PORT STRATEGY

HPC

PORT DEVELOPTMENT STRATEGY

Current port situation and layout
That the Port of Beirut was able to receive the first vessels again within 14 days of the explosion says an extraordinary amount about the resilience and fortitude of the Lebanese people, and belies the massive damage caused to the overall and nearby landside infrastructure. The port has managed to maintain around 65 percent overall operations throughout, with the cleanup initially swift, but has increasingly labored under the lack of funds available for it. History has shown that as time extends, so to do the chances of a complete cleanup in a medium period, dwindle, as the world moves on.

The container terminal was able to be up and running almost immediately again, with most gantry cranes functioning as before, safely, and efficiently. Fortunately, with the silos dampening the blast, and thanks to sheer distance, the terminal was not seriously affected. However, the spare parts warehouse and workshops were completely destroyed, as were almost all containers on the western region of the container terminal, where the terminal had spilled over into the general cargo areas. In addition, over 180 containers were damaged of abandoned, requiring special intervention for their disposal. This included 52 hazardous containers which required specialized handling.

Some 1,250 vehicles being stored in the port have had to be written off and are currently piled for scrapping. In addition, approximately 30,000 mts of steel scrap and 50,000 mts of concrete and asbestos scrap have likewise been piled, awaiting funding for disposal. The steel is likely to be exported for scrap, while the latter will be treated and should be used in construction to fill areas of damage specifically in basin 3.

Quay 9, the site of the explosion, has a large crater approximately 124m in diameter, with the entire quay wall as well as the entire bulk discharging infrastructure based on it, destroyed. The Silos themselves remain partially standing and require full demolition and removal thereafter of the mixed materials. The point quay itself needs to be further investigated including geotechnical and underwater surveys to ascertain the integrity of the structure. The utilities however, require full replacement.

The passenger ferry, Orient Queen remains capsized alongside the quay 11, while 4 other floating wrecks remain moored at the old bulk terminal, with one sunken wreck along the opposite breakwater.
The overall salvage still required, is estimated to be between USD 50-100 m purely for removal and disposal without considering any further surveys or rebuilding actions. On the landside, severe damage has resulted in the almost total destruction of storage capabilities of the port. This is potentially one of the most urgent challenges to overcome, as well as presenting an opportunity as the storage facilities and bulk devices were generally severely outdated and out of line with efficient modern structures and practices. At present, all non-containerized cargo can be discharged and delivered on a direct delivery basis only creating a revenue loss as well as severely negatively impacting the ports discharge performance. This leads to an increased cost of delivering non containerized goods, as well as a reduction in volumes causing additional revenue losses. Storage policies of the port must also be considered, in line with modern practices and more transparent allocation and contracting. This will be an initial requirement to resume storage asap and start to normalize practices in the port.

Port redevelopment and expansions strategy
At present, the port can be broken down into the historical old port and the partially modernized container terminal. The former is marked by a large amount of quayside with shallow or relatively shallow berths which, before the explosion, had poor utilization and limited the size of vessels able to call the port. The latter has a large quayside but is lacking in storage space, leading to the previously mentioned spillover into the rest of the port. The access to the port is generally via the port building, off the boulevard in the center of the city, with continuous congestion at the gate spilling over into the city. Even prior to the explosion, the storage space and cargo removal from the port was poor, leading to cargo landside congestion rather than the seaward side.

The focus, moving forward, must therefore be on optimizing port storage facilities and practices as well as cargo movement within and through the port, into the hinterland transport network. This transport network itself is also in need of review, and this should be undertaken dynamically as the politics of the region are rapidly changing.

The port must however continue to be able to function efficiently throughout any rebuilding or re-development with the minimum interference possible. The options presented herein are therefore final layouts proposed, with an anticipated time scale of 15-20 years to realize them in, both the integration into the city as well as the development of the further port. These should remain flexible within the final plans, with reviews of space and requirements undertaken every 5 years for the next 20 years to ensure a dynamic developing port scenario.

Keeping in line with health and safety requirements, as well as developing trends in global ports, the storage of hazardous goods must be addressed. Moving the so-called 'dirty' cargos, as well as 'hazardous and dangerous' cargos, particularly those not transported in containers, to external terminals outside of city limits, is recommended. A final note, as with any port development this should be seen and integrated into a holistic national cargo transport plan on a regular rolling basis. They are usually set out as a 30 year plan, reviewed every 5 years.

Port operational layout development

Even before the explosion, storage and laydown space, as well as cargo standing and turnaround time within the limited port space, presented major challenges to the efficient operating of the port. This caused congestion of the facility as well as the accesses to the port itself, thereby leading to congestion in the city. Many cargos were left for extremely long periods within the port, or even abandoned there, with no authority taking final responsibility or ownership for their handling or removal. The prime cases in point here are both the ammonium nitrate which had been abandoned over 7 years ago in the port, and several of the hazardous containers within the container terminal which had been abandoned up to 13 years ago in the port, both indicating extreme risk to the port, as well as taking up valuable space within a limited facility.

The port does however have enough quayside to handle all operations required if this space is suitably allocated and optimal use is made of draft considerations.

