COMHLACHT CHALAFORT ÁTHA CLIATH
DUBLIN PORT COMPANY

Dublin Port Masterplan

Internal Report #2

Analysis of Lo-Lo Requirements

27th September 2011

Overview of existing terminal capacity

There are three container terminals in Dublin Port. The arrangements under which each terminal operates are different for historical reasons:

- Dublin Ferryport Terminal (DFT) - This terminal was originally developed for B&I line by Dublin Port in 1972. It is now owned by ICG plc and provides services to Eucon (a Lo-Lo container shipping line owned also by ICG) and other Lo-Lo container shipping lines. DFT operates on the basis of lease agreements dating back to the 1970's and license agreements in respect of extensions to the terminal in recent years.
- Marine Terminals Limited (MTL) – This terminal was built in 1976 and originally operated by a private sector stevedore. It next came under the control of Dublin Cargo Handling (a subsidiary of Dublin Port & Docks Board). In 1992, terminal operation passed to MTL. MTL is ultimately owned by Peel Group Ltd. which also owns two Lo-Lo container shipping lines which are customers of the terminal (BG Freightline and Coastal Container Line). MTL leases the container terminal land and also operates under the basis of a stevedoring license dating from 1992.
- Burke Shipping Group (BSG) – The terminal operated by BSG was developed by DPC in 2007 and is operated by DSG under the terms of its general stevedoring license dating from 1992. BSG provide services to container shipping lines, both Lo-Lo and Ro-Ro (CLdN).

As a result of the above historical background, there is now a mixture of different franchise types in the Port's container terminal sector.

In general, the existence of competing container terminals has worked well in terms of the provision of high quality and price competitive cargo handling services in Dublin.

However, the differences between the franchise types lessens the influence DPC can wield to maximise land utilisation. This is an important consideration given that the three terminals have an aggregate land area of 41 hectares or almost one third of the land area of the Port adjacent to berthage and used for core cargo handling activities.

The details of the three terminals are summarised below:

Parameters	**DFT**	**MTL**	**BSG**
Basis of franchise	Lease	Lease and License	License
Dwell time controlled by	DFT	MTL	DPC
PFSP operated by	DFT	MTL	DPC
Berth Lengths	360m + 180m	700m	900m
Berth Depths	9.5m + 11.0m	10.2m	10.0m
Cranes (Ship/Shore)	3	3	5
Crane Type	Ship Gantry	Ship Gantry	Harbour Mobile
Gantries (second handling)	8	4	6

Parameters	DFT	MTL	BSG
Gantry Type	RTG	RMG	RTG
Reefer Points	275	270	252
Area (Hectares)	14.0	15.1	12.3
Operator estimate of capacity (TEU per annum)	325,000	300,000	400,000
Operator estimate of capacity (TEU / hectare per annum)	23,214	19,868	32,520

Each operator has its own operational approach in terms of container handling equipment, manning, container terminal management systems and (in the case of DFT and MTL) management of dwell time (in terms of free storage days and charges after the free period has expired).

In preparing the Expert Papers which informed the Masterplan Issues Paper and subsequent consultation process, each operator provided the above estimates of their container handling capacities.

Existing spare capacity

Based on these estimates, Dublin Port has substantial (445,000 TEU per annum) spare terminal capacity for Lo-Lo container handling as shown below.

	DFT	MTL	BSG	Total
Peak throughput (2007)	290,767	281,018	172,152	743,937
12 months to June 11	238,680	176,861	127,739	543,280
12 months to June 11 (adjusted)[1]	238,680	176,861	244,382	659,923
Change from 2007	- 52,087	- 104,157	+ 72,230	- 84,014
Capacity[2]	325,000	300,000	480,000	1,105,000
Spare capacity	86,320	123,139	235,618	445,077

[1] The throughput in the 12 months to June 2011 has been adjusted to take account of containers handled through the BSG terminal which were handled through Ro-Ro services.

