Quonset Point Multi-Modal, Mixed-Use Ferry Terminal Study

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During 2005, a total of 24 ferry companies served 21 ports in southern New England. In Rhode Island nine ports were active. Large markets to Martha’s Vineyard (2.3 million passenger trips estimated) and Block Island (0.3 million passenger trips estimated) dominated as locations that could be served from Quonset, Rhode Island. On Martha’s Vineyard our sample showed that 5% of ferry travelers utilized the fast ferry from Quonset while 48.5% of our on-island respondents came from Rhode Island or states to the West or South. At present there is no service from Quonset to Block Island, to islands Narragansett Bay, or to major communities on the Bay. Commuter service remains speculative at present because we found only 7% of North Kingstown residents travel to the East Bay while only 6% of North Kingston workers come from the East Bay. Furthermore, half of the current workers surveyed at Quonset indicated no interest in ferry transportation. Critical changes that affect the future of ferry transportation include: the type and rate of build-out at Quonset, traffic congestion in the region, competition/complementarity of other modes of transportation (MBTA rail line), subsidies, and the strength of the tourism economy among primary factors. To accommodate these significant uncertainties and identify current decision options we present three scenarios which separately focus on Quonset as a location for commuter and limited tourist transportation; as a southern New England air, land, and water transportation node; and as a transit-oriented-development (TOD). In the latter the ferry terminal becomes one element of a neighborhood which is a destination in its own right through residential, yachting, general aviation, and business use. People in the neighborhood generate passenger trips and provide a broader base of customers for amenities in or near the terminal. Our assessment at Quonset identified three possible terminal locations (carrier pier, airport, and bulkhead) each with a comparative advantage depending upon the scenario selected.
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<td>CBD:</td>
<td>central business district</td>
</tr>
<tr>
<td>CMAQ:</td>
<td>Congestion Mitigation and Air Quality Improvement Program</td>
</tr>
<tr>
<td>CRMC:</td>
<td>Rhode Island Coastal Resource Management Council</td>
</tr>
<tr>
<td>FAA:</td>
<td>Federal Aviation Administration</td>
</tr>
<tr>
<td>ISTEIA:</td>
<td>Intermodal Surface Transportation Efficiency Act</td>
</tr>
<tr>
<td>MARAD:</td>
<td>U.S. Maritime Administration</td>
</tr>
<tr>
<td>MBTA:</td>
<td>Massachusetts Bay Transportation Authority</td>
</tr>
<tr>
<td>MLW:</td>
<td>mean low water</td>
</tr>
<tr>
<td>NORAD:</td>
<td>North Atlantic Distribution, Inc.</td>
</tr>
<tr>
<td>QBP:</td>
<td>Quonset Business Park</td>
</tr>
<tr>
<td>QDC:</td>
<td>Quonset Development Corporation</td>
</tr>
<tr>
<td>RIAC:</td>
<td>Rhode Island Airport Corporation</td>
</tr>
<tr>
<td>RIEDC:</td>
<td>Rhode Island Economic Development Corporation</td>
</tr>
<tr>
<td>RIDOT:</td>
<td>Rhode Island Department of Transportation</td>
</tr>
<tr>
<td>RIPUC:</td>
<td>Rhode Island Public Utilities Commission</td>
</tr>
<tr>
<td>SENESCO:</td>
<td>Southeastern New England Shipbuilding Corporation</td>
</tr>
<tr>
<td>TEA-21:</td>
<td>Transportation Equity Act for the 21st Century, PL 105-178</td>
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<tr>
<td>TOD:</td>
<td>transit oriented development</td>
</tr>
<tr>
<td>ULI:</td>
<td>Urban Land Institute</td>
</tr>
<tr>
<td>VFF:</td>
<td>Vineyard Fast Ferry (Rhode Island Fast Ferry, Inc.)</td>
</tr>
<tr>
<td>WaTOD:</td>
<td>water transit oriented development</td>
</tr>
<tr>
<td>WTA:</td>
<td>San Francisco Bay Area Water Transit Authority</td>
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CHAPTER I. INTRODUCTION

Overview

The Quonset Business Park, a 3,000-acre waterfront site on the west side of Narragansett Bay in Rhode Island, combines air, land, and water transportation services. As regional transportation needs develop further, a new ferry terminal at this location could enhance use of water transportation. The terminal could possibly serve various locations in Narragansett Bay (see Figure 1.1). The terminal could also serve existing or new routes to Block Island in Rhode Island Sound, or Martha’s Vineyard off the coast of Massachusetts (see Figure 1.2).
Figure 1.2

Island Ferry Routes

Existing Route

Potential Route

Quonset Point

Rhode Island Sound

Block Island

Martha's Vineyard

Source: RIGIS and MassGIS. Prepared by R. Thompson, 01/2006
Purpose and Structure of this Analysis

To explore the feasibility of a ferry terminal at Quonset Point, we conducted a multi-phase study which included an analysis of southern New England ferries, a review of ferry systems and terminals in other coastal metropolitan areas, and surveys of Quonset Business Park employees and visitors to two southern New England island destinations.

Our analysis of southern New England ferries included inventorying the various regional ferry services and ferry terminals, conducting site visits and assessments of these terminals, and examining the regulatory framework within which they operate. Where possible, we also collected ridership numbers and financial data for systematic analysis.

We examined the ferry services and terminals in other coastal metropolitan areas with the goal of developing a framework through which to assess the feasibility of a ferry terminal at Quonset Point. Research focused on ferry systems in regions with rough geographic or demographic similarities to the Quonset Point location. These direct observations were supplemented by an all-encompassing literature review that included peer-reviewed studies, news articles, and technical documents and reports issued by regional planning councils and consulting agencies.

To assess local demand for ferry services and related amenities, we conducted two separate surveys as a means of assessing two potential markets for a Quonset Point ferry terminal: employees of companies located within the Quonset Business Park, and visitors to two nearby popular island destinations, Block Island and Martha’s Vineyard. We interviewed management teams and surveyed 153 employees of five Quonset Business Park businesses. These five businesses represent 56% of the total QBP employment (Quonset Development Corporation 2004). In addition, we surveyed visitors to Block Island and Martha’s Vineyard.
multiple times during the summer. In total, 905 surveys were collected: 303 Block Island visitors and 363 Martha’s Vineyard visitors completed surveys, as did 239 riders on the Quonset Point-Martha’s Vineyard ferry.
CHAPTER II. QUONSET TODAY

Setting

The Quonset Business Park is a 3,047 acre waterfront parcel that was the Quonset Naval Air Station until 1974, when the Navy decommissioned the base and turned it over to the state of Rhode Island. The RIEDC and its recently formed subsidiary, the QDC, have since worked to create a viable redevelopment plan for the site, which at present is only partially developed and contains a mix of industrial, shipping, aviation, and military uses with a full-time employment of 6,600 (Quonset Development Corporation 2003; Quonset Development Corporation 2004). In 2003, a proposal to develop the remainder of the site as an intermodal container port was halted by the newly-elected governor, Donald Carcieri—a move that ended perhaps the most contentious debate in Rhode Island’s recent history.

Currently, the updated master plan envisions a waterfront district with an expansive business park encompassing industrial, commercial, and technological uses and ultimately employing 18,000 people. The QDC does not currently envision any residential or substantial recreational development as part of its master plan. The Vineyard Fast Ferry (VFF), which represents one of the few recreational ventures within the Quonset Business Park, presently operates a seasonal passenger fast ferry from Quonset to Martha’s Vineyard, Massachusetts. VFF’s ferry has been in business since 2003 and currently operates from a temporary building and floating barge located at the Park’s Carrier Pier site (see Figure 2.1).
Regional planning reports related to Quonset

Essential to the feasibility of a ferry terminal and new/expanded ferry services in the Quonset Business Park was consideration of all other regional development plans. A thorough review of these documents indicates that this feasibility study is at this point consistent with the plans of the Quonset Development Corporation as well as the town of North Kingstown, the Rhode Island Department of Transportation and the Rhode Island State Planning Program. Continued attention should be paid to these documents through the planning and implementation phases of any ferry terminal.

Regional development plans reviewed for this feasibility study are: the Quonset Master Land Use Plan (2003) of the Quonset Development Corporation (QDC); the North Kingstown Comprehensive Plan (2001) produced by the town of North Kingstown’s Planning Department; the Rhode Island Waterborne Transportation Plan (1998) and Transportation 2025 (2004) of the Rhode Island State Planning Program; the South County Commuter Rail project (in progress) of the Rhode Island Department of Transportation; and the Quonset Airport Master Plan (in progress) of the Rhode Island Airport Corporation (RIAC).

Table 2.1 summarizes the main points of each of these plans as they relate to the feasibility of a ferry terminal and related services at Quonset Point. Further discussion of these points is interspersed where relevant throughout this report.
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<th>Transportation 2025 (RI State Planning 2004)</th>
<th>South County Commuter Rail Project (RIDOT; in progress)</th>
<th>Quonset Airport Master Plan (RIAC; in progress)</th>
<th>South County Commuter Rail Transit Oriented Development Study (RI Statewide Planning 2005)</th>
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<td><strong>Ferry Services at Quonset</strong></td>
<td>• Explore commuter boat transportation at Quonset</td>
<td>• Encourage development of Quonset as water transportation site</td>
<td>• Possible future cross-bay ferry route from Warwick to Bristol</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>• Experiment in water transportation services</td>
<td>• Encourage commuter and tourist service</td>
<td>• Accommodate multiple ferry services, cruise ships, tour boats at state landings</td>
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<tr>
<td>• Cross-bay ferry to Newport</td>
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<td>• Commuter ferry for QBP workers once Park develops to “full potential”</td>
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<td><strong>Ferry Landings at Quonset</strong></td>
<td>• n/a</td>
<td>• Encourage development of Quonset as water transportation site</td>
<td>• Use existing ferry landings to “full potential” and add new facilities “as demand warrants”</td>
<td>n/a</td>
<td>30 acres of airport property are designated for “non-aviation uses” such as a ferry terminal</td>
<td>n/a</td>
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<tr>
<td>• Utilize either Carrier Pier or Davisville Piers because existing infrastructure represents “an unusual opportunity”</td>
<td>• Utilize either Carrier Pier or Davisville Piers because of existing infrastructure</td>
<td>• Expand waterborne transp. at Quonset</td>
<td>• Facilitate bicycle boarding at ferry landing</td>
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<tr>
<td><strong>Related Transportation</strong></td>
<td>• n/a</td>
<td>• n/a</td>
<td>• Future consideration of commuter rail station at West Davisville</td>
<td></td>
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<tr>
<td>• Encourage development of commuter transportation opportunities</td>
<td>• n/a</td>
<td>• Intermodalism</td>
<td>• Potential future colocation of airport and ferry termini</td>
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<tr>
<td><strong>Related Development</strong></td>
<td></td>
<td>• Expand public transportation alternatives</td>
<td>• Future consideration of commuter rail station at West Davisville</td>
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<td>• Develop tourism/ activity center at Carrier Pier in order to facilitate a Newport ferry</td>
<td>• Activity center at Quonset will facilitate ferry services</td>
<td>• Intermodal mini-transit hub may be appropriate at Quonset</td>
<td>• TOD is recommended in connection with rail stations</td>
<td></td>
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<td>• Develop tourism</td>
<td>• Balance industry/ technology with culture, recreation, and open space</td>
<td>• Facilitate bicycle transit to ferry</td>
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<tr>
<td>• Enhance public access</td>
<td>• Quonset will facilitate ferry services</td>
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<tr>
<td>• Balance industry/ technology with culture, recreation, and open space</td>
<td>• Quonset-Newport route not feasible due to lack of QBP activity center</td>
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<td><strong>Potential Conflicts w/ Quonset Ferry Services/Terminal</strong></td>
<td>• Limit increased traffic and congestion on major and local roads</td>
<td>• Distance from major local highways</td>
<td>• Cross-bay route is recommended from Warwick to Bristol</td>
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<td>• Two stops at Quonset are not warranted because of “cost and operational issues”</td>
<td>• Limit/avoid dredging and filling</td>
<td>• Lack of public transp. linkage</td>
<td>• Only add new facilities “as demand warrants”</td>
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<td>• Limit increased traffic and congestion on major and local roads</td>
<td>• Quonset-Providence route would not work because of road competition</td>
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<tr>
<td>• Limit/avoid dredging and filling</td>
<td>• Distance from major local highways</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>• Study finds limited potential for rail service and TOD at Davisville due to plans for “suburban-scale commerce park development”</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.1: Relevance of Regional Planning Documents to This Study
Potential locations for a ferry terminal at Quonset

As noted in the above summary of regional transportation and development planning reports, there are a variety of potential locations for a ferry terminal within the Quonset Business Park. As noted in both the Quonset Master Land Use Plan and the Rhode Island Waterborne Transportation Plan, both the Davisville Piers (B) and the Carrier Pier (E) are candidates because of their existing infrastructure. In addition, Allen Harbor (A) presents an interesting possibility as it is already a sheltered marine recreation area containing two actively-used marinas. Finally, the QDC management asked the researchers to examine a site on the north face of the Quonset Airport (D) and, later in the course of this study, an additional site on the northeastern side of Fry’s Cove, hereafter dubbed the “Bulkhead Site” (C) (see Figure 2.1). See Table 2.2 for an overview of these sites’ features and development restrictions.
## Table 2.2: Potential Ferry Terminal Sites within Quonset Business Park

<table>
<thead>
<tr>
<th>Ownership</th>
<th>Allen Harbor (Site A)</th>
<th>Davisville Piers (Site B)</th>
<th>Bulkhead Site (Site C)</th>
<th>Quonset Airport (Site D)</th>
<th>Carrier Pier (Site E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>State (QDC); Town of North Kingstown</td>
<td>State (QDC)</td>
<td>State (QDC)</td>
<td>RIDOT (leased to RIAC)</td>
<td>State (QDC)</td>
<td></td>
</tr>
<tr>
<td>Development Restrictions</td>
<td>Town of North Kingstown; CRMC: Type 3 Waters; buffer requirements*</td>
<td>MARAD; CRMC: Type 6 Waters; buffer requirements*</td>
<td>MARAD; CRMC: Type 6 Waters; buffer requirements*</td>
<td>FAA; CRMC: Type 6 Waters; buffer requirements*</td>
<td>CRMC: Type 6 Waters; buffer requirements*</td>
</tr>
<tr>
<td>Accessibility by land</td>
<td>Direct vehicle access</td>
<td>Direct vehicle access</td>
<td>-----</td>
<td>-----</td>
<td>Direct vehicle access</td>
</tr>
<tr>
<td>Accessibility by sea*</td>
<td>Shallow channel (8 ft at MLW); Cove depth is 6 ft at MLW</td>
<td>Deepwater channel (30 ft at MLW); depth at pier is 30 ft at MLW</td>
<td>No channel; Cove depth is 5 ft at MLW</td>
<td>No channel; Cove depth is 7 ft at MLW</td>
<td>Deepwater channel (30 ft at MLW); depth at pier is 9 ft at MLW</td>
</tr>
<tr>
<td>Primary existent businesses</td>
<td>Allen Harbor Yacht Club &amp; Marina; Allen Harbor Boating Association</td>
<td>North Atlantic Distributors (NORAD)</td>
<td>----</td>
<td>Quonset State Airport; related businesses</td>
<td>Vineyard Fast Ferry; Southeastern New England Shipbuilding Co. (SENESCO)</td>
</tr>
<tr>
<td>Existent Infrastructure</td>
<td>Existent marina</td>
<td>Two fixed piers; port support facilities</td>
<td>(Funds to repair) bulkhead</td>
<td>Bulkhead</td>
<td>Breakwater</td>
</tr>
</tbody>
</table>

*Based on charted depths on NOAA Chart 13221, Narragansett Bay, 55th edition, updated December 2004*
Based on our initial assessment of each of these five sites, we did not consider site (A), Allen Harbor, as a potential location for a ferry terminal at Quonset. The choice to eliminate Allen Harbor is based on accessibility by sea. Allen Harbor is the northernmost of the potential terminal sites, which means it is furthest from the overwhelming majority of ferry route destinations considered for this study. Further, it is a very sheltered harbor that makes it an ideal protected yacht basin, but an impractical location for a ferry landing – a vessel would have to travel at least \( \frac{1}{4} \) mile at minimum speeds in the long channel leading from the harbor into open Narragansett Bay. This would add a significant amount of travel time onto any ferry route, thus making it more costly and less convenient for riders. Moreover, the site is heavily trafficked by recreational boating traffic that would present serious challenges for a ferry.

Each of the remaining four sites has benefits and costs associated with it. Further, it is understood that the Quonset Development Corporation is, as of this writing, most interested in the feasibility of sites (C), the Bulkhead site, and (D), the Airport site. We consider these sites along with the other existent terminal and port facilities in the Park in order to consider a full range of options for the Park’s future.
CHAPTER III

FERRY SERVICES AND TERMINALS: NATIONAL AND REGIONAL SETTINGS

The National Setting

In the past decade, ferry services and terminals appeared to be on the rise throughout the United States. In 1998, the U.S. Congress identified the significance of ferry transportation to the nation by calling for the U.S. Department of Transportation to inventory, study, and assess the growth potential of the nation’s passenger ferry industry.\(^1\) In 2000, the Federal Highway Administration completed the National Ferry Study, which included the compilation of the National Ferry Database. In response to this study, a 2000 edition of the Transportation Research Board’s *TR News*, entitled “Ferries in the 21\(^{st}\) Century,” lauded the “renaissance” of ferries nationwide with a series of upbeat articles exploring this so-called “comeback” (*TR News* 2000; Gorman 2000). In 2003, Weisbrod and Lawson noted the ways this increase in ferry transportation has been integral to urban waterfront revitalization in cities throughout the nation.

Much of the apparent growth in ferry transportation was due to changes in ferry technology. Changes in vessel design, propulsion and equipment have resulted in much higher speeds, which in turn have opened the possibilities for new routes. In short, this renaissance of ferry transportation can be encapsulated in diverse technological advances resulting in fast ferries. Forty years ago, when fast ferries were pioneered off the coast of Norway, they were defined by vessel speeds of thirty knots (Gee n.d.). As speeds and vessels evolved, particular attention was devoted to hull configuration, hull material, engine type, propulsion system, and deck arrangement (Baird 2004). Designers and builders use monohulls, catamarans, hydrofoil, hovercraft, swath, and innovative combinations of hull types. Most engines are diesel or gas

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\(^1\) The Transportation Equity Act for the 21\(^{st}\) Century (TEA-21) (PL 105-178) was passed in 1998, and called for the Secretary of the Department of Transportation to conduct a study of the nation’s ferry transportation systems.
turbine and may be connected to either water jets or propellers. Deck arrangements allowing rapid discharge of passengers and vehicles are emphasized.

For many designers and routes, the primary competition is in speed, and there technology innovation has resulted in dramatic changes. Gee (n.d.) has compiled these results. In 1960 vessels in the range of 30 knots and 100 passengers were in service. By 2000, 55 knots and 200 passengers approximated the capability of the industry. Operations on rivers or sheltered bays favor opportunities for even higher speeds. In more recent years fast ferries have also carried vehicles with similar increases in capability. In 1990, 36-knot vessels carrying over 50 cars were in service. By the end of that decade over 450 cars could be carried at a speed of 50 knots or more. Similarly, Latorre and Foley (1999) show recent 49-meter passenger vessels with speeds of 40 knots and 125-meter car-passenger vessels with speeds of just under 40 knots.

Newly constructed vessels confirm the speed and cargo capacity of these estimates. In mid 2005 the world’s largest fast ferry of 127 meters achieved just over 40 knots (Marine Log 2005). When fully loaded, the vessel has a capacity of 1,350 passengers and 341 cars. A second 112-meter vessel being built at the time was expected to have a capacity of 1,400 passengers and 412 cars and a speed of 40 knots.

As Wood (2000) notes, the speed of the vessel alone does not determine successful ferry services. Among the technology related issues beyond design and construction that he notes are crewing, operations, maintenance, and environmental impacts of the vessels. The environmental issues attracting most attention include external noise, exhaust emissions, and wake wash. Sweeney et al (2000) have expanded this list to include habitat, wildlife, dredging, water pollution, and safety. The latter has attracted particular attention in New England because of collisions between fast ferries and conventional vessels.
Any new technology tests the margins of what is possible and experiences failures. This is most notable when fast ferries go out of business – often for a variety of reasons. As Wood (2000) notes, inability to obtain a landing, speed restrictions related to erosion caused by the vessel wake, and high fuel consumption per passenger trip, among other factors, can result in a ferry service going out of business. For example, BC Ferry Corporation had three 122.5-meter catamarans built at a cost of around $300 million (Ship and Boat International 2003). They were designed to carry nearly 1000 passengers and 250 vehicles at 34 knots. Cost of operations, erosion damage, and lower than predicted speeds resulted in their withdrawal from service and ultimate sale for $13 million. In summary, innovation in technology, while providing great opportunities, does not assure commercial success.

Recent news and events suggest that this renaissance in ferry transportation may be short lived, and that ferry transportation may not be as robust and resilient as implied in some earlier studies. Current news coverage of ferries in New York City and Rochester, New York tells tales of woe. Whereas New York Waterway, the pioneer and primary operator of New York City’s private commuter ferries, was noted by Gorman (2000) as evidence of the rebirth of ferries, the company began experiencing severe ridership declines and financial problems in late 2003. By late 2005, the company was dangerously close to bankruptcy and was saved only by the last-minute takeover of part of its business by a local investor (Smothers 2004; McGeehan 2005b). In Rochester, the Rochester-Toronto ferry that started up in the 2004 season closed by the end of the 2005 season due to astronomical operating costs (York 2006). Both New York Waterway and the Rochester-Toronto ferry operators cited soaring fuel costs and other expenses coupled with declining ridership as the reason for their ills (Smothers 2004; York 2006). The woes of these New York ferries may not be unusual. We reviewed the National Ferry Database’s records of
southern New England ferries and terminals, and found that just five years later, the regional market is quite different: a number of ferry operators listed in the database have closed or ceased operations, and ferry landings listed as active in 2000 are no longer in use. This suggests that the national ferry market may be rather unstable, thus necessitating a great deal of caution by any prospective investor.

