

TIGER II DISCRETIONARY GRANTS

PISCATAQUA RIVER MARINE PORT IMPROVEMENTS IN PORTSMOUTH, NEW HAMPSHIRE



*Aerial view of Market Street Marine Terminal facilities
(looking north, main wharf on right side of bridge)*

Submitted by:

NEW HAMPSHIRE DEPARTMENT of
TRANSPORTATION and

PEASE DEVELOPMENT AUTHORITY,
DIVISION OF PORT AND HARBORS:
Market Street Marine Terminal

Prepared August 23, 2010

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PROJECT PARTIES:

APPLICANT

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TYPE OF PROJECT: *PORT*
LOCATION OF PROJECT: *Portsmouth, Rockingham County, NH, 1st
Congressional District;*

URBAN OR RURAL AREA: *Urban*

AMOUNT OF DOLLARS OF GRANT FUNDS REQUESTED: *\$14 million*

DUNS NUMBER (WWW.DNB.COM): *NEW HAMPSHIRE 80-859-1697*

PRE-APPLICATION ID: *N10MPP-1901*

Link To NHDOT Web Page For Application

<http://www.nh.gov/dot/projects/portofnh/index.htm>

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OVERVIEW

The New Hampshire Department of Transportation (NHDOT) submits this application requesting \$14 million in TIGER II Grant funds for rehabilitation and expansion of the main wharf at the Market Street Marine Terminal on the Piscataqua River. The overall improvements will:

- Rehabilitate and expand the NH Port facilities to provide increased functionality of services and opportunities for maritime activities.*
- Provide/create jobs in this region for the entire duration of construction activities (2 years).*
- Enhance national security through improved services to the Portsmouth Naval Shipyard for maritime activities and associated support for shipping and marine transport.*
- Serve the long-term mobility needs for river vessels (private and commercial) in the Portsmouth-Kittery region.*

New Hampshire believes this application meets the criteria for the TIGER II Grant program. It is an application that improves marine shipping at the New Hampshire Port Authority's Market Street Marine Terminal, and all terminals along the Piscataqua River.

This port facility also has rail service and supports marine vessels discharging and loading cargo to and from various businesses within a 75 mile radius, in addition to supporting tourist related services. It is truly an important part of the active working port area. Updating its infrastructure will better serve the needs of modern marine transport activities. These improvements also create the opportunity for increased commercial activity, thereby enhancing the economic vitality of the region.

MARKET STREET MARINE TERMINAL

INTRODUCTION

NHDOT and the Pease Development Authority, Division of Ports and Harbors (Port Authority), are requesting this grant application for rehabilitation and expansion of the Market Street Marine Terminal's main wharf located in Portsmouth, NH. This project is part of the planned improvements to the multimodal transportation network that will serve the needs of the region well into the future. The Market Street Marine Terminal supports all marine services and activities in the Piscataqua River area.

Rehabilitation and expansion of the Marine Terminal main wharf is designed to increase operational efficiencies, provide economic opportunities, and extend the useful working life of the berth at the terminal. The 29,000 square foot expansion of the main wharf will replace the current wharf access bridges by decking the area between the existing shoreline sheeting and the back of the current main wharf. This enhancement will provide direct and easy access along the entire length of the main wharf, greatly enhancing its functionality. In addition, the project improves the structural integrity of the existing main wharf that, due to continuing deterioration, currently has a significantly reduced live load capacity. These overall operational and structural deficiencies severely constrains the ability of the Port of NH to serve the needs of potential customers, making it very difficult to attract more clients and become more economically sustainable.

The wharf project provides significant long-term benefits to the region. This work enhances the connectivity between the states, provides safe and reliable multimodal transportation infrastructure, and improves the economic competitiveness and vitality of this seacoast region. The Benefit-Cost Analysis (BCA) concludes that the project benefits exceed the costs and clearly demonstrates that the project is justifiable and supportable from an economic perspective (See

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Appendix D). Further, this application will generate a significant number of jobs for the region during the next 2 years.

