



Alliance of the Ports of Canada, the Caribbean, Latin America and the United States

AAPA's Real Estate Subcommittee

Research paper: overview on how ports manage their largest asset – property, challenges faced and key issues for further research

Most ports today follow a 'landlord' model operating structure, in effect making them asset managers. This research paper surveys a cross section of ports geographically and functionally to identify current port management viewpoints on property assets and reviews port property as an asset class and the challenges faced by ports in its management and discusses areas for further research and study.

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PREFACE

During the last several decades the world of ports has experienced significant changes resulting from economic globalization, technological advancements, the rapid increase in the containerization of cargo and advancements in supply and logistics chains and other factors. This has resulted in a major transformation in the way ports operate and are managed.

The challenges ports face in the 21st Century promise to result in even more changes for ports. One of the most important of these challenges is the gap in funding for infrastructure of all types, including ports. Amongst other things this will certainly put pressure on ports to become more self - reliant from a financial standpoint and in turn require the more strategic use by ports of their largest asset – property; an asset that surely will increasingly play a more significant role in the business of ports.

Port property is the main subject of this research paper and its mission is to identify the current state of how ports are managing this asset today, identify key issues for further research and discussion and identify areas of opportunities.

This paper was commissioned by the Real Estate subcommittee of the American Association of Port Authorities. The AAPA is the alliance of leading ports in the Western Hemisphere and amongst other things it protects and advances the common interests of its members and the industry at large.

We are grateful to the members of the AAPA Real Estate subcommittee for their advice and input in the development of this paper, who are Ms Gail Wasil (Assistant Director of Real Estate, The Port of Long Beach), Mr Jack Hedge (Director of Real Estate Division, The Port of Los Angeles) and particularly Ms Molly Campbell (Executive Deputy Director for the Port of Los

Angeles), whose ongoing guidance and participation was instrumental in the writing of this paper and was invaluable.

We also want to acknowledge and thank the ports who allowed us to interview their staff on what some sensitive internal policy issues and management processes. They graciously spent hours being interviewed and in very open discussion on how they currently manage their property portfolios. The resulting survey contained herein formed the basis for much of the paper.

This paper is part and parcel of AAPA's ongoing commitment to help its port members and the industry at large to find better ways to manage their business and Aegir's mission to help the industry better understand, appreciate and reach the underlying potential in a port's largest asset.

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SUMMARY

The largest asset on most any port's balance sheet is its property portfolio; it is also typically the most underutilized and financially underperforming as well.

On a cursory basis this research paper attempts to review and analyze how the ports industry views and manages its property holdings today. This was accomplished through an international survey of six ports of varying types and sizes. Collectively, these six ports represents an asset value in port land of almost US seven billion dollars (based on the per acre value assumptions made herein) with over 34 thousand acres, processing over 21 million teu's (twenty foot equivalent units¹) and almost 750 million metric tons of cargo. This is a sizeable collection of assets and business enterprises under any measure.

It is also interesting to note that there is a common assumption in the ports industry, especially in most smaller countries and emerging markets, that the larger the port the more answers they have regarding the myriad and sundry challenges the ports industry faces today. A compelling argument can be made that this is not the case. The size and degree of challenges currently being faced by the ports industry internationally is something that has happened concurrently to all, regardless of size. Innovation is found across the board and some believe that the stronger the need and the less resources available the more innovation occurs and flourishes.

Translation: there is a considerable amount of creative management practice coming out of the smaller, more isolated ports that can readily be adapted to larger ports than most would at first glance think.

¹ OECD, 'Glossary of Statistical Terms'. TWENTY FOOT EQUIVALENT UNIT (TEU): Standard unit for counting containers of various capacities and for describing the capacities of container ships or terminals. One 20 Foot ISO container equals 1 TEU. <http://stats.oecd.org/glossary/detail.asp?ID=4313>, accessed on 31 March 2013.

Changes in the way ports are managed, along with the rapidly changing landscape ports operate in requiring their servicing ever larger ships, delivering deeper reaches into the hinterlands and processing more cargo faster is requiring massive amounts of capital to expand and modernize ports. This has already impacted the way port authorities are structured (today most following a 'landlord model' from an operating one just decades ago) and will continue to do so. This is also resulting in governments increasingly unable to keep up with these capital funding requirements.

The state of infrastructure, which for the most part is experiencing a funding gap which most certainly will grow in the coming years, internationally and nationally (eg, the US port infrastructure is now ranked 22nd, behind Iceland and Estonia by the World Economic Forum) is and will continue to result in major changes on how port authorities both operate and fund their expansions and modernizations. This represents a 'call for action' for the ports industry, one where port property will play a very strategic role in.

Couple the generally declining state of infrastructure at ports, government's increasing inability to fund port infrastructure expansion, modernization and maintenance and the generally capital constrained state most ports find themselves in and it is easy to see that the 'handwriting is on the wall' for ports to become more financially self – reliant.

This financial self reliance will require maximization of revenue from all asset classes and ensuring that property assets at ports are pulling their fair share of weight in the port's 'bottom line'. To accomplish this ports will need to have more standardized measurements of performance to better manage their business, regardless of how a port is structured, who the main shareholder might be and what the port's primary goal is (ie, for profit or as economic development generators).

These and other challenges no longer permit the financial underperformance of ports' largest asset - property. To bring this asset class up to par from a performance standpoint will require a number of changes in the way property is managed starting with a more universal understanding of the critical role property has to play at ports by both senior management and the entire port staff. It will also require more meaningful property appraisals and valuations; realistic current values of the overall property portfolio; development of more meaningful capitalization rates; structuring lease rates, terms and conditions that will actually produce a return on and of capital, as well as a profit; and instituting asset management practices for their property portfolios.

The net conclusion of this paper is that property is one of the next key frontiers for ports where many solutions lie and which ports will need to explore and conquer in order for them to meet the challenges they will face in the 21st Century.

ABSTRACT

The American Association of Port Authorities' (AAPA) Subcommittee on Real Estate commissioned this paper to investigate the current state as to how the ports' industry manages its property assets; to identify 'best practices' (or more appropriately in this case, just 'practices') and metrics used to measure performance; review current challenges in the valuation/appraisal of port property; and identify issues and topics requiring further research and discussion.

The methodology used in writing this paper was to research the current body of work in the field and conduct an international survey and interview of a diversified cross section of port types as to how they currently manage their property assets and the challenges they are and will be facing in this regard.

This process resulted in a cursory but comprehensive assessment of how the industry is managing its property assets today. It also identified certain key issues which should be further researched.

In order for ports to meet the numerous challenges ports face they will need to significantly increase the financial performance of their property assets. By maximizing the property portfolio ports will be able to generate additional capital, achieve more competitive advantages, enhance property based revenue streams and maximize a port's overall value. This will require instituting asset management techniques heretofore not typically undertaken by ports and developing adequate financial and operating performance standards to better gauge their performance with their real estate portfolio. This paper attempts to identify and describe some of these activities in some detail.

INTRODUCTION

In order to better understand how and why property at ports is poised to take an increasingly significant and critical role from this point forward it is important to review and understand what has brought us to this point.

The advent of containerization and the globalization of the world's economy have had a major impact on supply and logistics chains, shipping and ports, and will continue to do so. As it relates to ports the impact has affected everything from how ports compete to how they operate and everything in between.

The need to service ever larger ships and to have faster velocity and larger throughput of cargo at the port is requiring significant capital investment in technology, equipment and facilities and overall expansion and modernization of ports. This capital requirement is outpacing the already

constrained national, state and municipal government budgets' ability to fund this and much needed remedial and new port and logistics infrastructure worldwide. This is forcing a major reassessment of how and where ports will obtain the necessary capital funding in order to continue to serve their clients and remain viable and competitive entities.

In the last several decades these changes have resulted in an almost complete overhaul of port operating structures, ie from an operating to landlord model, with more changes to come. It is also resulting in an ongoing shift away from government funding of operational assets to the private sector worldwide.

The two main areas of focus for this research paper are how port authorities will be managed and the role property will play therein. This paper will therefore review the following:

- The evolution of port models
- Major issues impacting port properties such as:
 - a port's current core business and the role of property therein
 - lease structuring
 - challenges in the valuation/appraisal of port properties
 - a general discussion as to where to allocate economic development costs
- A cursory, yet comprehensive international survey as to how the ports' industry is currently managing its property assets
- Observations and analysis regarding the results of the aforementioned survey
- Issues for further research and discussion concluding remarks

One item to note, 'port property' in this paper refers to any property or real estate that is or can be used in the performance and support of a port's core business mission ie, acting as the water – land interface for loading and discharging ships through a closely coordinated infrastructure

involving integrated multi modal land transport services for the purpose of facilitating cargo for export and to dispatch incoming goods². Port Property as used herein does not include surplus, underutilized or vacated property owned by a port but deemed functionally obsolete to either perform a port function or support it even with such ancillary uses as providing facilities in the form of office and hotel space for the use by clients of the port.

THE INFRASTRUCTURE FUNDING GAP & THE IMPACT ON PORTS

There is a current significant gap in funding the infrastructure needs of the world and in the US. This is expected to become even more pronounced in the foreseeable future.

The global need for capital to maintain, expand and modernize infrastructure has been estimated to be up to US\$40 trillion in the next 25 years by the Cohen & Steers' 2009 Global Infrastructure Report. In the US alone The American Society of Civil Engineers (ASCE) estimates that the capital required just to keep the country's infrastructure to acceptable levels is US\$1.6 trillion in the next five years, which is double the current outlay³.

Within the ports sector in the US the degree of underinvestment in ports and waterways is placing American competitiveness at risk and costing billions, approximately US\$33 billion in 2010 alone, rising to US\$49 billion by 2020 according to ASCE⁴. This recently was the subject

² Nettle, Stanley, *Port Operations and Shipping: a guide to ports and related aspects of the shipping industry* (London, Lloyd's of London Press Ltd, 1988), p. 5.