The current challenges for the port can be overcome with this, as well as dedicated and modern storage facilities, including monitoring and packing facilities to ensure that cargo flows rather than sits. Coupled with this, a national masterplan that encourages the development of inland logistics depots, closer to end markets, will see cargo moving through the port to where more space is available, reducing storage costs and risk to the supply chain of having all goods in one location.

The largest space requirement is that of the container terminal, and while the current space can be optimized to accommodate more than it does currently, it requires additional space and layout facilities. This will be used to develop pack bases to facilitate trade through unpacking and resorting and repacking for traders, within the Freezone area. Berth depths and requirements should also be considered to ensure that deep water vessels have suitable berths, and that cargo handling and storage aligns with this.

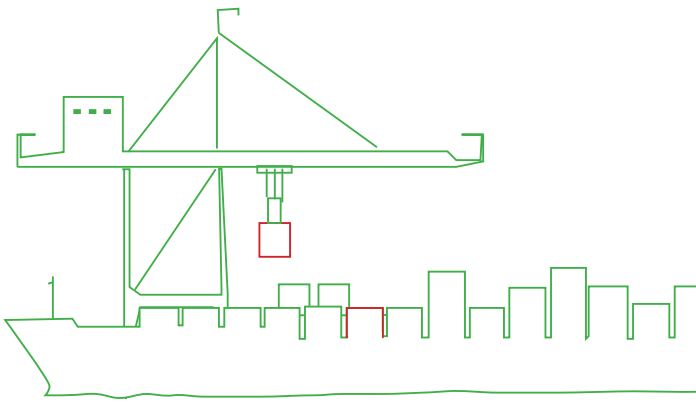
New landside port entrance and exit gates should be considered, potentially aligned to designated cargos and potentially for containers with separate entrance and exit facilities to spread traffic over the city, if no direct access to highway can be considered.

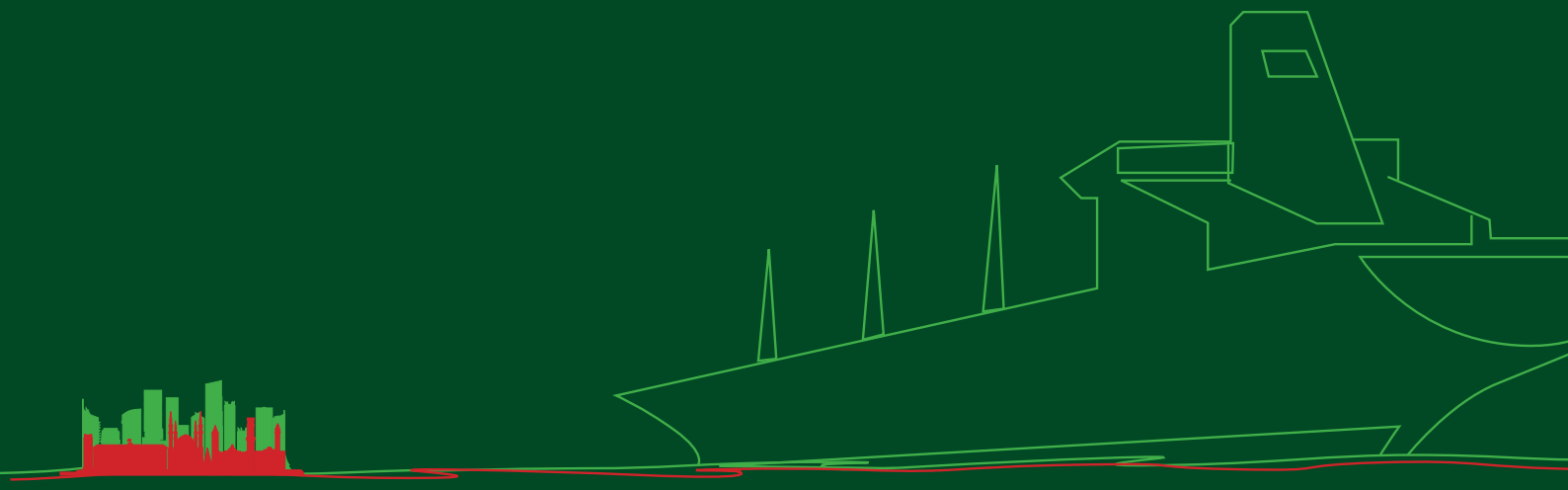
Port of Beirut development strategy

A number of elements play a key role in reviewing the strategic position of the port of Beirut moving forward, and the Roland Berger study related to this paper outlines the future potential role of the port, right-sizing and pricing options for the port, as well as the crucial governance model alternatives. These are all key considerations that have been considered.

The Port of Beirut is historically a gateway port for local consumption with a large potential hinterland. Due to its history and tradition as a city seaport, this role will not change, but requires some refinements to allow it to continue to operate as the heartbeat of the city. The integration into the buzzing city that envelopes it, limits port operations in terms of space and capacity, while creating traffic congestion, pollution stemming and potential health risks from port operations and logistics flows. The goal must be to keep the link between the two, while removing the congestion and pollution.

As is the case with similar cities, such as Barcelona, Hamburg and Cape Town, the port needs to remain functional to the needs of its citizens and hinterland, while exploiting the riches of its heritage in the modern world and giving these and the port back to its citizens. In this regard, the layout needs to consider a modern port capable of sustaining itself, creating jobs and encouraging trade, while integrating into a vibrant city.





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