# bae urban economics

## **MEMORANDUM**

To: Eric Engstrom, City of Portland, Bureau of Planning and Sustainability (BPS)

From: Janet Smith-Heimer, MBA, Managing Principal

Jacob Bintliff, MCP, Associate

Re: West Hayden Island Cost-Sharing Economic Analysis

October 16, 2012 Date:

## Purpose

The purpose of this memorandum is to provide an overview of the costs estimates for development of West Hayden Island, and present general concepts regarding methods that marine terminals across the US of similar scope and function finance development and operations in order to minimize public outlays for development costs.

## Summary of Port of Portland

The Port of Portland is a public agency created by the State of Oregon to promote economic development through construction and operation of aviation and marine facilities. With respect to its marine facilities, "the Port's goal is to maximize its marine facility footprint with the highest and best use in support of the Port's cargo mission. In doing so, the Port seeks to establish long-term customer relationships with business partners that are committed to environmental stewardship and focused on the protection and viability of the surrounding waterways."1

In addition to aviation and marine facilities, the Port is the largest industrial park developer in the Portland Metro<sup>2</sup>, with more than 10,000 acres of property holdings in six business and industrial parks including Rivergate Industrial District, Portland International Center, Swan Island Industrial Park (which includes Mocks Landing and Port Center), Troutdale Reynolds Industrial Park, and Brookwood Corporate Park. The most recent property acquisition was the 221 acre LSI Inc. site in Gresham, OR, which closed in late 2011 and will be developed as the Gresham Vista Business Park.

<sup>&</sup>lt;sup>1</sup> 2012-13 Adopted Budget for the Port of Portland, pg. 30.

#### Marine Terminal Facilities

According to the Port of Portland's 2012-213 Adopted Budget, the Port's marine facilities include ownership of four marine terminals handling a diverse mix of cargo, including grain, mineral bulk, liquid bulk, automobiles, project cargo, break-bulk cargo, and containers. At present, all major marine customers of the Port are under long-term lease agreements, including a 25-year lease with International Container Terminal Services, Inc. (ICTSI Oregon, Inc.) for the operation of the 200-acre container facility at Terminal 6 signed in May, 2010. The lease includes the intermodal yard and the slab-steel bulk operation.

In FY 2011, the Port experienced throughput volumes of 193.3 million TEU's of containers, 242,753 automobiles, 688,690 short tons of break-bulk, 4.7 million short tons of grain bulk, and 5.7 million short tons of minerals. According to the Adopted Budget, with exception of containers, all of these volumes are expected to decline slightly in FY 2012-2013, with continued declines forecasted for FY 2013 compared to actual FY 2011 volumes<sup>3</sup>.

## West Hayden Island Marine Terminal Project

West Hayden Island (WHI) is an approximately 800-acre undeveloped island adjacent to the Port of Portland's other marine facilities. Portions of the Island were acquired by the Port in 1994, while other portions are owned by the State Division of State Lands, but intended for acquisition by the Port prior to development.

WHI has been the subject of a lengthy ongoing planning and environmental assessment process between the Port of Portland, Metro, and the City of Portland. In 1983, WHI was included in the Urban Growth Boundary for purposes of satisfying a regional need for marine terminal facilities. Since that time, a series of resolutions and other actions have led to a July 29, 2010 City Council resolution directing the City of Portland's Bureau of Planning and Sustainability to develop a legislative proposal for annexation of WHI to the City with the intent of retaining at least 500 acres as open space, and to identify no more than 300 acres for future deep-water marine terminal development.<sup>4</sup>

The proposed development of WHI is described in the West Hayden Island Final Report (WorleyParsons, April 26, 2012). The proposed development envisions three marine terminal facilities on approximately 300 acres, with one devoted to automobile off-loading and dealer processing, and two terminals handling minerals and/or agricultural products. None of the proposed WHI terminals are envisioned as container or break-bulk facilities.

