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SOCIO-ECONOMIC ASSESSMENT OF THE REUSE ALTERNATIVES OF

QUONSET POINT/DAVISVILLE

Feb 1 1978

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Rhode Island. Dept. of Economic Development

Prepared for: RHODE ISLAND DEPARTMENT OF ECONOMIC DEVELOPMENT

AUGUST, 1977

Gladstone Associates
ECONOMIC CONSULTANTS

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Rhode Island Dept. of Economic Development

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The preparation of this document was financed in part by a planning grant from the National Oceanic and Atmospheric Administration, under the provisions of the Coastal Zone Management Act of 1972 (Public Law 92-583) through the Integrated Grant Administration Program. The contents do not necessarily reflect the official views or policies of the sponsoring agencies. The publication is based upon publicly supported research and may not be copyrighted. It may be reprinted in part or in full with the customary crediting of the source.

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INTRODUCTION

This report presents a socio-economic assessment of alternative reuse scenarios for the Quonset Point/Davisville facility. The alternatives presented were arrived at jointly with the planning task force. As such, they reflect a consensus on land use planning, environmental and economic choices for the site. Conversely, they are not the result of a wholly new marketability analysis for the site.

The study has been divided into three principal technical tasks: (1) a review of previous market and feasibility studies; (2) a synthesization of development recommendations and alternatives; (3) an evaluation of the socio-economic impact arising from the alternative development schemes.

This socio-economic assessment, therefore extends directly from previous economic analyses for reusing the former Navy base and is intended as one of several "informational" elements to assist the state of Rhode Island in formulating optimum policies and strategies for redevelopment of the site.

This volume is one of three reports designed to assist in the comprehensive master planning of Quonset Point/Davisville. Companion documents include Keyes Associates inventory of existing infrastructure and other facilities together with recommendations and cost estimates for prescribed site development. This information is summarized in Keyes Associates' report entitled Quonset Point Technical Park Facilities Studies, dated March, 1977.

A second document, authored by the Coastal Resources Center of the University of Rhode Island, systematically examines existing environmental conditions (e.g., water quality, soils, vegetation, aquatic life, etc.) and the estimated impacts of redevelopment. Environmental findings are detailed in a report entitled The Redevelopment of Quonset/Davisville, An Environmental Assessment, dated September, 1977.

In addition to coordinating with these two consultant groups, Gladstone Associates has been in close contact with representatives of state and local agencies and with concerned citizens. Included here has been the Quonset Point Master Development Plan Task Force, consisting of representatives from the Department of Economic Development, Rhode Island Port Authority, Statewide Planning Program, Governor's Office, Department of Transportation, Department of Health, the Rhode Island Historical Commission, and the towns of North Kingstown and South Kingstown.

Purpose of the Report

While not intended as a substitute for a formal environmental impact statement (EIS) this socio-economic element is patterned after the EIS process and can serve as an economic planning document. In that respect, the work has been designed to provide decision makers with quantified estimates of impacts associated with prospective redevelopment policies and strategies for Quonset Point.

While pinpoint population and employment forecasts resulting from a given redevelopment program have not been detailed, reasonable possibilities are defined and attendant impacts measured. These, in turn, provide a framework within which policy decisions can be made. Thus, indicated conclusions and recommendations rely primarily on "comparative orders of magnitude" rather than highly refined socio-economic projections.

Working Assumptions

Two principal working assumptions have been used throughout the study process. First, for purposes of this analysis, certain parcels -- primarily the housing areas south of Roger Williams Way, with the exception of Kiefer Park -- within the Quonset Point/Davisville complex were excluded from

consideration. The reason for this was that the state and town of North Kingstown had previously agreed that policies for and disposition of these areas would be the responsibility of the town.

In addition, Navy retained parcels -- such as the Administrative Triangle, portions of West Davisville, etc. -- have not been considered for intensive reuse. The rationale here is simply that lease terms would likely be extremely restrictive -- including a 30-day cancellation clause -- effectively precluding major private investment.

Only the Flightpath and Dogpatch areas near the Davisville piers are exceptions in this respect. Under the oil scenarios developed, these parcels are necessary for water frontage and storage areas to be used in conjunction with existing and proposed pier space.

Other working assumptions with respect to land uses considered are based on the state's primary objective of broadening the economic base and maximizing potential employment at this location. Accordingly, development potentials for industrial, retail, hotel, marina and offices uses were delineated. On the other hand, housing uses were not considered because these would not be directly responsive to this objective and because land use conflicts would adversely effect residential marketability.

Report Organization

The report which follows consists of essentially three discrete parts. Chapter One presents a summary of the socio-economic assessment and contains a series of recommendations for subsequent actions.

In Chapters Two through Five, an overview is presented of market supports underlying the development alternatives, beginning with a brief examination of recent demographic and employment trends followed by detailed descriptions of

oil and non-oil related industrial development opportunities as well as office, retail, hotel and marina potentials.

Chapters Six and Seven delineate direct and indirect impacts respectively, including: (1) construction jobs and payroll emanating from site development; (2) likely absorption forecasts for the site with related job buildup, occupational breakdown, and payroll; (3) broad estimates of multiplier effects, and (4) growth management issues for North Kingstown.

Finally, supporting statistical information is presented in four technical appendices. These data are fundamental to the conclusions and recommendations presented in the main body of the report, while at the same time serve as a resource document to which changing methodological assumptions can be applied as desired and against which future economic conditions can be measured.

CHAPTER I
SUMMARY OF FINDINGS AND RECOMMENDATIONS

As stated in the introduction, this socio-economic assessment is part of a larger task force planning effort -- including representatives from many government agencies -- which formulated the three alternative development scenarios.

An early step in this process was a broad market evaluation for the respective land uses set forth in these scenarios.

In turn, the socio-economic implications of prospective redevelopment were assessed for the scale and timing of various activities projected for Quonset Point/Davisville. Additionally, potential financial problems confronting the Port Authority and "growth management" fiscal issues at the town level have been noted.

Summary conclusions set forth in this chapter reflect more detailed analyses presented in Chapters II through VII and broad statistical data found in the technical appendices.

Summary of Development Scenarios

Three development scenarios were established on the basis of the likely level of offshore oil and gas "find," reflecting a range of possible demand for onshore petroleum support facilities.

The varying intensity of oil-related uses is reflected primarily in alternatives for the Davisville Pier, Dogpatch and Flightpath areas, and to a lesser extent in the Warehousing and Personnel Support areas.

At the same time for each of the scenarios, a majority of the site is reserved for general manufacturing and technical industries, retail, hotel, marina, and office uses.

A summary of the redevelopment program alternatives is presented in Table I-1 below, and a map delineating the subareas referenced is shown on the following page.

As shown, the portion of the Quonset Point/Davisville complex covered by this analysis ranges from approximately 731 acres (in Scenario III) to 816 acres (in Scenarios I and II). The approximately 85 acre difference between these is accounted by land adjacent to the Davisville Piers -- presently retained by the Navy -- which would provide necessary water frontage in accommodating oil-related users in either a medium or high find.

TABLE I-1

SUMMARY OF NEW USES
ALTERNATIVE DEVELOPMENT SCENARIOS
QUONSET POINT/DAVISVILLE REUSE

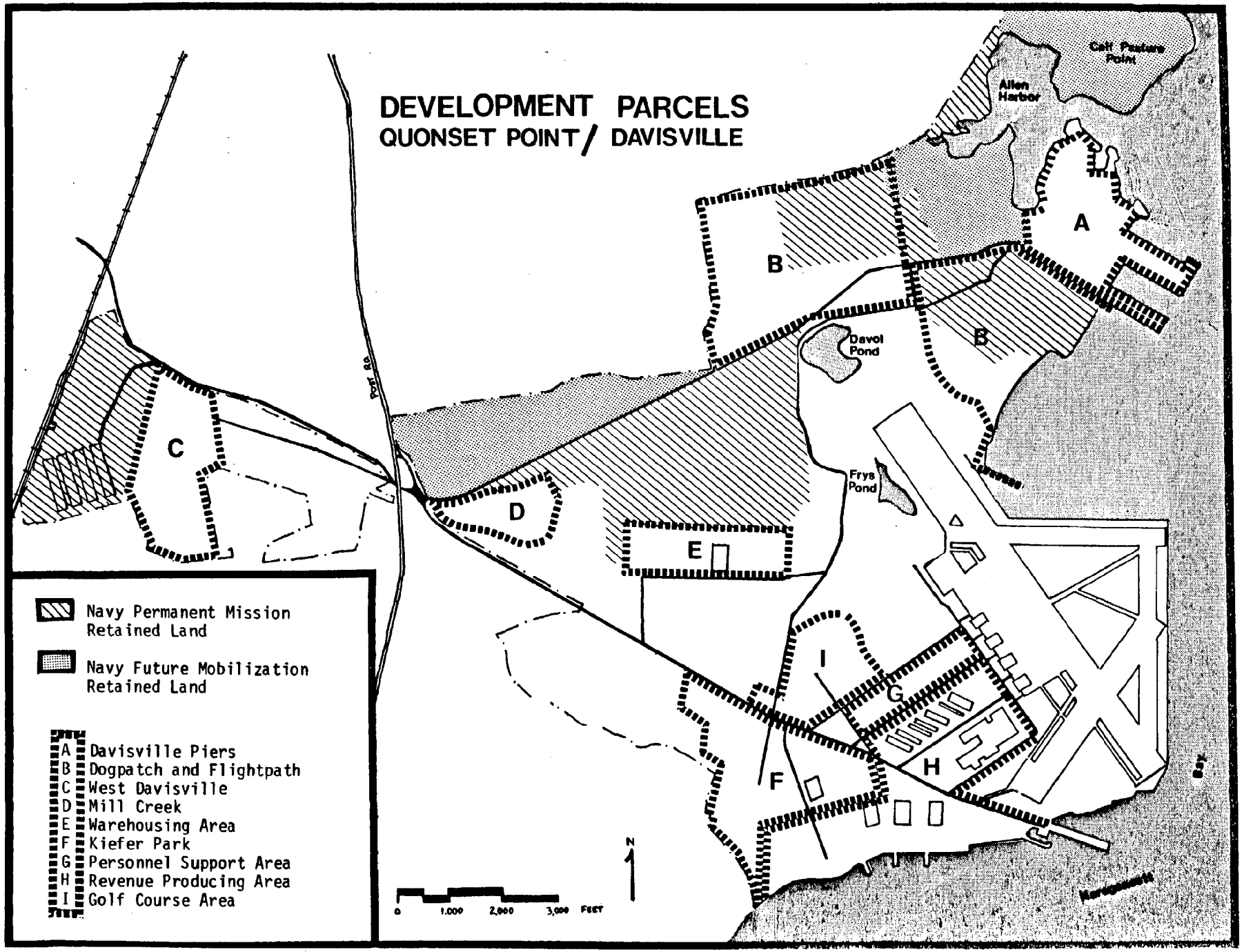
Subarea	Scenario I Land Use	Acres	Scenario II Land Use	Acres	Scenario III Land Use	Acres
Davisville Piers	Marina	20	Marina	20	Marina	20
	Platform Fabrication	85	Platform Fabrication	85	Water-Oriented Industry	85
Dobpatch/Flightpath[1]	Service Bases[2]	265	Service Bases	265	Open Storage	180
Warehousing Area	Service Bases	70	Service Bases	70	Warehousing	30
					Technical Park	40
Golf Course Area	Motel	9	Motel	9	Motel	9
	Office Park	66	Office Park	66	Office Park	66
Personnel Support Area	Service Bases	40	General Industrial	40	General Industrial	40
Revenue Producing Area	Electric Boat Expansion	30	Electric Boat Expansion	30	Electric Boat Expansion	30
	Service Bases	24	Technical Park	24	Technical Park	24
Kiefer Park	Technical Park	98	Technical Park	98	Technical Park	98
Mill Creek	Shopping Center	29	Shopping Center	29	Shopping Center	29
W	Technical Park	20	Technical Park	20	Technical Park	20
West Davisville	General Industrial	60	General Industrial	60	General Industrial	60
Total[1]		816		816		816

1/ Scenarios I and II include 85 acres of Navy Retained Land adjacent to Dogpatch which are deemed necessary by petroleum support companies for oil support activities of Scenarios I and II, but which are not needed in Scenario III where there are no oil support activities.

2/ Note: the term "service bases" refers to onshore petroleum support activities such as storage "muds" and other supplies, crewboats, etc.

Source: Gladstone Associates

As illustrated above, the development scenarios contain many "constants." Most of the acreage -- between 605 and 690 acres -- is designated for labor intense, manufacturing industries with smaller sites reserved for various commercial uses.


DEVELOPMENT PARCELS
QUONSET POINT / DAVISVILLE
Calf Pasture Point
Allen Harbor
Davol Pond
Frys Pond
Post Rd
A
B
B
C
D
E
F
G
H
I
Navy Permanent Mission Retained Land
Navy Future Mobilization Retained Land
A Davisville Piers
B Dogpatch and Flightpath
C West Davisville
D Mill Creek
E Warehousing Area
F Kiefer Park
G Personnel Support Area
H Revenue Producing Area
I Golf Course Area
N
0 1,000 2,000 3,000 FEET

Primary differences occur in the Davisville Pier area, varying from platform fabrication in petroleum support industries (in Scenarios I and II) to a single use, water oriented industry (in Scenario III). Another difference is the previously mentioned addition of 85 acres of Navy retained land adjacent to the Davisville Piers. Finally, Dogpatch and Flightpath areas could take on either an oil-related character or could be developed to provide storage for whatever water-oriented use evolves on the Davisville Pier site.

Similarly, portions of the Personnel Support area and Warehouse areas may be utilized by petroleum support industries under a high find and reserved for other industrial uses under a "no" or medium find.

The remaining parcels -- including West Davisville, Mill Creek parcels, Golf Course, Revenue Producing, Keifer Park Housing, etc. -- are designated for corresponding uses in each of the three scenarios.

Socio-economic impacts described in the section immediately below were assessed in light of these respective land use allocations.

Socio-Economic Assessment Findings

Both direct and indirect impacts that can be attributed to redevelopment of the Quonset Point/Davisville facility have been evaluated including: estimates of construction jobs and payroll resulting from site development, (i.e., construction of infrastructure, site preparation, etc.); creation of on-site jobs through the location of new industrial facilities; and indirect, non-manufacturing jobs resulting from economic base multiplier effects. Both direct and indirect impacts have been measured in terms of employment, likely skill or occupational levels, and personal income.

In addition, an evaluation of the fiscal/growth management issues which would result in North Kingstown is presented.

Direct Impacts

Impact of Site Development

Based on construction budget estimates for site development -- provided initially in the Keyes Associates' facilities plan and revised by the Department of Economic Development -- between 2,500 and 5,300 person months of construction employment is forecast for Scenarios III and Scenario I respectively. This reflects the more modest capital improvements required under the no oil scenario compared to the high find in which 8,000 linear feet of additional pier space would be developed.

Patently, each of the scenarios provides for a substantial amount of construction employment, thereby easing recent high unemployment pressures in that industry.

It should be noted, however, that these estimates noted here reflect only state-sponsored site development efforts in prepartion for new industrial and commercial users. Additional construction required to build new plants, stores, warehouses, and other private facilities is not accounted. Hence, the aforementioned construction employment estimates are conservative.

Similarly, with respect to direct construction wages, estimates range from a low of $3.5-$4.5 million (Scenario III) to $6.7-$8.6 million (Scenario II) and up to a high of $7.3-$9.4 million (Scenario I). Again, differences among these reflect varying capital improvement costs for bulkheading and finger pier space provided in Scenarios I and II respectively but not in Scenario III. As before, private capital investments are not included in these projections.

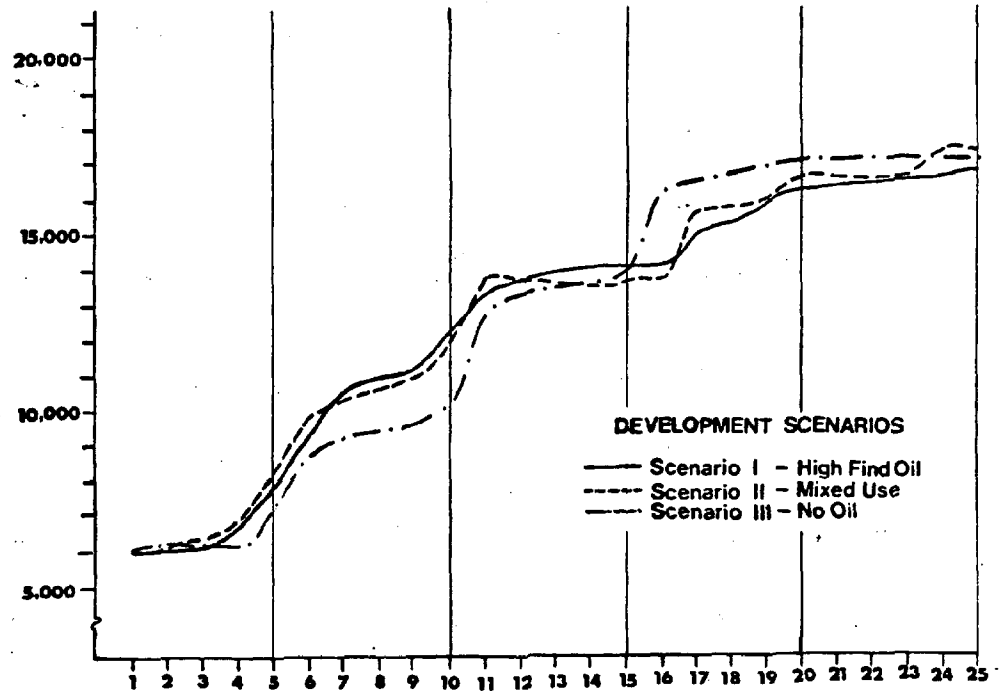
Estimates of On-Site Employment

Estimates of future on-site jobs have been made taking account of the likely absorption of the Quonset Point/Davisville property and the particular industry

mix contained in each of the scenarios. Displayed in graphical form for the 25 year forecast period below, these forecasts reflect respective oil-related phasing expectations.

Illustratively for the no oil alternative, phased absorption is shown in "steps" or employment gains for discrete five year periods. This reflects judgements as to the timing of certain development as well as limitations in attempting annual forecasts over a long term.

ILLUSTRATIVE EMPLOYMENT
ALTERNATIVE DEVELOPMENT SCENARIOS
QUONSET POINT/DAVISVILLE REUSE



Source: Gladstone Associates

Employment in Scenarios I and II has been forecast using similar assumptions but adding more specific time phasing for petroleum support industries as developed by the New England River Basins Commission.

Each of the three scenarios have different job buildup characteristics. Specifically, by year 10, the two oil scenarios out-pace the non-oil alternative, whereas over the long term -- assuming reuse of previously oil-related parcels in the final phase -- the three scenarios result in approximately the same number of on-site jobs. Clearly, a trade-off for these alternatives is established relating to the timing of job buildup over the short and long term.

The trade-off is summarized in Table I-2 below. We consider the short and long term to be years 10 and 25, respectively.

TABLE I-2 NEW ON-SITE JOBS GENERATED
QUONSET POINT/DAVISVILLE REUSE
YEARS 10 AND 25

	New Jobs in Alternative Scenarios		
	I	II	III
Year 10	6,400	6,300	4,800
Year 25	11,000	11,800	11,650

Note: Scenario I is for High Find Oil Related Land Use, Scenario II is for Mixed Land Use with Medium Find Oil Support, and Scenario III is for Industrial, Commercial and Recreational Land Use.

Source: Gladstone Associates

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We find that in the short term (10 year outlook), Scenarios I and II result in a significantly higher number of new jobs than Scenario III. Petroleum

support industries at Quonset Point/Davisville would result in between 6,300 and 6,400 new on-site jobs by year 10, compared to only 4,800 in the "no oil" alternative.

Consistent with state objectives, this represents an important factor in evaluating the risks attendant in each of the alternatives. The prospect for achieving job levels indicated appears more firm in Scenarios I and II. Further, the indicated employment differentials appear to support continuation of the DED marketing policies aimed at petroleum support industries since greater opportunities are indicated for short term beneficial impacts compared to relatively "equal" long-term benefits.

This last point is illustrated by the 25 year employment forecast for 11,000 to 11,800 new on-site jobs under each alternative. Of particular import here is that the land in the Davisville Pier, Dogpatch, and Flightpath areas, used early in the development process would not be committed permanently. Rather, these would serve temporary uses allowing these sites to be redeveloped at a later date. Moreover, this "second round" prospect appears promising, given associated land and waterfront resources characterizing these parcels. This serves as a further reinforcement for scenarios I and II from an economic perspective, assuming that appropriate environmental safeguards -- discussed in the Coastal Resources Center report -- are implemented.

Skill or Occupational Level

Nearly as important as the quantity of new jobs is the type of employment generated, as reflected for each of the scenarios (in the long and short term) by occupational and skill levels.

In all alternatives, a large proportion of the employment anticipated likely will be for skilled personnel including professional and administrative, craftsmen, foremen, and other highly trained workers.

This outlook reflects two primary factors: (1) the industry targeting process undertaken by Harbridge House, Inc. which emphasizes labor intensive, growth industries requiring skilled labor -- to be incorporated in the technical park and general manufacturing sectors of each scenario; and (2) the types of oil-related uses which would be encouraged at Quonset Point/ Davisville -- particularly platform fabrication, requiring large numbers of skilled welders.

On balance, these scenarios provide for an appreciable proportion of high paying jobs along with some corollary requirements for unskilled workers such as laborers and service workers.

On-Site Payroll

Taking account of the above estimates of jobs and occupations, annual payrolls have been estimated for all scenarios in both the long and short term. Reflecting the more rapid build-up of jobs in Scenarios I and II, new payroll -- of more than $90 million -- surpasses that of Scenario III by a considerable amount. This again illustrates the desirability of attracting a greater employment base in the short term.

TABLE I-3

NEW ON-SITE PAYROLL
QUONSET POINT/DAVISVILLE REUSE
YEARS 10 AND 25

	New Payroll in Alternative Scenarios (In Millions)		
	I	II	III
Year 10	$ 95.6	$ 93.6	$ 60.5
Year 25	$132.7	$140.6	$137.5

Source: Gladstone Associates

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As with the estimates of new jobs, payroll in the long-term tends to balance out among the three scenarios. Specifically, we estimate that annual

wages and salaries between $133 and $140 million will be generated on-site reflecting once again the reuse assumptions for previously oil-related parcels as well as the specific industry mix represented in each scenario.

Indirect Impacts

Multiplier Effects

Using the above on-site employment growth, potential secondary impacts with respect to job spin-offs have been estimated, taking account of various non-manufacturing jobs generated by the expanded Quonset Point/Davisville economic base. The inclusion of these multiplier effects rounds out the site's potential employment benefits.

Estimates of secondary job "spin-offs" it must be emphasized, can only be generalized as to comparative "orders of magnitude" for the respective scenarios in the long and short term. In this connection, specific attention was given different multiplier potentials for general manufacturing and oil-related industries.

As shown in Table I-4, "spin-offs" for the three scenarios show a similar pattern to on-site employment buildup. The two scenarios including petroleum support industries have a faster buildup of jobs with a corresponding more rapid generation of spin-off employment, accounting for approximately 4,000 off-site jobs in the short term. By comparison, only 2,900 of this type are forecast for under Scenario III.

TABLE I-4 ESTIMATED JOB SPIN-OFF
QUONSET POINT/DAVISVILLE REUSE
YEARS 10 AND 25

	Job Spin-off from Alternative Scenarios		
	I	II	III
Year 10	4,000	4,000	2,900
Year 25	6,400	6,900	6,800

Source: Gladstone Associates

GRADUATE

Over the long-term, assuming redevelopment of previously oil-related parcels, the "spin-off" for all three scenarios would be comparable, ranging from 6,400 to 6,900 off-site jobs.

Similarly, personal income for this secondary employment would account for approximately $75-$80 million per year by year 25, clearly a substantial benefit, although more diffused among effected communities depending on the residential locational patterns of Quonset-related population.

Fiscal Issues in North Kingstown

Comparing baseline population forecasts with possible induced population growth in the town of North Kingstown highlights several critical growth management issues. In addition to signficiant population growth attributable to Quonset development -- on the order of 7,000 to 20,000 people -- North Kingstown's population would be expected to more than double under normal circumstances over the next 25 years.

The town's increasing role as a bedroom community for Warwick, Cranston and Providence employment locations -- due to excellent accessibility and attractive environment -- results in these suburbanization pressures.

Impacts attributable to Quonset Point/Davisville redevelopment, of course, will be influenced by public policy directions. As such, the actual realization of these population forecasts is a function of future government actions. Municipal services, schools, utilities, police and fire protection, will have to be substantially expanded in any event, even if Quonset employment opportunities do not materialize as envisioned.

The fiscal burden of providing these services is likely to be substantial. Sound planning practice dictates that a number of forward-looking major policy measures and decisions be reviewed and that contingency plans be developed.

Included in these would be all matters relating to growth management such as zoning, capital improvements for water, sewer, roads, schools and the like.

Under these conditions (and recognizing the wide range of policy options available) the fiscal implications of Quonset's potential impact cannot be specifically assessed within the scope of this study. Rather, major issues are identified and addressed in line with the recommendations discussed immediately below.

Recommendations

Recommended actions for consideration at respective levels of government together with economic-related issues are presented in the paragraphs below.

North Kingstown Comprehensive Planning.

As a result of the severe growth management issues described above, a thorough updating of the town's comprehensive plan is recommended. As is readily apparent, the present plan, predicated on the continued major Navy presence and not fully accounting for the indicated current and future suburbanization pressures, has been overtaken by recent events.

As mentioned previously, salient issues relating to population growth must be addressed as illustrated by:

- -- Possibilities for revising the zoning ordinance to allow for higher density development in certain sections of the town (e.g., the Post Road corridor for which expanded sewer service will likely be available in the foreseeable future) while preserving a less intense character in the balance of the town.
- -- A determiniation of how substantially increased population levels would be serviced -- in terms of infrastructure and associated municipal services -- and the implied costs incurred.
- -- Prospects for additional sewer system extensions to allow for smaller lot development, thereby providing housing over a broader price range than is currently possible.

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-- Detailed fiscal trade-off analysis to identify uses which will likely carry a fair share of financial burdens (e.g., large lot subdivisions with corresponding large houses and families do not typically cover the cost of municipal services incurred for items such as schools, road maintenance, etc.).

Consideration of some of these issues, now underway according to our understanding should give careful attention to the definition of alternatives to be studied including several approaches for accommodating substantial population levels (i.e., up to 50,000 to 60,000 people by the year 2000).

In addition, the accelerated rate of population growth throughout the West Bay -- including South Kingstown, Narragansett, Jamestown, and Exeter -- suggests the need for systematic examination to assure orderly growth within the fiscal resources of these affected communities as well.

Site Development Recommendations

The redevelopment of Quonset Point/Davisville is a complex task which will require strong management and planning by the state's Department of Economic Development and Port Authority. Issues to be addressed include site access, phasing, financing alternatives, and detailed financial planning. Each of these are discussed immediately below.

Site access is an important consideration for marketing the property to potential industrial users. Specifically, the facilities plan to date has described a "transportation corridor" from the Navy base entrance on Route 1 to Rhode Island Route 4. Direct highway access to this latter major highway, of importance from a marketing standpoint, will also raise a number of environmental issues -- e.g., wetlands, wildlife habitat, and impact on existing residential area. Accordingly, it is recommended that required EIS planning to fully explore alternative solutions be carried out as expeditiously as possible, including various transportation modes -- including freight service, shuttle buses, commuter buses.

Another important development issue is the phasing of needed capital improvements. As detailed in the Keyes Associates' report, full development of the Quonset Point/Davisville facility will require a substantial capital investment. Major sewer and water systems, roads, additional pier space and similar supporting infrastructure should be provided in the most cost effective manner possible.

From a marketability standpoint, however, optimal phasing appears difficult since a number of the more attractive sites -- notably the Davisville Pier and West Davisville -- are not now fully served by necessary utilities. On balance, it is desirable to stage these in such a way that improvements are made just prior to the end use of a particular site.

Closely related to this phasing question is financial planning. Several issues should be considered here including, lease rates, financing plans, phasing, operating costs, sources of funding, initial purchase price, etc.

Even while information with respect to most of these variables is unknown or subject to negotiation, the state should begin to formulate alternative strategies for managing and financing this project. Accordingly, to assist this effort, a discounted cash flow model would be helpful in: (1) establishing the state's financial position in the project initially, and (2) identifying needed assumptions and policy options for testing once major considerations such as purchase price and development costs are firmed up. Illustrative of the options which might be explored are:

- Financing: EPA grant and loan programs, coastal zone energy impact program, EDA loans and grants, bank loans, revenue bonds, etc.
- Phasing and absorption alternatives.
- Lease rate structures or land prices.

Stated another way, this analysis would examine state benefits, seeking to balance front end investment, financing charges, etc., against the project's anticipated long term revenue stream.

* * *

These summary findings and recommendations are based on broad market examinations (Chapters II through V) and detailed impact analyses (Chapters VI and VII). Additionally, a substantial data base developed during the course of the study is presented in the Technical Appendices.

CHAPTER II

BACKGROUND ECONOMIC AND DEMOGRAPHIC INDICATORS

Re-use of Quonset Point/Davisville represents an important element in Rhode Island's overall economic development.

Preceding detailed analysis of prospective benefits, this chapter examines background economic and demographic indicators with emphasis on past employment and unemployment trends. (More extensive discussions of findings and supporting data is provided in Technical Appendix A.)

Employment

With the Navy departure and onset of the 1974-75 recession, Rhode Island's grave employment problems highlighted the need for expanding the state's economic base to provide sufficient job opportunities for its residents.

Even preceding these recent events, Rhode Island's economy for 1960-1973 expanded moderately at best as noted on the following chart. As shown, the state's employment base lagged behind that of New England, growing from slightly less than 300,000 jobs in 1960 to approximately 360,000 jobs in 1973.

Two factors are important to recognize in this respect: (1) historically, New England and particularly Rhode Island have continued to grow at a modest rate compared to the rest of the nation; and (2) since 1973, recent economic stagnancy has simply magnified problems associated with moderate growth reflected both in unemployment and underemployment. This latter factor, not directly quantified in this study is of special concern, carrying as it does, additional adverse social and economic effects.

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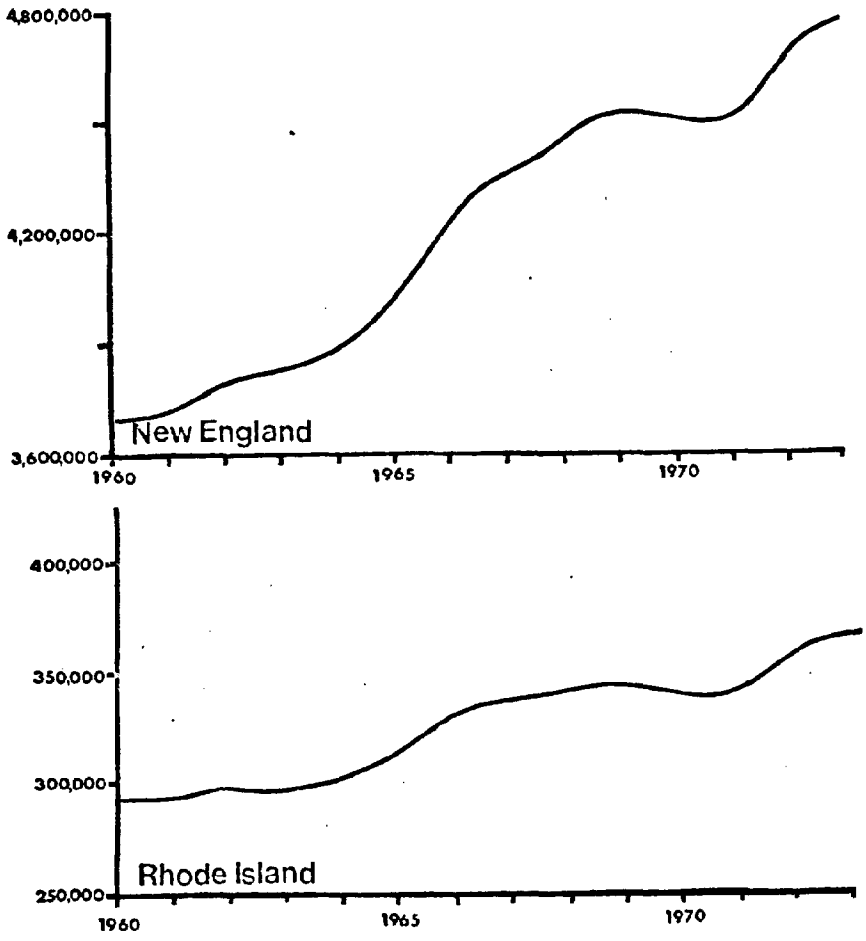

RHODE ISLAND AND NEW ENGLAND
total employment 1960-1973

Source: Employment and Earnings, U.S. Bureau of Labor Statistics; Gladstone Associates.

More evident is the problem of unemployment (shown in Table II-2) which since 1970 has increased sharply from 5.6 to 8 percent. Moreover, the rate was very high at 13.9 percent and 9.3 percent during 1975 and 1976 when the full effects of the recent recession were felt.

TABLE II-2 SUMMARY OF UNEMPLOYMENT TRENDS
STATE OF RHODE ISLAND
1970-1977

Year	Labor Force	Unemployment Number	Unemployment Rate
1970	394,700	22,000	5.6%
1971	399,100	28,400	7.1%
1972	412,600	27,800	6.7%
1973	422,200	26,800	6.3%
1974	427,400	31,300	7.3%
1975	426,100	59,400	13.9%
1976[1/]	425,700	39,800	9.3%
1977[1/]	430,400	34,500	8.0%

1/ Data is for March.

Source: Annual Planning Report, May, 1976, and Employment Bulletin, monthly, R.I. Dept. of Employment Security.

Occupational characteristics of the unemployed show that sizeable numbers of people in all job categories have been affected. Nearly 10 percent of this group, for example, include professional, technical or managerial personnel; 15 percent clerical and sales workers, and more than 30 percent trade workers of various types (Table II-3).

The unemployment and underemployment problems referenced here are indicative of numerous social and economic difficulties effecting various strata of Rhode Island population. While successful re-use of Quonset Point/Davisville will not alleviate all of these problems, considerable beneficial impacts can be expected in light of the indicated potential (noted below in this report) for attracting more than 11,000 new jobs and generating secondary gains for perhaps an additional 6,000 employees.

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TABLE II-3 OCCUPATIONAL CHARACTERISTICS OF THE INSURED UNEMPLOYED
RHODE ISLAND
OCTOBER, 1976 - FEBRUARY, 1977[1/]

	Five Month Average	
	Number	Percent
Professional, Technical, and Managerial	1,958	9.9%
Clerical and Sales	2,923	14.8%
Service	1,327	6.7%
Fishery, Forestry, and Related Occupations	356	1.8%
Processing	656	3.3%
Machine Trades	1,546	7.8%
Bench Work	1,984	10.0%
Structural Work	3,285	16.6%
Miscellaneous	1,855	9.4%
Information Not Available	3,852	19.5%
Total[2/]	19,744	100.0%

1/ Data obtained from selected mid-month weeks.
2/ Column sums may not add to totals due to rounding.
Source: Rhode Island Department of Employment Security; Gladstone Associates.

Population, Households, and Personal Income

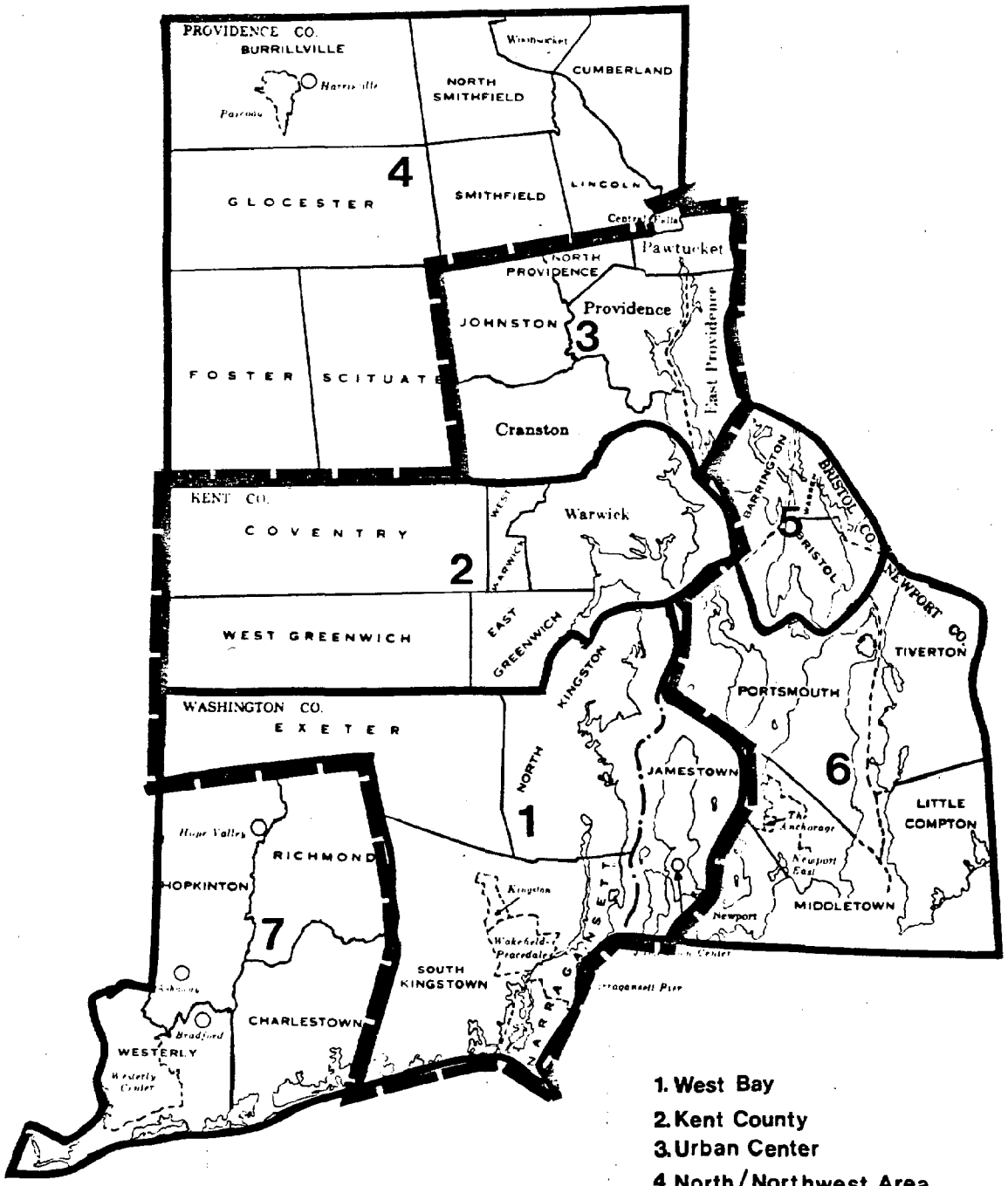
Demographic factors, like those for employment, reflect Rhode Island's moderate economic growth rate.

More significant to this study, however, are changes for West Bay and Kent County subareas -- outlined on the map following -- which have grown more rapidly than the balance of the state. (Indeed, a substantial amount of intra-migration is apparent with growth rates for population, households and income increasing much more rapidly here than for the state as-a-whole.)

This illustrates the continued suburbanization of employment and housing on the western side of Narragansett Bay and underscores a number of favorable

RHODE ISLAND

Subareas



marketing factors for the Quonset property, including expanded labor force availability, proximity to other industries and services, growing acceptability of further-out suburban locations, and related considerations.

* * *

It is against this background that the marketability issues and socio-economic assessment, detailed in the chapters which follow, have been evaluated.

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CHAPTER III
OVERVIEW INDUSTRIAL MARKET OUTLOOK

Past Rhode Island markets and likely future potentials are related to industrial development opportunities at Quonset Point/Davisville in this chapter.

Not intended as a new comprehensive marketability analysis -- in line with prior DED agreement, this examination extends work previously carried out for the Department of Economic Development, most notably Industrial and Commercial Marketability of Surplus Properties in Rhode Island prepared by Harbridge House, Inc. in April, 1976.

As such, the objective here has been to arrive at a likely absorption and industry mix for Quonset Point/Davisville which in turn, would serve as the basis for measuring socio-economic impacts of the respective redevelopment scenarios. Since, as noted in Chapter I, land available for redevelopment at Quonset Point would be designated primarily for industrial uses, this overview of industrial markets is central to the socio-economic assessment.

Industrial Construction Trends

At the outset, Rhode Island construction trends for the past ten years have been examined in detail at a subarea level (See Table III-1 on the following page and the map which follows).

New industrial development totaled nearly 12.9 million square feet of floor space between 1966 and 1975. Given business "cycle" fluctuations, these trends span substantial development during the boom of the late 1960's compared to the more sluggish -- and even recessionary patterns -- of the early 1970's.

