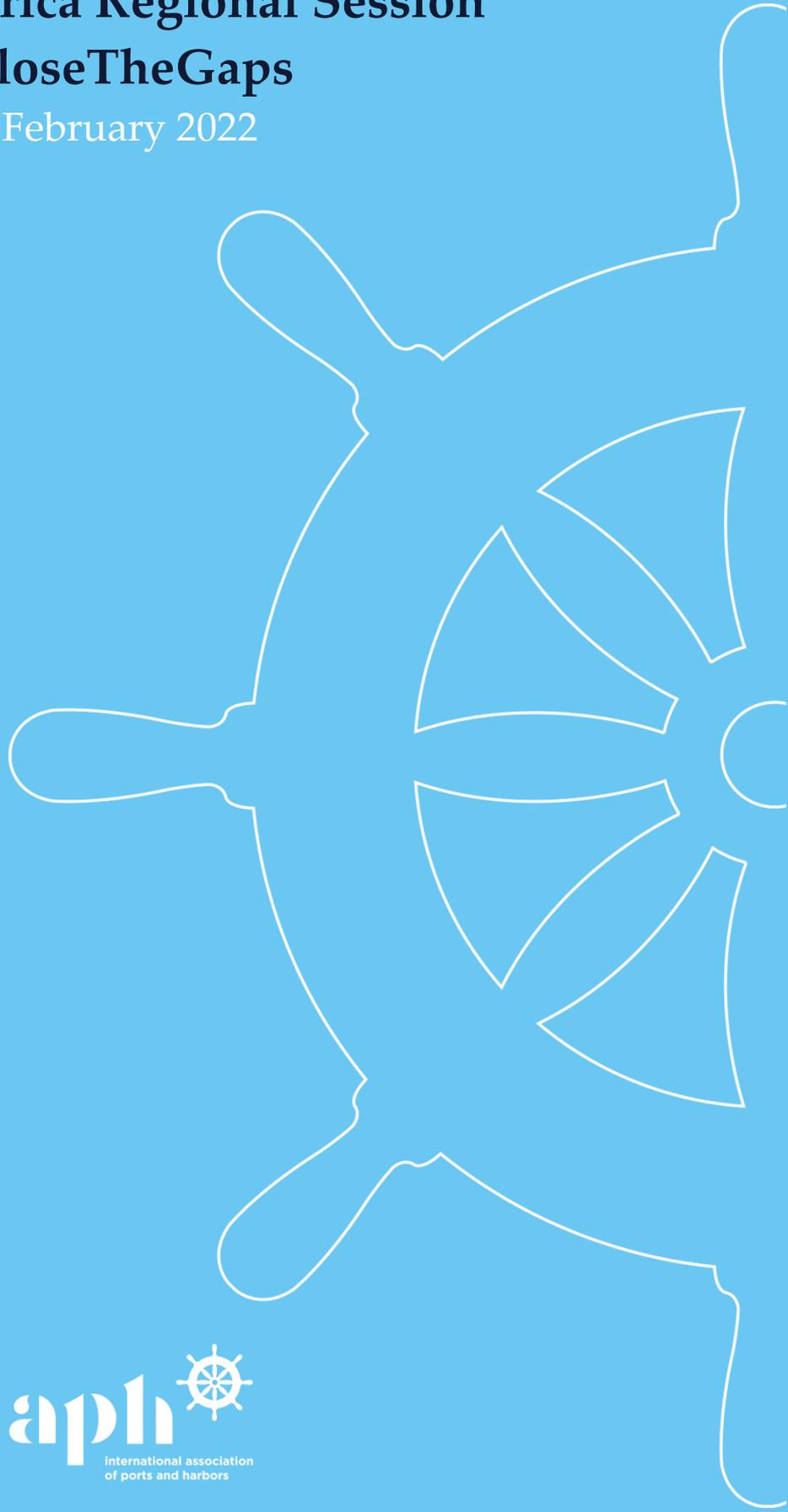


IAPH
North America Regional Session
#CloseTheGaps
8 February 2022



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EXECUTIVE SUMMARY

The enclosed provides a summary of proceedings from the IAPH North America Regional Workshop examining port competitiveness and identifying gaps to address in ports and port-related infrastructure and governance that took place on February 8, 2022.

The purpose of this document is to provide succinct highlights of specific gaps as well as proposals and suggestions raised at the Workshop to deal with those gaps in port infrastructure.

A more detailed analysis of the transcript and recording will be fed into the main workshop sessions of the IAPH World Ports Conference 2022 which will deal globally with the six areas of interest analyzed by a study that the University of Antwerp prepared for The World Bank in 2020¹, namely connectivity and accessibility, efficiency, digitalization, carbon emissions of shipping, shipping costs and regulatory environment.

The three main gaps identified for this region are efficiency, connectivity and accessibility, and digitalization.

