PORT OF DAVISVILLE UTILIZATION STUDY: PHASE II

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University of Rhode Island
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16. Abstract

This project investigated the feasibility of expanding the Port of Davisville (Quonset Point, RI) to serve as a port of entry and departure for international container shipments. As an international port of entry (departure), the Port of Davisville would receive import (export) container freight shipments on vessels directly from (to) overseas importers (exporters).

This project is a continuation of a previous research study, "Feasibility Study to Increase Utilization at the Port of Davisville (Quonset, RI)", which was funded by a grant from the University of Rhode Island Transportation Center from January to August 2009. The previous study investigated the logistics and transportation issues associated with shipping containerized freight through the Port of Davisville. In particular, the studied focused on identifying local and regional customers that could reduce their transportation costs by utilizing a container barge feeder service between the Port of Davisville and the Port of New York and New Jersey. The previous study did not investigate utilizing the Port of Davisville for shipments directly to and from international ports (i.e. as a port of entry and departure.) The study proposed in this grant application will expand the previous research and investigate transportation issues associated direct shipment of containerized freight between the Port of Davisville and foreign ports. Utilizing the Port of Davisville for direct container freight shipments between foreign ports will possibly reduce the costs associated with shipping containerized freight for business, reduce port congestion at other east coast ports, and provide economic benefits to the local economy through job creation and lower shipping costs for businesses.

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ABSTRACT

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A) INTRODUCTION

Currently, no shipping container traffic moves through the port; all international container traffic into and out of the Rhode Island area moves through port facilities located elsewhere in the United States. To be competitive as a port of entry and departure the Port of Davisville will require significant infrastructure investments. These investments include the purchase of gantry cranes and dredging of the channel to the port. Previous estimates of the required investment have ranged dramatically with some estimates approaching $1 billion. This study examines the Port of Davisville's economic viability as a port of entry and departure.

Potential Benefits of this Study Include:

- Improving the sustainability of import and export operations. The ability of local shippers to utilize Davisville for international container shipments may reduce the number and distance of truck shipments the shippers require, which will reduce the environmental impacts of those shipments.
- Understanding the economic viability of utilizing the Port of Davisville as a port of entry and departure will help guide decision makers to make sound infrastructure investment decisions. This analysis may encourage additional investment to capture potential container traffic or it may prevent over-investment in facilities that will not be fully utilized.
- Adding a full scale port of entry and departure at Davisville will reduce the strain on east coast port facilities by increasing the overall capacity of the east coast port facilities.
- An objective empirical assessment of the potential economic benefits that may result from increasing the utilization of the Port of Davisville.

This project will be a collaborative effort between the University of Rhode Island's College of Business Administration (CBA) and the Quonset Development Corporation (QDC), who operates the Port of Davisville.

B) PROJECT DESCRIPTION

The purpose of this proposal is to seek funding for research into the feasibility of expanding the Port of Davisville (Quonset Point, RI) to serve as a port of entry and departure for international container shipments. The research portion of this project took place during the fall 2009 academic semester. The research goals involved:

1. Expanding the optimization model developed in the previous study to consider the Port of Davisville as an international port of entry and departure.
2. Utilizing the container volume estimates to building an economic model to guide infrastructure investment decisions.
3. Quantify the potential environmental benefits of utilizing the Port of Davisville as a port of entry or departure.

The teaching goals of the research effort are to:

1. Allow students to gain valuable experience by investigating and developing a solution for a real-world logistics issue.
2. Expose undergraduate students to the academic research process.
3. Document the steps of this project and develop a case study which will be used in future Supply Chain Management course taught in the CBA.

C) PROJECT BUDGET

The study had a total budget of $19,909. A match of $10,000 was provided through a donation of software from Insight, Inc. A copy of the budget is included in Appendix A.

D) TEAM AND MANAGEMENT APPROACH

Team

This research project will be conducted as a joint collaboration between members of the CBA and the QDC. James Kroes, the principal investigator, managed the overall project and oversaw the student research assistants' activities. Paul Mangiameli, also from the CBA, assisted in building the analytical models and analyzing the study results. Evan Matthews, the Port Manager at Davisville, worked closely with the URI team to assist with data collection and verification.

Student Involvement

Three undergraduate students in the CBA Supply Chain Management program assisted with the collection of data and construction of the model. The students contact industry professionals for the purpose of conducting structured interviews designed to collect data needed to build the analytical model. In addition, the student will be gaining valuable firsthand experience designing an actual intermodal transportation solution which will aid them in their current Supply Chain Management courses and in their ongoing careers.

Industry Partner & Potential Benefits

The industry partner is the software vendor INSIGHT Inc, based out of Manassas, Virginia. The president of the company, Dr. Jeffrey Karrenbauer, agreed to donate network design and optimization software called SAILS. SAILS was used to build the analytical model of the proposed operations at the port of Davisville. A portion of the value of this software donation was used a matching funds for the grant.