³ The University of Virginia, The Miller Center, 'National Discussion and Debates Series – Infrastructure', <http://www.millercenter.org/debates/infrastructure.html>, accessed March 2013.

⁴ The Economist, 'America's maritime infrastructure crying for dollars', <http://www.economist.com/news/united-states/21571167-underinvestment-ports-and-inland-waterways-imperils-american-competitiveness-crying-out>, accessed 2 February 2013.

of an article in *The Economist*, 'America's maritime infrastructure crying for dollars'⁵ which presents the status of the maritime infrastructure picture in the US, citing such examples as:

- The Industrial Canal Lock in New Orleans which handles 500m tons of cargo, 6,000 ocean vessels and 150,000 barges per annum and is responsible for the transport of the bulk of US grain, corn and soybean production was built in 1921 and has been earmarked for replacement since 1956 with the most optimistic prediction by the US Army Corps of Engineers for replacement being in 2030.
- In the past four years the US Department of Transportation spent approximately US\$357 million in infrastructure improvements in 25 ports around the country – this is US\$40 million less than what the Port of New Orleans spent on its port alone.
- In 2009 ASCE estimated that the five-year shortfall in investment in inland waterways – the primary mode of transport for US commodities exports was US\$20.5 billion.
- In 2009 there were approximately 257 locks in the US' inland waterways: one-tenth were built in the 19th Century, the average age of Federal locks is 60 years (they were built with an expected life span of 50) and by 2020, 80 percent of American locks will have reached functional obsolescence.
- US port infrastructure has now been ranked 22nd in the world behind Iceland and Estonia by the World Economic Forum⁶

It is increasingly self evident that governments at all levels worldwide have strained budgets and the vast majority are no longer able to keep up with their national, state or local infrastructure funding requirements. This will continue to be the case for many decades to come.

⁵ Ibid

⁶ 'US port infrastructure ranked behind Iceland and Estonia', Port Technology International, 12 January 2012, http://www.porttechnology.org/news/us_port_infrastructure_ranked_behind_iceland_and_estonia/, accessed on March 2013.

This will also be a catalyst and main driving force behind major change as to how ports look at and use their largest asset – property – from a financial standpoint in order to achieve more financial self – reliance. Ports’ property portfolios offer many opportunities and solutions for achieving a greater degree of financial self reliance and for funding their modernization and expansion needs.

EVOLUTION OF PORT MODELS & PORTS BECOMING LANDLORDS

HISTORICAL PERSPECTIVE

In the 1980’s the Prime Minister of Great Britain, Margaret Thatcher, privatized the ports industry there. This became the most important catalyst towards the privatization of port operations in most of the world. The UK case was at the extreme end of the privatization spectrum with ports and their respective land freehold interests being sold off to the private sector. The other, more popular route was to privatize only the port’s operations which allowed governments to maintain ownership of the port authorities and the land through various structures, but the most common one being the ‘Landlord Model’⁷. This diametrically changed the business of a port authority from being a port operator to a landlord and asset manager of primarily port and maritime related property assets.

⁷ In the ‘Landlord Model’ infrastructure (and land) is leased to private operating companies or industries (eg, refineries). Dock labor is employed by private terminal operators, although there are occasions in some ports where labor may be provided through a port – wide labor pool system. World Bank Port Reform Tool Kit, ‘*Alternative Port Management Structures and Ownership Models*’, p. 18, downloaded from rru.worldbank.org/Documents/Toolkits/ports-mod3.pdf, accessed 8 March 2013.

For the longest of time it seemed as if the privatization of a port's operations with government port authorities acting as landlords may have been the last evolutionary stage as to how ports would be operating for most of the 21st Century. The marketplace seems to have other plans.

The next phase of the evolution of a port authority which may see widespread implementation throughout the industry may be the 'corporatization' of port authorities which may bring them one step closer to privatization, as is now the case in Australia. The question to keep in mind here is what can port authorities need to do to remain viable and competitive under their current predominant or mainly government shareholding if this is to remain a viable option?

Although loosely related, corporatization and privatization have different objectives but a similar goal of making port authorities (and ports) more efficient and financially self-sustaining. The objective of corporatization is to transform a government owned enterprise into a 'corporation', operating under corporate law and with, hopefully, a more de – politicized board and senior management team. The intent is to create a more efficient, market sensitive and competitive organization. Corporatization may be instituted by government to prepare the entity for privatization or to simply turn it into a more efficient and better performing unit.

Privatization on the other hand can be defined as, '...the process whereby a government disposes of its assets and/or functions to the private sector.'⁸, or as an author on the subject, Paul Moyle, put it, '[Privatization is]...the achievement of a public end through the reliance on

⁸ Homepage [Web Document] available at <http://www.privatization.org>, quoted in Joseph Sozzani, 'Privatization in the United States and Australia: A Comparative Analysis of the Modern Privatization Movement in Corrections', Bond Law Review: Vol 13: Iss 1, Article 6, 2001. <http://www.epublications.bond.edu.au/blr/vol13/iss1/6>., accessed on 21 October 2012.

private means.⁹ Privatization's objective is simple – transfer government assets or entity to the private sector.

Although both corporatization and privatization have precise goals and objectives surrounding efficiency, profitability and value creation, ones increasingly necessary for ports to succeed (and highly interrelated with a port's property assets as well), these objectives should not be mutually exclusive, regardless of their corporate structures, and should be carefully considered, if not outright adopted by most port authorities today in order to attain higher degrees of financial self sufficiency. The key points to note here are:

- Ports increasingly will need to become more self-reliant in funding their maintenance, modernization and expansion programs
- Most port authorities now operate as landlords and asset managers of property assets; therefore they need to operate under the premise that their core business is twofold: generating the maximum rental revenue possible from their property assets (which includes both property and throughput rent) and continuously looking to enhance the overall value of their port
- To best accomplish the aforementioned, the port authority enterprise needs to be allowed to act and be held accountable under the same standard as private sector enterprise to more effectively compete

⁹ Moyle, Paul 'Frequently Asked Questions', <http://www.web.crim.ufl.edu/pcp/html/questions.html>, quoted in Joseph Sozzani, 'Privatization in the United States and Australia: A Comparative Analysis of the Modern Privatization Movement in Corrections', Bond Law Review.

CURRENT ENVIRONMENT FOR PORTS

Ports today face a number of challenges in addition to the lack of funds for infrastructure investment. One of the main ones is extending the life cycle of the port, which, like all products, ports have as well. Eventually, also like most products, ports will meet their demise through either economic or functional obsolescence¹⁰.

Functional obsolescence can result in changing technologies resulting in a port not able to service larger ships, though physical shortcomings such as insufficient water depth or having a location denying access to necessary multimodal forms of transport and infrastructure to process cargo throughout its hinterland.

Economic obsolescence on the other hand results when ports no longer are able to produce the necessary economic benefit in relation to the value of the land they are located on. The most pressing example of this is when a city's growth and density dramatically starts to encroach near or at the port's boundaries. At some point the shareholders (and stakeholders) in both the city and port will ask pertinent questions such as whether there are alternative uses that might result in a more sustainable, economically productive use rather than that of a port.

In short the goal is to extend the life cycle of ports to postpone any potential functional or economic obsolescence. This is done through constant monitoring of its business, service capabilities and investment in new technologies, all of which requires increasing amounts of capital and investment.

¹⁰ Pigna, Franc J, 'PORT = Port Operations + Real estate + Transportation', *Port Technology International*, August 2004, pp.35 – 39.

A substantial amount of capital will be required for ports to circumvent any type of obsolescence in the future. Obtaining this capital in the future will increasingly rely on the optimal performance of all port assets, especially their seemingly 'hidden' one of property. An example being if a realistic 'market value' could be established for the impressive portfolio of strategically located waterfront property held by ports around the world they would be able to access their capital requirements just by releasing a relatively small percentage of the equity tied up therein, starting with allowing for its collateralization. The question then is how to get to a point where this can be considered from a financial engineering standpoint.

Firstly, it needs to be noted that with increasing frequency people in the industry, infrastructure investors and government shareholders are asking whether a port's largest asset – property – is pulling its fair share of weight and contributing as much as it possibly can be to a port's 'bottom line'. In most instances the obvious answer is that the property element of the port equation ie, $PORT = Port\ Operations + Real\ estate + Transportation$ ¹¹ is being neglected and is not pulling its weight.

Secondly there are certain key challenges¹² that ports must overcome in order to be able to position themselves to be able to take advantage of their main assets real financial value such as:

- Proper asset management of their property portfolios;
- More effective business and financial management of their property based revenue streams; and

¹¹ Pigna, Franc J, 'PORT = Port Operations + Real estate + Transportation', *Port Technology International*, 18 August 2004, pp.33 – 37.

¹² Pigna, Franc J. 'Hidden assets, challenges and opportunities in today's dynamic environment', *Port Strategy*, July/August 2005, pp. 30 - 32.

- Overarching port property asset management goals and objectives with their overall core business mission.

As earlier mentioned, the ever increasing demand for investment in infrastructure maintenance, expansion and modernization at a port is now outpacing most governments' ability to properly fund it. Couple this with the need for more integrated and reliable supply and logistics chains and deeper access to hinterlands and the fact that competition today is no longer between ports as much as it is between logistics chains and you have multiple pressure points demanding more infrastructure investment. This is especially true for the most important node in the maritime transport hub – ports, in order to reach the level of capacity and efficiency that global trade is demanding.

The need for a major reassessment as to how ports manage their property assets keeps getting stronger.