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<sup>&</sup>lt;sup>3</sup> Ibid, pg. 32. Note: chart in budget is somewhat misleading, due to decline between Actual FY 2011 and forecasted FY 2012, and then slight increases between FY 2012 and 2013, resulting in lower FY 2013 volumes than 2011 actuals.

<sup>&</sup>lt;sup>4</sup> Draft Intergovernmental Agency Agreement between the Port and the City, August 14, 2012

#### **BAE Review**

BAE was retained in late September, 2012 to review background documents, attend a meeting of the Advisory Committee on September 22 to discuss Finance, and provide this memorandum describing potential cost-sharing and other mechanisms to create a potentially feasible development project.

#### Advisory Committee (AC) Finance Considerations Meeting

The AC meeting on September 22, 2012 included presentation and discussion of several different cost matrices, including a detailed spreadsheet prepared by BPS based on WorleyParsons Concept Plan cost items (April 2012), and a facilitator-provided matrix entitled "Draft Reconciliation 9-21-2012" that is organized differently; This "Draft Reconciliation" appears to contain a progression of cost items proposed and discussed at various prior points in time, but does not include the full list of cost items appearing on the WorleyParsons/BPS matrix of April, 2012. Moreover, while the "Draft Reconciliation" seeks to show a narrowing of differences over time between Port and City cost items, it lumps together items which are not well-defined such as an item shown simply as "Transportation," and may include doublecounting of several items. In addition, the "Draft Reconciliation" was corrected during the meeting, on an overhead projector, based on discussion in the room. Finally, the "Draft Reconciliation" appears to both isolate the facilitator's understanding of disputed costs, but does not appear to account for outside sources of funding such as grants, private investment, and other sources which may not be paid by either the Port or the City. The "Draft Reconciliation" appears to attempt to provide a "bottom line" argument distillation, which is that the Port believes the costs it may incur to develop the WHI will exceed the "value" of the developed land. Specifically, the "Draft Reconciliation" shows a bottom line per square foot cost of \$7.62 to \$8.62 compared to a "market price for industrial waterfront" of \$5.00 to \$7.00 per square foot.

In general, the discussion focused on the assertion by the Port and its advisors that the planned mitigations, capital improvements, and community benefits' costs in total added up to more per square foot of developable marine facilities land than the economic value of the land (e.g., \$5 - \$7 per square foot for "shovel-ready" land).

Due to the very rough nature of the "Draft Reconciliation" and the corrections made to the sheet during the meeting, BAE has elected to not review this calculation in detail, but to instead focus on the concepts presented at the AC Meeting, the Draft Intergovernmental Agreement (IGA), and the general issues posed by all parties regarding economic feasibility of the WHI project including its environmental mitigation and community benefit costs.

## **Discussion of Development Feasibility**

There are several propositions and concepts embedded in the Port's conclusion that the WHI Draft Intergovernmental Agreement (IGA) creates an infeasible project (based on its comparison of costs to the underlying economic value of the land, estimated at \$5 to \$7 per square foot). These are outlined below.

#### Market Demand for Additional Marine Terminals

According to the West Hayden Island Public Cost/Benefit Analysis (EcoNorthwest, June 2012), the new WHI facility would not commence operations until 2026, following a three-year construction period.

BAE did not review any forecasts or evaluations of the market demand for future additional marine terminals on Port of Portland property. We are aware that this is a complex issue, and must take into account both overall forecasts of global trade and port competitive advantages, as well as the circumstances posed by the adjacent state of Washington with respect to shipping automobiles, minerals, and agricultural and other products to and from the US.

It should be noted, however, that the proposed WHI terminals, considered to constitute three new terminal facilities, would increase the existing number of terminals from four to seven over time. This represents a major expansion of Port operations.

#### Land Value

For this memo, industrial land values in currently for-sale business and industrial parks in the Portland metro were not researched, because this information is not a directly comparable economic situation to the operation of a marine terminal at WHI. Specifically, research indicated that most public port authorities charge marine terminal developers/operators ground rent plus other fees and charges.