In connection with Weisbrod and Lawson’s (2003) glowing reports of ferries as a means of urban waterfront revitalization, we expected to find a large number of examples nationwide of multi-modal, mixed-use ferry terminals. Surprisingly, we did not. Using transportation and industry literature, Internet resources, and the Urban Land Institute database, we conducted case studies of ferry services and terminals in southern New England as well as Maine, Massachusetts, Long Island Sound, New York City, the San Francisco Bay area, and the Puget Sound area. In doing this, we did not find one existing mixed-use ferry terminal building. We also noted that relatively few terminals are truly multi-modal, serving modes of ground transportation other than cars. We found no examples of an airport-ferry terminal and only a few examples of train-ferry terminals, most notably the terminal in New London, Connecticut.

On the other hand, we did note some important features of apparently successful ferry terminals throughout the nation. First, we noted that ferry terminals are not in themselves mixed-use buildings, but are most commonly part of or in close proximity to mixed-use developments or communities. For example, the Ferry Building in San Francisco is not actually a ferry terminal, but is a mixed-use space adjacent to the ferry terminal (see Figure 3.1). Whereas the

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2 The Urban Land Institute (ULI) is an education and research organization that advocates real estate and land uses that “enhance” the “total environment”. The ULI maintains a database of development case studies that illustrate the ULI development philosophy. See www.uli.org and casestudies.uli.org.

3 We did learn that Washington State Ferries is currently planning its new Seattle Colman Dock ferry landing as a mixed use terminal, although specific plans have not yet been developed. For further information, see the project website: http://www.wsdot.wa.gov/ferries/projects/SeattleColmanDock/.
Ferry Building contains office space, restaurants, cafes and gourmet food shops, the Golden Gate terminal is a separate, smaller, utilitarian building. Further, both the Golden Gate ferry terminal and the Ferry Building are located adjacent to the Embarcadero, San Francisco’s bustling financial district. As such, ferry passengers can easily access the Ferry Building and downtown San Francisco, while Embarcadero professionals and tourists can easily access the ferry as well as the amenities of the adjacent Ferry Building.
Figure 3.1: San Francisco Ferry Terminal District
Top: Golden Gate Ferry Terminal; bottom: site plan showing Golden Gate Ferry Terminal and San Francisco Ferry Building as two distinct structures.

Site plan source: Intermodal and Terminal Access Study Design Guidelines, Arup for the San Francisco Bay Water Transit Authority, 2001
In another example, the Casco Bay Lines terminal in downtown Portland, Maine is in itself a nondescript building resembling a bus terminal, but is just a few blocks’ walking distance from Portland’s active waterfront commercial district, featuring restaurants, shops, fishing vessels, tour boats, and marinas.

Further, we noted that ferry terminals are carefully placed in or near major population centers, with very few exceptions. As noted above, we examined ferry terminals in San Francisco and Portland, as well as Seattle, Boston and New York City. We also found smaller ferry terminals in suburbs of these cities, such as Weehawken, New Jersey and Oakland, California. However, in most cases we did not find ferry terminals in suburban areas distant from major population centers and characterized by sprawl – similar to Quonset. The only exceptions to this observation were terminals that served island communities or major geographic shortcuts. Such is the case with many of the terminals in the Puget Sound area as well as the terminals in New London, Connecticut; Woods Hole, Massachusetts; and Point Judith, Rhode Island.

Finally, we did not find a ferry terminal that was the central attraction or the centerpiece of a development; rather, we found that ferry terminals are often essential components of larger, more complex developments or communities. For example, we noted that while ferry landings were essential in some locations – either by necessity, in the case of islands, or for convenience in a congested area, like in San Francisco and New York City – such terminals were not centers of activity unto themselves but were largely integrated into and synergistic with new or existing developments or communities. Such is the case in Weehawken, New Jersey and Oakland, California. In other cases, ferry landings functioned as an amenity that enhanced tourism, recreation, and a general sense of liveliness in a waterfront community; Boston’s Rowe’s Wharf terminal is an example of this. While this type of ferry landing contributed actively to the
dynamism of the development or community, such a landing was only a small part of a large and diverse mix of uses and activities.

Figure 3.2: Rowes Wharf Ferry Terminal

The Regional Setting

Our assessment of the feasibility of a ferry terminal at Quonset Point is by necessity grounded in the regional context of ferry services and terminals. For the purposes of this study, the “regional context” considered is that of Southern New England – Massachusetts, Rhode Island, and Connecticut – including ferries connecting Rhode Island and Connecticut with New York (see Figure 3.3). In order to systematically study the region’s ferry market, we compiled an inventory of regional ferry services and of ferry terminals within Rhode Island (see Tables 3.1 and 3.2).
Southern New England Ferry Landings

Numbered Landings
1. New Harbor, RI
2. Old Harbor, RI
3. Jamestown, RI
4. Prudence Island, RI
5. Bristol, RI
6. Vineyard Haven, MA
7. Oak Bluffs, MA
8. Edgartown, MA

Figure 3.3

Source: R. Thompson, Department of Marine Affairs, URI, 02/2006
<table>
<thead>
<tr>
<th>Ferry Operators (2005)</th>
<th>Ownership</th>
<th>Season</th>
<th>Psgr/Auto</th>
<th>Vessel</th>
<th>Service From</th>
<th>Service To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block Island Express</td>
<td>Wronowski family</td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Fast ferry</td>
<td>New London, CT</td>
<td>Block Island (Old Harbor)</td>
</tr>
<tr>
<td>Conanicut Marine Svcs.</td>
<td></td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Conventional ferry</td>
<td>Jamestown, RI</td>
<td>Newport, RI</td>
</tr>
<tr>
<td>Cross Sound Ferry</td>
<td>Wronowski family</td>
<td>Yr-round</td>
<td>Psgr/Auto</td>
<td>Conventional ferry</td>
<td>New London, CT</td>
<td>Orient Point, NY (LI)</td>
</tr>
<tr>
<td>Falmouth Ferry Service/ Pier Piper</td>
<td></td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Conventional ferry</td>
<td>Falmouth, MA</td>
<td>Martha’s Vineyard (Edgartown)</td>
</tr>
<tr>
<td>Fishers Island Ferry*</td>
<td></td>
<td>Yr-round</td>
<td>Psgr/Auto</td>
<td>Conventional ferry</td>
<td>New London, CT</td>
<td>Fishers Island (Long Island Sound)</td>
</tr>
<tr>
<td>Freedom Cruise Line</td>
<td></td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Fast ferry</td>
<td>Harwich Port, MA</td>
<td>Nantucket</td>
</tr>
<tr>
<td>Hy-Line</td>
<td></td>
<td>Yr-round</td>
<td>Psgr</td>
<td>Fast ferry</td>
<td>Hyannis, MA</td>
<td>Martha’s Vineyard (Oak Bluffs)</td>
</tr>
<tr>
<td>“</td>
<td></td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Conventional ferry</td>
<td>Hyannis, MA</td>
<td>Nantucket</td>
</tr>
<tr>
<td>“</td>
<td></td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Conventional ferry</td>
<td>Martha’s Vineyard (Oak Bluffs)</td>
<td>Nantucket</td>
</tr>
<tr>
<td>“</td>
<td></td>
<td>Yr-round</td>
<td>Psgr</td>
<td>Fast ferry</td>
<td>Hyannis, MA</td>
<td>Nantucket</td>
</tr>
<tr>
<td>Interstate Navigation*</td>
<td>Wronowski family</td>
<td>Yr-round</td>
<td>Psgr/Auto</td>
<td>Conventional ferry</td>
<td>Point Judith, RI</td>
<td>Block Island (Old Harbor)</td>
</tr>
<tr>
<td>“</td>
<td>Wronowski family</td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Conventional ferry</td>
<td>Newport, RI</td>
<td>Block Island (Old Harbor)</td>
</tr>
<tr>
<td>Island Hi-Speed Ferry</td>
<td>Boston Harbor Cruises/ Hagopian brothers</td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Fast ferry</td>
<td>Point Judith, RI</td>
<td>Block Island (New Harbor)</td>
</tr>
<tr>
<td>Island Queen</td>
<td></td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Conventional ferry</td>
<td>Falmouth, MA</td>
<td>Martha’s Vineyard (Oak Bluffs)</td>
</tr>
<tr>
<td>New Bedford Traditional Ferry Svc.</td>
<td>New England Fast Ferry</td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Conventional ferry</td>
<td>New Bedford, MA</td>
<td>Martha’s Vineyard (Oak Bluffs)</td>
</tr>
</tbody>
</table>

*Continued on next page*
<table>
<thead>
<tr>
<th>Ferry Operators (2005)</th>
<th>Ownership</th>
<th>Season</th>
<th>Psgr/Auto</th>
<th>Vessel</th>
<th>Service From</th>
<th>Service To</th>
</tr>
</thead>
<tbody>
<tr>
<td>New England Fast Ferry (RIPTA)</td>
<td>New England Fast Ferry</td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Fast ferry</td>
<td>Providence, RI</td>
<td>Newport, RI</td>
</tr>
<tr>
<td>New England Fast Ferry</td>
<td>New England Fast Ferry</td>
<td>Yr-round</td>
<td>Psgr</td>
<td>Fast ferry</td>
<td>New Bedford, MA</td>
<td>Martha’s Vineyard (Oak Bluffs; Vineyard Haven)</td>
</tr>
<tr>
<td>Patriot Party Boats</td>
<td></td>
<td>Yr-round</td>
<td>Psgr</td>
<td>Fast ferry</td>
<td>Falmouth, MA</td>
<td>Martha’s Vineyard (Oak Bluffs)</td>
</tr>
<tr>
<td>Prudence Ferry Co.*</td>
<td></td>
<td>Yr-round</td>
<td>Psgr/Auto</td>
<td>Conventional ferry</td>
<td>Bristol, RI</td>
<td>Prudence Island, RI</td>
</tr>
<tr>
<td>Steamship Authority*</td>
<td></td>
<td>Yr-round</td>
<td>Psgr/Auto</td>
<td>Conventional ferry</td>
<td>Woods Hole, MA</td>
<td>Martha’s Vineyard (Oak Bluffs; Vineyard Haven);</td>
</tr>
<tr>
<td>&quot;*&quot;</td>
<td></td>
<td>Yr-round</td>
<td>Psgr/Auto</td>
<td>Conventional ferry</td>
<td>Hyannis, MA</td>
<td>Nantucket</td>
</tr>
<tr>
<td>&quot;*&quot;</td>
<td></td>
<td>Yr-round</td>
<td>Psgr</td>
<td>Fast ferry</td>
<td>Hyannis, MA</td>
<td>Nantucket</td>
</tr>
<tr>
<td>Viking Ferry</td>
<td></td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Conventional ferry</td>
<td>Montauk, NY (LI)</td>
<td>Block Island (New Harbor)</td>
</tr>
<tr>
<td>Vineyard Fast Ferry</td>
<td>Charlie Donadio</td>
<td>Seasonal</td>
<td>Psgr</td>
<td>Fast ferry</td>
<td>Quonset Point, RI</td>
<td>Martha’s Vineyard (Oak Bluffs)</td>
</tr>
</tbody>
</table>

*Denotes lifeline service to an island community
### TABLE 3.2: RHODE ISLAND FERRY TERMINALS

<table>
<thead>
<tr>
<th>Terminals (2005)</th>
<th>Used by</th>
<th>Terminal Building</th>
<th>Waiting Area</th>
<th>Parking</th>
<th>Terminal Amenities</th>
<th>Dining/ Shopping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block Island, RI</td>
<td>Interstate Nav; Block Island Express</td>
<td>One story building</td>
<td>Outdoor – no designated area</td>
<td>only pickup/dropoff</td>
<td>Public restrooms in BI Visitor's Ctr</td>
<td>Vending machine; walk to shops/restaurants/beach</td>
</tr>
<tr>
<td>Old Harbor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block Island, RI</td>
<td>IHSF</td>
<td>Ticket booth</td>
<td>Outdoor -- no designated area</td>
<td>only pickup/dropoff</td>
<td>Restrooms in Payne's Dock</td>
<td>Marina snack bar; bar; gift shop</td>
</tr>
<tr>
<td>New Harbor (Payne's Dock/ Marina)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block Island, RI</td>
<td>Viking Ferry Co.</td>
<td>None</td>
<td>Outdoor -- no designated area</td>
<td>only pickup/dropoff</td>
<td>Restrooms in Champlin's Marina</td>
<td>Marina snack bar; bar; bakery; ice cream shop</td>
</tr>
<tr>
<td>New Harbor (Champlin's)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bristol, RI</td>
<td>Prudence Island Ferry</td>
<td>Ticket booth</td>
<td>Outdoor shelter</td>
<td>$10/day on site</td>
<td>None</td>
<td>Vending machines</td>
</tr>
<tr>
<td>Jamestown, RI</td>
<td>Conanicut Marine Svcs</td>
<td>Marina office</td>
<td>Outdoor marina</td>
<td>Free street/ Overflow</td>
<td>Public restrooms across street</td>
<td>Marina deli; ice cream; wine/</td>
</tr>
<tr>
<td>Newport, RI</td>
<td>Conanicut Marine; other boats</td>
<td>Temp ticket booth</td>
<td>Outdoor wharf</td>
<td>Rates vary on site (day only)</td>
<td>Public restrooms in Bowen's Wharf</td>
<td>Walk to Bowen’s Wharf shops/restaurants</td>
</tr>
<tr>
<td>Bowen's Wharf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newport, RI</td>
<td>Interstate Nav; Conanicut Marine; other boats</td>
<td>None</td>
<td>Outdoor park</td>
<td>Free on site (day only); overnight: $3-6</td>
<td>Public restrooms in Fort Adams Visitor's Center</td>
<td>None</td>
</tr>
<tr>
<td>Fort Adams</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newport, RI</td>
<td>RIPTA/NEFF; water taxi; Conanicut Marine Svcs</td>
<td>None</td>
<td>Outdoor park</td>
<td>$2/day; 2 blocks away</td>
<td>Public restrooms in Newport Visitor's Center</td>
<td>Vending machines</td>
</tr>
<tr>
<td>Perrotti Park</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Point Judith, RI</td>
<td>Interstate Nav; IHSF</td>
<td>Two-story building</td>
<td>Outdoor -- no designated area</td>
<td>Averages $10/day</td>
<td>Public restrooms in DEM building</td>
<td>Walk to shops/restaurants/beach</td>
</tr>
<tr>
<td>Providence, RI</td>
<td>RIPTA/NEFF (beginning 2006)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conley’s Wharf</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Information unavailable – terminal not yet developed*

*Continued on next page*
<table>
<thead>
<tr>
<th>Terminals (2005)</th>
<th>Used by</th>
<th>Terminal Building</th>
<th>Waiting Area</th>
<th>Parking</th>
<th>Terminal Amenities</th>
<th>Dining/Shopping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prudence Island, RI Homestead</td>
<td>Prudence Island Ferry</td>
<td>None</td>
<td>Outdoor – no designated area</td>
<td>Only pickup/dropoff</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Quonset Point, RI</td>
<td>Vineyard Fast Ferry</td>
<td>Double-wide trailer</td>
<td>Indoor (in trailer)/outdoor</td>
<td>$10/day onsite</td>
<td>Portable toilet</td>
<td>Vending machine</td>
</tr>
</tbody>
</table>

**Inactive Rhode Island Ferry Terminals as of 12/2005**

<table>
<thead>
<tr>
<th>East Greenwich, RI</th>
<th>Inactive</th>
<th>None</th>
<th>Outdoor park</th>
<th>On site -- cost unk</th>
<th>None</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hog Island, RI</td>
<td>Inactive</td>
<td>Outdoor park</td>
<td>On site -- cost unk</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Pawtucket, RI</td>
<td>Inactive</td>
<td>None</td>
<td>Outdoor</td>
<td>On site -- cost unk</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Portsmouth-Mt. Hope Maritime Terminal, RI</td>
<td>Inactive</td>
<td>None</td>
<td>Outdoor</td>
<td>On site -- cost unk</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Providence, RI</td>
<td>RIPTA/NEFF (terminated 2005)</td>
<td>Trailer</td>
<td>Outdoor park</td>
<td>Free on site weekdays; 2 blocks away wknds</td>
<td>Portable toilet</td>
<td>None</td>
</tr>
</tbody>
</table>

**TABLE 3.3: OTHER REGIONAL FERRY TERMINALS**

<table>
<thead>
<tr>
<th>Falmouth, MA</th>
<th>Montauk, NY (Long Island)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fishers Island, NY (Long Island Sound)</td>
<td>Nantucket, MA</td>
</tr>
<tr>
<td>Harwich Port, MA</td>
<td>New Bedford, MA: State Pier</td>
</tr>
<tr>
<td>Hyannis, MA</td>
<td>New London, CT</td>
</tr>
<tr>
<td>Martha’s Vineyard, MA: Edgartown</td>
<td>Orient Point, NY (Long Island)</td>
</tr>
<tr>
<td>Martha’s Vineyard, MA: Oak Bluffs</td>
<td>Wood’s Hole, MA</td>
</tr>
<tr>
<td>Martha’s Vineyard, MA: Vineyard Haven</td>
<td></td>
</tr>
</tbody>
</table>
Our inventory of regional ferry services and terminals revealed a number of key findings. We found that regional ferries are primarily seasonal in nature, operating between three and six months out of the year. We also found that there are no dedicated commuter ferry services in the region, but that regional ferry services serve two groups of riders: summer tourists, and seasonal and year-round island residents and workers. Further, we learned that the market for regional ferries is highly competitive and volatile, and somewhat distorted by the uneven regulatory environment. Finally, we found that the design and scale of regional ferry terminals reflect this seasonality and non-commuter ridership as well as the instability of the regional market. The following elucidates the above findings and explains their relevance to the feasibility of a ferry terminal at Quonset Point.

**Regional ferry businesses**

Our inventory of regional ferry services shows that twenty four different ferry services operated by seventeen different companies served Southern New England during the summer of 2005 (see Table 3.1). These ferries served points in Narragansett Bay; eastern Long Island; Block Island; Martha’s Vineyard; or Nantucket (see Figures 3.3 and 3.4). An examination of these services revealed many regional patterns.
Existing Ferry Routes in Rhode Island

- Block Island - Old Harbor to New London, CT
- Block Island - New Harbor to New York - Montauk
- Newport - Fort Adams to Block Island - Old Harbor
- Point Judith - State Pier to Block Island - Old Harbor
- Point Judith to Block Island - New Harbor
- Providence - Pt. St. Landing to Newport - Perrotti Pk
- Prudence Island - Homestead to Bristol - Church St.
- Quonset - Carrier Pier to Martha's Vineyard

Newport/Jamestown Routes

- Ft Adams to Bowens Wharf to Perrotti Pk
- Jamestown to Rose Island
- Perrotti Park to Goat Island
- Rose Island - Fort Adams

Source: RIGIS. Prepared by Robert Thompson
Dept. of Marine Affairs, URI. December 2005
Thirteen of the twenty four regional ferry services operate between three and six months out of the year (see Table 3.1). Of the nine ferry routes serving Rhode Island communities, seven are seasonal. Moreover, even ferries that run year-round experience a dramatic increase in ridership during the summer months; for example, in 2004 the Steamship Authority carried to Martha’s Vineyard an average of 28,550 cars and 141,676 passengers per month during the off-season (September – May), and an average of 44,770 cars and an average of 296,361 passengers per month during the summer months (Steamship Authority 2005a; Steamship Authority 2005b). Similarly, in 2003 Interstate Navigation carried to Block Island an average of 12,496 passengers per month during the off-season, and an average of 70,400 passengers per month during the summer months (Interstate Navigation Company 2004) (see Tables 3.4 and 3.5). This indicates a very limited regional reliance on and demand for year-round ferry service.
### TABLE 3.4: AVAILABLE RIDERSHIP ESTIMATES FOR RHODE ISLAND FERRIES

Please note:
These numbers are only estimations. We included numbers from all available sources, thus there is more than one estimate for some ferries. As these numbers come from a variety of different sources, comparisons should be made with caution.

<table>
<thead>
<tr>
<th>Ferry Operator</th>
<th>Route</th>
<th>Season length</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block Island Express</td>
<td>New London-Block Island</td>
<td>May-October</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>80,000</td>
<td>Landing fees, New Shoreham, RI, 8/05*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>L. Kunkel testimony in RIPUC Docket D0506 documents</td>
</tr>
<tr>
<td>Interstate Navigation</td>
<td>Point Judith-Block Island</td>
<td>year round</td>
<td>255,544</td>
<td>263,236</td>
<td>260,275</td>
<td>237,133</td>
<td>217,945**</td>
<td>Landing fees, New Shoreham, RI, 8/05*</td>
</tr>
<tr>
<td></td>
<td>Newport-Block Island</td>
<td>July-Aug</td>
<td>0</td>
<td>2,956</td>
<td>2,999</td>
<td>2,900</td>
<td>2,313</td>
<td>Landing fees, New Shoreham, RI, 8/05*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Interstate Navigation documentation in RIPUC Docket 3573 documents</td>
</tr>
<tr>
<td>Island Hi-Speed Ferry</td>
<td>Point Judith-Block Island</td>
<td>May-October</td>
<td>n/a</td>
<td>20,880</td>
<td>38,314</td>
<td>39,270</td>
<td>....***</td>
<td>Landing fees, New Shoreham, RI, 8/05*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Deded from L. Kunkel testimony in RIPUC Docket D0506 documents</td>
</tr>
<tr>
<td>Nelseco ****</td>
<td>New London-Block Island</td>
<td>May-October</td>
<td>15,469</td>
<td>18,055</td>
<td>18,121</td>
<td>15,629</td>
<td>n/a</td>
<td>Landing fees, New Shoreham, RI, 8/05*</td>
</tr>
<tr>
<td>Ripta/ New England Fast Ferry</td>
<td>Providence-Newport</td>
<td>May-October</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>38,484</td>
<td>42,740</td>
<td>Ripta Ferry Analysis, 11/04</td>
</tr>
<tr>
<td>Viking Ferry</td>
<td>Montauk-Block Island</td>
<td>May-October</td>
<td>9,746</td>
<td>10,227</td>
<td>9,591</td>
<td>8,144</td>
<td>6,981</td>
<td>Landing fees, New Shoreham, RI, 8/05*</td>
</tr>
</tbody>
</table>

*All ridership numbers based on landing fees are only estimates derived as follows: each operator’s landing fees, paid to the town of New Shoreham, RI by August 2005, divided by the $.50 landing fee. Landing fees are assessed on all passengers over the age of 12 and collected by the ferry operator, who then pays them to the town. As such, these numbers only reflect adult passengers who bought tickets to Block Island. They do not include anyone who bought a one way trip from Block Island to Point Judith; they also do not include both legs of a passenger’s round trip from Point Judith to Block Island and back – only the Block Island leg. As such, these numbers do not reflect total ridership for these ferries; they are an undercount.