E) PROJECT TASKS AND TIMELINE

This project will commence on September 1, 2009 and conclude on December 31, 2009. The proposed schedule for the project tasks is detailed in the table below:

Task	Dates
Develop an optimization model of the current international container shipments, which do not utilize the Port of Davisville.	September 1 to October 1, 2009.
Develop an optimization model of the proposed container shipments utilizing the Port of Davisville as an international port of entry and departure.	October 1 to November 1, 2009.
Utilize the container volume estimates from the optimization models to build a financial model which estimates the economic viability and benefits of utilizing the Port of Davisville as a port of entry and departure.	November 1 to December 31, 2009.

F) PROJECT TASK RESULTS

Task 1: Baseline International Model

To gather the necessary information to build the National Model, we went through a data collection process. First, we examined previous studies that investigated the viability of utilizing the Port of Davisville for international cargo shipments (as summary of these studies is included in Appendix B.) Net we utilized students to assist with the collection of rate and container flow volume data. Data used in the model includes:

Model Structure

- 22 largest Ports of Entry for international container imports into the United States
- 1360 "Customer" locations – container demand is aggregated by zip code
- 135 intermodal rail yards

Container Volume Data

- "Demand" data was extracted from the U.S. Customs records for all full container imports through the Top 22 Ports of Entry.
    - Container data was acquired from the 2008 Manifest Journals database.
    - 410,306 data records tracking **2,227,680** Forty Foot Container Equivalents (FEU) of imports.
    - Represents 67% of total Containerized Imports into the Ports of Entry included in the model (remaining 33% are less than container shipments.)
    - Each record tracks Port of Entry, Consignee Address, TEU.
    - "Customer" location was assumed to be the consignee address listed on each waybill.
    - Multiple records within the same Five Digit Zip Code were aggregated into a single record.

Transportation Costs Included in the Model

- Truck Transportation Rates – based on interviews and published rates.
- Rail Rates – based on published rates.
- Short Sea Shipping Barge Rates – based on interviews.
- All rates (and surcharges) were based on a Diesel Fuel spot rate of $2.86 / gallon.
- Cost estimates were acquired through interviews with importers, exporters, and shippers operating in the region.
- The actual costs will vary as transportation contract are negotiated individually between customers and shippers.
- The costs and inferences from them should NOT be viewed as absolutes due to the uncertainty around the actual values; instead these models should be used to shed light on the relationships between various transportation solutions.

Model Assumptions

- These models compare various "optimal" transportation strategies.
  - In practice, few firms have optimized their transportation networks.
- All demand is shipped in Forty Foot Equivalent (FEU) containers.
- We do not optimize the Port of Entry location; we only optimize transportation from the Port of Entry to customer.
- The U.S. Rail Network is fully integrated and users will pay a consistent per mile rate regardless of how many railroads they utilize.
- Models were optimized to find the lowest cost transportation solution, shipping time was not considered.
- Transportation mode capacity was not constrained.

Model Analysis

The model was constructed using Insight, Inc.'s SAILS supply chain modeling software package, which was donated for use in this research. The model was optimized to provide the framework for the Task 2 analyses. The optimal routings determined during the optimization are depicted in Figure 1.

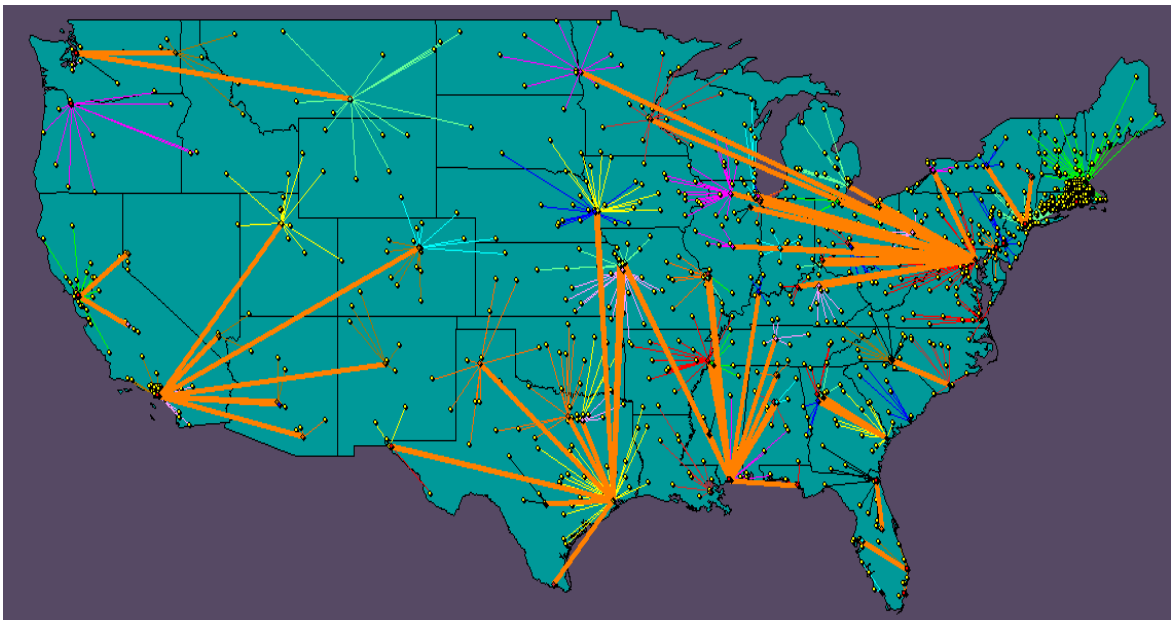

Figure 1 – Baseline National Model (Optimal Routings)

Figure 2 presents a detailed view of the optimal container routings in the New England area. From Figure 2, it can be seen that locations in the vicinity of the Port of Davisville (i.e. customers in Rhode Island, Eastern Connecticut, and the remainder of New England are optimally served by the Port of Boston. The total transportation costs across this network totaled $3,686,777,000.

