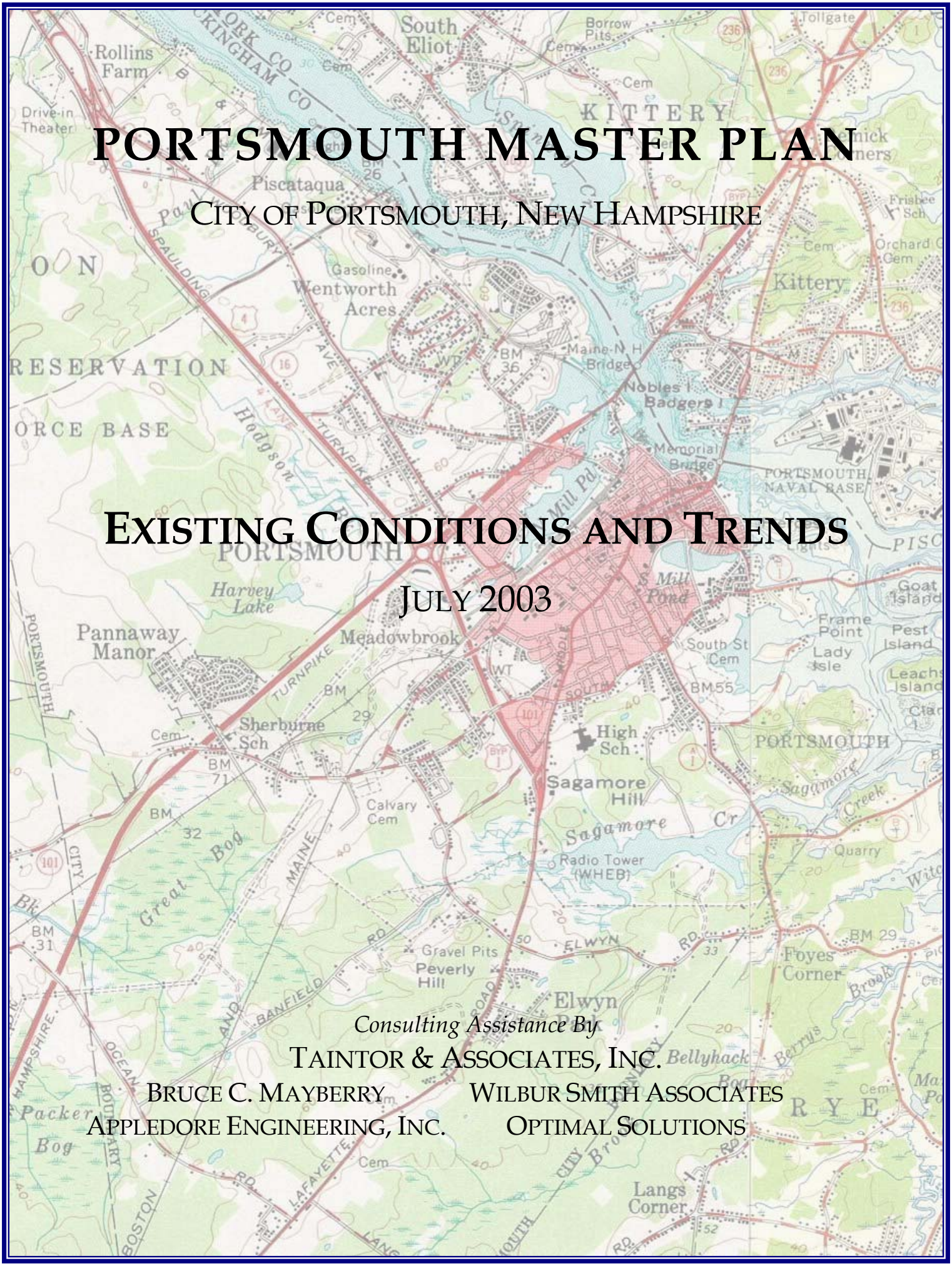

PORTSMOUTH MASTER PLAN

CITY OF PORTSMOUTH, NEW HAMPSHIRE

EXISTING CONDITIONS AND TRENDS

JULY 2003

Consulting Assistance By

TAINTOR & ASSOCIATES, INC.

BRUCE C. MAYBERRY — WILBUR SMITH ASSOCIATES

APPLEDORE ENGINEERING, INC. — OPTIMAL SOLUTIONS

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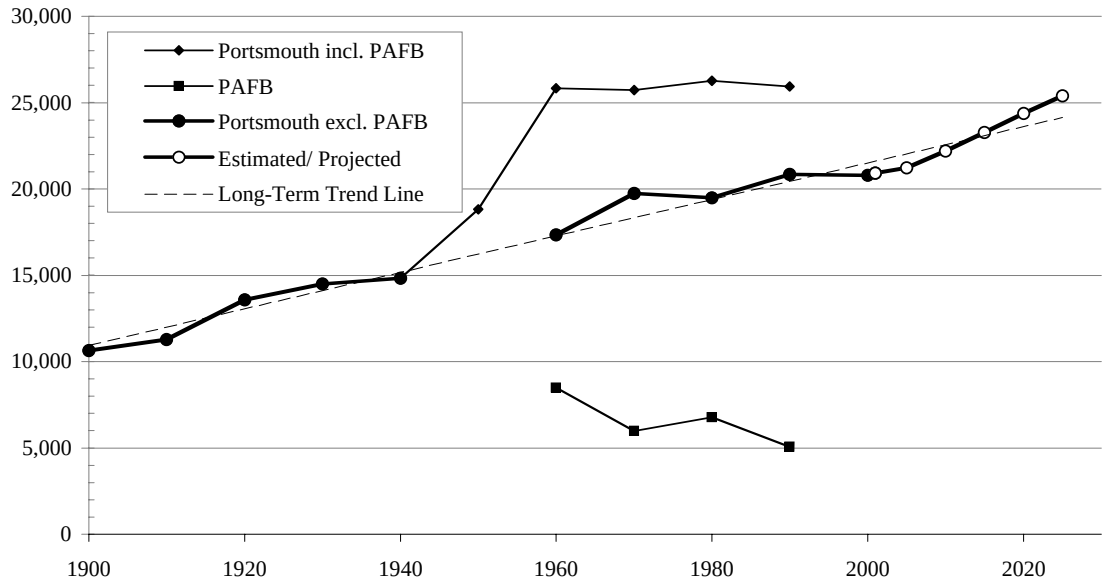
POPULATION & SOCIAL CHARACTERISTICS

Population Growth

Population change from 1900 through 2000, and projected growth to 2025, are presented in Table 1 and shown graphically in Figure 1.[1] In addition, Table 2 presents the 10-year population changes and growth rates represented by the raw numbers in Table 1.

Portsmouth had relatively stable growth throughout the twentieth century, with the exception of the significant impact of Pease Air Force Base from 1946 through 1990. Prior to the Second World War the city's average growth rate was around 1160 per decade. Following the war, and factoring out the population at Pease AFB, the growth rate slowed to an average of approximately 800 per decade. For the next two decades, a somewhat more rapid growth of around 1,940 per decade is projected.

Figure 1: Portsmouth Population Growth, 1900-2025



The City's population declined by nearly 20% from 1990 to 2000, representing a net loss of 5,141 persons during the period. This dramatic population change was almost entirely due to the closure of the Pease Air Force Base (AFB) and associated housing demolition, and mirrored an equally

[1] Historic population figures are drawn from the decennial United States Census or from the city's 1980 Master Plan citing the U.S. Census. Population projections are taken from projections published in March 2003 by the New Hampshire Office of State Planning, which are the most recent and comprehensive projections available. The OSP's methodology projects county totals based on long term trends based on the 1960-2000 period, and then assigns local projections based on each community's share of its respective county's growth. These projections were then further adjusted based on any input from the Regional Planning Commission as well as OSP review of changes in the community's share of county population change in each of the decennial census years from 1960 through 2000. (Source: "Municipal Population Projections, 2005 to 2025," NH Office of State Planning, March 2003.)

dramatic increase in the city's population after the establishment of Pease AFB in the late 1940s and early 1950s. As indicated in Table 2, after adjusting for the closure of Pease AFB, the city's population was essentially stable, declining by only 72 residents.

During the 1990s Portsmouth registered 2,353 births and 2,302 deaths, resulting in a net "natural increase" of 51 residents. Thus, the city experienced a net out-migration of 123 residents during the decade (72 +51), or 0.7 percent.

Table 1: Population Change, 1960 - 2025

Year	Portsmouth incl. PAFB	PAFB	Portsmouth excl. PAFB	Estimated/ Projected
1900			10,637	
1910			11,269	
1920			13,569	
1930			14,495	
1940			14,821	
1950	18,830	(n.a.)	(n.a.)	
1960	25,833	8,500	17,333	
1970	25,717	5,980	19,737	
1980	26,254	6,767	19,487	
1990	25,925	5,069	20,856	
2000			20,784	
2001				20,910
2005				21,220
2010				22,210
2015				23,280
2020				24,380
2025				25,390

Sources:
1900-1970 totals: U.S. Census, cited in City of Portsmouth 1980 Master Plan
1960-1970 PAFB counts: City of Portsmouth 1980 Master Plan
1900-2000: U.S. Census
2001 estimate and 2005-2025 projections: NH Office of State Planning, March 2003

Table 2: Population Growth Rates, 1900 – 2020

Decade	10-Year Change, Including Pease AFB		10-Year Change, Excluding Pease AFB	
	Number	Percent	Number	Percent
1900–1910			632	5.9%
1910–1920			2,300	20.4%
1920–1930			926	6.8%
1930–1940			326	2.2%
1940–1950	4,009	27.0%		
1950–1960	7,003	37.2%		
1960–1970	-116	-0.4%	2,404	13.9%
1970–1980	537	2.1%	-250	-1.3%
1980–1990	-329	-1.3%	1,369	7.0%
1990–2000	-5,141	-19.8%	-72	-0.3%
2000–2010			1,300	6.2%
2010–2020			2,170	9.8%