TABLE III-1 SUMMARY OF INDUSTRIAL CONSTRUCTION
RHODE ISLAND BY SUBAREA
1966-1975

Subarea	New Industrial Floor Space (S.F.) 1966-1970	1971-1975	Total
West Bay	99,900	124,200	224,100
Kent County	1,651,400	1,772,500	3,423,900
Urban Center	3,109,200	1,945,900	5,055,100
North-Northwest	1,041,000	1,732,600	2,773,600
Bristol County	263,300	151,500	414,800
East Bay	654,800	119,400	774,200
Southwest	138,900	83,300	222,200
Total	6,958,500	5,929,400	12,887,900

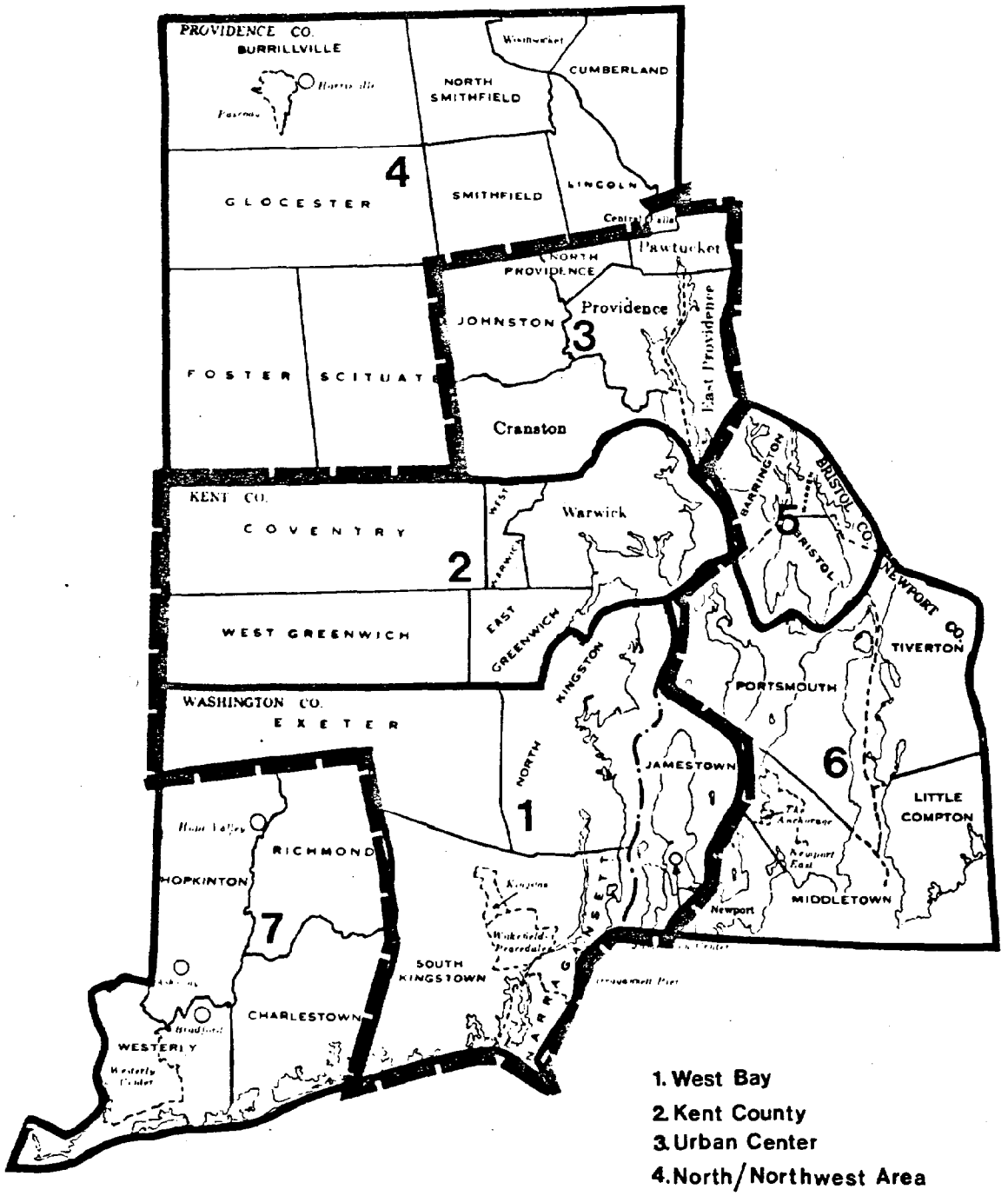
Source: R.I. Dept. of Economic Development; Gladstone Associates.

As important as the magnitudes noted is the distribution of this development over the long term. West Bay communities -- consisting of North Kingstown, South Kingstown, Narragansett, Exeter, and Jamestown -- accounted for only a minor portion of the state's industrial development total reflecting the lack of adequately serviced industrial sites, particularly with respect to sewer facilities and other necessary utilities. More basic, however, is the fact that past industrial markets have been focused in the state's urban areas.

Development in the 1960's and 1970's focused in the Urban Center, Kent County and North-Northwest Rhode Island. Together these three subareas accounted for more than 11 million square feet -- fully 87 percent -- of Rhode Island's new industrial floor space. While future industrial development may not follow this pattern to the same extent, the scale of this activity points up the competitive nature of industrial markets throughout most of the state.

RHODE ISLAND

Subareas



Quonset Point/Davisville Absorption Forecast

Absorption potential for the Quonset Point/Davisville industrial acreage set forth below takes full account of these past trends.

Assuming a Floor Area Ratio of 0.2 -- i.e., the ratio of floor space to land area -- for approximately 630 acres of industrial uses, about 5.5 million square feet of new industrial space would be marketed at this site. This represents slightly less than one-half of the new space built in the entire state over the last ten years, and 25 times more space than was constructed in the entire West Bay over the same time frame.

Simply stated, the scale of this acreage is quite sizeable compared with past Rhode Island industrial markets.

At the same time, Quonset Point/Davisville affords marketing resources not available in other industrial parks in the state. Included here are: water frontage, planned secondary sewage treatment capacity; necessary supporting utilities; large contiguous sites; and other major features.

Also noted in this analysis is available industrial land in West Bay and Kent County locations which would be somewhat competitive with Quonset Point/Davisville. Clearly, alternative sites -- such as the existing Hillsgrove and West Warwick industrial parks and the recently announced project off I-95 in West Warwick-Coventry-West Greenwich -- will compete for some of the same tenants. More important, however, is the fact that these locations will also complement each other, offering parcels of varying size, different amenities, etc.

Thus, the availability of these alternative West Bay and Kent County locations -- including Quonset -- will enhance DED's overall recruitment effort, although likely slowing the absorption of the former Navy base somewhat.

Similarly, Quonset absorption also should reflect the diffused pattern of new industry in the state given particular locational requirements with respect to a variety of factors including: markets; labor pool; transportation; base materials and related items.

On balance, an absorption period of 20 years will likely be required to fully market the industrial land at Quonset Point/Davisville.

Industry Types

Equally important to the socio-economic assessment has been an identification of the industry types likely attracted to the site.

Included are on-shore petroleum support companies, warehousing, and manufacturing industries.

Focus in this section is on manufacturing industries, while petroleum support and warehousing are discussed elsewhere in this report.

As a starting point, so-called "target industries" identified by Harbridge House would be given high priority for this location. This process aims at identifying specific industries -- on a four digit SIC level -- which comprise the "main targets" for the aggressive industrial recruitment program now underway. These industries in turn were identified because they respond to several of the state's objectives -- e.g., labor intensive enterprises requiring highly skilled workers and paying commensurately high wages and salaries. These industries and their projected national growth rates and prospective employment expansion in Rhode Island are displayed in Table III-2.

TABLE III-2 SUMMARY PROFILE OF TARGET INDUSTRIES
STATE OF RHODE ISLAND
1972-1985

Industry	Expected Annual Growth[1]	Expected Annual Employment Growth	
		Nation	Rhode Island[2]
Biological Products	8-10%		
Medicinal Products	8-10%	150,000	300-600
Pharmaceutical Preparations	8-10%		
Medical Electronic Equipment	12-30%	16,000	50-100
Dental Equipment & Supplies	7-12%	16,000	50-100
Communications Equipment	12-25%	316,000	600-1,000
Engineering, Laboratory, Scientific & Research Instruments	12-25%	44,000	150-300
Instruments for Measuring and Testing of Electricity & Electrical Signals	12-25%	65,000	200-400
Instruments for Measurement, Display, & Control of Process Variables	12-25%	39,000	150-300
Turbines	4-6 %	47,000	50-100
Total	--	693,000	1,550-2,900

1/ These rates reflect Harbridge House estimates of employment and sales growth.

2/ Derived by estimating a R.I. employment share capture ratio of between 3-5 percent annually of industry growth.

Source: Harbridge House, Inc.; R.I. Dept. of Economic Development.

While reflecting high growth possibilities, and most lucrative from the state's standpoint, it would be unrealistic to conclude that these would be the only industries attracted to Quonset Point/Davisville. Accordingly, we have examined a series of other industry sectors in order to identify complementary SIC categories for likely future industrial development. Criteria here include recent employment growth in Rhode Island, new industrial construction, target industries, other national growth industries from which Rhode Island could benefit and finally, underrepresented industries in the state. (Table III-3 on the following page.)

TABLE III-3

MOST LIKELY MANUFACTURING INDUSTRIES
FOR NEW DEVELOPMENT AT QUONSET POINT/DAVISVILLE

Industry	Recent Employment Growth	Recent Industrial Construction	Harbridge House Target Industry	Other Growth Industry Identified by Harbridge House[1/]	Under-represented R. I. Industry[2/]
Publishing and Printing					X
Chemicals	X		X		
Rubber Products				X	
Leather Products	X				
Glass				X	
Fabricated Metals		X		X	
Machinery			X		
Electrical Machinery		X	X	X	X
Transportation Equipment	X				
Instruments		X	X		
Miscellaneous (includes silver and jewelry)	X	X			

1/ Unpublished Harbridge House estimates of potential employment growth in Rhode Island.

2/ Refers to those industries which are growing in New England but declining in employment in Rhode Island.

Source: Gladstone Associates

As shown, the target industry mix is broadened to include publishing and printing, rubber products, leather products, glass, fabricated metals, transportation equipment, and miscellaneous industries which include silver and jewelry companies. In sum, this broadened list of industries has served as a primary input to the socio-economic and environmental assessment carried out in this master planning process. While not intended to be entirely comprehensive within the scope of this study, this mix represents likely industry groups that might be attracted to the former Navy base.

* * *

Taken together the absorption forecast and industry mix, combined with the conclusions on petroleum support industries and ancillary commercial

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facilities in the following two chapters, are incorporated directly into the socio-economic assessment of direct and indirect impacts. Additional statistical information on background market conditions is contained in Appendix A while development assumptions and supplementary impact data is delineated in Appendix C.

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CHAPTER IV
PETROLEUM SUPPORT INDUSTRIAL POTENTIAL

A key aspect of the socio-economic assessment has been to evaluate the scale and characteristics of on-shore facilities that might be attracted to Quonset Point/Davisville as a result of oil and gas development on the outer continental shelf -- including Georges Bank and the Mid-Atlantic Region.

Patently, the possibility of petroleum support bases has stirred concern among interested parties in Rhode Island. Specific issues have included environmental questions relating to potential oil spills in Narragansett Bay, possibilities for only short-lived activity causing similar adverse impacts to the Navy departure, importation of large amounts of skilled labor to fill these jobs rather than using existing Rhode Island work force, etc.

We have addressed these issues by drawing on authoritative sources and coverage such as the NERBC-RALI projects for Georges Bank and the Woodward-Clyde Associates study of the Mid-Atlantic Region. Although the "find" level remains the key unknown variable, reasonable development potentials at Quonset Point/Davisville have been established based on the timing and nature of likely petroleum support uses under medium and high find assumptions.

These findings are presented in summary form below; more detailed information is contained in Appendix B to this report.

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Overview of Marketability

On-shore petroleum support industries encompass a wide range of operations from service bases to gas processing plants and refineries. Our task here was to identify those uses potentially attracted to the Davisville site and, conversely, to exclude those for which other, better located or more appropriate sites were available. In so doing, attention has been focused on on-shore

facilities needs to service the Georges Bank region, while recognizing the possibility that the Mid-Atlantic Region could also be serviced from this site.

A summary of all oil support facilities considered and the likely development at Quonset Point/Davisville (shown in Table IV-1 below) includes service bases, platform fabrication yards and installation service bases, pipelines and related uses, gas processing plants, marine terminals and a refinery.

TABLE IV-1 ESTIMATES OF OCS-RELATED ONSHORE SUPPORT FACILITIES FROM MEDIUM FIND GEORGES BANK AND MID-ATLANTIC SCENARIO AT QUONSET POINT/DAVISVILLE

Oil Support Facilities	Total[1] Number of Facilities	Total[1] Land Use (Acres)	Quonset Capture (Maximum)[2] Number of Facilities	Quonset Capture (Maximum)[2] Land Use (Acres)
Service Bases:				
Temporary	5-6	114	2-5	30-80
Permanent	10-18	790	5-14	290-480
Platform Fabrication Yard	1	1,000	1	100
Platform Installation Service Base	2	20	1	20
Pipelines and Landfalls	8	242	0	--
Pipeline Installation Service Base	1[3]	20[3]	1+	20+
Pipe Coating Yard	1[3]	100[3]	1+	100+
Gas Processing Plants	10	720	0	--
Marine Terminals	2	80	0	--
Refinery	0	0	0	--
Totals	--	3,086+	--	560-800+

1/ NERBC-RALI Project, Onshore Facilities Related to Offshore Oil and Gas Development (Georges Bank); Woodward-Clyde, Mid-Atlantic Regional Study;

2/ Gladstone Associates.

3/ Figures are for Georges Bank only. Mid-Atlantic region figures are not available.

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In terms of Quonset development, primary potentials cover general service bases as well as platform and pipeline installation bases. In addition, a small

platform fabrication yard has been included, reflecting the expressed desire by the Brown and Root Company to establish a facility at Quonset Point/ Davisville.

Assuming a "100 percent capture" of all identified uses, approximately 800 acres of land would be required to accommodate them. However, because of the limited water frontage and the Department of Economic Development's desire to attract a more diversified industry mix to Quonset, only approximately 400 acres of oil-related development have been incorporated into alternatives I and II. From a marketability standpoint, therefore, the final development schemes represent an achievable and realistic capture of likely on-shore petroleum support facilities.

It is also important to recognize the significant uses for which market support is limited and which were eliminated from further consideration in this study. Included here are: (1) a refinery which would not be needed because of existing capacity in Pennsylvania and New Jersey; (2) pipelines and landfalls which would be located closer to the actual field; (3) a gas processing plant for which a Quonset location would be somewhat off-center to the existing distribution system and also be difficult to site on the former Navy base; and (4) marine terminals which ordinarily are established to supply a refinery or load tankers from a landfall site, neither of which would likely occur as mentioned above.

Thus, the number of on-shore support activities covered is somewhat limited and correspondingly, the socio-economic assessment which follows has been tailored to reflect the specific nature of these possible uses.

Phasing and Employment

Again drawing on the New England River Basins Commission report, activity at Quonset Point/Davisville was forecast based on detailed projections of on-shore

land use and employment for each year and for each oil support activity. These detailed forecasts -- shown in Appendix B -- were then incorporated into the broader direct and indirect analyses described in the following chapters.

Two specifically oil-related issues which were addressed bear mentioning at this point: (1) the question of timing of employment build-up and particularly, withdrawal, and (2) the concern that non-Rhode Island persons might obtain the majority of the jobs generated (Table IV-2 below).

TABLE IV-2 COMPARATIVE OIL-RELATED ESTIMATES
TOTAL vs. RESIDENT EMPLOYMENT

	Scenario I			Scenario II		
		Resident Employment			Resident Employment	
Selected Years	Total Employment	Number	Percent of Total	Total Employment	Number	Percent of Total
4	760	540	71%	885	605	68%
5	1,025	755	74%	1,165	815	70%
6	1,635	1,230	75%	1,685	1,260	75%
7	2,040	1,540	75%	2,000	1,515	76%
8	2,410	1,830	76%	2,130	1,615	76%
9	2,125	1,605	76%	2,060	1,580	77%
10	2,250	1,710	76%	2,095	1,610	77%
11	2,085	1,590	76%	1,845	1,430	78%
12	2,075	1,605	77%	1,645	1,255	76%
13	2,050	1,595	78%	1,350	1,035	77%
14	890	680	76%	270	205	76%
15	660	510	77%	190	145	76%
20	475	380	80%	315	250	79%
25	305	245	80%	185	145	78%

Source: NERBC-RALI, Onshore Facilities Related to Offshore Oil and Gas Development-Estimates for New England; Gladstone Associates.

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Information relating to both of these issues shows that there is a definite peaking of activity under both high and medium finds from years 7 through 13 with a rather significant decline in jobs after that time, an outlook that poses a policy question for which several trade-offs must be considered. First, the long term prospect of relatively modest employment is not an area of concern since the commitment of land for oil-related uses would

not be permanent, and valuable waterfront parcels in Davisville and Dogpatch would be available for re-use. Given these factors and the prospect for intensive industrial development in the short term, we believe it would be advantageous for the state to continue its marketing efforts to petroleum support industries.

Also shown in Table IV-2 above is the expected ratio of resident to total oil-related employment. Of initial concern here was the prospect that petroleum support industries would utilize Rhode Island residents for only 30-40 percent of their work force needs. After closely examining available resource materials -- specifically NERBC-RALI forecasts -- for the types of uses expected at Quonset Point/Davisville, it would appear this concern is over-stated. Specifically, the expectation is for 70-80 percent of petroleum support jobs at Quonset Point/Davisville to go to Rhode Island residents. Thus, the attraction of petroleum support industries would significantly improve the state's current problem with unemployment rather than provide only a marginal number of jobs to local residents.

* * *

As mentioned earlier, the timing and nature of oil-related industry build-up is incorporated in the direct and indirect impact analyses which follow. In addition, the detailed methodology and assumptions relating to this portion of the socio-economic assessment are contained in Appendix B to this report.

CHAPTER V

COMPLEMENTARY COMMERCIAL DEVELOPMENT OPPORTUNITIES

In addition to the general manufacturing and petroleum support industries, an overview analysis of retail, office, hotel and marina marketability was also undertaken.

Findings presented here rely primarily on previous marketability reports commissioned by the Department of Economic Development and identified development opportunities (included in the alternative scenarios) which in turn, were incorporated into the socio-economic assessment.

A brief description of these respective opportunities is contained in the paragraphs below, and detailed in market and statistical terms in Appendix A.

As with the industrial market overviews presented in the preceding two chapters, the key conclusions here relate to the scale and timing of new developments supportable at the Quonset Point/Davisville site.

Retail Outlook

The Navy departure from North Kingstown dramatically reduced the purchasing power in the trade area and severely impacted sales by local retailers. These adverse impacts were examined in a report entitled Commercial Impact Analysis, Post Road Corridor, North Kingstown, Rhode Island, dated August 1975.

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The principal finding is that several years will be required before retail sales in this corridor return to early 1970's levels. Accordingly, new retail space will not be supportable at least through 1980 and more likely through 1985, when area purchasing power -- a function of both the number of households and their income -- exceeds the capacity of existing retailers to provide adequate services.

Also considered has been the configuration of the Quonset Point/Davisville site. Clearly, new retail facilities require frontage on (and visibility and access to) Post Road. This means that only the North Mill Creek Parcel will be suitable for sizeable retail development. Even so, we judge that this location does not compare favorably with other possible sites for a future 500,000 square foot regional shopping center -- either physically or in market support terms. Accordingly, the analysis here has been keyed to a community shopping center of, at most, 250,000 square feet.

This center could be developed in two phases beginning in 1990 with 150,000 square feet followed by a 100,000 square foot addition by the year 2000. While this center would include shoppers goods outlets mostly -- i.e., general merchandise, apparel, and furniture -- a major supermarket and other supporting convenience goods stores would also be represented

Although many considerations would have to be taken into account before a final shopping center "deal" were concluded, we judge a community center of this size to be a realistic possibility and have included it in the overall Quonset Point/Davisville development program.

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Office Outlook

The market for suburban Class A office space in Rhode Island has been extremely limited in the past. With the exception of perhaps two projects - Allendale Insurance and Metropolitan Life -- there has been no significant suburban office development and certainly no speculative space (pre-built before leasing takes place) built.

Given the lack of demonstrated market support for such a project, we can only postulate as to possible Quonset office development over the long term. Clearly, the site amenities represented by the golf course, airport, and

potential views of Narragansett Bay make Quonset a potentially attractive location for a major office space user. Accordingly, a total of 66 acres near the golf course, phased over time, has been reserved for possible office uses, and has been included in the socio-economic assessment.

The implied strategy here would be to dispose this property for office uses, while simultaneously marketing other portions of the site to industrial firms. If available industrial land on the site becomes scarce, then the land use scheme can be modified to change this office use to light industrial activities, if necessary.

On balance, we judge that there is a reasonable probability that office users can be attracted to this site, and have therefore included it in all of the development scenarios.

Hotel Outlook

Similar to office space, demonstrated market support for additional hotel rooms at Quonset Point/Davisville is lacking. In the past, modern hotel facilities have located strictly in close-in locations to Providence and near tourist attractions such as Newport. This observation was confirmed in two reports (Market Analysis, Resort Hotel Potentials, Prudence Island Surplus Property, and Rhode Island Visitors Survey) which indicate limited hotel market supports from tourism and conventions in the West Bay and for Quonset Point/Davisville.

Accordingly, hotel development at Quonset will depend almost entirely on business visitation generated by new industrial firms at the site. As such, the possibility for a 150 room hotel project which might be built by Year 10, assuming that industrial firms locate at Quonset approximately as projected, has been included in this analysis.

Marina Outlook

Also shown in the alternative scenarios, the Allen's Harbor Area has been designated for a 200-slip marina. Market supports for this size facility are well documented in the DED-sponsored report, Marinas and Pleasure Boating Facilities Study.

Specifically indicated here is that expected demand for slips will greatly exceed the current and anticipated supply in the foreseeable future. Accordingly, development prospects for 200 slips at Allen's Harbor are strong and could be achieved within the relatively short term -- three years or less.

* * *

In sum, appropriate sites and adequate market support have been identified for these uses at Quonset Point/Davisville. These estimates -- it should be noted -- are not predictions of what will happen but do provide a sense of scale and timing of what could happen given anticipated economic and market conditions. As such, this estimated development has been included in the alternative development program and the attendant socio-economic impacts have been measured, as detailed in Chapters VI and VII following.

CHAPTER VI
EXAMINATION OF DIRECT IMPACTS

Direct impacts indicated in this chapter include a delineation of construction employment benefits arising from site development and a broader analysis of employment generated in both the short and long term for the alternative development scenarios.

On this latter point, the number of jobs, occupational/skill level and annual payroll have been estimated.

Each of these factors is discussed in more detail in the paragraphs below.

Site Development Construction Employment

The cost of developing the Quonset Point/Davisville site has been examined for each of the three development alternatives. Site development costs include project-wide infrastructure improvements such as rail spurs, sanitary sewer costs, storm drainage, and roads in addition to providing utilities and access to individual development parcels in bringing these sites to a "ready to use" state.

Cost estimates were detailed in the Keyes Associates' report and have been modified somewhat by the Department of Economic Development. Estimated revised costs are presented in Table VI-1 on the following page.

As shown, the construction budget for site development ranges from a low of $16.5 million in Scenario III to a high of $34.7 million in the high find oil scenario. The primary difference among these scenarios is the cost required to provide bulkheading and new finger piers in the medium and high find scenarios respectively. Besides this major infrastructure item, site improvements and development costs remain constant throughout the three alternatives.

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TABLE VI-1

SUMMARY OF SITE REDEVELOPMENT COSTS
ALTERNATIVE FACILITIES PLAN SCENARIOS
QUONSET POINT/DAVISVILLE

Subarea	Site Redevelopment Costs (000's) Scenario I	Scenario II	Scenario III
Davisville Piers	$ 350.9	$ 350.9	$ 350.9
Dog Patch	$19,376.2	$16,191.3	$ 989.8
Flightpath	$ 148.5	$ 148.5	$ 148.5
Warehouse Area	$ 1,782.4	$ 1,945.8	$ 1,945.8
Golf Course Area	$ 2,540.2	$ 2,540.2	$ 2,540.2
Personnel Support Area	$ 1,098.0	$ 1,185.1	$ 1,185.1
Revenue Producing Area	$ 319.3	$ 319.3	$ 319.3
Kiefer Park Housing Area	$ 2,113.7	$ 2,113.7	$ 2,113.7
North Mill Creek Parcel	$ 1,476.2	$ 1,476.2	$ 1,476.2
West Davisville Parcel	$ 215.6	$ 215.6	$ 215.6
Subtotal	$29,421.0	$26,486.6	$11,285.0
Rail Spur-(Areas 6,7,13)	$ 956.5	$ 956.5	$ 956.5
Sanitary Costs	$ 1,429.8	$ 1,429.8	$ 1,429.8
Storm Drainage	$ 2,863.0	$ 2,863.0	$ 2,863.0
Primary Access Corridor	--	--	--
Subtotal	$ 5,249.3	$ 5,249.3	$ 5,249.3
Total	$34,670.3	$31,735.9	$16,534.3
Cost per Acre	$45,026	$41,214	$21,472

Source: Rhode Island Department of Economic Development; Quonset Point Technical Park Facilities Study, Keyes Associates, March, 1977; Gladstone Associates.

Based on these budget estimates and using broad "rules of thumb" the amount of construction employment and payroll have been scaled (Table VI-2). At the high end under Scenario I, an estimated 4,650 to nearly 6,000 man months of construction employment would be created by the Quonset capital improvement program. By comparison, the less expensive site development under Scenario III would result in approximately 2,200 to 2,850 man months.

In addition, direct construction wages would be substantial under all these alternatives. For Scenario I, construction wages would be on the order of $7.3 to $9.4 million, reflecting the assumed labor proportions in the capital improvements plans. For Scenario III, wages would total between $3.5 and $4.5 million.

TABLE VI-2 ESTIMATES OF CONSTRUCTION EMPLOYMENT AND PAYROLL
QUONSET POINT/DAVISVILLE FACILITIES PLAN
ALTERNATIVE SCENARIOS

	Scenario I	Scenario II	Scenario III
Total Construction Costs (000's)	$34,670	$31,736	$16,534
Estimated Labor Cost (000's)[1/]	$12,135-$15,602	$11,108-$14,281	$5,787-$7,440
Construction Employment (Man Months)[2/]	4,650-5,980	4,260-5,470	2,220-2,850
Direct Construction Wages (000's)[3/]	$7,280-$9,360	$6,660-$8,570	$3,470-$4,460

1/ Assumes total labor cost is between 35 and 45 percent of the construction budget.

2/ Based on total labor cost of $15 per hour and 174 hours per month.

3/ Based on direct wages of $9 per hour and 174 hours per month.

Source: Keyes Associates, Quonset Point Technical Park Facilities Study, March, 1977; Gladstone Associates.

Patently, the jobs and wages created would provide a substantial boost to the construction industry which has suffered from high unemployment in recent years.

Moreover, the benefits would not be limited to the jobs and wages from this capital improvements program. Rather, costs for materials, equipment and general overhead in construction firms would also be included in the economic benefits. Under the above assumptions, this would total between 55 and 65 percent of the construction budget for each of the alternatives. In the case of Scenario I, for example, this implies an additional $19.1-$22.5 million added to the state's economy, assuming no leakage to firms outside of Rhode Island.

On-Site Employment Created

Given the estimated timetable for on-shore oil support facilities and likely absorption of industrial and commercial land, the amount of on-site employment has been estimated for the three development options. Further, these have been considered in both a short term and long term framework and are presented as Year 10 and Year 25 respectively.

Employment estimates from new uses at Quonset Point/Davisville are given below for the marina, shopping center, hotel, Air National Guard, office park, general manufacturing and technical industries, platform fabrication and service bases. Existing major users such as Electric Boat, the Port Authority, and the airport are not included in this summary but are assumed to continue at present levels.

TABLE VI-3 COMPARATIVE SUMMARY OF ESTIMATED EMPLOYMENT FROM NEW USES
QUONSET POINT/DAVISVILLE
YEAR 10

User	Number of Employees		
	Scenario I	Scenario II	Scenario III
Marina	20	20	20
Shopping Center	--	--	--
Hotel	105	105	105
Air National Guard	205	205	205
Office Park	1,000	1,000	1,000
General Manufacturing/ Technical Industries 1/	2,565	2,565	3,470
Platform Fabrication Yard	1,250	1,250	--
Service Bases	1,270	1,155	--
Total	6,415	6,300	4,800

1/ Includes Electric Boat expansion.

Source: Gladstone Associates

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As shown, the two oil-related alternatives account for a noticeably higher amount of new employment by Year 10. While nearly 4,800 jobs are estimated on-site for Scenario III, as many as 6,300 to 6,400 new jobs are anticipated for the medium and high find alternatives respectively. This reflects two factors: (1) that on-shore petroleum support activity would be expected to build up more quickly in the early years and begin peaking at approximately Year 10; and (2) that the prospects for more general industrial development would not likely match the absorption pace required by petroleum companies.

Over the longer term, the amount of petroleum-related employment drops off dramatically as the need for platform fabrication is eliminated and service base requirements subside. Under this assumption, new on-site employment would total between 11,000 jobs in Scenario I and nearly 11,800 jobs in Scenario II (Table VI-4)

TABLE VI-4 COMPARATIVE SUMMARY OF ESTIMATED EMPLOYMENT FROM NEW USES
QUONSET POINT/DAVISVILLE
YEAR 25

User	Number of Employees		
	Scenario I	Scenario II	Scenario III
Marina	20	20	20
Shopping Center	830	830	830
Hotel	105	105	105
Air National Guard	205	205	205
Office Park	2,875	2,875	2,875
General Manufacturing/ Technical Industries 1/	6,550	7,455	7,615
Platform Fabrication Yard	--	--	--
Service Bases	435	295	--
Total	11,020	11,785	11,650

1/ Includes Electric Boat expansion.

Source: Gladstone Associates

Under these assumptions, the amount of new on-site employment is comparable under all scenarios since labor intensive industries would be sought and encouraged for the site as much as possible, including reuse of previous oil-related parcels in the later years.

Expected Occupational/Skill Levels

Besides the primary objective of stimulating new employment in the state, concern has been expressed with respect to the types of jobs created. The occupational breakdown for the three development alternatives is shown in Table VI-5 for non-oil industries. This forecast is consistent with Harbridge House's recommended industry targeting which seeks labor intensive, skilled and high paying industrial employment.

TABLE VI-5 SUMMARY OF NON-OIL RELATED JOBS BY OCCUPATIONAL LEVEL
QUONSET POINT/DAVISVILLE
YEAR 25

Occupational Level	New Non-Oil Employees[1/] Number	Percent
Professional, Technical, Managerial, Administrative and Sales Workers	3,750	32%
Clerical and Kindred Workers	2,070	18%
Craftsmen, Foremen and Kindred Workers	1,780	15%
Operatives, Including Transport	3,490	30%
Service Workers	240	2%
Laborers	320	3%
Total	11,650	100%

1/ Does not include existing or expected oil-related users. Does include Electric Boat expansion.

Note: The above estimates reflect projections for Scenario III, but the proportions would remain constant for the other scenarios as well.

Source: Gladstone Associates

One-third of the new jobs anticipated would be in professional, technical, managerial, administrative and sales worker classifications with another 18 percent clerical and kindred workers. In addition, 15 percent would be craftsmen, foremen, and related workers and 30 percent would be operatives most of whom would be skilled and semi-skilled.

At this point, the limitations of using broad industry averages should be noted. In both the estimates of overall employment and the above occupational distributions, industry averages have been used without any adjustment for actual and as yet unknown Quonset operating facilities. Simply stated, the range of possible facilities that even one company might consider for this site precludes a precise estimation of both the number of workers needed or their skills.

Carrying this occupational analysis over to petroleum support industries, requirements for highly skilled labor are evident in the short term. Specifically, (Table VI-6) for both medium and high oil finds, professional and administrative and skilled workers would be expected to account for more than 65 percent of total petroleum support employment. This translates into more than 1,600 skilled jobs.

Conversely, the number of unskilled workers required would be approximately 800 under both scenarios or approximately one-third.

Over the long term, these proportions would be reversed, reflecting a reduction, by Year 25, in the absolute number of employees in petroleum-related industries. Thus, while nearly two-thirds of this work force would be classified as unskilled, this translates into only 185 and 275 workers under medium and high find options respectively.

TABLE VI-6 SUMMARY OF OIL-RELATED JOBS BY SKILL LEVEL
QUONSET POINT/DAVISVILLE
YEARS 10 AND 25

	Medium Find		High Find	
Year 10	Number	Percent	Number	Percent
Professional and Administrative	290	12.0%	300	11.9%
Skilled Workers	1,325	55.1%	1,360	54.0%
Unskilled Workers	790	32.9%	860	34.1%
Total	2,405	100.0%	2,520	100.0%
Year 25				
Professional and Administrative	20	6.9%	30	6.6%
Skilled Workers	90	29.7%	130	30.4%
Unskilled Workers	185	63.4%	275	63.0%
Total	295	100.0%	435	100.0%

Source: Frederic R. Harris, Inc; NERBC-RALI, Onshore Facilities Related to Offshore Oil and Gas Development - Estimates for New England; Gladstone Associates.

Estimated Payroll From New Uses

The aspect of site direct impact follows a similar format as above.

TABLE VI-7 COMPARATIVE SUMMARY OF ESTIMATED PAYROLL FROM NEW USES
QUONSET POINT/DAVISVILLE
YEAR 10

	Payroll (millions)		
User	Scenario I	Scenario II	Scenario III
Marina	$ 0.2	$ 0.2	$ 0.2
Shopping Center	--	--	--
Hotel	$ 0.8	$ 0.8	$ 0.8
Air National Guard	$ 2.7	$ 2.7	$ 2.7
Office Park	$17.4	$17.4	$17.4
General Manufacturing/ Technical Park1/	$29.1	$29.1	$39.4
Platform Fabrication Yard	$23.8	$23.8	--
Service Bases	$21.6	$19.6	--
Total	$95.6	$93.6	$60.5

1/ Includes Electric Boat expansion.

Source: Gladstone Associates

As shown in Table VI-7, short term payroll for the three alternatives would be an estimated $60 million annually for Scenario III in Year 10 and more than $90 million for Scenarios I and II. These estimates are carefully calibrated by cross-tabulating the number of jobs and occupational levels described in the preceeding paragraphs.

Over the long term to Year 25, the estimated payroll of the three alternatives is more evenly balanced. As shown below in Table VI-8, new employment payroll would reach approximately $140 million under Scenario II and only slightly lesser levels under the other two alternatives.

TABLE VI-8 COMPARATIVE SUMMARY OF ESTIMATED PAYROLL FROM NEW USERS
QUONSET POINT/DAVISVILLE
YEAR 25

User	Payroll (Millions) Scenario I	Scenario II	Scenario III
Marina	$ 0.2	$ 0.2	$ 0.2
Shopping Center	$ 8.6	$ 8.6	$ 8.6
Hotel	$ 0.8	$ 0.8	$ 0.8
Air National Guard	$ 2.7	$ 2.7	$ 2.7
Office Park	$38.7	$ 38.7	$38.7
General Manufacturing/ Technical Park 1/	$74.3	$ 84.6	$86.5
Platform Fabrication Yard	--	--	--
Service Bases	$ 7.4	$ 5.0	--
Total	$132.7	$140.6	$137.5

1/ Includes Electric Boat expansion.

Source: Gladstone Associates

CHAPTER VII
ASSESSMENT OF INDIRECT IMPACTS

In this chapter, indirect impacts are addressed for the following three topics: (1) "multiplier effects" of primary employment generated at Quonset; (2) levels of "induced" population growth and attendant growth management issues facing North Kingstown and surrounding West Bay communities; and (3) specific North Kingstown fiscal costs and benefits arising from reuse of the former Navy property.

The discussion of each of these topics extends integrally from the direct impact analysis presented in the previous chapter. As such, these indirect impacts are intended to reflect orders of magnitude rather than pinpoint estimates. Patently, to the extent that on-site development varies from the forecast indicated, associated indirect impacts will be proportionately altered.

For purposes of this discussion, indirect impacts might be defined as those occurring off-site as a result of redevelopment activities at Quonset Point/Davisville.

Estimated Multiplier Effects

Multiplier effects have been calculated as a function of job spin-off generated by the introduction of new primary manufacturing jobs in the area. The secondary jobs would tend to be concentrated in retail trade and certain professional services which tend to follow new employment and population growth. The secondary jobs also include such categories as transportation, communications, utilities, insurance, real estate, construction and business services.

As a word of caution, it should be noted that without extensive input/output analyses, economic multipliers indicate -- at best -- broad possibilities. More specifically, without benefit of in-depth understanding of the effected

geographic area's supporting industry mix and current excess capacity, it is not possible to definitively forecast the number of new jobs created.

A further complication is the problem of identifying the geographic area in which this secondary employment generation will occur. For example, while forecasts of primary employment at Quonset Point/Davisville are reasonably firm, projecting job "spin-off" within North Kingstown or West Bay locations is necessarily more speculative.

Also of direct bearing is the application of separate multipliers for manufacturing and oil-related jobs, shown below in Table VII-1. "Spin-off effects" of 0.6 to 0.7 secondary jobs for each manufacturing job created and slightly higher rates of 0.6 to 0.8 for oil-related activities are noted, respectively. These alternative ranges simply reflect the fact that the onshore petroleum support industries likely will have specialized supply needs -- such as food catering, tool rental, waste disposal, etc. -- which are not already in place in Rhode Island. Accordingly, new enterprises will likely be required and will result in slightly higher "spin-offs" than in the case of manufacturing activities and the back-up supports in place for those functions.

As with the direct impacts, we have estimated the multiplier effects within both a short-term and long-term framework. Beginning with year 10, we find that job spin-off estimates range from a low of 2,700 in Scenario III up to 4,500 in Scenario I. As in the direct impact section, this range reflects the slower build up of on-site jobs in Scenario III compared with the short-term petroleum support development.

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TABLE VII-1

ESTIMATED "MULTIPLIER" EFFECT
JOB SPIN-OFF FROM QUONSET POINT/DAVISVILLE
ALTERNATIVE DEVELOPMENT SCENARIOS
YEAR 10

	Number of On-Site Jobs		Multipliers		Number of Secondary Jobs		
	Manufacturing & Related	Oil-Related	Manufacturing & Related	Oil-Related	Manufacturing & Related	Oil-Related	Total
Scenario I	3,565	2,520	0.6-0.7	0.6-0.8	2,100-2,500	1,500-2,000	3,600-4,500
Scenario II	3,565	2,405	0.6-0.7	0.6-0.8	2,100-2,500	1,400-1,900	3,500-4,400
Scenario III	4,470	--	0.6-0.7	0.6-0.8	2,700-3,100	--	2,700-3,100

Source: U. S. Chamber of Commerce, What New Jobs Mean to a Community, 1973; NERBC-RALI, Tech Update 10, November, 1976; Woodward-Clyde, Mid-Atlantic Regional Study, October, 1975; Gladstone Associates.

Over the longer term, differences in job spin-off among the three scenarios are reduced. As shown in Table VII-2, the low end range of 4,800 to 6,900 secondary jobs in Scenario I is only slightly below that of the 6,300-7,400 range for Scenario II. Simply put, this reflects the similarity of the three scenarios over the long-term, as parcels which are used for petroleum support industries in the early years -- in Scenarios I and II -- are reused later for general manufacturing similar to the plan in Scenario III.

TABLE VII-2

ESTIMATED "MULTIPLIER" EFFECT
JOB SPIN-OFF FROM QUONSET POINT/DAVISVILLE
ALTERNATIVE DEVELOPMENT SCENARIOS
YEAR 25

	Number of On-Site Jobs		Multipliers		Number of Secondary Jobs		
	Manufacturing & Related	Oil-Related	Manufacturing & Related	Oil-Related	Manufacturing & Related	Oil-Related	Total
Scenario I	9,425	435	0.6-0.7	0.6-0.8	5,600-6,600	200-300	5,800-6,900
Scenario II	10,330	295	0.6-0.7	0.6-0.8	6,200-7,200	100-200	6,300-7,400
Scenario III	10,490	--	0.6-0.7	0.6-0.8	6,300-7,300	--	6,300-7,300

Source: U.S. Chamber of Commerce, What New Jobs Mean to a Community, 1973; NERBC-RALI, Tech Update 10, November, 1976; Woodward-Clyde, Mid Atlantic Regional Study, October, 1975; Gladstone Associates.

Looking at the above table in more detail, the reasons for this similarity are readily apparent. Specifically, by year 25, the number of oil-related jobs in Scenarios I and II is modest. Conversely, the number of manufacturing and related jobs among the three scenarios is relatively constant, reflecting full use of the former Navy base and identical usage of a majority of the redeveloped parcels.

Induced Growth and Attendant Impacts

Analysis of possible induced population growth takes account of three principal factors: (1) "baseline" population forecasts; (2) likely commutation patterns; and (3) growth management implications.

Baseline Forecasts. Estimates through the year 2000 by the Statewide Planning Program and Gladstone Associates are presented below in Table VII-3 for the West Bay and North Kingstown. These baseline projections are conditioned by past trends and take into account a number of key demographic factors such as fertility and death rates, migration, household size and formations, labor force participation, etc.