ISSUES AFFECTING PORT PROPERTY

A PORT'S CORE BUSINESS; THE ROLE PROPERTY PLAYS THEREIN

As a port's role and business model continues to evolve so do the demands on the entity from its shareholders, stakeholders and the marketplace. Regardless of the port authority's structure (eg, corporatized, privatized, state government entity) or primary business mission (eg, profit, economic development, combination thereof) their need to become more financially self reliant grows daily. To achieve this will require a substantially higher degree of financial sophistication, especially in financial engineering and asset management principles and a heightened

appreciation of the key role property plays in the ‘business’ of a port authority by all port staff members. To this end the following should be noted.

- The port’s core business mission has dramatically changed from a few decades ago; this new role is little understood by most senior port management staff (and certainly not by its general staff members) which is to be asset managers of large maritime related property portfolios.
- Ports should have strategic port property asset management plans overarch their general strategic business plans.
- Senior management should have an understanding of the ramifications to their overall business resulting from not properly managing and optimizing their property based revenue streams, especially rent charged for the use of property.
- The management of a port’s property portfolio needs to be elevated from an administrative function to that of managing a strategic asset.

To use a well worn asset management cliché, ‘it’s all about sweating the assets’ ie, making the assets produce the maximum benefit at the least cost for the owners.

PORT PROPERTY PORTFOLIO ISSUES

Ports by nature are capital intensive operations with exceedingly high barriers to entry. As relative capital requirements increase successful ports will be those that carefully manage their assets and their capital leveraging (gearing) abilities so that they are able to deliver the infrastructure required by their clients and the marketplace.

Ports’ property portfolios are their main revenue generating assets. Most major revenue sources found at ports today essentially are rent for the use of a port’s property, infrastructure or both. This includes everything from rent charged for a port located container freight station to

concession revenue received from a terminal operator, cargo throughput charges and everything in between.

Financing obtained by ports typically is long term in nature due to the long amortization periods required by large infrastructure projects. It is therefore important that a substantial amount of a port's revenue stream parallel these long term financial obligations. This is one of the reasons why many ports are migrating away from an emphasis on throughput based rent eg, Minimum Annual Guaranteed throughput rents (MAG's) towards property based rent.

If a port's portfolio underperforms financially it will diminish the economic value of its main asset, lose revenue and reduce its ability to borrow. Additionally, this can and will potentially wind up subsidizing its tenant's operations as well (which in effect most ports and their government shareholders unknowingly do today). It is therefore imperative that ports become aware of:

- A reasonable basis of value or starting point and periodic assessments of market value of their property portfolio so they can better gauge their financial performance over time
- Institute proper lease structures and market rents for land, facilities and infrastructure to obtain returns on investment
- Make sure that leases are standardized as much as possible to facilitate the management of the portfolio and in order that they may be more easily understood by the private sector capital markets, in the event financing from this sector is sought
- Obtain an optimal balance between variable rents based on throughput, like MAG's and longer term property based rent
- Ensure that optimal land use is striven for when leasing to attract the best tenant for the right property at the right price within the port's portfolio to optimize its financial performance

- Ensure risk diversification of the portfolio is an ongoing process
- Constantly monitor the property portfolio for performance from both a revenue and value appreciation standpoint

LEASE STRUCTURING FOR PORT PROPERTIES

Rent is a charge levied for the use of a resource or asset provided by the port authority in a manner and amount which will recoup costs (for example for capital, operations, repairs and maintenance, risk, management, security and everything else that is required to make a port a port) and produce adequate returns of and on capital invested.¹³

The structuring of lease rates should take many factors into consideration. It is important that the components that make up a lease rate eg, return on and of investment, risk, overheads, etc. are reflective of true costs and realistic financial performance thresholds. This of course will create a 'perfect rent in a perfect world' scenario, which can then be adjusted for supply and demand dynamics and other market conditions along with perceived synergies management may deem important to achieve by accommodating a prospective tenant that might produce increased cargo throughput or attract additional tenants that would need to be in close proximity to service it.

There are basically three main revenue streams: land and property based rent, throughput charges (variable rent for the use of the same assets) and rent derived from concession payments (again, rent charged for the use of land and infrastructure). From a port authority's standpoint, 'port pricing' is basically an exercise to determine the optimal balance in how to

¹³ Pigna, Franc J, 'Balancing property based and minimum guaranteed throughput rents', *Port Technology International*, 54th Edition (2013), pp. 1-3.

structure and how much to charge for leases (or concessions) and other throughput related charges (ie, other forms of rent) for the use of its property, land and infrastructure assets.

The revenue streams need to be properly balanced if all of the financial objectives of the port authority are to be met and exceeded. Today, as highlighted by the many respondents in the port authority survey herein, there seems to be a shift in thinking that the main revenue stream should be in property based rent as this is typically structured for a longer term paralleling the long term financial obligations found at most ports. These are also considered to be lower in risk compared to rent generated from throughput charges, which of course change and fluctuate as cargo type and volumes change.

Another goal of throughput charge rent (eg, MAG's) is to mitigate a port's overall risk by generating additional revenue to recapture investment in and maintenance of required infrastructure being used by the port's clients. Additionally MAG's are also used as incentives to ensure that the tenant/client maximizes the use of the port asset leased by having them strive to balance their fixed and variable overheads (ie, property rent and throughput charges). This is accomplished by ensuring that tenants are motivated to lease the right amount and type of space by their managing their fixed and variable overheads. This also should serve as a check and balance for the port by motivating it to not take on just any tenant, regardless of vacancies to ensure that the 'right tenant' for the 'right property' is found. In this fashion the maximum revenue generation for that site possible and in turn for the port will be generated, along with positive externalities (synergies) resulting in not only more revenue but more cargo throughput for all involved.

The proper balance therefore between property based rent and MAG's is critical if ports are to achieve optimal financial and portfolio performance, the highest amount of positive externalities

for all and an optimal tenant mix and occupancy. This will also go far in circumventing two potentially detrimental situations for a port: a. tenants not differentiating between MAG's and property based rent and therefore agglomerating both into just 'rent', prompting them to look for as much cheaper alternative space outside the port as possible and b. not structuring leases properly or attractively enough by front loading unsupportable MAG rents to potential port users, resulting in not being able to potentially finance growth and infrastructure by not achieving high enough occupancy levels and revenues at the port, amongst other things.

APPRAISAL AND VALUATION CHALLENGES FOR PORT PROPERTIES

Port properties are typically challenging to appraise because to effectively do so requires an in-depth knowledge of at least two and usually more industries eg, property/real estate, ports, shipping, logistics, etc.

There are numerous challenges today when valuing or appraising port and port related properties. Some of these are:

- Ports typically are not sellers of land and rarely share information openly; therefore there are few comparable sales available to benchmark off of for port properties. Additionally in many cases the most appropriate manner of estimating market value at most ports is through the income approach, which requires an innate understanding of a port's and port user's business models and access to relevant data regarding cargo throughput and general industry statistics regionally and internationally.
- Although on the surface similar, the dynamics behind an industrial and a port property differ in many respects, resulting in many misguided and strained attempts at using nearby industrial properties as comparables. All of which has an impact on the accuracy of valuation analysis.

- When viable comparables exist, they typically are not conveniently located just 'outside the fence' of the port but possibly hundreds and thousands of miles away at similar ports and facilities.
- The maritime industry, particularly the ports industry, is not well known or understood by the traditional valuer/appraiser; therefore even if 'comparable' information was readily available the circumstances under which transactions took place for these comparables might be misinterpreted ie, a port might lease a site for less than 'market' should be because it is following the strategy of 'making the revenue off the throughput charges', again impacting the appraisal analysis.
- For the most part current rents at ports are based on historical data and values, which most of the time are either flawed, misapplied or both. This often results in little to do with current 'market value'.

If one were to assume that the economic value of an asset is the opportunity cost of not using it or alternatively, the capitalized value of a set of future stream of net benefits then by the very nature of this asset valuation should be forward looking. When you look at how ports will be applying 'market values', namely to measure the performance of their asset management and in determining what proper rents should be, then it becomes even more important to have reasonably accurate current 'market' values and not historic ones. Otherwise less than truly appropriate rent might be used in lease agreements which might be long term in nature directly affecting the port's bottom line and overall value for a long time to come. Another result might be a port's overall financial performance not being properly measured, misleading senior management and shareholders as to how the port is actually performing.

One last point regarding the appraisal and valuation of port properties; it is critical that a proper capitalization rate be developed, reflecting the relevant issues found at ports and the maritime industry in general and not necessarily those of seemingly related real estate sectors.

ECONOMIC DEVELOPMENT COSTS

Ports are structured differently, have different shareholders and varying degrees of responsibilities to various stakeholders, requiring at times substantial capital contributions by ports for their share and stake holder initiatives, many of which sometimes are not directly port related.

In many instances a port's shareholder(s) will demand that the port fund 'economic development initiatives. 'Economic development' is a catch all phrase generally referring to government subsidized engineering of job growth resulting from 'the sustained, concerted actions of policymakers and communities that promote the standard of living and economic health of a specific area'¹⁴.

Economic development should not be confused with economic growth. On the one hand 'economic development' is a strategy by government, through policy, to enhance the economic and social well – being of its constituents while 'economic growth' is a result of rising market productivity and Gross Domestic Product.

Government stakeholders have a tendency of looking at ports as cash generators to fund their economic development aspirations. Although it is beyond the scope of this paper to discuss the

¹⁴ Wikipedia, http://en.wikipedia.org/wiki/Economic_development, accessed on 20 November 2012.

benefits and drawbacks of how this is done, effectively addressing this issue was brought up a number of times by many of the ports surveyed. Therefore a brief discussion on ways where ports can become more effective asset managers in the execution of their core business mission, including if their mandate is to be primarily economic development agencies was warranted.

Taking this into consideration ports need to quantify the costs of their 'economic development' initiatives and contributions. One way of addressing these costs would be to locate them below their operational costs and revenues, possibly addressed as 'dividend' payments to their shareholders. In this manner a clearer and more accurate picture of the financial performance of the port is obtained at the top, middle and bottom lines, as well as a truer picture of the benefit government shareholders receive from the port as well. Some ports actually go through this process, many do not though.