For example, as profiled in Appendix A, the Port of Long Beach owns a marine terminal facility leased to Toyota The lease and operating agreement, signed in late 2011, results in a minimum guaranteed annual payment (GAM) of approximately \$84,650 per acre per year, for the 145-acre facility. If wharfage fees exceed this guaranteed minimum, the Port receives the higher amount. Toyota funded and owns its improvements under this 20-year lease arrangement (e.g., buildings). The Port provides docks and its equipment

On a very conservative basis, if this guaranteed minimum payment is capitalized at 10 percent, the resulting land value is \$846,500 per acre, or almost \$19.50 per square foot for the 145 facility at the Port of Long Beach.

In contrast, most business and industrial parks owned by public agencies charge a flat ground rent per year, typically based on a percent of total land value. The general range of ground

rent is typically 8.0 to 10.0 percent per year of land value, cited by the Port of Portland (this matches BAE experience). Thus, if business/industrial park land is selling at \$218,000 per acre (\$5.00 per square foot) in the Portland metro, ground rent on this typically charged by a public agency owner would be up to \$21,800 per acre per year, or \$0.50 per square foot per year (e.g., 10 percent of total value).

This comparison shows that the Port of Long Beach marine vehicle facility yields an almost quadruple value through its guaranteed minimum payment as the landside "shovel ready industrial land value" cited by the Port of Portland. This much higher land value (and annual payment stream to the Port) is likely achievable by the Port of Portland at WHI if market demand supports the development of this vehicle processing facility at this location over time.

In summary, for publicly-owned marine terminal situations, the investment in docks, equipment, and overall location, plus the competitive advantage of limited port facilities granted to public agencies, means that this land and associated facilities are not comparable to landside industrial parks. Marine terminal facilities' value is derived from a mix of ground rent and other charges applied by public agencies that captures this very different economic function.

#### Financial Objectives of the Port of Portland

At the AC meeting, Port representatives stated that, due to the structure of their operations, the Port needs to earn a return on its investment in WHI. The discussion centered around how the Marine Division is organized as part of the larger Port (which also operates PDX and general aviation facilities, along with major industrial parks).

While a return on investment may be a beneficial measure of Port activities with respect to WHI, it should be noted that a quick review of the 2012-213 Adopted Budget for the Port of Portland indicates that the Port of Portland blends some of its Marine and Industrial Development Division operating revenues and expenses with other functions as part of its General Fund, making it difficult to isolate the economic structure of just the marine port facilities and its achievements of its stated financial return objectives. It appears that the Marine and Industrial Development Division earns more total revenue than costs, even excluding land purchase and sale items within its industrial parks. Thus, it may be more accurate to conclude that the Port desires to earn a return on its marine terminal investments in order to support other Port economic activities related to industrial parks, general aviation, PDX, or agency-wide functions. A more detailed analysis based on discussion with the Port would be needed to isolate and prepare an accurate analysis of this Division and its return on current investments or other financial needs with respect to its overall operations.

#### Towards a Business Plan for WHI Business

The proposed WHI project including all infrastructure, marine terminal development, open space and recreational facilities, and on- and off-site environmental mitigations, will involve extensive investment by the Port of Portland, the City of Portland, private railroad companies, private developers and/or operators, and other stakeholders over time. At present, BPS has developed a cost estimate based on WorleyParsons (April 2012), which totals approximately \$233 M before design and construction contingencies. The BPS estimate includes the assumption that approximately \$108.73 M of this total would be borne by a combination of Port, State of Oregon, federal, and City of Portland investment in the project. This includes a set of on- and off-site environmental mitigation measures, which appear to be the focus of most of the discussion pertaining to cost burdens on the two public agencies (City and Port of Portland). The environmental mitigations estimated by WorleyParsons and BPS include:

| <u>Item</u>   |     | Cost       |
|---|-----|------------|
| Environmental Mitigation (State and Federal)                            | \$  | 9,300,000  |
| Environmental Mitigation (Local)  | \$  | 13,700,000 |
| Follow Up Planning for 500 Acres  | \$  | 150,000    |
| Full Implementation of Environmental Improvements on 500 acres (a)      | \$  | 20,000,000 |
| Total   | \$  | 43,150,000 |
| Total per acre of WHI   | \$  | 86,300     |
| a) BPS assumes that \$5 M of this \$20M can be borne by private investi | ors |            |

This complex project will require a more detailed Business Plan and Financing Strategy to fully address missing information and lay out mechanisms to fund each stage of the WHI project. A Business Plan and Financing Strategy is highly recommended in order to ascertain the financial viability of the provisions of the Draft IGA.