1.0. HIGH LEVEL OVERVIEW OF THE REGION IN TERMS OF PORT INFRASTRUCTURE GAPS

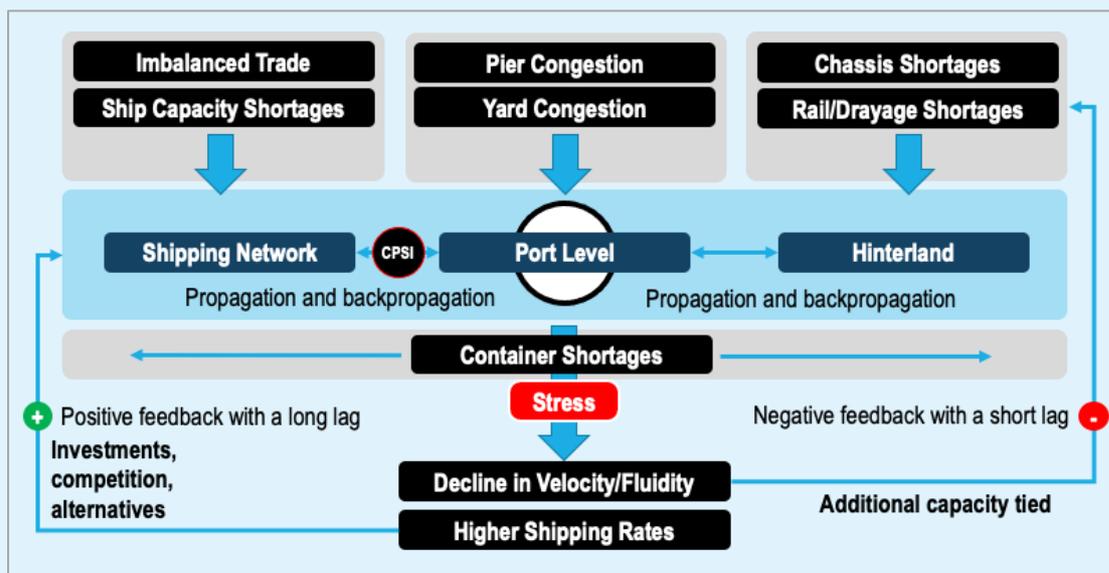
Changes to North American consumer behavior has had a major impact on supply chain fluidity in the region. It has been estimated that overall, a 5% switch from services and leisure (including travel, tourism, dining and entertainment) to consumer product demand has taken place as a consequence of the COVID19 pandemic.

The combination of this demand swing, when combined with the impact of cargo volumes dropping significantly during the first pandemic wave in 2020 and which has then surged at levels never seen in the region (cited by one panelist as a turn rate of 2 million TEUS per month just for the U.S.), exacerbated congestion due to unanticipated lack of capacity.

¹ Aronietis, R., Van Hassel, E. and Vanelslander, T. (2020), Maritime connectivity study for The World Bank: the state of developing country ports and maritime services: a global review.

The capacity of North American port and inland warehousing and intermodal transport infrastructure has been strained to a point where the supply chain crunch may not be seen as a single event, but an entanglement involving all the stakeholders in the supply chain. These include (but are not limited to) ports themselves, carriers, BCOs, the COVID19-impacted workforce, drayage, rail carriers, chassis owners and truck drivers. The problems cannot be singularly called out, and therefore the issue becomes one of entanglement where it is very difficult to distinguish interconnected problems for effective intervention.

A summary of this is displayed in the below infographic, which illustrates vertical and lateral impacts of disruptions in maritime shipping in the region (and is applicable elsewhere).



The entanglement essentially is one which means that importers and exporters are locked into supply chain flows (even when substituting West Coast port supply chains using port alternatives on the East Coast or across borders), with each part of the chain interdependent and susceptible to the weakest link, and many parts of the chain lacking the sufficient information and data to react or proactively plan for future cargo flows.

The evidence of the share of empty container outflows increasing proportionately with TEU volume turnover at both small and large North American ports reflects the overall trade imbalances between exports and imports. These, plus long-standing import containers with either extended free time or abandoned or delayed cargoes in the stacks due to lack of BCO warehousing capacity inland or delayed inland long range or final mile haulage relays contribute towards quayside congestion at North American terminals which can be viewed as the nexus of the capacity crunch in the region's ability to absorb exceptional demand levels for cargo.

From a port user perspective, the market has often been too reactive to supply chain bottlenecks, which has sometimes led to further congestion elsewhere, especially in the hinterland. Examples of this reactivity include the rerouting of cargoes from West to East Coast ports using traditional corridors "locked in" by capacity constraints in the US, where some ports have been better than others at adapting to historic upswings in capacity demand. This includes the rapid provision of overflow storage areas to relieve quayside congestion, and the addition of materials handling equipment such as cranes or semi-automating processes.