Fundamental economic shifts -- such as the attraction of new industry and the redevelopment of Quonset Point/Davisville -- however, are not specifically accounted for. Stated in other terms, the estimates below are anticipated in the West Bay and North Kingstown even if extensive redevelopment at Quonset does not occur.

As shown, there are some slight differences between Gladstone Associates and Statewide Planning Program estimates. In general, the variance can be explained in terms of Gladstone Associates' having access to more recent data -- such as on household formation and housing occupancy -- than was available at the time the Statewide Planning Program estimates were prepared.

TABLE VII-3 "BASELINE" POPULATION FORECASTS
NORTH KINGSTOWN AND WEST BAY
1974-2000

	West Bay[1]		North Kingstown	
	SPP[2]	GA[3]	SPP[2]	GA[3]
1974	56,300	56,300	20,000	25,000
1980	64,700	63,300	25,300	29,700
1985	72,900	70,700	32,500	37,200
1990	81,900	78,000	40,000	41,300
2000	92,700	89,200	47,900	47,500

1/ Includes North Kingstown, South Kingstown, Exeter, Narragansett, Jamestown and New Shoreham.

2/ Statewide Planning Program, Technical Memorandum #25

3/ Gladstone Associates based on local estimates of current population levels and anticipated capture of statewide population growth; for a more detailed description of this analysis see Rhode Island Military Housing Report, Gladstone Associates and Stahl/Bennett, Inc., November, 1975.

Note: Baseline projections are based heavily on past trends and do not account for fundamental economic shifts such as the Quonset Point/Davisville redevelopment.

Source: Gladstone Associates

On balance, the two sets of projections are quite similar. Specifically, population levels are expected to be approximately 90,000 in the West Bay by the year 2000. Indeed, West Bay population would increase by approximately 60 percent over the next 25 years representing an average annual growth of 2.3 to 2.5 percent -- for Gladstone Associates and Statewide Planning Program estimates respectively -- which is clearly a wholesome rate of growth compared to past trends.

Similarly in North Kingstown, population increases are expected to be significant. While there is some discrepancy as to estimates of present population levels, forecasts for the year 2000 indicate that nearly 48,000 people will reside in the community in that year.

Again, different growth rates are implied in the two estimates. Nonetheless, the primary conclusion is that North Kingstown population is expected to nearly double over the next 25 years. In terms of this discussion on future socio-economic change, this baseline forecast is significant, reflecting North Kingstown's increasing role as a bedroom community within the metropolitan region.

Indeed, there are several current indications of this suburbanizing pressure, including:

-- The Route 4 extension has generated significant developer interest in possible housing sites in this corridor on the western edge of the town;

-- Despite sluggish economic conditions generally, sub-division activity -- both applications for new sub-divisions and expansions of existing ones -- has been notable;

-- Despite the 1973 and 1974 gasoline shortage, commutation from North Kingstown to employment centers in Providence, Cranston, and Warwick appears to be increasing; indeed, as new employment accrues to cities such as Warwick, the commuter's perception of North Kingstown's excellent accessibility will grow accordingly.

Together, the baseline population projections described earlier and the above illustrative indications supporting these portend appreciable socio-economic change for the town. Growth management implications are discussed more fully below in this chapter, reflecting our judgement that these represent substantially more significant socio-economic issues for the town than does the specific indirect impacts arising from the Navy base reuse.

Quonset Point/Davisville Redevelopment and Induced Growth

Redevelopment of Quonset Point/Davisville will result in a large increase in North Kingstown and West Bay employment -- as described in detail in the previous chapter -- and in turn will reflect "induced" population growth.

Two questions must be answered in this respect: (1) How much population is directly attributable to new employment at Quonset, and (2) How will this population be distributed geographically among North Kingstown, the balance of the West Bay subarea, and other portions of the state?

Aggregate population generated has been estimated based on the following assumptions: (1) each job represents approximately one household, and (2) average household size, in general, will be approximately 3.0 persons. Applying these indices to new employment created on-site over the long term, we find that approximately 33,000 persons would be directly supported by Quonset employment.

Geographic distribution of this population hinges on commutation patterns of future Quonset Point/Davisville employees. Comparative past data and future expectations on commutation (presented in Table VII-4 below) includes information from the U.S. Census and Department of Transportation commuter surveys of five major area employers. Gladstone Associates' estimates for eventual new Quonset Point/Davisville employment distribution -- based on these data -- are also included in the table.

As shown below, 1970 commutation to North Kingstown strongly reflects the Navy presence. Specifically, 65 percent of the people working within the town also lived there, reflecting the high concentration of people in Navy group quarters or military housing. By comparison, the number of people coming to North Kingstown was diffused among several areas within the state.

Analysis of similar data for Electric Boat during its start-up period indicates a radically different pattern. Only a small portion of these employees -- approximately 13 percent -- lived in North Kingstown, while nearly a third came from Kent County, another third from the Urban Center and fully one-fourth from various distant locations.

TABLE VII-4

COMPARATIVE EMPLOYEE COMMUTATION PATTERNS
SELECTED WEST BAY AREAS

Place of Residence	1970 Census Data For North Kingstown Number	1970 Census Data For North Kingstown Percent	1975 Data for Electric Boat Number	1975 Data for Electric Boat Percent	1974 Data for Four Major Employers[3] Number	1974 Data for Four Major Employers[3] Percent	Gladstone Associates' Estimates for Quonset Point/Davisville[4] Number	Gladstone Associates' Estimates for Quonset Point/Davisville[4] Percent
West Bay								
North Kingstown	8,105	65.1%	26	13.3%	52	3.6%	2,750-3,300	25- 30%
Remainder of West Bay[1]	698	5.6%	8	4.1%	17	1.2%	1,100-1,650	10- 15%
Subtotal	8,803	70.7%	34	17.4%	69	4.8%	3,850-4,950	35- 45%
Kent County	1,904	15.3%	57	29.2%	769	52.9%	2,750-3,300	25- 30%
Urban Center	1,257	10.0%	55	28.2%	465	31.9%	2,200-2,750	20- 25%
Balance[2]	494	4.0%	49	25.1%	152	10.4%	1,100	10%
Total	12,458	100.0%	195	100.0%	1,455	100.0%	11,000	100%

1/ Includes South Kingstown, Narragansett, Exeter, Jamestown and New Shoreham.

2/ Includes commuters from cities and towns from other sections of Rhode Island and from Massachusetts.

3/ Includes Leesona Corp., Leviton, BIF, and Apex.

4/ Assumes average for the three scenarios in year 25; estimates reflect anticipated commuter preferences of new employees and do not attempt to account for the capacity for cities/towns/subareas to accommodate this growth.

Source: U. S. Census; R. I. Department of Transportation; Gladstone Associates.

Commutation patterns for four major employers in Warwick and West Warwick show that a majority of these employees live in Kent County. By contrast, less than 5 percent live in North Kingstown or other communities in the West Bay.

Based on this information, we have projected commutation for new employees at Quonset Point/Davisville by year 25. Specifically, we anticipate that between 35 and 45 percent of these employees will prefer to live in West Bay communities and that most of these will desire North Kingstown locations. Reasons for this judgement go to: (1) the unlikelihood that employee concentrations in North Kingstown would approach the highly concentrated pattern evidenced during the Navy presence; (2) prospects that, over time, workers will seek housing in the same subarea -- i.e., West Bay -- as their place of employment; and (3) that many workers already established in populated areas of Kent County and the Urban Center will choose to remain in these areas.

Analysis of Induced Growth. Combining the baseline forecast described earlier with the above commutation projections, possible levels of induced growth are calculated, as presented below in Table VII-5. In terms of the "inducing effect" it is necessary to determine what proportion of the new jobs and resulting population would not have located in the West Bay or North Kingstown if Quonset were not redeveloped. The range of possible assumptions here include: (1) that the baseline forecasts show sufficient growth to accommodate this new development; (2) that all jobs at Quonset Point/Davisville would be unique to this subarea and that therefore the resulting population growth would be entirely above and beyond the baseline projection; and (3) that some proportion of the new jobs and population from Quonset should be considered as induced growth in the West Bay.

TABLE VII-5 COMPARATIVE POPULATION FORECASTS
WEST BAY AND NORTH KINGSTOWN
1974-2000

			Including "Induced Growth"	
	SPP[1]	GA[2]	Mid Range[3]	High Range[4]
West Bay				
1974	56,300	56,300	56,300	56,300
1985	72,900	70,700	75,500	82,800
2000	92,700	89,200	97,700	107,600
North Kingstown				
1974	20,000	25,000	25,000	25,000
1985	32,500	37,200	39,500	44,000
2000	47,900	47,500	51,200	57,800

1/ Statewide Planning Program, R.I. Population Projections by County, City and Town, April, 1975, not including allowance for major industrial redevelopment of Quonset.

2/ Gladstone Associates' forecasts taking account of current population estimates for North Kingstown; original forecasts were contained in R.I. Military Housing Report, November, 1975.

3/ Assumes that one third of the new jobs created at Quonset and the resulting population growth is "above and beyond" baseline projections for West Bay; also assumes high end from commutation in table VII-4.

4/ Assumes that all of the new jobs created at Quonset and the resulting population growth will be "above and beyond" baseline projections for West Bay; also assumes high end from commutation in table VII-4.

Indicated here for the West Bay, therefore, is the previous baseline of approximately 90,000 people by the year 2000, with potential induced growth ranging up to more than 107,000 if all the jobs and resulting population is truly induced. More likely, however, is the mid-range of approximately 97,000 persons, which assumes that two-thirds of the increases would be expected in any case and that only one-third of the new employment and population is in fact induced.

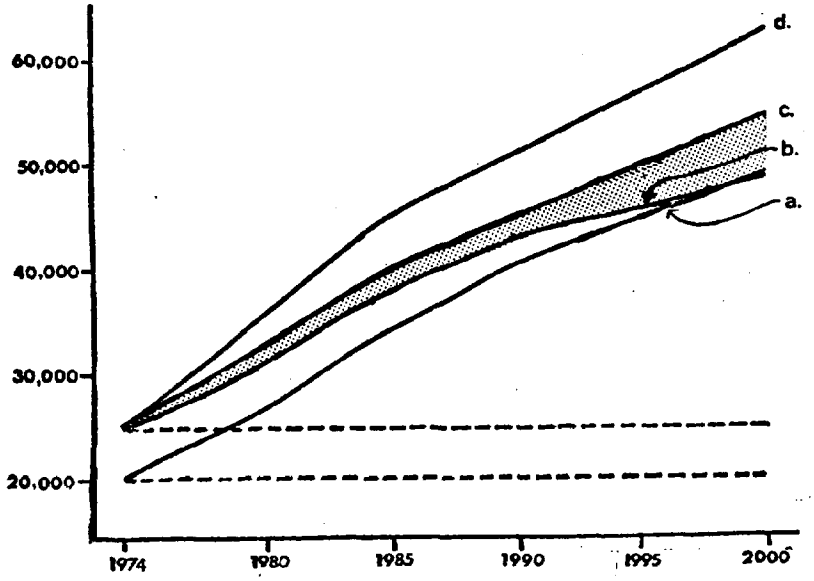
Similarly for North Kingstown, the year 2000 baseline is slightly less than 48,000 persons, with a mid and high range of 51,000 and 57,000 respectively. These same estimates are displayed graphically on the chart following, which illustrate the amount of growth potentially attributable to Quonset Point/ Davisville compared to the normal baseline estimates.

As shown, we judge the most probable population range to be between the baseline forecasts -- Lines A and B -- and the mid-range induced growth estimate indicated by Line C. At the same time, we consider that the estimates reflected by Line D or the high range -- although a possibility -- represent only a remote probability.

Perhaps the most significant conclusion here is that even at the high end, growth attributable to Quonset Point/Davisville is at most one-half of the increase represented by the baseline projections. In other words, growth pressures on North Kingstown and the surrounding communities are not tied to the redevelopment project but will follow as a result of the normal course of suburbanization on the western side of Narragansett Bay.

In other words, the induced growth levels are likely to magnify already existing growth pressures, particularly if Quonset land is absorbed faster than we project and job build up also occurs more rapidly.

MOST PROBABLE "INDUCED" POPULATION GROWTH
NORTH KINGSTOWN



a. Statewide Planning Program's Baseline
b. Gladstone Associates' Baseline
c. Mid-Range with Induced Growth
d. High-Range with Induced Growth
---- Current Population Estimates

Most Probable Range

Source: Gladstone Associates

Growth Management Implications. Given the clear growth pressures -- deriving from both baseline and induced population estimates -- a series of questions must be examined with respect to the likely impacts on the town. Simply put, the essential issue concerns the means by which the town would accommodate the identified growth and the logical implications of the possible alternatives.

Specifically, the town faces some basic policy choices with respect to the growth scenarios. Future choices include large lot zoning, cluster zoning, concentration of development in certain areas, and more urban forms of development.

These choices represent a range of possible demands on the town's resources to provide necessary infrastructure and normal municipal services. Capital items such as new schools, sewer and water lines, and roads would all be required to accommodate substantially increased population levels. The key question revolves around the extent to which these items will be required and the town's financial capacity to provide them.

Of concern here is the town's present policy leanings as reflected by the comprehensive plan. This plan was predicated on the continued Navy presence, and although the absolute population levels planned for are somewhat comparable to those discussed above, the means of accommodating this population are different in the plan than would be required now that industrial redevelopment appears possible. For example, the plan assumed that much of the Navy population would continue to reside in group quarters or military housing, while it is now clear that shelter for new population will have to be developed in other sections of the town if the indicated population increases are to occur.

Moreover, the comprehensive plan tends to reflect a desire for the town to retain its rural or semi-rural character. While this certainly is a choice that the town can pursue, the fiscal costs and benefits should be examined in detail.

For example, although a detailed fiscal impact analysis for various policy alternatives is beyond the scope of this study, Table VII-6 below points to some possible cost/benefit trade-offs which should be examined.

Using current assessment practices and tax rates, illustrative costs and revenues have been calculated. As shown, because of the high education costs and the greater number of school-aged children likely in large lot sub-divisions, fiscal costs and revenues are clearly out of balance for large lot sub-divisions compared to townhouses and garden apartments. Although the figures shown here

are illustrative in nature -- as opposed to pinpoint estimates -- they do reveal the nature of the fiscal trade-off that the town must consider.

TABLE VII-6 ILLUSTRATIVE EXAMPLE OF MUNICIPAL COSTS AND REVENUES
TYPICAL RESIDENTIAL PRODUCT TYPES
TOWN OF NORTH KINGSTOWN

	Large Lot Single Family Detached Unit[1/]	Single Family Attached Townhouse Unit[2/]	New Garden Apartment Unit
Estimated Revenues	$1,470	$825	$550
Estimated Costs			
Schools	$2,350	$600	$300
General Fund	$ 290	$190	$180
Total	$2,640	$790	$480
Net Balance (Deficit)	($1,170)	$ 35	$ 70

1/ Assumes sales price of $80,000 for 4 bedroom house on one acre of land, with 1.6 school children and household size of 4.0 persons.
2/ Assumes sales price of $45,000 for 2 bedroom unit, with 0.4 school children and average household size of 2.6 persons.
3/ Assumes monthly rent of $250 for 1 bedroom unit, with 0.2 school children and average household size of 2.5 persons.

Source: Gladstone Associates.

This is the type of analysis -- recommended in Chapter I -- which should be carried out for a series of growth alternatives. In so doing, policy-makers in the town can specifically choose the type of suburban development it wishes to encourage while at the same time being knowledgeable about the magnitude of the fiscal consequences of the chosen policy.

The magnitude of this issue cannot be overemphasized, given the high population increases forecast. Patently, if the full amount of population growth were to be accommodated in large single family homes, a strong upward pressure on the town's effective tax rate would result. On the other hand, if an effective channeling of more urban forms of development would occur, the fiscal balance might be controlled more effectively.

In essence, the need for effective growth management is strongly evident and is likely to be the dominant socio-economic issue in the town in the foreseeable future, regardless of whether the redevelopment of Quonset Point/Davisville occurs as planned.

Town Costs and Benefits from Redevelopment

The attraction of new industry to this site carries with it certain costs and benefits to the town in the form of municipal services and either real property taxes, payments in lieu of taxes, or user charges. Estimates of these costs and benefits are dependent on the ultimate state policy for developing the property. Consequently, precise forecasts are not included as part of this study effort, although possible implications of several options are delineated.

As a point of departure, assuming the state is financially capable to fully develop and operate the site, it would appear that the town's involvement would be somewhat limited. Specifically, on the cost side, the Port Authority would assume responsibility for most of the major "municipal" activities such as police and fire protection, road maintenance, etc. On the revenue side, since the land would be state-owned, the redeveloped property would not go directly onto the town's tax role. Rather, revenue to the town would be in the form of payments in lieu of taxes and user charges.

The policy with respect to these latter revenues has not been articulated as yet. On the one hand, it is clear that user charges for town owned and operated facilities -- such as perhaps the sewer plant or water system -- would be established to offset the town's costs in these matters. In addition, the town would receive payments in lieu of taxes to offset costs for off-site improvements, services, and other indirect impacts as discussed above.

At the other extreme, the state's financial position may dictate that substantial acreage be sold off, thereby generating sufficient cash flow for

the state to develop and manage the balance of the property. The difference here is that the property sold would then accrue to the town's tax base and provide the town with a direct revenue source. At the same time, the town would likely assume the corresponding responsibility for providing municipal services. The magnitude of these costs and revenues would clearly be dependent on the number of parcels the state sold to private interests.

On balance, while revenues would likely exceed costs in this situation, it is difficult to estimate the magnitude of the surplus created. In all likelihood, however, this surplus would only partially offset the municipal cost incurred in accommodating the anticipated residential development.

As a final note, it is precisely this type of policy/strategy questions which should be discussed in detail between the state and the town. The end result should be a mutually agreed upon policy for the development and operation of the site.

* * *

This concludes the socio-economic assessment report. The Technical Appendices which follow are "resource" statistical materials which were gathered during the course of the analysis and which can be used as input to economic development policies for Quonset Point/Davisville and Rhode Island.

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TECHNICAL APPENDICES

TECHNICAL APPENDIX A

BACKGROUND SOCIO-ECONOMIC INDICATORS

- Employment
- Background Demographic Indicators
- Industrial Market Conditions
- Retail Market Conditions
- Background Office and Hotel Data
- Existing Quonset Conditions

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TECHNICAL APPENDIX A
BACKGROUND SOCIO-ECONOMIC INDICATORS

I. Covered Employment

A. State Trends

1. Total covered employment declined by approximately 3,400 jobs annually between 1970 and 1971; for 1972-1975, the number of jobs decreased by 2,500 per year.

2. This overall decline of approximately 10,900 jobs between 1970 and 1975 includes the slight recession in 1971, recovery in 1972 and 1973, and the effects of the Navy pull-out and severe recession in 1974 and 1975.

3. Manufacturing employment in Rhode Island declined by 5,900 jobs or 5.2 percent annually for 1970-1971; the decline continued in 1972-1975 with a job loss of 2,000 annually or 1.7 percent per year.

4. By contrast, non-manufacturing employment in the state increased by 2,500 jobs in 1970-1971 and declined only slightly -- by 500 jobs annually -- between 1972 and 1975.

5. Over the long term -- for the period 1960 through 1973 -- comparing Rhode Island employment change with that of New England, a slight lag is evident; specifically, while New England's employment grew by 2.2 percent annually, the number of jobs in Rhode Island increased by only 1.9 percent per year; in other words, Rhode Island's share of New England employment declined from 7.9 percent to 7.6 percent.

6. Looking at manufacturing employment, we find that Rhode Island has fared better than the region; during the 1960-1973 period, Rhode Island jobs actually increased by 340 per year and New England decreased by more than 3,500 on average; accordingly, Rhode Island's share of manufacturing employment increased from 8.2 percent in 1960 to 8.8 percent in 1973; finally, the fact that Rhode Island's manufacturing employment is proportionately somewhat higher than its share of total employment tends to indicate past relative success in attracting and retaining manufacturing industries in the state.

7. Similarly examining non-manufacturing employment, a Rhode Island lag is apparent compared to the New England region; although non-manufacturing jobs in Rhode Island increased by nearly 5,100 over the long term, the 3.0 percent annual growth rate was noticeably lower than the 3.7 percent rate of increase in all of New England; as a result, Rhode Island's share of regional non-manufacturing employment has declined from 7.6 percent in 1960 to 7.2 percent in 1973.

8. Summary Conclusions

   a. Long term Rhode Island employment growth -- for both manufacturing and non-manufacturing industries -- has been relatively modest, reflecting moderate economic expansion throughout the New England region.

   b. Recent declines in total employment and particularly manufacturing jobs in the state -- as a result of the Navy withdrawal and 1974-1975 recession -- have magnified the problems associated with an only moderately expanding economy and dramatized the need to continue efforts to attract new industry and enlarge the state's economic base.

B. Central Portion Trends

1. Total employment in the West Bay subarea (see map following for state subarea definitions) decreased by approximately 200 jobs or 3.2 percent between 1970 and 1971; more recently, relatively rapid employment increases of more than 800 jobs annually have been experienced.

2. In Kent County, 1970-1971 job increases were on the order of 200 per year; this growth level has also increased noticeably to approximately 785 new jobs annually or 2.6 percent per year between 1972 and 1975.

3. In the Urban Center the total loss of jobs averaged nearly 2,500 and more than 1,300 annually for 1970-1971 and 1972-1975, respectively.

4. West Bay manufacturing jobs, after decreasing by nearly 400 between 1970 and 1971, grew sharply by nearly 700 new jobs per annum between 1972 and 1975; in both Kent County and the Urban Center the number of manufacturing jobs decreased noticeably in both the 1970-1971 and 1972-1975 period, following the definite pattern of declining manufacturing employment throughout the state.

5. Non-manufacturing employment increased at healthy rates in both Kent County and West Bay, accounting for a large proportion of the state's overall increases in non-manufacturing employment in the early 1970's; in the Urban Center the number of non-manufacturing jobs has remained relatively stable in the first half of the 1970's.

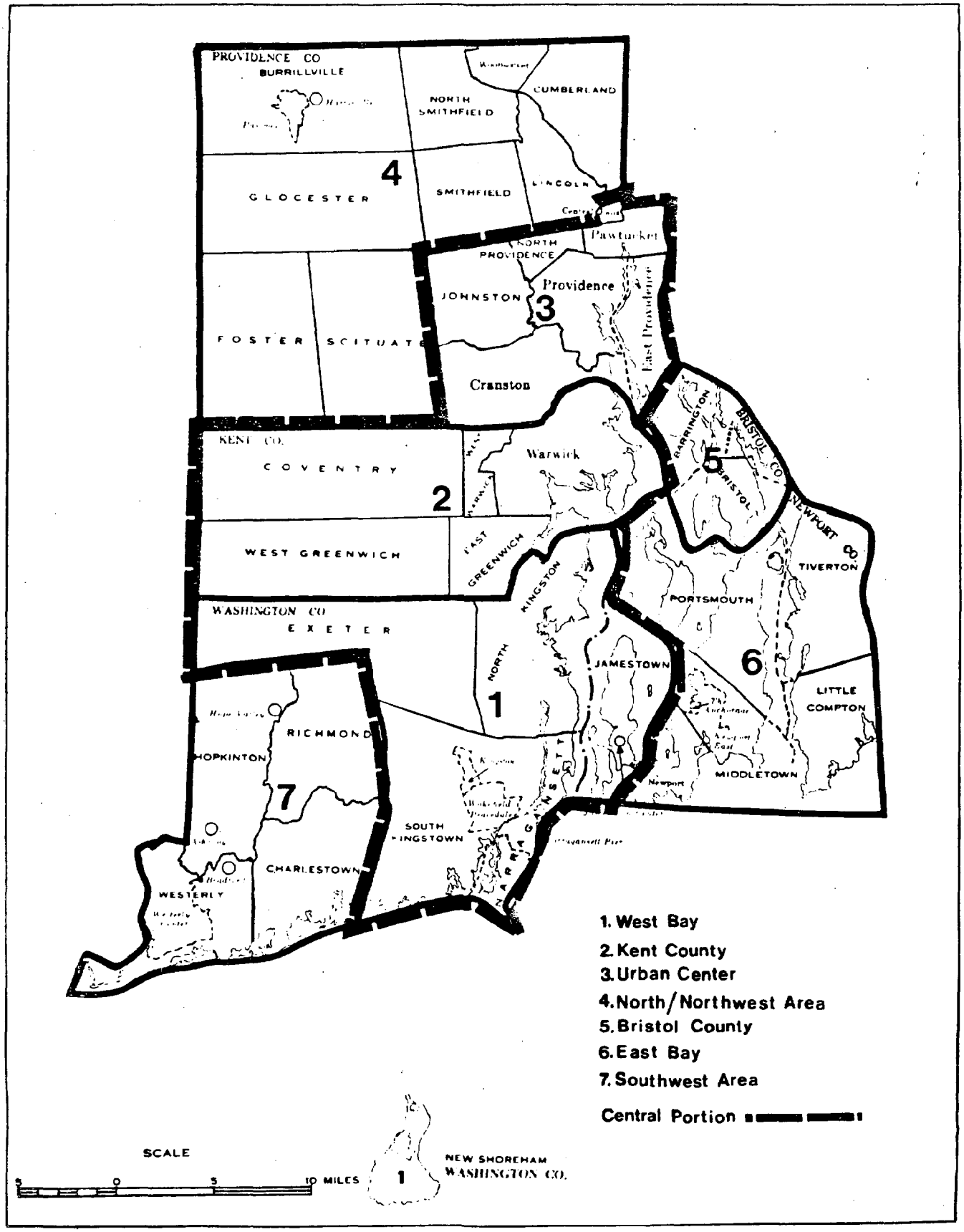
6. Summary Conclusions

   a. The central portion of the state and most particularly the West Bay and Kent County have been less adversely affected by the recent economic difficulties experienced throughout the state.

   b. Notably, the non-manufacturing industrial sectors in West Bay and Kent County locations have accounted for disproportionately large amounts -- on the order of 60-75 percent -- of Rhode Island's increased non-manufacturing employment.

RHODE ISLAND

Subareas



c. This indicates a relatively healthy economic condition in these two subareas and reflects the continuing trend of suburbanization to these locations, despite somewhat stagnant economic trends for the state as a whole; simply stated, the West Bay and Kent County are beneficiaries primarily of intra-migration rather than a part of overall state growth.

II. Population

A. State Trends

1. Between 1960 and 1970, Rhode Island population increased by more than 9,000 persons annually or 1.0 percent. However, with the Navy pull-out and the beginning of the recession, estimates for 1974 indicate a net loss of approximately 2,350 persons per year since 1970, representing an annual decrease of approximately 0.2 percent.

2. Comparing Rhode Island with New England, we find that the pattern set by employment trends prevails, with state population growing more slowly than the region's; specifically, since 1950, the state has averaged a growth rate of 1.0 percent annually while the comparable rate for New England was 1.3 percent per year; accordingly, Rhode Island's share of New England population has declined from 8.5 percent in 1950 to 8.0 percent in 1973.

B. Central Portion Trends

1. From 1960-1970, the central portion of the state grew by approximately 4,150 persons annually or 0.7 percent; during the 1970-1974 period, a slight decline has occurred, primarily as a result of the Navy pull-out.

2. The Kent County area has exhibited the strongest growth trends, with nearly 3,000 persons added per year during the 1960's and nearly 2,100 between 1970 and 1974; growth in the West Bay was also very strong during the 1960's but has declined during the early 1970's; in both the 1960-1970 and 1970-1974 periods, the Urban Center has suffered population losses as suburban communities tended to develop at the expense of older urban cities.

3. Analyzing the components of population change for 1970-1974, we find that strong out-migration has occurred; in the West Bay, North Kingstown suffered major population losses as a direct result of the Navy departure; in the Urban Center, also, out-migration occurred in Providence, Pawtucket and Central Falls, indicating that the pattern of suburbanization which began in the 1960's is continuing in the 1970's; by contrast, communities in Kent County continue to attract new residents, with in-migration occurring particularly in Coventry and Warwick.

C. Summary Conclusions

1. Kent County and West Bay have accounted for a large proportion of recent state population increases.

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2. With the exception of North Kingstown -- which lost a large amount of Navy group quarters population -- West Bay and Kent County communities have been growing as a result of intra-migration within the state, reflecting continued strong suburbanization in these two subareas, which is occurring despite moderate population growth statewide.

III. Household Indicators

A. State Trends

1. Because of the increasing tendency toward smaller households, the rate of households formations during the 1960's -- 1.3 percent -- exceeded population growth rates.

2. Specifically, the number of households increased from approximately 257,000 in 1960 to nearly 292,000 in 1970, an increase of approximately 3,460 households each year.

B. Central Portion Trends

1. Nearly 2,000 of the state's added households accrued to the central portion of the state; Kent County accounted for nearly half of this growth while both West Bay and Urban Center subareas experienced sizeable gains.

C. Summary Conclusions

1. As with population trends, West Bay and Kent County subareas are the fastest growing in the state.

2. This reflects the strong migration pattern cited earlier, as population follows new housing development in these suburban areas.

IV. Personal Income

A. State Trends

1. Between 1960 and 1970, median family income increased by $400 annually or 3.9 percent.

2. This growth level -- in both percentage terms and absolute dollars -- is commensurate with increases in the income experienced in urban areas throughout the country during the 1960's.

B. Central Portion Trends

1. Growth in Kent County and West Bay income was particularly strong, while that in the Urban Center tended to lag behind state growth norms.

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2. Clearly, absolute income in Kent County is much higher than either the West Bay or urban center; specifically, median income in Kent County of $15,700 was 12 to 14 percent higher than medians in the other two subareas.

C. Summary Conclusions

1. These income trends are a further illustration of increased suburbanization of Kent County and West Bay.

2. Specifically, this reflects the movement of relatively affluent families who are able to afford the new housing developed in these two subareas.

V. Industrial Market Conditions

A. New Construction

1. State Trends

a. Between 1966 and 1975, nearly 12.9 million square feet of new industrial space was constructed; annual construction has fluctuated widely with a low of 485,000 square feet in 1975 and a high of 2.1 million square feet in 1966; this reflects business cycles on a national and regional level.

b. New construction was slightly more extensive during the late 1960's than in the early 1970's; specifically, approximately 1.4 million square feet of new space was added annually between 1966 and 1970 while an average of only 1.2 million square feet was constructed in the 1970's.

c. In terms of industry mix, the largest proportions of new space were constructed for jewelry and silverware companies (included in SIC 39), fabricated metals (SIC 34), electrical machinery SIC 36), and instruments (SIC 38).

d. Industries not represented or with only minor amounts of new construction include: petroleum, leather, apparel, wood products, furniture and paper.

e. Looking at the size distribution of new plant construction, a large majority are less than 25,000 square feet; specifically, of approximately 457 new projects undertaken between 1966 and 1975, 40 percent have been between 5,000 and 10,000 square feet and approximately 34 percent have been 10-25,000 square feet in size; by contrast, Rhode Island has had very few projects larger than 250,000 square feet over the last ten years.

2. Central Portion Trends

a. Approximately two-thirds of the State's new space has accrued to the central portion; the Urban Center has captured the largest share of the three subareas, with new construction totalling more than 5 million square feet between 1966 and 1976; development was also active in Kent County with 3.4 million square feet constructed; in the West Bay, only a very minor amount -- 224,000 square feet -- was built, representing less than 2 percent of the state total.

b. The timing of this new construction indicates a trend toward greater suburban development over time; average square footage constructed in both the West Bay and Kent County has increased in more recent years, in contrast with the dominant trends -- on the state level and for the Urban Center -- of greater construction occurring in the late 1960's compared to the 1970's.

c. New construction in the central portion was concentrated essentially in the same industries as for the state as a whole, namely instruments, fabricated metals, etc.; other industries also represented included chemicals and printing firms.

B. Profile of Industrial Parks

1. Existing Rhode Island industrial parks contain approximately 1,900 acres, of which 1,100 or approximately 60 percent are available for new development.

2. Within the central portion of the state -- primarily Kent County and Urban Center -- there is a total of more than 1,000 industrial park acres, of which more than 600 would be available for new development.

3. Outside of the central portion, the major industrial park area is the North-Northwest subarea; by comparison, there is very little industrial park land available in Bristol County, East Bay or Southwest Rhode Island.

4. Land designated as industrial "areas" follows a similar pattern as formally organized industrial parks; throughout the state there are more than 5,000 acres earmarked for eventual industrial use; approximately 60 percent or 3,000 of these acres are located in the central portion of the state; most of this central portion acreage is located in West Bay communities with considerable acreage also available in Kent County.

C. Market Outlook for Quonset Point/Davisville

1. Summary of Harbridge House findings (contained in report entitled Industrial and Commercial Marketability of Surplus Properties in Rhode Island, April, 1976).

a. The primary purpose of this report was to develop a marketing strategy to assist the state in its attempts to restructure the economy.

b. Particular emphasis was placed on high employment growth industries which tended to be labor intensive and utilize a skilled labor force.

1) A "targeting" process identified the following four-digit SIC industries: biological products, medicinal chemicals, pharmaceuticals, small and medium turbines, two-way communications, medical electronics, technical instruments, and dental equipment.

2) Additionally, Harbridge House identified other potentially attractive targets for DED's marketing effort; these were based on such criteria as industries underrepresented in Rhode Island but growing in New England, additional high employment growth industries, etc.; included here were: electrical machinery, printing and publishing, rubber and plastics, machinery, fabricated metals, chemicals, and glass and stone.

c. Forecast of Quonset Point/Davisville Absorption

1) A total of eight years was forecast for absorption of the entire site; uses include primarily manufacturing but also substantial amounts of warehousing and office, with dead storage slated for the Flightpath and Dogpatch areas.

2) This forecast appears generally optimistic and presumes that the state's marketing efforts are quite successful; specifically, assuming the state's total industrial construction in the immediate future is somewhat comparable to the recent past, then the implied capture at this site approaches 100 percent of the total development expected in the central portion of the state during the next eight years.

D. Gladstone Associates' Outlook

1. We would normally expect that the amount of new industrial construction would be approximately the same in the future as it has been in the recent past, barring fundamental changes -- presently unforeseen -- in the state and regional economy; if the marketing effort currently underway is moderately successful, then new construction should exceed past trends.

2. Quonset Point/Davisville Capture

a. The site is potentially attractive for industrial uses; indeed, industrial redevelopment would be the most compatible with continuing activities of the former Navy base -- i.e., Electric Boat and the CBC Active Use Area.

b. Although the West Bay area has captured only a small portion of past industrial activity, there are several reasons why this competitive situation would likely change.

1) In the past, West Bay communities lacked necessary sewer facilities; in the future, these facilities will be provided, and specifically there are definite plans to build needed sewer capacity on-site at Quonset Point/Davisville.

2) In the past, suitably priced land was available in closer-in suburban and urban areas with better access to local and regional markets; in the future, this land availability will likely diminish in the Urban Center and Kent County; conversely, the trend toward suburban locations for new industry will likely continue in the West Bay and Quonset Point/Davisville will accordingly be quite attractive.

3. Summary Conclusions

a. An absorption period of 20 years is forecast for industrial uses at Quonset Point/Davisville; this reflects essentially the same parcels being available as assumed in the Harbridge House report and as have been allocated during the master planning process; specifically, this includes approximately 600 acres which -- at an FAR of 0.2 translates into approximately 5.22 million square feet of industrial floor space; this implies a capture of approximately 20 to 25 percent of new industrial construction in the central portion of the state, assuming that roughly a continuation of past trends occurs.

VI. Retail Market Conditions

A. Sales Trends

1. Between 1968 and 1972, retail sales -- calculated from sales tax information -- increased by an average of 11 percent annually in the West Bay and 9.6 percent in Kent County. With the Navy departure, retail sales in the 1972-1975 period grew by only 0.8 percent per year in the West Bay and actually declined severely in Kent County by 7.6 percent per annum.

2. A longer term trend -- based on the U.S. Census of Business -- for the West Bay indicates that sales increased by more than $5 million per year between 1963 and 1967 and by more than $11.6 million in 1967-1972; this growth was well distributed among all major retail categories and reflects healthy population growth and consequent shopping center development that occurred prior to the Navy departure.

3. In Kent County, growth rates ranging from 7.8 percent to 8.8 percent per year were experienced for 1963-1967 and 1967-1972 respectively; notably, dramatic increases in comparison goods sales are evident, primarily resulting from the development of two major regional malls in Warwick.

B. Inventory of Market Area Shopping Centers

1. A survey of 16 shopping centers in the West Bay and Kent County was undertaken; these range in size from neighborhood centers of approximately 60,000 square feet up to regional facilities such as Warwick Mall containing 1 million square feet; in all, an inventory of slightly less than 2.9 million square feet of retail space was identified.

2. Noticeable vacancies were apparent in Kingston Plaza Shopping Center -- on Post Road near the former Navy base -- including 36,000 square feet in the former Grant's Store and a number of other vacant shops.

3. Other vacancies were noted at Airport Plaza in Warwick -- with 20,000 square feet available -- the Governor Frances Shopping Center also in Warwick and in Coventry Plaza.

C. Retail Market Outlook

1. Summary of Hammer, Siler, George Associates' findings (contained in report entitled Commercial Impact Analysis, Post Road Corridor, North Kingstown, Rhode Island, dated August 1975)

a. The primary purpose of this study was to analyze the impact of the Navy departure on commercial facilities in the Post Road corridor; a secondary purpose was to identify potential sources of funds to assist adversely affected local businesses.

b. A key finding was that new retail space could not likely be developed in this area until at least after 1980, thereby taking account of the need for market area purchasing power to grow sufficiently to support the absorption of substantial vacant space before new space would be supportable.

2. Outlook for Quonset Point/Davisville

a. Site Evaluation

1) The physical configuration with respect to highway access and frontage on Post Road tends to preclude the possibility of a regional -- 300,000 square feet or more -- shopping center.

2) The well-established malls in Warwick will likely meet the regional shopping center needs of the West Bay and Kent County in the foreseeable future.

3) Even if sufficient market support emerged for another regional center, it would appear that better competitive sites would be available.

4) As a maximum, the site would be considered adequate for a community-sized shopping center -- up to approximately 250,000 square feet -- to be developed in phases over a long term.

b. Summary Conclusions

1) Based on Hammer, Siler, George Associates' study and the likely build-up of market area purchasing power, new shopping center construction does not appear supportable before 1985.

2) Over the longer term, a community center of 250,000 square feet might be developed in two phases -- of approximately 150,000 and 100,000 square feet respectively -- which take account of "critical mass" and the build up of purchasing power and potential sales over time.

3) In terms of the types of stores anticipated, the entire project might consist of one-fourth convenience goods space -- food, drug, eating and drinking, etc. -- and three-fourths comparison goods outlets -- general merchandise, apparel, furniture, etc.

VII. Office Market Conditions

A. Past Trends

1. Virtually all existing Class A office space in Rhode Island is located in downtown Providence; as of 1975, there was a total of slightly more than 1.7 million square feet in the city, of which nearly 250,000 or 14 percent was available for lease.

2. The suburban office market in Rhode Island is extremely weak; it is limited to a few major buildings such as the Allendale Insurance and Metropolitan Life projects; significantly, there is no speculative suburban office development of any size.

B. Outlook for Quonset Point/Davisville

1. Site Evaluation

   a. Because of continuing Navy uses and likely intense future industrial development, "prestige suburban" office space would have to be carefully sited on the former Navy base; on balance, the probability that the Quonset Point/Davisville facility would capture such office space appears somewhat remote.

   b. Because of the amenities offered by the golf course and the airport, the development of "industrial office" facilities -- characterized as low rise buildings with large open areas -- appears a more realistic office use for the property.

2. Summary Conclusions

   a. Although definitive market forecasts for office space are not possible, high quality sites should be reserved for office uses in the event that major office tenants emerge over the long term; specifically, this is reflected in the office park designated for the area adjacent to the golf course.

   b. If such tenants do not materialize, then the site can be marketed for other industrial uses once previously available sites on the property are absorbed.

VIII. Hotel Market Conditions

A. Past Trends

1. Similar to office space, the market for hotel facilities tends to be weak in outlying -- i.e., away from Providence -- areas.

2. This basic market weakness is evident in considering the components of hotel demand, which include tourism, convention/business meetings, and business visitors.

B. Outlook for Quonset Point/Davisville

1. The site is not ideally configured for hotel use; normally, hotel sites require frontage on and visibility and access from major roads; designation of hotel use in the interior of the site -- on Roger Williams Way near the golf course -- is therefore less than ideal.

2. Summary Conclusions

a. Two reports by Hammer, Siler, George Associates (Market Analysis, Resort Hotel Potentials, Prudence Island Surplus Property, and Rhode Island Visitors Survey) indicate extremely limited hotel market support from tourism and conventions in the West Bay and for Quonset Point/Davisville.

b. Market support is therefore limited to the amount of business visitation that might be generated by new on-site industrial uses; a modest sized facility would likely capture virtually all of this demand.

c. In total, approximately 100 to 150 rooms might be built, taking account of the likely minimum size for hotel projects.

IX. Marina Use

A. Past Trends

1. Demand for marina facilities is quite strong throughout Rhode Island and in the West Bay subareas.

2. Current supply of marina space is insufficient to meet expected growth in demand.

B. Outlook for Marina Uses

1. Summary of report by the Urban Design Group and Economics Research Associates (entitled Marinas and Pleasure Boating Facilities Studies, October 1975).

a. This study was an evaluation of overall market demand for marina facilities as well as an examination of 30 possible sites for marina development.

b. At Davisville, two sites were deemed acceptable for marina facilities in the Allen Harbor area and market supports were readily identified.