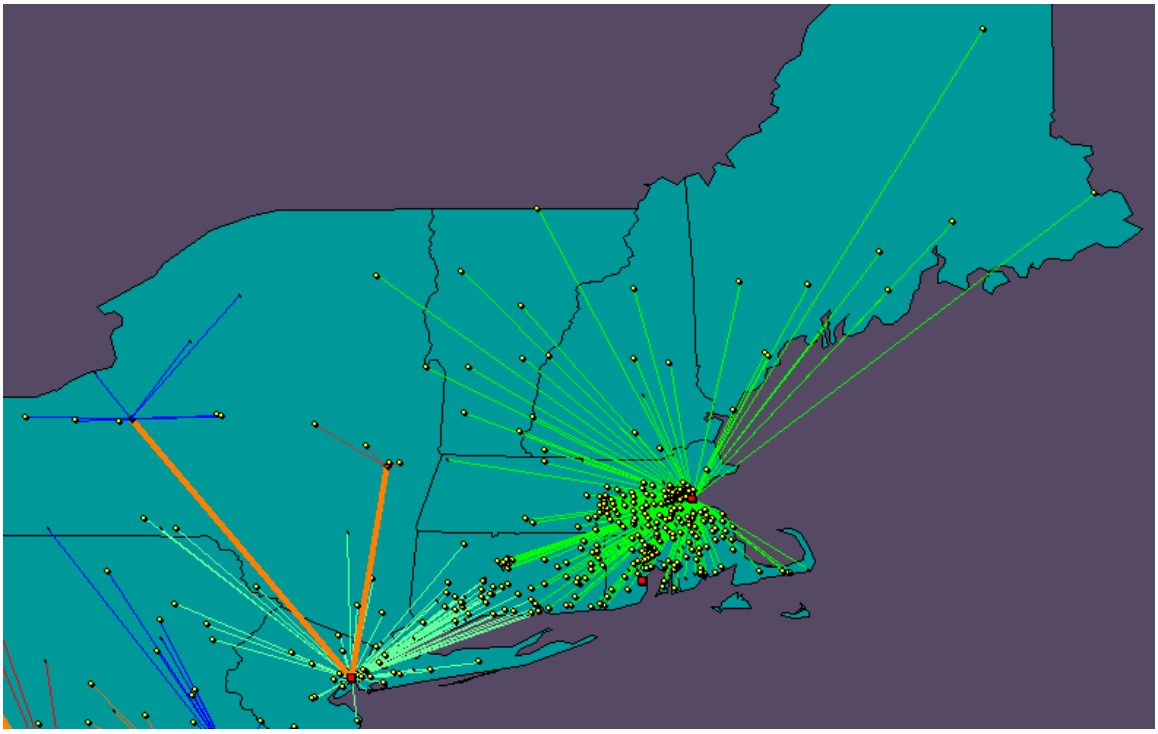

Figure 2 – Baseline National Model (Optimal Routings in New England)

Task 2: Port of Davisville as an International port of Entry

The baseline model was expanded to allow import containers to be routed through the Port of Davisville. During the optimization process, the software optimally allocated containers to each of the 23 ports and solved for the optimal land transportation route from port to customer for each container. As shown in Figure 3, when the Port of Davisville is utilized as a Port of Entry, it optimally serves customers in Rhode Island, Connecticut, and southeastern Massachusetts. Total container volume that is optimally routed through the Port of Davisville totals 32,620 FEU. The total transportation costs across this network totaled $3,682,962,000.