** Interstate Navigation had not paid their landing fees for November and December 2004 as of 8/05, which may account for between 9,000 and 11,000 riders (based on past years).

*** Island Hi-Speed Ferry had not paid their landing fees to New Shoreham as of 8/05.

**** Nelseco is no longer in operation
**TABLE 3.5: AVAILABLE RIDERSHIP NUMBERS FOR MASSACHUSETTS FERRIES**

| Ferry Operator       | Route                | Season/Count                | 2000       | 2001       | 2002       | 2003       | 2004       | 2005       | Source                                                                 
|----------------------|----------------------|----------------------------|------------|------------|------------|------------|------------|------------|------------------------------------------------------------------------
| Steamship Authority  | Woods Hole – Martha’s Vineyard | Year round; Passengers    | 2,309,181  | 2,396,759  | 2,401,286  | 2,283,627  | 2,164,169  | 2,098,037  | Steamship Authority Traffic Reports: Passengers Carried, Mainland to the Vineyard and Return; Automobiles Carried, Mainland to the Vineyard and Return 2/10/2006 |
| “”                  | “”                   | Summer (Jun-Sept); Passengers | 1,200,837  | 1,290,652  | 1,290,534  | 1,219,075  | 1,114,932  | 1,110,640  | “” Year round; Autos only 82,894 417,453 416,024 412,823 391,260 385,305  |
| “”                  | “”                   | Year round; Autos only     | 409,516    | 417,453    | 416,024    | 412,823    | 391,260    | 385,305    | “” Year round; Autos only 82,894 417,453 416,024 412,823 391,260 385,305  |
| Steamship Authority  | Woods Hole – Nantucket | Year round; Passengers    | 578,560    | 604,025    | 600,513    | 558,690    | 508,990    | 511,798    | Steamship Authority Traffic Reports: Passengers Carried, Mainland to Nantucket and Return; Automobiles Carried, Mainland to Nantucket and Return 2/10/2006 |
| “”                  | “”                   | Summer (June-Sept); Passengers | 346,825    | 362,911    | 358,724    | 333,194    | 305,687    | 317,013    | “” Year round; Autos only 82,894 417,453 416,024 412,823 391,260 385,305  |
| “”                  | “”                   | Year round; Autos only     | 82,894     | 81,771     | 82,769     | 81,163     | 70,635     | 70,352     | “” Year round; Autos only 82,894 417,453 416,024 412,823 391,260 385,305  |

No other ridership numbers are provided here as they were unavailable to the researchers due to their proprietary nature. We were unable to access landing fee data for these islands for use in estimating ridership numbers.
Of the eleven regional year-round ferry services, the two that serve Rhode Island serve island communities (Block Island and Prudence Island) that are otherwise inaccessible by surface transportation (see Table 3.1 and Figure 3.4). Of the nine remaining year-round ferry services, eight serve islands similarly isolated from the mainland – Fishers Island (in Long Island Sound); Martha’s Vineyard; and Nantucket. The one remaining year-round ferry is Cross Sound Ferry, which functions as a significant geographical shortcut across eastern Long Island Sound by connecting Orient Point (the eastern tip of Long Island) and New London, CT (see Figure 3.3).

Regional islands inaccessible by bridge or tunnel have a unique need for and reliance upon year-round ferry transportation, termed “lifeline” service. Six of the twenty-four regional ferry services are legally considered lifeline services; as such, they are either publicly-provided or publicly-regulated utilities heavily protected by law such that island residents always have access to the mainland. For example, Interstate Navigation is a privately-owned, publicly-regulated ferry company providing lifeline service to Block Island. The Steamship Authority, by contrast, is a “public instrumentality” created by the Massachusetts legislature to serve the islands of Martha’s Vineyard and Nantucket, and therefore provides lifeline service while also regulating other private services to the islands (Steamship Authority 2005c). This indicates that regional year-round ferry services exist primarily to serve island communities.

Only six of the twenty-four regional ferry services transport automobiles as well as passengers. These six automobile ferry services are also year-round services, and five of them are the formally designated island lifeline services as noted above.4 Again, this indicates that

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4 As of February 2006, Interstate Navigation has proposed adding a fast ferry with a small car-carrying capacity to its fleet; this ferry would operate seasonally from both Point Judith and Newport to Block Island. Documents filed with the Rhode Island Public Utilities Commission in support of Interstate Navigation’s application indicate that the proposed fast ferry would carry a maximum of 6 vehicles at a round trip rate of $200.
year-round service exists primarily to serve island residents who require vehicle transportation. This also suggests that a seasonal car ferry may not be cost-effective.

None of the twenty four regional ferry services are primarily commuter ferries. Specifically, no ferry, whether seasonal or year-round, carries a substantial group of commuters to and from work each day. Whereas the lifeline ferries serving Block Island, Martha’s Vineyard, Nantucket, Prudence Island, and Fisher’s Island may include some commuters, in that there are residents of each of those islands who work on the mainland (or vice-versa), commuters are not the mainstay of those ferries’ businesses; island residents and businesses are. While the RIPTA Providence-Newport ferry was originally intended as a commuter service between the two cities, census data, traffic studies, and actual ferry ridership during its first few years indicated that this route had no potential as a commuter ferry (RIPTA 2004; Therrien 2005a).

Regional Ferry Regulatory Environment

Investigation into the regional ferry market revealed a regulatory structure that is complex and rather inconsistent. Whereas both Rhode Island and Massachusetts regulate their respective intrastate ferry services with regard to rate, schedule, etc., there are no such regulations on regional interstate ferry services. Specifically, this means that all ferries operating between Rhode Island terminals are subject to the authority of the Rhode Island Public Utilities Commission (RIPUC), which grants intrastate ferries Certificates of Public Convenience and Necessity (CPCN) and also approves schedule and rate changes (RIPUC 2005a). As such, although all of the intrastate Rhode Island ferries are privately owned, they do not freely compete within an unregulated market.\footnote{A review of all of the RIPUC’s recent decisions regarding Rhode Island ferry services gives an idea of the scope of RIPUC’s authority. A listing is available online at http://www.ripuc.org/eventsactions/orders/ferries.html.} Similarly, as mentioned above, Massachusetts ferries serving Martha’s Vineyard and Nantucket are subject to the authority of the Steamship Authority, which
operates its own lifeline ferry services and also licenses other private ferry operators (carrying more than forty passengers) operating between the Massachusetts mainland and the islands (Steamship Authority 2005c).

While these intrastate ferries are therefore subject to the regulatory authority of their respective states, there are no such regulations governing the rates and schedules of regional interstate ferries – such as Block Island Express, operating between New London, CT and Block Island, and Vineyard Fast Ferry, operating between Quonset Point, RI and Martha’s Vineyard. This suggests that these ferries may have a competitive advantage within the regional market in that they have more control over their rates, schedules, and other aspects of their businesses. Alternatively, however, it can be argued that the publicly-run ferries such as those of the Steamship Authority benefit from their ‘protected’ status as a public utility.

**Ferries Within Narragansett Bay**

Of the twenty-four regional ferry services, only three operate between terminals located within Narragansett Bay, all serving Rhode Island cities and towns. Only one of these ferries, the Prudence Island Ferry, offers year-round service to Prudence Island; this is because it is a “lifeline” service to Prudence Island’s 150 year-round residents (Prudence Conservancy 2006), providing the only regular transportation for people, automobiles, and freight to and from the island. The other two services – the RIPTA-operated Providence-Newport ferry and Conanicut Marine Services’ Jamestown-Newport ferry – offer seasonal, tourist-oriented service to Newport. According to Mark Therrien of RIPTA, the Providence-Newport ferry draws upon Providence’s population density, and primarily serves recreational travelers to Newport (Therrien 2005a). A RIPTA ridership study of the Providence-Newport ferry which highlights ridership fluctuations on weekends and during Newport festivals confirms the tourist/recreational nature of these riders
(RIPTA 2004). The Jamestown-Newport ferry also serves a primarily tourist/recreational function; part of its appeal is undoubtedly due to the New England small-town charm of Jamestown itself and its attractive waterfront (see Figure 3.5).

Figure 3.5: Jamestown Ferry Landing and Environs
Although this ferry technically offers transportation between Jamestown and Bowen’s Wharf, Newport, it also stops at other Newport Harbor locations: Rose Island; Fort Adams; Perrotti Park; and Goat Island; as such, it functions largely as a sight-seeing boat of the Harbor (Conanicut Marine Services 2005). Based upon the researchers’ observations, sight-seeing narration by the crew, on-board refreshments, and Jimmy Buffet music playing in the background further contribute to the ferry’s ‘feeling’ as a tourist attraction.

The success of the Providence-Newport and Jamestown-Newport ferries may be due in part to these two companies’ unique financial arrangements. The Providence-Newport ferry benefits from significant public subsidies. According to Mark Therrien of RIPTA, the Providence-Newport ferry has been financed largely through capital grants and ongoing subsidies from funds through the federal Intermodal Surface Transportation Efficiency Act (ISTEA) and Congestion Mitigation and Air Quality Improvement (CMAQ) programs; through this subsidy, each rider’s fare ($8 one way in 2005) is reduced by approximately $10-12 (RIPTA 2004; Therrien 2005a). This subsidy is unusual, both in the regional and national ferry markets, and has very likely influenced the ferry’s popularity. The Jamestown-Newport ferry is owned and operated by Conanicut Marine Services, which also owns and operates the Conanicut marina, boat yard, yacht brokerage service, and ship chandlery. The ferry operates from one of the marina’s docks; as such, it does not appear that the ferry operation independently carries the burden of financing the ferry landing or any related amenities or structures. Ferry tickets, information, and a small indoor waiting area are available in the Conanicut Marine Services office just steps from the ferry dock; other on-site amenities such as a deli, ice cream shop, and wine/cheese shop are undoubtedly patronized by both ferry passengers and marina clients. In
short, the Jamestown-Newport ferry most likely benefits from the stability of the larger, multi-faceted business of which it is a part.

Our research revealed that other ferry routes within Narragansett Bay have started and failed over the past several years. In 2000, when the RIPTA service from Providence to Newport was envisioned as an intra-bay commuter service, it included stops in Portsmouth, RI at the Portsmouth-Mt. Hope Maritime Terminal, and Pawtucket, RI, at a newly-constructed terminal, or “Town Landing,” on the Seekonk River. The Portsmouth stop was dropped after one season of only one “commuter” passenger each day, and the Pawtucket service was dropped for similar reasons (Therrien 2005b). The unused ferry terminals are described below.

**Ferries Serving Block Island**

Five of the twenty four southern New England ferry services (run by four companies) serve Block Island. One of these, Interstate Navigation, runs year-round lifeline service to the tiny island community – 1,010 residents year round, according to the 2000 Census (RIEDC 2005). The other four ferries serving Block Island are seasonal, transporting summer tourists to the island. While a formal count of Block Island’s seasonal population is not maintained, the most systematic estimate located for this study determined that the island population swells to between 7,000 and 8,000 during the summer months (Veeger et al 2003).

It is notable that two of the other four ferries serving Block Island have started up quite recently -- within the past five years. Island Hi-Speed Ferry, offering fast ferry service from Point Judith, RI to Block Island, started up in 2001 (RIPUC 2005b), while Block Island Express, offering fast ferry service from New London, CT to Block Island, replaced Cross Sound Ferry’s conventional ferry on the same route in 2004 (Jack 2005). It is also notable that Interstate Navigation has applied to run its own fast ferry from Point Judith to Block Island (which will
also serve Newport to Block Island) starting in 2006 (RIPUC 2005b); as of this writing, this application is currently under review by the Rhode Island Public Utilities Commission, as discussed below (RIPUC 2005b). Further, the city of Greenport, New York (on the east end of Long Island) is seeking vendors to operate a Greenport-Block Island ferry service (Voskamp 2005). Finally, Viking Ferry Co., which currently runs a small conventional ferry from Montauk to Block Island, plans to implement a much larger fast ferry on that route in 2006 (Voskamp 2005).

The recent expansion of the Block Island ferry market illustrates its potentially lucrative and yet intensely competitive nature. Competition between the three major ferry companies serving Block Island -- Interstate Navigation, Island Hi-Speed Ferry and Block Island Express -- has gained a fair amount of public attention in recent years, between the numerous lawsuits, RIPUC hearings, corporate infighting, and acrimony among Block Island residents over fluctuating rates and services (see, for example, Abbott 2002a; Abbott 2002b; Cassinelli 2001; Davenport and Harrington 2003; RIPUC 2005c; Stycos 2003; and Stycos 2005). A review of the substance of these lawsuits, hearings, and debates reveals a substantial amount of tension and antagonism among these ferry companies, the town of New Shoreham, and state officials. First-hand observations of a RIPUC hearing on June 13, 2005 regarding Interstate Navigation’s application to run a fast ferry to Block Island corroborate this observation.

It has also been argued that the Block Island ferry market is currently at excess capacity. In materials submitted to RIPUC regarding the current Interstate Navigation application, local economist Lawrence R. Kunkel determined total capacity of the two major Block Island fast ferry operators – Island Hi-Speed Ferry and Block Island Express – by multiplying the number of operating days by the number of scheduled trips and vessel seating capacity. Using approximate
2004 ridership numbers for these companies’ ferries, he then determined that only 16% of total market capacity was utilized -- or, in other words, 800,000 fast ferry passenger seats remained unutilized during the 2004 season (Kunkel 2005) (see Table 3.4). While this does not include the statistics for all ferries serving Block Island, it offers a strong indication that there may already be many more ferries serving Block Island than are necessary.

Much of the tension within the Block Island ferry market is related to the involvement of RIPUC, which, as mentioned above, is charged with regulating ferry services operating within the state of Rhode Island. As such, every rate change, service change, or potential start up of a new service is subject to the approval of the RIPUC. An example of this is Interstate Navigation’s current application to start a fast ferry service operating from both Point Judith and Newport to Block Island’s Old Harbor (RIPUC 2005b).

The process by which RIPUC evaluates new service applications and regulates existing ones is complex and unpredictable. Prior to the inception of Island Hi-Speed Ferry in 2001, RIPUC’s job was relatively easy, in that they were charged only with regulating the ferry services of one company, Interstate Navigation; since the introduction of Island Hi-Speed Ferry and other potential entrants into the local market, RIPUC has struggled to protect the lifeline services to the island while allowing for a degree of competition between different ferry operators. Discussion at the June 13, 2005 hearing of the Interstate Navigation application suggests that RIPUC regulators are presently debating how to appropriately regulate entrance into this ferry market, as well as rates charged by different ferry services. The length of time and amount of documentation regarding this application are in themselves indicators of the complexity of this case: Interstate Navigation filed its application with RIPUC in December 2004; public hearings were held in June 2005; and at the time of this writing, RIPUC has not yet
released a decision. As such, it is truly unknown at this time how RIPUC will continue to act with regard to its role as regulator of intrastate ferries. This creates significant uncertainty regarding the future of the Block Island ferry market.

The nature of the Block Island ferry market is further complicated by Block Island itself. Block Island residents are vociferous over their concerns regarding excess pedestrian and vehicle traffic on the tiny island (see for example Voskamp 2005). A further limitation to ferry service is the limited number of ferry landings on Block Island. At present, there are currently three ferry landings: the main terminal in Old Harbor, which is owned by Interstate Navigation and used by Interstate Navigation and Block Island Express (both owned by the Wronowski family); and two smaller ones in New Harbor in the Great Salt Pond, which are not true ferry terminals – just docks that are part of private marinas (see Figures 3.6 and 3.7). The geography of Block Island is such that there are really no other landing areas for ferries, though there has been some debate in the past year about the possibility of an additional fast ferry dock at the proposed Ballard’s Marina, adjacent to Old Harbor (Harrington 2005). Further, the Old Harbor location may be considered by some ferry operators to be significantly more desirable than the New Harbor landings due to its proximity to the island’s main commercial district; this topic was the subject of some debate during the June 13, 2005 RIPUC hearings. These factors further illustrate the uncertainty about the viability of any new entrant to the Block Island ferry market.
Ferries Serving Martha’s Vineyard

Of the twenty four regional ferry services mentioned above, eight serve Martha’s Vineyard, four of them on a year-round basis. In addition, there are some small boats that carry passengers and freight on a limited basis. This greater number of ferry services is undoubtedly linked to the size of the island itself – a hundred square miles, compared to Block Island’s mere ten square miles – as well as the year-round population on the island, 14,901 according to the 2000 census. The island’s summer population is proportionally larger, estimated by the island’s newspaper, the Vineyard Gazette, at 100,000 (Vineyard Gazette 2005).

Unlike ferry services to Block Island, the majority (in capacity) of which operate from Point Judith, those to Martha’s Vineyard operate from five different mainland ports in Massachusetts and Rhode Island; a past Martha’s Vineyard ferry served the island from New London, CT. As a substantially larger island – a hundred square miles comprising six different towns – Martha’s Vineyard also benefits from a wider array of ferry landings; ferries serve four docks in the towns of Oak Bluffs and Vineyard Haven, and the town wharf in Edgartown.

As with Block Island, there is only one lifeline/automobile ferry service serving the island; the Steamship Authority provides this service. Also like Block Island, there has been a great deal of change within the past few years in the ferries serving Martha’s Vineyard. Two ferry companies listed in the 2000 National Ferry Database as serving the island have either closed entirely or no longer offer service to Martha’s Vineyard, whereas three other companies have started Martha’s Vineyard service since that time (Federal Highway Administration 2000). One of the terminated services operated from New London, CT to Martha’s Vineyard, which was at that time the westernmost point of departure for Martha’s Vineyard; now, Vineyard Fast Ferry, operating from Quonset Point, RI to Martha’s Vineyard, is the westernmost departure point.
While ferries serving Martha’s Vineyard benefit from a larger market and a greater variety of mainland departure points and island landings, the market is still dynamic and unstable.

**Other Regional Ferry Industry Observations**

Our investigation of regional ferries also revealed a number of unexpected but significant findings regarding the nature of the ferry business in southern New England.

Further investigation into regional ferry services reveals much change in recent years. When compared to the list of ferry services recorded in the National Ferry Database (2000), as noted above it was found that two ferry companies serving Martha’s Vineyard have closed or ceased operations in the past five years, whereas three other routes or stops within Narragansett Bay have been dropped from existing ferry services. Further, four companies offering six different ferry services have started up in the region since 2000.

Our research indicated that there is a fair amount of consolidation and even entanglement within the regional ferry industry. For instance, both Interstate Navigation and Block Island Express are owned by members of the Wronowski family, who also own Cross Sound Ferry (serving New London, CT and Orient Point, NY). New England Fast Ferry owns two different ferry businesses operating three different ferry lines. Island Hi-Speed Ferry is part-owned by Boston Harbor Cruises, which owns a number of the ferries operating in and around Boston Harbor. Vineyard Fast Ferry is owned by a former partner in Island Hi-Speed Ferry who is also the owner of Southland Cruises, a tour boat business based in Galilee, Rhode Island.

This industry consolidation may be particularly problematic with regard to ferries serving Block Island. Interstate Navigation provides year-round conventional ferry service from Point Judith to Block Island as well as a seasonal ferry from Newport, and the same family also owns the fast ferry operating from New London to Block Island. This means that the Wronowski
family controls four of the five ferries serving Block Island. Further, as discussed above, Interstate Navigation has applied to add an additional ferry service, a fast ferry from Point Judith to Block Island. Indeed, some of the discussion in the RIPUC hearings of June 13, 2005 suggested that the Wronowski businesses may have an unfair advantage over Island Hi-Speed Ferry or any other competitor.

We also observed the impacts of rising fuel costs on local ferries. As noted above, fuel costs were among the major reasons for the recent financial difficulties of New York Waterway and the Rochester-Toronto ferry; locally, fuel costs have forced operators to raise ticket prices or charge fuel surcharges. In 2003, Interstate Navigation applied to RIPUC for a rate increase, citing higher fuel costs as one of the major reasons (Holland 2003); in July 2005, the Providence Journal reported fuel surcharges on a number of the region’s ferry services -- up to $7 on a $58 round trip VFF ticket (Kinsella 2005). While there is no clear evidence yet of the impact of these increased prices on ridership numbers, it seems likely that such charges may resulted in reduced ridership, to the detriment of these ferry companies.