Piscataqua River, Marine Port Improvements

DESCRIPTION

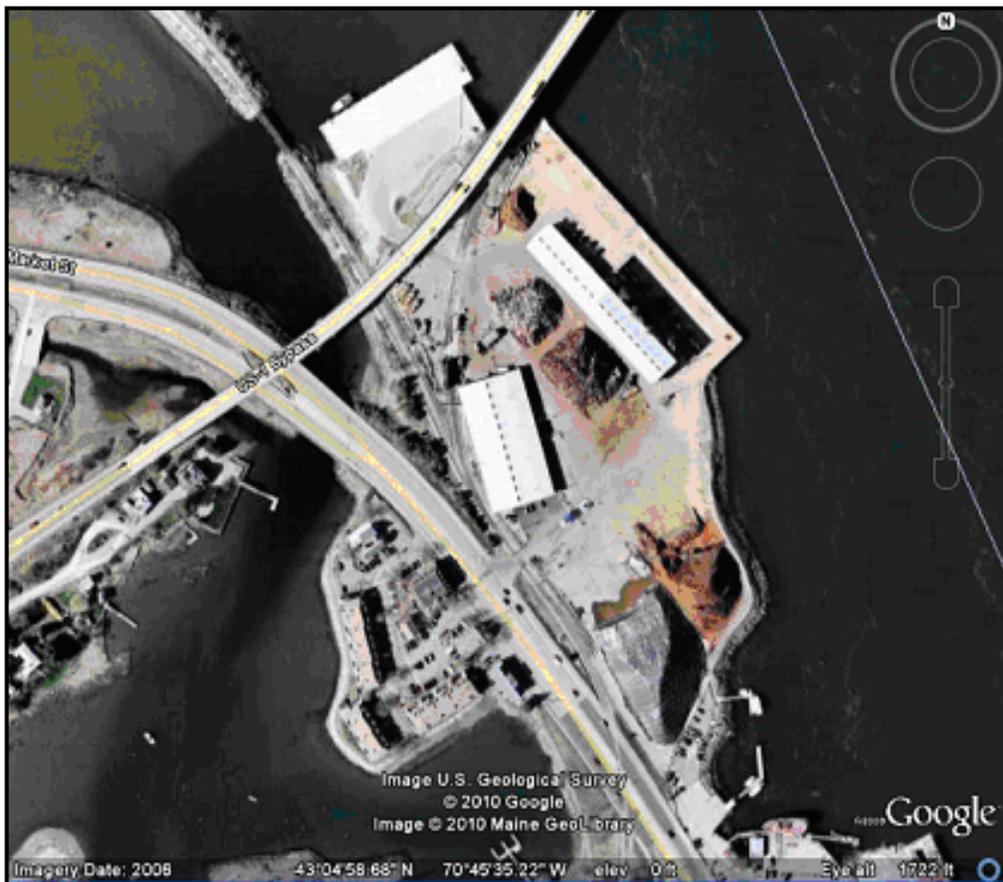
MARKET STREET MARINE TERMINAL

The rehabilitation and expansion of the main wharf is critical to ensure that the Portsmouth and Kittery economies are competitive and continue to grow. The current length of the port's longest wharf at 582 feet is insufficient for providing full service for all cargo hatches of bulk carriers, thus creating inefficient operations. This operational deficiency presents a disincentive for ships currently calling on the port and for other potential transport vessels when considering the Market Street Marine Terminal for their berth. Rehabilitation and expansion of the wharf will enhance the economic opportunities of these seacoast communities and help ensure that the local economy remains strong and viable.

The State of New Hampshire, Pease Development Authority, Division of Ports and Harbors is responsible for:

- *Management, operation, and maritime security of New Hampshire's only deep water, public access, general cargo marine terminal in Portsmouth*
- *Passenger/ferry, commercial fishing, and recreational vessel facilities in Portsmouth, Rye, and Hampton*
- *Permitting and placement of moorings and navigational aids in state tidal waters*
- *Licensing of harbor, river, and docking pilots*
- *Maintaining and dredging channels, harbors, and anchorages in state tidal waters*
- *Establishing and maintaining a Foreign-Trade Zone (#81) in New Hampshire*
- *Management of a Revolving Loan Fund for the commercial fishing industry*

The Market Street Marine Terminal also provides marine support service to vessels that carry approximately 5 million tons of cargo in and out of the harbor annually. The Market Street



Marine Terminal alone handled 271,238 tons of bulk cargo and over 50,000 tons of machinery in 2009. Much of the tonnage not handled by the terminal was associated with upstream businesses that rely heavily on the proper functioning of the wharf and local bridges. Commercial, non-industrial users of the port include marine construction companies working in the harbor, military vessels, tour boat operators, environmental research vessels, and charter boats.

