

# THE ECONOMIC BENEFITS OF INVESTMENTS AT SOUTH TERMINAL AT THE PORT OF EVERETT



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# **The Economic Benefits of the Proposed Investments at the Port of Everett South Terminal**

Martin Associates was retained by the Port of Everett to assess the economic benefits of the development of \$55 million of investments at the South Terminal. The impacts are estimated using the 2015 Port of Everett Economic Impact Model developed by Martin Associates for the Port of Everett.<sup>1</sup> The economic impact of the projected container throughput was evaluated using the Martin Associates' economic impact model developed as part of our recent study for the Port of Everett, as well as economic relationships between container throughput and maritime services (terminal operational levels, longshoremen productivity, freight forwarders, steamship agents, chandlers, etc.) developed from our recent economic impact studies conducted by Martin Associates for major Pacific Northwest Container Terminals in Seattle and Tacoma.

The \$55 million of investment includes investments in power systems for cold ironing, rail improvements and repairs, a track mobile, wharf upgrade, terminal yard lighting, and terminal paving and other utilities.

These investments will not only preserve the current economic impact of the Port of Everett, but provide an expanded terminal to support the growth in cargo over a 20 year period. The Port of Everett supported 35,000 jobs in the region in 2014, and these investments are critical in maintaining and modernizing the Port's South Terminal in order to continue to remain and grow as a key regional economic generator. The 2014 current impacts are presented in Table 1.

In addition to maintain the Port's economic contribution to the local and regional economy, the \$55 million of planned investments will provide adequate facilities for the Port to achieve the cargo throughput identified in the Marine Terminals Master Plan. This plan identifies the potential to handle 400,000 tons of breakbulk cargo over the next 20 years, 400,000 tons of cement and 200,000 TEUs of containerized cargo.

It is the purpose of this report to identify the long term economic impacts supported by the \$55 million of investment, and the growth in containerized cargo to 200,000 TEUs, 400,000 tons of cement and 400,000 tons of break bulk cargo. Also, near term construction impacts generated by the \$55 million of investment are estimated.

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<sup>1</sup> The 2014 Economic Impacts of the Port of Everett, April 30, 2015, by Martin Associates

Table 1  
Economic Impact Supported by the Port of Everett, 2014

| PORT OF EVERETT                 | TOTAL<br>PORT OF EVERETT |
|---------------------------------|--------------------------|
| Jobs                            |                          |
| Direct                          | 13,813                   |
| Induced                         | 17,770                   |
| Indirect                        | <u>3,546</u>             |
| Total Jobs                      | 35,130                   |
| Personal Income (\$1,000)       |                          |
| Direct                          | \$1,197,629              |
| Induced                         | \$2,631,092              |
| Indirect                        | <u>\$141,882</u>         |
| Total                           | \$3,970,603              |
| Business Revenue (\$1,000)      | \$4,331,284              |
| Local Purchases (\$1,000)       | \$583,413                |
| State and Local Taxes (\$1,000) | \$373,237                |

## 1. IMPACT METHODOLOGY

The movement of containers, cement and break bulk cargo via the improved South Terminal will contribute to the local and regional economies by generating business revenue to local and national firms providing vessel and cargo handling services. These firms, in turn, provide employment and income to individuals, and pay taxes to state and local governments. The impact of the port operations is not reduced to a single number, but instead, the operations of the improved South Terminal will create several impacts. These are the revenue impact, employment impact, personal income impact, and tax impact. These impacts are non-additive. For example, the income impact is a part of the revenue impact, and adding these impacts together would result in double counting.

### 1.1 Business Revenue Impact

At the outset, activity at the expanded South Terminal will generate business revenue for firms which provide handling and vessel services, as well as inland transportation services. This business revenue impact is dispersed throughout the economy in several ways. It is used to hire people to provide the services, to purchase goods and services, and to make Federal, state and local tax payments. The remainder is used to pay stockholders, retire debt, make investments, or held as retained earnings. It is to be emphasized that the only portions of the revenue impact that can be definitely identified as remaining in the local economy are those portions paid out in salaries to local employees, for local purchases by individuals and businesses directly dependent

on the seaport, in contributions to state and local taxes, and in lease payments and wharfage, dockage and handling fees.

## 1.2 Employment Impact

The employment impact of the expanded South Terminal consists of three levels of job impacts.

- . Direct employment impact - jobs directly generated by the movement of additional containers, cement and break bulk cargo. Direct jobs include jobs with railroads and trucking companies moving cargo between inland origins and destinations and the marine terminals, longshoremen, steamship agents, freight forwarders, stevedores, warehousing and distribution center operations, etc.
- . Induced employment impact - jobs that are created throughout the local economy because individuals directly employed by the increased activity at the South Terminal will spend their wages locally on goods and services such as food, housing and clothing. These jobs are held by residents located throughout the region, since they are estimated based on local and regional purchases. Martin Associates has developed an Everett specific induced model using data supplied by the US Bureau of Economic Analysis Regional Input-Output Modeling System (RIMS II), and US Bureau of Census data for the Everett Metropolitan Area.
- . Indirect Jobs - jobs that are created locally due to purchases of goods and services by firms, not individuals. These jobs include jobs with local office supply firms, maintenance and repair firms, parts and equipment suppliers, etc. The local purchases likely to be made by a major container terminal are based on relationships developed by Martin Associates for economic impact studies for the Ports of Seattle and Tacoma and adjusted to reflect the current relationships at the Port of Everett. To measure the impacts of the additional cement and break bulk cargoes, the 2015 Port of Everett Impact Model is used.