Regional Ferry Terminals

Our review of the “regional context” of ferry terminals and services included an examination of local and regional ferry terminals. We conducted site visits and created an inventory of all the ferry terminals and landings within the state of Rhode Island in order to determine what other types of public and private investments have been made in ferry terminals as well as what regional ferry passengers need with regard to a ferry terminal. We found that there are twelve active and five inactive ferry terminals or landings within the state of Rhode Island. Our examination of these ferry terminals revealed a number of key findings elucidated below.
Of the twelve active ferry terminals, only two – those at Point Judith and Bristol – serve year-round lifeline ferries; one terminal – Point Judith – also serves a car ferry. All nine other terminals serve seasonal, passenger-only ferries. Further, of the twelve active ferry terminals, only two – those at Point Judith and Block Island’s Old Harbor – have dedicated permanent terminal buildings. These buildings, however, are not open to the public in any way; they are only used by the ferry companies. The only terminal that provides a dedicated building (albeit a temporary one) that provides passenger services such as a ticket counter and a small waiting area is that of Vineyard Fast Ferry at Quonset Point. The Perrotti Park Newport terminal has a visitor’s center nearby with some indoor facilities. Only two terminals provide small indoor waiting areas for passengers – the Quonset Point terminal and the Jamestown terminal. None of the terminals have dedicated on-site restroom facilities, or dining or shopping amenities beyond vending machines.

Not surprisingly, the ferry terminals throughout Rhode Island reflect the nature of the ferries they serve, which are primarily seasonal and serve primarily tourists and island populations. As such, the terminals and related structures/development are small and functional in nature; in fact, one might not call them ferry terminals at all (which connotes a degree of size and activity), but simply ferry docks or ferry landings.

The small, functional nature of Rhode Island’s ferry terminals is illustrated in part by the nature of buildings or other fixed structures at these terminal locations. Point Judith is the mainland ferry terminal that handles the greatest volume of passengers, yet the terminal consists of mainly a small, two-story clapboard building that houses Interstate Navigation’s offices (see Figure 3.8).
Figure 3.8. Ferry Terminal Building at Point Judith, RI

Top: ticketing/information window at front of building;  
bottom: back of building, which faces the water
Passengers line up outside this building on the sidewalk to buy tickets; they use restrooms across the street in a DEM building; and they wait in an ill-defined area around the building that is also trafficked by freight-laden tractors and vehicles queuing up in line for the ferry. What may appear to be a terminal building is really just an office building.

In the case of the state’s smaller ferry terminals, we found very modest structures. The Bristol ferry landing – which serves the Prudence Island Ferry year-round – consists of a small structure just large enough for one or two ticket salespersons (see Figure 3.9).

**Figure 3.9: Bristol Ferry Landing for the Year-Round Prudence Island Ferry**

Passengers queue up on the sidewalk and under a small covered area to buy tickets, and they wait outside in this parking lot/dock area, or perhaps on the benches next to a lone vending machine under the small covered area. The Newport terminus of the Providence-Newport ferry is nothing more than a floating dock adjoining a waterfront park. Whereas the nearby Newport Visitor’s Center provides some services to passengers in terms of restrooms and information, the Center
really serves all visitors to Newport due to its central location and proximity to the Gateway Visitors Center, which contains a parking lot and bus terminal (see Figure 3.10).

Figure 3.10: Newport's Perrotti Park Ferry Landing and Adjacent Visitor Center

*Top:* Ferry landing with Providence-Newport Ferry docked alongside; *bottom:* adjacent Visitor Center with indoor waiting area, restrooms, and ticket/information counter.
Finally, in the case of Point Street Landing, the Providence terminus of the Providence-Newport ferry (which, as of this writing, is no longer in use by that ferry), we found, again, a floating dock adjoining a waterfront park. The Point Street Landing also had a temporary trailer building which housed the ferry’s ticket office, but passengers waited outdoors and used a portable toilet (see Figure 3.11).

Figure 3.11: Point Street Landing, Providence

*Top: Ferry landing and adjacent park area; bottom: trailer serving as ticket window and office*
In short, because of the nature of Rhode Island’s ferries, all terminals are small, functional and have minimal infrastructure.

It was further noted that none of the terminals offer much at all with regard to passenger amenities. As noted above, none of the terminals offers full on-site restrooms; there are either portable toilets on site, or passengers are directed to a nearby public restroom (such as at Point Judith, where passengers are directed to the DEM building across the street). Also as noted above, very few of the terminals offer actual waiting areas, indoor or outdoor. While the current Quonset Point terminal contains a small temporary building that includes a small waiting area with seats, this space is hardly enough to accommodate a boatload of passengers (see Figure 3.12).
Figure 3.12: Quonset Point Vineyard Fast Ferry Terminal

Top: Exterior of building that houses ticket office and waiting area; bottom: section of interior waiting area.
At the Jamestown terminus of the Jamestown-Newport ferry, passengers can purchase tickets and perhaps even wait (standing room only) in the Conanicut Marina office, though more than four or five people creates a crowd in this tiny room. The same is true at the Newport terminus of the Providence-Newport ferry – passengers can purchase tickets and perhaps wait inside the Newport Visitor’s Center, though it does not offer sufficient space for a boatload of ferry passengers. No other ferry terminals within the state of Rhode Island offer indoor waiting areas. Whereas some of the terminals (such as Bristol) offer small covered open-air areas with a few benches, most terminals offered no such amenity whatsoever.

Along these lines, we found no ferry terminals within the state that contained any retail or dining amenities other than a few drink vending machines. It is notable, however, that most of the ferry terminals in Rhode Island are located in pedestrian-friendly downtown areas and as such are within three or four blocks of nearby restaurants, shops, and other attractions. This is the case for Block Island’s Old Harbor; Bristol; Jamestown; two of the Newport sites; Point Judith; and the former Providence stop. On Block Island, the two New Harbor terminals are located not in pedestrian-friendly areas but within marinas that offer their own amenities, shops, and vendors. In fact, the terminal that is the greatest distance from a walkable ‘downtown’ or commercial area is the current Quonset Point terminal.

We also noted that a great majority of the ferry terminals in Rhode Island are characterized by an architectural style that is reminiscent of coastal New England. The terminal building at Point Judith is one example of this style, notable for its washed-out brown clapboard shingles and Cape Cod-like design (see Figure 3.8). The Block Island terminals at Old Harbor and New Harbor (Payne’s Dock) reflect a similar architectural style (see Figure 3.13). It cannot be accidental that so many of the terminal structures around the state are similarly inspired.
Figure 3.13: Ferry Terminal Buildings on Block Island

Top: Old Harbor ferry building; bottom: New Harbor Payne’s Dock ferry building
Further, we also noted that a great majority of the ferry terminals are located in or near locations that are otherwise appealing to tourists and visitors because of their ‘sense of place’. Point Judith, for example, is a tourist attraction in its own right, between the shops, restaurants, fish piers, and beaches. This is also the case for Newport, and the ferry termini at both Perrotti Park and Bowen’s Wharf benefit from their location deep within Newport Harbor as well as their proximity to America’s Cup Avenue. Both Bristol and Jamestown are both attractive as quaint New England coastal towns with walkable downtown areas and scenic views of bustling harbors. The former Providence terminus benefited from its proximity to the popular Wickenden Street area. In fact, the only current ferry terminal location that is not located within or near an ‘activity center’ or attraction of sorts is the one at Quonset Point.

Parking facilities at each of the state’s ferry terminals varied widely. The Jamestown terminal and all of the Block Island landings offer only temporary parking spots for pick-ups and drop-offs; passengers on the Jamestown ferry may also utilize day-long street parking, although it is limited.6 Passengers to Newport-Bowen’s Wharf must park in one of Newport’s many fee-based parking lots, or attempt street parking (quite a feat during the summer months). All other sites offer some form of designated on-site parking; with the exception of Newport-Fort Adams (which is a state park). Bristol, Point Judith, and Quonset Point all charge a standard $10/day rate for parking, although such spots are quite limited at Bristol and at Point Judith passengers may walk several blocks to a gravel, grass, or dirt lot. In both Providence and Newport (Perrotti Park), passengers take advantage of nearby lots or parking garages and get a discount with their purchase of a ferry ticket.

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6 During high season, Conanicut Marine Services sometimes offers riders parking space in their boatyard by the foot of the Pell Bridge, and runs a shuttle between the boatyard and the ferry landing.
It should be noted that parking appears to be a very significant issue for ferry operators. In Point Judith, for instance, the ferry companies do not control parking. With the exception of one lot run by the Rhode Island Department of Environmental Management (DEM), the five other lots available to ferry passengers are on property leased by the DEM to private operators. The average in-season daily fee for these lots is $10. However, although these leases ostensibly include stipulations about parking fees, it is rumored that some lot operators charge $15 and even $20. While we were not able to formally confirm any of these rumors, we heard them frequently enough from ferry operators, lot operators, and passengers to consider them credible. Further discussion of survey results appears in Chapter 4.

Parking at the Providence terminus of the Providence-Newport ferry appeared to also be an issue. While RIPTA made efforts to offer free or inexpensive parking to ferry riders, this was difficult at the Point Street Landing and proved costly to RIPTA. According to Mark Therrien of RIPTA, the availability of cheaper parking (in addition to the vessel operations difficulties presented by the hurricane barrier) was one of the deciding reasons for the 2006 relocation of the Providence terminus to Conley’s Wharf (Therrien 2005b).

**Unused ferry terminals**

Discussion of Rhode Island’s ferry terminals would not be complete without some discussion of the terminals that are as of this writing inactive. As noted above, there are twelve active and five inactive ferry terminals in Rhode Island; put another way, 29% of Rhode Island’s terminals are not being used by ferries. These five inactive terminals are Pawtucket; the Portsmouth-Mt. Hope Maritime Terminal; East Greenwich; Providence Point Street Landing; and Hog Island.
The Hog Island ferry landing is currently inactive, according to an employee of the Prudence Island Ferry (which previously served the site) because its dock is in disrepair. The Providence Point Street Landing was used through the 2005 season by RIPTA’s Providence-Newport ferry, but is not scheduled for further use; as noted above, RIPTA has decided to relocate the ferry operation to Conley’s Wharf, located on Allen’s Avenue, because it is both outside the Fox Point Hurricane Barrier in Providence, and would also allow for cheaper parking.

The Pawtucket and Portsmouth-Mt. Hope Maritime Terminals – both listed in the National Ferry Database (2000) – were stops on the RIPTA Providence-Newport ferry for one season (2001), but those stops were discontinued because of insufficient ridership. While the Portsmouth-Mt. Hope Maritime Terminal was a previously established commercial pier requiring little investment from RIPTA, the Pawtucket ferry landing was developed largely through public funds, most notably a $750,000 grant from the Federal Ferry Boat Discretionary Program (Federal Highway Administration 2005). While the Portsmouth site continues its commercial functions, the Pawtucket site is as of this writing in a fair state of disrepair and missing the floating docks and gangway once used for boarding the ferry. Now, this site functions primarily as a recreational fishing pier (see Figure 3.14), but a design and rebuilding project may be underway.
Figure 3.14: Pawtucket Ferry Terminal

Top: Landing that once led to a ramp leading to a floating dock; bottom: recreational fisherman with damaged floating walkway in the background
The East Greenwich ferry landing is the newest of these inactive terminals, just completed in 2004. It was also funded by a federal Ferry Boat Discretionary Program grant, albeit a smaller one of approximately $250,000 (Federal Highway Administration 2005). While the East Greenwich landing is listed in the Federal Highway Administration documentation as a ferry/water taxi dock and East Greenwich Town Planner Lee R. Whitaker has been quoted in the Providence Journal as stating that “the purpose of this is to be able to serve something like the RIPTA ferry that goes between Providence and Newport” (Helman 2003), there is no evidence as of this writing that any ferry will actually use this landing. The modest dimensions of the pier, surrounding shallow waters, and remote location indicate that this dock may see limited use as a ferry landing (see Figure 3.15). This is further corroborated by the researchers’ observations that the dock – which is located in a quiet harbor in a suburban area – is currently being used as a fishing pier.

Figure 3.15: East Greenwich Ferry Landing
Concluding Thoughts

In summary, we have found the regional ferry industry to be overwhelmingly passenger-oriented and seasonal in nature, primarily serving tourists and travelers to the southern New England islands. In connection with the seasonality of this market, we found local ferry terminals to be very modest, utilitarian structures representing minimal public and private investments; yet we also found a number of these terminals to be well integrated into the developments or communities of which they are a part – scenic, pedestrian-friendly, and in keeping with what might be called traditional New England waterfront character. On the other hand, we identified a number of existing, unused terminals, including two that were developed with public funds but within a few years abandoned as ferry landings, and one that has been developed with public funds but never used as a ferry landing. Finally, we found that there has been a great deal of fluctuation and volatility in this market over recent years, which suggests that this market is perceived as lucrative, yet highly competitive and unpredictable. Together, these elements of the regional ferry industry suggest that any additional investment in the industry – whether it be in a new or expanded ferry service, a new ferry terminal, or both – must be undertaken with great caution.
CHAPTER 4. THE MARKET FOR FERRY SERVICES AT QUONSET

Introduction

A terminal at Quonset Point could conceivably serve tourist, commuter, and recreational routes. There are currently nine ferry routes running in Rhode Island (see Figure 3.4 and Table 3.1). Of these, six operate entirely within the state and the other three connect to New York, Connecticut, and Massachusetts. As discussed in Chapter 3, all but two of the routes serving Rhode Island are seasonal operations. Only the Point Judith to Block Island conventional, displacement ferry and the Bristol to Prudence Island ferry run year round.

This study examined the potential market for commuter routes within Narragansett Bay and tourist routes from Quonset Point to Martha’s Vineyard off the coast of Cape Cod and from Quonset Point to Block Island in Rhode Island Sound (see Figures 1.1 and 1.2). Because the density of activity is projected to increase dramatically at Quonset Point and along the waterfronts of Providence and East Providence, it is an appropriate time to start considering the potential feasibility of future commuter ferry routes. Similarly, because highway projects and future Massachusetts Bay Transportation Authority (MBTA) to North Kingstown will make Quonset Point more accessible, it is an appropriate time to consider ways to expand tourist based ferry service at Quonset Point.

The Vineyard Fast Ferry has operated a seasonal passenger fast ferry from Quonset Point to Martha’s Vineyard since 2003. Thus, this study examined the potential to increase the number of riders on that seasonal service. The study also assumes that any new service to Block Island will be seasonal. This assumption is based in part on observations of patterns in the regional ferry market as discussed in Chapter 3. It is also based upon two beliefs: first, that the two groups who dominate off-season travel to and from the island (Block Island residents and tradespersons
who commute to the island) will prefer the more affordable conventional ferry; and, second, that the lack of traffic on routes 1, 4, and 108 in the off-season will eliminate one of the potential competitive advantages of a Quonset Point route, which is to avoid major traffic congestion.

When this study examined the potential for commuter ferry service, it looked at both cross-bay routes to Newport or Bristol and a parallel route along the shore to Providence (see Figure 1.1). These routes were chosen because they linked areas of relatively higher densities of people and they have existing facilities that could accommodate a ferry landing. This chapter also provides a short discussion of the potential for service to the Bay Islands and water taxis or charters from Quonset. The discussion of the tourist, commuter, and recreational/flexible routes are provided in separate sections in this chapter. The chapter closes with a discussion of what travelers might expect in a terminal. Based upon 905 surveys conducted in the summer of 2005, we discuss the type of purchases ferry riders might make at or near a terminal and the relative importance or unimportance of the terminal’s appearance or of the amenities offered at the terminal.

The Market to Martha’s Vineyard and Block Island

In 2005, the URI research team surveyed 905 travelers to Block Island and Martha’s Vineyard. The surveys were conducted in June, July, and August in order to cover both the early season and the height of the summer season. Altogether, the team surveyed 303 people on Block Island, 363 people on Martha’s Vineyard, and 239 people who were riding on the Vineyard Fast Ferry that runs between Quonset Point and Martha’s Vineyard. The surveys were conducted at multiple locations on each island. The surveys on Block Island were conducted at both Old Harbor and New Harbor. The surveys on Martha’s Vineyard were conducted in Edgartown, Oak Bluffs, Vineyard Haven, and Menemsha.
Martha’s Vineyard and Block Island are very popular destinations for tourists and owners of second homes. Well over two million passengers travel on the Massachusetts Steamboat Authority ferries to and from Martha’s Vineyard each year (see Table 3.5). The Authority’s busiest year was 2002 when over 2.4 million passengers traveled by Steamship Authority ferry to Martha’s Vineyard. While Block Island is smaller and has fewer visitors, the number of visitors is still substantial. Although the Block Island ridership numbers obtained for this study are only estimations, it appears that approximately 380,000 people traveled to and from the island in 2004 (see Table 3.4).1

The Martha’s Vineyard Surveys

Not only do many millions of people travel by ferry to Martha’s Vineyard each year, our surveys show that these travelers have incomes that are well above the median income for the southern New England region. People who were surveyed on the Vineyard in the June reported having a median household income of between 75 and 100 thousand dollars (see Figure 4.1).

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1 As noted in Chapter 3, ridership statistics were not uniformly available for all regional ferry services. Most were proprietary as the property of private companies and not available to the researchers. The only exact ridership numbers offered by a ferry company and available to the public are those for Interstate Navigation from 1999-2003 and do not include automobile statistics. Some ridership statistics for Block Island Express and Island Hi-Speed Ferry are estimates that are referenced in or deduced by simple arithmetic through redacted testimony for RIPUC Docket D-0506. The rest of the numbers used for this report have been deduced from landing fees collected by the town of New Shoreham; as such, they only reflect tickets bought to Block Island; they do not include children; and they are incomplete because as of August 2005 not all ferry companies were up to date on their landing fee payments to the town of New Shoreham.
People who were surveyed on the Vineyard in July reported having a median income of between 100 and 125 thousand dollars (see Figure 4.2).

In the August surveys, the median income was again between 100 and 125 thousand dollars (see Figure 4.3).
When all three months are combined, the median income fell within the 75 to 100 thousand dollar level. However, it is important to note that of the respondents that reported their income over 28% reported having a household income of more than $150,000. Riders on the Vineyard Fast Ferry had a similar income distribution to people surveyed on the Vineyard. Again, of those reporting an income, the median income was between 75 and 100 thousand dollars and 24% reported an income of over $150,000 (see Figure 4.4).
In all three months, the overwhelming method for traveling to the island was by public ferry, and the overwhelming point of departure was Woods Hole (see Figures 4.5-4.7).

Figure 4.5

Mode of Travel to Island (n=165)
Martha’s Vineyard June, 2005

Figure 4.6

Mode of Travel to Island (n=52)
Martha’s Vineyard, July 2005
When one looks at the combined points of departure for all three months, excluding those surveyed on Vineyard Fast Ferry (see Figure 4.8) one clearly sees the dominance of Woods Hole (73%) and the relatively small percentage captured by the Vineyard Fast Ferry (5%).

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**Figure 4.8**

**Points of Departure from Mainland**

Martha’s Vineyard, June-August 2005 (n=363)

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2 This chart only shows those surveyed on Martha’s Vineyard who traveled there by ferry. Of our 363 respondents, 8.5% traveled to the island by airplane or private boat.
One might argue that the dominance of Woods Hole makes perfect sense because this is the shortest ferry trip to Martha’s Vineyard. However, total travel time is what is really important and three factors militate against the apparent competitive advantage of Woods Hole. First, traffic getting to Woods Hole can be horrendous because there are numerous potential bottlenecks. For example, Interstate 195 can grind to a crawl as it passes through the cities of Providence, Fall River, and New Bedford, and the traffic trying to get across the Cape Cod Canal can stretch for miles during the summer. Of course, once Route 28 on the Cape narrows to standard surface road, the traffic to the ferry frequently turns into miles of stop and go traffic. Second, many of the ferry riders will have to park in a satellite lot and then take a shuttle to the Woods Hole ferry, which is a transfer that adds time and difficulty to the trip. Third, modern fast ferries can leave from more distant points and actually gain time on the open water when compared to congested traffic or conventional displacement ferries (Baird 2004).

Figure 4.9 shows the origins of all the travelers to Martha’s Vineyard for all on-island surveys. Travelers from southern New England (CT, MA, and RI) are mapped by zip code while all out of the region travelers are accounted for in bar charts. This map indicates that the Vineyard Fast Ferry could potentially capture a much higher share of the travelers to the Vineyard. First of all, one should note that 15% of the travelers to the Vineyard came from Connecticut, a trip that requires them to pass through or around Rhode Island. Second, approximately 29.5% of the travelers came from states that are west or south of the region. Many of these travelers probably traveled through Rhode Island on their way to the Vineyard. This is certainly true of most of the travelers from New York and New Jersey, who made up 12% of all travelers. Many of the travelers who came from points further west or south or who came from overseas (4.5% of all travelers) may have flown into either Logan or T.F. Green airports. A ferry
service at Quonset Point could compete for travelers flying into either of these airports, particularly after the Massachusetts Bay Transportation Authority begins running trains to T.F. Green and then later to Wickford Station. Vineyard Fast Ferry already arranges transportation to and from T.F. Green. Third, a fast ferry running out of Quonset Point should also be able to compete for travelers from western Massachusetts and Vermont. Massachusetts residents accounted for 147 or 44% of all people surveyed on the Vineyard. This included people who lived on the island. However, forty Massachusetts travelers came from zip code areas that are west of the I-95 beltway around Boston and not contiguous with the beltway. In other words, the total travel time (including congestion) for these residents will potentially be shorter to Quonset Point than to either New Bedford or Woods Hole. These travelers account for 29% of the Massachusetts travelers and 12% of all travelers. It should be noted, however, that lack of knowledge, force of habit, or any other number of factors may cause ferry riders to continue traveling from New Bedford or Woods Hole.
Figure 4.9: Martha's Vineyard Survey: Southern New England Travelers by Zip Code Out of the Region by Bar Chart
(335 Total Travelers)

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<tr>
<th>Travelers from West or South of S New England</th>
<th>29.5% of all travelers</th>
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Travelers from N. NE, N=10
3% of all travelers

MA: 147 travelers 44% of all travelers
RI: 13 travelers 4% of all travelers
CT: 51 travelers 15% of all travelers
Overseas: 15 travelers 4.5% of all travelers

Travelers by Zip Code Area
Number of Travelers
- 1
- 2
- 3
- 4 - 6
- 7 - 12

Prepared by R. Thompson, Dept. of Marine Affairs, URI, 01/2006
Sources: Burroughs, Thompson, & Smythe, 2006; US Census 2000; RIGIS; MassGIS; & CT DEP
Figure 4.10 shows all of the travelers to Martha’s Vineyard who were surveyed while aboard the Vineyard Fast Ferry. Once again, travelers from southern New England are mapped by zip code while all out of the region travelers are accounted for in bar charts. The highest number of travelers is from Connecticut (68 or 29% of all travelers). Rhode Island has the next highest number of travelers with 52 or 22%. The Vineyard Fast Ferry also did well with travelers from New York (33 or 14%) and pretty well with travelers from New Jersey (13 or 6%). As long as Vineyard Fast Ferry is competitively priced, it could dominate these markets. There is one very important qualification to this statement: 53% of the people surveyed on the Vineyard in June, July, and August reported that they brought a car with them. Currently, the ferry running out of Quonset Point is a passenger only ferry. Hence, Quonset Point cannot currently service over half the market.
Figure 4.10: Vineyard Fast Ferry Survey: Southern New England Travelers by Zip Code
Out of the Region Travelers by Bar Chart
(232 Total Travelers)

Travelers by Zip Code Area
Number of Travelers

- 1
- 2
- 3
- 4 - 5

Prepared by R. Thompson, Dept. of Marine Affairs, URI, 01/2006
Sources: Burroughs, Thompson, & Smythe, 2006; US Census 2000; RIGIS; MassGIS; & CT DEP
The average length of stay also drastically differed between the Vineyard Fast Ferry passengers and the on island respondents. As one can see from Figure 4.11, approximately 90% of the VFF passengers stayed for less than one week and about 34% were day trippers.