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2. Summary Conclusions

a. A 200 slip marina has been included in the development program for Allen Harbor and the market supports identified above indicate that this is an achievable development objective.

b. In terms of the site, the only concern would be some planning to buffer the marina from potential industrial uses of the Davisville pier area.

EMPLOYMENT INDICATORS

AVERAGE COVERED EMPLOYMENT 1/
RHODE ISLAND BY INDUSTRY
1970-1975

INDUSTRY	1970	1971	1972 2/	1973	1974	1975	Average Annual Change 1970-1971 Amount	1970-1971 Percent	1972-1975 Amount	1972-1975 Percent
TOTAL ALL INDUSTRIES	264,554	261,162	297,390	306,310	307,022	289,899	-3,392	-1.3%	-2,497	-0.9%
AGRICULTURE, FORESTRY & FISHERIES	1,456	1,479	1,698	1,812	1,862	1,801	23	1.6%	34	2.0%
01 Agricultural production	472	444	432	493	563	499	- 28	-5.9%	22	5.2%
07 Agricultural services & hunting & trapping	874	899	98[illegible]	1,016	977	972	25	2.9%	- 5	-0.5%
08 Forestry	3	3	2	2	2	1	--	--	--	0.0%
09 Fisheries	107	133	276	301	320	329	26	24.3%	18	6.4%
MINING	128	123	136	131	98	129	- 5	-3.9%	- 2	-1.7%
13 Crude Petroleum & Natural Gas	1	1	2	9	10	8	--	--	2	100.0%
14 Mining & quarrying of nonmetallic minerals, except fuels	127	122	134	122	88	121	- 5	-3.9%	- 4	-3.2%
CONTRACT CONSTRUCTION	14,797	14,347	15,083	14,705	13,274	11,548	- 450	-3.0%	-1,178	-7.8%
15 Building construction - general contractors	5,759	5,447	5,741	5,497	4,975	3,591	- 312	-5.4%	- 717	-12.5%
16 General contractors other than building constr.	2,086	1,955	1,987	1,749	1,414	1,208	- 131	-6.3%	- 260	-13.1%
17 Special trade contractors - construction	6,952	6,945	7,355	7,459	6,885	6,749	- 7	-0.1%	- 202	-2.8%

1/ Average of all twelve months.
2/ Since January 1, 1972, most non-profit organizations formed and operated for religious, charitable, scientific, literary, educational or certain other purposes are covered.

Source: R.I. Department of Employment Security; Gladstone Associates.

AVERAGE COVERED EMPLOYMENT (Cont'd.)

RHODE ISLAND BY INDUSTRY

1970-1975

	1970	1971	1972	1973	1974	1975	Average Annual Change 1970-1971 Amount	1970-1971 Percent	1972-1975 Amount	1972-1975 Percent
MANUFACTURING	120,169	114,242	119,213	124,012	125,057	113,155	-5,927	- 5.2%	-2,019	- 1.7%
19 Ordnance & accessories	6	6	4	6	2	0	--	--	- 4	- 33.3%
20 Food & kindred products	4,813	4,522	4,575	4,225	4,167	3,661	- 291	- 6.0%	- 305	- 6.7%
21 Tobacco manufacturers	-	-	-	-	-	-	--	--	--	--
22 Textile mill products	18,183	17,288	17,419	16,834	14,980	11,896	- 895	- 4.9%	-1,841	- 10.6%
23 Apparel & other finished products made from fabrics & similar materials	3,492	3,488	3,445	3,487	3,376	3,505	- 4	- 0.1%	20	0.6%
24 Lumber & wood products, except furniture	424	409	405	490	501	383	- 15	- 3.5%	- 7	- 1.8%
25 Furniture & fixtures	898	833	886	937	922	937	- 65	- 7.2%	17	1.9%
26 Paper & allied products	2,794	2,688	2,856	2,874	2,890	2,571	- 106	- 3.8%	- 95	- 3.3%
27 Printing, publishing & allied industries	4,701	4,743	4,623	4,770	4,863	4,683	42	0.9%	20	0.4%
28 Chemicals & allied products	2,567	2,620	2,724	2,820	2,894	2,768	53	2.1%	15	0.5%
29 Petroleum refining & related industries	79	85	93	114	113	17	6	7.6%	- 25	- 27.2%
30 Rubber & miscellaneous plastics products	8,223	8,228	8,552	8,470	8,796	7,233	5	0.1%	- 440	- 5.1%
31 Leather & leather products	2,219	2,161	2,283	2,805	2,788	2,409	- 58	- 2.6%	42	1.8%
32 Stone, clay, glass, & concrete products	2,485	2,454	2,530	2,658	2,731	2,443	- 31	- 1.2%	- 29	- 1.1%
33 Primary metal industries	7,962	7,224	7,287	7,727	7,984	6,794	- 738	- 9.3%	- 164	- 2.3%
34 Fabricated metal products, except ordnance, machinery and trans. equipment	10,251	9,595	9,600	9,827	10,023	8,833	- 656	- 6.4%	- 256	- 2.7%
35 Machinery except electrical	10,419	8,715	9,196	10,454	11,535	8,803	-1,704	- 16.4%	- 131	- 1.4%
36 Electrical Machinery equip., & supplies	9,677	8,848	9,555	9,931	9,522	8,201	- 829	- 8.6%	- 451	- 4.7%
37 Transportation equipment	1,504	1,564	1,746	1,836	2,290	3,639	60	4.0%	631	36.1%
38 Prof., scientific & controlling instrs.; photo & optical; watches & clocks	4,883	4,349	4,854	5,363	5,382	4,429	- 534	- 10.9%	- 142	- 2.9%
39 Misc. Mfg. Indus.; jewelry, silverware, & other	24,589	24,422	26,580	28,384	29,298	29,951	- 167	- 0.7%	1,124	4.2%

Source: R. I. Department of Employment Security; Gladstone Associates.

AVERAGE COVERED EMPLOYMENT (Cont'd.)

RHODE ISLAND BY INDUSTRY

1970-1975

	1970	1971	1972	1973	1974	1975	Average Annual Change 1970-1971 Amount	1970-1971 Percent	1972-1975 Amount	1972-1975 Percent
TRANSPORTATION, COMMUNICATION, ELECTRIC GAS AND SANITARY SERVICES	14,949	14,701	14,745	14,708	13,990	13,101	- 248	- 1.7%	- 548	- 3.7%
41 Local, suburban, & interurban passenger trans.	1,581	1,438	1,433	1,399	1,346	1,236	- 143	- 9.0%	- 66	- 4.6%
42 Motor freight trans. & warehousing	4,771	4,659	4,585	4,634	4,239	3,877	- 112	- 2.3%	- 236	- 5.1%
44 Water transportation	410	468	531	489	458	369	58	14.1%	- 54	- 10.2%
45 Transportation by air	308	283	291	319	262	330	- 25	- 8.1%	13	4.5%
46 Pipe line transportation	1	1	5	1	1	0	--	--	- 2	- 3.3%
47 Transportation services	316	325	371	413	445	408	9	2.8%	12	3.3%
48 Communication	4,382	4,359	4,373	4,301	4,179	3,985	- 23	- 0.5%	- 129	- 3.0%
49 Electric, gas, & sanitary services	3,180	3,168	3,156	3,152	3,060	2,896	- 12	- 0.4%	- 87	- 2.7%
WHOLESALE & RETAIL TRADE	68,482	70,910	74,563	75,670	74,766	71,366	2,428	3.5%	-1,066	- 1.4%
50 Wholesale trade	15,608	15,725	16,516	16,857	16,988	15,380	117	0.7%	- 379	- 2.3%
52 Bldg. materials, hdwr., & farm equip. dealers	1,857	1,955	2,043	2,094	2,037	1,789	98	5.3%	- 85	- 4.1%
53 Retail trade-general merchandise	12,158	12,274	12,340	11,488	10,362	9,203	116	1.0%	-1,046	- 8.5%
54 Food stores	7,565	8,694	9,624	9,150	9,238	9,165	1,129	14.9%	- 153	- 1.6%
55 Automotive dealers & gasoline service stations	6,532	6,697	7,179	7,392	6,893	6,489	169	2.9%	- 230	- 3.2%
56 Apparel & accessory stores	3,551	3,753	3,675	3,683	3,551	3,284	202	5.7%	- 130	- 3.5%
57 Furniture, home furnishings, & equip. stores	1,881	1,876	2,062	2,065	1,985	1,968	- 5	- 0.3%	- 31	- 1.5%
58 Eating & drinking places	12,028	12,440	13,181	14,827	15,648	15,699	412	3.4%	839	6.4%
59 Miscellaneous retail stores	7,302	7,496	7,943	8,114	8,064	8,389	194	2.7%	149	1.9%

Source: R. I. Department of Employment Security; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

AVERAGE COVERED EMPLOYMENT (Cont'd.)

RHODE ISLAND BY INDUSTRY

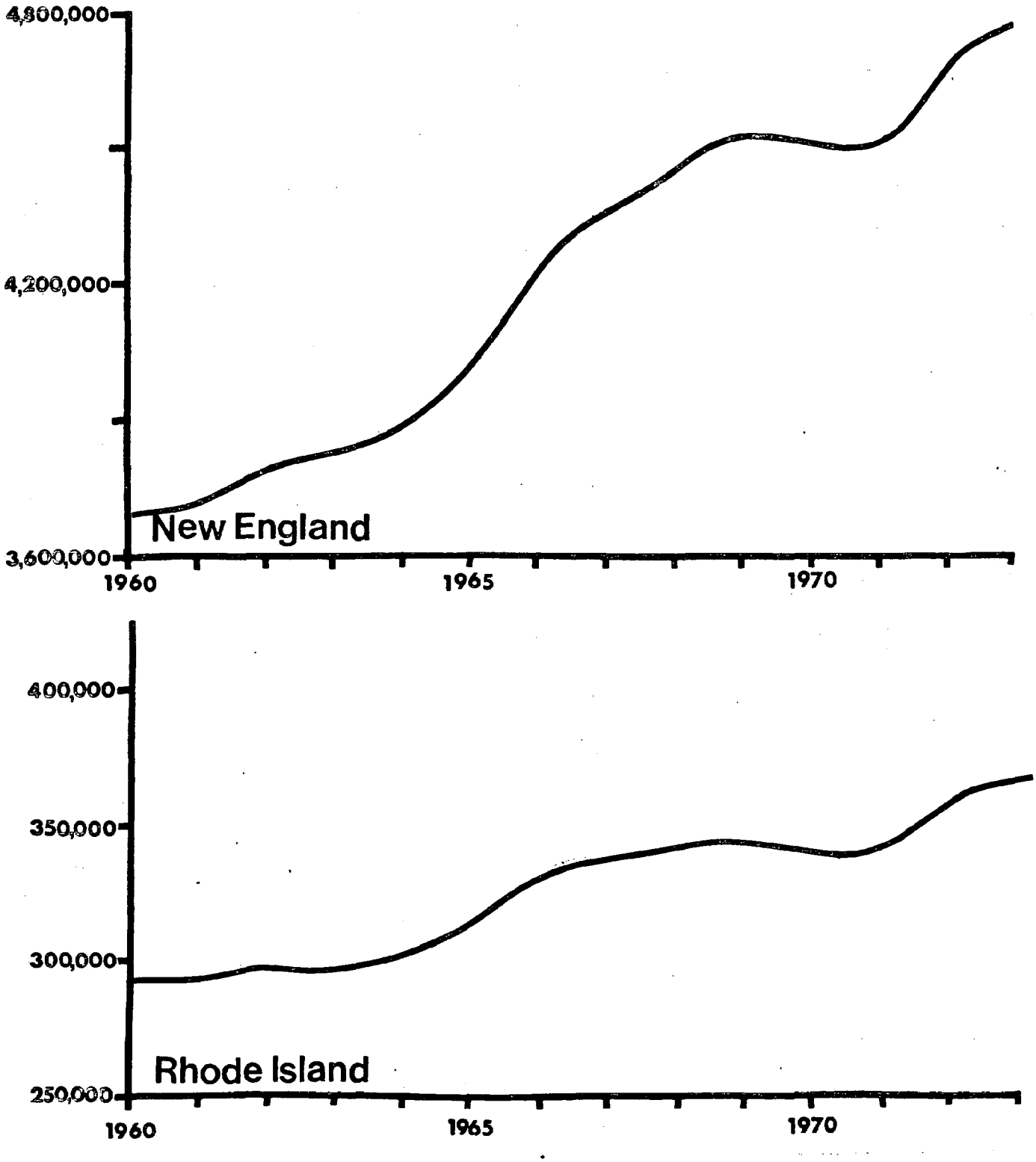
1970-1975

	1970	1971	1972	1973	1974	1975	Average Annual Change 1970-1971 Amount	1970-1971 Percent	1972-1975 Amount	1972-1975 Percent
FINANCE, INSURANCE & REAL ESTATE	15,689	15,947	16,845	17,396	17,966	17,925	258	1.6%	360	2.1%
60 Banking	4,867	4,964	5,272	5,642	5,979	6,003	97	2.0%	244	4.6%
61 Credit agencies other than banks	1,547	1,515	1,596	1,649	1,645	1,577	- 32	- 2.1%	- 6	- 0.4%
62 Security & commodity brokers, dealers exhchanges, & services	485	446	465	440	373	363	- 39	- 8.0%	- 34	- 7.3%
63 Insurance carriers	4,872	5,132	5,602	5,732	6,080	6,131	260	5.3%	176	3.1%
64 Insurance agents, brokers, & services	1,634	1,517	1,378	1,411	1,462	1,428	- 117	- 7.2%	17	1.2%
65 Real Estate	1,897	1,964	2,123	2,12[illegible]	2,084	2,102	67	3.5%	- 7	- 0.3%
66 Combined real estate, ins., loans, law offices	287	282	272	266	242	228	- 5	- 1.7%	- 15	- 5.4%
67 Holding & other investment companies	100	127	137	127	101	94	27	27.0%	- 14	- 10.5%
SERVICE INDUSTRIES	28,884	29,413	55,107[2/]	57,876	60,009	60,874	529	1.8%	1,922	3.5%
70 Hotels, rooming houses, camps, & other lodging places	1,619	1,670	1,844	1,793	1,810	1,491	51	3.2%	- 118	- 6.4%
72 Personal services	4,735	4,436	4,329	4,211	3,857	3,760	- 299	- 6.3%	- 190	- 4.4%
73 Miscellaneous business services	6,242	6,121	6,746	7,933	8,289	8,032	- 121	- 1.9%	429	6.4%
75 Auto repair, auto services, & garages	1,729	1,872	1,994	2,065	2,027	1,971	143	8.3%	- 8	- 0.4%
76 Miscellaneous repair services	837	865	871	883	907	927	28	3.3%	19	2.1%
78 Motion Pictures	454	445	477	531	463	476	- 9	- 2.0%	--	0.1%
79 Amusement & recreation services, except motion pictures	2,717	2,683	2,955	2,921	3,121	2,793	- 34	- 1.3%	- 54	- 1.8%
80 Medical & other health services	5,240	5,867	20,548	21,619	22,625	24,178	627	12.0%	1,210	5.9%
81 Legal services	845	900	1,007	1,087	1,140	1,250	55	6.5%	81	8.0%
82 Educational services	718	723	6,372	6,475	6,683	6,522	5	0.7%	50	0.8%
84 Museums, art galleries, botanical & zoological gardens	9	10	30	30	22	44	1	11.1%	5	15.6%
86 Nonprofit membership organizations	1,864	2,004	5,683	5,872	6,527	7,239	140	7.5%	519	9.1%
88 Private households	8	11	14	10	15	21	3	37.5%	2	16.7%
89 Miscellaneous services	1,867	1,806	2,237	2,446	2,523	2,171	- 61	- 3.3%	- 22	- 1.0%

2/ Since January 1, 1972 most non-profit organizations formed and operated for religious, charitable, scientific, literary, educational, or certain other purposes are covered.

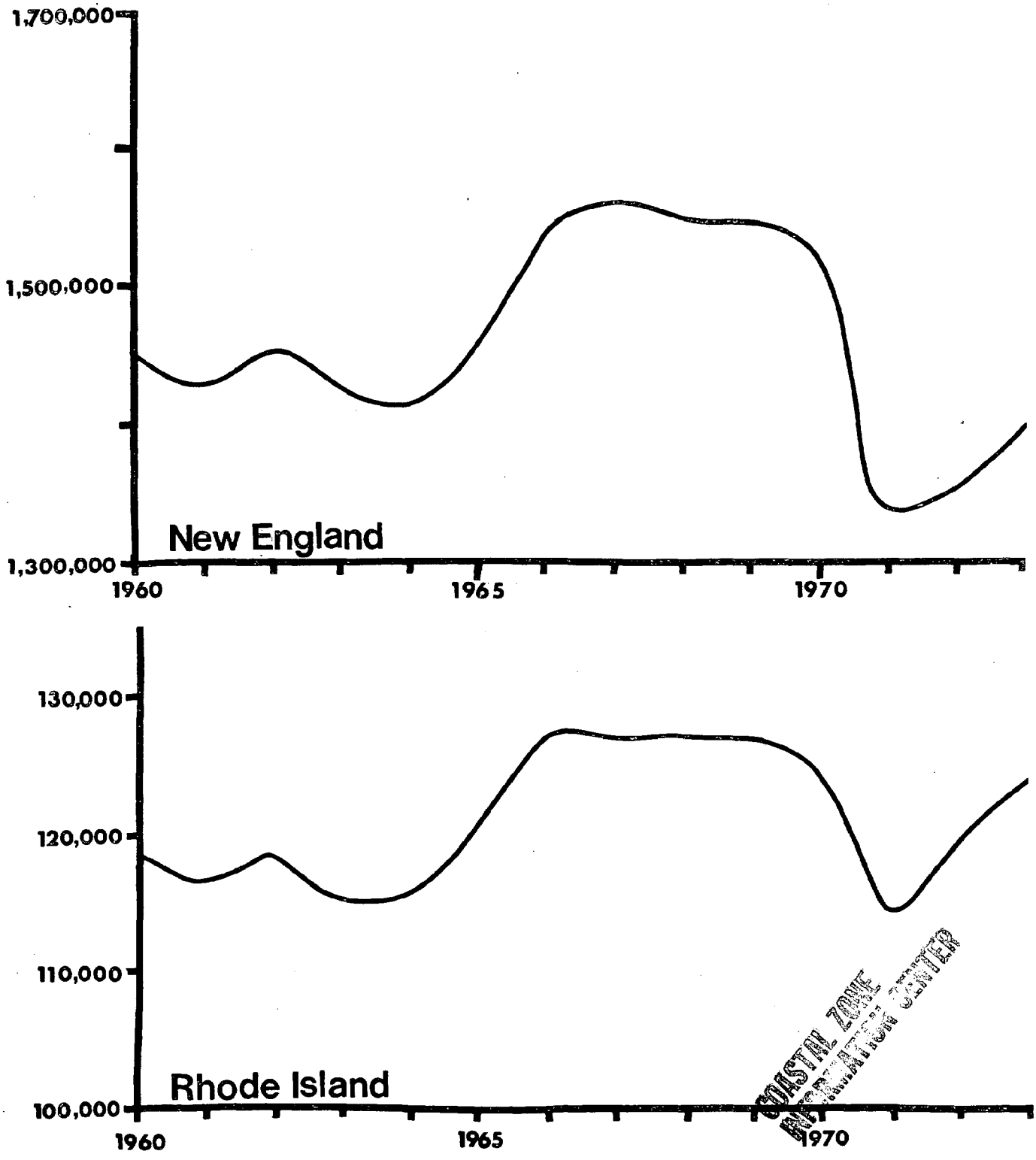
Source: R.I. Department of Employment Security; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER



RHODE ISLAND AND NEW ENGLAND
total employment 1960-1973

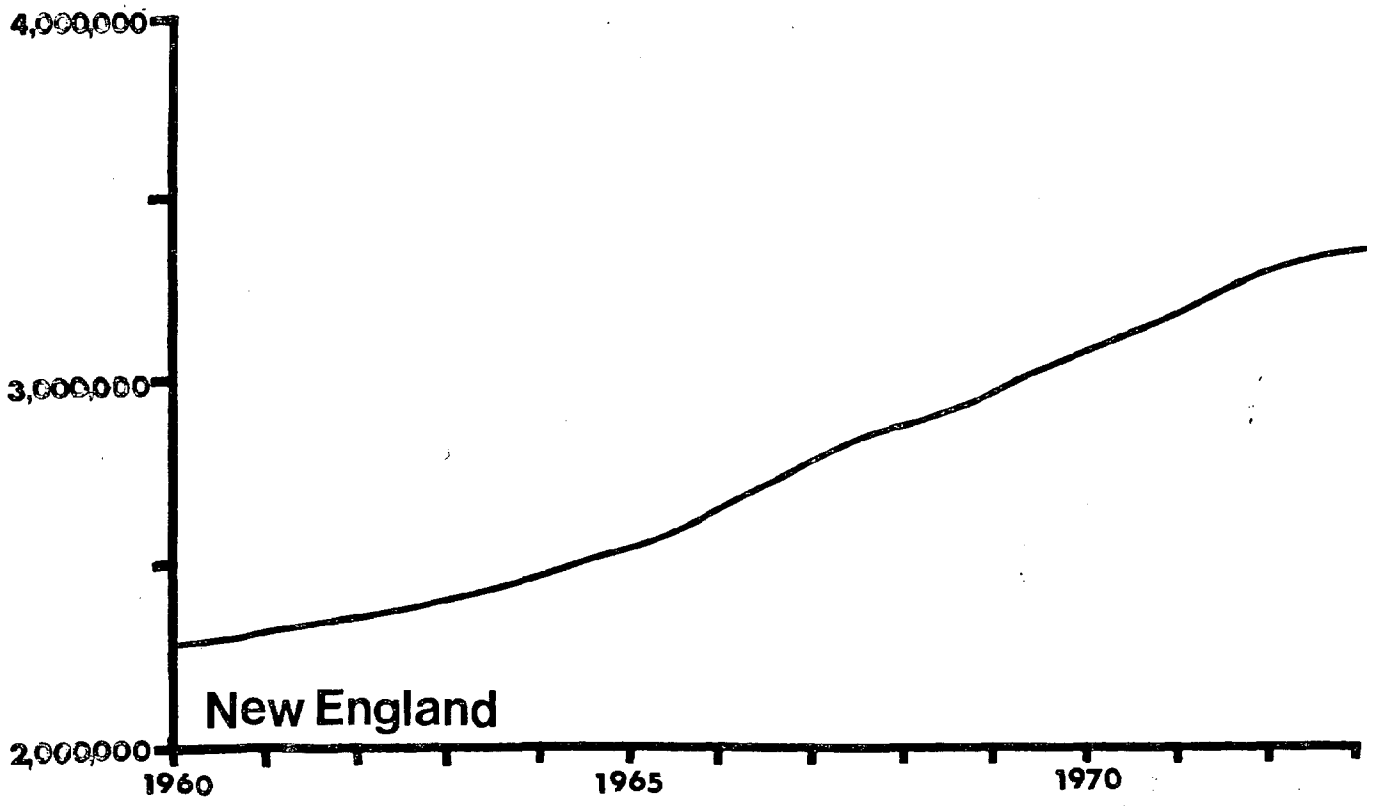
Source: Employment and Earnings, U.S. Bureau of Labor Statistics; Gladstone Associates.

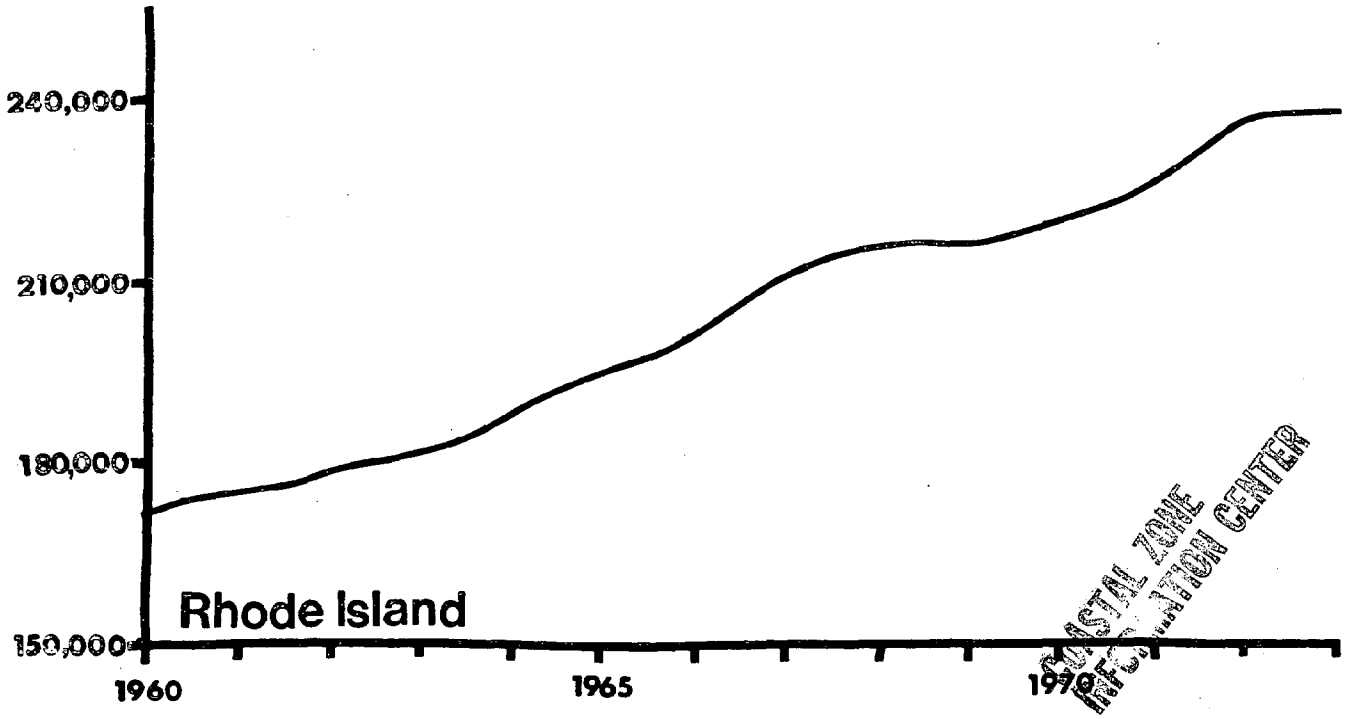


COASTAL ZONE INFORMATION CENTER

RHODE ISLAND AND NEW ENGLAND manufacturing employment 1960-1973

Source: Employment and Earnings, U.S. Bureau of Labor Statistics; Gladstone Associates.





COASTAL ZONE
INFORMATION CENTER

RHODE ISLAND AND NEW ENGLAND non-manufacturing employment 1960-1973

Source: Employment and Earnings, U.S. Bureau of Labor Statistics; Gladstone Associates.

EMPLOYMENT TRENDS
RHODE ISLAND AND NEW ENGLAND
1960-1973

	1960	1961	1962	1963	1964	1965	1966
Rhode Island							
Total Employment	291,700	291,600	298,300	298,100	303,900	316,700	330,000
Manufacturing Employment	119,700	116,800	118,900	115,500	116,000	121,300	127,600
Nonmanufacturing Employment	172,000	174,800	179,400	182,600	187,900	195,400	202,400
New England							
Total Employment	3,703,100	3,721,500	3,797,900	3,818,200	3,870,400	4,006,000	4,205,800
Manufacturing Employment	1,451,700	1,428,200	1,453,300	1,423,400	1,411,200	1,459,700	1,549,400
Nonmanufacturing Employment	2,251,400	2,293,300	2,344,600	2,394,800	2,459,200	2,546,300	2,656,400
Rhode Island's Share of New England Employment:							
Total Employment	7.9%	7.8%	7.9%	7.8%	7.9%	7.9%	7.8%
Manufacturing Employment	8.2%	8.2%	8.2%	8.1%	8.2%	8.3%	8.2%
Nonmanufacturing Employment	7.6%	7.6%	7.7%	7.7%	7.7%	7.7%	7.6%

Source: U.S. Bureau of Labor Statistics, Employment and Earnings; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

EMPLOYMENT TRENDS (CONT'D)
RHODE ISLAND AND NEW ENGLAND
1960-1973

	1967	1968	1969	1971[1/]	1972	1973	Average Annual Change 1960-1973 Number	Percent
Rhode Island								
Total Employment	338,300	343,000	343,400	341,300	356,000	362,300	5,430	1.9%
Manufacturing Employment	127,400	127,400	127,100	114,600	119,500	124,100	340	0.3%
Nonmanufacturing Employment	210,900	215,600	216,300	226,700	236,500	238,200	5,090	3.0%
New England								
Total Employment	4,329,100	4,422,200	4,511,200	4,492,000	4,607,100	4,753,400	80,790	2.2%
Manufacturing Employment	1,564,700	1,553,000	1,534,200	1,342,300	1,352,400	1,405,900	-3,520	-0.2%
Nonmanufacturing Employment	2,764,400	2,869,200	2,977,000	3,149,700	3,255,700	3,347,500	84,310	3.7%
Rhode Island's Share of New England Employment:								
Total Employment	7.8%	7.8%	7.6%	7.7%	7.6%	7.6%		
Manufacturing Employment	8.1%	8.2%	8.3%	8.5%	8.8%	8.8%		
Nonmanufacturing Employment	7.6%	7.5%	7.3%	7.2%	7.2%	7.2%		

1/ Comparable data not available in 1970.

Source: U.S. Bureau of Labor Statistics, Employment and Earnings; Gladstone Associates.

AVERAGE ANNUAL COVERED EMPLOYMENT 1/
RHODE ISLAND BY SUBAREA
1970-1975

Map Key	Subarea	1970	1971	1972 3/	1973	1974	1975	Average Annual Change 1970-1971 Amount	1970-1971 Percent	1972-1975 Amount	1972-1975 Percent
1	West Bay	6,732	6,518	7,616	8,540	9,245	10,097	- 214	- 3.2%	827	10.9%
2	Kent County	26,838	27,027	29,679	31,978	33,495	32,033	189	0.7%	785	2.6%
3	Urban Center	164,289	161,811	185,510	188,917	188,094	181,577	-2,478	- 1.5%	-1,311	- 0.7%
4	North-Northwest R.I.	27,982	27,066	30,563	31,461	31,023	28,839	- 916	- 3.3%	- 575	- 1.9%
5	Bristol County	8,327	7,751	8,346	8,828	8,999	8,716	- 576	- 6.9%	123	1.5%
6	East Bay	10,912	10,591	11,358	11,446	11,417	11,621	- 321	- 2.9%	88	0.8%
7	Southwest R.I.	5,335	5,256	6,046	6,491	5,974	5,866	- 79	- 1.5%	- 60	- 1.0%
	Statewide*	16,454	17,851	21,457	21,503	20,546	14,405	1,397	8.5%	-2,351	- 12.0%
	Total 2/	266,864	263,866	300,570	309,157	308,791	293,145	-2,998	- 1.1%	-2,475	- 0.8%

1/ Average of months of March, June, September, and December.

2/ Subarea sum may not equal total due to rounding.

3/ Since January 1, 1972 most non-profit organizations formed and operated for religious, charitable, scientific, literary, educational, or certain other purposes are covered.

* Refers to persons performing services cross town or out of state.

Source: R.I. Department of Employment Security; Gladstone Associates.

COASTAL ZONE

AVERAGE ANNUAL COVERED MANUFACTURING EMPLOYMENT
RHODE ISLAND BY SUBAREA
1970-1975

Key	Subarea	1970	1971	1972[2]	1973	1974	1975	Average Annual Change 1970-1971 Amount	1970-1971 Percent	1972-1975 Amount	1972-1975 Percent
1	West Bay	2,431	2,036	2,160	2,510	3,371	4,203	- 395	- 16.2%	681	31.5%
2	Kent County	13,572	12,600	13,150	14,124	14,750	12,445	- 972	- 7.2%	- 235	- 1.8%
3	Urban Center	77,323	75,315	79,319	81,198	81,145	75,110	-2,008	- 2.6%	-1,403	- 1.8%
4	North-Northwest R.I.	15,034	13,793	14,437	15,071	14,236	11,988	-1,241	- 8.3%	- 816	- 5.7%
5	Bristol County	5,642	4,903	5,160	5,492	5,584	5,208	- 739	- 13.1%	16	0.3%
6	East Bay	2,867	2,875	3,111	2,961	3,015	2,814	8	0.3%	- 99	- 3.2%
7	Southwest R.I.	2,693	2,541	2,560	2,641	2,197	1,995	- 152	- 5.7%	- 188	- 7.4%
	Statewide*	997	1,240	1,034	1,108	1,111	952	243	24.4%	- 27	- 2.6%
	Total[1]	120,562	115,309	120,926	125,102	125,403	114,715	-5,253	- 4.4%	-2,070	- 1.7%

1/ Subarea sums may not equal totals due to rounding and due to some nondisclosure in 1970, 1971.

2/ Since January 1, 1972, most non-profit organizations formed and operated for religious, charitable, scientific, literary, educational, or certain other purposes are covered.

* Refers to persons performing services crosstown or out of state.

Source: R.I. Department of Employment Security; Gladstone Associates.

AVERAGE ANNUAL COVERED NONMANUFACTURING EMPLOYMENT
RHODE ISLAND BY SUBAREA
1970-1975

Map Key	Subarea	1970	1971	1972[2/]	1973	1974	1975	Average Annual Change 1970-1971 Amount	1970-1971 Percent	1972-1975 Amount	1972-1975 Percent
1	West Bay	4,301	4,482	5,456	6,030	5,874	5,894	181	4.2%	146	2.7%
2	Kent County	13,266	14,427	16,529	17,854	18,745	19,588	1,161	8.8%	1,020	6.2%
3	Urban Center	86,966	86,496	106,191	107,719	106,949	106,467	- 470	-5.4%	92	0.1%
4	North-Northwest R.I.	12,948	13,273	16,126	16,390	16,787	16,851	325	2.5%	242	1.5%
5	Bristol County	2,685	2,848	3,186	3,336	3,415	3,508	160	6.1%	107	3.4%
6	East Bay	8,045	7,716	8,247	8,485	8,402	8,807	- 329	-4.1%	187	2.3%
7	Southwest R.I.	2,642	2,715	3,486	3,850	3,777	3,871	73	2.8%	128	3.7%
	Statewide*	15,457	16,611	20,423	20,395	19,435	13,453	1,154	7.5%	-2,323	-11.4%
	Total[1/]	146,302	148,557	179,644	184,055	183,388	178,430	2,255	1.5%	- 405	2.0%

1/ Subarea sums may not equal totals due to rounding and due to nondisclosure for some towns in 1970, 1971.

2/, Since January 1, 1972, most non-profit organizations formed and operated for religious, charitable, scientific, literary, educational, or certain other purposes are covered.

* Refers to persons performing services crosstown or out of state.

Source: R.I. Department of Employment Security; Gladstone Associates.

MANUFACTURING EMPLOYMENT AS A PERCENT OF TOTAL COVERED EMPLOYMENT
STATE OF RHODE ISLAND
1970-1975

Map Key	Subarea	1970	1971	1972	1973	1974	1975	1970-1975
1	West Bay	36.1%	31.2%	28.4%	29.4%	36.5%	41.6%	34.3%
2	Kent County	50.6%	46.6%	44.3%	44.2%	44.0%	38.9%	44.6%
3	Urban Center	47.1%	46.5%	42.8%	43.0%	43.1%	41.4%	43.9%
4	North-Northwest R.I.	53.7%	51.0%	47.2%	47.9%	45.9%	41.6%	47.8%
5	Bristol County	67.8%	63.3%	61.8%	62.2%	62.1%	59.8%	62.8%
6	East Bay	26.3%	27.1%	27.4%	25.9%	26.4%	24.2%	26.2%
7	Southwest R.I.	50.5%	48.3%	42.3%	40.7%	36.8%	34.0%	41.8%
	*Statewide	6.1%	6.9%	4.8%	5.2%	5.4%	6.6%	5.7%
	State Total	45.2%	43.7%	40.2%	40.5%	40.6%	39.1%	41.4%

* Refers to persons performing services crosstown or out of state.

Source: Rhode Island Department of Employment Security; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

BACKGROUND DEMOGRAPHIC INDICATORS

- Population
- Households
- Personal Income

POPULATION TRENDS
RHODE ISLAND BY SUBAREA
1960-1974

Map Key	Subarea	1960	1970	1974	Average Annual Change 1960-1970 Number	1960-1970 Percent	1970-1974 Number	1970-1974 Percent
1	West Bay	39,414	60,489	56,300	2,108	5.3%	-1,047	-1.7%
2	Kent County	112,619	142,382	150,700	2,976	2.6%	2,079	1.5%
3	Urban Center	452,458	443,144	437,900	-931	-0.2%	-1,311	-0.3%
4	North-Northwest	116,320	138,326	146,400	2,200	1.9%	2,018	1.5%
5	Bristol County	37,146	45,937	45,800	879	2.4%	-34	-0.1%
6	East Bay	79,138	91,317	72,800	1,218	1.5%	-4,629	-5.1%
7	Southwestern R.I.	22,393	28,128	30,400	574	2.6%	568	2.0%
	Total	859,488	949,723	940,300	9,024	1.0%	-2,356	-0.2%

Source: U.S. Census 1960, 1970; R.I. Statewide Planning Program; Gladstone Associates.

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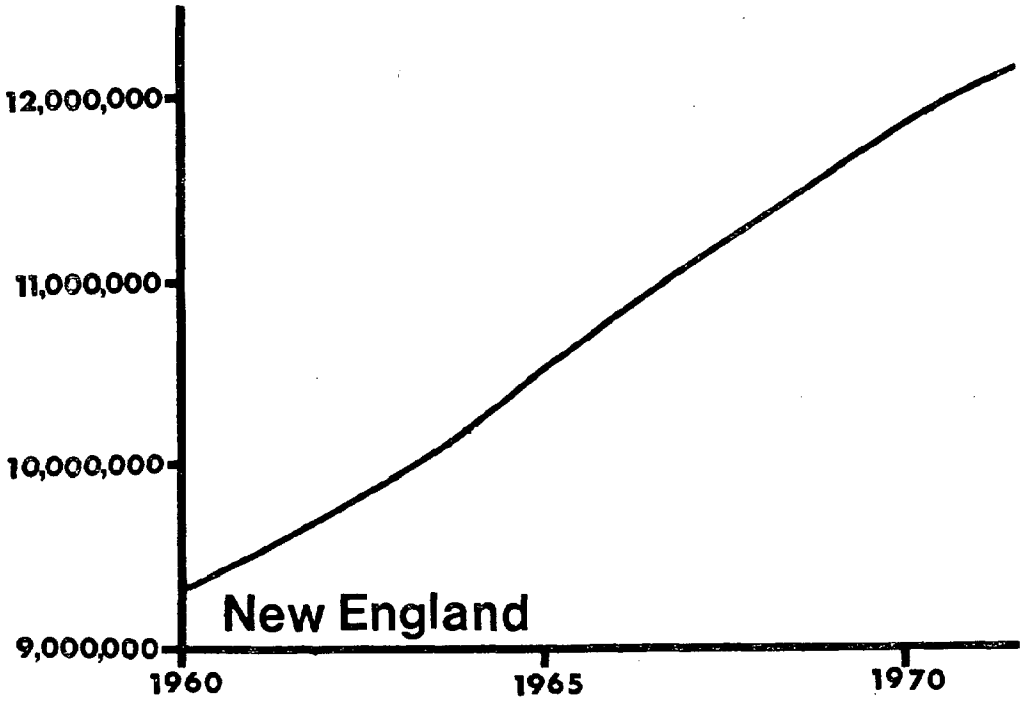
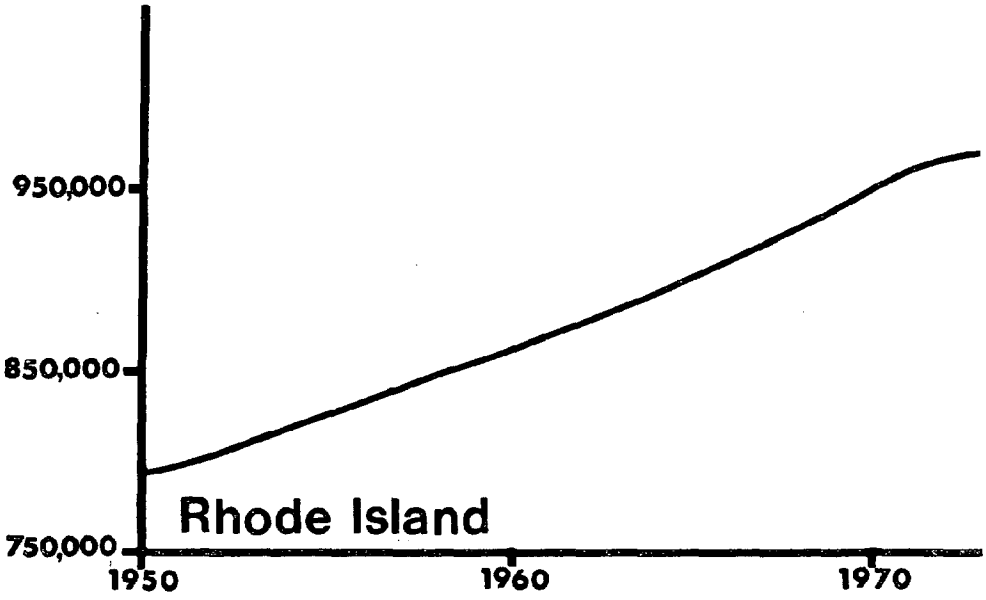




RHODE ISLAND AND NEW ENGLAND
population trends 1950-1973

POPULATION TRENDS
RHODE ISLAND AND NEW ENGLAND
1950-1973

	1950	1960	1970	1973 Estimate	Average Annual Change 1950-1960 Number	1950-1960 Percent	1960-1970 Number	1960-1970 Percent	1970-1973 Number	1970-1973 Percent	1950-1973 Number	1950-1973 Percent
Rhode Island	791,900	859,500	949,700	967,300	6,760	0.9%	9,020	1.0%	5,870	0.6%	7,630	1.0%
New England	9,314,500	10,509,400	11,847,200	12,144,600	119,490	1.3%	133,780	1.3%	99,130	0.8%	123,050	1.3%
Rhode Island's Share of New England Population	8.5%	8.2%	8.0%	8.0%								

Source: U.S. Census of Population 1950, 1960, 1970; Department of Commerce P-25 Series 1973; Gladstone Associates.