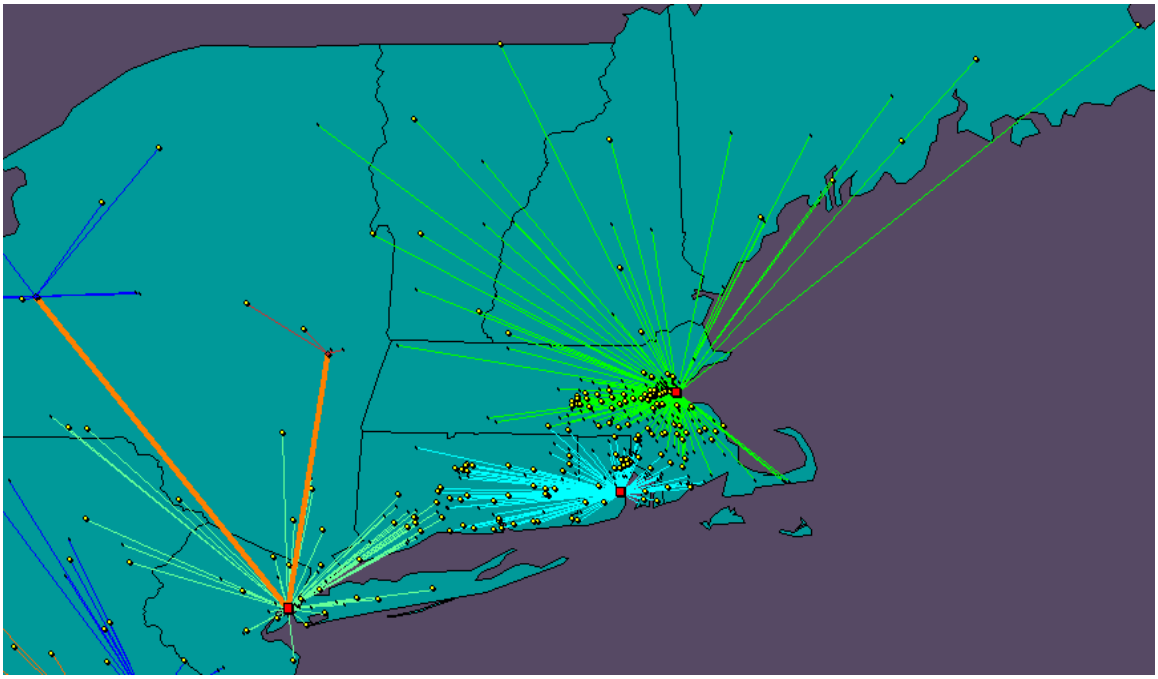

Figure 3 – Port of Davisville as a Port of Entry (Optimal Routings in New England)

Task 3: Financial Analysis

The estimated savings that result from routing international import containers through the Port of Davisville total $3,815,000. These savings are the result of lower inland transportation costs, which are due to the Port of Entry being closer to the final customers.

These savings represent an average savings of $117 per container shipped through the Port of Davisville. The typical end to end cost of shipping a single forty foot container from Asia to the Rhode Island region usually ranges between $4,000 and $5,000. Based on this estimate, the savings for the typical customer utilizing the Port of Davisville equates to between 2.3% and 2.9% of the total transportation costs.

Appendix A –Project Budget

Start Date 01/01/2009 End Date of Grant 08/31/2009			Project Name		Study to Utilize the Port of Davisville as a Port of Entry (Quonset, RI)				
	Base	Percentage of Effort			Year 1	URI	3rd PARTY	URI TC Costs to	Total
	Salary	CAL YR	ACAD YR	SUMR	REQUEST	IN-KIND	MATCH	be matched	Project
A. PERSONNEL		0%	0%	0%					$ -
		0%	0%	0%	$ -	$ -	$ -	$ -	$ -
Honoraria for final review		0%	0%	0%				$ 500	$ 500
Hourly Undergraduate Student	$9.50		100.00%		$ 950				$ 950
TOTAL PERSONNEL COSTS		0	1	0	$ 950	$ -	$ -	$ 500	$ 1,450
									$ -
B. FRINGE BENEFITS									$ -
FICA for Undergraduate Hourly Students						$ -	$ -	$ -	$ -
									$ -
									$ -
TOTAL FRINGE BENEFITS					$ -	$ -	$ -	$ -	$ -
									$ -
C. EQUIPMENT ($5,000 or greater per item)					$ -				$ -
									$ -
									$ -
									$ -
TOTAL EQUIPMENT					$ -	$ -	$ -	$ -	$ -
D. Conference Attendance and Training (Travel and Registration fees)					$ 4,600				$ 4,600
									$ -
									$ -
									$ -
TOTAL TRAVEL					$ 4,600	$ -	$ -	$ -	$ 4,600
									$ -
E. SUPPLIES									$ -
Software Match from Insight Inc.							$ 10,000		$ 10,000
TOTAL SUPPLIES					$ -	$ -	$ 10,000	$ -	$ 10,000
									$ -
F. OTHER COSTS									$ -
Printing of Final Report (25 copies)								$ 500	$ 500
Ocassional meals and refreshments for meetings					$ 100				$ 100
TOTAL OTHER COSTS					$ 100	$ -	$ -	$ 500	$ 600
									$ -
TOTAL DIRECT COSTS					**$ 5,650**	**$ -**	**$ 10,000**	**$ 1,000**	**$ 16,650**
									$ -
TOTAL MODIFIED DIRECT COSTS					**$ 5,650**	**$ -**	**$ 10,000**	**$ 1,000**	**$ 16,650**
									$ -
INDIRECT COST 49% (MTDC) (Please check with Sponsored Programs if you unsure of the rate)					**$ 2,769**	**$ -**	**$ -**	**$ 490**	**$ 3,259**
									$ -
TOTAL REQUESTED FROM AGENCY					**$ 8,419**	**$ -**	**$ 10,000**	**$ 1,490**	**$ 19,909**
TOTAL TO BE MATCHED				**$ 9,909**					
TOTAL MATCH				**$ 10,000**					
* Please note summer salary for faculty cannot exceed 27.8% or 2.5 months									