**Figure 4.11**

![Length of stay on island (n=239)](chart)

As can be seen from Figures 4.12 – 4.14, lengths of stay reported varied a good deal from month to month on Martha’s Vineyard. Nonetheless, the pattern is still strikingly different from the VFF. Day trippers never account for more than 10% of the respondents from any of the Vineyard surveys. Moreover, stays of a week are much more prevalent than for passengers on the VFF, especially in July and August.
Figure 4.12

Length of stay on island (n=165)
Martha’s Vineyard, June 2005

Figure 4.13

Length of stay on island (n=52)
Martha’s Vineyard, July 2005
It seems reasonable to expect people who are staying longer to be more likely to bring their cars. As the cost of parking on the mainland adds up with each additional day, the cost of taking a car on the ferry becomes more competitive and at some point cheaper. Moreover, when people stay longer, they also need to bring more luggage. A surprisingly high 33.5% of the respondents on the VFF reported that they had a car available to them on the island. Another 10% reported that they would rent a car. Still, if Quonset Point wishes to compete for travelers who will make longer stays on the island, then a car ferry will probably be needed, although in such a scenario landing on the islands becomes an issue.

Figure 4.10 also shows that Vineyard Fast Ferry is capturing very few travelers from Massachusetts zip code areas west of the I-95 beltway. As was mentioned above, travelers from this area accounted for 12% of all on-island survey respondents. More aggressive advertising could help to attract these travelers. Similarly, only one foreign traveler was surveyed on the VFF. Foreign travelers might understandably assume that the best way to get to Martha’s
Vineyard, Massachusetts, is to leave from a terminal in Massachusetts. However, the Rhode Island Tourism Council could help attract both foreign travelers and travelers from more distant states by helping to put together packages such as a week in Newport combined with a day trip to the Vineyard or a week on the Vineyard combined with a day trip to Newport. In other words, one can easily imagine a number of packages that could create an enhanced trip by leaving from Quonset Point rather than from New Bedford or Woods Hole.

The researchers also noted that Vineyard Fast Ferry was a well run operation. Departure times were timely and connections to the airport and rail station were well coordinated. The crew was professional, friendly, and efficient. The surveys showed that the passengers agreed with this assessment. Of the 233 passengers who answered a question as to whether they would take the VFF again, over 99% answered, “Yes.” However, it is important to note that these surveys were administered on fair weather days with calm seas; it is possible that ferry riders might be less positive on a rough or rainy day. Still, if the level of satisfaction dipped due to rough seas, this would be due to the vessel employed rather than the quality of the operation.

The Block Island Surveys

Overall, the travelers to Block Island also had incomes that were quite high, though not as high as the travelers to Martha’s Vineyard. Of those reporting an income in both the June and August surveys, the median income was between $75 and 100 thousand. About 15% reported having incomes of greater than $150,000.

Point Judith accounts for 80% of the ferry departures to Block Island (see Figure 4.15). The conventional, displacement ferry out of Point Judith carries 67% of the ferry passengers, the Point Judith fast ferry carries 13%, and the New London fast ferry carries 18%. The remaining
2% is split between the Montauk and Newport ferries. Although the Point Judith conventional ferry is slower than the Point Judith fast ferry, it has two advantages: it is cheaper and it docks at Old Harbor on Block Island. The competing Rhode Island fast ferry and the Montauk ferry both dock at New Harbor, which lacks the Victorian charm, restaurants, and lodgings that one finds in Old Harbor. Interstate Navigation owns the landing at Old Harbor, so any new ferry would have to negotiate landing rights with Interstate, and it is unlikely Interstate would agree to such an arrangement.

Figure 4.15
Modes of Travel of Ferry Riders to Block Island
June-August 2005

Figure 4.16 shows all of the travelers to Block Island for both of the on island surveys. Travelers from southern New England are mapped by zip code while all out of the region travelers are accounted for in bar charts.

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3 This graph shows only survey respondents who traveled by ferry to Block Island. Of the 303 survey respondents, 6.6% traveled to the island by private boat or airplane.
Figure 4.16: Block Island Survey: Southern New England Travelers by Zip Code
Out of the Region by Bar Chart
(244 Total Travelers)

MA: 28 travelers 11% of all travelers
RI: 82 travelers 34% of all travelers
CT: 53 travelers 22% of all travelers

10 Overseas travelers 4% of all travelers

Travelers from West and South of S. New England
27% of all Travelers

Travelers from N. New England
2% of Travelers

0 1 2 3

Travelers by Zip Code Area
Number of Travelers

1
2
3
4 - 6
7 - 11

Prepared by R. Thompson, Dept. of Marine Affairs, URI, 01/2006
Sources: Burroughs, Thompson, & Smythe, 2006; US Census 2000; RIGIS; MassGIS; & CT DEP
Not surprisingly, the largest number of Block Island respondents came from Rhode Island: 34%. Connecticut was next with 22% of the respondents. Massachusetts accounted for 11% of the respondents with one fewer traveler than New York, which accounted for 12% of the travelers. Altogether, 33% of the travelers came from outside of the southern New England region.

Because a fast ferry runs from New London, Connecticut, and both a fast and conventional ferry run from Point Judith, a new ferry route from Quonset Point is unlikely to attract travelers from Connecticut, New York, southern Rhode Island, or west of Interstate 395 in Massachusetts. These areas alone account for 42% of the travelers to Block Island. A ferry from Quonset Point could attract travelers from north of Route 138 in Rhode Island, from north of Providence but east of Interstate 395, and from New Hampshire and Maine. Altogether, almost 30% of the respondents came from these areas. A Block Island ferry at Quonset Point would also be well positioned to serve travelers who fly into either Logan or T.F. Green airports from overseas or more distant states. Of course, travelers who might take a ferry from Quonset Point to Block Island probably would take a ferry from Point Judith if no new ferry service is established at Quonset Point. Thus, other than reducing congestion in Point Judith and on routes 4, 1, and 108, there doesn’t seem to be any justification for the State of Rhode Island to invest in new ferry service from Quonset Point to Block Island.

**The Potential for Commuter Ferry Service**

In recent decades, planners have increasingly recognized the strong interrelationship between transportation and land use. Thus, when exploring the potential for commuter service from Quonset Point, this study started by asking what types of urban and regional forms are most
compatible with passenger ferry service. This study considers both the form of the neighborhood immediately surrounding a ferry landing and the form of the larger region to determine what factors create competitive advantages or disadvantages for ferry services. The study also examined what type of land use activities ferries might support or help to support in or around a ferry terminal. Hence, we conducted surveys to determine what type of purchases commuter and tourist ferry riders would be most interested in making in or near a ferry terminal. Finally, the study examined how ferry terminals specifically and the waterfront generally should be developed to maintain future flexibility for ferry services. Below we discuss how the potential flexibility of ferries is an attribute that clearly distinguishes them from other forms of transportation, particularly rail. However, if waterfront areas are not carefully developed with ferries in mind, that flexibility could be eliminated or greatly reduced. Moreover, if a ferry system invests too heavily in a particular site, it will be more difficult to move to a more favorable site as a waterfront redevelops and the urban and regional form changes.

This section of the report is divided into two stages. In the first part of this section, we provide a general discussion about the interrelationship between ferries and urban form and the factors that create competitive advantages and disadvantages for ferries. This discussion is based upon a review of literature on ferry services and terminals in multiple coastal metropolitan areas. We also visited several of the sites discussed in the literature. The areas we looked at included the San Francisco Bay Area; the Seattle/Puget Sound area; Long Island Sound; the Chesapeake Bay; Massachusetts Bay; and the greater Portland/Casco Bay area. We also chose to include the New York City metropolitan area in our research due to the recent, highly publicized ‘boom and

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4 The urban form of a neighborhood or city is comprised of such things as street designs, circulation systems, density of buildings, average floor space per building, mixture of land uses, and the frequency and size of public spaces (Song & Knaap 2004). Regional form includes the urban form of the separate communities and the ways that they are interconnected through transportation and natural systems (Fulton & Calthorpe 2001).
bust’ of its newly-expanded ferry system (McGeehan 2005a). The literature review included peer-reviewed studies, news articles, and technical documents and reports issued by regional planning councils and consulting firms.

The second part of this section applies the lessons learned to evaluate the feasibility for new commuter ferry service on Narragansett Bay. The second part utilizes the findings of a multi-phased study which included an analysis of southern New England ferries, surveys of Quonset Business Park employees and interviews with managers, GIS analysis, meetings with the Rhode Island Airport Corporation and a review of planning documents relevant to Quonset Point. Our analysis of southern New England ferries included inventorying the various regional ferry services and ferry terminals, conducting site visits and assessments of these terminals, and examining the regulatory framework within which they operate. Where possible, we also collected ridership numbers and financial data for systematic analysis. To assess local demand for ferry services and related amenities, we interviewed management teams and surveyed 153 employees of five Quonset Business Park businesses that represent 56% of the total QBP employment (Quonset Development Corporation 2004). The survey included both full- and part-time employees (see Table 4.1).

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5 142 surveys were in English and 11 were in Spanish.
Table 4.1
Quonset Business Park Companies and Employees Surveyed

<table>
<thead>
<tr>
<th>Company</th>
<th>Full Time Employees</th>
<th>Part Time Employees</th>
<th># of Surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Atlantic Distributors (NORAD)</td>
<td>125</td>
<td>75</td>
<td>12</td>
</tr>
<tr>
<td>Ocean State Job Lot</td>
<td>332</td>
<td>0</td>
<td>49</td>
</tr>
<tr>
<td>Electric Boat</td>
<td>1960</td>
<td>0</td>
<td>36</td>
</tr>
<tr>
<td>RI Air National Guard</td>
<td>305</td>
<td>610</td>
<td>45</td>
</tr>
<tr>
<td>RI Army National Guard</td>
<td>52</td>
<td>250</td>
<td>11</td>
</tr>
<tr>
<td>Southeastern New England Shipbuilding Co (SENESCO)</td>
<td>213</td>
<td>0</td>
<td>0⁶</td>
</tr>
<tr>
<td>Toray Plastics</td>
<td>589</td>
<td>0</td>
<td>0⁷</td>
</tr>
</tbody>
</table>

How do ferries interact with urban form?

If a ferry system is going to be successful, it must compete with other available forms of transportation. Thus, one has to examine how ferries compare to automobiles and perhaps rail or buses with respect to a specific route. Of course, two of the critical factors are total travel time (e.g., from one’s home to work) and cost. However, these are not the only factors that must be considered. For example, such factors as aesthetics, comfort, number of stops, and flexibility can all play a role when people are deciding to take a ferry or another form of transportation.

Moreover, as will be discussed in greater detail below, all of these factors are affected by the form of the region and of the neighborhood surrounding the transit stop. A good starting point, however, when considering whether a ferry route might be feasible is to determine the degree to which the ferry route would differ from the route of other forms of transportation. Would the

⁶ Senesco was asked to participate in this survey process and initially agreed, but then never followed through in distributing surveys to employees. Following nearly two months of follow-up inquiries, the research team declined to pursue Senesco further.

⁷ Toray agreed to participate in the survey process and collected approximately 25-30 completed surveys from employees. Toray attempted to return these surveys by regular mail to the URI Marine Affairs Department, but these surveys were never received. Following two months of follow-up including attempts to trace the package, the research team concluded that these surveys were lost.
route allow for a quicker crossing or the bypassing of congestion points? Or would the route largely run parallel to existing and adequately functioning roads or rails?

While some ferries provide “lifeline” service to an island (in that there is no bridge or tunnel to an island like Prudence Island), the majority of ferries reviewed for this study serve routes that are also served by bridges or tunnels. In fact, it is a particular advantage of ferries that they can bypass fixed waterbody crossings that have become bottlenecks.

New York City provides a rich example of how ferries initially played an important lifeline role in cities, how their importance declined with the construction bridges and tunnels, and how ferries are attracting renewed interest. The maps of the history of the New York City ferry system in Figure 4.17 show this story reproduced several times over: ferry traffic grew rapidly until tunnels and bridges were built; then it decreased rapidly. This pattern is evident in other areas as well: for example, a combination of ferries and streetcar lines played a central role in developing the eastern side of San Francisco Bay Area in the 19th century. However, once the San Francisco Bay Bridge was built in 1936, the ferry system declined dramatically (Grava 2002).
In some urban areas, though, the pendulum seems to be swinging back toward ferries. Aside from the cases where bridges have remained financially infeasible—such as the ferries between Portland, ME, and the islands of Casco Bay, and between Seattle and Bainbridge Island—the overburdening of bridges and tunnels seems to be a common factor in the resurgence.
of commuter ferry service. It is just such congestion that has led to ambitious plans to greatly expand ferry service in the San Francisco Bay Area. Today, traffic jams in the Bay Area leading to the Bay Bridge and Golden Gate Bridge can stretch for many miles, particularly at rush hour (San Francisco Bay Area Water Transit Authority 2003). Consequently, the recently formed San Francisco Bay Area Water Transit Authority (WTA) is implementing a significant expansion of the region’s ferry transportation system. Over the next 25 years, the Bay Area’s population is expected to grow by 20%, and transbay travel by 40%. The WTA plans to expand the region’s current ferry routes and add new routes in order to triple ridership by 2025 (WTA 2003). While the full ferry transit expansion proposed by the WTA will cost a $646 million over ten years, the WTA considers ferry transit a relatively cost-effective means of expanding transit compared to other transportation expansion projects and asserts that “ferries will relieve more congestion per dollar spent than other modes” (WTA 2003, p. 5). Further, the WTA points out that ferries are, like buses, cheap and quick transit investments to implement when compared to rail but, unlike busses, do not further contribute to traffic congestion.

As a first step in examining the viability of ferry service to and from Quonset, we evaluated the commuting patterns between the east and west sides of Narragansett Bay and determined that a cross-bay ferry route from Quonset Point to an East Bay location did not seem feasible. There is very little cross-bay commutating to and from the town of North Kingstown, where Quonset is located. For example, only 7% of North Kingstown residents commute to the East Bay, and only 6% of North Kingstown workers commute to work from the East Bay (Rhode Island Statewide Planning Program 2003) (see Figure 4.18).
Residents Working in North Kingstown

Percent of Workers

- 0% - 3%
- 3.1% - 7%
- 7.1% - 11%
- 11.1% - 31.4%

Source: 2000 U.S. Census, RI GIS.
Prepared by Robert Thompson, Dept. of Marine Affairs, URI.
December 2005

Figure 4.18
Data from our survey of Quonset workers corroborated this, indicating that less than 6% of workers live across the bay. Moreover, a study by the Rhode Island Statewide Planning Program (2004) determined that congestion on the Jamestown and Newport bridges that connect the East and West Bay is not that bad. These commuting patterns, however, are based on the current land uses at Quonset Point. It is possible that, at full build-out (which might triple the employment at QBP), Quonset Point will attract large numbers of workers from the East Bay, thus changing cross-bay commuter patterns and adding to bridge congestion. It is also possible that the operator of the Prudence Island to Bristol ferry might be persuaded to add commute hour legs to Quonset, because there would be no additional fixed costs for that operator.

A ferry route, though, does not have to go across the water body; the route could conceivably go along the shore, roughly parallel to the surface routes. Ferry routes paralleling landside transportation might have a tougher time competing with surface transportation modes in terms of time and cost (ATCS 2000; Cambridge Systematics Inc. 2004; Dyer 2003). While parallel routes are much less common than water body crossings, they do exist and more are under consideration. For example, in the San Francisco Bay Area, ferry routes are being considered that would run along the southern peninsula from Redwood City to San Francisco and from South San Francisco to San Francisco. These routes would run parallel to Interstate 101. This surface road is horribly congested and often stressful to drive. Consequently, these particular ferry routes could conceivably provide a superior service in terms of both time and pleasure of the ride.

The highest concentration of people and jobs on Narragansett Bay is in Providence, which is at the northern head of Narragansett Bay and, thus, not across the bay from anything (see Figure 4.19).
Population Density By Census Block

People per sq. mile

- Light yellow: 0 - 1782
- Orange: 1783 - 5049
- Pink: 5050 - 11714
- Blue: 11715 - 471429

Figure 4.19

Prepared by R. Thompson, Dept. of Marine Affairs, URI, 02/2006
Sources: RIGIS and 2000 U.S. Census
Providence is also adding substantial amounts of high density residential housing in and near its central business district. While Figure 4.19 shows that currently the density of population in the census blocks along the Providence harbor front is very low, there are emerging plans for high density, mixed use development along this declining port area. When current employees at Quonset Point were asked where they might take a commuter ferry from, Providence was the top choice (see Figure 4.20).

Still, a ferry from Quonset Point (or anywhere else along the bay) to Providence would not provide much of a “short cut” across the water like most of the ferry routes in the San Francisco Bay or New York City metropolitan areas.

In the case of Quonset Point, a roughly parallel competition is very real. Freeway improvement projects underway near Quonset Point and in Providence will ultimately enhance road travel between the two areas. In addition, the federal transportation bill approved in the summer of 2005 included funds to extend the rail service of the Massachusetts Bay
Transportation Authority (MBTA) further into Rhode Island. Current plans include the construction of a station and a sizable car parking structure about four miles from the proposed Quonset Point ferry sites (DePaul 2005). The station is expected to open in late 2008 and a roundtrip to Providence is expected to cost $4 (Landis 2006). As will be discussed below, a feasibility study for a transit oriented development (TOD) at that site has also been prepared (Pare Engineering Corp 2005).

Still, while cost and speed are important parts of determining whether a ferry might be competitive, they are not the only factors that travelers consider when choosing among modes. For example, the WTA explained:

Predicting ferry ridership has historically been difficult because water-transit riders often choose their travel mode based on factors other than the ride’s time and cost. Most forecast models place a premium on time and cost, ignoring factors like reliability, the need for flexibility, stress, sensitivity to ‘personal space’ and a desire to help the environment…. (WTA 2003, p.13).

Ferries are distinct from alternative modes of travel in that many riders find boat travel aesthetically appealing. Grava describes this advantage nicely when he counsels:

There is considerable pleasure in taking a boat ride, and this aspect should not be ignored in planning waterborne services. Even if the trip is made every day, the visual and psychological attraction does not disappear, and it can be an invigorating experience time and again (2002, p. 752).

In highly urbanized areas, ferries could be particularly appealing because they would provide the rider access to open space and vistas that would contrast sharply with the closed in feel of city streets. Open space is scarce in more urbanized areas. Water bodies, often the most expansive open space in the area, are largely inaccessible to the vast majority of people who do not own boats. Ferries can provide access to this open space.

In addition to the aesthetic appeal provided by the marine route, ferries can include amenities with which only heavy rail might be able to come close to offering. These comfort and
work related features might include airline-type seating, relatively low noise levels, fully
equipped toilets, food and beverage services, TV monitors, and tables. All of these conveniences
and comforts, however, raise costs. Furthermore, Grava asserts, “… comfort features by
themselves will not be enough to maintain patronage if the service cannot also show a travel time
advantage” (2002, p. 752). Here, ferries might be caught between tradeoffs: while fast ferries
improve travel times, our experience and the literature suggest that fast ferries provided a
bumpier and more uneven ride in rough water than the conventional displacement ferries and this
was confirmed by the comments of many of the travelers that we surveyed. Thus, in the absence
of smooth seas, fast ferries currently can trade speed for comfort. However, new hull designs are
being developed that will allegedly allow for both greater speed and comfort (Marine Log 2005).

Despite the attractiveness of being out on Narragansett Bay, one cannot ignore the need
for a ferry to compete in terms of convenience and cost. Our survey of workers at Quonset
highlights the importance of these considerations. Workers who were surveyed ranked
enjoyment low and convenience and price high. Consequently, a Quonset based route would
have to be competitive in its pricing, schedules, and location of stops (see Figure 4.21).8

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8 It should be emphasized that 45% of the employees surveyed reported that they would not “consider” taking a ferry
under any circumstances.
Because ferries provide access to urban open space and vistas, their appeal is not limited to commuters; ferries attract – and can generate revenue from – tourists. Thus, tourism would seem to be an important potential source of supplementary income for ferry operators. For instance, it is common knowledge in the San Francisco Bay Area that tourists ride the Sausalito to San Francisco ferry (WTA 2003). And while the Staten Island ferry is free to all riders, it is widely considered a popular tourist attraction because it offers such extraordinary views of New York Harbor and the Manhattan skyline (Weisbrod and Lawson 2003). Locally, the Jamestown-Newport ferry is another example of ferries serving tourists. As discussed in Chapter 3, by conducting a circular loop around Newport Harbor, it functions largely as a sight-seeing boat (Conanicut Marine Services 2005); this is enhanced by narration by the crew, on-board refreshments, and Jimmy Buffet music playing in the background.