[2] The Alex Quay Phase 3 container development project will be completed during 2012. This project will provide an additional 80,000 TEU of container handling capacity. In addition, as part of the project Berths 38, 39 and 40 will be rebuilt to a depth of -11.0m. The figure for spare capacity takes account of this imminent 80,000 TEU.

Potential additional capacity in existing terminals

Beyond this spare capacity, the Port has substantial capacity to further increase container throughput as shown below:

Operators estimate of capacity	1,025,000
AQE Phase 3	80,000
Increased utilisation	631,000
Ocean Pier[3]	200,000
Total	**1,936,000**

The potential to add capacity is in three areas:

- Firstly, there is an 80,000 TEU of additional capacity which is currently being planned and which is scheduled to be available during 2012.
- Secondly, there is the potential to squeeze more containers through existing land areas. DPC believes that operators should be able to increase land utilisation to achieve approaching 40,000 TEU per hectare per annum. The operators' current estimated capacity implies an average land utilisation in the three terminals of 25,000 TEU per hectare per annum. The extent to which operators are able to intensify existing operations varies. For example, it is possible that any attempt by MTL to intensify its operations could face challenges at the planning stage.
- Thirdly, assuming a new facility is provided for cruise ships, there is potential to provide additional capacity on Ocean Pier West

At this level, the Port could potentially handle 1.3m TEU more than is currently being handled.

[3] The development of container handling capacity on Ocean Pier would be done in conjunction with the rebuilding of the quay wall on Berths 32, 33 and 34. This quay wall is in poor condition and is due for capital refurbishment within the next five years or so. The new berths would be built to -15.0m and would be dredgeable to this level in order to provide substantial capacity for significantly deeper Lo-Lo ships in coming years should the demand arise. In the event that demand for such deep berths did arise, there would also be a requirement to dredge the bar and the river accordingly.

Comparison with All Ireland volumes

To put the above analysis into context, the table below shows the volume of Lo-Lo containers handled in all ports on the island of Ireland in 2007 and 2010.

Port	2007		2010		Change in volume	Change in market share
	TEU	*Share*	*TEU*	*Share*	*TEU*	
Dublin	743,937	50.3%	554,056	55.3%	-189,881	4.9%
Cork	199,891	13.5%	147,534	14.7%	-52,357	1.2%
Drogheda	29,840	2.0%	103	0.0%	-29,737	-2.0%
Waterford	186,057	12.6%	71,084	7.1%	-114,973	-5.5%
Shannon Foynes	15,430	1.0%			-15,430	-1.0%
RoI Ports	***1,175,155***	***79.5%***	***772,777***	***77.1%***	***-386,948***	***-2.4%***
Belfast	267,177	18.1%	217,896	21.7%	-49,281	3.7%
Warrenpoint	35,687	2.4%	12,039	1.2%	-23,648	-1.2%
NI Ports	***302,864***	***20.5%***	***229,935***	***22.9%***	***-72,929***	***2.4%***
All Ireland	**1,478,019**	**100.0%**	**1,002,712**	**100.0%**	**-459,877**	**0.0%**

As the overall volume of Lo-Lo containers fell by almost one third between the peak of the boom in 2007 and 2010, there was been a significant increase (of almost 10%) in the market share of the island's three largest ports (Dublin, Belfast and Cork) at the expense of smaller ports (Waterford, Warrenpoint, Drogheda and Shannon Foynes).

We believe that as the economy improves in the early years of the Masterplan period, container volumes generally (and Lo-Lo volumes in particular) will increase in Dublin. However, the huge scale of the decline (0.5m TEU) in the market in recent years coupled with the large potential additional capacity in Dublin (1.3m TEU) reinforces our view that Dublin Port will be able to cater for foreseeable growth over the next 30 years.