Appendix B – Analysis of Existing Port Studies

	General Report Information					Specific Plan Information								
Report #	Report Title	Report Date	Report Author	Report Description	Port Proposal Description	Port Proposal Infrastructure Requirements	Estimated Container Traffic (Total TEUs)	Estimated Container Traffic (Imports TEUs)	Estimated Container Traffic (Exports TEUs)	How was Container Traffic estimated?	Total Plan Costs (Investment)	Total Public Costs (Investment)	How were investment costs estimated?
1	Interim Report Quonset	1-Oct-73	Commision to Study a Rhode Island - Connecticut Enviromental City Compact	This report's purpose is to determine the "feasibility to developing commercial, trade, industrial, and transportation facilities with the State of Connecticut; to recommend the best method of implementing a joint two-state enterprise; and to draft the required legislation."	The study proposes Quonset to be a major container port to directly rival New York, and be joint enterprised with the State of Connecticut.	Moderate dredging, Minor rail modification and conversion of plane hangers to warehouses.	N/A	N/A	N/A	N/A	Two Phases in proposed Quonset development. Phase I: $35,000,000. Phase II: $75,000,000	N/A	Costs were estimated by propsing two phases. Costs were split by various development projects such as relief platforms, dredging, gantry crane purchases, fill/sub-base/pavement, Extension of sanitary outfall, retention dikes, enviromental costs, and 10% of added costs were added to eack phase.
2	Marketing Study of the Narragansett Bay Ports	16-Jan-85	Booz, Allen, and Hamilton Inc.	Marketing study held by an independent firm, to identify potential markets for the Narragansett Bay area ports, and identify size of potential market segment. The survey conducted identified opportunity areas for the Narraagansett Bay area ports, and a market strategy.	Utilization of current port facilities in Quonset can be accomplished through a strong marketing program identifying the many benefits it has to offer.	N/A	Container traffic not measured in TEUs* The estimated market is 300,000 tons of containerized cargo.	N/A	N/A	container traffic was estimated through the market survey	N/A	N/A	N/A
3	Marketing Study of the Narragansett Bay Ports	1-Jun-93	Christopher F. duPont	Identify potential markets for the Narragansett Bay ports. The market segment size, competitive influences, and opportunity areas are estimated through a survey.	The study proposes an expansion in marketing to accomidate shippers, as well as a full investment to research market niches to utilize the current facility.	dredging from the current 28.5 feet to 32 feet, upgrading the piers to handle more weight, and clearence for the rail way to handle double stack containers.	Per month based on small market segment that answered to survey* 247 TEU	116 TEU per month	131 TEU per month	Container traffic was estimated through the market survey which out of 221 shipping firms, 68 responded. The responses are purely to estimate the interest shippers have in using the Narragansett Bay ports as an alternative to other major ports on the east coast.	N/A	N/A	N/A
4	Port Development Planning Quonset Point RI Final Summary	1-Nov-96	Moffat and Nichol Engineers	This report disusses three different options oh how to expand Quonset Point into a container ship port capable of accomidating a 6,000 TEU vessel.	Start-up Capacity = 1,500,000 TEU's Start-up Year = 2002 Growth Rate = 3% per year (for 30yrs) Design Vessel = 6000 TEU Class Vessel Vessel Calls (start-up) = 20 per week (25% Linehaul, 75% Feeder)	Diking, Dredging, Rock Dredging, Fill, Wharf Structrue, Port Area Site Work and Paving, Rail Site Work, Rail System (switching and signals), Utilities, Roads and Signals, Fencing and Security, Truck Portals and Scales, Landscaping and Sidewalks, Aids to navigation and Harbor Patrol,	Annual Throughput = 1,500,000	N/A	N/A	N/A	Option 1: $698 million Option 2: $881 million Option 3: $974 million	N/A	N/A
5	Quonset Davisville Port Alternatives Assesment Report March	15-Jan-99	Normandeau Associates	This report is one of a series. The initial report gave stakeholders baseline economic and enironmental information. They then broke into groups and decided on what would be the best alternatives to use the port for. This report discusses the alternatives they decided on.	There are 6 different proposals: No commercial port, Autoport, Niche regional (or feeder) port, small load center, large load center, mega-port.	No Commercial Port: No dredge, Autoport: 40 ft dredge, Niche/Regional: 45 ft dredge (250,000 lifts), Small Load Center: 52 ft dredge (1.5 - 2 million lifts), LargeLoad Center: 52ft dredge, Mega Port: 60 ft dredge	Small Autoport: (8,500 autos, growing at 5% per year) final buildout of 22,500 annually (after 20yrs), Expanded Autoport: 180,000 units annually, Niche/Regional: 200,000-300,000 TEU's annually, Small Load Center: start up volumes of 200,000 - 250,000 TEU's, at final buildout, 1million TEU's annually, Large Load Centers: Max throughput of 2.5 million TEU's, Megaport: at max throughput, 3.4 million TEU's	Not specified	Not specified	All of their statistical data and figures come from their appendicies on a sepeate document - could not find a description as to how they came up with the figures.	Small Auto: $94.7million Expanded Auto: $205.9 million Niche/Regional: $402.4 million (Fill Piers) $441.3 million (Finger Piers) Small Load Center: $863.4 million Large Load Center: $710.5 million Megaport: $965.2 million	Small Autoport reported needing a $17.6 million (on a present value basis) public subsidy. _____ _____This was stated in all reports of Public/Private investment: "Private - 80% debt - taxable Bond Rate - 20% equity - minimum 15% annual return"	This was stated in all reports of Public/Private investment: "Private - 80% debt - taxable Bond Rate - 20% equity - minimum 15% annual return"

