into ground bollards or mooring dolphins. This would also significantly affect the ability to perform fumigation for logs, which require exclusion zones.

4.19 The temporary reduction in wharf availability would negatively affect the Port's ability to effectively handle the current and expected future log export business.

4.20 The operational model is in essence similar to our current mode of operation, with the inclusion of new shunt vehicles to move containers from the terminal stack to the vessel and visa-versa, and the addition of a hoist at shipside operations to feed containers to and from vehicles as it is not practical to expect the harbour mobiles to land directly to transport, impacting on operational performance.

4.21 Longer-term this option would not grow the Port's operational capacity. The Port would still be constrained in terms of maximum LOA without affecting other operations.

4.22 During the construction phase, this option would create operational displacement for multiple parts of our business. Service levels to all customers will be reduced for the period of construction.

4.23 This option, while providing a gantry crane ready container terminal, also requires a material investment and would reduce the operational effectiveness of 4 Wharf, as the extra area required to accommodate the front rail reduces the distance between berthed vessels.

100m Extension of Wharf 1 to a Gantry Compatible Status

4.24 The option to develop Wharf 1 in the short term is a workable alternative to the more comprehensive 6 Wharf Development.

4.25 Larger vessels will continually be added into the New Zealand trade over time. It is likely that with each service change, others will follow. This has been the trend over the last 25 years.

4.26 Extending 1 Wharf to accommodate one service in the first instance, via a truck and trailer operational model is a valid operational option. However, the longer term infrastructure needed when other services require the use of this wharf, become operationally and cost constrained.

4.27 To operate 1 Wharf as a sole container terminal would require considerable further investment in refrigerated (reefer) container facilities and double handling of containers. The suggested operational model would require 500 reefer plugs at 1 Wharf and a truck and trailer operation to clear empties from the berth operating 24 hours a day.

4.28 The current log volume would need to move to the current container terminal. Like for like, this

would be 6.5 hectares, leaving only approximately 3.2 hectares for terminal use. The additional environmental factors would need to be considered as the log operation creates a consider amount of dust and debris.

4.29 The movement of the log operation into the current container terminal would see multiple operations in the same area, with traffic management and controls being critical to ensure all potential risks would be mitigated. It is likely that both log gantries would need to be moved or the option taken to cease offering this service.

4.30 The ability to fumigate deck cargoes of logs would also be reduced, unless the Port reconsidered its stance to allow this activity in the current container terminal. This would create a number of issues in terms of the proximity to residential areas.

4.31 1 Wharf represents 6.5 hectares with a theoretical stacking capacity of 2,000 TEU. This represents three vessels in the peak season. Volume for the remaining 3-4 weekly calls would need to be stored in part of the current terminal that wouldn't be occupied by logs.

4.32 An alternative scenario is for all reefer cargo to continue to be received into their current locations (inside the current terminal) and trucked to ship side, allowing all dry containers to be stored on 1 Wharf. This has the benefit of reduced reefer capacity investment, however the downside would be double-handling all reefer containers and the risks associated with having chilled cargo off power for longer periods. Also, mixing log storage with reefer containers has considerable risks associated with it. This option has thus been discounted.

4.33 It was assumed that while the new extension is being built, the status quo would remain with logs receiving, storage and loading remain on 1 Wharf.

4.34 The targeted berth-side productivity required to handle the peak season container volume remains at 53 moves per hour. In order to achieve this critical productivity target, the operation would need to invest heavily in trucks and trailers (or Mafi and trailers).

4.35 When considering the operational model for 1 Wharf in year one, the underlying assumption has been that the terminal landside operations including road, rail, depot and container freight station (CFS) will continue as normal in the current container terminal footprint and movements will be undertaken directly to and from vessels berthed on 1 Wharf.

4.36 Whilst 4 Wharf has been used to accommodate smaller two gang density vessels in the past, this has been discounted as the area will be required for accommodating logs that would traditionally be stored on 1 Wharf.

4.37 The operational model is in essence similar to our current mode of operation with the inclusion of new shunt vehicles to move containers from the terminal stack to the vessel and vice versa and the addition of a hoist at shipside operations to feed containers to and from vehicles. It would considerably impact on operational performance.

4.38 Longer term this option does not significantly grow the port's operational capacity. It simply transfers the container operation to another part of the Port, with the ability to handle longer vessels.

4.39 This option requires a material capex investment and presents considerable risk in productivity performance. All operational rationale is to have cargo as close to the berth as possible to minimise the running distances. Given the Port's pronounced peak, the need to achieve maximum productivity is critical to handle the in-region freight task.

5. SUMMARY

5.1 Napier Port has a strong stable base of in-region cargo. That base of cargo is underpinned by continuing investment in the business infrastructure and its capacity throughout the region.

5.2 Hawke's Bay is seeing substantial investment in new export ventures and regional infrastructure projects that will continue to see export freight grow.

5.3 The most cost effective method for Hawke's Bay and in-region shippers to access overseas markets is via Napier Port.

5.4 Maintaining and increasing port capacity is critical long term to the success of the Port's business offering.

5.5 Longer term, the Port will need to invest in wharf capacity and additional crane capacity to provide the level of productivity customers demand, and more importantly to be able to handle the volume required over the peak months.

5.6 Alternative development options are available, but none deliver a long term solution.

5.7 Providing the export dominated region with world-class shipping options and choices will increase the competitive options for Hawke's Bay industries.

5.8 The trend toward larger vessels (longer and wider) will continue at a faster pace than the previous 25 years.

5.9 The Port is restricted by the maximum length of container vessels it can handle.

5.10 Handling vessels greater than 280m in length requires the shifting of vessels berthed at 1 Wharf and 4 Wharf, with associated costs and lost productivity, in particular for log exports.

5.11 The proposed 6 Wharf Development is the only option which adds capacity to the Port, and facilitates growth in trades, including log and cruise.

5.12 The proposed 6 Wharf development is the only option that 'Future Proofs" Napier Port, with the ability for further expansion.

Appendix 1: Map of Napier Port and Thames Street Depot