Ferry companies that primarily serve commuters can also add trips and routes specifically designed for tourists. These routes work best when ferries can deliver passengers from high density residential areas to high density recreational destinations such as sports stadiums,
parades, or beaches. For example, the SeaStreak Ferry, which runs from central New Jersey to Manhattan during rush hours on weekdays, also runs trips to local beaches on both weekdays and weekends during beach season; SeaStreak also offers special “event” trips including a Macy’s Thanksgiving Day parade cruise and a “Santa Clause” cruise (SeaStreak 2005; Weisbrod and Lawson 2003). New York Waterway supplements its commuter schedule with seasonal trips to Yankee and Shea stadiums as well as a host of different sightseeing cruises (New York Waterway 2005). Ferries can also provide trips that simply get people out onto the open water. Casco Bay Lines, which operates lifeline service to a host of Casco Bay islands, charters its boats for private functions, offers a trip to an island lobster bake, and even capitalizes on its lifeline function by selling tickets for the “Mail Boat” run (Casco Bay Lines 2005).

Even though a Quonset to Providence ferry would have to compete with the highway and the MBTA in terms of cost and speed, our research indicates that commuting out on the bay by ferry would have a special appeal. Although they were not commuters, many survey respondents commented that comfort was an appeal of the newer and plusher fast ferries. Furthermore, being out on Narragansett Bay is appealing enough that during the 2005 summer season, the Vineyard Fast Ferry at Quonset ran a “Lighthouse Tour” trip at midday on weekdays in between the longer runs to Martha’s Vineyard. This tourist run provides another example of how a commuter service, which typically has excess capacity in between commuter peak hours, can potentially supplement its income with tourist routes. A Quonset based ferry could also run special routes for events like the Quonset Air Show, the Newport jazz and folk festivals, and tall ship events.

Another tourist connection to consider is the Providence to Newport ferry. After attempting to provide a commuter run from Newport to Providence, that service has reconciled itself to being a seasonal tourist service. As the density of jobs and housing increases along the
Providence waterfront, and as the number of jobs increases at Quonset Point, it might be feasible for this boat to add commuter runs between these two points. Thus, the boat and infrastructure could be more fully and efficiently utilized if it served both commuters and tourists at different times and on different routes. As will be discussed below in the scenarios, this strategy will be even more viable if the Quonset site included high density residential so that commuting could occur in both directions.

The location of the ferry could be a problem on both ends of a Quonset to Providence route. Transit routes with the highest ridership have high concentrations of jobs and housing within walking distance on both ends of the route (Dittmar and Ohland 2004). The central business district (CBD) in Providence is along a tidal river, and to approach the CBD, a ferry must slowly navigate through the hurricane barrier. A ferry cannot reach the heart of this growing job center because of low bridges and then increasingly shallow water. The seasonal Providence-Newport ferry passed through the barrier for several years, but has now decided to dock outside of the barrier. If a commuter ferry also chose to dock at the same facility as the Providence-Newport ferry, it would be well beyond the ideal ½ mile walking distance to the CBD (see Figure 4.22). Presently, most of the CBD is more than a mile from the ferry landing. By comparison, the MBTA rail stops closer to the CBD and buses travel right into it, giving them a competitive advantage over ferries on this end of the route. However, after the relocation of interstate 195 is completed, more businesses will move south of the current CBD. Thus, as commercial and residential activity increases south of the present location of interstate 195, the prospects for commuter ferry service will improve.
1/4 Mile Walking Distances From the Providence Ferry Landing

Distances
- 1/4 Mile
- 1/2 Mile
- 3/4 Mile
- 1 Mile

Providence Ferry Landing
Central Business District

Figure 4.22

Prepared by R. Thompson, Dept. of Marine Affairs
On the Quonset end of the route, a similar problem exists if the ferry lands at the airport site. The site is isolated by the airport and the height exclusion zone that is required by the Federal Aviation Administration (see Figure 4.23). Consequently, a ferry passenger would have to walk almost a mile to reach any future places of employment and much further currently. Thus, a commuter ferry to Quonset would be dependent on an efficient shuttle system. Moreover, a shuttle system can only be efficient if it is planned concurrently with land use development at Quonset.
As noted above, we surveyed representatives from the seven largest employers at Quonset Point (see Table 4.1). These company representatives were of the opinion that workers would not utilize a commuter ferry, particularly a cross-bay ferry (see Figures 4.24 and 4.25).  

Figure 4.24

What kind of ferry services could be of use to your employees and/or your business? (n=7) Quonset Business Park, November 2004 (by company)

![](chart.png)

It should be noted that one company indicated that a cross-bay ferry service could open up recruitment possibilities on Aquidneck and other East Bay locations, and that a second company is currently undergoing a major recruitment effort that could change the demographic of its employee base. Also, some representatives cited a couple of concerns regarding expanded and/or relocated ferry services. One cited concern about traffic in general and two others cited concern about foot traffic around heavy industry.
An important potential advantage of ferries over all types of rail could be lower start up costs, greater route flexibility, and reusable infrastructure should the service fail. Thus, starting a ferry service may entail less risk than building a rail or dedicated bus system. For example, the WTA noted in its financial analyses that ferries on certain routes are as cost-effective as implementing new bus service (WTA 2003). If no dredging is required, then the right-of-way is free. In the case of Quonset, some dredging would be required at the airport site for a fast passenger ferry. By contrast, buying land in urban areas for new rail right-of-ways can be extraordinarily expensive. Of course, this is why many commuter rail lines start or expand along existing rail corridors or run along existing highways. The tendency of rail to follow existing rights-of-way points to another advantage of ferries: ferries can add and change routes without moving rails or laying pavement. As long as the alternate stop has adequate docking facilities.
(which can be truly modest), the ferry can stop there, possibly with little or no increase in its fixed costs.

As was discussed in Chapter 3, in Rhode Island there are already unused or underutilized ferry docks throughout the state (or, more precisely, docks that are unused or underutilized by ferries). Unlike abandoned bus and rail stops (excluding historic stations), ferry docks are readily put to other uses. While five of the seventeen ferry or water taxi stops in Rhode Island are not presently being used for public water transit, we found that they were all being used either for fishing and recreational boating or, in one case, for industrial-commercial purposes. If a ferry service fails, the investment in supporting infrastructure is not a complete loss. In fact, if the ferry facility is designed for flexibility and investments in the terminal are kept to a minimum, then the potential losses can be kept relatively low.

Rhode Island also provides evidence of route flexibility. The Providence to Newport ferry originally docked inside the hurricane barrier that protects downtown Providence. But navigating past the barrier required the ferry to slow to a virtual crawl. Consequently, a new ferry landing has been established outside of the barrier, thereby cutting considerable time off of the trip. This flexibility, however, may have a downside when it comes to influencing urban form: the flexibility of ferry routes and the potentially low investment in ferry landings could discourage private developers from developing more intensely near ferry landings. Dittmar and Ohland assert that light rail systems have attracted more intense development and have increased return on investment more than rapid bus technologies. One of their explanations is “Developers and employers can count on a rail line to be there” (2004, p. 37). If the government makes major investments in a rail line and stations, developers and employers can make long term investment decisions that factor in the continued operation of the rail line and station. Thus, ferries landings
that lack expensive terminals might not attract as much development as rail stations. If a
developer in Providence, Rhode Island, had invested heavily in a development next to the
Providence to Newport ferry landing, she would have been greatly aggrieved when the ferry
moved south and outside the hurricane barrier.

Of course, the ferry itself represents a major investment, particularly if it is a fast ferry. For example, Interstate Navigation (the company that currently runs conventional ferry service from Point Judith to Block Island) projects the expense of its new 350-passenger fast ferry at upwards of $6 million (Fox 2005). Despite this high cost, such an investment may not have been terribly risky in the past. As late as 2002, Grava asserted that there was a healthy market for used ferries. In many respects, ferry technology lends itself to a used market better than technologies such as rail. You have to get the right type of car for your rail system, whereas ferry landings can typically handle a wide variety of ferries and ferry companies often have diversified fleets. Moreover, ferries are more easily transported than rail cars. If a ferry route fails in New England, the boats could relatively easily end up some place far away as the Caribbean. However, at least in the Northeast, the recent downsizing of ferry operations in New York (McGeehan 2005a) has led to assertions that many surplus vessels might be available. While this surplus of vessels may be beneficial to a company starting up, it could be problematic for a company ceasing operation. For example, in 2005 the Providence Journal reported that the Steamship Authority recently sold a 650-passenger conventional ferry for $105,000, although it had hoped to get $625,000 for the vessel (Kinsella 2005).

Still, the flexibility of ferries could be an important factor in creating resilient urban areas. The recent growth of commuter ferries in the New York City metropolitan area illustrates how ferries can provide critical transit when bridges or tunnels are temporarily disabled; when
the 9-11 attacks destroyed the World Trade Center station of the underground New Jersey PATH train, New York Waterway and other private ferry companies quickly stepped in to supplement cross-river transportation from New Jersey to lower Manhattan (Smothers 2004). However, when cross-river PATH service was restored in late 2003, New York Waterway’s ridership – and income – declined so precipitously that the company was forced to transfer operation of about half of its business to a second company (McGeehan 2005b).

Ferries and Transit Oriented Developments

Currently, the plans for Quonset Point include a type of exclusionary zoning that completely separates jobs from housing and that is losing favor throughout the United States. Architect Peter Calthorpe (1993), Planning Professor Robert Cervero (1998; see also Bernick and Cervero 1997) and others have argued that America needs to return to an urban form that contains a mixture of land uses, is pedestrian friendly, and is conveniently linked to transit; they call this transit-oriented development (TOD) (see Figure 4.26). Even though the TOD concept has its critics (e.g. Bae 2002), TODs are appearing in such diverse markets as the San Francisco Bay Area, suburban New Jersey, Atlanta, Dallas, and Chicago (Dittmar and Ohland 2004). The primary argument for TOD is that it makes transit more feasible because increased densities around transit stations makes transit more convenient for more people and therefore increases ridership. While most TOD studies and plans have thus far focused on rail and bus transit, a few focus on the connections between ferry transit and TOD. For example, the San Francisco Bay Area Water Transit Authority has made Water Transit-Oriented Development (WaTOD) one of the main foundations of its ambitious ferry expansion plans (WTA 2003).
Currently, there are not many workers commuting between Quonset Point and Providence to the north. For example, only 9% of employees surveyed in our study live in Providence and need to fight Providence traffic to drive to Quonset Point, whereas 20% live in the town of North Kingstown or one of the towns bordering North Kingstown. An additional 31% live in the next ‘ring’ of towns – all south and west of Providence and free of the city’s traffic. Indeed, in a survey of 153 workers at Quonset Point, almost 90% drove alone to work and only 1% took public transportation.
Still, Quonset Point has a lot of unused or underutilized space. In this way, Quonset is similar to the many derelict and underutilized waterfront sites in urban areas around the country. These areas have declined due to changes in shipping technology, manufacturing, and military base closures. Consequently, it is important to consider whether WaTOD could be used to enhance the redevelopment of Quonset and other Rhode Island urban waterfront sites. As has already been mentioned, several WaTODs are being developed in the San Francisco Bay Area.

A disadvantage that ferries have is that they cannot easily link multiple TODs and thereby increase the potential rider base. Cities like Portland, Oregon, and Salt Lake City have ambitious plans that use rail to link numerous TODs together (Calthorpe and Fulton 2001). These systems will have multiple points for residences and jobs and, thus, for departures and destinations. These rail systems can create density and pick up riders at multiple points along the trip. No single location has to supply the riders to support the route, although a central business district typically supplies the major work destination. Ferries, by contrast, are in most cases
dependent on a single departure point and single destination. The time it takes a ferry to dock and load and unload passengers is much longer than the time it takes a train or bus to make a stop. Even water taxis require more time to make a stop than a bus or train. Still, some ferries between New York and New Jersey do make multiple stops.

For most ferries to be competitive in a parallel competition, the TODs at each end of the ferry trip would have to be of a much higher density than a TOD that is linked to multiple TODs by a rail system. For example, ferries operating between lower Manhattan and central New Jersey connect two regions with extraordinarily high residential and commercial density; and ferries in the San Francisco Bay Area connect one of the nation’s densest cities with a number of densely-developed suburbs. Moreover, in the San Francisco Bay Area, decommissioned bases are adding thousands of housing units to bolster the proposed ferry expansion. Nearly 3200 housing units are planned for Mare Island, 1800 units for Alameda Point, and 5500 units for Treasure Island (Johnson 2005).

In some New Jersey waterfront locations high-density residential developments have arisen in recent years in response to the recent growth of commuter ferry services linking New Jersey and Manhattan. The New Jersey Record recently reported that the cross-river ferry service offered by New York Waterway, the region’s largest commuter ferry operator, is one of the major selling points for new riverfront developments offering $400,000 townhouses and $900,000 condominiums (DeMarrais 2004). The development proposal for Treasure Island in San Francisco Bay includes a forty-story residential tower that would be linked to downtown San Francisco by a ferry service (Johnson 2005).

High rises also address one of the unique challenges of building a TOD around a ferry terminal – availability of land. TOD advocates argue that residences and jobs should be located
within a ¼ mile of a transit stop if possible and no further than a ½ mile if we want people to walk to and from transit (Dittmar and Ohland 2004; Flint 2005). Obviously, as a ferry terminal is located on the waterfront, the ‘walkable’ area around the terminal will be substantially reduced. High rises take advantage of the smaller available area and also provide more housing units with open views that the water provides.

In the case of the Quonset Airport site (see Figure 2.1), the airport and height exclusion zone would make it impossible to get a great deal of density right around the terminal. While a tall structure could be built on the footprint that fits between the exclusion zone and the water (see Figure 4.23), the ferry would have to be connected to a satellite TOD by a dedicated shuttle that would be synchronized with the ferry schedule. Alternatively, if the ferry terminal was located in a new marina at the Bulkhead site (see Figure 2.1), then a good deal more density could be built within walking distance of the ferry (see Figure 4.28).
Figure 4.28

Source: R. Thompson, Dept. of Marine Affairs, URI, 02/2006; RIGIS Orthophoto, 2004
Recent research indicates that TOD, with its relatively higher densities, appeals to such groups as young single professionals, married couples without children, and retiring baby boomers (Flint 2005). According to the US Census, the biggest household category is people who are married or together without children at 35%, followed by singles without children at 31%. Moreover, in the coming years the population will become older and more childless, so there should be a growing market of people who are willing to trade a yard, for a unit in a high rise on the water that commands wonderful views and that is an easy ferry ride to the central business district. On the other hand, while these high rise structures would command wonderful views, they would also be easily seen over a wide a distance. Outside of an existing, high-density setting, a proposal to build such a high rise might meet fierce opposition.

Another constraint that a WaTOD would have to contend with at Quonset is storm hazards. Because the ferry terminal will be right on the water, the ¼ to ½ mile radius around the terminal will be in a flood zone or even a V-zone, which is the area that will be subjected to waves of at least three feet in height. At the airport site, the entire building footprint is in the V-zone (see Figure 4.29).
Figure 4.29

Flood Zones
- Velocity Zone
- 100-Year Flood Plain
- 500-Year Flood Plain

Allen Harbor
Davisville Pier
Bulkhead Site
Airport Site
Carrier Pier

Prepared by R. Thompson
Dept. of Marine Affairs, URI
Source: 2004 RIGIS Orthophotos
and Digitized NFIP FIRMs
The ground floor of buildings in such areas is not suitable for residential uses. Consequently, taller structures that house people on higher floors and that have flood-proofed commercial uses and parking beneath would be best suited for this type of area. A complicating factor, however, is that wind speeds are greater near the shore than they are inland and wind speed increases with height. Thus, you would experience approximately five times as much wind pressure on the eleventh floor of a high-rise on the water as you would on the second floor of a house located inland (Bush et al. 2004). Thus, taller structures on the water should be constructed to withstand the much more intense wind pressure that will be experienced there. If, on the other hand, the bulkhead site were chosen for a ferry landing, then substantially more land that is within walking distance of the landing will be out of the V-zone. In fact, the 100-year flood plain ends approximately a sixth of a mile from the bulkhead.

A potential problem with TOD development and ferries from Quonset involves serving both commuter ferries and lifeline/tourist ferries. There is always a tension between a transit station’s role as a transfer point for various modes (trains, buses, cars, bikes and pedestrians) and its role as an integral part of the neighborhood (Dittmar and Ohland 2004). One way to reduce this conflict is to dedicate as little space to automobile parking as possible. Theoretically, as jobs and residential units within walking distance of a station increase and inter-modal connections improve, the space devoted to car parking can decrease. While this makes sense with commuter service, lifeline/tourist service makes this design goal more complicated. Lifeline service must provide staging areas for cars, trucks, and freight that are carried to and from the islands. Tourists routes typically have extensive parking areas where the majority of tourists leave their cars for the day or over night. These staging areas and parking lots would create gaps in the urban fabric of a TOD. The extensive area dedicated to parking can be clearly seen in the map of
the Point Judith ferry landing (*see Figure 4.30*). While the map of the Woods Hole ferry landing
(*Figure 4.31*) also shows a large area dedicated to parking, the potential impact to the Woods
Hole community is lessened through the use of a system of satellite parking lots and shuttle
buses.
1/4 Mile Walking Distance From the Pt. Judith Ferry

Figure 4.30

Prepared by R. Thompson,
Dept. of Marine Affairs, URI, 02/2006
1/4 Mile Walking Distance From the Woods Hole Ferry

Figure 4.31

Prepared by R. Thompson, Dept. of Marine Affairs, URI, 02/2006
Source: MassGIS orthophotography, April 2001
There seem to be four potential solutions to this parking problem. First, a parking structure could be built. This would reduce the overall area needed for parking. If the portion of the first floor facing the street is dedicated to active uses rather than parking, the gap in the fabric would be largely eliminated. Still, a ground level staging area would be needed for car ferries. Because spaces in parking garages cost about three to five times more to build than surface lots (Dittmar and Ohland 2004), this would substantially increase the cost of the project. Second, the parking lots or staging areas can be placed in the more dangerous V-zones that really are not suitable for most other uses. This particular strategy looks promising for Quonset Point, where portions of the site do fall into the velocity zone which could experience heavy wave damage in a hurricane. Third, long-term parking for tourist could be provided in satellite lots that are connected to the WaTOD by shuttle bus. The obvious shortcoming of this strategy is that it requires travelers to transfer, adding time and difficulty to the trip. Fourth, commuter routes and lifeline/tourist routes could leave from different landings. Thus, the parking and staging areas of the latter would not interfere with the TOD built around the former. This strategy could be utilized at Quonset Point. Still, there are disadvantages to this approach as well; it would greatly increase the overall cost of the in-water and landing infrastructure and the businesses in the TOD would be less likely to benefit from any discretionary spending by tourists.

What do tourists want?

If a ferry terminal served both commuter and tourist routes, discretionary tourist spending would seem to be another potentially significant source of revenue for a ferry terminal or businesses near it. Thus, Weisbrod and Lawson (2003) argued that attractive ferry terminals that
contain or are linked to a mixture of uses provide opportunities for the public or private vendors to benefit economically from the discretionary spending of ferry passengers. While this assertion seems sensible, our surveys of ferry passengers indicate that even though these tourists were much wealthier than most southern New Englanders, they were not inclined to spend much money at or near the ferry terminal.

As was discussed above, 905 travelers to Martha’s Vineyard and Block Island were surveyed in the summer of 2005. As part of the survey, people were asked about their purchases in or near the ferry terminals. Most commonly travelers were interested in coffee/tea (36% of responses) or snacks (29%). Having a cocktail (11%), a nice meal (11%), or a quick meal (17%) were about equivalent in popularity and certainly of less importance than the quicker purchases above. Some were interested in souvenirs (8%). Quite importantly, a total of 36% of the individuals had not made any purchases and did not intend to make any purchases.10 These results indicate that while food and beverage concessions would attract ferry travelers, only 11% of the passengers were interested in purchasing a significant meal. So even though these passengers had relatively high incomes, they were primarily interested in small purchases. Of course, the ultimate volume of passengers would determine the total spending that might occur at establishments in or near a ferry terminal.

Our observations of ferry passenger behavior further corroborated our findings about passenger spending. We observed that upon reaching their destination, ferry passengers dispersed from the area near the ferry very quickly. On the islands, passengers seemed intent on getting to their accommodations or out to see the sights as quickly as possible. If they did stop, they mostly stopped to get tourist information and maps. Upon returning from Martha’s Vineyard or Block Island, the vast majority of the passengers went to their cars and left

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10 Totals here sum to more than 100 because individuals could check more than one item.
immediately. Moreover, passengers overwhelmingly showed up for all of the ferries rather close to the departure time. Altogether passengers had very little time to make purchases. Essentially, it seemed as if passengers were waiting to get to the islands to spend money, waiting for their vacation to *really* begin before making any significant purchases. Then once passengers returned to the mainland, their vacation was over and they were in a rush to get home.

Moreover, from an urban design standpoint, it can be difficult to create an appealing neighborhood right around a ferry landing because often a good deal of the surrounding land is dedicated to parking for walk on passengers and, in the case of car ferries, to vehicle staging for the automobiles, trucks, and freight. This was a problem at all of the ferry landings that we visited in southern New England. In Portland, Maine, the Casco Bay Lines ferry terminal did have a parking garage, which allowed it to integrate much better into the surrounding neighborhood.