Report #	Estimated Revenue (specify if return is Annual, 10 Years, etc.)	Estimated Operating Costs (specify if return is Annual, 10 Years, etc.)	How were revenue and operating costs estimated?	Estimated Plan Return (specify if return is Annual, 10 Years, etc.)	Additional Plan Benefits to State, Community, Local Business, etc.	Personal Comments
1	N/A	N/A	N/A	80% (no evidence)	Benefits to the stated in the report are close to that of a fairy tale, propsing Quonset to be better and more competitive than New York and Boston ports.	The report is in a way unprofessional. The wording in like that of a fairy tale, saying Quonset could "beat New York at its own game". No evidence backs up the 80% return to Rhode Island. This report also is extremely out dated with costs and the concept of Quonset being a joint state development project between Rhode Island and Connecticut. Wishful thinking in a time of desperation.
2	N/A	N/A	N/A	N/A	N/A	This marketing study is the first one conducted of two. The second in this spreadsheet is an updated version of this study. Although this study has some information, all of it has been updated by the second marketing study in the row below. In my opinion this study doesn't need to be looked at or considered in the Quonset development.
3	N/A	N/A	N/A	N/A	N/A	This survey was conducted to estimate the demand of a port in Narragansett Bay. This study is based off of a small market segment and all responses are hypothecial and not conclusive. Although this study shows opportunity for Quonset and Narragansett Bay ports, it does not offer any realistic numerical data implying revenue, profit, or costs, but simply states the current import/export market on the east coast.
4	N/A	Operating costs differed by choice of Option. Option 1 was designed for more Wheeled containers, rather than grounded (stacked), so option 1 has the least amount of operating costs. Option 2 has more of a mix of wheeled and grounded, so this option has more operating costs than the first, and Option 3 is designed for mostly grounded containers - most operating cost	not stated	No plan	Not Stated	This report felt much less like a sales pitch, and much more of a well documented process on to turn Quonset into a container port. The one thing missing from the report was information pertaining to the market for containers. Due to the slight age of the report, I feel that the information wouldn't have been too useful anyway, however the design of the port could still be used (the figures would obviously just change).
5	No port: loses $365,000/ year, Small autoport: no positive cash flow Discounted Revenues for all other projects: Small Autoport: $7.2 million Large Autoport: $41million Regional/Niche: $119 million Small Load Center: $347.6 million Large Load Center: $631 million Megaport: $2.25 billion No specification if any are annual or cumulative.	Discounted Operating Cost: Small Autoport: $2.8 million Large Autoport: $14.7 million Regional/Niche: $69.5 million Small Load Center: $523 million Large Load Center: $732 million Megaport: $970 million No specification if any are annual or cumulative.	Not Specified	No real plan - figures are given, but not understood	All options create jobs in different amounts Discounted Annual Revenues to State: Small Autoport: $7.9 million Large Autoport: $28.8 million Regional/Niche: $70.9 million Small Load Center: $165.7 million Large Load Center: $241.5 million Megaport: $428 million	Impressive with the amount of depth this report has. At times it's almost too much to process. It could have been more useful if they weeded out some of the port proposals that didn't make the most sense. This could definitely be used as a reference tool when comparing potential projects. Didn't find how they calculated their figures, but due to the depth of the reporting, it probably is in there somewhere. As with most of the port proposals, the ideas are great, and designs make sense - but it will always come back to the demand, and if there is a market for this buisness in RI.