It is becoming increasingly obvious that both ports and the marketplace desires and needs to have a clearer and better understanding as to how port authorities are performing financially. To achieve this, a port's core business performance needs to be clearly measured before non port business expenses are incurred for such items as economic development.

PORT PROPERTY ASSET MANAGEMENT PRACTICES

CURRENT STATE OF PORT PROPERTY ASSET MANAGEMENT

The members of the AAPA Real Estate subcommittee felt that the fastest and most comprehensive manner to obtain an assessment of how port property portfolios are being managed by the ports industry today would be through interviewing several ports.

It was decided that six ports would be interviewed consisting of diverse port types, sizes and international locations. Four port types were selected: gateway, regional, inland and transshipment. Geographic areas surveyed were North America, Latin America, Europe and Asia.

In order to have a more open and meaningful conversation with each port's staff being interviewed their port's anonymity was guaranteed. The ports interviewed were not informed who the other ports were and the only two people who are aware of the collective identities of the ports are the Executive Director of the American Association of Port Authorities, Mr Kurt Nagel and the author of this paper. Mr Nagel acted as a third party verifying that the ports, as described herein, were in fact interviewed by the author of this paper. Before divulging the identity of any port to Mr Nagel each port was asked to confirm if they were amenable to authorizing his acting as the verifying third party and all responded in the affirmative through emails.

SURVEY OBJECTIVES AND DESCRIPTION

The objectives of the survey were to:

- Obtain a global geographic cross section of how port authorities manage their property holdings
- Obtain a functional cross section of how port authorities ie, ranging from major gateway to regional, transshipment and inland type facilities, manage their port holdings
- Obtain the opinions of various managers at ports with different responsibilities and focuses on port property ranging from property managers to in house legal counsel, chief financial officers and port development managers

- Obtain a reasonably accurate indication on how port property is viewed and managed by the various ports surveyed and the challenges they face in this regard

The following table is a general description of the ports surveyed as to location, type and size and cargo throughput and land area. Each port is distinctive and accomplished in its own right. The interview notes can be found in the Appendix of this paper.

GENERAL DESCRIPTION OF PORTS SURVEYED

Port Survey – Descriptive Matrix	US Gateway Port	US Regional Port	US Inland Port	Latin American Regional Port	Asian Trans-shipment Port	European Gateway Port
North American Ranking:	Top 10	Top 25	N/A	N/A	N/A	N/A
Global Container Ranking/teu per annum:	Top 25/>5m	Not in top 100/>300k	N/A	Not in top 100/>150k	Top 15/>8m	Top 15/>8m
Global Ranking/total cargo in metric tons:	Top 30/>100m	Top 60/>60m	N/A/>32m	N/A/>6.5m	Top 20/>150m	Top 10/>400m
Port Land Area (acres):	~1,500	~1,061	~2,500	~115	~4,000	~25,000
Sources:	Aegir research; Drewry Maritime Advisors; AAPA; Institute of Shipping Economics & Logistics, Containerization International Yearbook 2011; U.S. Army Corps of Engineers' Waterborne Commerce Statistics Center; various port internet sites					

GLOBAL SURVEY RESULTS

Memorandums discussing the reasons behind conducting the research paper and topics and questions to be discussed during the interview were sent to each interviewee days before the interviews took place. The interviews were conducted telephonically and in person.

The interviewees were told that the research paper will address the following and other issues:

- The historical evolution of the role property has played at ports

- Identify current property management practices followed by various ports worldwide
- Describe the general thinking ports have today on the role property plays in their organization and identify issues and challenges that should be considered now and in the near term
- Identify and discuss how ports value the land underlying the direct, water dependent maritime operational areas such as but not limited to terminals and wharves and the impact this has on a port's core business
- Identify how lease rates are established at various ports for various types of real estate and facilities lying within the perimeter of the port
- Identify what, if any, 'economic development' responsibilities the port has which should be factored into lease rates and how these costs are currently allocated
- Identify challenges that need to be met now and in the near future in such areas as lease structuring, appraisals and valuations, asset management

These were the subjects to be covered.

- What, if any, financial performance thresholds and objectives does the port have for its property portfolio?
- How a lease is structured and is there any consideration given to the 'finance-ability' of long term leases at ports?
- How is property assessed as to value?
- What, if any, are the port property asset management practices?

- What, if any, are the facilities management practices?
- How are capital projects funded?
- How are the current, medium and long term capital needs of the port funded?

It should be noted that the collective size of the ports surveyed is:

- 34,176 acres of port land
- Assuming a value of US\$200,000 per acre (a decidedly conservative estimate) the value of the port land alone for the ports surveyed would be US\$6,835,200,000
- 21,450,000 teu's are processed by these ports annually
- 748,500,000 metric tons are processed by these ports annually

The following is a brief description of the survey results.

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OBSERVATIONS

The following table compares major findings between the six ports participating in the survey.

Port Survey Key Findings February 2013						
	US Gateway	US Regional	US Inland	Latin American Regional	Asian Transshipment	European Gateway
General comments	<ul style="list-style-type: none"> Disconnect between private sector understanding of ports' business and ports' understanding of private sector financial operating performance requirements Shipping Act implications for port's fair pricing of assets and risks, representing major contingent liabilities Not held to private sector standards; not allowed to act like private sector Port is severely capital constrained due to ongoing capital projects No real estate 	<ul style="list-style-type: none"> Shipping Act is major concern going forward from a pricing of assets and risks In spite of record breaking throughput and revenues port is not making money due to the capital projects they are funding Challenge in meeting private sector profitability requirements with current 'mission statement of job creation to access capital markets Not able to raise needed capital on bond markets now Feeling that PPP's is way forward Not held to private sector standards; not 	<ul style="list-style-type: none"> Main revenue stream – land rents Ports management is mandated to operate as an 'enter-prize for profit Port is self sustaining from a capital standpoint No real estate taxes levied 	<ul style="list-style-type: none"> Port authority is private through concession agreement National government sets minimum operating, safety and navigation standards Entire port is operated as profit centre, discounted cash flow minimum standards and economic value added analyses used Port taxed as 'for profit' business Real estate taxes levied 	<ul style="list-style-type: none"> Senior management recognizes it does not have good perspective on port property but needs to All funding for port needs came from national government in 1990's; not sustainable prompted privatization of operations, move towards financial self sufficiency Port now self financed through revenues and low interests government loans Real Estate taxes levied 	<ul style="list-style-type: none"> Disconnect between private sector understanding of ports' business and ports' understanding of private sector financial operating performance requirements Shipping Act implications for port's fair pricing of assets and risks, representing major contingent liabilities Not held to private sector standards; not allowed to act like private sector Port is severely capital constrained due to ongoing capital projects No real estate taxes levied on port

Port Survey Key Findings February 2013						
	US Gateway	US Regional	US Inland	Latin American Regional	Asian Transshipment	European Gateway
	taxes levied on port	allowed to act like private sector <ul style="list-style-type: none"> • Capital for major projects increasingly difficult to raise • Capital expenditure needs outpacing ability to fund • Funds being diverted from other uses to fund capex • No real estate taxes levied on port 				
Terminal land valuation	<ul style="list-style-type: none"> • Operating concessions are not taking into account realistic values for underlying land • Property needs to be recognized as separate asset class by ports and treated as such 	<ul style="list-style-type: none"> • Operating concessions are not taking into account realistic values for underlying land 	<ul style="list-style-type: none"> • Operating concessions not taking into account realistic values for underlying land; this will be instituted as concessions expire • Clear concept and knowledge of portfolio market value 	<ul style="list-style-type: none"> • Operating concessions are not taking into account realistic values for underlying land • Operating standards and performance thresholds are imposed by National government on PA 	<ul style="list-style-type: none"> • Operating concessions are not taking into account realistic values for underlying land 	<ul style="list-style-type: none"> • Currently under discussion as to how to address this issue, mainly whether to include in overall net present value analysis
Appraisal challenges	<ul style="list-style-type: none"> • No concept of 'market value' for property portfolio • Believe traditional property appraisers don't 	<ul style="list-style-type: none"> • No concept of 'market value' for property portfolio • There is no basis value for the property portfolio either 	<ul style="list-style-type: none"> • Difficulty in obtaining realistic comparables to benchmark 	<ul style="list-style-type: none"> • No comparable benchmarks in the country for value of port lands or leaseholds as all ports are under same 	<ul style="list-style-type: none"> • No concept of 'market value' for property portfolio; this is a major management challenge • In 2012 Ministry 	<ul style="list-style-type: none"> • Internal assessments to determine 'market value' of property portfolio every five years • Comparables are difficult to come