COMPONENTS OF POPULATION CHANGE
QUONSET-DAVISVILLE MARKET AREA
1970-1974

	Total Population Change	Net Natural Increase			Implied Net Migration
		Births	Deaths	Net Change	
West Bay					
North Kingstown	-10,290	2,310	540	1,770	-12,060
South Kingstown	3,090	800	500	300	2,790
Exeter	560	240	90	150	410
Narragansett	1,860	620	230	390	1,470
Jamestown	590	160	140	20	570
New Shoreham	10	30	50	-20	30
Subtotal	-4,180	4,160	1,550	2,610	-6,790
Kent County					
East Greenwich	820	590	320	270	550
West Greenwich	460	100	60	40	420
Coventry	2,250	1,640	650	990	1,260
Warwick	3,710	4,270	3,160	1,110	2,600
West Warwick	1,080	1,820	950	870	210
Subtotal	8,320	8,420	5,140	3,280	5,040
Urban Center					
Providence	-10,120	10,940	9,410	1,530	-11,650
East Providence	1,990	2,660	1,960	700	1,290
North Providence	1,960	1,290	810	480	1,480
Pawtucket	-2,480	4,670	3,880	790	-3,270
Central Falls	-720	1,350	1,040	310	-1,030
Cranston	2,210	3,340	2,750	590	1,620
Johnston	1,360	1,040	650	390	970
Subtotal	-5,800	25,290	20,500	4,790	-10,590
Central Portion Total	-1,660	37,870	27,190	10,680	-12,340

Source: U.S. Census of Population; Report on Vital Statistics, R.I. Department of Health; R.I. Statewide Planning Program; Gladstone Associates.

HOUSEHOLD FORMATION TRENDS
RHODE ISLAND BY SUBAREA
1960-1970

Map Key	Subarea	Households 1960	Households 1970	Average Annual Change Number	Average Annual Change Percent
1	West Bay	10,037	14,316	428	4.3%
2	Kent County	32,352	42,702	1,035	3.2%
3	Urban Center	142,642	147,409	477	0.3%
4	North-Northwest	35,298	42,345	705	2.0%
5	Bristol County	10,677	13,234	256	2.4%
6	East Bay	19,498	23,322	382	2.0%
7	Southwestern R.I.	6,831	8,637	180	2.6%
	Total	257,335	291,965	3,463	1.3%

Source: U.S. Census of Population 1960, 1970; Gladstone Associates.

TRENDS IN MEDIAN FAMILY INCOME
RHODE ISLAND BY SUBAREA
1959-1969

Map Key	Subarea	Median Family Income[1/] 1959	1969	Average Annual Change Amount	Percent
1	West Bay	$ 9,644	$13,865	$ 422	4.4%
2	Kent County	$11,136	$15,716	$ 458	4.1%
3	Urban Center	$10,139	$13,700	$ 356	3.5%
4	North-Northwest	$10,339	$14,715	$ 438	4.2%
5	Bristol County	$11,391	$15,881	$ 450	4.0%
6	East Bay	$ 9,216	$13,446	$ 423	4.6%
7	Southwestern R.I.	$11,395	$14,492	$ 310	2.7%
	State Average	$10,298	$14,287	$ 399	3.9%

1/ Expressed in 1975 Constant Dollars.

Source: U.S. Census 1960, 1970; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

INDUSTRIAL MARKET CONDITIONS

-- Construction Trends

-- Profile of Industrial Parks

-- Market Outlook

INDUSTRIAL CONSTRUCTION TRENDS
(In Square Feet)
RHODE ISLAND BY SUBAREA
1966-1975

Map Key	Subarea	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Ten Year Totals
1	West Bay	18,925	1,800	27,540	39,640	12,000	8,000	--	97,300	7,500	11,400	224,105
2	Kent County	392,873	194,800	285,228	323,816	454,728	329,261	761,039	394,312	253,036	34,865	3,423,958
3	Urban Center	658,686	803,057	559,546	715,702	372,195	402,935	322,126	590,748	436,289	193,800	5,055,084
4	North-Northwest R.I.	414,577	137,500	250,576	126,262	112,090	311,540	487,334	591,210	198,220	144,308	2,773,617
5	Bristol County	90,800	100,000	39,000	26,400	7,084	28,958	7,300	20,000	61,459	33,780	414,781
6	East Bay	520,000	73,600	12,960	48,196	--	18,000	5,400	29,500	500	66,000	774,156
7	Southwest R.I.	53,840	27,000	5,088	52,500	480	21,803	1,850	42,135	16,316	1,144	222,156
	Total	2,149,701	1,337,757	1,179,938	1,332,516	958,577	1,120,497	1,585,049	1,765,205	973,320	485,297	12,887,857

Source: Rhode Island Development Council Report; Gladstone Associates.

AVERAGE ANNUAL CONSTRUCTION
RHODE ISLAND BY SIC
(NEW FLOOR SPACE IN 1,000's OF SQUARE FEET)
1966-1975

SIC Code	Industry	1966-1970	1971-1975	Ten Year Average
20	Food	25.8	32.7	29.2
22	Textiles	103.7	61.7	82.7
23	Apparel	36.0	80.6	58.3
24	Wood Products	22.8	3.7	13.3
25	Furniture	20.6	11.1	15.8
26	Paper	14.7	10.1	12.4
27	Printing	79.5	34.0	56.7
28	Chemicals	70.4	52.6	61.5
29	Petroleum	0.0	0.0	0.0
301-6	Rubber Products	56.0	5.9	31.0
307	Plastics	18.2	46.2	32.2
31	Leather	23.3	2.0	12.6
32	Stone, Glass	78.2	21.0	49.6
33	Primary Metals	151.3	27.4	89.3
33	Fab. Metals	168.3	122.6	145.5
35	Machinery	107.3	47.0	77.1
36	Electrical Machinery	137.3	119.3	128.3
37	Transportation Equip.	18.0	55.5	36.8
38	Instruments	41.6	196.2	118.9
39	Miscellaneous 1/	202.0	180.4	191.2
	Unclassified	16.7	76.1	46.4
	TOTAL 2/	1,391.7	1,185.9	1,288.8

1/ Includes jewelry and silverware.
2/ Totals may differ from sums slightly due to rounding.

Source: Gladstone Associates.

INDUSTRIAL CONSTRUCTION TRENDS

RHODE ISLAND BY SIC

(New Floor Space in 1,000's of Square Feet)

1966-1975

Sic Code	Industry	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Ten Year Totals
20	Food	20.4	28.9	25.0	0	54.5	28.5	20.1	40.9	3.4	70.4	292.1
22	Textiles	192.1	56.3	38.9	142.9	88.2	94.0	42.2	161.3	10.2	.6	826.7
23	Apparel	0	132.0	0	0	48.0	148.0	0	247.0	0	8.1	583.1
24	Wood Products	113.9	0	0	0	0	8.0	4.8	0	3.0	2.8	132.5
25	Furniture	0	0	103.0	0	0	1.9	32.0	6.5	3.6	11.4	158.4
26	Paper	23.9	9.2	15.4	25.0	0	2.6	0	13.3	24.5	10.0	123.9
27	Printing	18.2	117.7	84.4	81.8	95.2	21.6	43.1	86.6	9.8	8.9	567.3
28	Chemicals	84.6	1.5	74.8	159.6	31.3	40.7	31.1	100.0	79.0	12.1	614.7
29	Petroleum	0	0	0	0	0	0	0	0	0	0	0
301-6	Rubber Products	22.6	55.4	0	179.0	23.2	0	27.5	0	0	2.1	309.8
307	Plastic	1.1	15.4	5.0	52.5	17.0	78.0	56.1	51.2	30.9	14.8	322.0
31	Leather	0	100.0	4.6	6.6	5.2	10.0	0	0	0	0	126.4
32	Stone, Glass	110.5	170.5	75.6	24.3	10.0	84.5	0	0	8.0	12.6	496.0
33	Primary Metals	708.4	2.6	32.5	7.3	5.6	2.1	24.0	62.8	35.0	13.0	893.3
34	Fab. Metals	306.8	29.8	214.7	28.3	261.9	135.9	103.8	106.5	234.8	32.0	1,454.5
35	Machinery	248.3	57.5	73.8	95.4	61.6	35.7	25.7	20.8	110.8	41.8	771.4
36	Electrical Machinery	157.8	184.9	31.6	260.4	52.0	7.5	334.3	188.0	41.5	25.0	1,283.0
37	Transportation Equip.	0	0	12.2	0	78.0	93.0	51.8	66.5	0	66.4	367.9
38	Instruments	5.8	152.7	3.2	9.7	36.7	0	613.0	259.8	108.0	0	1,188.9
39	Miscellaneous[1/]	135.4	223.3	367.2	233.0	51.2	294.3	94.3	233.0	137.4	143.0	1,512.1
--	Unclassified	--	--	18.0	26.6	39.0	34.3	81.1	121.2	133.5	10.2	463.9
	Total[2/]	2,149.8	1,337.8	1,179.9	1,332.5	958.6	1,120.5	1,584.9	1,765.4	973.4	485.2	12,888.0

1/ Includes jewelry and silverware.

2/ Totals may differ from sums slightly due to rounding

Source: Rhode Island Department of Economic Development, 1976; Gladstone Associates.

DISTRIBUTION OF MAJOR INDUSTRIAL FACILITIES CONSTRUCTION
STATE OF RHODE ISLAND
1966-1975

Size of Project (S.F.)	Total New Projects		Additions		New Plants	
	Number	Percent	Number	Percent	Number	Percent
5,000-10,000	183	40.0%	84	47.2%	99	35.5%
10,000-25,000	155	33.9%	57	32.0%	98	35.1%
25,000-50,000	64	14.0%	23	12.9%	41	14.7%
50,000-100,000	38	8.3%	10	5.6%	28	10.0%
100,000-250,000	14	3.1%	4	2.2%	10	3.6%
250,000-500,000	1	0.2%	0	0.0%	1	0.4%
500,000-1,000,000	2	0.4%	0	0.0%	2	0.7%
Over 1,000,000	0	0.0%	0	0.0%	0	0.0%
Total	457	100.0%	178	100.0%	279	100.0%
Median Size (approx.)	14,400		11,300		16,200	

Note: Excludes minor projects of less than 5,000 square feet.

Source: Rhode Island Development Council; Rhode Island Department of Economic Development; Gladstone Associates.

INDUSTRIAL CONSTRUCTION TRENDS

WEST BAY SUBAREA

(In Square Feet)

1966-1975

Sic Code	Industry	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Ten Year Totals
20	Food	--	--	--	--	--	--	--	22,500	--	--	22,500
21	Tobacco	--	--	--	--	--	--	--	--	--	--	0
22	Textiles	18,925	--	27,540	--	12,000	--	--	--	--	--	58,465
23	Apparel	--	--	--	--	--	--	--	--	--	--	0
24	Wood Products	--	--	--	--	--	--	--	--	--	--	0
25	Furniture	--	--	--	--	--	--	--	--	--	--	0
26	Paper	--	--	--	--	--	--	--	--	--	--	0
27	Printing	--	1,800	--	--	--	--	--	--	--	--	1,800
28	Chemicals	--	--	--	--	--	--	--	--	--	--	0
29	Petroleum	--	--	--	--	--	--	--	--	--	--	0
30	Rubber Products	--	--	--	--	--	--	--	--	--	--	0
307	Plastics	--	--	--	--	--	--	--	--	--	--	0
31	Leather	--	--	--	--	--	--	--	--	--	--	0
32	Stone, Glass	--	--	--	--	--	--	--	--	--	--	0
33	Primary Metals	--	--	--	--	--	--	--	--	--	--	0
34	Fab. Metals	--	--	--	--	--	8,000	--	--	--	--	8,000
35	Machinery	--	--	--	28,640	--	--	--	--	--	--	28,640
36	Electrical Machinery	--	--	--	11,000	--	--	--	60,000	7,500	--	78,500
367	Electrical Components	--	--	--	--	--	--	--	--	--	--	0
37	Transportation Equip.	--	--	--	--	--	--	--	4,800	--	11,400	16,200
38	Instruments	--	--	--	--	--	--	--	--	--	--	0
39	Miscellaneous 1/	--	--	--	--	--	--	--	--	--	--	0
--	Unclassified	--	--	--	--	--	--	--	10,000	--	--	10,000
	Total	18,925	1,800	27,540	39,640	12,000	8,000	0	97,300	7,500	11,400	224,105

1/ Includes jewelry and silverware.

Source: Rhode Island Development Council Report; Gladstone Associates.

AVERAGE ANNUAL CONSTRUCTION
WEST BAY AREA[2/]
(IN SQUARE FEET)
1966-1975

SIC Code	Industry	1966-1970	1971-1975	Ten Year Average
20	Food	--	4,500	2,250
22	Textiles	--	--	--
23	Apparel	11,693	--	5,847
24	Wood Products	--	--	--
25	Furniture	--	--	--
26	Paper	--	--	--
27	Printing	360	--	180
28	Chemicals	--	--	--
29	Petroleum	--	--	--
301-6	Rubber Products	--	--	--
307	Plastics	--	--	--
31	Leather	--	--	--
32	Stone, Glass	--	--	--
33	Primary Metals	--	--	--
34	Fab. Metals	--	1,600	800
35	Machinery	5,728	--	2,864
36	Electrical Machinery	2,200	13,500	7,850
37	Transportation Equip.	--	3,240	1,620
38	Instruments	--	--	--
39	Miscellaneous 1/	--	--	--
--	Unclassified	--	2,000	1,000
	TOTAL	19,981	24,840	22,411

1/ Includes jewelry and silverware.
2/ Includes Exeter, North Kingstown, South Kingstown, Jamestown, Narragansett, and New Shoreham.

Source: Gladstone Associates

COASTAL ZONE INFORMATION CENTER

INDUSTRIAL CONSTRUCTION TRENDS

KENT COUNTY SUBAREA

(In Square Feet)

1966-1975

Sic Code	Industry	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Ten Year Totals
20	Food	12,360	2,016	15,000	--	40,500	--	1,440	16,000	--	--	87,316
21	Tobacco	--	--	--	--	--	--	--	--	--	--	0
22	Textiles	34,692	22,880	--	24,000	--	22,000	24,940	45,170	4,560	315	178,557
23	Apparel	--	--	--	--	--	--	--	--	--	--	0
24	Wood Products	109,800	--	--	--	--	8,000	4,800	--	3,000	--	125,600
25	Furniture	--	--	--	--	--	1,880	--	6,500	3,600	--	11,980
26	Paper	15,500	--	15,360	--	--	912	--	13,320	--	--	45,092
27	Printing	3,000	20,904	--	--	13,560	10,500	6,500	86,000	--	--	140,464
28	Chemicals	77,579	1,000	44,482	59,798	23,110	13,508	5,000	65,983	58,150	9,300	357,910
29	Petroleum	--	--	--	--	--	--	--	--	--	--	0
30	Rubber Products	--	--	--	--	20,010	--	--	--	--	--	20,010
307	Plastics	1,050	--	--	--	--	--	--	--	6,600	--	7,650
31	Leather	--	--	--	--	--	--	--	--	--	--	0
32	Stone, Glass	--	5,000	70,436	--	--	44,070	--	--	8,000	--	127,506
33	Primary Metals	23,534	--	28,000	6,300	--	--	24,000	--	--	--	81,834
34	Fab. Metals	45,904	--	26,880	8,000	242,222	81,224	3,500	23,750	80,740	--	512,220
35	Machinery	57,494	--	53,450	10,000	22,550	8,450	17,250	--	48,150	--	217,344
36	Electrical Machinery	3,360	5,000	4,800	206,098	52,000	--	6,936	--	--	--	278,194
367	Electrical Components	3,200	--	--	--	--	--	--	--	--	--	3,200
37	Transporation Equip.	--	--	--	--	6,000	64,000	--	--	--	--	70,000
38	Instruments	3,600	72,000	--	--	14,400	--	613,000	25,760	9,600	--	738,360
39	Miscellaneous 1/	1,800	66,000	23,020	--	2,176	62,992	35,128	39,170	27,526	25,250	283,062
--	Unclassifed	--	--	3,800	9,620	18,200	11,725	15,430	72,659	3,110	--	134,544
19	Guns	--	--	--	--	--	--	3,115	--	--	--	3,115
	Total	392,873	194,800	285,228	323,816	454,728	329,261	761,039	394,312	253,036	34,865	3,423,958

1/ Includes jewelry and silverware.

Source: Rhode Island Development Council Report; Gladstone Associates.

AVERAGE ANNUAL CONSTRUCTION
KENT COUNTY SUBAREA
(IN SQUARE FEET)
1966-1975

SIC Code	Industry	1966-1970	1971-1975	Ten Year Average
20	Food	13,975	3,488	8,732
22	Textiles	16,314	19,397	17,856
23	Apparel	--	--	--
24	Wood Products	21,960	3,160	12,560
25	Furniture	--	2,396	1,198
26	Paper	6,172	2,846	4,509
27	Printing	7,493	20,600	14,046
28	Chemicals	41,194	30,388	35,791
29	Petroleum	--	--	--
301-6	Rubber Products	4,002	--	2,001
307	Plastics	210	1,320	765
31	Leather	--	--	--
32	Stone, Glass	15,087	10,414	12,751
33	Primary Metals	11,567	4,800	8,183
34	Fab. Metals	64,601	37,843	51,222
35	Machinery	28,699	14,770	21,734
36	Electrical Machinery	54,252	1,387	27,819
367	Electrical Components	640	--	320
37	Transportation Equip.	1,200	12,800	7,000
38	Instruments	18,000	129,672	73,836
39	Miscellaneous 1/	18,597	38,013	28,306
--	Unclassified	6,324	20,585	13,454
19	Ordinance	--	623	312
	TOTAL	330,289	354,502	342,396

1/ Includes jewelry and silverware.

Source: Gladstone Associates

COASTAL ZONE INFORMATION CENTER

INDUSTRIAL CONSTRUCTION TRENDS

URBAN CENTER SUBAREA

(In Square Feet)

1966-1975

Sic Code	Industry	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Ten Year Totals
20	Food	6,648	26,921	9,977	--	14,000	--	10,686	2,380	3,435	12,070	86,117
21	Tobacco	--	--	--	--	--	--	--	--	--	--	0
22	Textiles	68,554	14,460	8,204	71,420	76,232	3,780	7,569	51,152	5,644	--	307,015
23	Apparel	--	--	--	--	--	--	--	--	--	--	0
24	Wood Products	4,070	--	--	--	--	--	--	--	--	2,840	6,910
25	Furniture	--	--	103,000	--	--	--	--	--	--	5,000	108,000
26	Paper	8,425	9,211	--	24,982	--	1,707	--	--	24,520	--	68,845
27	Printing	2,880	94,963	84,390	37,734	72,510	11,142	36,626	621	9,840	4,940	355,646
28	Chemicals	7,012	--	21,843	32,619	8,200	15,168	15,772	28,000	5,600	2,829	137,043
29	Petroleum	--	--	--	--	--	--	--	--	--	--	0
30	Rubber Products	22,639	55,397	--	170,000	--	--	27,500	--	--	2,100	277,636
307	Plastics	--	2,436	--	52,500	--	35,022	2,800	--	7,800	13,000	113,558
31	Leather	--	--	4,636	6,640	5,152	10,000	--	--	--	--	26,428
32	Stone, Glass	100,230	165,525	--	--	10,000	40,400	--	--	--	2,130	318,285
33	Primary Metals	129,899	2,595	4,500	1,000	3,409	2,100	--	30,000	35,008	13,000	221,511
34	Fab. Metals	112,466	29,762	81,516	--	17,580	27,080	53,138	52,701	11,436	16,300	401,979
35	Machinery	7,617	57,539	14,598	39,989	24,000	22,200	4,320	20,800	60,252	37.044	288,359
36	Electrical Machinery	25,500	106,285	26,830	19,082	--	7,527	--	80,790	2,150	--	268,164
367	Electrical Components	30,721	--	--	--	--	--	--	--	--	--	30,721
37	Transportation Equip.	--	--	--	--	72,000	--	50,000	--	--	--	122,000
38	Instruments	2,200	80,676	3,195	9,744	22,280	--	--	234,000	98,400	--	450,495
39	Miscellaneous 1/	129,825	157,287	182,633	232,992	26,012	213,354	53,065	51,810	65,836	80,611	1,193,425
--	Unclassified	--	--	14,224	17,000	20,820	13,455	60,650	38,494	106,368	1,936	272,947
	Total	658,686	803,057	559,546	715,702	372,195	402,935	322,126	590,748	436,289	193,800	5,055,084

1/ Includes jewelry and silverware.

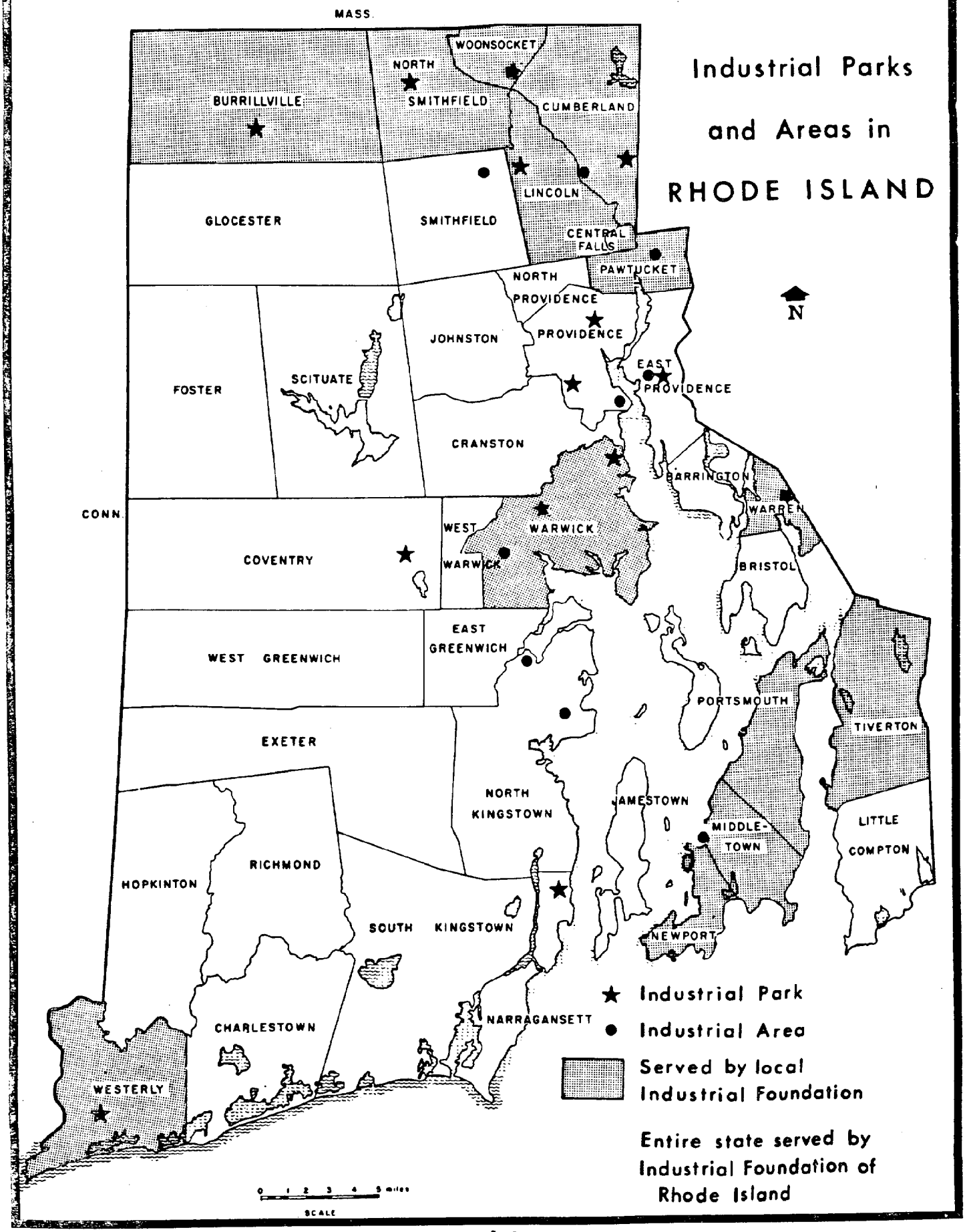
Source: Rhode Island Development Council Report; Gladstone Associates.

AVERAGE ANNUAL CONSTRUCTION
URBAN CENTER SUBAREA[2/]
(IN SQUARE FEET)
1966-1975

SIC Code	Industry	1966-1970	1971-1975	Ten Year Average
20	Food	11,509	5,714	8,612
22	Textiles	47,774	13,629	30,702
23	Apparel	--	--	--
24	Wood Products	814	568	691
25	Furniture	20,600	1,000	10,800
26	Paper	8,524	5,245	6,884
27	Printing	58,495	12,634	35,565
28	Chemicals	13,934	13,474	13,704
29	Petroleum	--	--	--
30	Rubber Products	49,607	5,920	27,764
307	Plastics	10,987	11,724	11,356
31	Leather	3,286	2,000	2,643
32	Stone, Glass	55,151	8,506	31,828
33	Primary Metals	28,281	16,022	22,151
34	Fab. Metals	48,265	32,131	40,198
35	Machinery	28,749	28,923	28,836
36	Electrical Machinery	35,539	18,093	26,816
367	Electrical Components	6,144	--	3,072
37	Transportation Equip.	14,400	10,000	12,200
38	Instruments	23,619	66,480	45,049
39	Miscellaneous 1/	145,750	92,935	119,342
--	Unclassified	10,409	44,181	27,295
	TOTAL	621,837	389,180	505,508

1/ Includes jewelry and silverware.
2/ Includes Providence, Central Falls, Cranston, East Providence, Pawtucket, Johnston, and North Providence.

Source: Gladstone Associates


Industrial Parks and Areas in RHODE ISLAND
MASS.
CONN.
WOONSOCKET
NORTH SMITHFIELD
BURRILLVILLE
CUMBERLAND
LINCOLN
GLOCESTER
SMITHFIELD
CENTRAL FALLS
PAWTUCKET
NORTH PROVIDENCE
PROVIDENCE
JOHNSTON
FOSTER
SCITUATE
EAST PROVIDENCE
CRANSTON
BARRINGTON
WARREN
WEST WARWICK
WARWICK
COVENTRY
BRISTOL
EAST GREENWICH
WEST GREENWICH
PORTSMOUTH
TIVERTON
EXETER
NORTH KINGSTOWN
JAMESTOWN
MIDDLE-TOWN
LITTLE COMPTON
RICHMOND
HOPKINTON
SOUTH KINGSTOWN
NEWPORT
CHARLESTOWN
NARRAGANSETT
WESTERLY
N
Industrial Park
Industrial Area
Served by local Industrial Foundation
Entire state served by Industrial Foundation of Rhode Island
0 1 2 3 4 5 miles
SCALE

PROFILE OF INDUSTRIAL PARKS
STATE OF RHODE ISLAND
1976

Map Key	Park Name	Location	Total Acres	Available Acres	Rail	Highway	Comments
1	West Bay						
	Narragansett Industrial Park	Narragansett	92	87	No	Rt. 1-A	Poor Location
2	Kent County						
	West Warwick Industrial Park	W. Warwick	95	95	No	I-95	Good land
	Hillsgrove - 95 Industrial Park	Warwick	65	35	No	I-95	Good land-expensive ($1.25/foot)
	Warwick Industrial Park	Warwick	60	24	No	Alt. 1	Topographical problems on some available land. 10 good acres left
	Central	Warwick	26	5	No	Rt. 1	
	Central Rhode Island	Coventry	31	26	Yes	Rt. 117	Poor access needs sewers
	Subtotal		369	272			
3	Urban Center						
	Howard Industrial Park	Cranston	125	125	Yes	I-95	Good land, but expensive ($1.30/foot)
	Providence Docks	Providence	40	40	Yes	I-95	Speciality appeal-land lease only
	Almeida Industrial Park	E. Providence	55	12	No	I-95	Topography and soil problems with remaining land-needs fill/piles
	Harborside Industrial Park	Providence	150	150	Yes	I-95	Available, but usually occupied by short term
	Westminster Industrial Park	E. Providence	40	13	No	I-95	Topographical problems on some available land-5 good acres left

PROFILE OF INDUSTRIAL PARKS (Cont'd)
STATE OF RHODE ISLAND
1976

Map Key	Park Name	Location	Total Acres	Available Acres	Rail	Highway	Comments
	Laud Industrial Park	E. Providence	30	8	No	I-195	Only marginal land remains
	Pettaconsett Industrial Park	Cranston	41	8	No	I- 95	No land left in 32-acre park, but 8-1/2 acres available/ different owner
	Huntington Expressway Industrial Park	Providence	92	--	Yes	Rt. 10	Sold out
	West River Industrial Park	Providence	100	--	Yes	I- 95	Sold out
	Subtotal		673	356			
4	North-Northwest						
	Burrillville Industrial Park	Burrillville	53	47	No	Rt. 100/ 44	Poor trucking access-sewers needed
	Cumberland Industrial Park	Cumberland	24	4	No	I-295	Good location-little land left
	Lincoln Industrial Park	Lincoln	65	47	No	I-295	Topographical problems-some land unbuildable
	North Central Air Industrial Park	Lincoln	245	22	No	I-295	Little land left-70 acre expansion pending
	Northern R.I. Industrial Rail Park	N. Smithfield	160	160	Yes	Rt. 146	Development two to five years away
	North Central Air Park Addition	Lincoln	53	53	No	I-295	Development anticipated soon
	Woonsocket	Woonsocket	68	--	Yes	Rt. 122	Sold out
	Subtotal		668	333			

PROFILE OF INDUSTRIAL PARKS (Cont'd)
STATE OF RHODE ISLAND
1976

Map Key	Park Name	Location	Total Acres	Available Acres	Rail	Highway	Comments
5	Bristol County						
	None						
6	East Bay						
	Aquidneck Island Industrial Park	Middletown	92	92	No	Rt. 114	Site work currently underway-not ready yet. Difficult access
7	Southwest R.I.						
	Westerly Airport Industrial Park	Westerly	105	70	No	Rt. 1	Special geographic market. Parcel C, 70-acre site work in progress
	State Total		1,907	1,123			

Source: Harbridge House, Department of Economic Development; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

PROFILE OF INDUSTRIAL AREAS
STATE OF RHODE ISLAND
1976

Map Key	Area Name	Location	Total Acres	Highway Access	Utilities S	W	E	G	Comments
1	West Bay								
	North Kingstown	N. Kingstown	33	Rt. 1	N	Y	Y	Y	
	Quonset-Davisville	N. Kingstown	750	Rt. 1, 4, I-95	Y	Y	Y	Y	Very good land
	Tuckahoe Farms	N. Kingstown	1200	Rt. 1	N	Y	Y	N	Premature for development; good potential if I-895 is built
	Kingstown	S. Kingstown	150-400	Rts. 138/2					
	Subtotal		2,133-2,383						
2	Kent County								
	W. Greenwich	W. Greenwich	275	I-95, 102	N	Y	N	N	Premature for development
	Airport at 95 Industrial Area	Warwick	60	I-95	Y	Y	Y	Y	Good potential, but expensive-$2.00/ft. Developer prefers build/lease
	Coventry	Coventry	80	Rt. 3/I-95	N	Y	Y	N	Not prepared yet
	Warwick South	Warwick	28	Rt. 2/I-95	N	Y	Y	Y	Bad topography, fill, rock, ledge-may be 8 unusable acres
	West Warwick	W. Warwick	140	I-95	Y	Y	Y	Y	Adjacent to West Warwick Industrial Park. Good land. Utilities and roads must be brought into site
	Subtotal		583						
3	Urban Center								
	E. Providence Industrial Center	E. Providence	39	Rt. 44/I-95	Y	Y	Y	N	Not prepared yet

PROFILE OF INDUSTRIAL AREAS (Cont'd)

STATE OF RHODE ISLAND

1976

Map Key	Area Name	Location	Total Acres	Highway Access	Utilities S	W	E	G	Comments
4	North-Northwest R.I.								
	Cumberland	Cumberland	59	I-295	Y	Y	Y	Y	Adjacent to Cumberland Industrial Park. Good location and potential. Near North Central State Airport. Still needs sewer in short run. Some ledge problems.
	Smithfield	Smithfield	113	I-295	N	Y	Y	N	
	Smithfield	Smithfield	118	Rt. 7/I-295	N	Y	Y	N	
	Smithfield	Smithfield	98	Rt. 7/I-295	N	Y	Y	N	
	Smithfield	Smithfield	32	Rt. 7/I-295	N	Y	Y	N	
	Smithfield	Smithfield	68	Rt. 7/I-295	N	Y	Y	N	
	Smithfield	Smithfield	56	Rt. 7/I-295	N	Y	Y	N	
	I-295 Industrial Park	Lincoln	50	I-295/Rt. 146	Y	Y	Y	Y	
	Subtotal		594						
5	Bristol County								
	Market Street Site	Warren	30	I-195	N	Y	Y	N	

COASTAL ZONE INFORMATION CENTER

PROFILE OF INDUSTRIAL AREAS (Cont'd)

STATE OF RHODE ISLAND

1976

Map Key	Area Name	Location	Total Acres	Highway Access	Utilities S	W	E	G	Comments
6	East Bay								
	Aquidneck Island Airport	Middletown	100	Rt. 114	Y	Y	Y	N	
	Newport Navy Base	Newport	300	Rt. 114	Y	Y	Y	Y	Good potential
	Subtotal		400						
7	Southwest R.I.								
	None								
	State Total		5,025-5,275						

Y = Yes

N = No

S = Sewer

W = Water

E = Electricity

G = Natural Gas

Source: Harbridge House; Rhode Island Department of Economic Development; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

RETAIL MARKET CONDITIONS

-- Sales Trends

-- Inventory of Area Shopping Centers

-- Market Outlook

R.I. RETAIL SALES SUBJECT TO SALES TAX
QUONSET MARKET AREA
1968-1975

	Estimated Retail Sales (000's)[1/]								Average Annual Change			
									1968-1972		1972-1975	
	1968	1969	1970	1971	1972	1973	1974	1975	Amount	Percent	Amount	Percent
West Bay												
North Kingstown	$ 33,304	$ 38,245	$ 39,038	$ 44,635	$ 50,541	$ 50,491	$ 44,305	$ 40,025	$ 4,309	12.9%	-$3,505	-6.9%
South Kingstown	$ 27,920	$ 29,155	$ 29,879	$ 33,579	$ 37,604	$ 49,438	$ 60,483	$ 53,277	$ 2,421	8.7%	$5,224	13.9%
Exeter	$ 1,152	$ 1,130	$ 1,256	$ 1,538	$ 1,807	$ 1,708	$ 1,650	$ 1,543	$ 164	14.2%	-$ 88	-4.9%
Narragansett	$ 6,932	$ 6,982	$ 7,909	$ 8,546	$ 10,310	$ 9,360	$ 9,577	$ 9,212	$ 844	12.2%	-$ 366	-3.6%
Jamestown	$ 2,509	$ 2,405	$ 2,395	$ 2,622	$ 2,707	$ 2,752	$ 2,379	$ 2,170	$ 50	2.0%	-$ 179	-6.6%
New Shoreham	$ 2,372	$ 2,350	$ 2,771	$ 3,071	$ 3,923	$ 3,417	$ 2,981	$ 3,292	$ 388	16.3%	-$ 210	-5.4%
Subtotal	$ 74,189	$ 80,267	$ 83,248	$ 93,991	$106,892	$117,166	$121,375	$109,519	$ 8,176	11.0%	$ 876	0.8%
Kent County												
East Greenwich	$ 22,527	$ 23,360	$ 26,207	$ 31,504	$ 35,583	$ 24,601	$ 24,548	$ 21,152	$ 3,264	14.5%	-$4,810	-13.5%
Coventry	$ 19,116	$ 21,130	$ 22,331	$ 23,335	$ 24,348	$ 29,960	$ 27,012	$ 23,180	$ 1,308	6.8%	-$ 389	-1.6%
West Greenwich	$ 543	$ 633	$ 645	$ 640	$ 876	$ 845	$ 1,046	$ 1,187	$ 83	15.3%	$ 104	11.8%
Warwick	$200,168	$217,349	$236,105	$275,594	$305,706	$325.354	$302,707	$256,913	$26,384	13.2%	-$16,264	-5.3%
West Warwick	$ 70,532	$ 70,767	$ 75,140	$ 75,553	$ 66,853	$ 46,649	$ 38,693	$ 31,725	-$ 920	-1.3%	-$11,709	-17.5%
Subtotal	$312,886	$333,239	$360,428	$406,626	$433,366	$427,409	$394,006	$334,157	$30,120	9.6%	-$33,070	-7.6%
Total Market Area	$387,075	$413,506	$443,676	$500,617	$540,258	$544,575	$515,381	$443,676	$38,296	9.9%	-$32,194	-6.0%

1/ In 1975 Constant Dollars; does not include sales for exempted items such as food, drugs, and separately taxed gasoline, cigarette, and tobacco.

Source: R.I. Department of Economic Development; Gladstone Associates.

RETAIL SALES TRENDS
WEST BAY SUBAREA [2/]
1963-1972
(In Thousands Of 1975 Constant Dollars)

Retail Category	1963	1967	1972	Average Annual Change 1963-1967 Number	1963-1967 Percent	1967-1972 Number	1967-1972 Percent
Comparison Goods							
General Merchandise	3,245.1	5,372.8	14,404.9	531.9	16.4%	1,806.4	33.6%
Apparel	1,406.3	1,710.3	(D)	76.0	5.4%	(D)	
Furniture	1,416.9	2,324.5	4,479.3	226.9	16.0%	431.0	18.5%
Subtotal	6,068.3	9,407.6	(D)	834.8	13.8%	(D)	
Convenience Goods							
Food	22,696.2	27,671.6	39,049.1	1,243.9	5.5%	2,275.5	8.2%
Drug	3,129.1	3,248.2	(D)	29.8	1.0%	(D)	
Subtotal	25,825.3	30,919.8	(D)	1,273.6	4.9%	(D)	
Eating & Drinking	7,885.9	9,046.5	19,630.7	290.2	3.7%	2,116.8	23.4%
All Other [1/]	37,953.1	49,365.9	71,233.5	2,853.2	7.5%	4,373.5	8.9%
Total	77,732.6	98,739.8	156,788.3	5,251.8	6.8%	11,609.7	11.8%

1/ Includes automotice dealers, gas stations, lumber, building materials and hardware, miscellaneous retail stores and non-store retail.

2/ Loosely defined here as Washington County minus Westerly.

D = Data withheld to avoid disclosure.