Sources: See Table 1

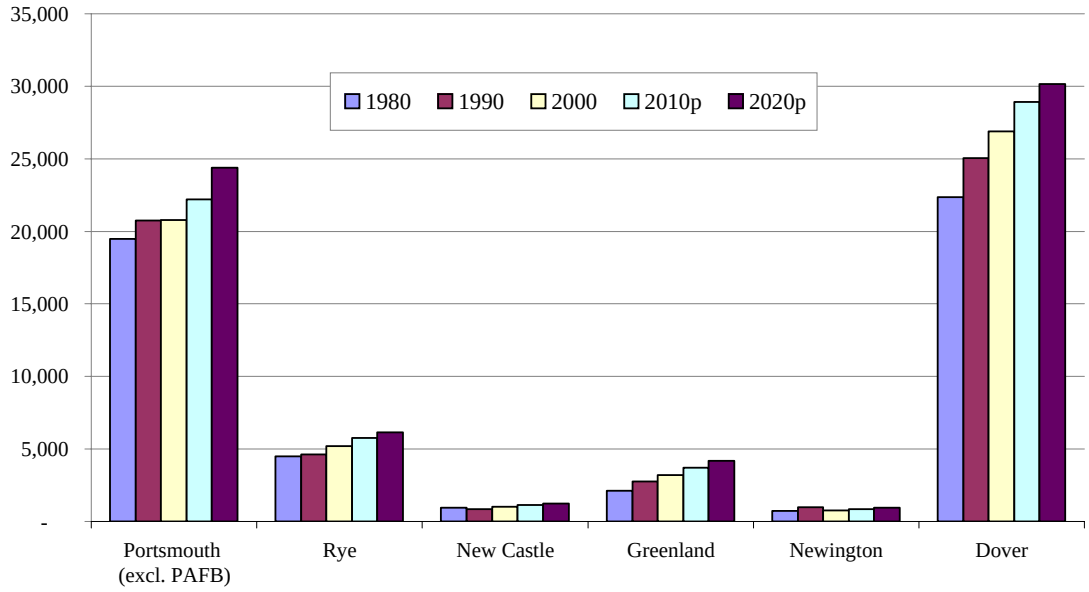
Table 3 and Figure 2 present population trends in Portsmouth and the surrounding towns between 1990 and 2000, with projections to 2020. These data illustrate that during the 1990s Portsmouth grew more slowly than most of the surrounding towns, Rockingham County and the state of New Hampshire. This pattern is expected to continue during the current decade, but will reverse somewhat after 2010 when Portsmouth is predicted to grow at a rate approaching or exceeding the surrounding towns.

Table 3: Population Change, Portsmouth and Region, 1990–2020

	1990	2000	2010	2020	1990–2000Growth	2000–2010Growth	2010–2020 Growth
Portsmouth (excl. PAFB)	20,856	20,784	22,210	24,380	-0.3%	6.9%	9.8%
Rye	4,612	5,182	5,750	6,150	12.4%	11.0%	7.0%
New Castle	840	1,010	1,130	1,230	20.2%	11.9%	8.8%
Greenland	2,768	3,208	3,700	4,180	15.9%	15.3%	13.0%
Newington	990	775	870	950	-21.7%	12.3%	9.2%
Dover	25,042	26,884	28,930	30,150	7.4%	7.6%	4.2%
Rockingham County	245,845	277,359	313,130	343,320	12.8%	12.9%	9.6%
New Hampshire (Thousands)	1,109.3	1,235.8	1,385.2	1,523.7	11.4%	12.1%	10.0%

Sources: 1990 & 2000, U.S. Census; 2010 & 2020, NH Office of State Planning projections

Figure 2: Population Change, Portsmouth and Region, 1980-2020

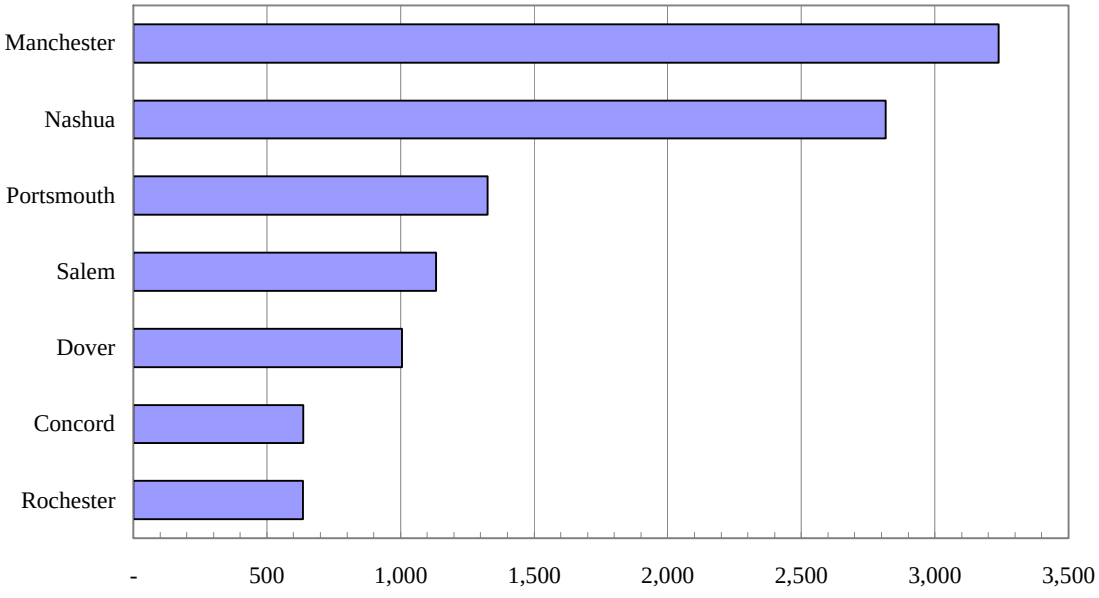


Note: 2010p and 2020p = Projected populations

Population Density

In 2000 Portsmouth's population density was 1,326 persons per square mile of land area. As shown in Figure 3, this density is significantly lower than the population densities of Manchester and Nashua, but higher than for other New Hampshire cities with populations greater than 20,000.

Figure 3: Population Per Square Mile of Land Area, 2000



Source: U.S. Census, NH Office of State Planning

Age Distribution

Table 4 presents the age distribution of the city's population in the last two national censuses. Most of the population and household loss during the 1990s was in the under-35 year old age groups, in part reflecting the decline of younger military and civilian support personnel and families. The number of school-age children (age 5-17) declined by 1,187 or about 32% during the decade.

The 1990s saw an increase in the number of working-age adults in Portsmouth, while the elderly population remained essentially stable.

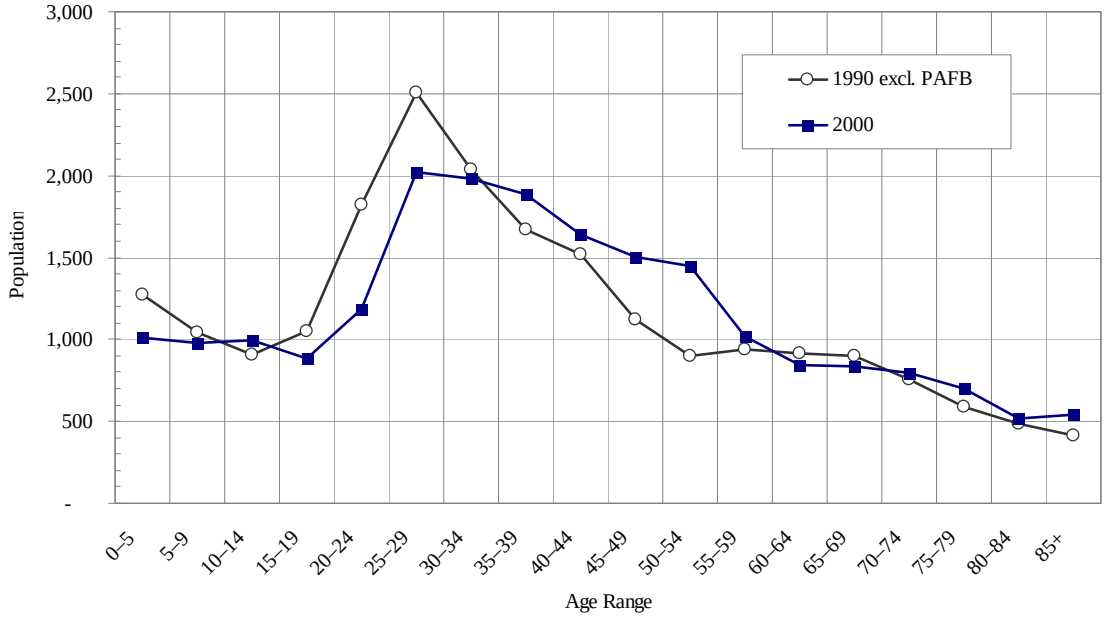
Table 4: Population Age Distribution, 1990 and 2000

Age Cohort	1990 incl. PAFB	PAFB	1990 excl. PAFB	2000	Percent Change
0 to 4	2,071	795	1,276	1,009	-20.9%
5 to 9	1,702	659	1,043	981	-5.9%
10 to 14	1,307	397	910	997	9.6%
15 to 19	1,268	220	1,048	886	-15.5%
20 to 24	2,561	739	1,822	1,187	-34.9%
25 to 29	3,489	982	2,507	2,021	-19.4%
30 to 34	2,678	643	2,035	1,981	-2.7%
35 to 39	2,088	415	1,673	1,888	12.9%
40 to 44	1,695	172	1,523	1,636	7.4%
45 to 49	1,142	23	1,119	1,503	34.3%
50 to 54	909	9	900	1,449	61.0%
55 to 59	942	4	938	1,021	8.8%
60 to 64	921	3	918	841	-8.4%
65 to 69	909	6	903	837	-7.3%
70 to 74	757	2	755	792	4.9%
75 to 79	590	0	590	698	18.3%
80 to 84	482	0	482	517	7.3%
85+	414	0	414	540	30.4%
Totals	25,925	5,069	20,856	20,784	-0.3%

Sources: U.S. Department of Commerce, Bureau of the Census

Figure 4 presents the above data graphically, and indicates the significant changes in Portsmouth's age profiles over the past decade. During the 1990s there was very little change in the total number of school-aged children and older residents (ages 60 and over). However the number of preschool children and young adults (ages 20 to 29) declined during the decade, while the number of adults in the peak working age groups, especially the 45–54 age group increased. This combination of more adults and fewer children is also reflected in the city's declining average household sizes, and in the fact that the number of homes has continued to increase while the overall population has remained essentially stable.