	General Report Information					Specific Plan Information							
6	World Class Intermodal Transportation Facility	30-Jun-99	Quonset Point Partners LLC	This study reports previous proposals as well as including its own suggestions to the development of Quonset including; Stakeholder's processes, enviromental regulations, community issues, market requirements, traffic projections, utility requirements, economic impacts, labor agreements, and financing	This report is realistic to the idea no perfect plan can be made yet. Unlike other reports, This study has many options for alternatives but keeps to key principles: Minimize the dredging costs, environmental impact, impact to previously existing businesses, maintain the existing the airport, and finally not try to develop plans for a megaport in direct competition with ports such as New York and Boston.	Very detailed specifications for infastructure needed. Infastructure development mentions optimization of berths and piers, and what types of ships could be serviced in relation to the different proposed ideas. Container storage facilities including acreage needed to excess a variable amount. Railroad, road, and electric infastructure was also mentioned.	Projections for throughput are considered to be realistic. This study calls container traffic as "lifts". Initial cargo is projected as 300,000 lifts per year. In year ten another 150,000 lifts are projected to be added. A 5% growth rate is also estimated.	N/A	N/A	Container traffic was estimated through calculating the current demand in the North Atlantic and giving Quonset a 10% market share. The 10% market share was reasonable, as this study showed growth rates for the time and also based the traffic on potential container holding capacity at Quonset.	More than one budget was shown in the study beginning with costs already incurred which were estimated to be $2,676,000. Pre construction was set to be $5,000,000 (includes legal fees, governmental fees etc.), some of these fees were questionable. The only number given to an actual port construction plan was a private contractor estimate listed to be $350 to $400 million (assumptions can be made this is based upon the original principles stated in the port development description).	Total Public Costs (Investment) were not specific, however this study does an excellent job of stating the various ways to obtain federal government funding as well as state and local funding.	N/A
7	The Quonset Port Feasibility Study, July 31, 2000	1-Jul-00	R K Johns and Associates Inc.	This report has been conducted in order to thouroughly review 3 different areas involved in a potential container port at Quonset. A Physical Review, Economic Review, and Market Testing. After conducting such research, RK Johns and Associates has concluded that it would be feasible to build and operate a modern, efficient container port.	There are four different port proposals that can functionally serve the desired full port capacity. No single design can be completed without impacting some constraint, so these different options weigh the differences in each constraint that is effected.	Four slightly different options for port proposals were given. All include dredging, site development, and terminal development.	250,000 containers annually	Not specified	Not specified	Assumption based on market assessment conducted.	Option 1: $266,536,737 Option 2: $315,108,696 Option 3: $353,684,534 Option 4: $322,689,032	Does not actually give total - says there is potential for federal funds being used.	Uncertain
8	Review of "The Quonset Port Feasibility Study"	4-May-01	TranSystem Corporation	Review of study conducted in September 1999, to identify feasibility of container port at Quonset. TranSystem is reviewing study to see how effective study was, and whether or not the information in the study is realistic to the development of a container port at Quonset, and suggest any further research needed.	The review suggests the information in the initial study is not sufficient enough for an environmental review, and project permits. The review also suggests further analyses and components are required to Quonset Port's development	Water side rail-mounted gantry cranes be leased or owned, clearence for double stack containers on rail, land expansion to accommodate stacks of containers (pref. 3-4 in height), and possible dredging.	throughput of 410,000 TEU/year (information in initial study). TransSystem has noted there is no evidence or suggested agreements with shippers to make this estimate a possibility	N/A	N/A	The review states initial study has no evidence to back their estimate of container traffic through Quonset.	On a 110 Acre site* $146 - $150 million (not including dredging and site development). $267 - $354 million for total development costs.	N/A	N/A
9	A Report to the RI General Assembly	1-Jun-01	Govenor Lincoln Almond	This report to the House and Senate, is a proposal for appropriations and the following years budget to be put towards an Enviormental Impact Statement (EIS) which, according to the letter, will finally once and for all prove if a container port at Quonset is not only economically, but enviornmentally feasible as well.	N/A	N/A	N/A	N/A	N/A	N/A	The only costs directly associated with this proposal are the ones pertaining to the Enviornmental Impact Statement. The total cost for an EIS is $3-$5 million.	Stated as no cost to the taxpayers - constructing and operating of terminal will be paid for by private sector. However, RI taxpayer funds will be used only to match federal dollars for off-site supporting infastructure	N/A
12	Economic Viability of Compact Container Port at Quonset - Davisville	1-Dec-02	Paul F. Richardson Assosiates, Inc., Martin Associates, Tec Infastructure Consultants, Inc., Rackemann Strategic Consulting, Inc., Berger / Maguire	This proposal details the necessary changes to the Quonset Port in order to transform it into a competitive compact container port.	Capable of accomodating up to 500,000 containes a year through phased growth over 20 years	A contiguous wharf 3,000 ft in length containing 3 berths ($91 mil.), A paved uphill marshalling and gate area of 180 acres ($38 mil.), Administration, maintenance, and gate buildings ($9mil.), Site utilities and lighting ($22 mil.), Plus equipment: 6 cranes, 15-yard gantrys, etc. ($75 mil.), Plus intermodal rail yard ($19 mil.), Dredging to 45ft ($121 mil.)	73,000 containers initially, additional 135,000 containers in 5 years, and at year 20 growing to about 500,000 containers per year	Could compete at 750,000 full container moves (or about 1.3 million TEU/year)		An 8 month sample from the Journal of Commerce's *Piers Database* was purchased. The database covers the periods of May through September, 2001 - and February, March, and April of 2002. This captures the high and low shipping season for containorized cargo. Two alternative growth rates were used in the estimate: probable or trend growth (historical 10 year figure), and high growth rate, which considers an above-trend increase for years 1 - 10.	A contiguous wharf 3,000 ft in length containing 3 berths ($91 mil.), A paved uphill marshalling and gate area of 180 acres ($38 mil.), Administration, maintenance, and gate buildings ($9mil.), Site utilities and lighting ($22 mil.), Plus equipment: 6 cranes, 15-yard gantrys, etc. ($75 mil.), Plus intermodal rail yard ($19 mil.), Dredging to 45ft ($121 mil.) Total = $254 million	Does not specifically say what money come from public/private investment. The dredging recovery fee leads me to believe the dredging would be public investment ($121 million)	Does not say how they obtained estimates: $11 per cubic yard of uncontaminated sediment, $25 per CY of contaminated, and a credit of $6 per CY for sediment used in construction of port
13	Barge Feeder Service through the Port of Davisville	1-Aug-09	URI - James Kroes, Yuwen Chen, Paul Mangiameli	The potential market for container traffic between the Port of New York / New Jersey and the Port of Davisville was estimated using a combination of primary and secondary data. The study used historical container demand data from PIERS and rate information from interviews with companies currently importing or exporting containers. An optimization model of the container imports and exports was built using Insight Inc.'s SAILS supply chain modeling software package. The model determined the potential container traffic volumes that will optimally utilize the barge service through Davisville for a variety of rates and fuel costs.	Currently port facilities will be utilized without the need for additional dredging or infrastucture improvements.	Leased container gantry crane at Davisville, barge service between NY/NJ and Davisville.	Most likely: 22,200 TEU / year Lower Estimate: 14,400 TEU / year High Estimate: 30,000 TEU / year	Most Likely: 10,200 TEU/ year	Most Likely: 4,200 TEU/ year	An cost minimization optimization model was created an solved to determine the traffic volume that will optimally flow through Davisville.	Gantry crane lease; monthly cost $30,000.	Gantry crane lease; monthly cost $30,000.	A combination of interviews with current shippers, port operators, and published rate data.