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Much of the tonnage not handled by the Market Street Terminal was associated with upstream businesses that rely heavily on the proper functioning of the wharf, as well as local bridges over the Piscataqua River.

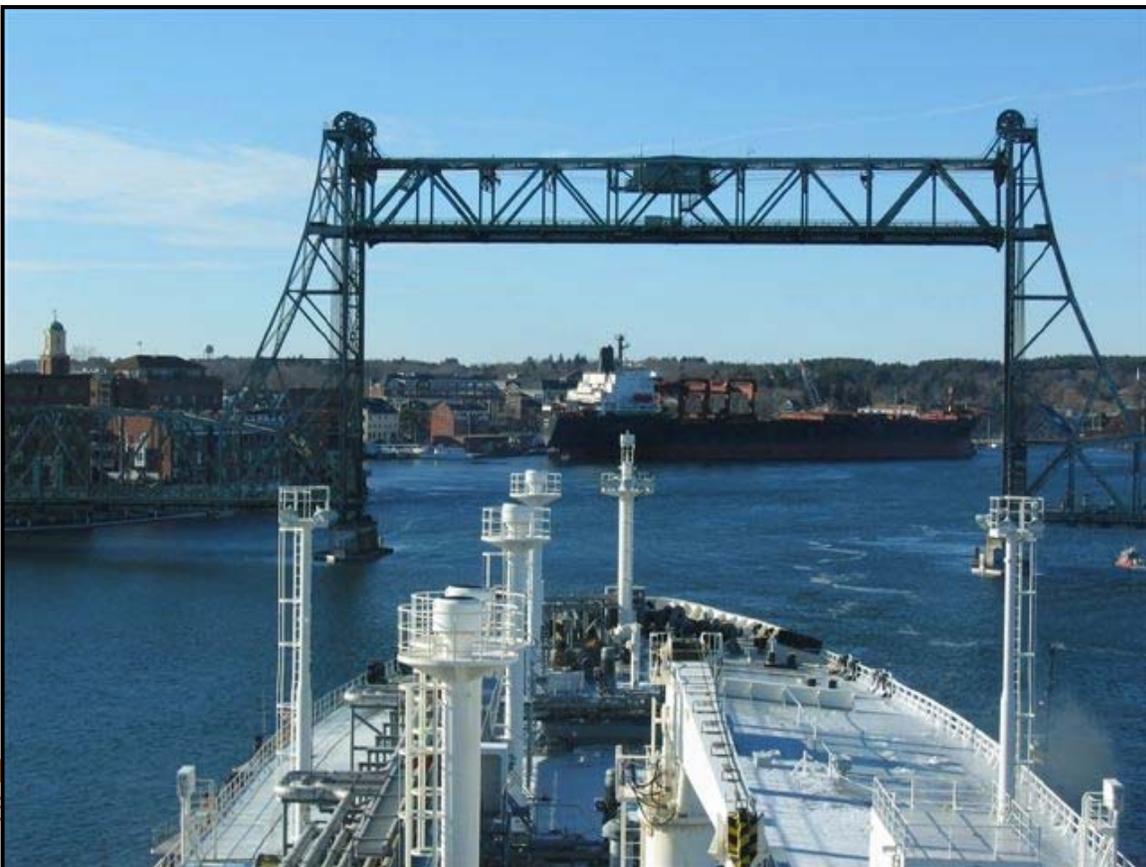
*Aerial view of Market Street Marine Terminal facilities
(Main Wharf on right side of bridge)*

CURRENT MARINE TRAFFIC

The Market Street Marine Terminal receives shipments via land, rail, and sea, and in 2009, a total of 215 individual transport vessels entered the harbor with many stopping at the Market Street Marine Terminal. Local industrial activities, such as PSNH Power Plants, SEA-3 (LPG terminal), Georgia Pacific, EL Power Plant, United Industrial, Westinghouse Electric, International Salt, Tyco, and Grimm Industries, all rely heavily on the wharf and nearby bridges crossing the Piscataqua River to provide the services they need to initiate or complete their deliveries of goods and services.