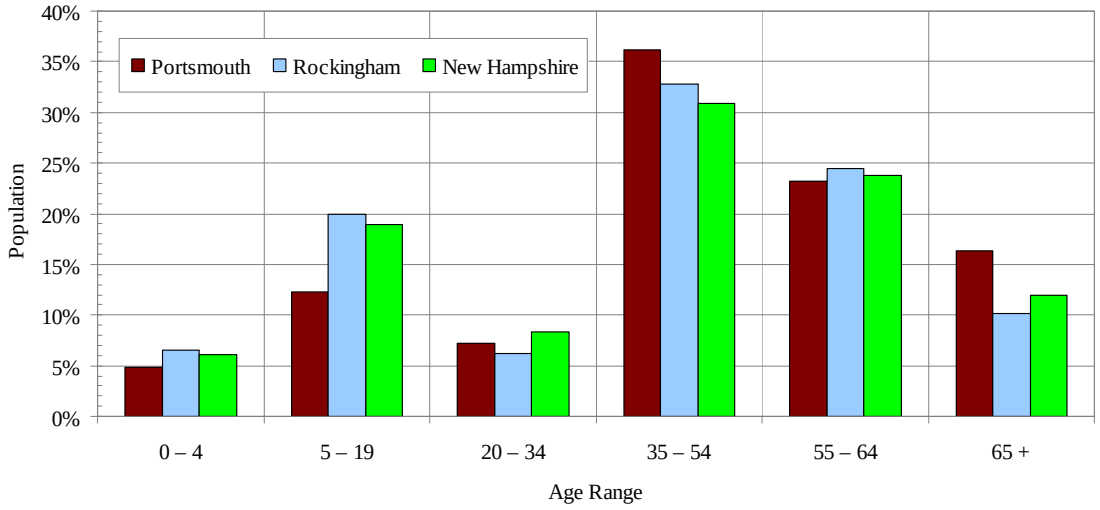
Figure 4: Population Age Distribution, 1990 and 2000



In 2000 the median age of Portsmouth's residents was 38.5 years, which was somewhat higher than the median ages for the state and county (37.2 and 37.1 years, respectively). Among the surrounding towns, Greenland had a similar age profile to Portsmouth's, but Newington, Rye and New Castle had significant older populations (median ages of 42.6, 44.4 and 49.6, respectively).

Figure 5 shows Portsmouth's 2000 age profile in comparison to the county and the state. The City has a significantly lower percentage of school-age children but higher proportions of both adults in the 35-54 age range and elderly residents (65 years and older).

Figure 5: Age Profiles for Portsmouth, Rockingham County and New Hampshire



Income

Table 5 presents 1989 and 1999 median family income levels for Portsmouth, the county and state, as well as the adjoining communities and New Hampshire's other major urban areas. Incomes of Portsmouth residents are lower than for neighboring towns and Rockingham County, but slightly higher than for the state of New Hampshire as a whole. However, income levels in Portsmouth rose significantly faster than in the neighboring towns, Rockingham County, New Hampshire, and the other urban areas in the state.

Table 5: Median Family Income

	1989	1999	% of State, 1989	% of State, 1999	10-Year Increase
PORTSMOUTH	$34,344	$59,630	82.5%	103.6%	73.6%
Rye	$51,333	$74,956	123.3%	130.2%	46.0%
New Castle	$58,815	$93,290	141.3%	162.0%	58.6%
Greenland	$48,467	$67,188	116.4%	116.7%	38.6%
Newington	$45,625	$76,202	109.6%	132.4%	67.0%
Manchester	$38,812	$50,039	93.2%	86.9%	28.9%
Nashua	$46,641	$61,102	112.0%	106.1%	31.0%
Salem	$51,073	$67,278	122.7%	116.9%	31.7%
Dover	$38,281	$57,050	92.0%	99.1%	49.0%
Concord	$39,531	$52,418	95.0%	91.0%	32.6%
Rockingham County	$46,942	$66,345	112.8%	115.2%	41.3%
New Hampshire	$41,628	$57,575			38.3%

Source: US Census, STF 3

Educational Achievement

Portsmouth's residents are well-educated in comparison to other communities in Rockingham County and New Hampshire. As detailed in Table 6, in 2000 67.0% of the city's adult residents (aged 25 years and older) had attended or completed college, compared to 61.9% in the County and 57.3% in the State as a whole. Educational achievement has increased since 1990, when only 56.0% of the city's residents over 25 had completed some college. Those who have completed four years or more increased from 23.9% in 1990 to 41.9% in 2000.

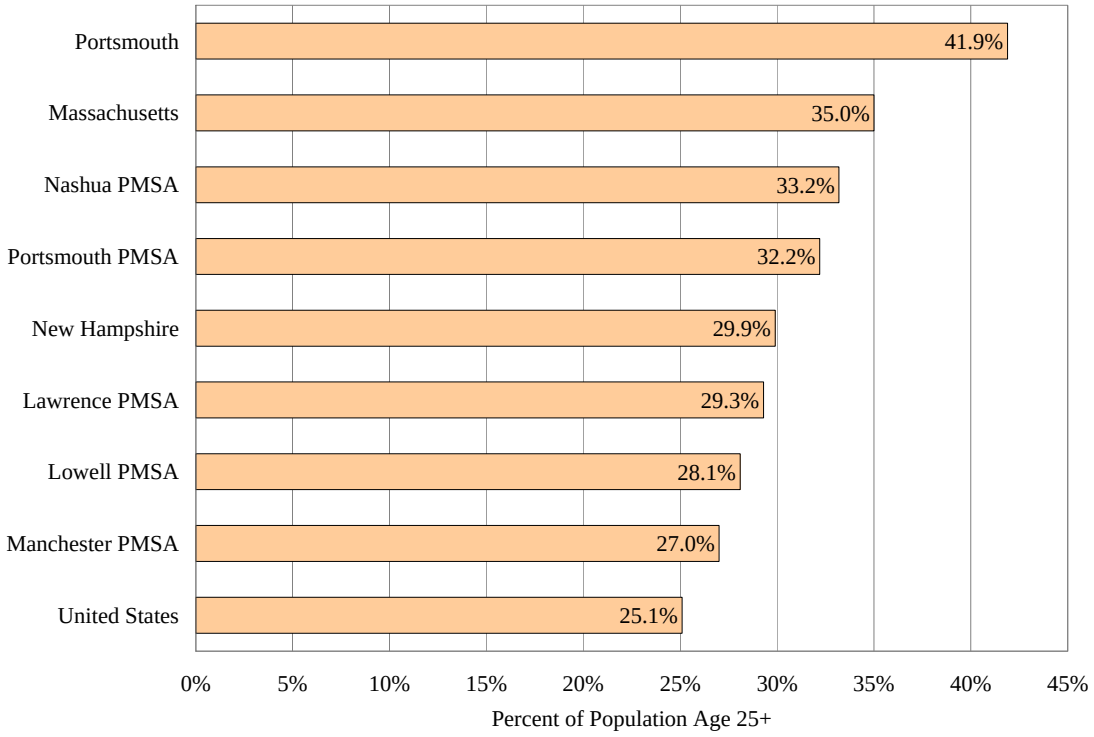
Figure 6 compares Portsmouth to surrounding areas in terms of the percentage of residents who have a four-year college degree.

Table 6: Educational Achievement, Residents 25 Years and Older, 1990 and 2000

	Portsmouth		Rockingham Co.		New Hampshire	
	1990	2000	1990	2000	1990	2000
Did not complete high school	11.4%	8.6%	14.5%	9.5%	18.1%	12.6%
High school only	32.5%	24.3%	32.0%	28.6%	32.0%	30.1%
1–3 years of college	32.1%	25.1%	29.5%	30.2%	27.8%	28.7%
4 or more years of college	23.9%	41.9%	24.0%	31.7%	22.1%	28.7%

Source: U.S. Census

Figure 6: Percent of Population With Bachelor's Degree or Higher, 2000



Source: U.S. Census

LAND USE

Introduction

Portsmouth contains a healthy mix of residential, commercial,[2] industrial, public and nonprofit uses. Table 7 presents a generalized profile of land uses in the city, based on data assembled from the Assessor's Office[3] and the city's geographic information system (GIS).[4] Approximately 30 percent of the city's parcel acreage is devoted to residential uses; about 40 percent is in municipal, other public or nonprofit use; and 15 percent is occupied by commercial or industrial properties. The remaining area—1,077 acres, representing about 13 percent of the total parcel acreage—is comprised of agricultural uses and vacant private land. Much of the municipal and public land is open space, including significant public acreage in the Great Bog, along Sagamore Creek, and in the greenbelt around Pease International Tradeport.