Port Survey Key Findings February 2013						
	US Gateway	US Regional	US Inland	Latin American Regional	Asian Transshipment	European Gateway
	under-stand maritime industry; erroneously assume ports set market for land values outside the port; fail to identify relevant 'highest and best uses' <ul style="list-style-type: none"> Ports need to value/appraise land holdings periodically 	<ul style="list-style-type: none"> Difficulty in obtaining realistic measures of value for port properties 		concession model	of Finance starts assessing 'market value' for port lands for management purposes – little relevance to actual port property market values	by; mainly done through in-house analysis
Economic development cost allocation	<ul style="list-style-type: none"> Realize that their port's mission of protecting/promoting core business mission is different than most ports Economic development costs not quantified or allocated to revenue streams eg, leases 	<ul style="list-style-type: none"> Economic development costs not quantified or allocated within revenue streams eg, leases Job creation drives direction of major port decisions 	<ul style="list-style-type: none"> Interpreted as by product of port profitably attracting new business – everything has to meet pre-determined ROI thresholds 	<ul style="list-style-type: none"> Economic development requirements are mandated by government but are developed for profit Costs and profits are pro-rated through all revenue sources 	<ul style="list-style-type: none"> Economic development main driver for port Determines port tariffs Throughput charges are main revenue model; property based rents secondary 	<ul style="list-style-type: none"> Port through its corporatized operating structure is operated as a business and is not burdened by economic development requirements
Lease structuring	<ul style="list-style-type: none"> Bench-marking of lease rates against industrial properties not representative Difficulty in establishing rent reviews 	<ul style="list-style-type: none"> No standardization of lease documents Informal infrastructure recapture premium added to lease rates 	<ul style="list-style-type: none"> Leases are standardized Lease rates based on defensible market port market values and pre-determined capitalization rates reflective of actual costs and 	<ul style="list-style-type: none"> Port operational property leases are all throughput charges Lease structures for support properties and 	<ul style="list-style-type: none"> Leases based on infrastructure investment recapture; profit little considered No return on property asset values considered 	<ul style="list-style-type: none"> Tariff charges developed through internal commercial team interviews and assessments Land rents determined through residual land value

Port Survey Key Findings February 2013

	US Gateway	US Regional	US Inland	Latin American Regional	Asian Transshipment	European Gateway
	<ul style="list-style-type: none"> No way of determining whether they are making money on leases; related costs difficult to allocate Difficulty in standardizing leases Identifying proper balance between MAG's and property based rents Options and termination clauses require clarity 		performance thresholds	specialized facilities are being analyzed	<ul style="list-style-type: none"> 'Profit share' charge based on throughput used for additional infrastructure investment and maintenance recapture No consideration given to balance between property based rent and MAG 	analysis; 'market value' challenging to determine
Lease administration	<ul style="list-style-type: none"> Leases are not standardized No formal lease administration program-me in place 	<ul style="list-style-type: none"> Develop in-house with Excel spreadsheets 	<ul style="list-style-type: none"> Canned lease administration module with port finance software 	<ul style="list-style-type: none"> There is no formal lease administration program in place 	<ul style="list-style-type: none"> There is no formal lease administration program in place 	<ul style="list-style-type: none"> Leases are standardized to a great extent Leases carefully monitored for abandonment clauses and water dependent use by tenant Lease renewals carefully monitored to bring them to meet standardized lease requirements There is a formal lease administration plan Optimal land use requirements

Port Survey Key Findings February 2013						
	US Gateway	US Regional	US Inland	Latin American Regional	Asian Transshipment	European Gateway
						<ul style="list-style-type: none"> followed in all leases Lease rates are not tied to ROI thresholds – but should be
Asset management	<ul style="list-style-type: none"> No formal property asset management plan No formal facilities management plan No financial performance thresholds for property portfolio Cost of capital informally established; used as hurdle rate for new projects; loosely used in structuring lease rates Focus is on weighting lease revenue to property rent rather than on MAG's to not affect property values Property department is understaffed 	<ul style="list-style-type: none"> No formal asset management plan in place; wanted by staff Major new projects not based on ROI threshold but on ability to raise grants Focus on switching to long term rent agreements and to credit worthiness to reduce risk, enhance value Property department is understaffed Consensus is port is underperforming financially ROI analyses undertaken but not relevant to tasks – difficult to assess 	<ul style="list-style-type: none"> Comprehensive strategic port property asset management plan developed in 2012, inclusive of property management guidelines Asset management plan has not been instituted yet 	<ul style="list-style-type: none"> No formal asset management plan in place Realize they are land dependent business; disadvantaged by not having a value basis for leaseholds to better manage port business Developed business model that breaks down costs/profits per square meter, no allocation of leasehold value/costs have been included – results in less than accurate financial measurements 	<ul style="list-style-type: none"> There is no formal port property asset management in place No financial performance thresholds have been developed Property portfolio not managed as separate profit centre; approximately six to seven percent of revenues are generated from property rent - unrealistic Currently management assessing how to separate property portfolio from throughput charge revenues and develop property side of the business 	<ul style="list-style-type: none"> Focus towards property based rent vs throughput charges; 45% of revenues now comes from property rent Focus on becoming more property rent dependent – seen as safer path to revenue growth Focus is on real versus nominal returns Asset management classified in three areas: facilities, infrastructure and land Efficient land use allocation major focus for all land banks and property portfolio Capitalization rates determined by CFO; used for in house benchmarking and as financial performance thresholds for all new projects –

Port Survey Key Findings February 2013						
	US Gateway	US Regional	US Inland	Latin American Regional	Asian Transshipment	European Gateway
						<p>acknowledge this is not optimal</p> <ul style="list-style-type: none"> • Property portfolio benchmarked against new 'transactions' yearly • Port post corporatization is self funding, mainly through private sector capital markets • Leasehold values are used as collateral by private sector lenders; still have to abide by use restrictions • Focus is on constant value enhancement of port • Lease rates are tied into ROI thresholds; if ROI targets not met then alternative solutions (ie, financial engineering) are found to meet target

ANALYSIS OF KEY SURVEY FINDINGS

General comments:

- The Shipping Act's interpretation that ports need 'equal and fair' pricing with all terminal operators is of great concern due to its vagueness and the amount of risk this possesses for port authorities in their concession negotiations and agreements.
- Recognition that ports need to start acting more like a disciplined, for profit enterprises, regardless of whether it pursues a 'corporatization' strategy or is primarily an economic development creator. There seems to be a general acceptance that increasingly ports will need to interact and be understood by the private sector, whether it is to access private capital market financing or to strike Public Private Partnerships.
- Ports have reached the point of being severely capital constrained and are finding it increasingly difficult to raise the necessary capital to meet their needs; they realize that the manner in which they were funded in the past eg, through government grants, bond funding and through cash flow, will not be sufficient to meet their growing capital requirements in the future. Part of this is due to financing limits on just 'enterprise value' and not being able to collateralize their main asset (most of the time due to legislation restrictions).
- Ports acknowledge that there needs to be a better understanding of the challenges and operating environment that the private sector and they face. This will facilitate a higher level of co-operation between the two sectors and facilitate financing and investment in the port sector by the private one.

- There is a clear belief that future financing solutions for ports will be coming from the private sector or in association with it in the form of further privatizations, public private partnerships and other hybrid structures with port authorities and the maritime sector.
- There is a shift towards property rents from throughput based ones as these are seen as being more predictable and safer revenue streams, especially as increased competition and shifting cargo traffic occurs.
- There is recognition that the property side of their business model needs to be better understood and managed by the entire port authorities' staff.

Terminal land valuation:

- For the most part operating concessions for terminals do not take into consideration any value for the underlying land.
- There is recognition that the land needs to be accounted for in this regard and one port is actually exploring ways on how to do so.

Appraisal challenges:

- There is no concept of either a starting 'basis' value for the port property portfolio (ie, at what value did or do we start from to measure financial performance) or of the current 'market value' for the portfolio, making it challenging to make critical property related decisions as it relates to leases, concessions and other issues.
- 'Sales comparables' are difficult at best to come by and often non-existent. There is an understanding that many of the comparables being used lack proper relevancy to a port's operations.

- There is recognition that traditional property valuers and appraisers do not sufficiently understand the port and maritime industry and, for the most part, are ineffective in developing meaningful 'highest and best use' analyses at ports.
- There is an appreciation by the ports surveyed of the importance of having timely and accurate data and analyses regarding 'market values' for their property holdings in order to more effectively manage their business.

Economic development cost allocation:

- Economic development costs are not being properly quantified and therefore it is difficult for ports to recapture the costs of delivering them or present the full measure of their financial performance and 'non business' contribution to shareholders and stakeholders.
- The disconnect between having to compete and deal with private sector requirements for more clear financial performance measures juxtaposed with having as a primary goal that of job creation or economic development is making it increasingly difficult to perform and succeed in both areas concurrently.
- There is a belief that this process needs to be streamlined and better defined if both objectives are to be met.

Lease structuring:

- Standardization of leases is deemed to be important so that they are more easily managed and understood by the private sector, but this is challenging to do.
- The pricing of lease options and related risks are difficult to accomplish.
- Rent reviews are difficult to accomplish.
- Maintaining control throughout the lease terms of port properties by ports needs to be clearly defined in lease documents as this is seen as being critical.

- Lease rates need to reflect the reality of the port's business environment, costs and financial goals and objectives and not reflect lease rates of properties with little relevance besides the possibility that both may have a semblance of industrial use application.
- It is exceedingly difficult to determine whether profit is actually being made by most ports in the manner with which lease rates are determined today.

Lease administration:

- Except for one port, typically there is no lease administration program in place.
- There is little attention being given to optimal land usage and tenant allocation in order to maximize revenues, positive externalities and port value.

Asset management:

- Typically there is no asset management plan in place by most ports surveyed (with the exception of one port that went through the process last year and one that is developing one in house); there is the recognition that this is increasingly important to have.
- Capitalization rates and financial thresholds and performance targets are not readily defined, developed or used.
- Property departments are understaffed.
- Consensus is that ports are underperforming financially with their property assets.
- There is an effort to find a balance between property and throughout based rents; there is a rethinking on, in spite of financial rating agencies insisting on high MAG's, that the focus should be in shifting rent revenues more towards property based rents as these are more predictable, reflective of the true value of a port's assets and investment, more in line with its long term financial obligations and enhance the overall value of the port.

- There is a consensus that outside of senior management there is little understanding of the importance property has to the entire port authority enterprise by most of the staff and an understanding of how the property side is the basic foundation of the port's core business should be developed.

CONCLUSIONS

There are no established 'best practices' as it relates to the management of port property in the industry today. The realm of potential 'best practices' needs to be more formally researched, studied, tested and developed by the industry.

The effective management of port property portfolios will be instrumental in ports becoming financially self sufficient.