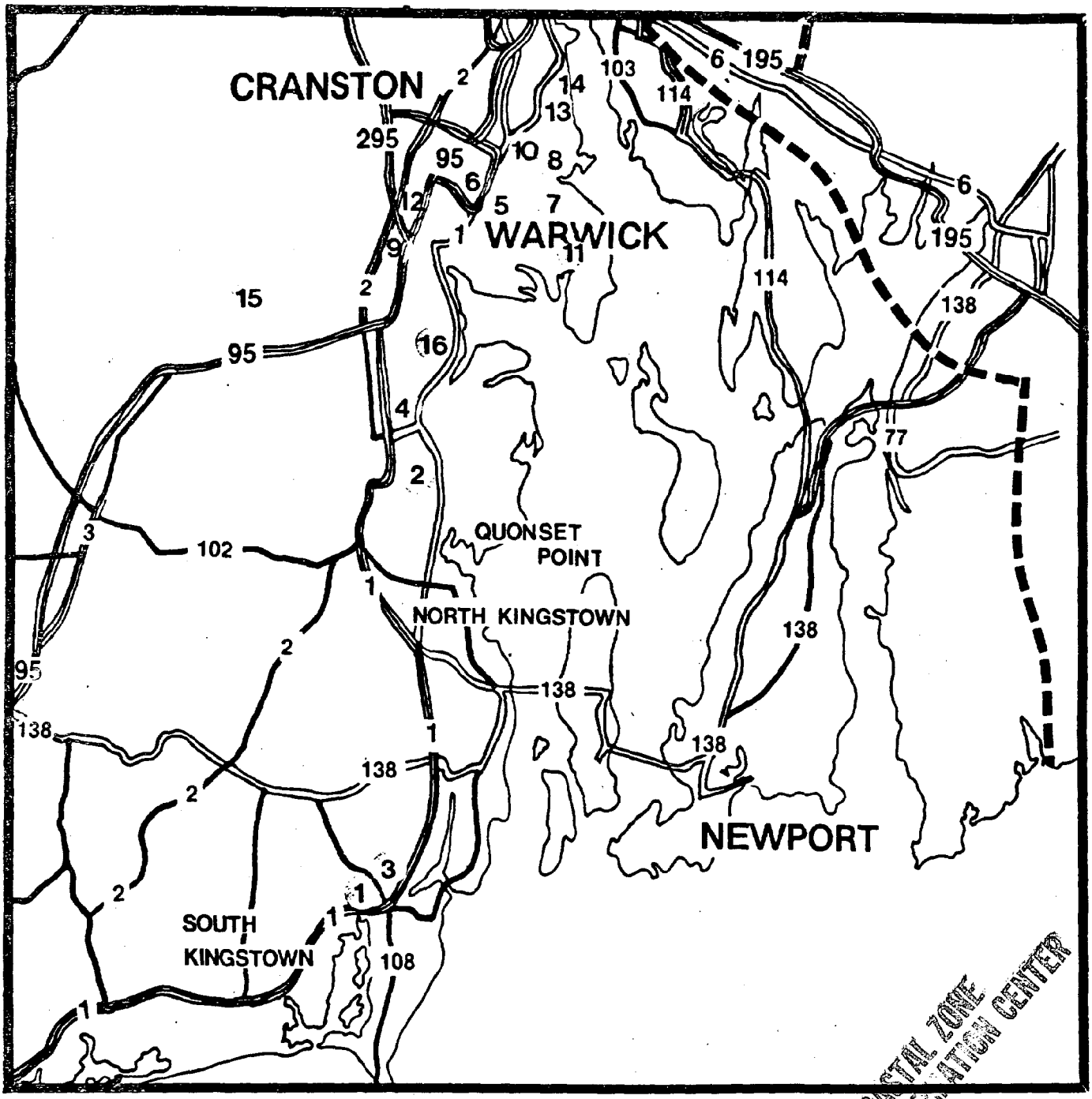
Source: U.S. Census of Retail Trade; Gladstone Associates

RETAIL SALES TRENDS
KENT COUNTY SUBAREA
1963-1972
(In Thousands of 1975 Constant Dollars)

Retail Category	1963	1967	1972	Average Annual Change 1963-1976 Number	1963-1976 Percent	1967-1972 Number	1967-1972 Percent
Comparison Goods							
General Merchandise	38,689.6	82,339.3	126,228.8	10,912.4	28.2%	8,777.9	10.7%
Apparel	10,213.4	14,522.5	39,911.1	1,077.3	10.5%	5,077.7	35.0%
Furniture	10,206.4	11.957.8	18,822.8	437.9	4.3%	1,373.0	11.5%
Subtotal	59,109.4	108,819.6	184,962.7	12,427.6	21.0%	15,228.6	14.0%
Convenience Goods							
Food	73,794.9	89,538.5	99,281.8	3,935.9	5.3%	1,948.7	2.2%
Drug	9,670.2	12,044.9	13,158.3	593.7	6.1%	222.7	1.8%
Subtotal	83,465.1	101.583.4	112,440.1	4,529.6	5.4%	2,171.4	2.1%
Eating and Drinking	18,334.9	23,727.0	37,253.2	1,348.1	7.4%	2,705.2	11.4%
All Other[1/]	111,222.3	122,742.5	179,305.9	2,880.1	2.6%	11,312.7	9.2%
Total[2/]	272,133.5	356,872.6	513,961.9	21,184.8	7.8%	31,417.9	8.8%

1/ Includes automotive dealers, gas stations, lumber, building materials and hardware, miscellaneous retail stores and non-store retail.
2/ Subtotals may not add to total due to rounding.

Source: U.S. Census of Retail Trade; Gladstone Associates.



COASTAL ZONE INFORMATION CENTER

LOCATION OF SELECTED SHOPPING CENTERS

WEST BAY AND KENT COUNTY SUBAREAS

PROFILE OF SELECTED SHOPPING CENTERS

QUONSET MARKET AREA

Key No.	Name/Location Developer	No. of Tenants	Approx. Size (S.F.)	Major Tenants Name	S.F.	Vacant (S.F.)
West Bay						
1	Belmont Shopping Center Main & Kingstown Rds. Wakefield, R.I. Vincent J. Siravo	8	50,000	A&P New England Telephone Belmont Fruit	28,000 5,800 4,000	0
2	Kingstown Plaza Post Road, No. Kingstown Kingstown Plaza	13	87,000	Adams Drugs Sears, Roebuck & Co. (Catalog Store) Singer Co. (Sewing Machines)	7,500 4,000 3,500	Former Grants--36,000 2,000 2,500
3	Wakefield Mall Main Street, Wakefield Mr. Levy	11	120,000	Woolworth's Stop & Shop Donnelly's	N/A N/A N/A	0
4	Warwick Shopper's World Frenchtown & Post Rds. North Kingstown Arlen Shopping Centers, Inc.	9	115,530	Zayre Star Market Fayva Shoes	70,000 25,000 5,851	1,000 (est)
Kent County						
5	Airport Plaza 1800 Post Rd., Warwick Rhedon Realty Corp.	40	125,225	All small shops approximately the same size.	N/A	Seven Shops, total-- 20,000 (est.)
6	Ann and Hope Post Rd. (Rte 1), Warwick Stacey Development Corp.	3	197,500	Ann & Hope Stop & Shop Pharmacy Service	170,000 26,000 1,500	0

PROFILE OF SELECTED SHOPPING CENTERS (Cont.)

QUONSET MARKET AREA

Key No.	Name/Location/Developer	No. of Tenants	Approx. Size (S.F.)	Major Tenants Name	S.F.	Vacant (S.F.)
7	Gateway Shopping Center 1645 Warwick Ave., Warwick Gateway Realty, Inc.	30	85,000	Gateway Pharmacy Ben Franklin Store Donnelly's Mens Wear	10,000 10,000 10,000	 0
8	Governor Francis Shopping Cen. 1160 Warwick Ave., Warwick Nelmor Realty Co.	18	96,360	A&P Save Rite (Catalog Store) Adams Drug Store	20,000 18,000 9,000	 9,000 3,000
9	Midland Mall Rtes. 2 & 113, Warwick Homart Development Corp.	78	468,000	Sears Cherry & Webb Midland Mall Cafeteria	205,619 26,622 10,686	Former Shepard's 81,015 S.F.
10	Village Mall 1400 Post Rd., Warwick Village Mall, Inc.	120	90,000	Cherry & Webb	N/A	Two small shops 100 S.F. each (est.)
11	Meadowbrook Shopping Center 2400-2450 Warwick Ave., Warwick Meadowbrook Corp.	8	50,000	First National Benny's Auto Stores Meadowbrook Cinemas I, II, III	12,000 10,000 8,200	 0
12	Warwick Mall Route 2, Warwick Bliss Properties	50	1,000,000	Outlet Company Jordan Marsh Co. Filene's	120,000 320,000 120,000	 0
13	Warwick Plaza 760-840 Post Rd., Warwick Post Road Associates	17	107,168	Big G Sun and Fun Weintraub's	24,806 20,973 16,200	 0
14	Warwick Shopper's World 320 Warwick Avenue, Warwick Warnew Limited	3	109,650	Warwick-Zayre First National Industrial National Bank	82,500 24,000 3,150	 0

COASTAL ZONE INFORMATION CENTER

PROFILE OF SELECTED SHOPPING CENTERS (Cont.)

QUONSET MARKET AREA

Key No.	Name/Location/Developer	No. of Tenants	Approx. Size (S.F.)	Major Tenants Name		S.F.	Vacant (S.F.)	
15	Coventry Plaza 1111 Tiogue Ave., Coventry Coventry Plaza Associates	12	128,000	K-Mart Almacs Brooks Discount	(est)	70,000 30,000 N/A	(est)	3,000 2,000 4,000
16	East Greenwich Shopping Cen. 533 Main St., E. Greenwich	10	50,000 (est)	Almacs Thorpe's Liquor & Pharmacy		N/A N/A		0

Source: Providence Journal Publication: "A Guide to R.I. Shopping Centers;" Shopping Center Directory, National Research Bureau; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

CONVENIENCE GOODS RETAIL POTENTIAL
QUONSET-DAVISVILLE MARKET AREA
1975-2000

	1990	2000
Number of Households	16,600	18,700
Mean Household Income	$20,700	$23,700
Aggregate Income (000's)	$343,620	$443,190
Percent Spent on Convenience Goods	14.7%	14.7%
Aggregate Convenience Goods Sales (000's)	$50,512	$65,149
Estimated Productivity Required (Sales/S.F.)	$130	$150
Total Supportable Convenience Goods Space	388,500 S.F.	434,300 S.F.
Less 1975 Inventory of Convenience Goods Space	207,500 S.F.	207,500 S.F.
Net New Supportable Retail Space	181,000 S.F.	226,800 S.F.
Percent Capture at Quonset-Davisville Site	28%	27%
Convenience Goods Retail Potential at Quonset-Davisville	50,000 S.F.	60,000 S.F.

Source: Gladstone Associates.

COMPARISON GOODS RETAIL POTENTIAL
QUONSET-DAVISVILLE MARKET AREA
1975-2000

	1990			2000		
	Primary Market Area	Secondary Market Area	Total	Primary Market Area	Secondary Market Area	Total
Number of Households	16,600	70,800	87,400	18,700	77,500	96,200
Mean Household Income	$20,700	$21,600	$21,400	$23,700	$24,600	$24,400
Aggregate Income (000's)	$343,620	$1,529,280	$1,872,900	$443,190	$1,906,500	$2,349,690
Percent Spent on Comparison Goods	14.5%	14.5%	14.5%	14.6%	14.6%	14.6%
Aggregate Comparison Goods Sales (000's)	$49,824	$221,746	$271,570	$64,706	$278,349	$343,055
Percent Capture at Quonset-Davisville Site	9.5%	1.7%	3.1%	13.5%	3.0%	5.0%
On-Site Comparison Goods Sales (000's)	$4,730	$3,770	$8,500	$8,750	$8,350	$17,100
Estimated Productivity Required (Sales/S.F.)	$85	$85	$85	$90	$90	$90
Comparison Goods Retail Potential at Quonset-Davisville Site	55,600 S.F.	44,400 S.F.	100,000 S.F.	97,200 S.F.	92,800 S.F.	190,000 S.F.

Source: Gladstone Associates.

BACKGROUND OFFICE AND HOTEL DATA

COASTAL ZONE
INFORMATION CENTER

MAJOR OFFICE BUILDINGS IN CBD PROVIDENCE
With Vacant Space Available -- May 1974 and January 1975

FINANCIAL DISTRICT	Total Space	Space Available May 1974	Space Available January 1975	5000 Sq. Ft. Blocks	Rate Per Sq. Ft.
Hospital Trust Towers	322,284	35,000	32,545	0	$7.75
Hospital Trust Building	217,935	32,000	10,000	0	$5.75
40 Westminster Building	260,000	21,000	28,130	3	$6.00
Industrial Bank Building	310,600	18,000	19,000	1	$6.75 -- up
Union Trust Building	60,750	15,000	12,000	2	
Howard Building	170,000	7,000	16,000	3	$6.00 --$7.00
One Weybosset Hill	102,925	9,000	0	0	$6.00 -- $7.50
Regency (s)	33,400	17,000	10,653	0	$6.00 -- $7.50
Turk's Head Building	134,500	0	0	0	- -
MOSHASSUCK SQUARE					
Moshassuck Arcade	48,000	48,000	48,000	10	$6.00 -- $7.00
University Heights	20,000	20,000	20,000	4	$3.00 -- --
SOUTH MAIN STREET					
Heritage Building	41,104	31,522	31,522	6	$7.75 --
Urban Renewal-Renovated Property (estimate)	20,000	20,000	20,000		--
TOTAL	1,741,498	273,000	247,850	29	

Firms moving Into CBD Since 1970

	Location	Space	From
Travlers Insurance	One Weybosset Hill	45,000	New Operation
Zerox Corporation	"	5,100	East Providence
ATT	"	3,000	Framingham, MA

Rhode Island Department of Economic Development -- Research Division January 1975

MAJOR SUBURBAN OFFICE BUILDINGS

STATE OF RHODE ISLAND

NOVEMBER 1974

Name/Location	Year Built	Total Space	Comments
Metropolitan Life Insurance Co. Quaker Lane Warwick	1974	350,000 S.F.	There will probably be an attempt by Metropolitan Life to rent surplus space of up to 100,000 S.F.
MFB Mutual Insurance Co. Atwood Avenue Johnston	1970	250,000 S.F.	As of late 1974, 40,000 of potentially surplus space was included in this building.
Marquette Credit Union 52 Cumberland Street Woonsocket	1974	89,000 S.F.	Credit union will occupy 17-19% of space. Local tenants expected to fill 50-60%. One or two major tenants expected from outside Woonsocket.
1414 Atwood Avenue Johnston (Carpionto and Sons-developer)	1973	21,100 S.F.	Top (third) floor untenanted as of late 1974.
1150 New London Avenue Cranston (James Diprete-developer)	1973	21,600 S.F.	Building was roughly half full as of late 1974.
1145 Reservoir Avenue Cranston (Kelley and Picerne-developer)	1969	26,385 S.F.	Plans to build two other buildings were abandoned and land adjacent to this building is presently for sale.

Source: Harbridge House; Rhode Island Department of Economic Development

MAJOR QUALITY HOTEL/MOTEL FACILITIES
QUONSET-DAVISVILLE AREA
1976

Name	Location	Year Opened	Number of Rooms	Double Occupancy Room Rates
King's Inn	U.S. 1 & Rte. 138 South Kingstown	1968	106	$20 - $21
Dutch Inn	Great Island Road Galilee	1968	100	$32 - $38
Howard Johnson's	Jefferson Boulevard Warwick	N/A	124	$20 - $25
Sheraton Motor Inn	1850 Post Road Warwick	N/A	125	$33 - $35
Carlton House Motor Inn	2082 Post Road Warwick	N/A	105	N/A
Rhode Island Yankee Motor Inn	2081 Post Road Warwick	N/A	83	N/A

Source: Rhode Island Development Council; Gladstone Associates.

COASTAL ZONE
RECREATION CENTER

EXISTING QUONSET CONDITIONS

OCCUPATIONAL MIX OF EMPLOYEES
EXISTING QUONSET USES
1976

Occupation	Electric Boat	Port Authority	Ocean State Training Center	F.A.A.	Golf Course 1/	Army National Guard	Total Number	Total Percent
Professional, Technical, Managerial, Administrative, and Sales Workers	591	8	12	57	3	40	711	13%
Clerical and Kindred Workers	254	3	--	1	--	1	259	5%
Craftsmen, Foremen, and Kindred Workers	2,284	26	--	--	2	19	2,331	44%
Operatives, including Transport	1,864	18	--	--	--	--	1,882	36%
Service Workers	--	41	--	--	--	--	41	1%
Laborers	42	--	--	--	5	--	47	1%
Total	5,035	96	12	58	10	60	5,271	100%

1/ Estimated by Gladstone Associates.

Source: Existing users; Gladstone Associates.

EMPLOYMENT AND PAYROLL

ELECTRIC BOAT

1976

Occupation	Employees Number	Employees Percent	Estimated Annual Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Adminstrative, and Sales Workers	591	12%	N/A	N/A
Clerical and Kindred Workers	254	5%	$ 8,600	$ 2.2
Craftsmen, Foremen, and Kindred Workers	2,284	45%	N/A	N/A
Operatives, including Transport	1,864	37%	N/A	N/A
Service Workers	--	--	--	--
Laborers	42	1%	N/A	N/A
Total	5,035	100%	$10,800	$54.3

N/A = Not Available

Source: Mr. James E. Kanaley, Manager Industrial Relations, Electric Boat; Gladstone Associates.

EMPLOYMENT AND PAYROLL

PORT AUTHORITY

1976

Occupation	Employees Number	Employees Percent	Estimated Annual Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Administrative, and Sales Workers	8	8%	N/A	N/A
Clerical and Kindred Workers	3	3%	N/A	N/A
Craftsmen, Foremen and Kindred Workers	26	28%	N/A	N/A
Operatives, Including Transport	18	19%	N/A	N/A
Service Workers	41	42%	N/A	N/A
Laborers	--	--	N/A	N/A
Total	96	100%	$13,500 1/	$1.3

1/ Calculated by dividing the total payroll figure, as given by the PAEDC, by the number of workers.

N/A = Not Available.

Source: Conversations with officials of the Rhode Island Port Authority and Economic Development Corporation; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

EMPLOYMENT AND PAYROLL

OCEAN STATE TRAINING SCHOOL

1976

Occupation	Employees Number	Employees Percent	Estimated Annual Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Administrative, and Sales Workers	12	100%	$11,200	$.134
Clerical and Kindred Workers	--	--	--	--
Craftsmen, Foremen and Kindred Workers	--	--	--	--
Operatives, Including Transport	--	--	--	--
Service Workers	--	--	--	--
Laborers	--	--	--	--
Total	12	100%	$11,200	$.134

Source: Conversation with Mr. John Anderson, Ocean State Training Center; Gladstone Associates.

EMPLOYMENT AND PAYROLL[1/]
NORTH KINGSTOWN GOLF COURSE[2/]
1976

Occupation	Employees Number	Employees Percent	Estimated Annual Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Administrative, and Sales Workers	3	30%	N/A	N/A
Clerical and Kindred Workers	--	--	--	--
Craftsmen, Foremen and Kindred Workers	2	20%	N/A	N/A
Operatives, Including Transport	--	--	--	--
Service Workers	--	--	--	--
Laborers	5	50%	N/A	N/A
Total	10	100%	$9,500[3/]	$.095

1/ Employment varies between 5 and 20 depending on the time of year. Some workers are paid using CETA funds.

2/ Includes other recreational uses by the town and their accompanying employment.

3/ Estimates by Gladstone Associates using the 1972 Census of Selected Service Industries figures for payroll and employment for Public Golf Courses in Rhode Island.

N/A = Not Available.

Source: Mr. Edwin J. Coles, Recreation Director, Town of North Kingstown; Gladstone Associates.

EMPLOYMENT AND PAYROLL

F.A.A.

1976

Occupation	Employees Number	Employees Percent	Estimated Annual Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Administrative, and Sales Workers	57	98%	$21,900	$1.248
Clerical and Kindred Workers	1	2%	N/A	N/A
Craftsmen, Foremen and Kindred Workers	--	--	--	--
Operatives, Including Transport	--	--	--	--
Service Workers	--	--	--	--
Laborers	--	--	--	--
Total	58	100%	$21,700	$1.256

N/A = Not Available.

Source: Conversation with F.A.A. officials; Gladstone Associates.

EMPLOYMENT AND PAYROLL

RHODE ISLAND ARMY NATIONAL GUARD

1976

Occupation	Employees Number	Employees Percent	Estimated[1/] Annual Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Administrative, and Sales Workers	40	67%	$12,800	$.512
Clerical and Kindred Workers	1	2%	N/A	N/A
Craftsmen, Foremen and Kindred Workers	19	31%	$13,200	$.251
Operatives, Including Transport	--	--	--	--
Service Workers	--	--	--	--
Laborers	--	--	--	--
Total	60	100%	$12,850	$.771

1/ Estimates by Gladstone Associates using Army National Guard estimates for specific occupations.

N/A = Not Available.

Source: Conversation with Captain Santoro, Technician Personnel Office, Rhode Island National Guard; Gladstone Associates.

TECHNICAL APPENDIX B

BACKGROUND OIL SUPPORT INDUSTRY DATA

- Overview of Marketability
- Phasing and Employment

COASTAL ZONE INFORMATION CENTER

TECHNICAL APPENDIX B
BACKGROUND OIL SUPPORT INDUSTRY DATA

Onshore support facilities for Outer Continental Shelf petroleum exploration and production have been examined in terms of: (1) supportable activities for Quonset Point/Davisville, and (2) implied on-site employment likely over time. Each of these issues was discussed generally in the main report, the former in Chapter IV and the latter in Chapter VI.

Overview of Marketability

Our estimates of the likely OCS-related onshore support facilities, as shown in the tables following, are based upon published information in the New England River Basins Commission Factbook and also on the Woodward-Clyde Associates study of the Mid-Atlantic region. Estimates are made for land and waterfront usage for the major types of onshore support facilities.

For each of the major types of facilities, the specific considerations underlying our judgements are detailed in the paragraphs below.

Temporary Service Bases -- It is very likely that Quonset Point/Davisville could accommodate all the land and waterfront space requirements for these facilities. Specifically, these are established during the exploratory phase and therefore not contingent upon find level. There is a very strong probability that up to five temporary service bases will be established, and (based upon the experience to date) it is very likely that most of these could be attracted to Quonset Point/Davisville.

Permanent Service Bases -- As the probability for a medium or high find increases, the intensity of service base activities also increases. The temporary bases are then expanded (assuming suitable land is available) and take on a more permanent nature. At Quonset Point/Davisville, it is quite possible that virtually all the permanent service base land requirements could be met at all find levels. Also, it appears that waterfront usage requirements could be accommodated, assuming joint usage of pier space is possible. Services provided at a permanent base here could be used for either Georges Bank or the Baltimore Canyon.

Platform Fabrication Yards -- Although the NERBC report does not indicate a platform fabrication yard to serve Georges Bank, Brown and Root has expressed strong interest in building a modest size yard -- on about 100 acres at Davisville. Accordingly, we have planned for this use.

Platform Installation Service Bases -- It is certainly possible that Quonset Point/Davisville could accommodate this activity. According to our source data, however, only 20-30 acres and approximately 200 feet of marginal wharf space would be required.

Pipelines and Landfalls -- The primary criterion in selecting a landfall site is proximity to the field. On this basis, it would seem very likely that alternative landfall sites exist which are better located than the Quonset Point/Davisville facility, and therefore these are not expected to occur here.

Pipeline Installation Service Bases -- Assuming that a pipeline is actually constructed, there would be a need for a service base for the required vessels and crews. This facility would be very similar to the service bases mentioned above and would likely coexist very well with them.

Pipe Coating Yards -- Again this assumes that a pipeline is eventually constructed. In this event, it appears that a pipe coating yard could be accommodated at Quonset Point/Davisville. The major proportion (95 percent) of the land required for this facility would be used for open storage. More critical, however, is a requirement for usage of 750 feet of marginal wharf space for the duration of the pipe laying activities.

Gas Processing Plant -- Depending upon the find levels, it is conceivable that a gas processing plant could be located at Quonset Point/Davisville. However, there are several logistical/transportation constraints, as well as potentially severe land use conflicts at the site. Therefore, a gas processing plant was not included.

Oil Refinery -- Because of the existing refining capacity in New Jersey and Pennsylvania, it is not considered likely that a new refinery would be located in New England to serve only offshore oil. Moreover, even if a new refinery was to be located in New England, the land shortage and incompatibility with other uses at Quonset Point/Davisville would likely preclude its location there.

Marine Terminals -- A marine terminal is established to supply a refinery or to load tankers from a landfall site. Since it is unlikely that either a refinery or a landfall would be located at Quonset Point/Davisville, it was also considered unlikely that a marine terminal would be located there.

Phasing and Employment

After this general overview had been completed, three alternative "mixes" of onshore oil support facilities were analyzed.

Alternative A was to locate a platform fabrication yard, a platform installation service base, a pipe coating yard, a pipeline installation service base, and permanent service bases at Quonset Point/Davisville. Alternative B included only a platform fabrication yard, a platform installation service base, and permanent service bases, and alternative C assumed that all of the land available for oil-related uses went for permanent service bases.

These three alternatives were studied to determine whether the implied capture percentages of total onshore New England activity were realistic and also to see which mix produced the most jobs. Since the above referenced capture percentages only express Quonset Point/Davisville as a percent of Georges Bank activity (rather than as a percent of both Georges Bank and Mid-Atlantic activity), these were used as guidelines to insure that the magnitude of the onshore facilities programmed here was reasonable.

It is important to re-emphasize that the oil companies have expressed a strong desire to service both Georges Bank and the Mid-Atlantic region from a Quonset Point/Davisville location. Indeed, as a further test of reasonableness, the Department of Economic Development showed the land use plans for the alignment and mix of oil support facilities to various oil company officials and received confirmation that the scale and configuration were appropriate.

The next step in the planning process was to examine the timing of each of the onshore support activities and to scale the accompanying employment buildup. The New England River Basins Commissions report on Onshore Facilities Related to Offshore Oil and Gas Development was the principal source document. Detailed tables showing land use and employment in each year for each oil support facility were used to predict the amount of employment at Quonset for each use in each year.

Simply put, employment is estimated in direct proportion to the amount of land being used at Quonset compared to overall land needs for each support activity. For example, if Quonset Point/Davisville was to provide 30 percent of the land needed for a specific onshore support facility, it was assumed that 30 percent of total New England employment in that activity would accrue to the base. Thus, our phasing of the employment buildup for each oil support activity is keyed directly to NERBC.

With respect to a platform fabrication yard additional assumptions were made. NERBC stated that such a facility would operate from years 4 to 13 with peak operation during years 7 and 8. First, we adjusted NERBC's schedule of the number of platforms constructed each year to reflect Brown and Root's suggested peak production level of 6 platforms a year. Next we applied NERBC's figure of 250 employees per platform per year to this schedule, thus arriving at a phased employment buildup. For instance, in year 4, two platforms would be built with 500 people being employed. This would increase until, in years 7 and 8, six platforms a year would be built with 1,500 employees working at the facility. In year 13 the last four platforms would be built and 1,000 people would be employed and by year 14 this activity will have ceased.

Finally, the short duration of some of the oil support activities implies that reuse of some of the land is possible after the oil companies vacate. And, in fact, the assumptions underlying this reuse are discussed in Techanical Appendix III following.

OVERVIEW OF MARKETABILITY

INVENTORY OF OCS RELATED ONSHORE SUPPORT FACILITIES
ALTERNATIVE "FIND" SCENARIOS

Oil Support Facilities	Number of Facilities				Land Use (Acres)			
	High 1/	Med. 2	No 3/	Mid-Atl. 4/	High 1/	Med. 2/	No 3/	Mid-Atl. 4/
Service Bases:								
Temporary	4-5	4-5	4-5	1	75	75	75	39
Permanent 5/	10-20	6-12	0	5.5	500	300	0	487.5
Platform Fabrication Yard	1	0	0	1	200	0	0	1,000
Platform Installation Service Base	1	1	0		30	20	0	
Pipelines and Landfalls	6	2	0	6 6/	6	2	0	240 6/
Pipeline Installation Service Base	1	1	0	N/A	40	30	0	N/A
Pipe Coating Yard	2	1	0	N/A	200	100	0	N/A
Gas Processing Plants	6	2	0	8	345	120	0	600
Marine Terminals	1	0	0	2 7/	100	0	0	80
Refinery	1	0	0	0	1,000	0	0	0
Totals	--	--	--	--	2,500	650	75	N/A

1/ NERBC-Based on U.S.G.S. estimate of 2.4 billion barrels of oil, 12.5 trillion cubic feet of gas (5% probability).
2/ NERBC-Based on U.S.G.S. estimate of 0.9 billion barrels of oil, 4.2 trillion cubic feet of gas (35% probability).
3/ NERBC-Exploration occurs, but no commercial quantities are discovered (60% probability)
4/ Woodward-Clyde-Based on U.S.G.S. estimate of 6.0 billion barrels of oil, 32.0 trillion cubic feet of gas--This was U.S.G.S. estimate prior to May, 1975 and which has since been reduced.

5/ Aggregate of Woodward-Clyde categories of service support for development rigs, operations bases, and offices.
6/ Woodward-Clyde estimated 6 pipeline terminals which included storage and pumping facilities not found under NERBC landfalls--hence, acreage is much greater.
7/ Woodward-Clyde estimated 2 pipeline terminals with barge facilities. These would seem to be equivalent to NERBC definition of marine terminals.

Source: NERBC-RALI Project, Onshore Facilities Related to Offshore Oil and Gas Development (Georges Bank); Woodward-Clyde, Mid-Atlantic Regional Study; Gladstone Associates.

OCS RELATED ONSHORE SUPPORT FACILITIES
ESTIMATES OF QUONSET/DAVISVILLE MAXIMUM CAPTURE

Oil Support Facilities	Number of Facilities				Land Use (Acres)			
	High 1/	Med. 2/	No 3/	Mid-Atl. 4/	High 1/	Med. 2/	No 3/	Mid-Atl. 4/
Service Bases:								
Temporary	2-5	2-5	2-5	0-20% 6/	30-75	30-75	30-75	0-8
Permanent 5/	4-12	4-12	--	1-2	200-300	200-300	--	90-180
Platform Fabrication Yard	1	1	--	1	100	100	--	100
Platform Installation Service Base	1	1	--	0-20% 6/	30	20	0	N/A
Pipelines and Landfalls	--	--	--	--	--	--	--	--
Pipeline Installation Service Base	1	1	--	N/A	40	30	0	N/A
Pipe Coating Yard	1	1	--	N/A	100	100	0	N/A
Gas Processing Plants	0-1	--	--	--	0-60	0	0	0
Marine Terminals	--	--	--	--	--	--	--	--
Refinery	--	--	--	--	--	--	--	--
Totals	--	--	--	--	500-705	480-625	30-75	190-288

1/ NERBC-Based on U.S.G.S. estimate of 2.4 billion barrels of oil, 12.5 trillion cubic feet of gas (5% probability).
2/ NERBC-Based on U.S.G.S. estimate of 0.9 billion barrels of oil, 4.2 trillion cubic feet of gas (35% probability).
3/ NERBC-Exploration occurs, but no commercial quantities are discovered (60% probability).
4/ Woodward-Clyde-Based on U.S.G.S. estimate of 6.0 billion barrels of oil, 32 trillion cubic feet of gas (U.S.G.S. estimate prior to May, 1975 and which has since been reduced.
5/ Aggregate of Woodward-Clyde categories of service support for development rigs, operation bases, and offices.
6/ Percentage of services performed at Quonset/Davisville.

Source: NERBC-RALI Project, Onshore Facilities Related to Offshore Oil and Gas Development (Georges Bank); Woodward-Clyde, Mid-Atlantic Regional Study; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

ESTIMATES OF OCS-RELATED ONSHORE SUPPORT FACILITIES FROM MEDIUM FIND GEORGES BANK AND MID-ATLANTIC SCENARIO AT QUONSET POINT/DAVISVILLE

Oil Support Facilities	Total[1/]		Quonset Capture (Maximum)[2/]	
	Number of Facilities	Land Use (Acres)	Number of Facilities	Land Use (Acres)
Service Bases:				
Temporary	5-6	114	2-5	30-80
Permanent	10-18	790	5-14	290-480
Platform Fabrication Yard	1	1,000	1	100
Platform Installation Service Base	2	20	1	20
Pipelines and Landfalls	8	242	0	--
Pipeline Installation Service Base	1[3/]	20[3/]	1+	20+
Pipe Coating Yard	1[3/]	100[3/]	1+	100+
Gas Processing Plants	10	720	0	--
Marine Terminals	2	80	0	--
Refinery	0	0	0	--
Totals	--	3,086+	--	560-800+

1/ NERBC-RALI Project, Onshore Facilities Related to Offshore Oil and Gas Development (Georges Bank); Woodward-Clyde, Mid-Altantic Regional Study

2/ Gladstone Associates

3/ Figures are for Georges Bank only. Mid-Atlantic region figures are not available.

PHASING AND EMPLOYMENT

COASTAL ZONE INFORMATION CENTER

PERMANENT SERVICE BASE REQUIREMENTS

ESTIMATES FOR NEW ENGLAND

HIGH FIND GEORGES BANK

Year	Land Use (Acres)	Linear Wharf (Feet)	Total Employ-ment	Resident Employ-ment
0	0	0	0	0
1	0	0	0	0
2	75	1,400	237	119
3	175	1,800	317	162
4	400	2,200	386	205
5	400	2,200	387	217
6	400	3,000	542	325
7	400	3,800	715	450
8	400	5,400	1,033	682
9	400	7,200	1,391	946
10	500	9,000	1,573	1,101
11	500	11,000	1,728	1,244
12	500	12,600	1,736	1,285
13	500	13,800	1,725	1,295
14	500	14,600	1,541	1,171
15	500	14,400	1,213	934
16	500	14,400	982	766
17	500	14,200	795	628
18	500	14,200	846	677
19	500	13,600	840	672
20	500	13,600	875	700
21	500	13,000	906	725
22	500	12,400	834	667
23	500	11,800	745	596
24	500	10,800	673	538
25	500	9,600	568	454

Source: NERBC-RALI, Onshore Facilities Related to Offshore Oil and Gas Development: Estimates for New England

PERMANENT SERVICE BASE REQUIREMENTS

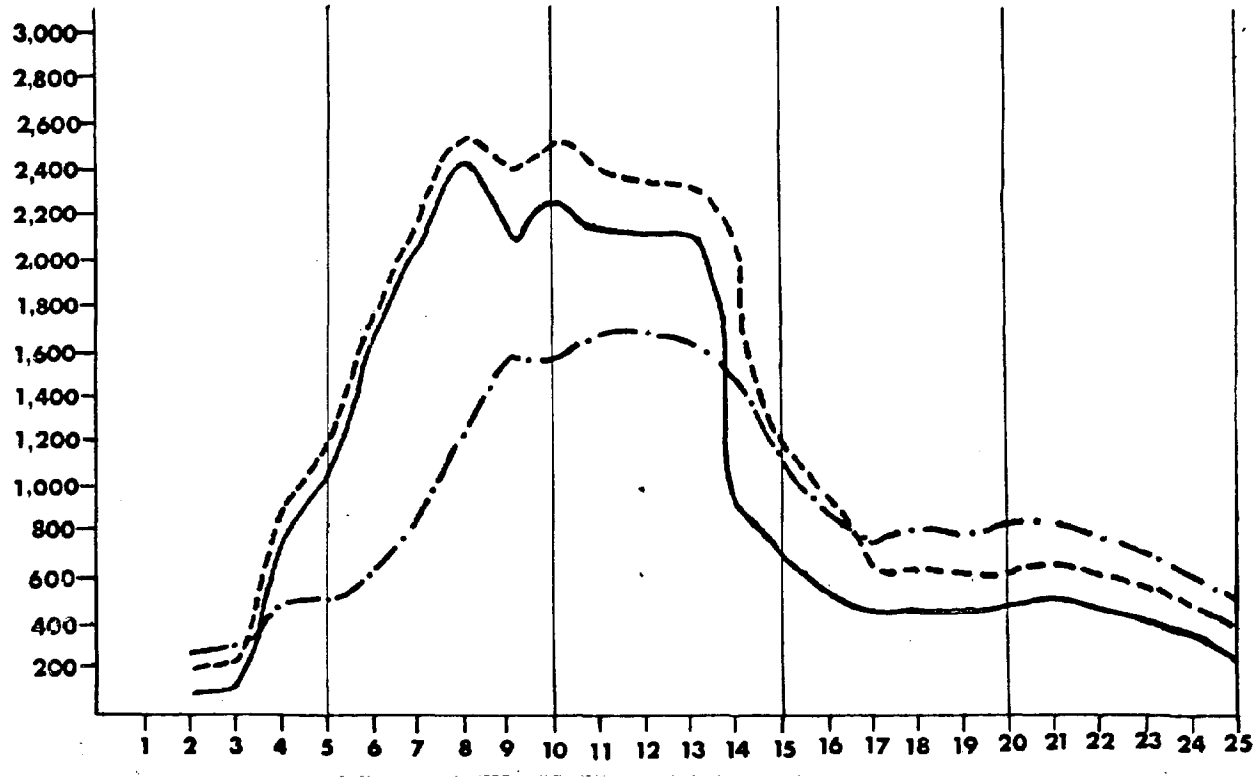
ESTIMATE FOR NEW ENGLAND

MEDIUM FIND GEORGES BANK

Year	Land Use (Acres)	Linear Wharf (Feet)	Total Employ-ment	Resident Employ-ment
0	0	0	0	0
1	0	0	0	0
2	50	1,400	237	119
3	75	1,800	317	162
4	100	2,200	386	205
5	100	2,200	380	213
6	200	2,400	401	241
7	200	3,000	472	297
8	250	3,400	516	341
9	300	5,000	894	608
10	300	6,200	1,076	753
11	300	6,400	1,057	761
12	300	6,600	846	626
13	300	6,200	485	364
14	300	5,800	413	314
15	300	5,600	292	225
16	300	5,600	307	239
17	300	5,400	346	274
18	300	5,400	335	268
19	300	5,200	383	306
20	300	5,200	483	386
21	300	4,200	418	334
22	300	4,200	319	314
23	300	4,000	363	290
24	200	3,800	378	290
25	200	3,200	283	226

Source: NERBC-RALI, Onshore Facilities Related to Offshore Oil and Gas Development - Estimates for New England

TOTAL OIL-RELATED EMPLOYMENT
DEVELOPMENT SCENARIO I
HIGH FIND GEORGES BANK



OIL FACILITY MIXES AT QUONSET POINT/DAVISVILLE

———— ALTERNATIVE A -- includes platform fabrication yard, platform installation service base, pipe coating yard, pipeline installation service base, and permanent service bases.

– – – – – ALTERNATIVE B -- includes platform fabrication yard, platform installation service base, and permanent service bases.

—·—·— ALTERNATIVE C -- includes permanent service bases only.

Source: NERBC-RALI; Gladstone Associates.

TOTAL OIL-RELATED EMPLOYMENT
DEVELOPMENT SCENARIO I
HIGH FIND GEORGES BANK

YEAR:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Alternative A																									
Platform Fabrication Yard	--	--	--	500	750	1,250	1,500	1,500	1,250	1,250	1,000	1,000	1,000	--	--	--	--	--	--	--	--	--	--	--	--
Platform Installation Ser. Base	--	--	--	--	15	20	40	60	60	60	60	40	35	--	--	--	--	--	--	--	--	--	--	--	--
Pipe Coating Yard	--	--	--	--	--	--	--	120	50	70	70	80	65	45	--	--	--	--	--	--	--	--	--	--	--
Pipeline Installation Ser. Base	--	--	--	--	--	--	15	30	15	20	20	20	20	15	--	--	--	--	--	--	--	--	--	--	--
Permanent Ser. Bases	--	95	125	260	260	365	485	700	750	850	935	935	930	830	660	530	425	455	450	475	490	450	400	365	305
Total		95	125	760	1,025	1,635	2,040	2,410	2,125	2,250	2,085	2,075	2,050	890	660	530	425	455	450	475	490	450	400	365	305
Alternative B																									
Platform Fabrication	--	--	--	500	750	1,250	1,500	1,500	1,250	1,250	1,000	1,000	1,000	--	--	--	--	--	--	--	--	--	--	--	--
Platform Installation Ser. Base	--	--	--	--	15	20	40	60	60	60	60	40	35	--	--	--	--	--	--	--	--	--	--	--	--
Permanent Ser. Bases	--	160	200	370	370	520	690	995	1,070	1,210	1,330	1,335	1,330	1,185	935	755	610	650	645	675	690	635	565	510	435
Total		160	200	870	1,135	1,790	2,230	2,555	2,380	2,520	2,390	2,375	2,365	1,185	935	755	610	650	645	675	690	635	565	510	435
Alternative C																									
Permanent Ser. Bases	--	237	317	446	447	627	885	1,203	1,571	1,525	1,675	1,685	1,675	1,445	1,180	950	770	820	810	850	880	810	720	650	550

Source: NERBC-RALI, Onshore Facilities Related to Offshore Oil and Gas Development - Estimates for New England; Gladstone Associates

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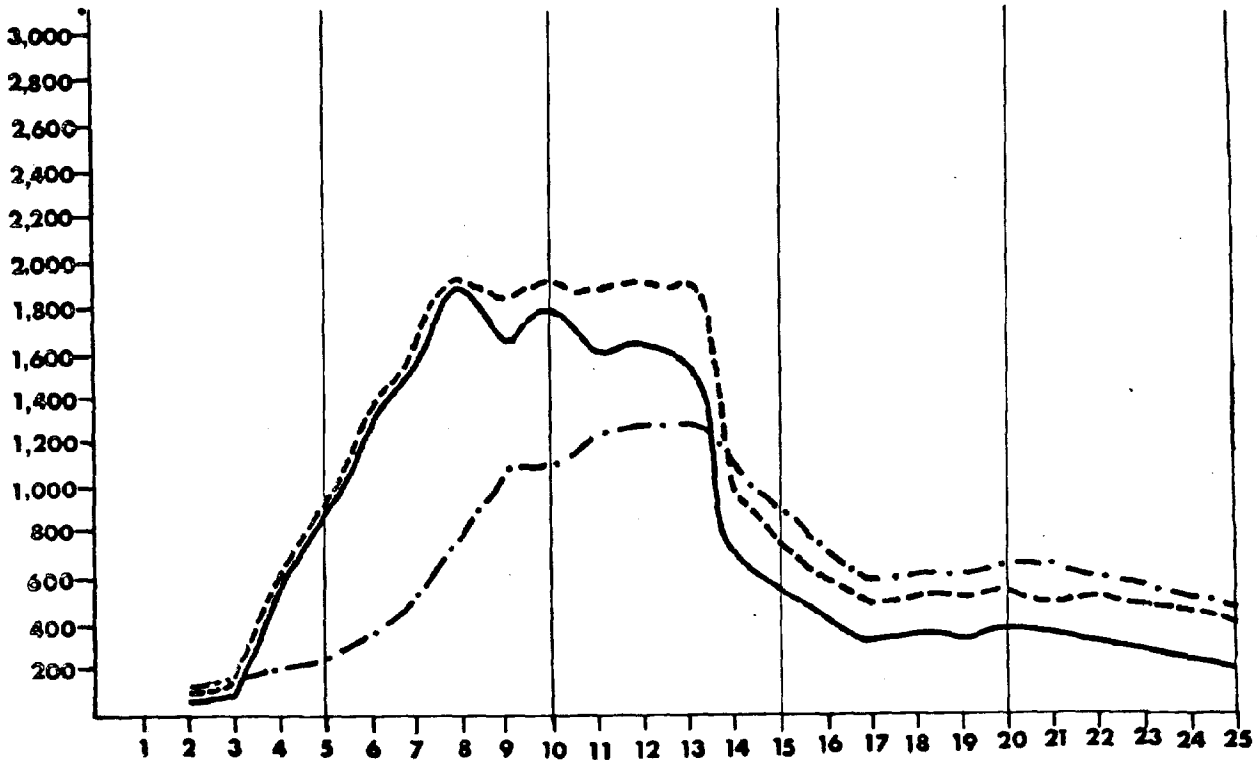
RESIDENT OIL-RELATED EMPLOYMENT
DEVELOPMENT SCENARIO I
HIGH FIND GEORGES BANK



OIL FACILITY MIXES AT QUONSET POINT/DAVISVILLE

——— ALTERNATIVE A -- includes platform fabrication yard, platform installation service base, pipe coating yard, pipeline installation service base, and permanent service bases.