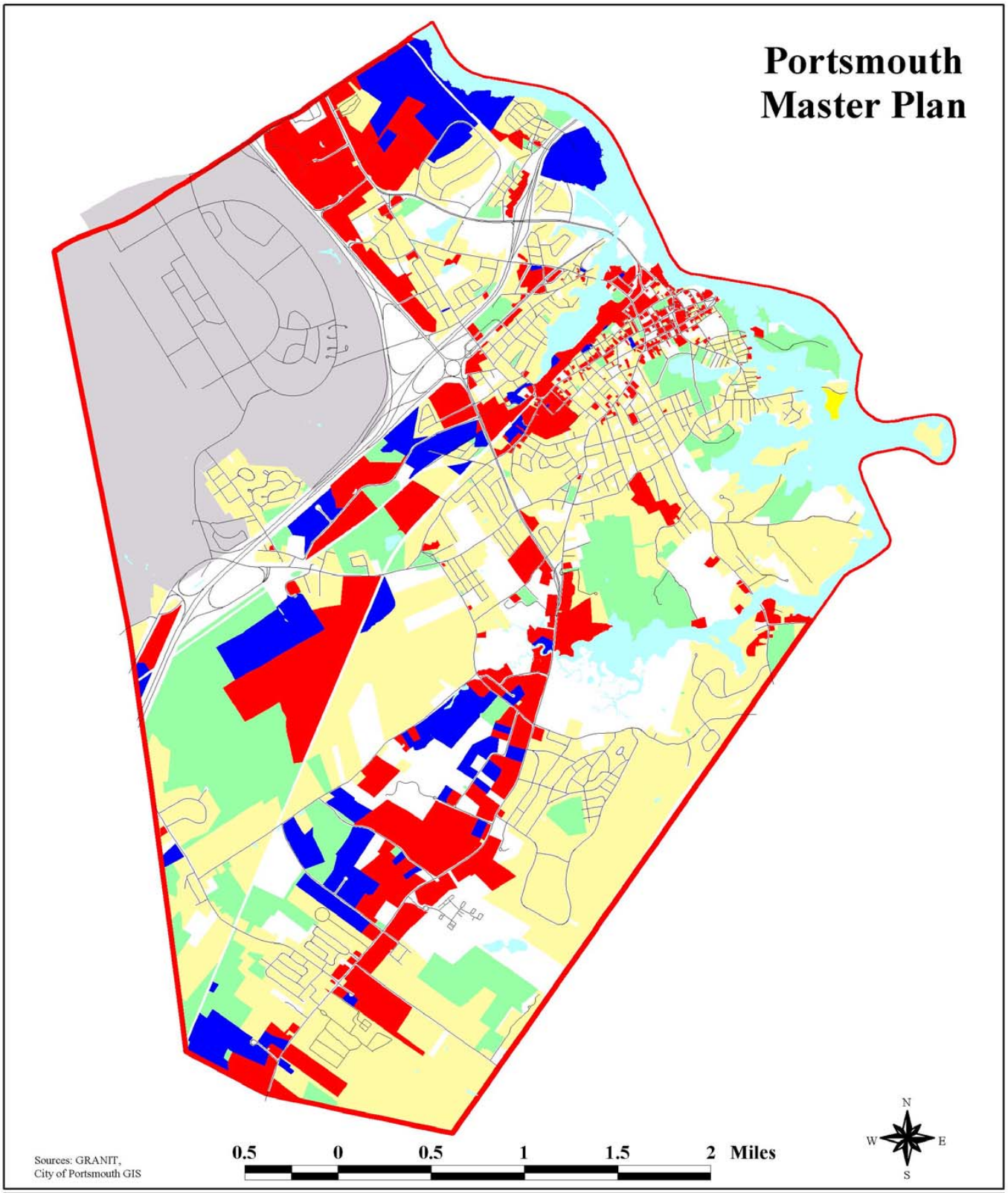
Table 7: Land Use Profile – City of Portsmouth

	Parcels (#)	Parcels (%)	Acres (#)	Acres (%)	Housing Units (#)
Residential, Single-Family	3,891	63.7%	1,777.72	21.3%	5,495
Residential, Other	763	12.5%	684.12	8.2%	3,269
Mixed Residential/Commercial	163	2.7%	55.97	0.7%	395
Commercial	433	7.1%	869.22	10.4%	454
Industrial	69	1.1%	389.41	4.7%	0
Agricultural	25	0.4%	208.48	2.5%	0
Municipal	50	0.8%	425.48	5.1%	0
Other Public & Nonprofit	422	6.9%	3,054.96	36.7%	319
Vacant, Developable	132	2.2%	655.10	7.9%	0
Vacant, Potentially Developable	34	0.6%	112.37	1.3%	0
Vacant, Undevelopable	123	2.0%	101.38	1.2%	0
TOTAL	6,105	100.0%	8,334.20	100.0%	9,932

[2] Historically, the City has not recognized the term "commercial" for land use control/regulatory purposes, preferring instead to use the term "business." However, the data presented in this chapter are drawn from the database maintained by City Assessor's Office, which uses standard land use classification terms including "commercial."

[3] The City Assessor's database is the most comprehensive and up-to-date source of information on the use of land in Portsmouth. In addition to land use, the database includes information on ownership, parcel and building area, valuation, number of dwelling units. In addition, because the database is linked to the City's geographic information system (GIS), parcel data can be combined with other information (e.g., wetlands boundaries) to perform special analyses. The major limitations of the Assessor's database are (1) it does not include non-parcel areas such as streets and highways, and (2) it does not present data for the entire Pease International Tradeport area in a manner that is entirely consistent with data for the rest of the city.

[4] The data in Table 7 through Table 17 are presented on the basis of parcels, and therefore do not include land area in roads. The total of 8,334 acres shown in Table 7 is 83 percent of the City's land area and 77 percent of its total (land + water) area.



Major Land Use Patterns
Map # 1

Land Use

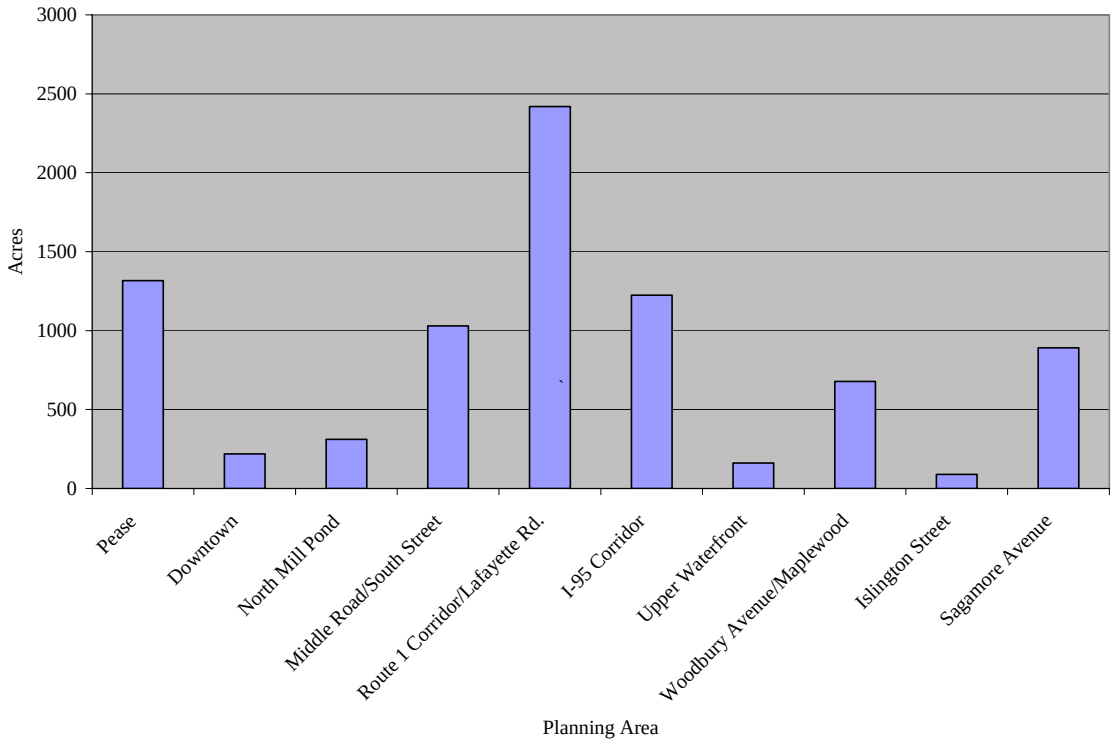
- Industrial
- Residential
- Commercial
- City-owned
- Pease

Only 166 parcels, containing a total of 767 acres (9.2 percent of the total area in parcels in the city) is listed by the Assessor's Office as "developable" or "potentially developable." Moreover, site-specific investigation would likely reveal that portions of these "developable" parcels have development limitations, so that their buildout potential is reduced from what might be expected on the basis of raw acreage figures.

Planning Areas

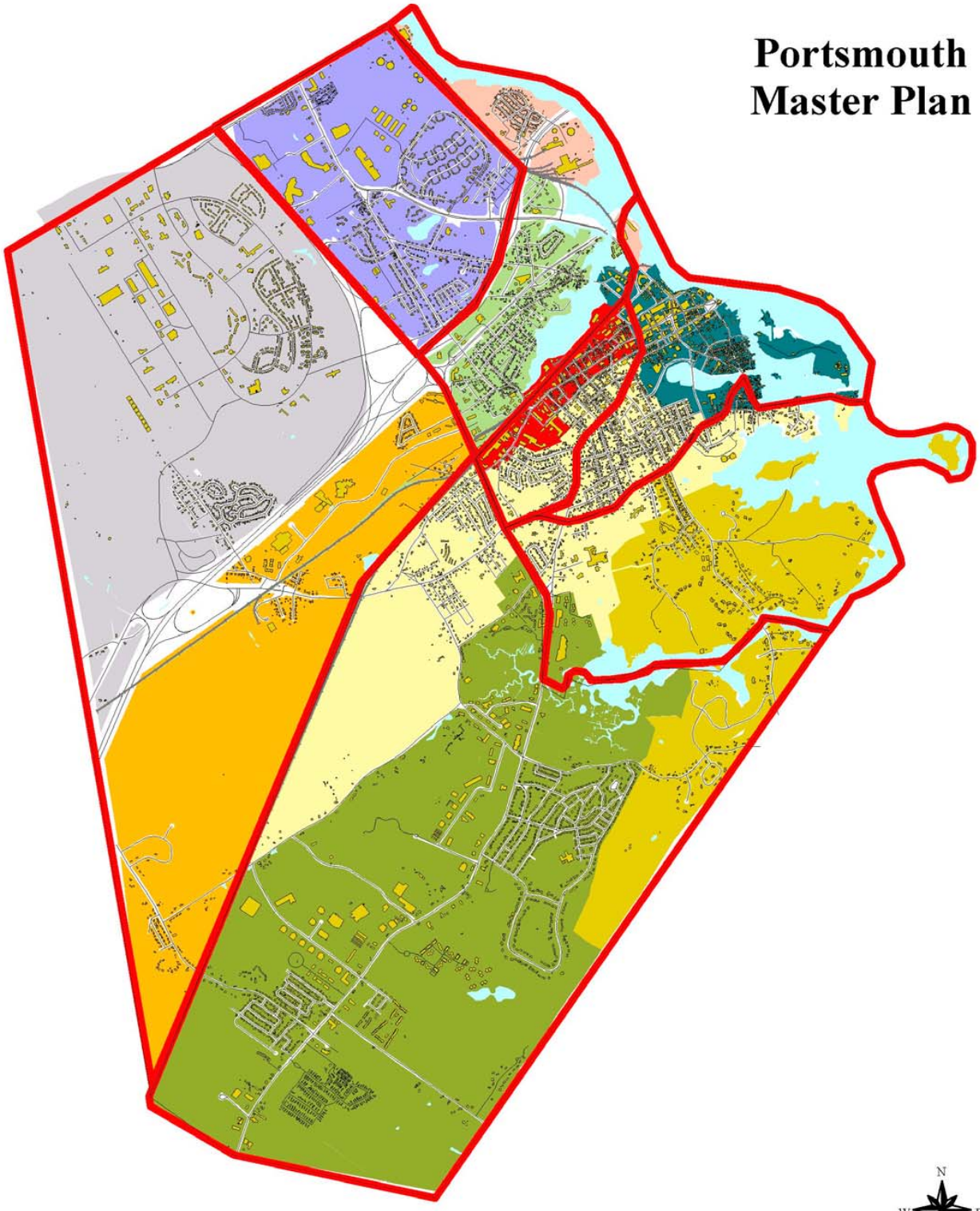
For comparative analysis purposes, we have divided the city into ten general planning areas: Pease, the Downtown, Islington Street, Sagamore Avenue, Middle/South Streets, the Route 1 Corridor, the I-95 Corridor, North Mill Pond, Woodbury/Maplewood, and the Upper Waterfront. These planning areas are depicted on Map 2, and total parcel acreages for each planning area are shown in Figure 7. Area boundaries conform neither to traditional neighborhood lines nor to land use zones; rather, areas were determined in consultation with City officials by focusing on where land use issues are shared—overlap and exclusions to this broad rule certainly apply.