Ship in Portsmouth harbor



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*LPG Tanker Ship in Portsmouth Harbor approaching the Memorial Bridge
(ship at Market Street Marine Terminal in background)*

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GRANT FUNDS AND SOURCES AND USES OF PROJECT FUNDS

APPLICATION FUNDING AND COST ESTIMATE

The Market Street Marine Terminal main wharf rehabilitation and expansion project is estimated at \$14 million with the Port Authority providing the 20% match of grant funds and any project overruns that may arise.

PROJECT SCHEDULE

With approval of this grant application, the Market Street Marine Terminal main wharf rehabilitation and expansion project will advertised in February 2011, with a contract award date in April 2011. The project will be completed by October 2012, if not sooner.

LONG TERM OUTCOMES

A strong multimodal transportation system promotes economic viability, vitality, and ultimately more livable communities that utilize that system. Transportation projects have the dual benefit of directly supporting jobs during construction, in addition to supporting the regional and local economics through improved movement of goods, services, and people. Deficient links in a transportation system infrastructure restrict travel and can significantly impact a region's economic growth and safety. Ensuring that transportation infrastructure is in a state of good repair is a critical element in providing opportunities for economic competitiveness and viable economic growth. Rehabilitation and expansion of the Market Street Marine Terminal helps restore transportation options available through the Port of NH, enhances the ability of these communities to remain competitive, and promotes sustainable economic growth for the region.

STATE OF GOOD REPAIR

Current Condition

The main wharf at the Market Street Marine Terminal is overall in fair condition, but critical repairs need to be completed, along with replacement of the wharf access bridges. The deterioration of the wharf generally ranges from minor to moderate deterioration. However, localized areas of advanced deterioration include the failed deck topping on the 1977 structure, the deck underside, the superstructure framing elements, and corrosion of the steel caisson shells. A preliminary structural analysis evaluating the caissons and superstructure framing components was performed for the 1964 and 1977 wharf structures, and recommended reductions in its live load capacity, along with other restrictions and operational limitations.

The proposed expansion of the wharf will extend it by 125 linear feet and will include a 24 square foot offshore mooring dolphin, thus providing safer vessel mooring and berthing operations. The additional wharf deck area (approximately 29,000 square feet) will provide a much larger area for material lay down and assembly area at the facility. The expanded wharf will also have a greater loading capacity than the existing structures, which will allow larger cranes and vehicles to operate at the site. These additions and improvements will provide a more efficient and operational marine facility that is better able to provide the marine support services needed by this busy seacoast port.

Operating and Maintenance Costs

The rehabilitation and expansion of the Market Street Marine Terminal main wharf is estimated to cost \$14 million: \$11.5 million for the expansion and \$2.5 million for the repairs. If these repairs are not made in the near term, their cost will increase by 50% within four years to \$4 million. Expenditures of \$100,000 annually will also be required to address operational maintenance needs, if the rehabilitation is not performed.

The Division of Ports and Harbors has, to date, expended \$3,199,600.00 on the rehabilitation and expansion project, allocated as follows:

- Wetlands Mitigation \$1,800,000

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- *Design and Engineering* \$ 784,150
- *Permit fees* \$ 50,450
- *Site Preparation* \$ 565,000

ECONOMIC COMPETITIVENESS

The Market Street Marine Terminal receives regular shipments of scrap metal (the State's 4th largest export) and highway deicing salt. In 2009 the Market Street Marine Terminal handled 148,300 tons of scrap metal and 122,938 tons of highway deicing salt. In addition, other cargo regularly enters and exits the facility, including oversized industrial machinery.

Currently, eight individuals are employed full time at the Market Street Marine Terminal by the NH Port Authority. The base tenants of Grimmell Industries and International Salt employ two and one half and one and one half full time equivalent employees at the port, respectively. The security company at the marine terminal maintains one and one half full time equivalent employees, for a total of 13.5 full-time direct jobs at the port. The proposed capital investments are critical to retain and expand upon current and long-term job opportunities in this area.