The Business Plan and Financing Strategy should consider the following items:

- Port Revenues As outlined above total Port of Portland revenues from leasing agreements to developers/operators have not been analyzed.
- Potential Recreation and Open Space Revenues While not likely to be a substantial revenue source, this set of revenues could include lodging ground leases, concessionaire payments (bike and boat) and other revenues from creating a new recreational facility on West Hayden Island
- Rail Spur Costs Construction of rail spurs, as envisioned by the WHI project, can be borne by private rail companies, with fees set accordingly to pay back this investment in a rapid manner (see Appendix A for more information).
- Potential Federal and State Grant Funds Some of the improvements envisioned for WHI may be fundable by grant funds from federal and state agencies, offsetting these costs and reducing the investment needed by Port of Portland and City of Portland

- Infrastructure Assessment Districts BAE did not research the legal requirements of creating infrastructure assessment districts at this facility. In other states, this mechanism or a variation thereof, is often used to fund backbone infrastructure through the collection of property-based assessments for properties that benefit from the upfront investment by public agencies. The public agency floats a bond to pay for the infrastructure, and each property owner is then assessed an amount equivalent to the bond debt service over 20 or 30 years, apportioned by the benefit received.
- Other Cost-Sharing Mechanisms In some states, the scale of WHI would be structured as a joint powers authority, utilizing the combined revenue-generating powers of different governmental jurisdictions and agencies. In this case, these agencies could include the Port of Portland, the City of Portland, counties which benefit from enhanced agricultural exports, and other public partners to be identified.
- Interim Leases Some large public projects around the US are creating interim leases which generate substantial revenue while permanent capital improvements are phased-in. For example, some public land-owners, particularly of former military bases, have leased "lay down" space to steel and transit vehicle manufacturers to generate ground lease revenues for short periods (e.g., five years). Other examples include medium-term solar farm ground leases.
- Monetizing Mitigation Measures through Carbon Offsets More research is needed, but it may be possible to monetize mitigation programs such as selling carbon offsets per the new forestation project envisioned to mitigate deforestation for the marine terminal portion of the WHI project.

## APPENDIX A: EXAMPLES OF MARINE TERMINAL REVENUE STRUCTURES TO PUBLIC PORT AGENCIES

## Port of Long Beach (auto on/off and vehicle processing)

The Port of Long Beach is a large seaport with 10 terminals, and is the second busiest port in the United States. The Port Authority is the Long Beach Board of Harbor Commissioners, an agency of the City of Long Beach, CA. The Port's Pier B hosts the RO-RO and vehicle processing operations of Toyota Logistics Services, Inc.

The Port and Toyota entered a 20-year lease in November of 2011 that governs both Toyota's presence at the Port and the terms of operations for its vehicle processing business. This lease was retroactively effective upon January 1, 2009. The lease grants 145 acres of terminal space to Toyota and non-preferential assignment to Berths 82 and 83. The space also includes 150,000 square feet of transit shed and office space. These buildings accommodate repair, vehicle processing, bodywork, and car wash operations on premises.

Toyota pays a monthly rent, dockage fees, and other charges as per the Port's Tariff No 4. The Guaranteed Annual Minimum Rent (GAM) is as follows:

- \$10,147,595 in 2009 and 2010
- \$11,121,797 in 2011
- \$12,274,000 in 2012 and 2013

Therefore, in 2012 and 2013, the Port will collect a minimum of \$84, 648 per acre for this vehicle processing terminal and associated facilities.