– – – – – ALTERNATIVE B -- includes platform fabrication yard, platform installation service base, and permanent service bases.

—·—·—· ALTERNATIVE C -- includes permanent service bases only.

Source: NERBC-RALI; Gladstone Associates.

RESIDENT OIL-RELATED EMPLOYMENT
DEVELOPMENT SCENARIO I
HIGH FIND GEORGES BANK

YEAR:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Alternative A																									
Platform Fabrication Yard	--	--	--	400	600	1,000	1,200	1,200	1,000	1,000	800	800	800	--	--	--	--	--	--	--	--	--	--	--	--
Platform Installation Ser. Base	--	--	--	--	10	10	25	40	40	40	40	30	25	--	--	--	--	--	--	--	--	--	--	--	--
Pipe Coating Yard	--	--	--	--	--	--	--	110	45	60	60	70	55	40	--	--	--	--	--	--	--	--	--	--	--
Pipeline Installation Ser. Base	--	--	--	--	--	--	10	20	10	15	15	15	15	10	--	--	--	--	--	--	--	--	--	--	--
Permanent Ser. Base	--	50	65	140	145	220	305	460	510	595	675	690	700	630	510	415	335	365	360	380	390	360	320	290	245
Total		50	65	540	755	1,230	1,540	1,830	1,605	1,710	1,590	1,605	1,595	680	510	415	335	365	360	380	390	360	320	290	245
Alternative B																									
Platform Fabrication	--	--	--	400	600	1,000	1,200	1,200	1,000	1,000	800	800	800	--	--	--	--	--	--	--	--	--	--	--	--
Platform Installation Ser. Base	--	--	--	--	10	10	25	40	40	40	40	30	25	--	--	--	--	--	--	--	--	--	--	--	--
Permanent Ser. Base	--	80	100	195	205	310	435	655	725	845	960	990	1,000	900	720	590	480	520	515	540	560	515	460	415	350
		80	100	595	815	1,320	1,660	1,895	1,765	1,885	1,800	1,820	1,825	900	720	590	480	520	515	540	560	515	460	415	350
Alternative C																									
Permanent Ser. Base	--	119	162	235	250	375	555	795	1,070	1,065	1,205	1,245	1,255	1,100	910	740	610	655	650	680	705	645	580	520	440

Source: NERBC-RALI, Onshore Facilities Related to Offshore Oil and Gas Development - Estimates for New England; Gladstone Associates

DEVELOPMENT SCENARIO I -- HIGH FIND OIL SUPPORT

ASSUMPTIONS ON LAND AVAILABLE

Davisville Piers	85 acres
Area Adjacent to Davisville Piers (Navy retained)	85 acres
Dogpatch Beach Area	30 acres
Flightpath Area	150 acres
Revenue Producing Area	24 acres
Warehousing Area	70 acres
Personnel Support Area	40 acres
Total	484 acres

Direct Oil Support Employment

Three alternatives were examined with respect to employment.

Alternative A

1. Platform Fabrication Yard -- An 85 acre facility which at peak operation will produce 6 platforms per year. Employment is based on the number of platforms built in a given year (250 per platform - NERBC). The schedule of platform fabrication production is based on an adjustment of NERBC's expected New England facility (high find) which would occupy 200 acres and produce 12 platforms during peak production. The result of this shows peak employment at 1,500 jobs. This may be a conservative estimate as Brown and Root has said peak employment at Davisville Piers could be as high as 2,000.

2. Platform Installation Service Base -- A 15 acre facility is planned, representing one of two New England platform installation service bases. Operations begin in year 5 and continue for nine years. Employment is estimated at one-half of the New England employment for platform installation service bases.

3. Pipe Coating Yard -- A one hundred acre facility (or one of two such pipe coating yards expected in New England) would begin operation in year 8 and continue for seven years. Employment is estimated at one-half of all employment for all such facilities expected in New England.

4. Pipeline Installation Service Base -- A fifteen acre facility (one of two such facilities expected for New England) would begin operation in year 7, continue for eight years, and would account for one-half of New England employment in this use.

5. Permanent Service Bases -- These facilities would absorb 269 acres at Quonset Point/Davisville or the balance of indicated oil support land. The 269 acres implies that 54 percent of the total 500 acres needed to serve Georges Bank alone, would occur at Quonset Point/Davisville. Employment is based on this same 54 percent.

ALTERNATIVE B

1. Platform Fabrication Yard -- Same as Alternative A.

2. Platform Installation Service Base -- Same as Alternative A.

3 & 4. Pipecoating Yard and Pipeline Installation Service Base -- Not considered in this alternative.

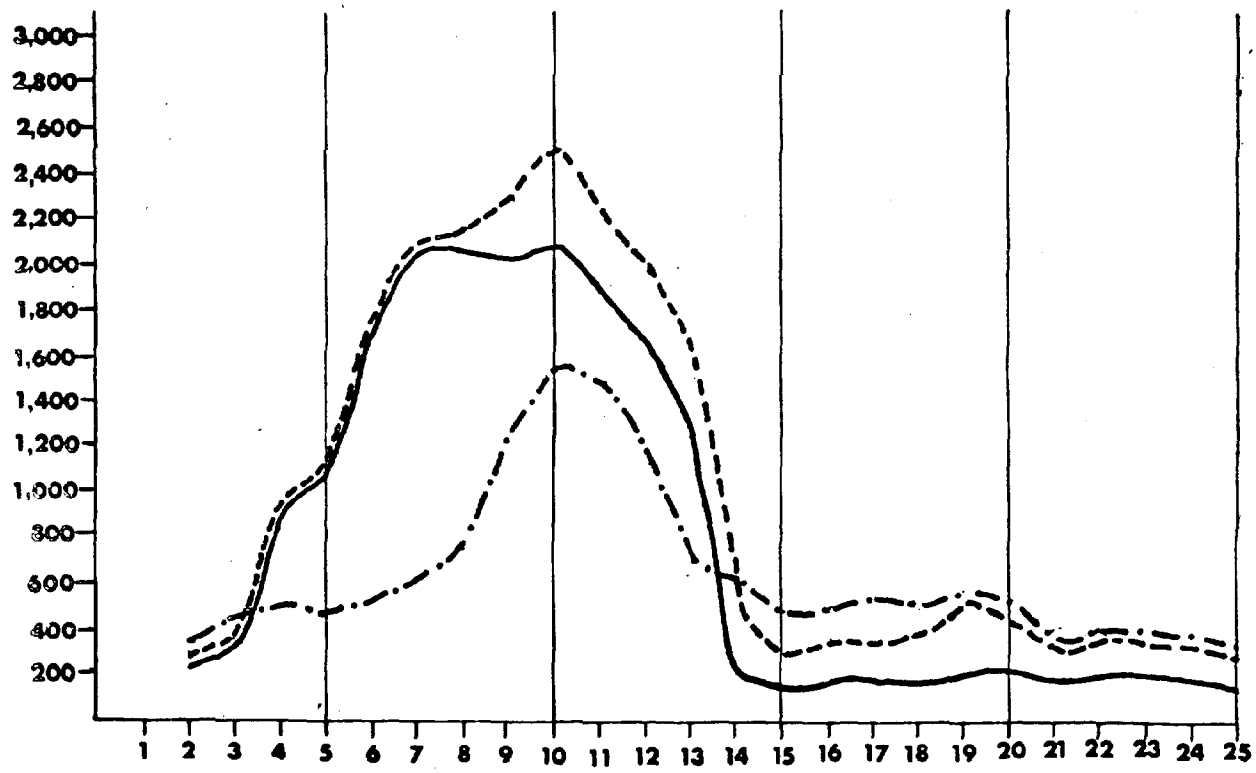
5. Permanent Service Bases -- These facilities would absorb a total of 384 acres at Quonset Point/Davisville under this alternative or a 77 percent share of total Georges Bank activity.

ALTERNATIVE C

1-4. Platform fabrication yards, platform installation service bases, pipe coating yards, and pipeline installation have not been considered in this alternative. Hence, this alternative is rather unlikely, since Brown and Root is already considering Davisville Piers for a construction facility.

5. Permanent Service Bases -- All of the land designated for oil support facilities (484 acres) is allocated to permanent service base facilities in this alternative. Here, Quonset Point/Davisville would account for virtually all the service base activity needed for Georges Bank.

TOTAL OIL-RELATED EMPLOYMENT
DEVELOPMENT SCENARIO II
MEDIUM FIND GEORGES BANK



OIL FACILITY MIXES AT QUONSET POINT/DAVISVILLE

———— ALTERNATIVE A -- includes platform fabrication yard, platform installation service base, pipe coating yard, pipeline installation service base, and permanent service bases.

– – – – ALTERNATIVE B -- includes platform fabrication yard, platform installation service base, and permanent service bases.

—·—·— ALTERNATIVE C -- includes permanent service bases only.

Source: NERBC-RALI; Gladstone Associates.

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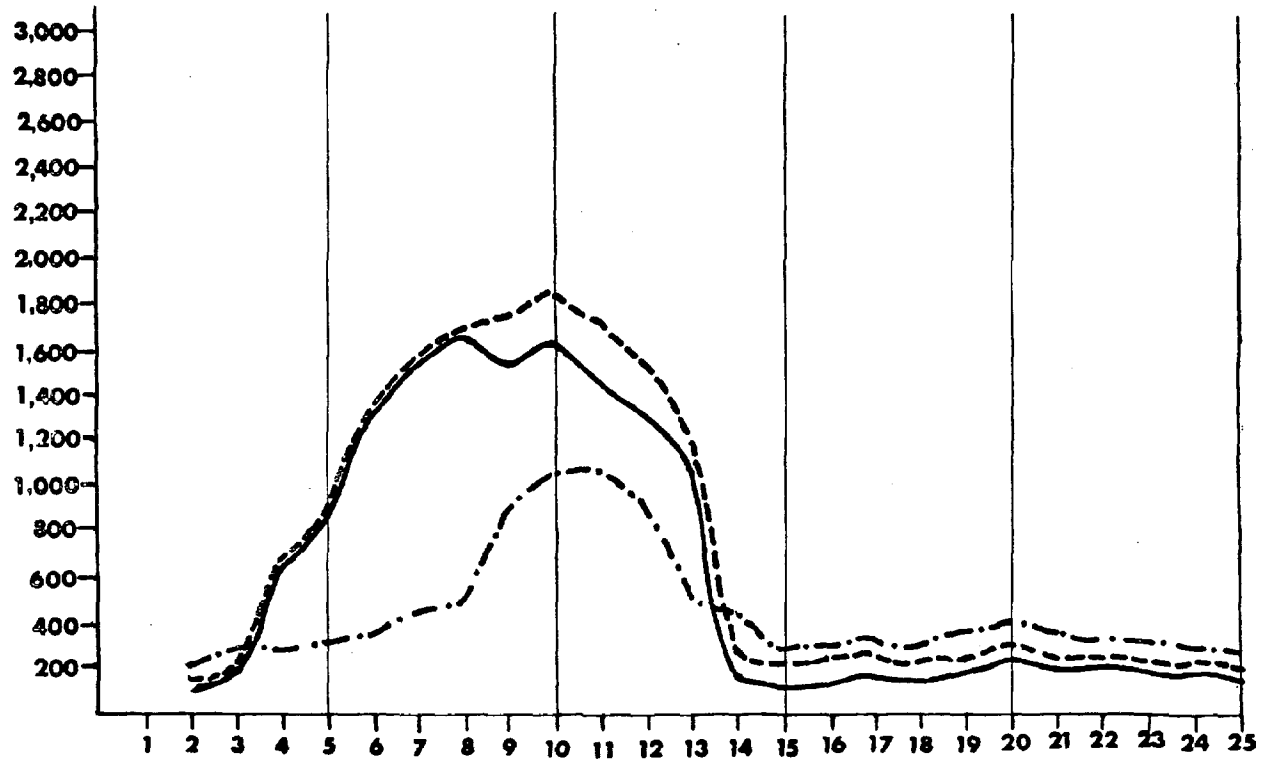
TOTAL OIL-RELATED EMPLOYMENT
DEVELOPMENT SCENARIO II
MEDIUM FIND GEORGES BANK

YEAR:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Alternative A																									
Platform Fabrication Yard	--	--	--	500	750	1,250	1,500	1,500	1,250	1,250	1,000	1,000	1,000	--	--	--	--	--	--	--	--	--	--	--	--
Platform Installation Ser. Base	--	--	--	--	35	35	30	104	74	26	35	35	35	--	--	--	--	--	--	--	--	--	--	--	--
Pipe Coating Yard	--	--	--	--	--	--	--	--	121	95	100	35	--	--	--	--	--	--	--	--	--	--	--	--	--
Pipeline Installation Ser. Base	--	--	--	--	--	--	--	25	38	25	25	25	--	--	--	--	--	--	--	--	--	--	--	--	--
Permanent Ser. Bases	--	237	317	386	380	401	472	500	580	700	685	550	315	270	190	200	225	220	250	315	270	205	235	245	185
Total		237	317	886	1,165	1,686	2,002	2,129	2,063	2,096	1,845	1,645	1,350	270	190	200	225	220	250	315	270	205	235	245	185
Alternative B																									
Platform Fabrication	--	--	--	500	750	1,250	1,500	1,500	1,250	1,250	1,000	1,000	1,000	--	--	--	--	--	--	--	--	--	--	--	--
Platform Installation Ser. Base	--	--	--	--	35	35	30	105	75	25	35	35	35	--	--	--	--	--	--	--	--	--	--	--	--
Permanent Ser. Bases	--	250	335	405	400	420	495	540	940	1,130	1,110	890	510	435	305	320	365	350	400	505	440	335	380	395	295
		250	335	905	1,185	1,750	2,025	2,145	2,265	2,405	2,145	1,925	1,545	435	305	320	365	350	400	505	440	335	380	395	295
Alternative C																									
Permanent Ser. Base	--	330	445	540	530	560	660	720	1,250	1,505	1,480	1,185	680	580	410	430	485	470	535	675	585	445	510	530	395

Source: NERBC-RALI, Onshore Facilities Related to Offshore Oil and Gas Development - Estimates for New England; Gladstone Associates.

RESIDENT OIL-RELATED EMPLOYMENT
DEVELOPMENT SCENARIO II
MEDIUM FIND GEORGES BANK



OIL FACILITY MIXES AT QUONSET POINT/DAVISVILLE

——— ALTERNATIVE A -- includes platform fabrication yard, platform installation service base, pipe coating yard, pipeline installation service base, and permanent service bases.

– – – – – ALTERNATIVE B -- includes platform fabrication yard, platform installation service base, and permanent service bases.

—·—·—· ALTERNATIVE C -- includes permanent service bases only.

Source: NERBC-RALI; Gladstone Associates.

RESIDENT OIL-RELATED EMPLOYMENT
DEVELOPMENT SCENARIO II
MEDIUM FIND GEORGES BANK

YEAR:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Alternative A																									
Platform Fabrication Yard	--	--	--	400	600	1,000	1,200	1,200	1,000	1,000	800	800	800	--	--	--	--	--	--	--	--	--	--	--	--
Platform Installation Ser. Base	--	--	--	--	--	21	19	69	50	18	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pipe Coating Yard	--	--	--	--	--	--	--	--	109	86	90	32	--	--	--	--	--	--	--	--	--	--	--	--	--
Pipeline Installation Ser. Base	--	--	--	--	--	--	--	17	26	18	18	19	--	--	--	--	--	--	--	--	--	--	--	--	--
Permanent Ser. Bases	--	119 119	162 162	205 605	213 813	241 1,262	297 1,516	330 1,616	395 1,580	490 1,612	495 1,429	405 1,256	235 1,035	205 205	145 145	155 155	180 180	175 175	200 200	250 250	215 215	205 205	190 190	190 190	145 145
Alternative B																									
Platform Fabrication	--	--	--	400	600	1,000	1,200	1,200	1,000	1,000	800	800	800	--	--	--	--	--	--	--	--	--	--	--	--
Platform Installation Ser. Base	--	--	--	--	--	21	19	69	50	18	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Permanent Ser. Bases	--	125 125	170 170	215 615	225 825	255 1,276	310 1,529	360 1,624	640 1,690	790 1,808	800 1,625	655 1,455	380 1,180	330 330	235 235	250 250	290 290	275 275	321 321	405 405	350 350	330 330	305 305	305 305	235 235
Alternative C																									
Permanent Ser. Bases	--	165	225	285	300	335	415	475	850	1,055	1,065	875	510	440	315	335	385	375	430	540	470	440	405	405	315

Source: NERBC-RALI, Onshore Facilities Related to Offshore Oil and Gas Development - Estimates for New England; Gladstone Associates.

DEVELOPMENT SCENARIO II -- MIXED USE-INDUSTRIAL AND OIL SUPPORT

ASSUMPTIONS ON LAND AVAILABLE

Davisville Piers	85 acres
Area Adjacent to Davisville Piers (Navy retained)	85 acres
Dogpatch Beach Area	30 acres
Flightpath Area	150 acres
Warehousing Area	70 acres
Total	420 acres

Direct Oil Support Employment

Alternative A

1. Platform Fabrication Yard -- An 85 acre facility which at peak operation will produce 6 platforms per year. Although NERBC does not expect that there will be a need for a platform fabrication facility in New England under a medium find, Brown and Root has indicated continued high interest in Quonset even if only a medium find occurs. This facility is thus included, and it is assumed to be basically the same size as in the High Find Scenario. Implied here is that demand from both Georges Bank and the Mid-Atlantic would be met by the Quonset facility, and accordingly we assume that the resulting employment and number of platforms to be constructed are the same as in the High Find Scenario.

2. Platform Installation Service Bases -- A 20 acre facility is planned including all of this type of activity anticipated by NERBC for a medium find. Employment estimates have been extended to years 5, 12 and 13, however, to account for the existence of a platform fabrication facility, a supposition NERBC did not make. Employment at Quonset for this type of use is greater than in the high find because this would be one medium-sized facility rather than one of two smaller facilities.

3. Pipe Coating Yard -- This would be a one hundred acre facility and would include all of the expected demand for a medium find in the Georges Bank (NERBC). Employment and phasing are based directly on NERBC projections.

4. Pipeline Installation Service Base -- This would be a twenty acre facility or all of the demand expected for the Georges Bank per NERBC. Accordingly, projected employment follows this assumption. Again, this would be one medium-sized facility rather than one of two smaller facilities likely under the High Find.

5. Permanent Service Bases -- The remaining 195 acres are designated as permanent service bases. Peak land usage is reached quickly and continues through year 23. Employment represents approximately 65 percent of the total employment for medium find.

ALTERNATIVE B

1. Platform Fabrication Yard -- Same as Alternative A.

2. Platform Installation Service Base -- Same as Alternative A.

3 & 4. Pipe coating yard and pipeline installation service base -- Not considered in this alternative.

5. Permanent Service Bases -- The remaining 315 acres are assumed to be used for permanent service base facilities. Peak land usage is not reached in this alternative until year 9 due to the greater capture percentage which is implied. This would represent slightly more land than for the total Georges Bank needs and accordingly implies that at least some of this acreage would be in support of Mid-Atlantic activity. It follows that employment is slightly higher than all of the Georges Bank activity.

ALTERNATIVE C

Given the heavy interest of Brown and Root and given the implied high capture of total (Georges Bank and Mid-Atlantic) service base activity, this alternative is not very likely.

1-4. Platform fabrication yard, platform installation service base, pipe coating yard, and pipeline installation service base -- not included in this alternative.

5. Permanent Service Bases -- All 420 acres would be used for permanent service bases in this alternative. Employment of this amount of land would be roughly 140 percent of Georges Bank activity. This implies that support of all of Georges Bank and much of the Mid-Atlantic would be located at Quonset.

TECHNICAL APPENDIX C

- Direct Impacts
  - -Background Assumptions and Information
  - -Employment Projections
  - -Occupational Mix
  - -Payroll Estimates
- Indirect Impacts

TECHNICAL APPENDIX C

Direct and Indirect Impacts

The data presented below on impact analyses is concerned with the effects of new employment generated at Quonset Point/Davisville. It does not consider existing conditions either on-site or in the surrounding communities; this latter information was contained in Appendix I.

Major Assumptions and Sources of Background Information

Oil-related Uses. Our employment forecasts for petroleum-related components are keyed to research done by the New England River Basins Commission (specifically, the NERBC-RALI report). Quonset's share of onshore employment is linked directly to the number of rigs under production or in service for Georges Bank, while allowing for the likelihood that some Quonset employment would be generated by the Baltimore Canyon region as well. Thus, the oil-related employment forecasts appear firm based on the following elements: 1) consistency with the NERBC approach, 2) the resulting Quonset capture rates of oil-related on-shore activity appear achievable and 3) preliminary indications from industry representatives bear out these judgements.

Non-oil related. The industrial employment forecasts are based on two primary sources: Harbridge House and the Urban Land Institute.

In terms of Harbridge House materials, we utilized both the published information on Target Industries and also unpublished information on expected employment increases within Rhode Island growth industries. We used this data to determine (1) the "likely" mix of industries that would possibly locate at Quonset, and (2) the "likely" importance of one industry versus another. (The specific growth industries considered were electrical machinery, instruments, transportation equipment, machinery, fabricated metal, printing, rubber and plastics, and chemicals.)

The ULI information was taken from a research report (ULI Research Report 21, Industrial Potential of the Central City) which is a prime source on "employment density" in central cities and suburban areas. Although we recognize that "employment density" averages can very considerably from area to area and also within broad industrial groupings, we determined the figures in this ULI report could reasonably be applied to the Quonset situation and we, therefore, used these in combination with the mix of industries derived from Harbridge House forecasts.

Occupational Mix. For both oil-related industries, occupational characteristics were derived from the NERBC-RALI report. Similarly, for the selected general manufacturing and technical industries, percent distributions for the various occupational categories were determined based on the Bureau of Labor Statistics 1974 Industry-Occupational Matrix.

Income. Payroll estimates were made primarily by updating 1969 U. S. Census data with growth rates shown in Bureau of Labor Statistics' Area Wage Survey. In selected instances -- hotel, retail and marina -- more recent 1972 Census of Business data was updated in a similar fashion. Wherever possible,

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particular attention was given to specifically identifying base year income data and appropriate growth rates for each occupational category noted above.

FAR Assumption. In addition, for purposes of this study, we assumed that industrial park facilities at Quonset would have a suburban character, consisting of low rise buildings and an overall low Floor Area Ratio (FAR which is the ratio of building area to land area) of 0.2.

* * *

Applying the above assumptions, specific calculations are illustrated in the following tables.

DIRECT IMPACTS

EMPLOYMENT PROJECTIONS

-General Phasing

-Employment Density

-Scenario III

-Scenario II

-Scenario I

SUMMARY OF ACREAGE ABSORPTION ASSUMPTIONS
QUONSET POINT/DAVISVILLE REUSE
SCENARIO III

Parcel	New Acres Absorbed Years 1-5	Years 6-10	Years 11-15	Years 16-20	Total
Davisville Piers	--	90	10	5	105
Dogpatch/Flightpath	--	160[1/]	20	--	180
West Davisville	45	15	--	--	60
Mill Creek	--	--	37	12	49
Warehousing Area	30	--	13	27	70
Kiefer Park	25	25	18	30	98
Personnel Support Area	--	--	40	--	40
Revenue Producing Area	7	7	8	32	54
Golf Course Area	--	32	23	20	75
Total	107	329	169	126	731

1/ All used as dead storage serving pier area.

Note: Assumptions for non-oil parcels are similar in Scenario I and II to those above; oil-related parcels are keyed to NERBC-RALI report for medium and high finds.

Source: Gladstone Associates

SUMMARY OF REUSE ASSUMPTIONS
QUONSET POINT/DAVISVILLE

Subarea	Acres	Year Reused	Reuse In Scenario I	Reuse In Scenario II
Davisville Piers	85	14	Water-Oriented Industry	Water-Oriented Industry
Warehousing Area	30	14	--	Warehousing
	40	24	--	General Industry
Flightpath	60	24	--	Open Storage
Revenue Producing Area	15	14	General Industry	--
	9	24	General Industry	--
Personnel Support Area	40	24	General Industry	--

Note: These assumptions reflect reuse of oil-related parcels which are phased out during the development period.

Source: Gladstone Associates

EMPLOYMENT DENSITY ESTIMATES
TARGET INDUSTRIES AND GENERAL MANUFACTURING
QUONSET POINT/DAVISVILLE

Industry	Building Square Footage Per Employee[1/]	Target Industry Proportions[2/]	General Manufacturing Proportions[2/]
Electrical Machinery	250	75%	67%
Printing	500	--	2%
Rubber and Plastics	760	--	3%
Machinery	500	5%	3%
Fabricated Metals	860	--	6%
Chemicals	1,000	20%	15%
Glass and Stone	1,450	--	4%
Total	--	100%	100%
Weighted Average S.F. Requirement		410 S.F.	475 S.F.

1/ For suburban industries, from ULI publication, Industrial Potentials of the Central City.

2/ Based on anticipated R.I. employment growth for these industries; from unpublished Harbridge House, Inc. information.

Source: Gladstone Associates

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EMPLOYMENT FORECAST ASSUMPTIONS
DEVELOPMENT SCENARIO III
INDUSTRIAL, COMMERCIAL AND RECREATIONAL LAND USE

SUBAREA

1. Davisville Piers

   A. Years 2-6: Temporary service bases -- exploratory drilling (NERBC).

   B. Years 6-25:

      1. Marina at Allen's Harbor -- 20 acres employing approximately 20 people.

      2. Single-use water-oriented industry -- 85 acres @ 0.2 FAR and 800 S.F./employee.

II. Dogpatch and Flightpath Areas

   A. 180 acres;

   B. Years 6-25: Open storage at 0.6 employee/acre; a start-up of 75% is assumed in year 6 in conjunction with use of Davisville Piers.

III. Warehouse Area

   A. 70 total acres;

   B. Years 1-10: "As is" warehousing use of existing buildings (320,000 S.F. @ 5,170 S.F./employee).

   C. Years 11-25: Continued use of prime building (175,000 S.F.) for warehousing; Technical Park in the remaining 40 acres @ 0.2 FAR and 410 S.F./employee; an absorption of one-third of the acreage is assumed for years 10-15 and two-thirds for years 16-20.

IV. Golf Course Area

   A. Existing recreational use; 66 acres for office use; 150 room motel.

   B. Years 1-25: Golf Course -- 10 employees.

   C. Years 10-25: 150 room motel @ 0.7 employee/room, on 9 acres.

   D. Years 1-5: "As is" use of officer housing for office space (5,000 S.F.) @ 200 S.F./employee.

   E. Years 6-25: Office development @ 0.2 FAR and 200 S.F./employee; absorption of increments of 40,000 S.F. per year is assumed.

V. Personnel Support Area

A. 40 acres are available for industrial use; this acreage does not include the Port Authority and RIANG which are also within the area.

B. Years 1-25: Army National Guard and Port Authority; employment of 214.

C. Years 6-25: Air National Guard employment of 205.

D. Years 11-25: Development of 40 acres for industrial use @ 0.2 FAR and 475 S.F./employee.

VI. Revenue Producing Area

A. 224 acres total; 170 acres presently used by Electric Boat with 30 acres for expansion.

B. Years 1-25: Electric Boat and Electric Boat expansion; presently 5,000 employees.

C. Years 1-25: Ocean State Training Center employment of 12.

D. Years 16-25: Technical Park development of 24 acres.

VII. Kiefer Park Housing Area

A. 98 developable acres.

B. Years 1-25: Technical Park with FAR of 0.2 and 410 S.F./employee.

C. Assumes a phased absorption of 25, 25, 18 and 30 acres respectively for the first four five-year phases.

VIII. North Mill Creek Parcel

A. 49 acres for commercial and industrial development.

B. Years 11-25: Shopping center development on 29 acres in two phases: Phase 1 consists of 150,000 S.F. beginning in year 11; Phase 2 consists of an additional 100,000 S.F. in year 16; assumes 300 S.F. per employee.

C. Years 11-25: Technical Park with FAR of 0.2 and 410 S.F./employee, located on remaining 20 acres.

IX. West Davisville Parcel

A. 90 acres total; conservatively estimate that 60 acres net are developable, due to likelihood of road construction in this area.

B. Years 5-25: Single use industrial development @ 0.2 FAR, 475 S.F./employee. 75% start-up in year 5 is assumed.

ILLUSTRATIVE EMPLOYMENT -- CUMULATIVE
DEVELOPMENT SCENARIO III -- NO OIL
QUONSET POINT/DAVISVILLE

Year	Davisville Piers	Dog Patch Beach and Flightpath Area	Warehousing Area	Golf Course Area	Personnel Support Area	Revenue Producing Area	Kiefer Park Area	North Mill Creek Parcel	West Davisville	Total
1	--	--	40	35	214	5,232	530	--	--	6,051
2	235	--	40	35	214	5,232	530	--	--	6,286
3	200	--	40	35	214	5,232	530	--	--	6,251
4	160	--	60	35	214	5,232	530	--	--	6,231
5	95	80	60	35	214	5,232	530	--	825	7,071
6	750	80	60	210	419	5,452	1,060	--	825	8,856
7	770	80	60	410	419	5,452	1,060	--	825	9,076
8	770	80	60	610	419	5,452	1,060	--	825	9,276
9	770	80	60	810	419	5,452	1,060	--	825	9,476
10	770	95	60	1,115	419	5,452	1,060	--	1,100	10,071
11	770	95	320	1,315	1,155	5,672	1,440	925	1,100	12,792
12	870	95	320	1,515	1,155	5,672	1,440	925	1,100	13,092
13	870	95	320	1,715	1,155	5,672	1,440	925	1,100	13,292
14	870	95	320	1,915	1,155	5,672	1,440	925	1,100	13,492
15	870	95	320	2,115	1,155	5,672	1,440	925	1,100	13,692
16	870	105	890	2,315	1,155	6,402	2,080	1,255	1,100	16,172
17	945	105	890	2,515	1,155	6,402	2,080	1,255	1,100	16,447
18	945	105	890	2,715	1,155	6,402	2,080	1,255	1,100	16,647
19	945	105	890	2,915	1,155	6,402	2,080	1,255	1,100	16,847
20	945	105	890	2,990	1,155	6,402	2,080	1,255	1,100	16,922
21	945	105	890	2,990	1,155	6,402	2,080	1,255	1,100	16,922
22	945	105	890	2,990	1,155	6,402	2,080	1,255	1,100	16,922
23	945	105	890	2,990	1,155	6,402	2,080	1,255	1,100	16,922
24	945	105	890	2,990	1,155	6,402	2,080	1,255	1,100	16,922
25	945	105	890	2,990	1,155	6,402	2,080	1,255	1,100	16,922

Source: Gladstone Associates

EMPLOYMENT FORECAST ASSUMPTIONS
DEVELOPMENT SCENARIO II
MIXED LAND USE -- MEDIUM FIND OIL SUPPORT
AND COMMERCIAL AND INDUSTRIAL USE

SUBAREA

1. Davisville Piers, Land Adjacent (Presently Navy-retained), Dogpatch, Flightpath, Warehousing

   A. Total of 420 acres.

   B. Years 2-25: Temporary and permanent service bases phased according to NERBC-RALI estimates of oil production.

   C. Years 4-13: Platform fabrication at Davisville Piers.

   D. Years 5-13: Platform installation service bases.

   E. Years 6-25: Marina at Allen's Harbor as in Scenario III.

   F. Years 15-25: Re-use of Davisville at termination of Platform fabrication; assumes single-use, water-oriented industry as in early years of Scenario III.

   G. Years 14-25: Reuse of 30 acres in the Personnel Support Area; vacated by oil support activities for warehousing purposes.

   H. Years 24-25: Reuse of the other 40 acres in the Personnel Support Area; vacated by oil users for general manufacturing purposes.

   I. Year 24-25: Reuse of 60 acres of land in Flightpath; formerly used by permanent service bases for open storage; for similar purposes by manufacturing concerns.

II. Golf Course: Same as Scenario III.

III. Personnel Support Area: Same as Scenario III.

IV. Revenue Producing Area: Same as Scenario III.

V. Kiefer Park Area: Same as Scenario III.

VI. North Mill Creek Parcel: Same as Scenario III.

VII. West Davisville: Same as Scenario III.

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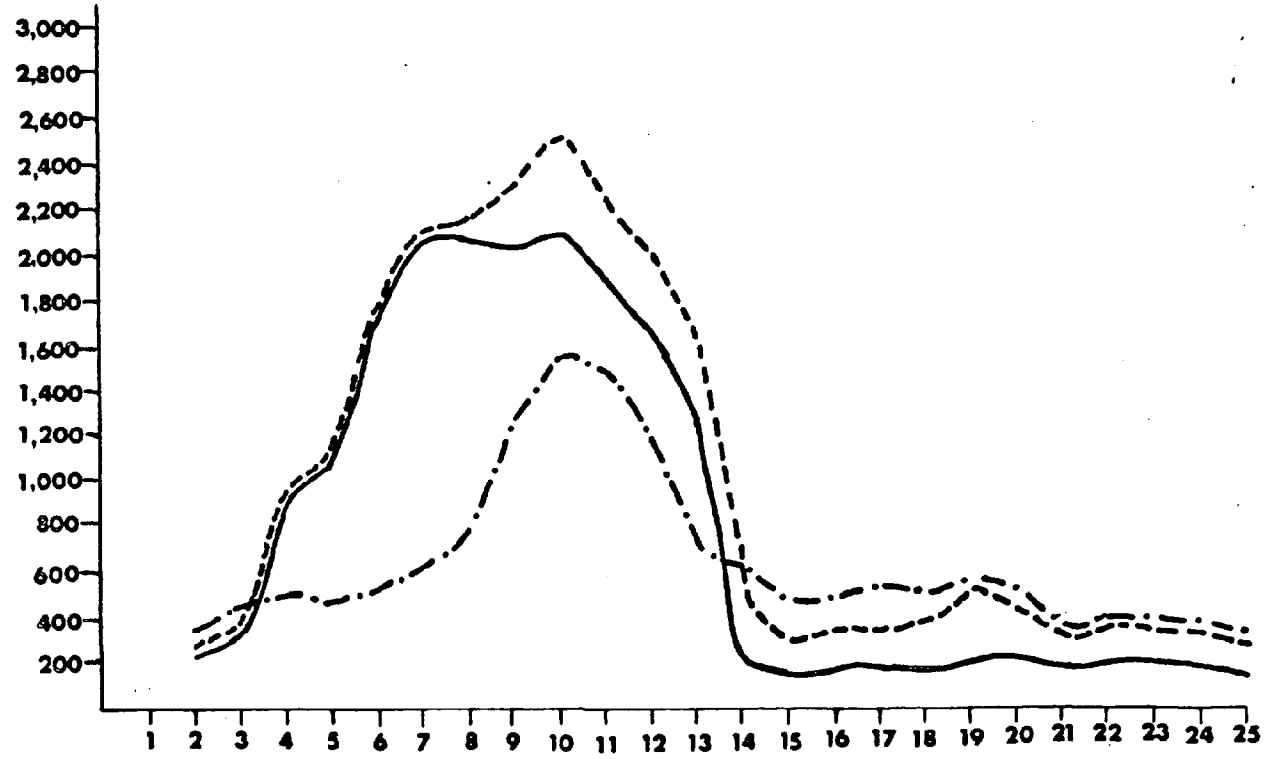
TOTAL OIL-RELATED EMPLOYMENT
DEVELOPMENT SCENARIO II
MEDIUM FIND GEORGES BANK



OIL FACILITY MIXES AT QUONSET POINT/DAVISVILLE

——— ALTERNATIVE A -- includes platform fabrication yard, platform installation service base, pipe coating yard, pipeline installation service base, and permanent service bases.

– – – – ALTERNATIVE B -- includes platform fabrication yard, platform installation service base, and permanent service bases.

—·—·— ALTERNATIVE C -- includes permanent service bases only.

Source: NERBC-RALI; Gladstone Associates.

ILLUSTRATIVE EMPLOYMENT -- CUMULATIVE
DEVELOPMENT SCENARIO II -- MIXED USE
QUONSET POINT/DAVISVILLE

Year	Davisville Piers; Dog Patch Beach; Flightpath; and Warehousing Areas	Golf Course Area	Personnel Support Area	Revenue Producing Area	Kiefer Park Area	North Mill Creek Parcel	West Davisville	Total
1	--	35	214	5,232	530	--	--	6,011
2	250	35	214	5,232	530	--	--	6,261
3	335	35	214	5,232	530	--	--	6,346
4	905	35	214	5,232	530	--	--	6,916
5	1,185	35	214	5,232	530	--	825	8,021
6	1,770	210	419	5,452	1,060	--	825	9,736
7	2,045	410	419	5,452	1,060	--	825	10,211
8	2,165	610	419	5,452	1,060	--	825	10,531
9	2,285	810	419	5,452	1,060	--	825	10,851
10	2,425	1,115	419	5,452	1,060	--	1,100	11,571
11	2,165	1,315	1,155	5,672	1,440	925	1,100	13,772
12	1,945	1,515	1,155	5,672	1,440	925	1,100	13,752
13	1,565	1,715	1,155	5,672	1,440	925	1,100	13,572
14	1,264	1,915	1,155	5,672	1,440	925	1,100	13,471
15	1,154	2,115	1,155	5,672	1,440	925	1,100	13,561
16	1,169	2,315	1,155	6,402	2,080	1,255	1,100	15,476
17	1,214	2,515	1,155	6,402	2,080	1,255	1,100	15,721
18	1,199	2,715	1,155	6,402	2,080	1,255	1,100	15,906
19	1,249	2,915	1,155	6,402	2,080	1,255	1,100	16,156
20	1,454	2,990	1,155	6,402	2,080	1,255	1,100	16,436
21	1,389	2,990	1,155	6,402	2,080	1,255	1,100	16,371
22	1,284	2,990	1,155	6,402	2,080	1,255	1,100	16,266
23	1,329	2,990	1,155	6,402	2,080	1,255	1,100	16,311
24	2,119	2,990	1,155	6,402	2,080	1,255	1,100	17,101
25	2,074	2,990	1,155	6,402	2,080	1,255	1,100	17,056

Source: Gladstone Associates

EMPLOYMENT FORECAST ASSUMPTIONS
DEVELOPMENT SCENARIO I
HIGH FIND OIL RELATED USE

SUBAREA

I. Davisville Piers, Land Adjacent (Presently Navy-retained), Dogpatch, Flightpath, Warehousing plus the Personnel Support Area (40 acres) and a portion of the Revenue Producing Area (24 acres).

   A. Total of 484 acres.

   B. Years 2-25: Temporary and permanent service bases phased according to NERBC-RALI estimates of oil production.

   C. Years 4-13: Platform fabrication at Davisville.

   D. Years 5-13: Platform installation service bases.

   E. Years 6-25: Marina at Allen's Harbor as in Scenario III.

   F. Years 15-25: Re-use of Davisville at termination of platform fabrication; assumes single use water-oriented industry as in early years of Scenario III.

   G. Years 24-25: Re-use of 40 acres of Personnel Support Area; vacated by permanent service bases for general manufacturing purposes.