Economic Growth Opportunities

Expansion of the main wharf will result in increased economic opportunities and activities at the Market Street Marine Terminal. A current base tenant has indicated that the proposed wharf expansion would enable them to consider shipping forest products and prefab structural steel through the port, in addition to their current cargo. A windmill company has approached the port to determine whether it could be utilized for the transport of wind towers, blades, and generators. Currently, this cargo cannot be accommodated because of the main wharf's deteriorated condition and limited load capacity. With a rehabilitated and expanded wharf, however, the Pease Development Authority estimates that the port will experience a significant increase in cargo moving through the port.

The NH Port Authority has indicated that the expansion and repair of the main wharf is likely to result in a 15% increase in cargo that is processed through the port.

The viability of a proposal for ferry service between Portsmouth, NH, and Yarmouth, Nova Scotia, Canada, would also be enhanced with main wharf rehabilitation and expansion. The current wharf configuration is inadequate for the ferry service at the present time. Wharf improvements would move the Market Street Marine Terminal one step closer to establishing a ferry service between these two countries. The business plan prepared by the ferry service operator estimated that 150,000 passengers per year would utilize a new ferry service at this location. In addition, 30 to 35 tractor-trailers per day would likely travel each way on a ferry service between these two ports.

Short Sea Shipping is an alternative form of commercial transportation that utilizes inland and coastal waterways to move commercial freight from major domestic ports to its destination. With increased road congestion and increases in trade volumes, US ports and businesses are seeking alternatives to move cargo via port facilities and closer to their final destinations. Short Sea Shipping provides an alternative to truck and rail transportation by using barges and smaller container vessels (up to 750 feet) for freight shipments. Shipping begins at larger import/export ports, and is then distributed to smaller, strategically located ports for final delivery. The federal government, through the Maritime Administration, is encouraging this form of trade transport. The newly rehabilitated and expanded port facility would be able to utilize short sea shipping to reduce overall delivery costs for freight shipped in this manner.

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The US Army Corps of Engineers Piscataqua River Federal Navigation Channel is designed to accept ocean-going vessels 750 feet in length; however, the current wharf cannot accept vessels of that size. The port's strategic location in New England and close proximity to I-95, combined with an improved wharf, would make the Market Street Marine Terminal an excellent candidate for Short Sea Shipping opportunities. This activity would further enhance the economic growth and viability of area businesses, and is likely to create a large number of jobs in support of its operations.

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Shipper Cost Savings

With a rehabilitated and expanded main wharf at the Market Street Marine Terminal, the port will be able to accommodate additional cargo volumes and thereby provide a direct cost savings to shippers. These cost savings are based on estimates of the cargo that will be diverted from truck transport to marine transport, the reduced cost per ton-mile of shipping by water compared to truck, and estimates of average shipping distances. The cost differential to shippers using marine transport versus trucking, assumed to be six cents per ton-mile, results in an estimated \$93.8 million cost savings to the shippers. A sensitivity analysis was done assuming that the savings were only three cents per ton-mile, resulting in an estimated shipper-cost savings of \$46.9 million. Appendix D provides more detail related to this Benefit-Cost Analysis.

LIVABILITY

Background

Livability and community cohesion go hand in hand. The quality of relationships among people in a community, as indicated by the frequency of positive interactions, the number of neighborhood friends and acquaintances, and one's sense of community connection, are a significant indicator of a region's livability. A "livable" community can provide indirect benefits as well, including increased safety and health, increased property values, and economic development.

The Market Street Marine Terminal improves the livability of these communities and the surrounding region by providing an international connection to the businesses located in the Portsmouth, NH, and Kittery, ME, region. Commercial, non-industrial users of the terminal include tour/cruise ship operators, military vessels, environmental research vessels, and charter boats. An improved wharf will help make the harbor operate more efficiently and more safely overall.

In addition, the City of Portsmouth and the Town of Kittery both have vibrant downtown areas and well-established neighborhoods. The expanded Marine Terminal will attract more visitors that will take advantage of its closeness to these downtown areas and the considerable historic character present within these communities. Numerous restaurants, retail establishments, historic sites, such as Strawberry Banke, John Paul Jones Park, Prescott Park, to name a few, are all located within walking distance from the Marine Terminal. These cultural elements, along with the Memorial and Sarah Mildred Long Bridges, all combine to form the historic fabric of these seacoast communities. The economic support the merchants and tourist attractions of both states would receive from this increased leisure activity would be significant.