Changes in final destinations of a share of the volumes which have been re-routed have added to congestion issues, as has the lack of accurate data ahead of time when cargoes can be made available for pick up following vessel arrival at berth. For non-essential goods, importers cite the need to have a reliable forecast of cargo arrival/container availability 6-8-12 weeks out to take the decision to route cargo from exporting country to the selected port destination in North America. In addition, port users remarked about the ability of some ports being able to semi-automate faster than others or adding more cargo handling equipment to speed up expedition.

The citing of up to 200 different information systems, often manual and paper-based, spread over the entire port network points towards a deficiency in the ability to share common navigational, operations and administrative data between ship and shore stakeholders to improve efficiency of port calls. Whilst it was cited that friendly and useful interfaces and new start-ups have made innovation tools available, in general data is simply not available or visible to help shippers (particularly smaller ones) to accurately trace and predict the arrival or departure of their cargo. The willingness, or rather lack of it, in terms of sharing important operational data was cited as more critical than the availability of technology to help disentangle the supply chain knots.

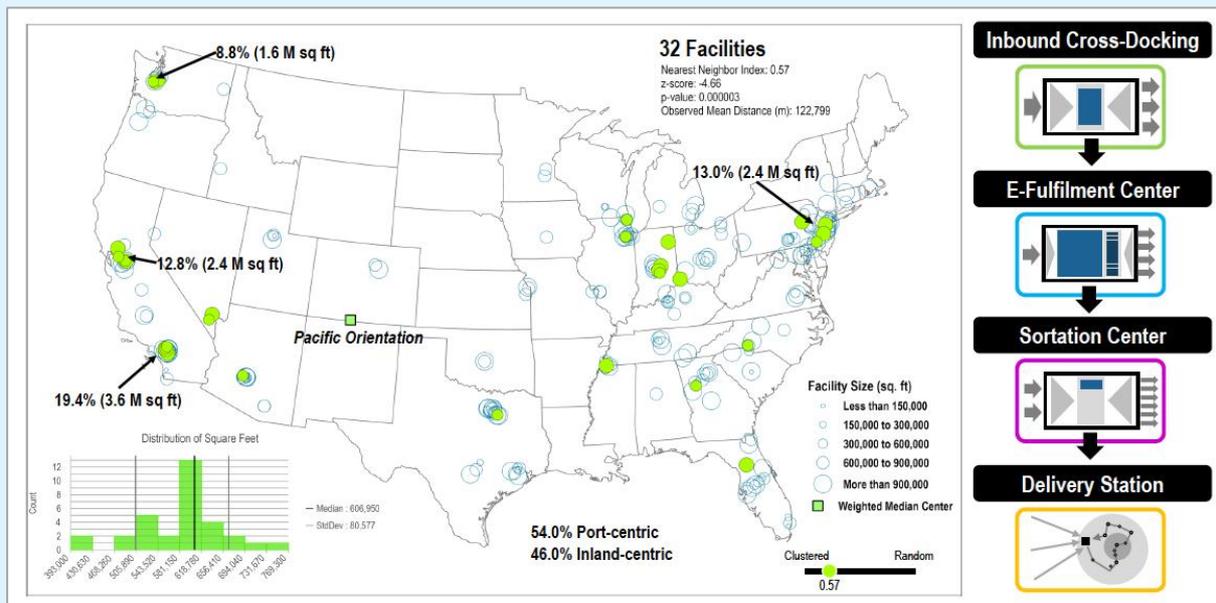
Equipment levels limit an effective response, whether stemming from the lack of containers for export with empties being rerouted en-masse to Asia to pick up more profitable import cargo or lack of chassis for road haulage or rail trucks for intermodal transportation due to historic demand levels are also major contributors to bottlenecks.

As a result of all these factors, some enterprises which previously depended on just-in-time for their inventories lost market share. These are now focused on reducing risk by accumulating buffer inventories which are markedly up. This loss in fluidity as well as velocity of the supply chain has led to increased shipping costs. It has also put tremendous pressure on existing warehousing capacity in North America. Some participants argued that focus on infrastructure development needs to start with investments in warehousing and inland depot capacity, coupled with a shrewd awareness of where to locate this new inland infrastructure given the lack of labor availability to fill warehousing staff vacancies, whose hourly rates have jumped from USD 8 to USD 18-20 per hour.

Another valid point made was the need to match 24/7 warehouse availability as well as generating truck and rail 24/7 availability for handling cargoes should the terminals make themselves available on a 24/7 basis. The costs associated with extra night shifts and driver and staff availability are also critical factors to consider to ensure such a particular proposal is practicable.