Figure 7: Acreage of Planning Areas



Following is a discussion of land use by planning area. Land parcel data are compiled from the city's Assessing database in combination with its Geographic Information System.

Portsmouth Master Plan



Sources: GRANIT,
City of Portsmouth GIS

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Planning Areas Map # 2

- Downtown Core
- Islington Street
- Sagamore Avenue
- Middle/South Sts
- Route 1 Corridor
- I-95 Corridor
- North Mill Pond
- Woodbury/Maplewood
- Upper Waterfront
- Pease

Downtown

A little over 200 acres in area, Portsmouth's downtown serves as the economic, social, civic, and cultural heart of the community. Preservation of its vitality, architecture, and business climate has been and will continue to be a top priority.

The downtown area contains a complex mix of uses (see Table 8). More than half of the parcel acreage in this planning area is in municipal, public or nonprofit use; commercial uses comprise about one-fifth of the parcel area; and residential parcels represent another fifth of the area, with over 1,000 housing units.

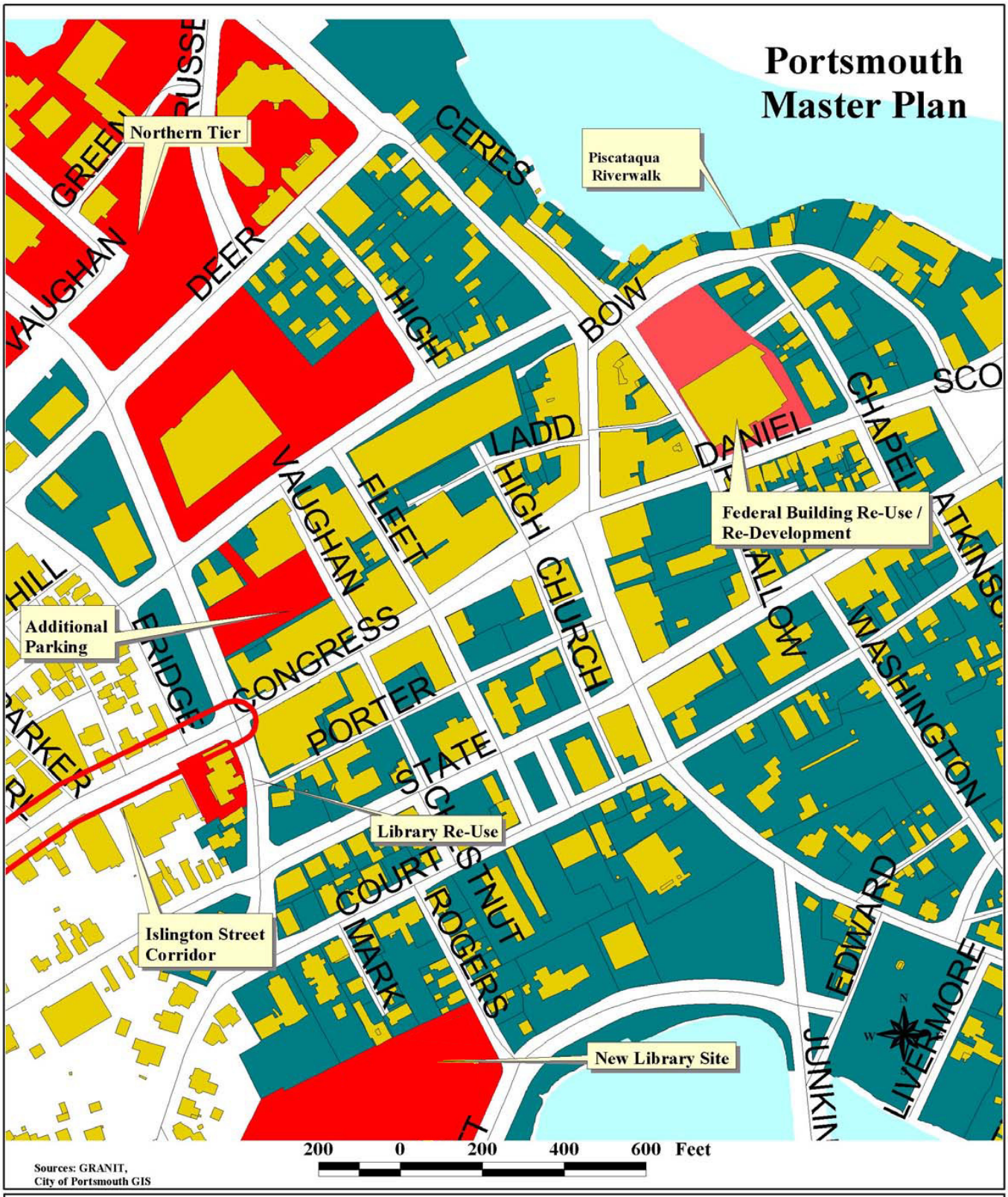
Table 8: Land Use Profile – Downtown Planning Area

	Parcels (#)	Parcels (%)	Acres (#)	Acres (%)	Housing Units (#)
Residential, Single-Family	242	34.3%	28.61	13.1%	515
Residential, Other	84	11.9%	11.87	5.4%	290
Mixed Residential/Commercial	87	12.3%	6.82	3.1%	232
Commercial	155	22.0%	44.83	20.5%	37
Industrial	1	0.1%	0.36	0.2%	0
Agricultural	0	0.0%	0.00	0.0%	0
Municipal	11	1.6%	51.03	23.4%	0
Other Public & Nonprofit	115	16.3%	72.66	33.3%	34
Vacant, Developable	6	0.9%	1.73	0.8%	0
Vacant, Potentially Developable	0	0.0%	0.00	0.0%	0
Vacant, Undevelopable	4	0.6%	0.33	0.1%	0
TOTAL	705	100.0%	218.23	100.0%	1,108

Fundamental characteristics that contribute to the downtown's success include mixed uses that ensure complementary and round the clock activity, a human scale of architecture, pedestrian amenities (benches, barrels, trees, highly visible crosswalks, etc.), and the availability of parking in front of stores as well as in convenient off-street facilities.

Specific issues related to the future of Portsmouth's downtown will need attention during the Master Plan process:

- **"Northern Tier" Redevelopment:** Located in an area that was the subject of the nation's last urban renewal project, the "Northern Tier" is arguably the key to the future face of downtown Portsmouth. Approximately 20 acres in area, this tract is adjacent to North Mill Pond and roughly bounded by Hanover Street, Market Street and Maplewood Avenue. A development study funded in partnership by the city and Sheraton Harborside owner Steve Griswold proposed that the vibrancy of the downtown could be extended into this area through development of connecting roadways and sidewalks, a public market, and a mix of commercial, office, and residential uses, plus the possible expansion of the Sheraton hotel and the addition of a conference center.



Downtown Planning Issues
Map # 3

As conceived by Sasaki Associates, this newly developed area would take full advantage of the North Mill Pond waterfront, offer recreational trails nearby, and better connect the residences on the west side of the pond to downtown. With the potential to build out between 440,000 and 540,000 square feet, this expansion would increase the space currently available in the downtown by 25 to 30 percent. One estimate concludes that this development would generate an increase of between $1.1 million to $1.3 million in direct property tax revenues.

- **Chain Stores and Franchises:** Many Portsmouth residents, business owners, and officials are united in the opinion that the downtown's success can be partially attributed to the city's active support of independent local businesses and vigilant resistance to the establishment of chain stores and franchises. Others admit that the chains that presently exist (Starbucks, the Gap, Banana Republic), initially opened amid opposition, have attracted customers downtown.

  The lack of chain franchises in the downtown is likely related to the small scale of available ground floor space dictated by the city's historic structures, among other factors. Leaving aside arguments relating to the economic development impact of chains (e.g., loss of the downtown's unique identity, transformation of the downtown mix into one offered by competing area malls), the introduction of a chain franchise into the historic pattern may involve the consolidation of several storefronts in order to achieve the requisite ground floor square footage. This is a critical land use planning issue, as the frequency, variety, and transparency of storefront entries is important to the pedestrian's shopping experience. At a minimum, the city should consider every opportunity to strengthen its regulation of storefronts with a goal of preserving frequent entries and signage, and preventing long expanses of continuous storefronts or blank walls.

- **Preservation of Mixed Uses and Ground Floor Public Use:** The mix of uses that create a successful downtown like Portsmouth's is a fragile composition that should be carefully guarded. No single structure or use is likely to cause a shift in character, but incremental change can build to affect the fundamental nature of the downtown.

  This issue of mixed use in the downtown is highlighted by several recent and anticipated developments, including:

  - the move of Bottomline Technologies to Pease (and the accompanying removal of 500 office employees from the area),
  - the exit of Bowstreet Inc. from Portsmouth (minus 55 employees, following earlier reductions from a workforce peak of about 300),
  - the likely move of federal offices to Pease (see below),
  - the introduction of new residential-only structures,
  - the move of the library to a new facility on Parrott Avenue, and
  - the potential move of the Children's Museum in the near future.