Regardless of size, location and port type, most ports worldwide are grappling with many of the same problems and challenges as it relates to effective port property asset management. Innovation can be found across the spectrum of geographic locations, port type and size.

The private sector capital markets will be where ports are funded in the future; ports need to understand their financial requirements and thresholds in order to prepare themselves to become more viable, lending and investment options for the private sector, especially with infrastructure investors.

A port's property portfolio represents a major key for ports to extend their life cycles, developing comparative advantages, increasing revenue streams and enhancing overall port values.

Property is the ports' industry next frontier, one that will increasingly dictate how ports will be structured, managed, financed and operated.

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APPENDIX

INTERVIEW NOTES ON PORTS SURVEYED

Interviewing was the best manner in obtaining a comprehensive picture from a cross section of port types and international geographic locations within the time frame allotted for this project on how the port industry today addresses the management of its property. The following are the condensed notes of the interviews taken of various individuals at the ports surveyed.

US GATEWAY PORT:

Port description: This is a major North American gateway port with an extensive and diversified land area and infrastructure with numerous widespread facilities and some of the largest terminals in the Americas. The interviews were conducted in person at the port and took approximately five hours to conduct.

Person(s) interviewed:

- Manager – Real Estate
- Assistant Manager – Real Estate

Salient points raised; observations made:

- General comments:
 - The Real Estate Manager, who has been involved in the privatization of several major terminals, does not believe that private equity companies investing in port operating facilities understand the ports' business particularly well.

- He is also of the opinion that public entities are ‘missing out’ on incrementally useful avenues to better their lot in many areas, particularly in the way they manage their property portfolios, but at the current time they cannot seem to ‘figure it out’.
- He believes that the corporatization of port authorities is not going well due to the lack of separation of political and government issues with core port business.
- He noted that one of the major problems today in the industry is in not having a deep enough ‘brain bench’ ie, a cadre of bright young people that will be trained, through for example fellowships at ports out of graduate school, to eventually take roles of leadership at port authorities.
- The Real Estate Manager voiced an opinion regarding a major threat facing port authorities’ vis-à-vis port real estate. This results from the seemingly broad interpretation currently as to what constitutes a ‘marine terminal operator’, ‘equal and fair’ pricing and ‘pricing to market’ in the Shipping Act, raising questions such as, ‘how do you price for a compensatory return or even cost recovery for this risk?’
- The port is not charged property taxes.
- Valuation of land underlying operating terminals and wharves:
 - The land underlying the operating terminals and wharves are not being appraised separately for land value by the port authority when it is establishing terms and conditions for operating concessions.
 - He believes that this is something that needs to be done along with the separation of property as an asset class at the port.
- Appraisal and valuation challenges:

- As a rule appraisers as a group do not understand the maritime industry, especially the business model of ports, making them, in his opinion, ‘functionally illiterate’.
- Appraisers as a rule feel and believe that the port authority ‘is’ the market and sets the marketplace, which he does not agree with.
- The concept of ‘Highest and Best Use’ is beyond appraisers when it comes to port related properties; typically they deal in open areas rather than ‘the value being brought to a greater region’ by the port.
- Publically owned enterprises need to periodically have their assets valued to better be able to manage them.
- Economic development cost allocation:
 - This real estate manager’s port’s structure is a product of various government entities with a number of public transportation responsibilities. This said the port’s ‘mission’ is to protect and promote the port’s core business and be ‘self-sustaining’ financially. This creates an entirely different funding mechanism and focus at his port than what he finds at other ports.
 - Economic Development requirements are not specifically cost measured or incorporated into their lease rates; they are dealt with at a more global level in the income statement.
- Lease structuring:
 - They ‘benchmark’ lease rates with industrial properties located outside the perimeter of the port, although he realizes this is not the most accurate manner to accomplish establishing ‘market rates’ for properties being ‘inside the port fence’.

- He believes that there is a bit of 'art' in the process of establishing market lease rates.
- As rule, they do not give options because they find them very difficult to properly price.
- Their leases are based on 'market rents' (as described above) and in conjunction with not giving lease options, they try not to give 'rent reviews' during lease terms as they are difficult to establish as well.
- Their port authority today cannot tell whether they are in fact making money on their leases mainly because in the 1960's and 1970's the port authority was very much operated with various divisions operated as profit and cost centers, resulting in the very effective tracking of costs (the revenue side is much easier to track); and on hindsight maybe offered too much clarity from a political standpoint. By the mid 1990's these profit and cost centers were collapsed into broader financial groupings resulting in losing a great deal of control over costs and making it difficult for them to determine if they were effectively recapturing costs, much less making money. In some instances this change resulted in only recapturing 25 percent of costs for some services associated with leases the port was rendering.
- Lease structuring on the revenue side is challenging as different properties require different lease structures and associated charges; some leases for straightforward industrial type properties are relatively easy to structure while others, with operating and cargo throughout components are more complicated.
- Leases with Minimum Annual Guaranteed rents (MAG's) based on throughput charges are heavily weighted towards the property (versus MAG's) revenue

stream ie, property rent by approximately 75 percent to 25 for MAG's percent because their concern is the negative impact this might have otherwise on the value of the land/facility.

- The PA looks upon land/property rent (versus MAG's) as being more stable and safer.
- They seek clarity in their leases, especially when it comes to termination clauses.
- They also focus on the cost side of a lease structure as in the past they have found that when analyzing various existing leases the relative costs associated with delivering their obligations in the lease were 'out of control', undermining the financial performance for the property.
- Lease administration:
 - Leases are not standardized; each one is custom tailored for each tenant (which may be a result of 'empire building' by in house legal staff).
 - There is no formal lease administration program other than in-house data management software.
- Asset management:
 - There is no formal facilities management program in place.
 - There is no formal port property asset management in place.
 - There are no formalized financial thresholds established to gauge the performance of port properties.
 - Cost of capital for the PA results from the blending of various factors such as the bonding capacity, pricing, maturity of bonds.
 - Cost of capital figures are reviewed annually.

- Costs of capital figures are used as a hurdle rate for future projects; pre-determined amount of basis points are added to the cost of capital to cover risk for the port.
- Leases do have an element of pricing reflecting the PA's cost of capital.
- The port authority is currently capital constrained due to major capital projects underway.
- There is a real estate module overlay to their general financial management system, but this is a tedious and unyielding system that is not very effective; they are considering going to a canned property management system.

US REGIONAL PORT:

Port description: This is a major US regional port with a diversified cargo base and widespread locations and facilities. The interviews were conducted in person at the port. Approximately eight people were interviewed. It took approximately nine hours to conduct all of the interviews.

Person(s) interviewed:

- Chief Financial Officer
- Legal Counsel (in house)
- Port Development Director & Deputy Director
- Industrial Development Director
- Capital Improvements Program Manager
- Executive Assistant for Special Projects
- Real Estate Development Manager

Salient points raised; observations made:

- General comments:
 - The Shipping Act requiring all shipping companies to be treated the same is a major concern to this port due to the pricing challenges and contingent risks.
 - Development of major new facilities and projects to be leased out are not necessarily based on strict Return on Investment (ROI) thresholds but more on the ability to attract government grants and subsidies, economic development and ability to generate throughput revenue on cargo. Oftentimes ROI analysis of projects are not undertaken as the key deciding factors will be potential cargo to be generated and the amount of funds and grants that can be obtained from outside sources for the project.
 - Although at this particular port the last numbers of years have been record setting, they are in fact not making money due to the number capital projects underway and the amount of capital involved.
 - There is a paradox between their 'mission statement', whose primary focus is job creation - driven in large part driven by government shareholders and profitability. This makes it challenging for them to access affordable capital from the private sector, which typically asks 'how much money did you make?' which is not always clearly established due to economic development costs.
 - Lately they have not been able to raise capital in the bond markets.
 - There is a widespread belief that Public Private Partnerships (PPP) will be a key source of funding going forward.
 - Approximately 38 percent of the port's revenue is generated through property based rent; this is expected to increase.
 - The port is not charged property taxes.

- Valuation of land underlying operating terminals and wharves:
 - The land underlying terminals and wharves is not valued. The statement was made, 'we rarely recoup or address land costs, almost no one pays attention to it because we "didn't have to buy it"'.
 - It should be noted that 'technically' this port does not own the port land but has an indefinite 'right of use' (as long as it is used as and is maritime dependent) through archaic legislation dating back to the 1800's. This has in effect rendered the value of the land to its owners close to valueless.
- Appraisal and valuation challenges:
 - There is no idea as to the 'market value' of their property assets.
 - There is no starting basis of value for the port's property assets (see the above point).
- Economic development cost allocation:
 - Economic development costs are not formally quantified or allocated; the primary focus of the port's mission has been established by government shareholders as 'job creation'; therefore 'economic development' at this point seems to be a if not 'the' main decision making driver.
- Lease structuring:
 - There is a standardized lease for non waterfront operational property (ie, terminals).
 - The port has a significant share of the industrial real estate market; therefore the leases, rates and terms reflect the fact that they are market makers in their market.

- They add an in house assessed 'premium' to recapture infrastructure costs to lease rates.
- Lease rates are based on internal comparables (motivated by the amount of industrial property this port controls in the metropolitan area where it is located).
- They are considering appraising the port waterfront lands with which to better negotiate any potential PPP projects.
- Lease administration:
 - Lease administration is accomplished through in-house developed Excel spread sheets
 - Approximately 92 percent of the leasable area is leased
 - The port is focusing on shifting lease portfolio away from short term leases to long term ones (eg, minimum five year terms with one or two five year options) and to more credit worthy tenants with a high potential of generating cargo throughput – all in an effort to increase the value of the port.
- Asset management:
 - 'Maritime' land and facilities (ie, quayside, terminals and wharves) versus 'industrial' (ie, traditional warehousing and other facilities and land) are managed differently; all maritime land and facilities have a MAG rent element to them.
 - The property department is understaffed for the size of the portfolio.
 - Funding for capital projects comes from three primary sources:
 - Bonds
 - Capital funds
 - State funds (increasingly a rare event)

- Capital projects are massive in size and are close to if not already outpacing the port's ability to fund them eg, a current new wharf is needed which will cost close to US\$500 million. At times funds allocated for ongoing and future maintenance projects and other revenue sources like harbor fees are shifted to capital projects as needed.
- The consensus of opinion at this port was that property is underperforming financially.
- Although ROI analyses have been done, the expectation is that these are not comparable to the industry in general – this is merely an expectation as they stated that comparable ROI's are difficult to come by.
- There is no strategic port property asset management plan (most of the staff interviewed believed that a better job could be done of managing the portfolio with better tools).