Finally, reference was made to the challenge facing North American ports to meet and proactively exceed global ambitions for decarbonization in the current challenging cargo environment where constituents and inhabitants within the vicinity of ports (and their elected representatives) are increasingly reacting to the impact of emissions on their daily lives. In addition, efforts being made to address those emissions are typically being conducted in silos, whether at municipal, regional or national levels. Investments required to digitalise, electrify operations with green energy and to incorporate low and zero carbon bunker fuels will now have to be incorporated into overall transportation costs and replace those carbon taxes which have previously funded infrastructure projects.

2.0. HIGH LEVEL OVERVIEW OF WORKSHOP POINTS RAISED TO #CLOSETHEGAPS



One of the major findings of the workshop was the discussion around the setting of buffers between ports and their hinterland (gateways, corridors and inland ports).

The example of the region’s largest e-fulfillment provider for consumer goods in the above map was cited as a bellwether of disentanglement, with the shrewd deployment of cross dock facilities for destuffing containers which were more-or-less evenly split between port-centric and inland-centric facilities. These operations, which generally feed into their smaller e-fulfillment centers and subsequent sortation centers act as pressure valve releasers for imports otherwise held up on board, at berth or on the terminal quayside. It was observed in the US that inland depot activity in locations such as Kansas City, parts of Texas, Chicago, and locations in Virginia, North and South Carolina and Alabama were on the increase, frequently within the vicinity of rail intermodal terminals and could offer medium term improvements in reducing pressure on the marine terminals.

Increased warehousing and cross dock facility infrastructure investment was also cited as a sensible proposal for medium term absorption of demand peaks and shocks. Extra capacity for warehouse space was in development in and around several of the participating ports, some which were being constrained by land availability. However, a valid contribution from the floor was made in terms of the frequent, critical lack of availability of suitable warehousing labor in the job market at many suitable locations for these cross dock coastal and inland locations, despite the upward correction in hourly market rates for such labor in North America (example cited from \$18 – \$27 per hour in some regions). This was often matched with equal challenges to find medium to long-range truck driving personnel prepared to forfeit the temptation of taking up local e-fulfillment delivery roles for the final mile instead. The ageing of the truck driver’s population in North America was also cited as a major obstacle to relieving congestion. The role of federal, state and/or municipal incentives and support for the attraction and provision of labor incentives was cited as a contributory factor to alleviate this challenge. An additional point was made for the absolute need to recruit new talent into the industry from outside to tackle the issues around efficiency, especially in the field of digitalization.

Additional suggestions from the floor included not only the obvious correction in the supply of truck chassis and rail rolling stock to transfer cargo from road to rail, but simple improvements to accommodate this mode better at ports such as doubling track availability at the terminal yard. This not only serves as a back-up in the case of track infrastructure breakdowns, but also immediately doubles the ability to clear containers and bulk shipments from the stacks.

It was also felt that existing port infrastructure could be used more productively (versus 10-year investments into new terminals) by deploying 24/7 operations, but only if this was matched by the willingness of intermodal operators, warehousing and final mile service providers as well as importers and exporters to operate on the same 24/7 basis.

The sentiment of participants on accelerating digitalization and data sharing was evident, with calls for carriers to securely share data, where commercially and operational feasible, load lists of their cargo at load ports in Asia on the transpacific trade which are up to 6 weeks out from arrival depending on berth congestion levels at arrival ports. Port users felt that data can be made available earlier for them and their customers.

The need for start-ups to secure funding in order to support efforts to digitalise the maritime supply chain in the medium term was also evident with some port authorities establishing local maritime incubators.

On the regulatory side, the intervention at a governmental level in the US by Commissioner Carl W. Bentzel of the Federal Maritime Commission on maritime data sharing might prompt action to increase cargo visibility in the short term. It was also suggested that information on visibility of cargo also requires standardization across the North American network as often shippers receive conflicting information about the same container shipments between various parties over different platforms. The suggestion for a coordinated review of all current road and rail infrastructure on a national level in the U.S. was also proposed by the floor in view of the federal government's plans to upgrade inland connectivity. A similar common regulatory platform for coordinated dialogue between stakeholders on emissions reductions in port was also put forward.

In terms of decarbonization, which was seen by some panellists as the major long-term issue facing industry, increased collaboration between ports regionally with emissions-reduction strategies were cited as a way forward with specific reference to the gains made from cross-border collaboration between North American ports on the Pacific coast.

Finally, the existence of a combination of high market pricing and low service levels could result in the entry of new players or markets, such as the changes in procurement planning by BCOs, emergence of local sourcing or the internalization of the transport and logistics function by beneficial cargo owners including the purchase and leasing of ships and other assets.

3.0. NEXT STEPS

These identified gaps and potential solutions will now be discussed at the IAPH World Ports Conference in Vancouver between 16-18 May both in plenary sessions and at the IAPH Regional Meetings which will have this Executive Summary to set the agenda on how to put together a plan to #CloseTheGaps in port infrastructure.