6	N/A	N/A	N/A	N/A	Jobs created due to this development are listed including annual salaries. Job areas effected would be jobs in cargo marine transportation, vessel operations, cargo handling, local servce industries, and Federal, State and local agencies.	A very thourough report broken into many specific sections. Although projected returns on the investment aren't specific it still recognizes the subject, just not numerically. All other port development questions including traffic, shareholder policies, enviromental situations etc. One of the best, realistic studies I've had the opportunity to review. Each section is detailed and complete, possibly too much information. The basic principles listed in the beginning of the report is key to analyzing what the study has to offer and keeps it realistic.
7	(est.) 250,000 containers, at $200 per move results in $50,000,000. This represents year one. Year 10: (est) 650,000 containers, at $261 per move results in $176,144,380	Estimated Operating Costs for Year 1: $38,151,897. Year 10: $124,414,873	Costs were estimated using various operational and financing assumptions.	Year 1: net return = $368,240 Year 10: net profit = $30,135,175	No specifics, but obviously the plan would create jobs and income for the state of RI	Very thorough report - almost too much to really filter through. Numbers seem realistic according to their research. The port infastructure proposals seems pretty good, however not the strongest that I've seen.
8	N/A	N/A	Revenue was not stated in dollars only as conainers/TEUs. This throughput was merely estimated along with a annual growth rate which varies based on best/worst scenario. Transystem has acknowledged the fact this information is inconclusive due to the lack of conrete analysis and evidence.	Planned return in study is notably high (33%-47%), and not based on realistic information.	Job creation is said to be efficient at Quonset.	This review is opinionated, but explains why it feels the initial study in 1999 does not hold weight. Most information in initial study is a very optomistic and biased towards the creation of this project. Noted inflated numbers include TEU throughput, annual growth, and plan return.
9	N/A	N/A	N/A	N/A	Will create high quality, sustainable, and diverse jobs - will generate tax revenues, and spur economic development opportunities.	This report is obviously a lot more political, as its audience is the RI General Assembly, however it just felt like the reports main objective at this point was toward getting the funding for the (EIS) Enviommental Impact Statement. This report also used lots of loaded language, as well as bold statements that were not directly supported or proven. There is no caution to their thoughts or statements (no con's to go with their pros) , it comes off as people would be foolish not to go through with the proposal. However, once you go further into the reports details, you see that all of their bold statements were made off of the assumptions of studies conducted by others - the same studies that they say got the container port development project no where. Does not seem valid.
12	Missing last section that the Appendix says would speak to this	not really stated	not stated	Missing last section that the Appendix says would speak to this	Private investment = $160 million for construction, $75 million for equipment, and $19 million in rail yard improvements. Construction Employment would total 4,800 person years, with construction payroll of $107 million. Permenant employment would begin at over 550 in year 1 and rise to over 3700 in year 20; with a payroll beginning at $22 million and rising to $149 million per year in year 20. Public revenue from taxes would total over $6million in the first year and would exceed $21 million in year 20.	Expect competitive per-container costs through: passing on dredging costs to importer through surcharge/fee, the likely ability to negotiate a competitive labor contract, the likely required usage of low wage labor, the potential to be the low-cost truck port for the New England market and Eastern Canadian market Dredging cost recovery fees would be between $37 and $55 per import container. This is less than a Harbor Maintenance Tax that would be paid else where, but is the difference enough to make businesses rework their supply chain? This proposal seems very thorough. Although they did a good job explaining where they came up with some figures, others are left to the imagination. The last section of the proposal is missing, and covers Economic benefits, Private Investment, Public Revenue, and Economic Costs - these surely would have been nice to have in evaluating the proposal.
13			The SAILS optimization model estimated the costs and revenue.	Annual cost savings: Most likely: $1,500,000 / year Lower Estimate: $700,000 / year High Estimate: $2,300,000 / year		