**Use and Spending Preferences of Employers and Employees at a Terminal or TOD**

When the researchers surveyed company representatives and employees at Quonset Point, they included questions about what they might be interested in purchasing or doing at a waterfront development at Quonset Point. Based upon the employer surveys, the majority of employees only have a half hour for lunch and thus only time for fast meals (*see Figures 4.32 and 4.33*).
Figure 4.32

How long is the lunch break of your average employee? (n=7)  
by company  
Quonset Business Park, November 2004

Figure 4.33

How long is your average employee’s lunch break?  
by employment  
Quonset Business Park, November 2004

However, the employer representatives seemed to believe that a sizable number of employees would be interested in both fast food and fine dining restaurants (see Figures 4.34 – 4.36).
Figure 4.34

What kind of food services would serve your employees and/or your business? (n=7)

by company

Quonset Business Park, November 2004

Figure 4.35

Would fast food or food court dining serve your employees and/or your business?

by employment

Quonset Business Park, November 2004
When the employer representatives were asked about what other facilities their employees might enjoy, a cruise boat was the most popular choice, followed by a fitness center and different types of outdoor recreational activities (see Figures 4.37-4.38).
The spending habits and preferences of the employees are an important factor in determining the viability of any commercial development along the waterfront at Quonset Point. Thus, the survey asked the employees how often they brought their lunch, ate at a fast food restaurant, or ate at a sit down and order restaurant (see Figure 4.39).
It is impossible to precisely quantify the exact number of lunches purchased by the employees each week because we allowed respondents to choose “less than one.” We provided this option because we wanted to see how many employees eat out occasionally, but less than once a week. Figure 4.40 quantifies the eating habits for all meals captured within the categories of one to five times a week. Of the 709 lunches eaten within a week by about 153 employees (which leaves 57 lunches unaccounted for), 312 or 44% are eaten at fast food or sit down and order restaurants.

![Figure 4.40](image)

If one extrapolates that number out over the total number of 18,000 employees at Quonset at full build out, the lunch market is very big—perhaps over 35,000 per week. Of course, the demand for these meals would be split between any waterfront development, the new Gateway development, and businesses on Route 1. Figure 4.41 shows how much employees reported spending when they did eat lunch at a restaurant. Clearly these workers are not looking for...
expensive lunches with 92% spending less than $10, 33% spending less than $5 and 59% spending between $6 and $10.

**Figure 4.41**

![Pie chart showing lunch spending](chart.png)

Figure 4.41 shows that the after-work market for food or drinks is much smaller. Using the same methodology as was used to summarize total lunch spending (above), the number of weekly dinner meals drops to 30, and workers stop in for drinks only 11 times. Although this still amounts to a substantial market if extrapolated out over 18,000 workers, it is still vastly smaller than the lunch market. However, if high density residential were to be built at Quonset, this could markedly boost the market for dinners.
In another part of the survey, the researchers tried to answer two questions: (1) what amenities, including restaurants and shops, would Quonset employees like within the Park; and (2) at what site within the Park would employees prefer those amenities to be located.

Respondents placed checks in columns in a table indicating the location (either the new Gateway development or the proposed ferry terminal) in which they would prefer each of each a list of amenities (see Appendix for survey format.)

The results from this part of the survey are somewhat incomplete and therefore may not be the most accurate representation of Park employee preferences (see Table 4.2). 10% of survey respondents skipped this section entirely; 50% completed only half of this section. More, 33% of respondents checked both “Ferry Terminal” and “Gateway” as the preferred location for at least one amenity in which they were interested, and 19% of respondents checked both locations for
every amenity in which he or she indicated an interest. This seems to indicate that a significant number of survey respondents either didn’t care about the location of the given amenity, or were unable to conceptualize which location would be more convenient or desirable. Given these observations, these survey results should be interpreted only as one possible indicator of employee preferences.

Table 4.2
Employee Preferences for Park Amenities and Amenity Locations (n=153)
Quonset Business Park, November 2004

<table>
<thead>
<tr>
<th>Amenity</th>
<th>Terminal</th>
<th>Gateway</th>
<th>Both</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cafe/coffee shop</td>
<td>31%</td>
<td>33%</td>
<td>17%</td>
<td>19%</td>
</tr>
<tr>
<td>Fast food/chain rest</td>
<td>25%</td>
<td>31%</td>
<td>12%</td>
<td>31%</td>
</tr>
<tr>
<td>Food court</td>
<td>29%</td>
<td>25%</td>
<td>8%</td>
<td>37%</td>
</tr>
<tr>
<td>Casual rest w/ wait svc</td>
<td>30%</td>
<td>21%</td>
<td>12%</td>
<td>37%</td>
</tr>
<tr>
<td>Sports bars/pubs</td>
<td>32%</td>
<td>24%</td>
<td>12%</td>
<td>31%</td>
</tr>
<tr>
<td>Fine dining</td>
<td>30%</td>
<td>10%</td>
<td>8%</td>
<td>51%</td>
</tr>
<tr>
<td>Hotel/conference center</td>
<td>20%</td>
<td>16%</td>
<td>4%</td>
<td>61%</td>
</tr>
<tr>
<td>Grocery/bakery</td>
<td>15%</td>
<td>31%</td>
<td>5%</td>
<td>49%</td>
</tr>
<tr>
<td>Dry cleaner</td>
<td>12%</td>
<td>23%</td>
<td>3%</td>
<td>61%</td>
</tr>
<tr>
<td>Drug store</td>
<td>11%</td>
<td>31%</td>
<td>4%</td>
<td>54%</td>
</tr>
<tr>
<td>Eye glass shop</td>
<td>8%</td>
<td>18%</td>
<td>4%</td>
<td>70%</td>
</tr>
<tr>
<td>Hair stylist/barber</td>
<td>15%</td>
<td>20%</td>
<td>6%</td>
<td>59%</td>
</tr>
<tr>
<td>Mailing/shipping</td>
<td>12%</td>
<td>35%</td>
<td>5%</td>
<td>47%</td>
</tr>
<tr>
<td>Stationery shop</td>
<td>9%</td>
<td>18%</td>
<td>3%</td>
<td>71%</td>
</tr>
<tr>
<td>Sporting goods</td>
<td>10%</td>
<td>21%</td>
<td>3%</td>
<td>66%</td>
</tr>
<tr>
<td>Men’s/women’s clothing</td>
<td>14%</td>
<td>18%</td>
<td>3%</td>
<td>65%</td>
</tr>
<tr>
<td>Jewelry shop</td>
<td>10%</td>
<td>12%</td>
<td>3%</td>
<td>75%</td>
</tr>
<tr>
<td>Movie rental</td>
<td>10%</td>
<td>19%</td>
<td>5%</td>
<td>66%</td>
</tr>
<tr>
<td>DMV</td>
<td>21%</td>
<td>33%</td>
<td>7%</td>
<td>39%</td>
</tr>
<tr>
<td>Day care</td>
<td>7%</td>
<td>22%</td>
<td>3%</td>
<td>68%</td>
</tr>
<tr>
<td>Gym or fitness center</td>
<td>22%</td>
<td>27%</td>
<td>5%</td>
<td>46%</td>
</tr>
<tr>
<td>Concert hall/theater</td>
<td>26%</td>
<td>16%</td>
<td>5%</td>
<td>52%</td>
</tr>
</tbody>
</table>

Survey results show that Park employees vastly prefer restaurants and food services to all other possible Park amenities. Of the six dining-related amenities proposed to Park employees (cafe/coffee shop, fast food/chain restaurant, food court, casual restaurant w/ wait service, Sports
bar/pub, and fine dining), upwards of 62% chose five of the six (all but fine dining) for inclusion somewhere within the Park. Café/coffee shops were the most popular with employees, chosen by 81%, whereas fast food/chain restaurants and sports bars/pubs were chosen by 69% of employees. Food courts and casual restaurants ranked third among employee preferences, chosen by 62% of employees.

Survey results also showed that there is very limited interest among Park employees in other non-dining amenities. Park employees ranked dining services higher than any other amenity, and a small majority of employees indicated an interest in only 4 of the 16 non-dining services listed on the survey. Of those four preferred services, a DMV ranked the most popular, with 61% indicating a preference and 12% naming it among their top three choices for amenities at the waterfront. A gym/fitness center ranked second, with 54% of employees indicating a preference and 13% naming it among their top three choices for waterfront amenities. Mailing/shipping services and a grocery/bakery were named by a very small minority who overwhelmingly preferred these located at the Gateway.

As for potential recreational services at the waterfront, employees not only preferred waterfront entertainment, such as festivals and party boats, but active recreation, such as fishing and kayaking (see Figure 4.43).
With regard to the earlier discussion on TODs, the importance of compact, walkable development was confirmed in the employee surveys (see Figure 4.43). When asked how far they would walk to reach restaurants, shops, or services, 58% of respondents said they would not walk over a ¼ mile and another 31% said they would not walk over ½ mile. In other words, almost 90% would not walk over ½ mile. As was shown in Figure 4.29, the Quonset Airport site is well beyond this distance from any other part of the business park.
In addition to purchasing food or services at a ferry terminal, Quonset Business Park employees might be interested in taking advantage of recreational ferry routes. Figure 4.45 shows the ferry trips that were taken by surveyed employees in the last year. Block Island was clearly the most popular destination.
When asked which new routes they might be interested in taking from Quonset, Block Island again was the most popular (see Figure 4.46). Interestingly, employees reported a much higher interest in using the Martha’s Vineyard route than they demonstrated by using it. The employees also showed considerable interest in the Long Island and the Bay Islands routes.
Bay Island ferries and charter boat trips

In addition to serving the larger ferries that might run to Providence, Martha’s Vineyard or Block Island, a ferry landing at Quonset could also serve as a landing for boats going to islands in Narragansett Bay or for special charters associated with the airport or other Park businesses. Over the years, the idea of creating some sort of Narragansett Bay Islands park system keeps reemerging. If the State ever decides to invest in such a system, then docking and parking facilities at Quonset Point could serve as an important mainland stop for a Bay Islands Park water taxi system. While this type of water taxi system may not support a new landing on its own, it could be an efficient supplemental use. The Bay Islands taxis would mostly run on weekends when a commuter service would not be running.

Charter boats could also utilize a landing facility at Quonset Point. In some of our meetings with RIAC, some planners stated that they believed that some people flying into Quonset would be interested in taking a boat to other parts of the state, such as Newport; similar ideas were expressed by the RI Air and Army National Guard managers interviewed for this study. This type of service could be supplied by independent operators who would be on call rather than a scheduled taxi service. The draft airport management plan for Quonset contains multiple scenarios that forecast a sizable increase in airport use. Consequentially, the demand for this type of service would grow in the future. The RIAC planners also discussed the possibility of creating packaged trips where chartered planes would fly into Quonset and the passengers would then board chartered boats to go fishing or a chartered ferry for a day trip to one of the islands. The State could help to promote such tourist-oriented packages.
CHAPTER 5. SCENARIOS

Introduction

At Quonset multiple factors may interact to produce very different outcomes in terms of the number of ferry passengers and the terminal needed to serve them. As noted above, private ferry transportation companies respond rapidly to emerging situations. For example, after 9/11 the ferry system in New York rapidly expanded, and over the last year it has contracted due to transportation system developments and fuel cost increases. In both cases, factors that had resided at the periphery of the issue determined important aspects of the future. Neither of these dramatic changes could have been predicted using conventional forecasting techniques.

To address this deficiency, scenario approaches have been developed. Instead of attempting to predict a specific outcome in a highly volatile environment, this technique identifies primary factors that may influence the future. Scenarios introduce the decision-makers to key elements that determine the future, array the factors in situations where different mixes of them predominate, and consider how those futures might be affected by choices made today.

In the 1950s, Herman Kahn at RAND Corporation developed scenarios for military applications, and he subsequently went on to form the Hudson Institute, which by the 1970s had expanded the technique to consider energy, resources, and the environment (Kahn et al 1976). In order to develop an understanding of the availability and price of crude oil supplies, Royal Dutch/Shell utilized a scenario approach, which in retrospect proved particularly effective (Wack 1985a, b). Also in the early 1970s the President’s Council on Environmental Quality utilized a scenario approach to frame legislation managing the importation of oil through offshore superports. Subsequent work at the Stanford Research Institute, later SRI International, focused on plausible national scenarios for the 1980s (Hawken et al 1982). Later Schwartz (1991)
expanding on the techniques that could be applied in a variety of circumstances. In specific applications from planning (Hirschhorn 1980) to conservation (Peterson et al. 2003), the technique has been found useful.

**Scenarios at Quonset**

For this setting the question to be considered in a scenario format appears straightforward: Should there be a waterfront terminal at Quonset? However, probing beneath the question uncovers many conflicting forces.

Some of the factors influencing this decision are relatively well known. The Quonset Development Corporation (QDC) and Rhode Island Airport Corporation (RIAC) have land available and are interested in considering several locations in an industrial/business park on an old Navy base. Jobs, investments, and land values grow at the site. As we noted earlier in this report, the commuter interest and base for ferry service at Quonset does not currently exist, but, in the region, there is demand for ferry transportation to Block Island, and Martha’s Vineyard, Massachusetts; and in the future there may be demand for ferry transportation to the Narragansett Bay islands. A small portion of the total visitors to Martha’s Vineyard departs from Quonset during the summer season. These islands remain an attractive tourist destination for increasing numbers of visitors in spite of fluctuations of the overall economy.

Other factors that bear on this decision are not well known and could substantially affect the success of a terminal, if built. First, the market for ferry departures from Quonset could expand to include Block Island, the Narragansett Bay islands, or commuters on the Bay. The number of travelers going to Martha’s Vineyard by this route could increase. Cars and freight could be dispatched from Quonset. Conversely, fuel prices and subsidies to other lines could cause Quonset departures to contract. Second, terminals that spawn transit oriented development
have larger economic impacts, yet the development of such multiple uses at Quonset has not been specified. All of the highly successful terminals in the U.S. appear to be closely tied to multiple use developments with a significant residential population. Finally, governmental decisions, some held by QDC, will determine many important aspects of the success of the project. Enhancing walkways and highways, linking air, bus and train to the site, and providing subsidies at Quonset or elsewhere can determine the viability of the site.

All of the scenarios that follow incorporate the well-known factors enumerated above and speculate about conditions for one decade in the future. The scenarios diverge through consideration of different outcomes with respect to the factors that are poorly known. This approach allows decision-makers to observe the influence of different factors and, to the extent that they control influential decisions, make them in a way that is consistent with the preferred outcome.

**Quonset Works**

*Introduction*

Quonset Works recognizes the importance of effective multi-modal transportation in the development of an industrial and business park on this former Navy base. The jobs created on site, the geographic advantages of the site, and the airport all generate transportation opportunities. High valued water dependent industrial activities (shipyards, cargo/vehicle handling, fabrication, fish processing) will dominate the waterfront as open space is occupied, but a small portion of the waterfront will be reserved for passenger ferry services.

*Factors*
Rhode Island competes effectively in sectors of marine industrial activities. Because of its proximity to Narragansett Bay and its history as a Navy base, Quonset Works attracts diverse water-dependent industrial uses. Build-out includes expansions in all the current industrial uses of the waterfront. Shipbuilding for domestic (Jones Act) vessels and barges grows while military work continues. This existing use of the waterfront and others, as well as others attract new industries with similar technologies. In specific, the demand for new mega-yachts is now met on site by yacht construction and maintenance facilities that have all the attributes of large commercial shipyards.

Fish processing facilities and berthing space for large freezer trawlers have expanded in several dimensions. A growing number of large fishing vessels call Quonset Works home. With frozen products coming in from U.S. vessels, it becomes advantageous to import fish blocks and, using the Foreign Trade Zone status of Quonset, process them on site. Gentrification of the waterfronts at other fishing ports in the region tends to accelerate this concentration of home porting, fish processing, fish transport, fishing vessel shipyard services, and associated activities at Quonset Works. As a result, government agencies with responsibilities in fisheries (United States Coast Guard, National Oceanographic and Atmospheric Administration) locate vessels and other facilities at Quonset Works.

Establishing a large fisheries presence at Quonset Works enables expansion into aquaculture and marine biotechnology. The research and development activities that each brings to the site focus on development of industrial scale processes for aquaculture production and pharmaceuticals. Upon completion of the demonstrations, actual production processes are anticipated to occur on site or at other locations.
The car import business at Quonset relies on roll-on roll-off technology to move the freight and a large area of open space to store the cars or other freight. This technology expands in volume of car imports and in service for other large items that are imported or exported. Most importantly for this study, the synergism between ro-ro technology and normal ferry transportation of vehicles enables Quonset Works to seamlessly attract vehicle and freight ferry services to Block Island, Martha’s Vineyard, and Nantucket. Island residents and their representatives demand that public terminals on the islands be open to these new and more efficient services. This new business shares the existing ro-ro footprint at Quonset Works with only modest expansion.

Gentrification of industrial waterfronts in Providence and elsewhere in the region serves to move existing facilities to Quonset Works, a location that lacks residences near the expanding industrial waterfront. Furthermore, the movement of population south in Rhode Island increases the number and diversity of workers that are within easy distance to the site. Highway transportation has improved, so the growing number of employees can enter and leave the area with minimum disruption of adjacent neighborhoods.

Build-out of Quonset Works creates focused opportunities for ferry services that occupy limited waterfront area and emphasize effective water transportation for tourists and commuters. As envisioned in the Quonset Master Land Use Plan (2003) and in the Rhode Island Waterborne Transportation Plan (1998), the testing of a single ferry stop at Quonset proves successful as the park reaches full occupancy. Furthermore, as noted in the Quonset Master Land Use Plan (2003), this stop effectively serves park employees and others nearby. Cross-bay services to Fall River or other locations meet defined labor needs at the park and in the area. The expansion in ferry transportation meets the North Kingstown Comprehensive Plan (2001) objective of limiting
traffic congestion because at park build-out many employees will use this water link. In the context of Quonset Works, this new ferry transportation augments the functional nature of the park.

In addition, the ferry system is equipped to handle tourists seeking efficient transportation to bay or offshore island locations. Parking for the seasonal travelers from other states in addition to public transit stops at the modest ferry terminal assure an effective and growing number of passengers utilize the ferry. Enhanced connections to Green Airport and Amtrak, as well as developments at Quonset Airport, enhance the value of the ferry service to tourist and commuter destinations. The emphasis is on effective movement of people rather than the amenities of the terminal or its nearby environment. By keeping costs low and interconnections to other modes high, the terminal maintains its seasonal market and grows its commuter traffic.

With a focus on industrial development, the build-out of the park determines transportation system success at the site. The uncertainties beyond the immediate site include the effectiveness with which the ferry system can interface with other modes and needs. For example, the RIPUC rate setting powers could determine the viability of intrastate ferry expansion for commuters. The willingness of RIPTA or private carriers to arrange bus/shuttle connections with the ferry terminal, park businesses, Amtrak and Green will also need to be developed.

**Actions**

Quonset Works will be propelled by actions that the QDC takes over the next decade to assure build-out of the park while at the same time creating vibrant transportation connections that incorporate the ferries. Reaching arrangements with RIPTA and advocating for RIPUC approval of new services and rate structures for Quonset ferries will be important. Furthermore,
when the commuter transportation tipping point is reached, the QDC will need to move quickly and effectively to obtain subsidies for bay commuter routes once the needs justify it. Increasing energy costs for private vehicles combined with increasing highway congestion may accelerate the possibility of ferry based commuter transportation.

**Quonset Links**

*Introduction*

Quonset Links focuses on the ferry terminal site as a water, air and land transportation link. Development is targeted on regional transportation ease and efficiency. Over the next ten years, the seasonal ferry transportation service will expand in number of travelers, frequency of departures, and diversity of destinations. Capacity to expand the current summer passenger business to commuters and ultimately to vehicles will be a part of the focus. The goal of co-locating water, air, and land transportation in a single modern terminal will be achieved at the end of the decade.

*Factors*

In Quonset Links, the evolution of transportation drives many more travelers to the diversified facilities this site offers. Dramatic advances in fast ferry comfort and decreases in fuel consumption per passenger mile enhance the growing reality that, because ferry transportation avoids highway congestion, departure points can be placed to minimize travel times and need not be located with the shortest water link being the controlling factor. Routes 95 and 195 in and east of Providence can no longer provide predictable travel to departure points for Martha’s Vineyard. Traffic light delays on Route 1 in southern Rhode Island make travel to Point Judith for ferry departures there particularly difficult. Hence, an increasing proportion of
the growing number of travelers to offshore islands finds Quonset Links more convenient and less costly than other options. The islands have finally had to consider restricting cars. Intermodal connections and parking attract travelers through new services at Quonset. Thus, over the decade, increased service to Martha’s Vineyard develops. In the summer of 2005 we observed 5% of the individuals we surveyed on the island had traveled to Martha’s Vineyard via the current Quonset-based ferry, Vineyard Fast Ferry. Congestion and convenience work to substantially increase the number of Vineyard visitors using the Quonset ferry.

New service to Block Island, perhaps via Newport, from a new terminal at Quonset can also develop. We found that 80% of the individuals we interviewed on Block Island that traveled by ferry had come from Point Judith. However, as traffic congestion to and at Point Judith increased over the ensuing decade the state finds it desirable to direct more of the ferry activity to Quonset. This combined with advances in ferry technology and the new restrictions for cars on the islands creates a regular Quonset link. At the same time, a smaller scale Bay Islands service develops to augment this growing seasonal activity at the terminal.

While at the start of this decade there was no demand for year round commuter service to/from Quonset, provision for ample low cost boat-side parking along with summer trials show potential for Quonset as a stop for the subsidized RIPTA Newport to Providence service and Interstate Navigation’s Block Island to Newport service. Niche markets for island commuters become apparent and year round service is considered. More immediately, congestion on the major roadways in Rhode Island makes the Bay a plausible alternative to highways. Year round service linking the major population centers (Providence and Newport) to the now nearly 18,000 jobs at Quonset, utilizing a new class of small fast ferries, proves successful when subsidized like other forms of transportation. Both the Quonset Master Land Use Plan (2003) and the North
Kingstown Comprehensive Plan (2001) envision combined and successful tourist/commuter ferry services between Newport, Quonset, and other points. As the Rhode Island Waterborne Transportation Plan (1998) notes, Quonset requires an activity center; as Quonset becomes the premier Southern New England intermodal transportation node, ship, land, and air transportation becomes the focus of activity. This intermodal future is consistent with the potential of the site to also attract cruise ships, as noted in RIDOT’s updated transportation plan, Transportation 2025 (2004).