## 1.3 Personal Earnings Impact

The personal earnings impact is the measure of employee wages and salaries (excluding benefits) received by individuals directly employed due to handling the increased containers, cement and break bulk cargoes. Re-spending of these earnings throughout the regional economy for purchases of goods and services is also estimated. This, in turn, generates additional jobs -- the induced employment impact. This re-spending throughout the region is estimated using a regional personal earnings multiplier, which reflects the percentage of purchases by individuals that are made within the Everett area. The direct earnings are a measure of the local impact since they are received by those directly employed by seaport activity.

## 1.4 Tax Impact

Federal, state and local tax impacts are tax payments to the state and local governments

by firms and by individuals whose jobs are directly dependent upon and supported by the increased activity expected at the expanded South Terminal.

## **2. KEY IMPACT ASSUMPTIONS**

As part of the development of the baseline economic impact model for Port of Everett, Martin Associates interviewed 73 local service providers, including tug operations, pilots, freight forwarders and customhouse brokers, agents, surveyors, chandlers, trucking firms and railroads. Based on the data gathered during those interviews, the Port of Everett impact model was developed.

Jobs with trucking firms are estimated based on the share of containers that will likely move to and from the terminal via truck, as well as the average truck distance now served by current container operations at the ports of Seattle and Tacoma. Job impacts with linehaul rail are based on the average rail linehaul distance to key origin and destination points in the Midwest, the number of crew changes on a typical rail linehaul move, and relationships between intermodal lifts and rail yard employment. Rail revenue is estimated based on the average rail rates charged per container and bulk and breakbulk cargo.

Key assumptions regarding the additional movement of containers, cement and break bulk cargo were provided to Martin Associates by the 2008 Marine Terminals Master Plan.

## **3. POTENTIAL ECONOMIC IMPACTS OF THE SOUTH TERMINAL**

Over a 20 year period, it is assumed that the container throughput will reach 200,000 TEUs, from a start-up of 100,000 TEUs in 2017. Based on the 2008 Marine Terminals Master Plan, cement is projected to reach 400,000 tons annually, while break bulk cargo is projected to increase to 400,000 tons annually over the twenty year period.

The economic benefits of the \$55 million investment in an expanded and improved South Terminal is presented in 5 year increments in Table 2. Also included in the table are the net present values of each of the monetary benefit measures. The net present value of the monetary impacts are estimated based on a 3% and 7% discount rate. The terminal is projected to reach capacity twenty years after start-up, in year 21. Assuming a 2017 start, capacity is reached in 2038.

**Table 2**  
**Economic Impact of Expanded South Terminal**

| <b>Year</b>                           | <b>1</b> | <b>6</b> | <b>11</b> | <b>16</b> | <b>21</b> | <b>NPV Calculations (Millions)</b> |                 |               |                 |  |
|---------------------------------------|----------|----------|-----------|-----------|-----------|------------------------------------|-----------------|---------------|-----------------|--|
| <b>Jobs</b>                           |          |          |           |           |           |                                    |                 |               |                 |  |
| Direct                                | 382      | 791      | 937       | 1,069     | 1,275     |                                    |                 |               |                 |  |
| Induced                               | 436      | 845      | 991       | 1,133     | 1,341     |                                    |                 |               |                 |  |
| Indirect                              | 88       | 183      | 216       | 247       | 294       |                                    |                 |               |                 |  |
| Total                                 | 906      | 1,818    | 2,144     | 2,449     | 2,911     |                                    |                 |               |                 |  |
| <b>Personal Earnings (Millions)</b>   |          |          |           |           |           | <b>NPV@3%</b>                      | <b>BC Ratio</b> | <b>NPV@7%</b> | <b>BC Ratio</b> |  |
| Direct                                | \$28.5   | \$54.1   | \$63.3    | \$72.4    | \$85.5    | \$915.05                           | 16.6            | \$607.86      | 11.1            |  |
| Re-spending/Consumption               | \$62.6   | \$118.9  | \$139.1   | \$159.1   | \$188.0   | \$2,011.29                         | 36.6            | \$1,336.08    | 24.3            |  |
| Indirect                              | \$3.4    | \$7.1    | \$8.4     | \$9.6     | \$11.4    | \$120.08                           | 2.2             | \$79.47       | 1.4             |  |
| Total                                 | \$94.5   | \$180.1  | \$210.8   | \$241.1   | \$284.9   | \$3,046.42                         | 55.4            | \$2,023.41    | 36.8            |  |
| <b>Business Revenue (Millions)</b>    | \$56.3   | \$107.1  | \$125.3   | \$141.9   | \$167.4   | \$1,803.26                         | 32.8            | \$1,198.96    | 21.8            |  |
| <b>Local Purchases (Millions)</b>     | \$15.3   | \$31.8   | \$37.6    | \$42.9    | \$51.2    | \$538.46                           | 9.8             | \$356.39      | 6.5             |  |
| <b>State/Local Taxes (Millions)</b>   | \$8.9    | \$16.9   | \$19.8    | \$22.7    | \$26.8    | \$286.36                           | 5.2             | \$190.20      | 3.5             |  |
| <b>Federal Taxes (Millions)</b>       | \$17.0   | \$32.4   | \$37.9    | \$43.4    | \$51.3    | \$548.36                           | 10.0            | \$364.21      | 6.6             |  |
| <b>Fed Tax Direct Only (Millions)</b> | \$5.1    | \$9.7    | \$11.4    | \$13.0    | \$15.4    | \$164.71                           | 3.0             | \$109.41      | 2.0             |  |