Comparison with Masterplan putative volumes in 2040

The Masterplan seeks to show how the Port might handle 60.0m tonnes by 2040. The putative contribution to this figure from Lo-Lo is 10.5m tonnes which translates into a volume of 1.1m TEU.

	2010[4]	2040	AAGR
Ro-Ro	16,403	41,920	3.2%
Lo-Lo	6,317	10,480	1.7%
Bulk Liquid	4,009	4,000	0.0%
Bulk Solid	2,054	3,500	1.8%
Break Bulk	96	100	0.1%
Total tonnes	**28,879**	**60,000**	2.5%
Lo-Lo ('000 TEU)	641	1,063	1.7%

Over the period from 1993[5] to 2010, Dublin Port's Lo-Lo volume grew at an average annual rate of 4.9%. By comparison with this, the putative level of growth assumed in the Masterplan is only 1.7%.

It is impossible to predict growth rates over a period as long as 30 years with any degree of confidence.

- 1.7% per annum would bring Lo-Lo volumes to 1.06m TEU by 2040 at which level Dublin port would still have large spare capacity available.
- Growth would have to average 3.8% per annum between now and 2040 for volumes to reach 1.9m TEU.
- In what we believe to be the highly unlikely event that we saw average growth to 2040 at 4.9%, Lo-Lo container volumes would reach 2.7m TEU per annum. However, even at this rate of growth, we estimate that it would take 24 years for Dublin Port to reach 1.9m TEU.

Risk Factors

There are three risk factors which could compromise (to some extent) the Port's ability to meet increasing demand for Lo-Lo capacity.

Firstly, there is the commitment of the terminal operators to continually increase the utilisation of their existing terminal areas. This is, to a large degree, outside of DPC's control. However, DPC can

[4] 5-year moving average

[5] 1993 is chosen as the reference year because prior to that year, Dublin Port's potential potential was restricted by dock labour issues.

influence operators' behaviour and will seek to work constructively with them to achieve ever higher utilisation of the Port's finite land assets.

Secondly, there is the question mark referred to above about MTL's exposure to planning objections should it attempt to intensify its operations. This is a matter of serious concern to DPC.

Finally, there is the possibility that there could be a sudden and unforeseen increase in the size of container ships calling to Dublin. However, as noted previously, current plans are to rebuild berths 32, 33 and 34 dredgable down to -15.0m. This plan plus capital dredging of the Port's bar and channel would mitigate this risk.

Conclusions

1. The current estimated handling capacity of the Port's three Lo-Lo terminals is 1.025m TEU per annum.
2. An additional 0.08m TEU of annual capacity will be added by end 2011 to bring capacity to 1.105m TEU per annum.
3. At this level, there will soon be almost sufficient to handle the putative volume of Lo-Lo trade in 2040 (1.063m TEU)
4. However, some of this terminal capacity will be needed to handle containers moving on Ro-Ro ships.
5. There is potential to increase container handling capacity considerably within the areas of the Port's three existing facilities operated by DFT, MTL and BSG through a combination of investment (in cargo handling equipment and container terminal management systems) and the introduction of more aggressive dwell time management regimes.
6. Beyond this there is also potential to provide yet more capacity on Ocean Pier.
7. A combination of all of these factors could see container handling capacity increase towards 1.9m TEU per annum, all through existing land. This level of capacity is greatly in excess of foreseeable demand.
8. However, there is some doubt about the extent to which MTL might be constrained in increasing its capacity to contribute to the overall figure of 1.9m TEU per annum.
9. In the event that deeper draughted ships have to be accommodated, it is planned to have berths dredgeable to -15.m available.
10. Should some combination of restrictions at MTL and increasing demands for deeper berths come about over the next 30 years, there is the potential to build new deep berths immediately in front of the ESB's Poolbeg Power Station.

Under all conceivable scenarios, therefore, a combination of existing terminals and the possibility of building new facilities will allow the Port to handle future volumes of Lo-Lo container trade over the next 30 years.