The GAM is renegotiated every 5 years. Toyota is also subject to wharfage fees and dockage fees in the event these exceed the GAM. Wharfage fees for standard vehicles are set at a rate of \$29.10 per 1,000 kg of vehicle weight. Dockage fees are established in Tariff No 4 and vary based on the size of vessel.

Toyota owns and is responsible for any improvements it constructs on the terminal during the lease and must remove them upon the termination of the lease. The Port owns and is responsible for the wharf, bulkheads, and fixed equipment.

## Port of San Diego (auto on/off, vehicle processing, and other cargo loading/unloading)

The Port of San Diego is a large seaport with two maritime cargo terminals. The Port Authority is the San Diego Unified Port District, a public benefit corporation established by the State of California. The Port's National City Marine Terminal is, according to the Port, "the most advanced vehicle import/export facility on the West Coast," serving as primary port of entry for one in eight automobiles imported into the United States each year and equipped to handle 500,000 vehicles per year. The Terminal is also equipped to handle lumber and other large breakbulk cargo.

The Port entered into a new 10-year Terminal Operating Agreement for the National City Terminal with Pasha Automotive Services in January 2011 with four 5-year options to extend, for a total of 30 years. The Agreement was intended both to finance infrastructure improvements at the Terminal and to allow Pasha to continue operating the Port's vehicle processing operations while diversifying into other types of cargo. The Agreement entitles Pasha to the use of 116 acres of the Terminal, including over 350,000 square feet of warehouse and transit shop space, as well as preferential assignments to berths 24-2, 24-5, and 24-10. All improvements and land are owned by the Port, though Pasha is required to assume maintenance responsibility for all non-structural elements of the Terminal, including pavement maintenance valued at roughly \$225,000 per year.

Pasha will pay an annual rent of \$100,000 for the Port-owned buildings, to be adjusted annually for inflation. In addition, Pasha is bound to a Minimum Annual Guarantee amount for all wharfage, dockage, storage, and demurrage fees of \$5,200,000 per year to increase by \$1,500 per year. However, the average annual total fee revenue generated by Pasha over the six years prior to 2011 was \$8,600,000 and the Port expects this amount to increase over the term of the Agreement as a result of specified infrastructure improvements and the diversification of Pasha's cargo portfolio. After accounting for Pasha's right under the Agreement to retain 25 percent and 9.5 percent of all fee payments for vehicle and nonvehicle cargo, respectively, annual fee revenue to the Port can be expected to start at \$6,500,000, increasing over time. Finally, the Agreement requires Pasha to invest \$4,000,000 in physical improvements to the Terminal during the first five years of the Agreement term and \$2,000,000 during each 5-year extension.

In summary, the bottom-line annual revenue to the Port including rent, fee revenues, and required investment will be at least \$8,100,000 per year, or \$70,000 per acre in 2015. These revenues are expected by the Port to increase over the remaining term of the Agreement. If the assumption of maintenance responsibility by Pasha for Port-owned non-structural elements is also considered, the total consideration for the Operating Agreement can be valued at \$72,000 per acre in 2015.

## Port of Olympia (lumber on/off loading, lumber storage)

The Port of Olympia is a medium-sized port with a single terminal governed by the Port of Olympia Commission, a municipal corporation of the City of Olympia, WA. The Port's primary trade in 2005 was in industrial and bulk commodities including iron and steel, vehicle parts, meat, plastic products, and lumber.

In September 2010, the Port entered into a 3-year lease with the option to extend for up to 9 years with Pacific Lumber & Shipping LLC in September, 2010. The lease governs both the PLS presence at the Port and the terms of operations for its lumber trade.

The lease grants a total of 8 acres of terminal surface space to PLS, of which 1 acre may be sub-leased to a terminal operator of PLS's choosing, and non-preferential assignment to the adjacent berth. The remaining 7 acres are to be used for lumber storage before and after on/off loading.