SUSTAINABILITY

Promoting a more environmentally sustainable transportation system is an important goal in infrastructure improvements. Rehabilitating and expanding the wharf will provide measurable emissions reductions, energy efficiency improvements, and other environmental benefits to the Portsmouth-Kittery seacoast region.

The Market Street Marine Terminal provides a "green" alternative to commercial trucking. Use of the terminal reduces the number of trips and related emissions created by trucks transporting goods on congested highways by diverting cargo from these congested highways to nearby waterways for transport, thereby reducing vehicle emissions, such as VOC (HC), CO, CO₂, NO_x, SO₂, and PM.

SAFETY AND SECURITY

Portsmouth Naval Shipyard

The Portsmouth Naval Shipyard, located in Kittery, ME, is one of only four remaining active shipyards in the United States. When security at Portsmouth Naval Shipyard is elevated,

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particularly when there is a nuclear submarine docked, the Market Street Marine Terminal is utilized by the Naval Shipyard and other nearby terminals to load and unload cargo from foreign flag vessels, and to stage construction equipment & construction materials for marine construction projects in the harbor, at other terminals, and at the Naval Shipyard. This practice maintains some separation of the foreign vessels from the Naval Shipyard for security reasons. The terminal also assists the Naval Shipyard with marine construction activities by providing a facility for offloading materials and equipment. This service is particularly important because the Naval Shipyard is located on an island and access is limited. As proposed, the main wharf expansion would create additional dock space to accommodate ships associated with port activities as well as those associated with the Naval Shipyard.

Fire and Oil Spill Safety and Security

The port facility is part of the overall emergency planning for the harbor and Piscataqua River areas. It provides dock space for the Portsmouth Fire Department's fireboat, making it a focus of emergency response. If there is an emergency situation on board a ship, the pilot brings that ship to the marine terminal for a couple of reasons. First, it would be illogical and extremely dangerous to take a shipboard fire to the nearby oil/propane terminal, which is a private pier option on the Piscataqua River. Second, it is difficult, if not impossible, to get emergency equipment and assets to the ship's side at other terminals located along the river.



Shipboard Fire Fighting Training at Main Wharf at the Market Street Marine Terminal

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The Portsmouth Fire Department staff has received advanced shipboard fire fighting training, but some communities have not. The Market Street Marine Terminal hosts shipboard training for the seacoast region, the last of which involved 18 communities. With the Portsmouth Fire Department as the lead, the Terminal facilitated the training by providing the venue and the ship. If the main wharf improvements do not occur, providing this training in the future will be extremely difficult.

The Piscataqua River Oil Spill Response Cooperative, in cooperation with the New Hampshire Department of Environmental Services and other agencies, use the terminal for training drills and in the unlikely event of a spill, for staging response equipment. The terminal provided berthing for a large oil response vessel that was brought in specifically for a training exercise. A rehabilitated and expanded main wharf will provide a safer and more suitable area from which to stage training activities in response to this type of environmental emergency.

The safety and security services provided by the Market Street Marine Terminal give significant justification for ensuring that the main wharf is safe, sufficient, and appropriate for these important efforts. The project would expand the wharf's length and eliminate the wharf access bridges by decking the area between the existing sheeting at the shoreline and the edge of the current wharf. This provides direct access to the wharf along its entire length, increasing access and maneuverability for multiple emergency vehicles. These operational improvements significantly increase the emergency response and safety capabilities of the port. Failure to rehabilitate and expand the main wharf would reduce the efficiency of the wharf and thereby reduce the ability of first responders to effectively provide their services.

EVALUATION OF EXPECTED PROJECT COSTS AND BENEFITS

HDR Decision Economics, using methods and parameters consistent with US Department of Transportation guidelines, conducted the benefit/cost analysis. All benefits and costs in the analysis are estimated in 2010 dollars. The valuation of benefits uses a number of assumptions that are required to produce monetized values for non-pecuniary benefits. The different components of time, for instance, are monetized by using a "value of time" that is assumed to be equivalent to the user's willingness to pay for "time savings" in transit. These, as with all other values used in the analysis, are taken from the United States Department of Transportation (USDOT) guidance on the preparation of TIGER applications. Where USDOT has not provided valuation guidance or a reference to guidance, standard industry practice has been applied. (See Appendix D for complete summary and backup information.)