Over the decade, air travel by visitors going to and from the islands and elsewhere in the nation and world continues to increase. Fast ferry services from the islands to Quonset, with regular shuttle connections to Green Airport and the local train terminals, provide an attractive alternative. Corporate jet service and charter trips through the airport at Quonset increase. Commercial air carriers investigate the possibility of landing at Quonset.

By the end of the decade, co-location of air and ferry terminals becomes a reality to efficiently service the growth the site has experienced. In 2006, the ongoing Quonset Airport Master Plan identified a 30-acre site adjacent to the bay and one of the runways that could become a new intermodal terminal location. As this future unfolds, the land attracts a combination of public and private capital and produces a land, air and sea terminal for passengers with potential expansion to include vehicles. Fast ferries, conventional displacement vessels, and water taxis are accommodated at fixed and floating facilities. The terminal is served by the current runway configuration augmented by roads and walkways. It becomes a national model for state of the art air, land, and sea intermodal transportation. A multi-story parking garage attached to the terminal enhances the attractiveness of the location because it consolidates parking close to the terminal and allows for other uses of the surrounding lands. The scale and
intermodal nature of the site makes it attractive for a variety of water-related tourism and recreation activities, as envisioned in RIDOT’s Transportation 2025 (2004).

As volume of summer and commuter travel grows, the ferry terminal becomes an active year-round center for diverse transportation modes. Over time, this growth enhances both employment and taxes as predicted in the Quonset Master Land Use Plan (2003). Shuttle and/or bus service connects multiple points within the park to train service, Green Airport, and adjacent cities and municipalities. Multiple taxis meet each boat. A parking garage with low cost, long-term plans adds further convenience to Quonset Links.

Throughout the decade, negative surprises linger in the background but do not overwhelm these developments making Quonset Links a preferred departure point. Offshore and Bay islands take steps to rationalize their ferry landing points and access to them. Quonset departures do well in this process and maintain continued and regular access. While fast ferry services at New London and New Bedford have expanded, the niche that Quonset fills is secure. And with the development of commuter service, Quonset has a diversity of amenities on site that the others find difficult in matching. The West Davisville Railroad Station identified in Phase II of the South County Commuter Rail project (in preparation) does compete for ferry passengers to and from Providence and points north, but the impact is not severe. Finally, as the importance of this ferry transportation network develops, RIPUC establishes rates in a predictable manner for those routes it regulates.

Actions

The success of Quonset Links will be determined by several actions that occur over the decade. QDC will have a prominent hand in many of these decisions and will be in position to influence others. Key to Quonset Links will be success in building the air, land, and sea
transportation infrastructure at the site and increasing the numbers of travelers utilizing it. Over the decade, QDC working with RIAC will convert Quonset State Airport into a corporate jet park. Ultimately the air and ferry terminals will be collocated on the Bay side of the runways and effectively connected by new roads and walkways to other aspects at the site. Land transportation to the combined air and sea terminal will include auto, bus, shuttle, and taxi service. Onsite parking will be in a multi-story garage. Arrangements with RIPTA for regular bus service will be augmented with private shuttle and taxi service to the site. QDC will seek public land transportation to connect with train (West Kingston, Wickford) and air service (Green). Other population centers (Newport, Providence) will be served by ferry. On the water, QDC will seek public investments in dredging, wave protection, and pier construction to be included as a package with the terminal itself. As markets develop, the ferry system at Quonset will host year round commuter services to points in Narragansett Bay and to Block Island. Expanded seasonal service to Martha’s Vineyard and Nantucket will also become attractive.

**Island View Village**

*Introduction*

Island View Village will incorporate residential use, corporate businesses, recreation, and diverse waterfront activities. This approach builds on the recognition in the Quonset Master Land Use Plan (2003) that a mix of uses and tourism related activities are desirable for the park. The most successful Navy base redevelopments we have reviewed integrate housing into their plans. Island View Village will become a distinctive New England community with ferry transportation as one aspect of a multi-use waterfront that also includes industry, business, and waterfront activities such as marina services, kayak rental, and historic sailing ship visits.
Waterfront open space is some of the most sought after real estate in the nation, and Island View Village captures a portion of this market. Transportation of workers and residents to and from Island View Village by ferry and other modes will create the requisite number of individuals for diverse transit-oriented developments in this new community.

Factors

Rhode Island, the Ocean State, continues to attract mixed uses to its waterfronts, and over time Island View Village becomes the premier location for a bustling new community. As other coastal areas in the state and New England are built out, it becomes apparent that Island View Village is one of the few locations left between New York and Boston with space for waterfront residences adjacent to corporate offices, a top level corporate airpark, a first class marina, on site golf, and excellent ferry transportation. These amenities of waterfront living attract double income couples starting out, baby boomers retiring, and everyone in between. Access to the waterfront, noted as important in the North Kingstown Comprehensive Plan (2001), enhances Island View Village’s attractiveness as a tourism site, which is also a goal proposed in the Quonset Land Use Master Plan (2003). With careful attention to the creation of housing at different densities and prices, diverse income levels are accommodated on site.

The corporate office/airpark setting on the site creates primary employment as well as demand for many service industries. It ideally embodies the North Kingstown Comprehensive Plan (2001) goal of balancing technological uses of the park with the cultural, recreational, and open space amenities envisioned for Island View Village. This is complimented by a new marina able to handle large sail and power yachts. Both air visitors and other nearby residents bring additional business to this new community. With high-income corporate employees, air
travelers, and yacht travelers as a base, a number of high end retailers find Island View Village an ideal location.

With residences and jobs growing, transportation is redesigned in concert with the evolving character of Island View Village. The Village itself becomes an important activity center and justifies enhanced ferry transportation. Thus it becomes an activity center that warrants ferry service, as noted in the Rhode Island Waterborne Transportation Plan (1998).

Walking and transit connect residents and corporate employees to locations within Island View Village and beyond. Ferries for commuters and tourists run regularly to points in Narragansett Bay and the offshore islands. Ferry service relieves some of the commuter-based road congestion that the North Kingstown Comprehensive Plan (2001) seeks to avoid. Parking is accommodated in a cost- and design-effective manner. Transportation is sized and designed to fit the needs to the evolving community, and as such does not form the primary use of the site.

In this context, the size and style of the ferry terminal is determined by community needs, of which transportation is just one. In fact, the docks adjacent to the terminal emerge as a key community focal point that involves ship visits, waterfront festivals, and diverse water transportation services among other water-dependent uses. A small terminal, scaled and styled to complement the surrounding community, serves as the nerve center for all of this activity.

Land adjacent to the terminal remains open for art exhibits, concerts and other activities that draw people to the waterfront. Retail businesses adjacent to the terminal serve this growing clientele in a manner consistent with the overall vision for the community. Beyond the immediate waterfront area, natural areas with trails, golf, and playing fields welcome employees, residents, and visitors. Interspersed are high-density residential dwellings. Careful planning of land uses in concert with airport noise contour maps (Quonset Airport Master Plan, in
preparation) creates compatible uses, with the realization that the airport will not serve commercial flights. Commercial shipyards remain on land to the south and are separated from Island View Village by the airfield.

Several uncertainties linger over the decade of growth, but this plan, because it is diversified, holds great potential. The demand for residential housing in waterfront communities remains extremely strong, but its conversion to other synergisms at the site is less secure. Critical to the success of the ferry system is the creation of sufficient density in jobs and residences on site that in turn create the demand for transit. Also helpful in building the ferry service as part of Island View Village are diverse intermodal connections. Securing them in an effective manner will require effective interfacing with other modes of transport, and total demand will be determined by factors beyond the control of Island View Village.

Actions

Nonetheless, there are several actions that QDC can take to encourage the creation of Island View Village. Establishing a vision and plan for the site with a diverse residential community as the primary objective should be foremost. This land and sea plan will include docks for the ferries as well as other vessels, interconnected waterfront and land public space, transportation systems, parking, retail zones, etc. A first step is to create an addendum to the master plan that includes residential uses. Land planning for the terminal, public space around it, and associated residences and businesses will be an important accomplishment in the early part of the decade; this must be accomplished in collaboration with the CRMC, whose regulations currently designate the waters surrounding Quonset-Davisville for industrial/commercial working waterfront uses. State bonding and federal grants can also be helpful in various aspects of the development of Island View Village.
Ferry Terminal Viability

Over the next decade a ferry terminal at Quonset is compelling from three vantage points exhibited in the scenarios above. Scale and size of the terminal varies depending on circumstance. However, the ferry terminal must be viewed as just one element in the waterfront development at Quonset and tied to those other developments, as illustrated in the scenarios.

In Quonset Works, the focus is on efficient transportation of tourists and commuters without particular site improvements or enhancements. In Quonset Links, a substantially larger transportation focus is envisioned for the terminal; it ultimately requires co-location with the corporate air park and seamless intermodal connections. In Island View Village, the ferry terminal, docks, adjacent public spaces, and businesses become an important attribute of a new waterfront community where people live, recreate, and work. The impacts of each of these contexts on terminal location and attributes are defined in the following chapter.
CHAPTER 6. CONCLUSION

Rhode Island wraps around Narragansett Bay. The bay provides livelihoods, recreation, beauty, and now, increasingly, transportation. To capitalize on this fortuitous geography we have investigated the potential for expanding modern ferry service from Quonset Point. To structure our conclusions we first set the stage nationally and then examine markets and terminals locally. To integrate the opportunities for Rhode Island we create three scenarios for ferry transportation a decade hence and consider associated development at Quonset. Finally, we present options for terminal size and location at Quonset.

Ferry Terminals in the United States

Assessment of new ferry terminals throughout the United States demonstrates that the trend toward mixed-use neighborhoods predominates. The ferry terminal can serve to catalyze residential, office, and retail settings adjacent to it in a transit-oriented development (TOD) setting, but there are no examples of terminal buildings themselves incorporating mixed-uses. Thus, unlike an air terminal that houses many different functions, the ferry terminal in contemporary America is best seen as one element of a neighborhood. And because those ferry terminal neighborhoods are fascinating places, we have taken special care to characterize what we see in them in urban and suburban settings.

In Portland, Maine, for example, the Casco Bay Lines Ferry Terminal is a functional building featuring few amenities other than a small waiting area, but is located just blocks from Portland’s pedestrian-friendly downtown “Old Port” district, which features shops, restaurants, residences, and various waterfront attractions. It is also linked to other Portland locations, including the airport and the bus terminal, through a shuttle bus (see Figure 6.1).
Figure 6.1
Casco Bay Lines Ferry Terminal and Environs, Portland, Maine
Top: Casco Bay Lines terminal waiting room;
bottom: map showing Casco Bay Lines terminal and greater Portland area

Map source: Portland, Maine Transportation Information Display System,
In another example, development currently proposed for Treasure Island in San Francisco Bay – the site of a former Navy base – includes a ferry terminal co-located with a high-rise residential tower, and nearby neighborhoods with parks and bay views (see Figure 6.2). The proposed suburban development emphasizes pedestrian- and cyclist-friendly neighborhoods; according to the San Francisco Chronicle, 90% of the development will be clustered within a 10-minute walk of the ferry terminal (King 2005).

Figure 6.2
Proposed Lennar Corp. Development for Treasure Island, San Francisco Bay
Photo source: Gerald Ratto Photography

The Portland, Maine and Treasure Island examples illustrate how ferry terminals really function to complement and enhance the transit-friendly aspects of mixed-use, pedestrian-oriented neighborhoods.
Regional Ferry Services and Markets

There are 24 significant ferry services serving southern New England and eastern New York with 21 ports between eastern Long Island and Cape Cod. In Rhode Island nine separate ports with 12 active points for passengers and/or vehicles to board ferries serve a growing clientele. Summer surges in the number of ferries active and in the number of passengers and vehicles carried dominate the market and indicate its dependence on a robust tourism economy. This is particularly evident for the offshore destinations of Block Island and Martha’s Vineyard which cumulatively account for over 2.5 million passenger trips per year as shown in the table below. Presently a catamaran fast ferry, operating at speeds up to 30 knots, serves Martha’s Vineyard from Quonset. In our survey, 5% of the ferry travelers to that island traveled through Quonset. At present there is no service from Quonset to Block Island. Year-round services carrying passengers, vehicles, and freight to the islands – the so-called lifeline services – must compensate for changes in demand to cover costs for less active months, or must seek subsidies. Other offshore services limit or cease operations during the winter months, as is currently the case for the Quonset- Martha’s Vineyard service (see Table 6.1). A highly competitive operating climate with significant volatility, at times driven by large regulatory uncertainty, influences these operators.
### TABLE 6.1
A Comparison of Block Island and Martha’s Vineyard Demographics and Ferry Services

<table>
<thead>
<tr>
<th></th>
<th>Year round population*</th>
<th>Summer population (estimated)**</th>
<th>Year round ferry services</th>
<th>Seasonal ferry services</th>
<th>Average passenger trips per year (estimated)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Block Island</strong></td>
<td>1,010</td>
<td>7,500</td>
<td>1</td>
<td>4</td>
<td>322,146***</td>
</tr>
<tr>
<td><strong>Martha’s Vineyard</strong></td>
<td>14,901</td>
<td>100,000</td>
<td>4</td>
<td>4</td>
<td>2,275,510***I</td>
</tr>
</tbody>
</table>

*U.S. Census, 2000

**Block Island estimate from Veeger et al (2003); Martha’s Vineyard estimate from the *Vineyard Gazette* (2005); see Chapter 3 for discussion.

***Based on average of available ridership numbers from 2000-2004; where two sets of estimates were available for a ferry service, the more conservative ones were used. See Table 3.4 for all ridership estimates and discussion.

****Based on average of available ridership numbers from 2000-2005; these include only Steamship Authority ridership, as no other numbers were available. See Table 3.5 for all ridership numbers and discussion.
In Narragansett Bay there is regular ferry service for passengers and vehicles to Prudence Island and a subsidized service for passengers between Providence and Newport on Aquidneck Island. Neither of these Bay island services calls in Quonset. Because much of the land on the Bay islands is publicly owned, many perceive a need to enhance transportation to these islands. They could be served from Quonset.

To better understand the potential for Quonset to serve existing or future travelers to Martha’s Vineyard and Block Island, we surveyed travelers to or on those islands. In our sample, the ferry operating from Woods Hole, a combined passenger and vehicle service, dominated the market of ferry travelers to Martha’s Vineyard with 73% of our ferry-riding respondents. In contrast, only 5% of total ferry travelers rode on the fast ferry from Quonset. Almost one half (48.5%) of our on-island respondents came from Rhode Island or states to the West or South of Rhode Island. Each of these individuals could face less highway congestion and hence a reduced travel time by using Quonset. In addition, foreign travelers and those from western Massachusetts could use Quonset. However, optimism for this market must be qualified by the observation that 49% of the ferry travelers to Martha’s Vineyard (excluding those surveyed aboard Vineyard Fast Ferry) brought a car with them. Quonset does not offer automobile transportation to the island. The technology to move cars onto a ferry is or can be readily made available at Quonset, but the ability to land vehicles on Martha’s Vineyard is controlled for the most part by a quasi-public ferry service (Steamship Authority) that operates in Massachusetts.

To amplify our understanding of the Vineyard market we surveyed individuals riding Vineyard Fast Ferry, the existing ferry from Quonset to the island. In that sample, riders from Rhode Island and from states to the West or South of Rhode Island accounted for 95% of the
total travelers. About one third (33.5%) of these visitors reported that they had a car available to them on the island. Our surveys were conducted during good weather, and 97% indicated that they would take the fast ferry again.

Our survey of visitors on Block Island showed that ferry travel there is dominated by departures from Point Judith. The conventional ferry from Point Judith served 67% of the ferry travelers we surveyed, and the fast ferry from that port served 13% of our sample. A fast ferry from New London served a total of 18% of those who came by ferry. Because Point Judith is nearby to the south and New London can serve many travelers from the west, Quonset, at present, has a limited geographic advantage for travel to Block Island. Central and northern Rhode Island as well as large parts of Massachusetts and northern New England could be served out of Quonset. Approximately 30% of the visitors on Block Island came from these areas.

Commuter ferry service from Quonset remains highly speculative. It may be viewed as cross-bay or parallel service. Census data demonstrate that under current conditions 7% of North Kingstown residents commute to the East Bay, and only 6% of North Kingstown workers come from the East Bay. Our survey of workers at Quonset Point showed that only 6% live across the Bay. Furthermore, when all workers we surveyed at Quonset were asked, approximately half said they would never take a ferry to work. However, build out of the park, shifting patterns of residences/work locations, and growing congestion on the roads could alter the desirability of ferry service in the future.

Service running parallel to and in competition with other modes of transportation is exemplified by the Providence to Newport ferry. It runs seasonally in competition with highway travel, is subsidized, and, according to RIPTA data, has low ridership (see Table 3.4). At present the vessel does not call in Quonset. The extension of MBTA commuter rail service from
Providence down to North Kingstown (including both the planned Wickford Junction station and a possible future West Davisville station) will present another source of parallel competition for a Quonset-based ferry and another means for travelers to avoid road congestion. The MBTA project will provide especially tough competition for a ferry operating between Quonset and Providence. Given that the expected fare for a round trip from North Kingstown to Providence on the new MBTA route will be $4, this new rail service will provide substantial competition.

The market for amenities such as restaurants and shops in a ferry terminal appears to be somewhat limited, as well. Of our ferry rider respondents (n=905), 36% indicated an interest in purchasing coffee or tea at or near the ferry terminal, whereas another 36% noted they had not and would not purchase anything at all. QBP employees may provide a stronger market for such services. Based on our employee surveys, we found that approximately 44% of employee lunches are eaten at fast food or inexpensive local restaurants; extrapolated out over the total number of 18,000 employees at Quonset at full build out, the lunch market is very big. However, this potential market is limited by a number of factors: the length of employee lunch breaks (the majority of park employees surveyed have only 30-minute lunch breaks); the distance from the workplace to the ferry terminal (90% of respondents indicated that they would not walk over ½ mile to a shopping/eating area); and the competition from other restaurants located in the new Gateway development as well as on Route 1.

Scenarios for Quonset

The demand for expanded ferry transportation from Quonset has both great potential and significant uncertainties. Considering three alternate futures and the circumstances surrounding them clarifies options and actions that could be taken today. Each future shows the need for a
terminal, but the size, location, and situations vary. Quonset Works envisages the build out of an industrial park over the coming years with the transportation infrastructure to support the workforce and modest amenities for seasonal tourist transportation. Quonset Links sees a growing intermodal transportation hub as the primary objective of the site a decade hence. The core of this vision is terminal serving water, air, and land modes from a bayside location. Island View Village focuses on a new residential, retail, and office community on the waterfront utilizing multiple transportation services in manners that are appropriate for the scale and style of the community. Elements of the development scenarios for Quonset are specified in Table 6.2 below.

<table>
<thead>
<tr>
<th></th>
<th>Ferry passengers</th>
<th>Density of jobs and/or residences</th>
<th>External govt. assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quonset Works</strong></td>
<td>Park grows to increase viability of commuter ferry</td>
<td>Build out of park businesses only</td>
<td>Modest subsidy</td>
</tr>
<tr>
<td><strong>Quonset Links</strong></td>
<td>Large increase in tourists/commuters</td>
<td>High density of park jobs</td>
<td>Significant subsidy</td>
</tr>
<tr>
<td><strong>Island View Village</strong></td>
<td>Residents, tourists and employees</td>
<td>High density mixed use</td>
<td>Modest subsidy</td>
</tr>
</tbody>
</table>

It is important to note that management decisions taken today combined with market developments will influence which of these futures appears most likely a decade or so hence. For example, proponents of Island View Village will find that modifying the master plan for the park and for local land use that makes high-density residential development a possibility is important now. Provision for a modest terminal, but with the incorporation of pedestrian
friendly public space on land, on the waterfront, and on associated piers, will be important elements of the Village development. To the extent that the ferry service and terminal can attract subsidies or large flows of tourists, its integration with local land use at Quonset can be diminished. Conversely, to the extent that it cannot attract subsidies, the enhancement of commuter ferry service will depend on careful integration with local land uses that achieve high enough densities to economically justify the service. Village development provides a pathway for the latter while at the same time creating an attractive tourism destination and departure point.

**Terminal Location and Size**

As the names of the scenarios imply, each series of management intentions and market conditions determines a different terminal configuration as shown in Table 6.3 below. In Quonset Works highly efficient transportation of park workers and tourists through a functional terminal, perhaps similar to the present one, and located close to the greatest density of travelers would serve. Quonset Links serves as a major southern New England transportation node for air, land, and water modes. As such the terminal takes on the size and amenities similar to a small regional airport terminal. Separate facilities for the general aviation clientele and the ferry passengers could be co-located in one structure. Finally Island View Village embraces a distinctive water-based transit oriented development where mixed uses dominate. An aesthetically pleasing terminal with lots of developable land nearby would be most successful in this setting.
Table 6.3
Different Terminal Configurations for Quonset

<table>
<thead>
<tr>
<th>Terminal location</th>
<th>Terminal size</th>
<th>Terminal and area amenities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quonset Works</td>
<td>Carrier pier, airport, bulkhead</td>
<td>Small</td>
</tr>
<tr>
<td>Quonset Links</td>
<td>Airport</td>
<td>Largest</td>
</tr>
<tr>
<td>Island View Village</td>
<td>Bulkhead, airport linked by shuttle</td>
<td>Small</td>
</tr>
</tbody>
</table>

Selecting among these options for terminal size and location will depend on the markets for ferry transportation as well as the vision for the Quonset waterfront. Our national survey and regional surveys of terminals and two of the three scenarios favor a small terminal with flexible development potential. Facilities that augment Quonset’s comparative advantages for tourists and recreate Quonset as a destination in its own right through residential, yachting, business, and general aviation in a pedestrian-friendly village setting incorporate the greatest potential for the future.
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