  Maintaining a healthy mix of office, residential, and cultural uses is crucial to provide on-going support to the commercial base; and ground floor business use in particular is a key contributor to an active streetscape. These issues will be fully considered in the development of the Master Plan.

  At present, the downtown is approximately 25% open – pocket parks, surface parking, and vacant/underutilized land comprise this area. While some of this open land may be best

preserved as open, some might have better potential as developed. Planning for the downtown should scrutinize the function of these spaces in relationship to their immediate vicinity and to the whole downtown and determine a general strategy for their preservation, enhancement, or development.

- **Reuse of the Federal Building:** In response to terrorism-related security issues, the General Services Administration (GSA) began designing a major renovation of the Thomas J. McIntyre Federal Building at 62 Daniel Street, on a parcel that also fronts on Bow and Penhallow Streets. This conceptual plan, released in January 2003, was the subject of public debate, as well as review by the Historical Commission; and it became clear that the GSA plan did not coincide with the community's vision for the area. The City spearheaded discussions with the agency that have led to a different solution: moving the GSA operation to Pease, and the City obtaining the building at no cost.

  This proposed transfer of the site to the City has not yet received final approval; but use of the site will be considered in the development of the Master Plan. Planning for the two-acre site's eventual redevelopment will weigh alternative use scenarios. City leaders, in concert with the Greater Portsmouth Chamber of Commerce, want to maintain post office and parking uses on the site, with potentially adding office, retail, housing, and open space uses to the mix.

- **Reuse of the Library:** Once the City completes construction of a new library facility on Parrott Avenue, reuse of the 16,400 square foot building at the corner of Islington and Maplewood will become part of the downtown's evolution. In 2002, the Library served an average of nearly 900 daily patrons at the edge of downtown, and had an annual circulation of 356,500.[5]

- **Piscataqua Riverwalk:** Planning for a Riverwalk along a portion of the Bow Street waterfront starting at Ceres Street is underway. The project is actively considering issues of how the walkway will address businesses along the route, as well as what types of uses may complement the walkway.

- **Parking Supply:** Across the country, downtowns share the vital objective that adequate available parking be maintained to sustain business development and expansion. In spite of the overwhelming agreement concerning this goal, the manner by which this is achieved is typically the subject of fervent debate. The City of Portsmouth is recognized throughout New England as a model for successfully addressing its downtown parking supply; still, planning to further enhance downtown parking is a high priority in the community. At the forefront of its current efforts is the creation of a second downtown parking structure on the Worth Lot on Maplewood Avenue. The three options being considered are for a stand-alone garage (440 spaces), a garage with third floor office space (320 spaces), or a garage with ground floor retail (320 spaces).

  The location, availability, and cost of parking play a complex role in supporting downtown. In a land use context, large swaths of surface parking lots can deaden streetscapes, and in areas of high value, can be an inefficient use of land. By contrast, street parking and visible and convenient surface parking are often at the core of downtowns' success. Optimizing the manner by which parking is provided in the downtown is dependent upon a number of factors and should continue to be coordinated with other changes in land use. Analysis of how

[5] Conversation with Sue McCann, 3/24/03, Portsmouth Public Library

parking relates to the streetscape, the demand various uses create, and innovative management of spaces will be part of the master plan's focus on downtown land use.

- **Traffic:** High traffic counts in the downtown have inspired lively public discussion of possible transportation demand management programs (satellite parking, trolley service, etc.) as well as major initiatives such as the closing of Market Street to vehicles.

Islington Street Corridor

This mixed use corridor connects downtown Portsmouth to the popular shopping center at the former Frank Jones Brewery. Just over a half mile in length, this street presents a significant opportunity to improve the connection of the city's neighborhoods to downtown, and to create a second successful commercial district. Islington Street carries over 20,000 vehicles per day,[6] operating as a major thoroughfare. A notable land use feature is Goodwin Park, approximately midway along the corridor.

Existing uses along Islington exhibit a range that encompasses gas station and auto repair shops, to historic single and multi family residences, to antique shops and professional offices. The condition, scale and visual quality of the structures that house these uses also vary considerably, with little evidence of any coordinated approach to streetscape design.

This planning area contains about the same amount of commercial acreage as the downtown area, but as the total acreage of the planning area is less, the commercial percentage is more than twice that of the downtown. Residential uses (including mixed commercial-residential) comprise about one-third of the total area, and include about 740 dwelling units.

Table 9: Land Use Profile – Islington Street Corridor Planning Area

	Parcels (#)	Parcels (%)	Acres (#)	Acres (%)	Housing Units (#)
Residential, Single-Family	95	28.9%	7.20	8.2%	129
Residential, Other	107	32.5%	15.43	17.5%	501
Mixed Residential/Commercial	33	10.0%	6.15	7.0%	98
Commercial	60	18.2%	42.14	47.9%	6
Industrial	10	3.0%	6.82	7.7%	0
Agricultural	0	0.0%	0.00	0.0%	0
Municipal	2	0.6%	1.48	1.7%	0
Other Public & Nonprofit	17	5.2%	8.05	9.1%	8
Vacant, Developable	3	0.9%	0.47	0.5%	0
Vacant, Potentially Developable	1	0.3%	0.12	0.1%	0
Vacant, Undevelopable	1	0.3%	0.12	0.1%	0
TOTAL	329	100.0%	87.96	100.0%	742

Recognizing the potential of this area, the City commissioned a streetscape improvement plan in 1997. Produced by a consulting team led by Sherman Greiner Hallé, this plan proposes

[6] Islington Streetscape Study, Sherman Grenier Halle, 8/12/97, p. 9.

construction of physical improvements along the roadway along with a number of regulatory, non-regulatory, and public/private approaches to revitalization. Resolution of the conflicts that exist between residential and commercial use and pedestrian vs. automobile must be addressed in order to make significant progress. Among the strategies suggested are the creation of a neighborhood association, completion of a parking utilization and demand study, and adjusting land use and zoning regulation to shape more cohesive and complementary development along the length of the corridor.

Sagamore Avenue Area

Surrounded by wetlands, the Sagamore Avenue area is primarily residential: more than 50 percent of the acreage in this planning area consists of residential uses, with over 700 housing units. More than one-third of the area is in public or nonprofit use, including protected open space.

The small number of commercial parcels in this area are clustered around the Sagamore Creek bridge. These include a number of marine-oriented uses, such as docks, bait and tackle shops, boat repair, and a kayak business; and preserving access to the water is a priority.

Balancing development with natural resource protection is a constant consideration in this vicinity. Sagamore Creek is an important natural resource for the community.

Since Sagamore Avenue functions as a gateway to the city for visitors traveling north from Rye, some consideration to site planning and design for structures in this area should be given.

Table 10: Land Use Profile – Sagamore Avenue Planning Area

	Parcels (#)	Parcels (%)	Acres (#)	Acres (%)	Housing Units (#)
Residential, Single-Family	278	69.8%	385.08	43.2%	548
Residential, Other	31	7.8%	89.75	10.1%	82
Mixed Residential/Commercial	4	1.0%	3.89	0.4%	4
Commercial	12	3.0%	25.37	2.8%	75
Industrial	0	0.0%	0.00	0.0%	0
Agricultural	14	3.5%	63.51	7.1%	0
Municipal	1	0.3%	0.17	0.0%	0
Other Public & Nonprofit	18	4.5%	278.78	31.3%	2
Vacant, Developable	24	6.0%	36.33	4.1%	0
Vacant, Potentially Developable	4	1.0%	3.41	0.4%	0
Vacant, Undevelopable	12	3.0%	4.59	0.5%	0
TOTAL	398	100.0%	890.89	100.0%	711

Middle Road/South Street

Residential in character, this planning area extends from the southern side of New Castle Road to a western boundary delineated by the Boston and Maine rail line. The land use profile for this area is very similar to that in the Sagamore Avenue area, with more than half of the total acreage in residential use, about 27 percent in public or nonprofit ownership, and more than six percent in agricultural use. However, this area is nearly twice as densely developed than the previous one:

the average net residential density for single-family properties in the Middle Road/South Street area is 2.7 units per developed acre, compared to 1.4 units per acre in the Sagamore Avenue planning area.

Commercial uses account for less than two percent of the land area, and there are no industrial uses. Finally, only 4.5 percent of the planning area (46 acres) is considered developable vacant land.

Table 11: Land Use Profile – Middle Road/South Street Planning Area

	Parcels (#)	Parcels (%)	Acres (#)	Acres (%)	Housing Units (#)
Residential, Single-Family	1,187	70.0%	513.29	49.9%	1,413
Residential, Other	296	17.5%	71.29	6.9%	950
Mixed Residential/Commercial	20	1.2%	6.71	0.7%	38
Commercial	15	0.9%	17.82	1.7%	5
Industrial	0	0.0%	0.00	0.0%	0
Agricultural	4	0.2%	65.79	6.4%	0
Municipal	7	0.4%	14.43	1.4%	0
Other Public & Nonprofit	96	5.7%	267.78	26.0%	166
Vacant, Developable	11	0.6%	23.92	2.3%	0
Vacant, Potentially Developable	9	0.5%	22.30	2.2%	0
Vacant, Undevelopable	51	3.0%	25.30	2.5%	0
TOTAL	1,696	100.0%	1,028.63	100.0%	2,572

Neighborhood preservation, protection of historic residential architecture, and traffic mitigation are central issues for this area.

Route One Corridor/Lafayette Road

This planning area consists of Lafayette Road from the Route 1 Bypass split south to the Rye town boundary. This is the largest of the planning areas designated for this analysis, encompassing 2,419 acres in parcels, or 29 percent of the city total. This is an important area for economic development: commercial uses make up 13.6 percent of the parcel area in the planning area, and account for 38 percent of the commercial property area in the city; and industrial uses comprise 7 percent of the planning area's acreage, representing 44 percent of the city's industrial acreage.

Although there are relatively few municipal properties in the Route 1 corridor, other public and nonprofit uses represent nearly one-third of the land area. Residential uses comprise about 753 acres, or 31 percent of the total area in the planning area, and include around 2,000 housing units, about one-fifth of the city total. Residential densities are slightly above the average for Portsmouth: single-family properties are developed at 2.1 dwelling units per developed acre, compared to 1.9 units per acre for the entire City.