US INLAND PORT:

Port description: This is a major inland North American port with a variety of port facilities in different parts of the state. They are primarily bulk and special cargo ports. Various people were interviewed during various times by telephone and at the port. The author of this paper is a real estate consultant to this port and therefore is intimately familiar with the port's policies and management activities related to their property holdings, having designed many of them.

Person(s) interviewed:

- Executive Port Director
- Chief Financial Officer
- Port Directors

Salient points raised; observations made:

- General comments:
 - Inland ports are decidedly different than seaports as they primarily deal with bulk cargos; this needs to be kept in mind because it changes the business model for this type of port compared to seaports.
 - Because of the aforementioned, the main business revenues for inland ports are in land lease rent.
 - This port recently undertook a comprehensive valuation and appraisal of every property and improvements at each port facility (approximating \$200 million in value) by the author of this paper which included, amongst other things, an analysis of lease structures and the development of a comprehensive strategic port property asset management plan (which has yet to be implemented)
 - The port is not charged property taxes.
- Valuation of land underlying operating terminals and wharves:
 - Prior to the most recent appraisals (appraisals are undertaken every five years) port properties were appraised as per their proximity to the quayside and properties were classified in sectors with the least valuable properties being the furthest from the water; this was done away with under the new asset management plan for reasons mentioned below.
 - Property values were previously determined through comparable sales of unrelated industrial land.
 - Lease rates were previously determined by using a capitalization rate formulated by the appraiser based on what land was generally being leased at for general commercial purposes eg, fast food restaurants.

- Appraisal and valuation challenges:
 - Information from competing ports on land values and leases is exceedingly difficult to come by and for all practical purposes nonexistent.
 - Bulk ports do not have the same dynamics as it relates to seaports relative to the quayside, namely due to their handling bulk, which requires large open storage and handling areas versus container cargo access to the waterfront is reasonably the same for all tenants, thereby making the assumption that proximity to the waterfront is a major advantage commanding a rent premium invalid (in effect this had the effect of reducing the overall value of the rest of the port by lowering the average rental rates).
 - Quayside and wharves are controlled by stevedoring companies through long term concessions; therefore tenants throughout the port, relatively speaking, will have the same access and cost structure to the quayside.
 - The port has extensive land banks which are surrounded by significant amounts of vacant land areas in private ownership resulting in making it somewhat challenging to establish the port premium for being located with the port perimeter. The port is located in an area where the industrial base had been hard hit economically the last several economic cycles and with the shift of manufacturing to southern states. In recent years has been effectively curtailed through an aggressive 'pro-business' policy by state government.
- Economic development cost allocation:
 - The 'pro-business' stance by state government in the last several years has shifted the focus from 'economic development', interpreted as job creation, to

that of attracting business to the area and having the port operate as a ‘for profit’ business.

- The government shareholder believes (and has proven) that attracting investment and business to the port has, as an added result and benefit, job creation built in.
- Lease structuring:
 - Leases are for the most part are standardized.
 - Lease rates are now developed on land values based on appraisals which took into account a number of port relevant factors such as infrastructure, management and other relevant costs along with appropriately developed capitalization rates.
 - Capitalization rates were formulated taking into account a number of factors for the port such as capital costs, financial goals and objectives, risk, competition and other issues.
- Lease administration:
 - There is a real estate module for the general financial management software used by the port which is tedious, not user friendly and does not reflect properly all of the key elements surrounding leases.
 - There is an approximately 56 percent occupancy rate for all port lands; this is mainly due to extensive land acquisition by the port authority in recent years resulting from their positioning themselves for future growth (management has a very forward thinking, long term policy about planning for the future with planning horizons reaching out decades) and recognizing that as they expand they create value for adjoining acreage.

- Asset management:
 - The port is self-sustaining from a capital requirement standpoint and has been for years.
 - Prior to 2012 there was no formal port property asset management system to speak of; since 2012 a comprehensive one has been developed and will soon be implemented.
 - The new port property asset management plan was designed to overarch and support the port's strategic business plan.
 - The port is not taxed from a property standpoint.

LATIN AMERICAN REGIONAL PORT:

Port description: This is a regional Latin American privately operated port that has a diversified cargo base and is growing exponentially. It is, relatively speaking, new port. The interview was conducted telephonically and took approximately two-and-a-half hours to conduct.

Person(s) interviewed:

- Executive Port Director

Salient points raised; observations made:

- General comments:
 - In the country where this port is located the PA is a national one regulating ports which are all operated by private enterprises, inclusive of the port authority functions through concession agreements.
 - Therefore, the PA is a national PA and overseer and the port operator, which in this case is a 'for profit' private entity acting as the local PA.

- The concessions (initial term of 20 years with an additional 40 year concession period possible if thresholds and are met) were given for specified amounts of land; they have used the entire land bank granted with the operating concession and are now acquiring adjacent land banks, which they will own, as they are now constrained by a lack of useable land for expansion.
- They are undergoing a process of evaluating the planning and business model of the adjacent land banks so that whatever uses are developed on them will primarily support their core business ie, operating marine terminals and servicing their clients.
- The title to infrastructure built inside the port fence is deeded over to the national government; the land they acquire outside the fence they will own in freehold. Because of this 'inside the fence' they do not charge rent on and or facilities but instead offer services and rent is charged as MAG's; outside the fence they charge property rent on owned land and facilities.
- The port operator pays yearly real estate taxes based on the Ministry of Finance's assessment of the value of the land, which is nowhere near any semblance of 'market value' as it is typically a very low assessment.
- The port is charged something similar to property taxes and concession fees since all ports in this country are managed by private sector companies long term concessions; the port operators are also fully responsible for all dredging costs.
- Valuation of land underlying operating terminals and wharves:
 - The national port authority does not undertake a formal valuation of land underlying operating terminals, wharves or 'backlands' at the port; they measure

‘value’ by the economic impact the overall facility will have on the area and country.

- This said, the national port authority does establish investment thresholds it expects the concessionaire to reach at specified target dates, along with key performance indicators for operations for it to meet with the precise intent of having the private sector develop ‘world class ports’ and requisite infrastructure.
- Appraisal and valuation challenges:
 - They face a major challenge from a management standpoint that little account is given to their property holdings and leaseholds ie, the land they received in the concession to build and operate the port.
 - There are few, if any ‘comparable’ benchmarks in the country as all ports are structured like they are.
- Economic development cost allocation:
 - One of their responsibilities as operators of the port is to develop areas between the port and the city into economically and socially viable areas that will also act as an effective interface between the port and the city; this is considered their number one ‘economic development’ responsibility. This is developed for profit.
 - The cost of the aforementioned is pro rata and amortized through the general revenue streams generated by the operation of the port.
- Lease structuring:
 - ‘Inside the fence’ lease revenues are all based on throughput charges.
 - They are currently developing policy as to how leases will be structured on owned land ‘outside the fence’.
- Lease administration:

- There is formal lease administration plan.
- Asset management:
 - There is no formal property asset management plan.
 - They realize that their business model is predicated on the fact that they are operating a business which is land dependent which requires more property management systems than they have in place.
 - Their business model includes revenue estimates and costs per square meter, with which they gauge every business decision on; this said they realize that at some point there will need to be a reasonable allocation of land basis both for freehold and leasehold interests in order to obtain a more realistic gauge on financial performance.
 - They attempt to use 'economic value added analysis' in every major business and investment decision; the lack of property value allocation is a serious issue they are aware of in this process.

ASIAN TRANSSHIPMENT PORT:

Port description: This is a major Asian transshipment container port with extensive land holdings and specialized facilities for facilitating container handling. Some of the information was asked and answered over email. There were also two interview sessions which were conducted via Skype (VOIP) and took approximately four hours in total.

Person(s) interviewed:

- Assistant General Manager (effectively - Chief Operating Officer) responsible for:
 - Human Resources
 - Finance

- Property
- General Administration

Salient points raised; observations made:

- General comments:
 - The port does not have a good perspective on 'port property issues'.
 - Once the port's operations were privatized the PA followed the landlord model and became as regulator as well.
 - The port's property portfolio is taken into account but not as extensively as it should be.
 - In the 1990's the port was being funded through the national government's budget. The national government reached a point where it could no longer sustain this ongoing investment; this prompted the privatization of the port's operations.
 - The port is now self-funded through revenues generated through operations, borrowing from the national government at preferential interest rates and bond funding.
 - The port is not charge property taxes; it is responsible for all dredging costs.
- Valuation of land underlying operating terminals and wharves:
 - Rents (ie, concession rates) for the demised areas leased out - for approximately 30 year periods - in concessions for terminals are based on an assessment of investment in and costs of infrastructure for such items as bridges, wharves, quay walls, container yards, roads for the 'water side' (ie, the quayside and apron) and there is no value allocated to the underlying land.