II. Golf Course Area: Same as in Scenario III.

III. Revenue Producing Area

   A. Portions (24 acres) used for oil-related firms as mentioned above.

   B. Balance remains the same as in Scenario III.

   C. Years 14-24: Re-use of 14 acres of former oil land for general manufacturing purposes.

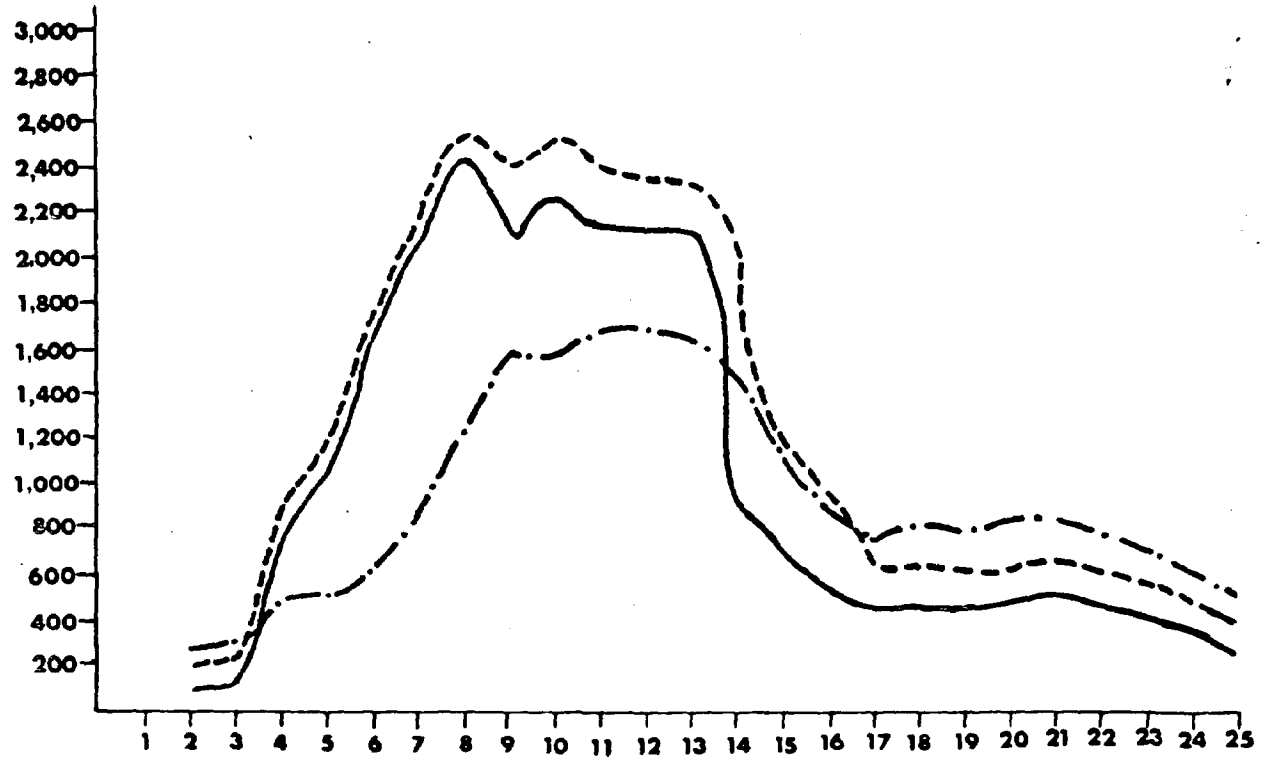
   D. Years 24-25: Re-use of an additional 9 acres vacated in year 23 by permanent service bases.

IV. Kiefer Park Area: Same as in Scenario III.

V. North Mill Creek Parcel: Same as in Scenario III.

VI. West Davisville: Same as in Scenario III.

TOTAL OIL-RELATED EMPLOYMENT
DEVELOPMENT SCENARIO I
HIGH FIND GEORGES BANK



OIL FACILITY MIXES AT QUONSET POINT/DAVISVILLE

———— ALTERNATIVE A -- includes platform fabrication yard, platform installation service base, pipe coating yard, pipeline installation service base, and permanent service bases.

– – – – – ALTERNATIVE B -- includes platform fabrication yard, platform installation service base, and permanent service bases.

—·—·—· ALTERNATIVE C -- includes permanent service bases only.

Source: NERBC-RALI; Gladstone Associates.

ILLUSTRATIVE EMPLOYMENT -- CUMULATIVE
DEVELOPMENT SCENARIO I -- HIGH FIND OIL SUPPORT
QUONSET POINT/DAVISVILLE

Year	Davisville Piers; Dog Patch Beach; Flightpath; and Warehousing Areas	Golf Course Area	Personnel Support Area	Revenue Producing Area	Kiefer Park Area	North Mill Creek Parcel	West Davisville	Total
1	--	35	214	5,232	530	--	--	6,011
2	160	35	214	5,232	530	--	--	6,171
3	200	35	214	5,232	530	--	--	6,211
4	810	35	254	5,252	530	--	--	6,881
5	1,075	35	254	5,252	530	--	825	7,971
6	1,725	210	474	5,282	1,060	--	825	9,576
7	2,130	410	494	5,497	1,060	--	825	10,416
8	2,405	610	524	5,517	1,060	--	825	10,941
9	2,220	810	529	5,522	1,060	--	825	10,966
10	2,335	1,115	549	5,527	1,060	--	1,100	11,686
11	2,185	1,315	559	5,757	1,440	925	1,100	13,281
12	2,170	1,515	559	5,757	1,440	925	1,100	13,466
13	2,160	1,715	559	5,757	1,440	925	1,100	13,656
14	1,800	1,915	544	5,977	1,440	925	1,100	13,701
15	1,605	2,115	519	5,967	1,440	925	1,100	13,671
16	1,450	2,315	499	6,182	2,080	1,255	1,100	14,881
17	1,325	2,515	479	6,182	2,080	1,255	1,100	14,936
18	1,355	2,715	489	6,182	2,080	1,255	1,100	15,176
19	1,355	2,915	484	6,182	2,080	1,255	1,100	15,371
20	1,480	2,990	489	6,182	2,080	1,255	1,100	15,576
21	1,495	2,990	489	6,182	2,080	1,255	1,100	15,591
22	1,445	2,990	484	6,182	2,080	1,255	1,100	15,536
23	1,380	2,990	479	6,182	2,080	1,255	1,100	15,466
24	1,400	2,990	1,154	6,332	2,080	1,255	1,100	16,311
25	1,380	2,990	1,154	6,332	2,080	1,255	1,100	16,291

Source: Gladstone Associates

PROJECTED EMPLOYMENT
QUONSET POINT INDUSTRIES
1976, YEAR 10, YEAR 25

	Scenario I			Scenario II			Scenario III		
	1976	Year 10	Year 25	1976	Year 10	Year 25	1976	Year 10	Year 25
Existing Uses[1/]									
Electric Boat	5,035	5,440	5,880	5,035	5,440	5,880	5,035	5,440	5,990
Port Authority	96	96	96	96	96	96	96	96	96
Ocean State Training Center	12	12	12	12	12	12	12	12	12
F.A.A.	58	58	58	58	58	58	58	58	58
Golf Course	10	10	10	10	10	10	10	10	10
Army National Guard	60	60	60	60	60	60	60	60	60
Subtotal	5,271	5,675	6,116	5,271	5,676	6,116	5,271	5,676	6,116
Projected Uses									
Marina	--	20	20	--	20	20	--	20	20
Shopping Center	--	--	830	--	--	830	--	--	830
Hotel	--	105	105	--	105	105	--	105	105
Air National Guard	--	205	205	--	205	205	--	205	205
Office Park	--	1,000	2,875	--	1,000	2,875	--	1,000	2,875
General Manufacturing/ Technical Industries	--	2,160	5,705	--	2,160	6,610	--	3,065	6,770
Platform Fabrication Yard	--	1,250	--	--	1,250	--	--	--	--
Service Bases	--	1,270	435	--	1,155	295	--	--	--
Subtotal	--	6,010	10,175	--	5,895	10,940	--	4,395	10,805
Total All Uses	5,271	11,686	16,291	5,271	11,571	17,056	5,271	10,071	16,921

1/ With the exception of Electric Boat, no attempt has been made to predict expansion by existing users.

Source: Gladstone Associates

COASTAL ZONE INFORMATION CENTER

OCCUPATIONAL MIX

OCCUPATIONAL MIX OF EMPLOYEES
ELECTRIC BOAT
1976, Year 10, Year 25

Occupation	1976 Number	1976 Percent	Year 10	Year 25
Professional, Technical, Managerial, Administrative, and Sales Workers	591	12%	655	705
Clerical and Kindred Workers	254	5%	270	295
Craftsmen, Foremen and Kindred Workers	2,284	45%	2,450	2,645
Operatives, including Transport	1,864	37%	2,010	2,175
Service Workers	--	--	--	--
Laborers	42	1%	55	60
Total	5,035	100%	5,440	5,880

Note: Includes allowance for Electric Boat expansion on 30 acres adjacent to present facilities.

Source: Communication with Mr. James E. Kanaley, Manager Industrial Relations, Electric Boat; Gladstone Associates.

OCCUPATIONAL MIX OF EMPLOYEES
QUONSET POINT SHOPPING CENTER
YEARS 10, 25

	Percent	Year 10	Year 25
Professional, Technical, and Kindred Workers	3.0%	--	25
Managers and Administrators	17.5%	--	145
Sales Workers	30.7%	--	255
Clerical and Kindred Workers	23.5%	--	195
Craftsmen, Foremen, etc.	4.8%	--	40
Operatives, including Transport	7.2%	--	60
Service Workers	4.2%	--	35
Laborers	9.1%	--	75
Total	100.0%	--	830

Note: The first phase of the shopping center is assumed to begin in Year 11.

Source: Gladstone Associates

OCCUPATIONAL MIX OF EMPLOYEES
QUONSET POINT HOTEL
YEARS 10, 25

Occupation	Percent	Year 10	Year 25
Professional, Technical, Managerial, Administrative, and Sales Workers	19%	20	20
Clerical and Kindred Workers	14%	15	15
Craftsmen, Foremen, and Kindred Workers	5%	5	5
Operatives, including Transport	--	--	--
Service Workers	62%	65	65
Laborers	--	--	--
Total	100%	105	105

Source: Gladstone Associates.

OCCUPATIONAL MIX OF EMPLOYEES
QUONSET POINT OFFICE PARK
YEARS 10, 25

Occupation	Percent	Year 10	Year 25
Professional, Technical, Managerial, Administrative, and Sales Workers	75%	965	2,155
Clerical and Kindred Workers	25%	325	720
Craftsmen, Foremen, and Kindred Workers	--	--	--
Operatives, including Transport	--	--	--
Service Workers	--	--	--
Laborers	--	--	--
Total	100%	1,290	2,875

Source: Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

OCCUPATIONAL MIX OF EMPLOYEES
QUONSET POINT GENERAL MANUFACTURING AND TECHNICAL INDUSTRIES
YEARS 10, 25

Occupation	Percent	Scenario I		Scenario II		Scenario III	
		Year 10	Year 25	Year 10	Year 25	Year 10	Year 25
Professional, Technical, Managerial, Administrative, and Sales Workers	18%	390	1,025	390	1,190	550	1,220
Clerical and Kindred Workers	12%	260	685	260	795	370	810
Craftsmen, Foremen and Kindred Workers	19%	410	1,085	410	1,255	585	1,285
Operatives, including Transport	46%	995	2,625	995	3,040	1,410	3,115
Service Workers	2%	40	115	40	130	60	135
Laborers	3%	65	170	65	200	90	205
Total	100%	2,160	5,705	2,160	6,610	3,065	6,770

Source: Gladstone Associates.

OCCUPATIONAL MIX OF EMPLOYEES
QUONSET POINT OIL SUPPORT FACILITIES
YEARS 10, 25

	Platform Fabrication Yard		Service Bases 1/			
			Medium Find		High Find	
Year 10	Percent	Number	Percent	Number	Percent	Number
Professional and Administrative	17%	210	7%	80	7%	90
Skilled Workers	78%	980	30%	345	30%	380
Unskilled Workers	5%	60	63%	730	63%	800
Total	100%	1,250	100%	1,155	100%	1,270
Year 25						
Professional and Administrative	--	--	7%	20	7%	30
Skilled Workers	--	--	30%	90	30%	130
Unskilled Workers	--	--	63%	185	63%	275
Total			100%	295	100%	435

1/ Includes a Platform Fabrication Service Base.

Source: Frederic R. Harris, Inc., OCS Methodology Element #1: Industry Requirements; Gladstone Associates.

SUMMARY OF NON-OIL RELATED JOBS BY OCCUPATIONAL LEVEL
QUONSET POINT/DAVISVILLE
YEAR 25

Occupational Level	New Non-Oil Employees[1/]	
	Number	Percent
Professional, Technical, Managerial, Administrative and Sales Workers	3,750	32%
Clerical and Kindred Workers	2,070	18%
Craftsmen, Foremen and Kindred Workers	1,780	15%
Operatives, Including Transport	3,490	30%
Service Workers	240	2%
Laborers	320	3%
Total	11,650	100%

1/ Does not include existing or expected oil-related users. Does include Electric Boat expansion.

Note: The above estimates reflect projections for Scenario III, but the proportions would remain relatively constant for the other scenarios as well.

Source: Gladstone Associates

OCCUPATIONAL MIX
PROJECTED QUONSET-DAVISVILLE USES
YEAR 25

Occupation	Hotel	Office Park	Shopping Center	Marina	General Manufacturing/ Technical	Air National Guard
Professional, Technical, Managerial, Administrative, and Sales Workers	19%	75%	51%	15%	18%	35%
Clerical and Kindred Workers	14%	25%	24%	--	12%	18%
Craftsmen, Foremen and Kindred Workers	5%	--	5%	10%	19%	45%
Operatives, including Transport	--	--	7%	--	46%	--
Service Workers	62%	--	4%	--	2%	--
Laborers	--	--	9%	75%	3%	2%
Total	100%	100%	100%	100%	100%	100%

Source: U.S. Bureau of Labor Statistics, National Industry - Occupational Matrix, 1974; Gladstone Associates

COASTAL ZONE INFORMATION CENTER

PAYROLL ESTIMATES

PROJECTED EMPLOYMENT AND PAYROLL

ELECTRIC BOAT

YEAR 25

Occupation	Employees Total	Employees Percent	Estimated Annual Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Administrative, and Sales Workers	705	12%	N/A	N/A
Clerical and Kindred Workers	295	5%	$ 8,600	$ 2.537
Craftsmen, Foremen, and Kindred Workers	2,645	45%	N/A	N/A
Operatives, including Transport	2,175	37%	N/A	N/A
Service Workers	--	--	--	--
Laborers	60	1%	N/A	N/A
Total	5,880	100%	$10,800	$63.400 1/

1/ Calculated by multiplying 1976 payroll by the percent increase in employees.

N/A = Not Available.

Source: Communication with Mr. James E. Kanaley, Manager Industrial Relations, Electric Boat; Gladstone Associates.

EMPLOYMENT AND PAYROLL[1/]
QUONSET POINT MARINA
YEAR 25 [2/]

Occupation	Employees Number	Employees Percent	Estimated Annual Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Administrative, and Sales Workers	3	15%	N/A	N/A
Clerical and Kindred Workers	--	--	--	--
Craftsmen, Foremen and Kindred Workers	2	10%	N/A	N/A
Operatives, Including Transport	--	--	--	--
Service Workers	--	--	--	--
Laborers	15	75%	N/A	N/A
Total	20	100%	$9,000[3/]	$.180

1/ Estimates by Gladstone Associates.

2/ Employment and payroll by the Marina are assumed to be the same in years 10 and 25

3/ This figure is assumed here to be the same as the estimate for Golf Course employees.

N/A = Not Available.

Source: Gladstone Associates.

ESTIMATED ANNUAL SALARIES
QUONSET POINT SHOPPING CENTER EMPLOYEES
1969, 1976

Occupation	1969[1/]	Estimated Change 1969-1976[2/]	1976[3/]
Professional, Technical, and Kindred Workers	$ 8,960	59.6%	$14,300
Managers and Administrators	$10,680	59.6%	$17,000
Sales Workers[4/]	$ 4,950	62.1%	$ 8,000
Clerical and Kindred Workers	$ 5,390	54.6%	$ 8,300
Craftsmen, Foremen, and Kindred Workers	$ 7,870	59.6%	$12,600
Operatives, including Transport	$ 6,970	62.1%	$11,300
Service Workers	$ 5,050	62.1%	$ 8,200
Laborers	$ 5,750	62.1%	$ 9,300

1/ Figures are from the 1970 U.S. Census of Population and are for the State of Rhode Island.

2/ The estimated change figures are from the U.S. Department of Labor, Bureau of Labor Statistics 1976 Area Wage Survey for the Providence-Warwick-Pawtucket, Rhode Island-Massachusetts Metropolitan Area. The figure 54.6% is the compounded percent change in average hourly earnings for office clerical employees. The 59.6% figure is for skilled maintenance trades (men), and the 62.1% figure is for unskilled plant-workers (men).

3/ 1976 figures are estimates calculated by updating 1970 census figures by the above mentioned percentages.

4/ The salary figure for sales workers is for sales clerks (retail trade) and salesmen (retail trade) from the census.

Source: U.S. Census of Population, 1970; U.S. Department of Labor, Bureau of Labor Statistics 1976 Providence Warwick-Pawtucket, Rhode Island-Massachusetts Metropolitan Area Wage Survey; Gladstone Associates.

PROJECTED EMPLOYMENT AND PAYROLL
QUONSET POINT SHOPPING CENTER
YEAR 25

Occupation	Employees Number	Employees Percent	Estimated Average Salary	Total Payroll (Millions)
Professional, Technical, and Kindred Workers	25	3.0%	$ 14,300	$ .357
Managers and Administrators	145	17.5%	$ 17,000	$2.465
Sales Workers	255	30.7%	$ 8,000	$2.040
Clerical and Kindred Workers	195	23.5%	$ 8,300	$1.618
Craftsmen, Foremen, and Kindred Workers	40	4.8%	$ 12,600	$ .504
Operatives, including Transport	60	7.2%	$ 11,300	$ .678
Service Workers	35	4.2%	$ 8,200	$ .287
Laborers	75	9.1%	$ 9,300	$ .698
Total	830	100.0%	$ 10,400	$8.647

Source: Gladstone Associates.

ESTIMATED ANNUAL SALARIES
QUONSET POINT HOTEL EMPLOYEES
1969, 1976

Occupation	1969 1/	Estimated Change 1969-1976 2/	1976 3/
Professional, Technical, Managerial, Administrative, and Sales Workers	$8,340	59.6%	$13,300
Clerical and Kindred Workers	$5,390	54.6%	$ 8,300
Craftsmen, Foremen, and Kindred Workers	$7,870	59.6%	$12,600
Operatives, including Transport	$6,970	62.1%	$11,300
Service Workers	$5,050	62.1%	$ 8,200
Laborers	$5,750	62.1%	$ 9,300

COASTAL ZONE INFORMATION CENTER

1/ Figures are from the 1970 U.S. Census of Population and are for the State of Rhode Island.

2/ The estimated change figures are from the U.S. Department of Labor, Bureau of Labor Statistics 1976 Area Wage Survey for the Providence-Warwick-Pawtucket, Rhode Island - Massachusetts, Metropolitan Area. The figure 54.6% is the compounded percent change in average hourly earnings for office clerical employees. The 59.6% figure is for skilled maintenance trades (men), and the 62.1% figure is for unskilled plant-workers (men).

3/ 1976 figures are estimates calculated by updating 1970 Census figures by the above mentioned percentages.

Source: U.S. Census of Population, 1970; U.S. Department of Labor, Bureau of Labor Statistics 1976 Providence-Warwick-Pawtucket, Rhode Island - Massachusetts Metropolitan Area Wage Survey; Gladstone Associates.

PROJECTED EMPLOYMENT AND PAYROLL

QUONSET POINT HOTEL

YEAR 25

Occupation	Employees Percent	Employees Number	Estimated Annual Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Administrative and Sales Workers	19%	20	$13,300	$.266
Clerical and Kindred Workers	14%	15	$ 8,300	$.125
Craftsmen, Foremen, and Kindred Workers	5%	5	$12,600	$.063
Operatives, including Transport	--	--	$11,300	--
Service Workers	62%	65	$ 5,800	$.377
Laborers	--	--	$ 9,300	--
Total	100%	105	$ 7,900	$.831

Source: Gladstone Associates.

PROJECTED EMPLOYMENT AND PAYROLL
RHODE ISLAND AIR NATIONAL GUARD
YEAR 25

Occupation	Employees Number	Employees Percent	Average Annual Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Administrative, and Sales Workers	71	34.6%	$ 16,760	$1.190
Clerical and Kindred Workers	37	18.1%	$ 10,555	$ .391
Craftsmen, Foremen, and Kindred Workers	92	44.9%	$ 12,155	$1.118
Operatives, including Transport	--	--	--	--
Service Workers	--	--	--	--
Laborers	5	2.4%	$ 9,245	$ .046
Total	205	100.0%	$ 13,390	$2.745

Source: Communication with Colonel Jenkins, Commander Rhode Island Air National Guard; Gladstone Associates.

ESTIMATED ANNUAL SALARIES
QUONSET POINT OFFICE PARK
1969, 1976

Occupation	1969[1/]	Estimated Change[2/] 1969-1976	1976[3/]
Professional, Technical, Managerial,[4/] Administrative, and Sales Workers	$9,560	59.6%	$15,200
Clerical and Kindred Workers	$5,390	54.6%	$ 8,300
Craftsmen, Foremen, and Kindred Workers	$7,870	59.6%	$12,600
Operatives, including Transport	$6,970	62.1%	$11,300
Service Workers	$5,050	62.1%	$ 8,200
Laborers	$5,750	62.1%	$ 9,300

1/ Figures are from the 1970 U.S. Census of Population and are for the State of Rhode Island.

2/ The estimated change figures are from the U.S. Department of Labor, Bureau of Labor Statistics 1976 Area Wage Survey for the Providence - Warwick - Pawtucket, Rhode Island - Massachusetts Metropolitan Area. The figure 54.6 percent is the compounded percent change in average hourly earnings for office clerical employees. The 59.6 percent figure is for skilled maintenance trades (men), and the 62.1 percent figure is for unskilled plant workers (men).

3/ 1976 figures are estimates calculated by updating 1970 census figures by the above-mentioned percentages.

4/ The salary figure given here is for professional, technical, managerial, and administrative workers only.

Source: U.S. Census of Population, 1970; U.S. Department of Labor, Bureau of Labor Statistics 1976 Providence - Warwick - Pawtucket, Rhode Island - Massachusetts Metropolitan Area Wage Survey; Gladstone Associates.

PROJECTED EMPLOYMENT AND PAYROLL
QUONSET POINT OFFICE PARK
YEAR 25

Occupation	Employees Number	Employees Percent	Estimated Average Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Administrative, and Sales Workers	2,155	75%	$15,200	$32.756
Clerical and Kindred Workers	720	25%	$ 8,300	$ 5.976
Craftsmen, Foremen, and Kindred Workers	--	--	$12,600	--
Operatives, including Transport	--	--	$11,300	--
Service Workers	--	--	$ 5,800	--
Laborers	--	--	$ 9,300	--
Total	2,875	100%	$13,500	$38.732

Source: Gladstone Associates.

ESTIMATED ANNUAL SALARIES
QUONSET POINT GENERAL MANUFACTURING/TECHNICAL INDUSTRY EMPLOYEES
1969, 1976

Occupation	1969[1/]	Estimated Change[2/] 1969-1976	1976[3/]
Professional, Technical, Managerial, Administrative, and Sales Workers	$8,340	59.6%	$13,300
Clerical and Kindred Workers	$5,390	54.6%	$ 8,300
Craftsmen, Foremen, and Kindred Workers	$7,870	59.6%	$12,600
Operatives, including Transport	$6,970	62.1%	$11,300
Service Workers	$5,050	62.1%	$ 8,200
Laborers	$5,750	62.1%	$ 9,300

1/ Figures are from the 1970 U.S. Census of Population and are for the state of Rhode Island.

2/ The estimated change figures are from the U.S. Department of Labor, Bureau of Labor Statistics 1976 Area Wage Survey for the Providence-Warwick-Pawtucket, Rhode Island - Massachusetts, Metropolitan Area. The figure 54.6% is the compounded percent change in average hourly earnings for office clerical employees. The 59.6% figure is for skilled maintenance trades (men), and the 62.1 percent figure is for unskilled plant workers (men).

3/ 1976 figures are estimates calculated by updating 1970 census figures by the above-mentioned percentages.

Source: U.S. Census of Population, 1970; U.S. Department of Labor, Bureau of Labor Statistics 1976 Providence - Warwick - Pawtucket, Rhode Island - Massachusetts Metropolitan Area Wage Survey; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

PROJECTED EMPLOYMENT AND PAYROLL[1/]

QUONSET POINT GENERAL MANUFACTURING/TECHNICAL INDUSTRIES

SCENARIO III - NO OIL

YEAR 25

Occupation	Employees Number	Employees Percent	Estimated Average Salary	Total Payroll (Millions)
Professional, Technical, Managerial, Administrative, and Sales Workers	1,220	18%	$13,300	$16.226
Clerical and Kindred Workers	810	12%	$ 8,300	$ 6.723
Craftsmen, Foremen, and Kindred Workers	1,285	19%	$12,600	$16.191
Operatives, including Transport	3,115	46%	$11,300	$35.200
Service Workers	135	2%	$ 8,200	$ 1.107
Laborers	205	3%	$ 9,300	$ 1.906
Total	6,770	100%	$11,400	$77.353

1/ Does not include Electric Boat expansion.

Source: Gladstone Associates.

PROJECTED EMPLOYMENT AND PAYROLL
QUONSET POINT OIL SUPPORT FACILITIES
YEAR 10 AND YEAR 25

	Scenario I			Scenario II		
Year 10	Employees	Average Salary	Total Payroll (Millions)	Employees	Average Salary	Total Payroll (Millions)
Platform Fabrication Yard	1,250	$19,000	$23.750	1,250	$19,000	$23.750
Service Bases	1,270	$17,000	$21.590	1,155	$17,000	$19.635
Total	2,520	$18,000	$45.340	2,405	$18,000	$43.385
Year 25						
Platform Fabrication Yard	--	$19,000	--	--	$19,000	--
Service Bases	435	$17,000	$ 7.395	295	$17,000	$ 5.015
Total	435	$17,000	$ 7.395	295	$17,000	$ 5,015

Source: NERBC-RALI, Onshore Facilities Related to Offshore Oil and Gas Development: Estimates for New England; Gladstone Associates.

PROJECTED PAYROLL[1/]
QUONSET POINT INDUSTRIES
1976, YEAR 10, YEAR 25
(In Millions of 1976 Dollars)

	Scenario I			Scenario II			Scenario III		
	1976	Year 10	Year 25	1976	Year 10	Year 25	1976	Year 10	Year 25
Existing Uses[2/]									
Electric Boat	$54.3	$58.7	$63.4	$54.3	$58.7	$63.4	$54.3	$58.7	$63.4
Port Authority	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3
Ocean State Training Center	$ .1	$ .1	$ .1	$ .1	$ .1	$ .1	$ .1	$ .1	$ .1
F.A.A.	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.3
Golf Course	$ .1	$ .1	$ .1	$ .1	$ .1	$ .1	$ .1	$ .1	$ .1
Army National Guard	$ .8	$ .8	$ .8	$ .8	$ .8	$ .8	$ .8	$ .8	$ .8
Subtotal	$57.9	$62.3	$67.0	$57.9	$62.3	$67.0	$57.9	$62.3	$67.0
Projected Uses									
Marina	--	$ .2	$ .2	--	$ .2	$ .2	--	$ .2	$ .2
Shopping Center	--	--	$ 8.6	--	--	$ 8.6	--	--	$ 8.6
Hotel	--	$ .8	$ .8	--	$ .8	$ .8	--	$ .8	$ .8
Air National Guard	--	$ 2.7	$ 2.7	--	$ 2.7	$ 2.7	--	$ 2.7	$ 2.7
Office Park	--	$17.4	$38.7	--	$17.4	$38.7	--	$17.4	$38.7
General Manufacturing/ Technical Industries	--	$24.7	$65.2	--	$24.7	$75.5	--	$35.0	$77.4
Platform Fabrication Yard	--	$23.8	--	--	$23.8	--	--	--	--
Service Bases	--	$21.6	$ 7.4	--	$19.6	$ 5.0	--	--	--
Subtotal	--	$91.2	$123.6	--	$89.2	$131.5	--	$56.1	$128.4
Total All Uses	$57.9	$153.5	$190.6	$57.9	$151.5	$198.5	$57.9	$118.4	$195.4

1/ No attempt has been made to adjust payroll figures for years 10 and 25 to account for inflation and/or real gains in earnings.

2/ With the exception of Electric Boat, no attempt has been made to predict expansion by existing users.

Source: Existing users; NERBC-RALI, Onshore Facilities Related to Offshore Oil and Gas Development: Estimates for New England; Gladstone Associates.

INDIRECT IMPACTS

COASTAL ZONE
INFORMATION CENTER

COMMUTATION PATTERNS
ELECTRIC BOAT EMPLOYEES
1975

Place of Residence	Number	Percent
West Bay		
North Kingstown	26	13.3%
South Kingstown	6	3.1%
Narragansett	0	0.0%
Exeter	0	0.0%
Jamestown	2	1.0%
New Shoreham	0	0.0%
Subtotal	34	17.4%
Kent County		
Warwick	17	8.7%
East Greenwich	3	1.5%
West Warwick	22	11.3%
Coventry	15	7.7%
West Greenwich	0	0.0%
Subtotal	57	29.2%
Urban Center		
Pawtucket	8	4.1%
North Providence	1	0.5%
East Providence	8	4.1%
Providence	17	8.7%
Central Falls	1	0.5%
Johnston	6	3.1%
Cranston	14	7.2%
Subtotal	55	28.2%
Balance[1/]	49	25.1%
Total	195	100.0%

1/ Includes commuters from cities and towns from other sections of Rhode Island and from Massachusetts.

Source: R. I. Department of Transportation; Gladstone Associates.

COMMUTATION PATTERNS
BIF EMPLOYEES
1974

Place of Residence	Number	Percent
West Bay		
North Kingstown	8	2.1%
South Kingstown	2	0.5%
Narragansett	1	0.3%
Exeter	0	0.0%
Jamestown	0	0.0%
New Shoreham	0	0.0%
Subtotal	11	2.9%
Kent County		
Warwick	42	11.0%
East Greenwich	22	5.8%
West Warwick	16	4.2%
Coventry	21	5.5%
West Greenwich	1	0.3%
Subtotal	102	26.8%
Urban Center		
Pawtucket	20	5.2%
North Providence	21	5.5%
East Providence	15	3.9%
Providence	86	22.6%
Central Falls	1	0.3%
Johnston	14	3.7%
Cranston	39	10.2%
Subtotal	196	51.4%
Balance[1/]	72	18.9%
Total	381	100.0%

1/ Includes commuters from cities and towns from other sections of Rhode Island and from Massachusetts.

Source: R. I. Department of Transportation; Gladstone Associates.

COMMUTATION PATTERNS
LEESONA CORPORATION EMPLOYEES
1974

Place of Residence	Number	Percent
West Bay		
North Kingstown	26	4.6%
South Kingstown	3	0.5%
Narragansett	5	0.9%
Exeter	1	0.2%
Jamestown	1	0.2%
New Shoreham	0	0.0%
Subtotal	36	6.3%
Kent County		
Warwick	226	39.7%
East Greenwich	21	3.7%
West Warwick	26	4.6%
Coventry	24	4.2%
West Greenwich	1	0.2%
Subtotal	298	52.4%
Urban Center		
Pawtucket	9	1.6%
North Providence	13	2.3%
East Providence	10	1.8%
Providence	57	10.0%
Central Falls	1	0.2%
Johnston	13	2.3%
Cranston	78	13.7%
Subtotal	181	31.8%
Balance[1/]	54	9.5%
Total	569	100.0%

1/ Includes commuters from cities and towns from other sections of Rhode Island and from Massachusetts.

Source: R. I. Department of Transportation; Gladstone Associates.

COMMUTATION PATTERNS
LEVITON EMPLOYEES
1974

Place of Residence	Number	Percent
West Bay		
North Kingstown	17	3.6%
South Kingstown	3	0.6%
Narragansett	1	0.2%
Exeter	0	0.0%
Jamestown	0	0.0%
New Shoreham	0	0.0%
Subtotal	21	4.4%
Kent County		
Warwick	191	40.0%
East Greenwich	10	2.1%
West Warwick	106	22.2%
Coventry	35	7.3%
West Greenwich	5	1.1%
Subtotal	347	72.8%
Urban Center		
Pawtucket	5	1.1%
North Providence	5	1.1%
East Providence	4	0.8%
Providence	30	6.3%
Central Falls	1	0.2%
Johnston	5	1.1%
Cranston	36	7.5%
Subtotal	86	18.0%
Balance[1/]	23	4.8%
Total	477	100.0%

1/ Includes commuters from cities and towns from other sections of Rhode Island and from Massachusetts.

Source: R. I. Department of Transportation; Gladstone Associates.

COASTAL ZONE INFORMATION CENTER

COMMUTATION PATTERNS
APEX EMPLOYEES
1974

Place of Residence	Number	Percent
West Bay		
North Kingstown	1	3.6%
South Kingstown	0	0.0%
Narragansett	0	0.0%
Exeter	0	0.0%
Jamestown	0	0.0%
New Shoreham	0	0.0%
Subtotal	1	3.6%
Kent County		
Warwick	15	53.6%
East Greenwich	1	3.6%
West Warwick	3	10.7%
Coventry	3	10.7%
West Greenwich	0	0.0%
Subtotal	22	78.6%
Urban Center		
Pawtucket	0	0.0%
North Providence	0	0.0%
East Providence	0	0.0%
Providence	0	0.0%
Central Falls	0	0.0%
Johnston	0	0.0%
Cranston	2	7.1%
Subtotal	2	7.1%
Balance[1/]	3	10.7%
Total	28	100.0%

1/ Includes commuters from cities and towns from other sections of Rhode Island and from Massachusetts.

Source: R. I. Department of Transportation; Gladstone Associates.

ESTIMATED PER CAPITA USER CHARGES

TOWN OF NORTH KINGSTOWN

YEAR ENDING JUNE 30, 1977

	General Fund	School Fund
Local Expenditures (000's)[1/]	$2,323,441	$3,595,571
Average Daily Users	31,800[2/]	4,417
Per Capita Charge	$ 73	$ 1,518

1/ Does not include federal and state contributions such as revenue sharing.

2/ Includes estimates for resident population and employment in North Kingstown.

Source: North Kingstown Budget Data; Gladstone Associates.

COMPARATIVE PER PUPIL SCHOOL COSTS
SELECTED WEST BAY COMMUNITIES
1975-1976

	Operating Expenditures (000's)[1/]	Number of Pupils	Total Expenditure Per Pupil[1/]
North Kingstown	$6,706	4,417	$1,518
South Kingstown	$4,567	2,858	$1,598
Narragansett	$1,726	1,118	$1,544
Jamestown	$ 538	436	$1,234

1/ Resident expenditures only; does not include federal or state contributions.

Source: Statistical Tables, 1975-1976, R.I. Department of Education, December, 1976.

TECHNICAL APPENDIX D

REVIEW OF MAJOR ECONOMIC DEVELOPMENT MECHANISMS

- Tax Incentives
- Financing Mechanisms
- Manpower Training Programs

TECHNICAL APPENDIX D
REVIEW OF MAJOR ECONOMIC DEVELOPMENT MECHANISMS

A final task in providing a socio-economic assessment for the reuse of Quonset Point/Davisville was a broad evaluation of the state's economic development programs. The intent here was to point up any glaring deficiencies which might adversely affect the marketability of the property or the recruitment effort.

For purposes of this analysis, economic development mechanisms have been grouped into three main categories: (1) tax incentives; (2) training programs; (3) financing mechanisms. Each of these categories are important in assisting the state to both attract new industry to Rhode Island as well as retain existing firms. These programs reflect the development climate for industry in Rhode Island and are discussed more fully below.

Tax Incentives

In 1974, a series of tax reforms were passed, placing Rhode Island in a better competitive position to attract new industry. The new legislation covered the following tax provisions:

-- Manufacturers' machinery and equipment purchased after December 31, 1974 are exempt from local property taxation; similar tax levies on existing machinery and equipment will be phased out over a ten year period;

-- Sales taxes on manufacturers' machinery and equipment -- at five percent in 1974 -- would be phased out over a five year period;

-- A one year write-off would be available for expenditures on new research and development facilities, in lieu of depreciation or investment tax credit;

-- A two percent investment tax credit for purchases of depreciable tangible property was established, including carry forward provisions for unused credit up to seven years;

-- Carry back and carry forward provisions for net operating losses are now allowed in computing a corporation's taxable income, bringing the state's policy essentially in line with federal law;

-- Other reforms include definitions -- for tax purposes -- of Domestic International Sales Corporations, a net worth tax in place of a corporate excess tax and income allocation factors for companies with multi-state operations; all of these tend to reduce qualified corporations' Rhode Island state tax liability.

In sum, the tax reform package has improved the tax environment of Rhode Island compared to many of the surrounding northeastern states (such as Massachusetts, Connecticut, New York and New Jersey).

With respect to reuse opportunities at Quonset Point/Davisville, this tax climate should be a useful tool in the state's industrial recruitment effort.

Financing Mechanisms

Rhode Island has two primary financing plans to assist new industrial development in the state. These are the Guaranteed Mortgage Financing Plan and the Revenue Bond Financing Plan. Both are aimed at providing lower cost financing to industrial concerns than would be available through the conventional market.

The Guaranteed Mortgage Financing Plan enables a firm to obtain a state-backed guarantee on the repayment of a first mortgage, thereby reducing investor risk and accordingly the interest rate charged. Firms eligible for this guarantee must meet certain financial soundness criteria but can use the proceeds to finance up to 90 percent of project costs for new facilities (both land and buildings) or up to 80 percent of the cost of new machinery or equipment.

Rhode Island also has a Revenue Bond Financing Plan which can be used for industrial construction, equipment, machinery and pollution abatement devices. The principal feature of this plan is similar to the one above, namely to secure lower cost debt through a quasi-public entity. Simply stated, because a company receives proceeds of tax exempt bonds, interest rates are lower than would be the case under conventional debt issues.

On balance, these two mechanisms represent a more or less standard approach in publicly supported efforts to attract new industry. Conversely, if these mechanisms were not available, their absence would represent a definite weakness in the state's economic development program.

In the case of Quonset Point/Davisville, these two mechanisms will likely be important in DED's attempts to recruit major new industrial companies.

Manpower Training Programs

Rhode Island -- through the Manpower Affairs Division of the Department of Economic Development and through several vocational/technical schools -- offers a number of flexible job training programs to meet the needs of particular employers. Training is accomplished "on the job," in the classroom, or as a combination of the two.

Financial support is given for all major training expenses, including rent and utility costs in the training facility, equipment, textbooks, supplies, materials, and instructors' salaries.

A prime example of the working relationship between business and government is the Ocean State Training School at Quonset Point. Through this facility, Electric Boat has developed a trained work force of more than 3,500 men and women for welding, shipfitting, pipefitting, and other machine operations at its Quonset Point facility.

* * *

On balance, in the absence of a specific industry mix or concrete requirements to attract a particular industrial operation, mechanisms within the above three economic development areas appear sufficient for Rhode Island's industrial recruitment effort.

The only recommendations here go to insuring: (1) that these programs are adequately publicized and (2) that over time, they remain flexible enough to meet changing economic development conditions.

COMPLETIONS OF SELECTED VOCATIONAL EDUCATION PROGRAMS
THE STATE OF RHODE ISLAND
1976

Program	Completions
Agriculture	232
Distribution	488
Health	665
Consumer/Homemaker	69
Office	2,043
Technical	168
Trades and Industry	1,456
Total	5,121

Source: Rhode Island Department of Education.

ENROLLMENTS IN AREA VOCATIONAL-TECHNICAL FACILITIES
THE STATE OF RHODE ISLAND
1976

Facility	Enrollments
Secondary Level	
Chariho Regional Facility	357
Coventry Area Facility	615
Rogers High School Area Facility	317
William M. Davies, Jr. Facility	671
Hanley Educational Center Facility	614
East Providence Area Facility	815
Warwick Area Facility	389
Cranston Area Facility	361
Woonsocket Area Facility	272
Subtotal	4,411
Post Secondary Level	
Rhode Island Junior College	2,929
University of Rhode Island	640
Rhode Island College	800
Subtotal	4,369
Specific Job-Training	
Ocean State Training Center	1,000
Total	9,780

Source: Rhode Island Department of Education; Ocean State Training Center.

ENROLLMENTS IN SELECTED VOCATIONAL EDUCATION PROGRAMS
THE STATE OF RHODE ISLAND
1976

Program	Secondary	Post Secondary	Adult	Cooperative	Total
Agriculture	757	--	47	117	921
Distribution	1,480	176	282	727	2,665
Health	268	927	458	15	1,668
Consumer/Homemaker	229	178	313	40	760
Office	5,869	482	1,880	327	8,558
Technical	188	941	733	--	1,862
Trades and Industry	4,409	--	2,411	230	7,050
Total	13,200	2,704	6,124	1,456	23,484

Source: Rhode Island Department of Education; Gladstone Associates.

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