Table 12: Land Use Profile – Route 1 Corridor (Lafayette Road) Planning Area

	Parcels (#)	Parcels (%)	Acres (#)	Acres (%)	Housing Units (#)
Residential, Single-Family	816	73.6%	386.27	16.0%	1,339
Residential, Other	23	2.1%	366.66	15.2%	644
Mixed Residential/Commercial	6	0.5%	22.72	0.9%	5
Commercial	87	7.9%	329.22	13.6%	8
Industrial	37	3.3%	170.82	7.1%	0
Agricultural	3	0.3%	34.15	1.4%	0
Municipal	7	0.6%	55.31	2.3%	0
Other Public & Nonprofit	66	6.0%	792.11	32.8%	25
Vacant, Developable	39	3.5%	152.72	6.3%	0
Vacant, Potentially Developable	6	0.5%	71.83	3.0%	0
Vacant, Undevelopable	18	1.6%	36.78	1.5%	0
TOTAL	1,108	100.0%	2,418.60	100.0%	2,021

In the northerly portion of the corridor, from the Route 1 Bypass split down to the Heritage Road/ Robert Avenue intersection, the land to the west of Lafayette Road includes some of the city's highest valuations and top taxpayers. Among the business located along the street front are:

Bournival Jeep
Market Basket
Yokens
McDonald's Restaurant
NH Dept Of Employment Security
Service Federal Credit Union
Water Country
Meineke Discount Mufflers
Southgate Plaza
Granite Bank
Bournival Kia & Used Car Annex
Wal-Mart

Behind this frontage is a substantial area (in the range of 400 acres) primarily devoted to industrial and commercial use. Despite the presence of wetlands, this area has ample development and redevelopment potential, but is limited by the lack of roadway frontage and access. Between Peverly Hill Road and Heritage Street, only Constitution Avenue spans the distance between Lafayette and Banfield Road, with Campus Drive (a dead end) also extending east to west. The only road paralleling Lafayette is West Road. The City has a long-range plan to create a continuous parallel street connecting from Post Road to Constitution Avenue. Towards this end, the City has acquired easements to enable construction of a roadway in the future through subdivision planning – the parcel to the rear of the Walmart site provides an easement, as does the area directly west of the DPW facility.

There are several large sites that could be better configured or redeveloped for greater value and efficiency. In particular, parcels along Mirona and Peverly Hill Roads, Constitution Avenue, near Water Country, and across from McKinley Road may benefit from proactive planning to facilitate high quality development.

The area east of Lafayette Road, unlike the west, is comprised of a mix of uses that include single family residences (Elwyn Park), condos (White Cedar, the Woodlands), state-owned forest, radio broadcasting (WHEB/WXHT/WTMN), and auto-related sales and service.

This southernmost mile of the corridor, beginning at the Heritage Road/Robert Avenue intersection, makes a transition from the largely commercial strip to a more mixed area with residential as well as commercial uses.

The I-95 Corridor

Situated south of the Traffic Circle between the Boston and Maine rail line and the Interstate highway, this area is characterized by its relative openness and its separation from the rest of the city. About 1,225 acres in total, it is the second largest planning area in the city. Portsmouth Regional Hospital, High Liner Foods, and Liberty Mutual are located here, visible from I-95.

Only about 2% of the land in this planning area is covered by building footprints, and over 700 acres (57 percent of the total parcel area) is wetland, including a portion of the Great Bog.[7] Several parcels, totaling over 450 acres, are owned by the City.[8]

Table 13: Land Use Profile – I-95 Corridor Planning Area

	Parcels (#)	Parcels (%)	Acres (#)	Acres (%)	Housing Units (#)
Residential, Single-Family	230	70.8%	167.10	13.6%	241
Residential, Other	6	1.8%	16.65	1.4%	12
Mixed Residential/Commercial	0	0.0%	0.00	0.0%	0
Commercial	12	3.7%	87.66	7.2%	1
Industrial	5	1.5%	28.63	2.3%	0
Agricultural	3	0.9%	43.37	3.5%	0
Municipal	15	4.6%	278.09	22.7%	0
Other Public & Nonprofit	27	8.3%	210.53	17.2%	0
Vacant, Developable	14	4.3%	369.56	30.2%	0
Vacant, Potentially Developable	3	0.9%	8.58	0.7%	0
Vacant, Undevelopable	10	3.1%	14.21	1.2%	0
TOTAL	325	100.0%	1,224.38	100.0%	254

Although the Assessors database identifies 17 parcels containing 378 acres as developable, this is misleading due to the prevalence of wetlands in this area.

[7] Table 13 indicates that more than 30 percent of the acreage in the I-95 Corridor planning area is designated by the Assessor's Office as developable or potentially developable vacant land. However, this simple percentage overstates the buildout potential of the planning area, because the land use class designations in the Assessors database are based on whether a parcel has any development potential: for example, a parcel might be considered developable even if the majority of its area were wetland, as long as it had sufficient upland area for a building site.

[8] The lesser acreage designated as "municipal" in Table 13 does not reflect the City's recent purchases in the Great Bog, which are included under "Other Public & Nonprofit."

North Mill Pond

The North Mill Pond planning area is bounded by North Mill Pond on the south, the Route 1 Bypass on the west, Interstate 95 on the north, and the railroad tracks on the east. Residential uses comprise nearly 40 percent of the total parcel acreage, and include over 900 housing units. Public and nonprofit uses account for one-third of the acreage, and commercial uses for one-fifth of the total area.

Table 14: Land Use Profile – North Mill Pond Planning Area

	Parcels (#)	Parcels (%)	Acres (#)	Acres (%)	Housing Units (#)
Residential, Single-Family	376	62.5%	86.42	27.8%	422
Residential, Other	106	17.6%	33.70	10.8%	273
Mixed Residential/Commercial	5	0.8%	3.55	1.1%	8
Commercial	42	7.0%	65.84	21.2%	154
Industrial	6	1.0%	6.32	2.0%	0
Agricultural	0	0.0%	0.00	0.0%	0
Municipal	1	0.2%	0.10	0.0%	0
Other Public & Nonprofit	30	5.0%	102.50	33.0%	53
Vacant, Developable	12	2.0%	3.89	1.3%	0
Vacant, Potentially Developable	9	1.5%	3.96	1.3%	0
Vacant, Undevelopable	15	2.5%	4.66	1.5%	0
TOTAL	602	100.0%	310.93	100.0%	910

This planning area is dominated by three landscape features: the water body of the North Mill Pond, the Boston and Maine railroad, and the Route 1 Bypass. Tremendous potential exists in this area to enhance the shoreline of the Pond, provide new recreational opportunities, and improve the appearance of the rail use.

North Mill Pond can be seen as a gateway for travelers entering the city via Market Street or Maplewood Avenue. In 1997, the City completed a feasibility study of the North Mill Pond with the intention of transforming this neglected, underutilized area into integral element of the city's open space and recreation network. The Pond is approximately 63 acres in size, with its western shoreline dominated by residential use and its eastern banks primary devoted to commercial and industrial enterprises.

The conceptual plan endorsed by the Planning Board and City Council (titled "Fish Head Stew") illustrates a vision of publicly accessible jogging and bicycle paths that hug the Pond's eastern shore and connect to scenic overlooks, the historic North and Union cemeteries, and other Seacoast Area Bike Routes within Portsmouth. This project is subject to the City's receipt of easements from property owners along the trail. A local group, Advocates for the North Mill Pond, has been very active over the last five years in working with the City to clean up the pond and to educate residents.

Stretching northward from its intersection with Lafayette Road to the bridge, the Route 1 Bypass is characterized by two distinct segments separated by the traffic circle. The southern section, roughly 1.35 miles in length, is mainly bordered by residential uses, with some industrial and

commercial property clustered along the short segment from the circle to Islington Street. This segment begins at the traffic circle with the Meadowbrook and Port Inns. Traveling south, four blocks of residences front the roadway until New Hampshire College and Port City Chrysler/ Plymouth mark a change in land use near the intersection of Lafayette Road. Major uses along the northbound section of this area are Coast Point Pontiac/Cadillac, the Frank Jones Center, Car America, and Health South Orthopedic.

The northern section is home to the Wynwood and Holiday Inns, while gas stations/convenience stores operated by Texaco, Gulf, and Exxon are located just north of the Circle. In addition, over two dozen residences occupy frontage on this northbound stretch of the road.

The Route 1 By-Pass' southbound frontage is devoid of residences. Traveling south from the River, uses are dominated by truck stops and service stations. Budget Rental and the "Fifth Wheel" adult bookstore are also located here. The City-owned parcel (New Franklin School), the Best Inn, and the New Hampshire State Liquor Store are the remaining uses as the road reaches the Traffic Circle.

Woodbury Avenue and Maplewood Avenue

The Woodbury Avenue/Maplewood Avenue planning area is centered on these two arterial roads leading north from the central core. It is bounded on the south by Interstate 95, on the west by the Spaulding Turnpike, on the north by the Newington town boundary, and on the east by the rail-road tracks; and is thus clearly separated from the rest of the city. Nearly half of the acreage in this planning area consists of commercial and industrial uses. Residential uses make up about 28 percent of the parcel acreage and provide approximately 1,060 housing units. Only about 14 percent of the acreage is occupied by public and nonprofit uses, much lower than the citywide average of 37 percent.

Commercial properties in the area comprise more than one-quarter of the commercial acreage in Portsmouth but only 16 percent of the city's commercial floor area, reflecting the more suburban, low-density form of development here compared to older business districts. (Commercial assessed values are also relatively low in the Woodbury/Maplewood planning area, averaging only $620,000 per acre compared to the city average of nearly $970,000 per acre.)

About 8.5 percent of the parcel acreage (58 acres) consists of vacant parcels that are considered developable or potentially developable, of which 45 acres are available for commercial or industrial use.