- Rental for the 'land side' (ie, 'backlands') is based on a similar analysis of the relevant infrastructure there.
- Appraisal and valuation challenges:
 - The port authority faces a major challenge in this respect as the property values used to manage the port's pricing is based on book values dated back decades and do not reflect any semblance of 'market value'.
 - The port is made up of a combination of Brown and Greenfield sites which were privatized over the last 30 years in phases. The port areas were 'valued' by accounting firms in the late 1980's and early 1990's. Based off of these numbers rents are escalated every three years by up to ten percent.
 - In 2012 they started to go through a valuation process of certain port lands to be leased. The valuation is undertaken by a property department not related to the port but the Ministry of Finance. Their valuation is based on a value established by this department and a capitalization rate based on property investments in the country, which does not take into account any maritime or port use or activity or port related issues.
 - The aforementioned described valuation process does take into account industrial land located in industrial estates (parks) near the port.
- Economic development cost allocation:
 - 'National interests' determine the port tariffs and in turn the ROI the port will make; any required economic development costs taken on by the port are not directly tied into revenues to be generated by property but through throughput charges (ie, dues, wharfage, dockage, etc).
- Lease structuring:

- Leases are established primarily based on capital expenditures and infrastructure investment; profit is not considered nor is a return on property asset values.
- There is a supplementary 'profit share' charge based on cargo throughput eg, \$1/container and \$0.10/ton as an additional revenue stream.
- The port authority also has MAG rent in place as well; there is no effort in finding a balance between MAG and property based rent.
- Lease administration:
 - There is no formal lease administration program.
- Asset management:
 - The PA has set up a department for the management of its property assets; there is no port property asset management plan in place.
 - There are no established financial thresholds to be met for the port's property portfolio.
 - A major challenge is in grappling the concept that the property portfolio is a, if not 'the' major corporate asset and how to integrate this into their *modus operandi*.
 - The Assistant General Manager believes that there should be a clear separation between revenue generated and based on port property and that resulting from throughput charges, which he considered another form of rent.
 - The property portfolio is currently not managed as a profit centre but the manager believes that it should be.
 - Through the manager's observations of the last 20 years only six to seven percent of the port's overall revenues result from property based leases. He believes that this should be considerably higher and is a direct result of the port

undervaluing its property portfolio and not understanding how to more effectively manage it.

EUROPEAN GATEWAY PORT:

Port description: This is a major strategic European gateway port with a diversified cargo base, extensive land holdings and widespread locations and facilities. Information was obtained via email and through a telephonic interview which lasted almost three hours.

Person(s) interviewed:

- Manager of Major Special Capital Projects & General Port Development (was responsible for creating a real estate division seven years ago now responsible, in addition to other duties, for the redevelopment of surplus port lands to alternative uses and in buying back long term leaseholds from tenants who no longer directly support the port's core business eg, cheap retail that had moved into obsolete warehousing)

Salient points raised; observations made:

- General comments:
 - The port makes a concerted effort to ensure that most port lands directly or indirectly support the core business ie, cargo processing, at the port.
 - Redundant or surplus lands no longer in use by cargo processing tenants is recycled to address the needs of their service providers that need to be in close proximity to their clients.
 - Seven years ago a real estate division was established; this division has since been split between redevelopment activities, as described above and port operations; this was done to ensure that the overall port management staff was

aware of the importance the real estate side of the entity and its careful management was to the organization.

- Today the port is making much more money in land rent than in port dues; this is through design.
- This port, like many European ports, has gone through the 'corporatization' of the port authority resulting in:
 - Regulatory matters have been shifted to other government agencies in order for the port authority not to be able to abuse its power.
 - Investment decisions diametrically changing and being based on 'business' rather than political goals and objectives.
 - Rapid 'professionalization' of the staff towards business expertise rather than time in government.
- During the last 25 years, the percentage of rent revenue coming from land leases has been increasing while that derived from other port dues has been decreasing; now land based rental revenue is approximately 45 percent of turnover versus 34 percent in 1985.
- Real returns per ton of cargo in the last 25 years has shown growth while nominal returns per ton of cargo has declined; this is result of more competition and the port shifting more of its revenue streams to longer term property leases than cargo throughput.
- The port's policy now is to decrease the dependency on port dues and become more dependent on real estate leases; they see this as a more reliable and safer revenue stream.
- Challenges:

- Short term: threat of over capacity in European ports will put pressure on pricing; this is shifting their emphasis on rent revenues.
- Medium term: finding customers for expansion areas will become increasingly challenging.
- Long term: maintain cost competitiveness with lower cost countries in areas such as labor costs; shifting global demand and production for certain cargos such as energy.
- General: encroachment by the city on port areas potentially making port uses economically obsolete.
- The port is charged property taxes; it pays dividends to its shareholders (which are government entities); and it is responsible for all dredging costs.
- Valuation of land underlying operating terminals and wharves:
 - There is currently ongoing discussion at the port as to how to deal with this with the main question being asked whether the financial performance of the underlying land at the terminals should be included in the overall Net Present Value (NPV) analysis or not.
 -
- Appraisal and valuation challenges:
 - Every five years an internal assessment is made as to deterring the 'market value' of port land and property.
 - An internal 'land tariff model' has been designed to determine rent range for property; this is developed through interviews with the in house members of the commercial and business development teams.
 - They use a residual land value analysis to assist in determining land rents.

- The land use restriction for port use only is seen as a negative in the marketplace resulting in a serious discount of its value; this is due in large part to the rigorous planning, building and zoning regulatory framework in the area; atypical to other port related markets.
- Economic development cost allocation:
 - As the tenets of corporatization take hold, economic development issues increasingly become less emphasized in all port functions and business goals and objectives rise to the forefront; the almost exclusive focus now by senior management of the PA is ensure that the port is operating at optimal capacity and generating maximum revenues, in this fashion it's expected that employment, investment and development will follow appropriately.
- Lease structuring:
 - Properties at or near the waterfront have leases based on an in house formulated tariff schedule which bases rent as a factor of quayside length and depth at the quayside; this is done to ensure proper dredging and depth maintenance.
 - The area where the port is located is under an extremely rigorous regulatory structure for planning and development; this results in industrial land and facilities leasing for more money outside the perimeter of the port than inside, something they acknowledge that is outside of the norm.
 - To a certain extent leases are standardized.
 - Approximately 85 to 95 percent of the port land is currently leased.
 - Lease contracts now all include 'abandonment' clauses resulting in leases being null and void in the event the tenant abandons the property from a usage

standpoint or if the use of the property by the tenant changes to a non port related use.

- Lease administration:
 - Any lease executed for port land requires that the tenant have a direct or indirect commercial relation with the port.
 - As leases come to renewal they are increasingly made to fall into a standardization of terms and conditions in order for them to be more 'financeable'.
 - There is a formal lease administration system.
- Asset management:
 - Optimal land use and its allocation is increasingly important resulting in the decision making process focusing on 'the right company, price and location' in all leasing matters.
 - Capitalization rates used to determine leases and financial thresholds for capital projects are determined in house by benchmarking against various internal property portfolios of varying kinds; they realize this may not result in appropriate capitalization rates as there is little external cross checking.
 - Property portfolio performance is benchmarked on a yearly basis against newer transactions.
 - ROI thresholds are different from lease rate development (which should not be the case); the Chief Financial Officer develops the ROI number.
 - Asset management is broken down into three areas: infrastructure, land and facilities (eg, they have over 2 million square feet of office space).

- Facilities management services are offered to clients/tenants; these are typically sub-contracted out.
- Capital project funding:
 - Before corporatization capital projects were analyzed and funded by the government shareholders through low cost loans in a rather informal manner; now the process is more formalized and funding typically comes from the private sector capital markets.
 - Post corporatization the port is making a concerted effort to significantly reduce outstanding debt to the government shareholder.
 - Notwithstanding efforts to concertedly increase the value of the port through the maximization of long term property leases, the private sector lenders still only lend based on enterprise value without taking into account any hard property asset collateral.
 - This said, banks do see long term leases as collateral since they can, if they foreclose on a loan to a tenant of the port, re-lease (ie, sub-lease) the property as long as it is to a tenant that will use it for port related purposes.

AEGIR PORT PROPERTY ADVISERS

Economic globalization will continue to advance as will the percentage of global trade to the world's economy. Sea trade will continue to be the main mode of transport for world trade and according to a recently released Global Marine Trends 2030 report (Lloyd's Register, Qintiq, University of Strathclyde) it is forecasted to more than double by 2030 to between 19 to 24 billion metric tons from today's nine billion metric tons. The maritime, shipping and ports industries will become even more vital to the world economy than they are today. Supply and logistics chains will come under increasing pressure to deliver faster and cheaper than ever before. This will require major capital investment. Ports are already positioning themselves to meet the challenges of the 21st Century they will face. While there will clearly be challenges, there will also be opportunities and solutions and many will be found in port properties.

Aegir Port Property Advisers is the first, independent property consultancy exclusively focused on meeting the specialised real estate needs and challenges of the ports and maritime industries. Aegir is dedicated to ongoing research of port property issues across the spectrum of the industry to find better ways with which to meet these challenges.

Aegir is in a strategic alliance with Drewry Shipping Consultants Ltd. Drewry provides the international maritime industry with the most comprehensive market intelligence and commercial, economic, technical and consulting services possible grouped around ports and logistics and supply chain, bulk and specialists shipping and containers. By integrating 'best practices' from the property and maritime industries they address shipping, port and port property issues from an operational, marketing, logistical, financial and investment standpoint

anywhere in the world with practical, market driven solutions to more effectively process cargo, enhance property revenues and maximise port values.

Over the past decade Aegir has advised numerous ports, their clients, lenders and investors in numerous projects worldwide. The practice is active in all property and real estate aspects at or near ports with services ranging from complex appraisals and valuations to due diligence on property matters relating to concessions, financing and acquisitions and disposals; developing strategic port property asset management plans; developing 'highest and best use' land and project studies; identifying and establishing potential property based revenue streams and lease structuring; to development feasibility analysis for specialised port facilities and inland container freight stations and dry ports.

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