PLS pays a base rent, service fee, shortage fee, and other fees allocated directly to the Port's labor and other costs associated with PLS operations. LPS is also entitled to an annual credit of \$42,000. The base rent and fees are as follows:

- Ground rent
  - o \$500 per acre per month plus state taxes for 7 acres (\$3,950 per year)
  - \$1,600 per acre per month plus state taxes for 1 sub-leased acre (\$5,755 per year)
  - Total: \$9,705 per year, or \$9,050 excluding taxes
- Service fee (single fee in lieu of wharfage, service & facility, and staging fees otherwise applicable)
  - \$25,000 per month for the first 14 million board feet of lumber and no fee for any additional board feet, adjusted by CPI annually
  - o Total: \$300,000 per year
  - Shortage fee \$3.50 per board foot below the minimum annual export volume of 14 million board feet, adjusted by CPI annually
- Dockage fee Set to 50% below the amount in Tariff No 10; varies by vessel size

Barring any shortage fee payments, these terms equate to a total annual payment by LPS of \$309,050 less state taxes and before dockage fees are applied. This total is \$267,050 after application of the annual credit. PLS is bound to collect other pass-through fees, including log vessel clean up and vessel loading fees that do not apply to Port's profit. Finally, PLS is entitled

to use an additional adjacent area of "flex area" at an additional rental rate of \$1,600 per acre per month on a temporary basis.

PLS or its sub-lessee operator is responsible for any improvements it constructs on the terminal during the lease and must remove them upon the termination of the lease. The Port owns and is responsible for the wharf, bulkheads, and fixed equipment.

## Port of Hueneme, CA (auto on/off only)

The Port of Hueneme is a medium sized port with two terminals located in Oxnard, CA. The Port Authority is the Oxnard Harbor Commission, an independent special district of the State of California. The Port's North Terminal supports RO-RO (roll-on roll-off) and vehicle processing operations via two agreements with AMPORTS (APS West Coast, Inc.), a major North American vehicle processing company with a presence at nine ports in the United State and Mexico (including at the Port of Benicia).

The first agreement is a May, 2011 Space Assignment Agreement between the Port and AMPORTS that entitles AMPORTS to a roughly one acre non-preferential space assignment on the Port's North Terminal allowing for storage of a maximum of 200 vehicles at any time. The agreement requires that no vehicle remain on the terminal for more than 10 days, and stipulates a \$1.00 per vehicle per day fee for each day that any vehicle remains on the premises beyond the 10 day limit. Beyond this fee, the Space Assignment Agreement includes no other consideration. Contacts at the Port indicated that that an average of 800 vehicles per month pass through the Port on this basis.

The second agreement is 3-year On/Offloading Permit dated May 2011, between the Ventura County Railway Company (VCRC), a subsidiary of the Port, which establishes the terms of AMPORTS use of the VCRC rail spur that services the North Terminal. This agreement stipulates a charge of \$1.50 per vehicle on or off loaded from VCRC by AMPORTS. Contacts at the Port confirm that the rail spur was constructed by VCRC and that this charge is anticipated to be sufficient to pay back those infrastructure costs by 2014, the expiration date of the Permit.

Beyond the Space Assignment Agreement and Permit, AMPORTS and the Port do not have other agreements or rents/fee charges payable to the Port. AMPORTS removes its vehicles from the Port terminal to a vehicle processing facility wholly-owned by BMW that is adjacent to the Port terminal but outside of the Commission's jurisdiction.

## **Summary**

A comparison of fees and rents from these examples indicates the following amount per acre per year collected by port agencies from private operators:

- Port of Long Beach: \$84,650/ac/yr for vehicle storage, pass-through, and processing facilities (with privately-owned buildings)
- Port of San Diego: \$72,000/ac/yr for vehicle storage, pass-through, and processing facilities (with Port-owned buildings)
- Port of Olympia: \$33,500/ac/yr for lumber storage and pass-through
- Port of Hueneme: \$14,400/ac/yr for vehicle storage and pass-through