#### CILT NZ Northern Section

Webinar

### A Port on the Manukau - The last 12 months



23 November 2021

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#### Let's examine what has happened since August 2020

- The largest ports in the world wide logistics chain have been struggling to meet the unexpected boom in demand since 2020 Q4.
- Shipping Lines have also announced an extensive array of ultra large container ship orders with very few being ordered in the size range currently deployed in the North South trade lanes.
- The increasing focus on the need for green sources of propulsion for ships has brought forward a wide divergence as to the possibilities.

## The Boom in World Shipping

- An un-forecast boom in the number of exports, particularly from Asia to the rest of the World as a result of the pandemic, created unexpected issues for the World's finely tuned supply chain.
- The largest ports in the world wide logistics chain have been struggling to meet this unexpected boom in demand since 2020 Q4
- Land-based storage and transportation have become congested as a consequence



#### Container ships queuing to enter Los Angeles Port

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### How has New Zealand Coped?

- The two largest ports, Auckland and Tauranga, have struggled.
- Auckland, in the throes of an automation programme, became congested through:
  - Crane driver shortages resulting in reduced load/discharge rates.
  - Congested stacks caused also by straddle driver shortages, exacerbated by resulting increased dwell times.
  - Congestion at the road exchange, combined with truck driver shortages.

## Similar story at Tauranga

- One service (Maersk) chose to reschedule all Southbound sailings only to call at Tauranga.
- Increased demand then resulted for forwarding cargo between Tauranga and Auckland.
- There have been challenges to meet this demand as rail & road services are limited by rail capacity constraints and a shortage of trucks and drivers.

### **Containership World Fleet**

- Previous dominance by the old Panamax size has given way to the new neo-Panamax size plus Feeders.
- Shipping Lines have also announced orders for many more ultra large container ships.



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### **Containership World Fleet**

Until recently very few ships were being ordered in the size range currently deployed in the North -South trade lanes.



#### Recent orders for 7,000 TEU vessels (& larger) pose questions

- Requirement for greater crane outreach?
- Have wharves sufficient vertical load bearing capability for greater outreach?
- Increased horizontal displacement load on quay walls?
- Potentially increased berth pocket depth requirement?
- Potential demand for increased channel depth?
- Under crane clearance for higher container stacks on deck?
- Air Draft suitability for bridge clearance in Melbourne and Airport restrictions in Sydney?
- Lower crane intensity potential?
- Reefer Capacity?

Dimensions	Old Panamax	Latest 7,000 TEU
Deadweight	65 - 80,000 t	80,000 t
LOA	295 m	269 m
Beam	32.3 m	42 m
Draft	12.5 m	14 m
Air Draft	<50 m	60 m

#### The Changing Pattern of International Container Shipping

- The ultra large container vessels deployed in the East West trades need to be filled to obtain the lower per-unit cost of transport.
- It is not sufficient to just load cargo originating from the hinterland of the ports of call of the large vessels; cargo from other origins is needed, hence the requirement to "relay the cargo" using feeder ships.
- The same happens at the other end of the big ships' voyages.
- The container terminals allocate a set time of the week for each port call "the berthing window" and the ship must achieve and maintain a schedule that enables it to arrive on time.
- Containers can then be likewise scheduled to move to or from the Feeder Ships

   and schedules need to be also maintained by those vessels too.

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## The Trades to/ from New Zealand

- The same will happen in the trades to and from New Zealand.
- Trade growth will mean the present ship size mostly 3000 to 6000 teu ships, will become too small.
- Larger ships will have to be deployed.
- Similar story in Australia.
- Implication is the increased combination of the Australian and New Zealand trades, with ships in the smaller neo-Panamax size range, 10,000 to 12,000 teu being introduced.

# **Coastal Distribution**

- In order to maintain schedules, larger ships will need to limit the number of port calls in New Zealand.
- Feedering will increase, ideally with one or more hub ports in the North where the greatest hinterland cargo exchange is required.
- This will happen regardless of when or where a new port is introduced.
- The NZ Government has recognised this. \$30 million has been allocated through the National Land Transport Programme to help make this happen and to encourage and revitalise coastal shipping

## **Reducing Green House Gas Emissions**

- The expectation of Governments of a net zero carbon emission environment by 2050 also provides some challenges for ship operation and design as well as port planning.
- Ships on average last about 24 years so this means that ships built after 2026 should meet the desired 2050 standards.
- Power supply will come from such sources as methanol, hydrogen, ammonia, bio-fuels etc.
- A new port location will be much better placed to be the location where such new fuels can be made available to ships serving the trade.
- Ultimately, reducing the distance from the northern North Island to southern ports by 33%, using Manukau instead of Auckland/ Tauranga will be a really effective way of reducing emissions.

Mark Oxley will now review the findings of the 2019 Sapere Report and how the recent changing patterns set out above add to the benefits of a transition to a higher capacity container port on the Manukau.