Benefit-Cost Results

Project Benefits: Five categories of benefits were measured for this analysis: 1) shipper cost savings 2) accident reductions; 3) emission reductions; 4) vehicle operating cost savings; and 5) pavement maintenance savings.

Project Costs: Costs include the initial capital construction costs as well as operating and maintenance (O&M) costs of the Market Street Marine Terminal main wharf. The results for the main wharf are provided using the TIGER Grant recommended discount rate of 7%, as well as a discount rate of 3%. The benefit-cost ratio (BCR) at the 7% discount rate is 3.5 and an impressive 6.2 with a 3% discount rate. A complete discussion of the Benefit-Cost Analysis methodology is provided in Appendix D.

EVALUATION OF PROJECT PERFORMANCE

Wharf Inspections

Once rehabilitation is complete, inspection of the wharf structures will be performed on a periodic basis in accordance with industry standards and the American Society of Civil Engineers Practice manual No. 101. Wharf inspection reports will be evaluated to gauge project longevity and will be used to coordinate future preservation efforts as needed. The success of the rehabilitation effort will be evaluated as part of this inspection process. In addition, division

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personnel engaged in day-to-day operations of the wharf will also provide key input into this process. Their constant contact with and operation of the wharf facilities provides keen insight into the success and performance of the wharf rehabilitation.

Reporting

The New Hampshire Department of Transportation has successfully implemented significant American Recovery and Re-investment Act programs since the ARRA legislation was approved in February of 2009. Monthly reporting for individual ARRA projects that detail project status and employment data, including payroll, number of employees on each project and hours worked, are currently being collected and posted on respective state ARRA web pages. Similar information would be collected and used for the main wharf rehabilitation and expansion to document and evaluate its performance.

Labor Compliance Tracking

Labor compliance personnel are currently employed to communicate and prescribe practices and procedures required to effectuate the Equal Employment Opportunity (EEO) provisions for all federally funded contracts in accordance with the Federal Highway Administration's Contractor Compliance requirements outlined in 23 CFR 230, Appendix A of Subpart C, Part I.

JOB CREATION AND ECONOMIC STIMULUS

Investment in the Market Street Marine Terminal main wharf infrastructure rehabilitation and expansion will produce significant near-term economic stimulus and job creation benefits in the Portsmouth-Kittery region. The short-term construction activity will provide a variety of construction, manufacturing, and supporting industry job opportunities and labor income with most, if not all, project expenditures supplied domestically.

JOB CREATION

Based on the project schedule and capital budget for the main wharf improvement, the Market Street Marine Terminal project is estimated to involve 67 direct on-site employees for the construction. The following table breaks down these labor requirements by construction element.

<i>Market Street Marine Terminal</i>	<i>Direct Jobs</i>
<i>Pile Drivers</i>	<i>13</i>
<i>Operating Engineers</i>	<i>10</i>
<i>Carpenters</i>	<i>8</i>
<i>Laborers</i>	<i>12</i>
<i>Ironworkers</i>	<i>5</i>
<i>Electricians</i>	<i>3</i>
<i>Superintendents</i>	<i>4</i>
<i>Field Engineers</i>	<i>4</i>
<i>Surveyors</i>	<i>3</i>
<i>Project Managers</i>	<i>3</i>
<i>Coffee Wagon</i>	<i>2</i>
TOTAL	67

These direct on-site jobs are only those associated specifically with the construction elements of the main wharf improvements. They do not include the jobs that are created when funds are spent on non-labor items, such as materials and equipment and other sub-contractors, which are estimated to provide another 61 direct jobs nationally for a total of 128 direct jobs for the port improvement project.

Based on the capital budget and using the IMPLAN economic impact modeling system, the total short-term job creation, including multiplier effects, is estimated to be 307 jobs in 2011 and 2012

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nationwide. IMPLAN is a nationally recognized economic model –it was selected by the US Department of Agriculture to estimate job creation due to TIGER II investments. The economic impact analysis includes estimates of multiplier and total job impacts based on direct, indirect, and induced impacts.