As this table indicates, at startup with a 35,000 TEU throughput, 300,000 tons of break bulk cargo and 35,000 tons of cement, the South Terminal will generate about 382 direct jobs. These direct job holders are projected to receive about \$28.5 million in personal wages and salaries, for an average annual salary of \$74,626. As the result of the local and regional purchases by these direct job holders, 436 induced jobs will be supported in local supplying industries. It is important to emphasize that the re-spending and local consumption impact of \$62.6 million should not be divided by the 436 induced jobs to estimate induced income, since the re-spending impact also includes local consumption purchases, and this calculation would overstate the average induced jobs salary. The firms employing the 382 direct jobs are projected to make \$15.3 million of local purchases, which in turn is estimated to support 88 indirect jobs. These indirect job holders are projected to earn \$3.4 million of wages and salaries annually. Local businesses providing the services to the vessels and handling the containers as well as the surface transportation firms are projected to receive about \$56.3 million annually with a throughput of 35,000 TEUs, 300,000 tons of break bulk cargo and 35,000 tons of cement. A total of \$8.9 million of state and local taxes and \$17.0 million of Federal taxes are projected at start-up.

By full build out of the terminal, 20 years after start-up in year 21, the impacts are projected to grow significantly. Container throughput at the South Terminal is projected at 200,000 TEUs, cement is projected to grow to 400,000 tons and break bulk cargo is projected to grow to 400,000 tons annually. By the twentieth year, it is estimated that 1,275 direct jobs will be supported annually by the expanded South Terminal. These individuals are projected to earn \$85.5 million in wages and salaries annually, and as the result of the re-spending of this direct personal wage and salary impact, an additional 1,341 induced jobs are projected to be supported in the local economy. The local businesses providing the direct services are projected to earn \$167.4 million of annual revenue, of which \$51.2 million of local purchases are projected. These local purchases will support an additional 294 indirect jobs, for a total annual job impact

in year 21 of 2,911 jobs. State and local taxes generated at full build out are estimated at \$26.8 million annually, and Federal tax revenues are projected at \$51.3 million annually. If only the direct impact is considered, in 20 years, the activity is projected to generate \$15.4 million of direct Federal tax revenue annually.

The net present value of the cargo operations at the South Terminal was estimated using various monetary measures, including direct personal income, total income and consumption expenditures, business revenue, local purchases, total (direct, induced and indirect) state and local tax revenue, total (direct, induced and indirect) Federal tax revenue, and direct Federal tax revenue. As shown in Table 2, the net present value of the total Federal tax impact is estimated at \$548.4 million over the 20 year period using a 3% discount rate. If a 7% discount rate is used to reflect additional economic uncertainty, the net present value of the South Terminal is estimated at \$364.2 million in terms of total Federal tax revenue. If only the direct impacts are considered, the net present value of the project in terms of direct Federal tax revenue is estimated to range from \$109.4 million under a 7% discount rate, to \$164.7 million under a 3% discount rate.

Finally, the Benefit/Cost ratio is also presented in Table 2 for each monetary benefit measured, using a cost of \$55 million.

**4. SHORT TERM ECONOMIC IMPACTS DUE TO CONSTRUCTION EXPENDITURES**

The \$55 million of construction expenditures will also have significant one-time construction impacts. These impacts are presented in Table 3. Using employment and income multipliers developed for the Seattle-Everett for Martin Associates by the US Bureau of Economic Analysis, Regional Input-Output Modeling System, it is estimated that the \$55 million of construction expenditures will support 890 jobs, and \$39.6 million of personal income, \$3.5 million of state and local taxes and \$7.1 million of Federal taxes.

Table 3  
Construction Impacts

| <b>Construction Impacts</b> |              |
|-----------------------------|--------------|
| <b>Expenditures</b>         | \$55,000,000 |
| <b>Job:</b>                 | 890          |
| <b>Personal Income</b>      | \$39,633,000 |
| <b>State/Local Taxes</b>    | \$3,527,337  |
| <b>Federal Taxes</b>        | \$7,133,940  |