By comparison, the Council of Economic Advisors (CEA) also offers guidance on estimating the number of jobs associated with a government funded transportation project. This guidance provides an estimate of one job created or saved per \$92,136 of government spending from the American Recovery and Reinvestment Act (ARRA). Using the CEA method and assuming an overall main wharf expenditure of \$14 million; nearly 152 jobs will be directly created by the investment.

Most of the jobs directly associated with these projects will be in construction-related industries. Higher paying jobs are often more desirable for communities, as they generate a greater amount of additional taxes and consumption. At the same time, lower paying wages may be beneficial for communities with a greater proportion of unemployed or low-skilled workers. Construction employment may benefit many individuals in these more economically disadvantaged populations, with secondary benefits to the local businesses and communities.

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ENVIRONMENTAL CONSIDERATIONS

A WETLANDS AND NON-SITE SPECIFIC PERMIT 2008-02363 was approved on 09/10/2009 and issued by the NH Department of Environmental Services for the project. Additionally, on November 9, 2009 the US Army Corps of Engineers issued a permit (NAE-2009-00088) known as the New Hampshire State Programmatic General Permit (NHSPGP) for the Market Street Marine Terminal main wharf rehabilitation and expansion project. Receipt of these permits concludes all environmental permitting requirements needed for this project.

STATE AND LOCAL PLANNING

The Market Street Marine Terminal main wharf rehabilitation and expansion was initially approved by the New Hampshire Legislature under Chapter 351:5 of the Laws of 1991 and has been continually approved by the Pease Development Authority Board of directors with concurrence by the New Hampshire General Court's Capitol Budget Overview Committee. In June 2007, the Pease Development Authority obtained approval for design, engineering, permitting, construction documents, and hydrographic survey. In 2008, approval for submission of NH-DES Standard Dredge and Fill Application was obtained (see permit information above in ENVIRONMENTAL CONSIDERATIONS). The legislation will remain in effect until the completion of the project.

INNOVATION

Due to past storm water discharge concerns, innovative Downstream Defenders are being utilized in the marine terminal facility's storm water treatment process to prevent pollutants from reaching the river. The Downstream Defender is an advanced hydrodynamic separator designed to remove sediment, floatables, and associated pollutants from storm water. Larger diameter concrete-filled steel caissons are being utilized to increase spans between supports and reduce the total number of supports required for the design loading. The concrete mix design will utilize recycled material, including fly ash, which is produced through the combustion of coal used to generate electricity. Fly ash, combined with cement, provides a more durable, longer-lasting concrete product.

PARTNERSHIP

The importance of the main wharf rehabilitation and expansion to the Portsmouth-Kittery region can be determined by the number of parties that have work cooperatively to develop this planned improvement. The New Hampshire Legislature enacted and continually approved legislation in support of this project. The Pease Development Authority took the lead in developing the design, engineering, permitting, and contract plans necessary for this work to proceed once funds were obtained. The New Hampshire Department of Environmental Services issued permits approving this work.

In addition, the Portsmouth Naval Shipyard, community members, shipping operators, local businesses, and elected officials, all strongly support these improvements to the main wharf. They can easily recognize the benefits from improved safety, operation, and functionality of the rehabilitated and expanded Marine Terminal. This effort will truly enhance the connectivity of the region and could provide an international link to the outside world as well.

The result is an area-wide multi-modal transportation improvement project that addresses the needs of many individuals, businesses, organizations, and tourists traveling in the Portsmouth-Kittery area. For this reason, this transportation initiative will greatly improve this portion of the seacoast transportation network well into the future.

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NHDOT Web site <http://www.nh.gov/dot/projects/portofnh/index.htm>

Project:	Portsmouth-Kittery, Marine Terminal Rehab and Expansion
Scope of Work:	TIGER II Discretionary Grant Application for Market Street Marine Terminal
Contact:	Robert Landry, P.E. Telephone: (603) 271-3921
TIGER Discretionary Grant Application	Cover Letters Commissioner Campbell Application Appendix A - Letters of Support Appendix B - Area Photos and Inspection Photos Appendix C - Environmental Documents Marine Terminal Environmental Document Appendix D - Benefit Cost Analysis Backup Data Appendix E - Comparison, TIGER I vs TIGER II Appendix F - Federal Wage Rates