Table 15: Land Use Profile – Woodbury Ave./Maplewood Ave. Planning Area

	Parcels (#)	Parcels (%)	Acres (#)	Acres (%)	Housing Units (#)
Residential, Single-Family	321	70.2%	118.46	17.5%	530
Residential, Other	27	5.9%	68.47	10.1%	357
Mixed Residential/Commercial	8	1.8%	6.14	0.9%	10
Commercial	46	10.1%	232.91	34.4%	134
Industrial	3	0.7%	88.38	13.1%	0
Agricultural	0	0.0%	0.00	0.0%	0
Municipal	1	0.2%	0.09	0.0%	0
Other Public & Nonprofit	24	5.3%	96.07	14.2%	31
Vacant, Developable	17	3.7%	55.63	8.2%	0
Vacant, Potentially Developable	2	0.4%	2.16	0.3%	0
Vacant, Undevelopable	8	1.8%	8.82	1.3%	0
TOTAL	457	100.0%	677.13	100.0%	1,062

Land along Maplewood Avenue just northwest of I-95 is home to three of the city's larger apartment and condominium developments—Osprey Landing, Spinnaker Point, and Heritage Hill—with a combined total of 446 units. Further north, Woodbury Avenue supports commercial uses. This corridor leads to a mall and "big box" retail district in Newington.

Upper Waterfront

With the exception of the Atlantic Heights neighborhood, the riverfront to the northwest of the downtown is dedicated to waterfront industrial uses. National Gypsum and the Public Service Company of New Hampshire's Schiller power plant dominate this landscape. This riverfront enjoys deep water access and has the potential to support valuable industrial development that requires river access for shipping and/or other needs.

The development potential of land behind Osprey Landing and to the west of Atlantic Heights is limited by access, as potential roadway connections must cross the B&M Railroad line. Existing grade crossings are limited to one at Kearsarge Road and another linking the power plant properties. B&M policy discourages the introduction of new grade crossings by requiring the closure of two existing grade crossings with the creation of one new crossing. As a result, opportunities for new waterfront uses have been frustrated.

Table 16: Land Use Profile – Upper Waterfront Planning Area

	Parcels (#)	Parcels (%)	Acres (#)	Acres (%)	Housing Units (#)
Residential, Single-Family	99	47.4%	14.52	9.1%	111
Residential, Other	82	39.2%	10.04	6.3%	160
Mixed Residential/Commercial	0	0.0%	0.00	0.0%	0
Commercial	3	1.4%	6.53	4.1%	34
Industrial	6	2.9%	85.05	53.0%	0
Agricultural	0	0.0%	0.00	0.0%	0
Municipal	3	1.4%	20.10	12.5%	0
Other Public & Nonprofit	10	4.8%	17.87	11.1%	0
Vacant, Developable	4	1.9%	6.10	3.8%	0
Vacant, Potentially Developable	0	0.0%	0.00	0.0%	0
Vacant, Undevelopable	2	1.0%	0.17	0.1%	0
TOTAL	209	100.0%	160.39	100.0%	305

Pease International Tradeport

This planning area comprises approximately 1,317 acres, or 16% of the city's overall land area, and includes not only the Pease International Tradeport but also the adjacent Pannaway Manor residential neighborhood around Sherburne Road.

Residential uses make up only 5.4 percent of the parcel acreage in this planning area, and are limited to the Pannaway Manor residential neighborhood. More than 90 percent of the total parcel acreage is classified as "Other Public & Nonprofit" because ownership of all land within the Tradeport is retained by the Pease Development Authority, an agency of the State of New Hampshire. In most cases the private enterprises in the Tradeport own their buildings but lease the land from the Authority.

Table 17: Land Use Profile – Pease International Tradeport Planning Area

	Parcels (#)	Parcels (%)	Acres (#)	Acres (%)	Housing Units (#)
Residential, Single-Family	247	89.5%	70.76	5.4%	247
Residential, Other	1	0.4%	0.25	0.0%	0
Mixed Residential/Commercial	0	0.0%	0.00	0.0%	0
Commercial	1	0.4%	16.91	1.3%	0
Industrial	1	0.4%	3.02	0.2%	0
Agricultural	1	0.4%	1.67	0.1%	0
Municipal	2	0.7%	4.67	0.4%	0
Other Public & Nonprofit	19	6.9%	1,208.61	91.8%	0
Vacant, Developable	2	0.7%	4.76	0.4%	0
Vacant, Potentially Developable	0	0.0%	0.00	0.0%	0
Vacant, Undevelopable	2	0.7%	6.40	0.5%	0
TOTAL	276	100.0%	1,317.05	100.0%	247

Because of the split between ownership of land and buildings in the Tradeport, the land use profile presented in Table 17 (included for consistency with the corresponding tables for the other planning areas) does not accurately reflect the types of land uses. A better view of this planning area can be gained by looking at information on building floor area in addition to parcel area, as presented in Table 18. This table shows that the land acreage and building floor area (and their corresponding valuations) are reported separately in the City Assessors database.

As shown in Table 18, the Tradeport contains 2.7 million square feet of commercial and industrial floor area (21 percent of the city's total), valued at approximately $160 million.[9] This represents 14 percent of Portsmouth's total commercial valuation and 16 percent of the city's industrial valuation. Furthermore, commercial and industrial values per acre are quite high compared to average values across the city.

Table 18: Land Use Profile – Pease International Tradeport (PDA Properties)

	Acres	Floor Area	Valuation
Residential - Single-Family	0.00	0	$0
Residential - Other	0.00	0	$0
Mixed Residential & Commercial	0.00	0	$0
Commercial	0.00	2,013,508	$117,996,700
Industrial	0.00	705,719	$38,932,600
Agricultural	0.00	0	$0
Municipal	0.00	0	$0
Other Public & Nonprofit	1,207.61	0	$1,000,000
Vacant - Developable	0.00	0	$3,866,200
Vacant - Potentially Developable	0.00	0	$0
Vacant - Undevelopable	0.00	0	$651,000
TOTAL	1,207.61	2,719,227	$162,446,500

Land use in the Pease International Tradeport is governed by the Pease Development Authority (PDA) and is divided into 5 categories: airport, airport-related industrial, industrial, business and commercial, and conservation land. While inspectional services are provided by local officials, the PDA has its own zoning, subdivision, and site plan requirements and retains complete responsibility for land use decisions. Portsmouth land use boards and staff do, however, regularly provide site plan and technical review of proposed development (particularly in the business and commercial district), serving in an advisory capacity to the PDA. The Portsmouth Zoning Ordinance covers the PDA area, and generally corresponds to PDA regulations.

Pease is nearly built out. Only 60 acres of non-aviation land remain.

According to the Pease Development Authority website, in early 2002 the Tradeport had more than 160 tenants operating in 3.8 million square feet of leased space, with an additional 1 million s.f. to be added in 2002. Over 500,000 s.f. of space was listed as available for lease or sublease.[10]

[9] These data on floor area are lower than the figures provided by the Pease Development Authority (see next page), which probably reflects the fact that very recent development at Pease (and elsewhere in the City) had not been incorporated into the Assessors database as of the date that it was provided for this analysis.

[10] Pease Development Authority web site, http://www.peasedev.org, 2/2003.

An update to the Pease Surface Transportation Master Plan, completed in October 2002, estimated that an additional 862,000 s.f. of floor area (including a 52,000 s.f. expansion of the passenger terminal) would be developed by 2005; and a further increase of approximately 2,240,000 s.f. (including a 48,000 s.f. passenger terminal expansion) would take place by 2010. These estimates were based on 30 identified projects including projects completed but not yet fully occupied, projects currently under construction, and projects planned but not yet started.[11]

Several issues relating to future land use in the PDA area should be considered during the Master Plan process:

- **Airport Expansion:** The PDA is planning for improvements that would enable the airport to expand from its existing operation (247-437 peak passengers and 54-71,000 annual enplanements) in two phases to fulfill its maximum potential capacity (1,000 peak passengers and 290,000 enplanements).[12] As planning for the airport's future continues to evolve, careful consideration should be given to the accompanying effects that expansion may entail. Economic benefits, transportation network enhancement, noise mitigation, environmental protection, and surface transportation are among the topics that require examination.

- **Natural Resource Protection:** Recognized as an area of great environmental value and sensitivity, the Tradeport contains habitat to several endangered species, is home to a significant aquifer, and forms part of an estuarine water system.[13] Consisting of approximately 781 acres around the eastern portion of the Tradeport, the Natural Resource Protection Zone is an integral component of Portsmouth's open space system. At present, uses such as airport-related equipment, communication and navigational structures, stormwater management facilities, and access roads are permitted in this zone; further assessment of the strategies employed to ensure the future protection of this environment should be undertaken.

- **Development Pattern and Efficiency:** Pease development generally reflects the dimensional standards set forth in its zoning ordinance; minimum lot areas range from 5 to 10 acres, and lot coverage maximum is 50%. The resulting pattern is low density, low rise structures, surrounded by surface parking lots. There appears to be an opportunity for more efficient land use. Consideration might be given as to how income-producing uses could be maximized while surface parking minimized and open space preserved. Shared parking, transportation demand management programs, and an increase in regulated density may contribute to this analysis.

- **Land Use Planning:** The Tradeport has been developed with a focus primarily on job creation for the state and region, and secondarily on tax base expansion for the host communities. Accordingly, both residential uses and significant retail activity have been excluded from the area. Although significant changes in these patterns are very unlikely, modifications of these policies have been proposed and could be considered in the planning process. Recent development proposals for extended stay hotels have sparked discussion of the possibility of additional residential use at Pease. Also, the Authority has recently recognized the need for providing limited retail services to accommodate the Tradeport's businesses and employees, and is currently planning the development of a retail center in Manchester Square.

[11] Update–Pease Surface Transportation Master Plan, Vanasse Hangen Brustlin, October 2002, p. 30.
[12] Airport Master Plan Supplement 2001, HTA Consulting Engineers, p13.
[13] Detailed Analysis and Reuse Plan for Pease Air Force Base, Volume 1, p 58.

Zoning Districts

Residential Districts

Residential use accounts for 35% of the city's total land area. Scarcity of vacant lots, coupled with the high cost of land, has slowed residential development to the point where only 56 permits for new construction were issued in 2002, representing only 26% of all new construction.

All seven residential districts in Portsmouth limit building heights at 35 feet, and allowed uses (whether by right or by special permit) within these districts are restricted to residential and accessory uses, home occupations, recreational activity, farms, religious institutions, day care and nursing home facilities, and several miscellaneous uses.

The districts vary substantially in dimensional requirements, resulting in a variety of neighborhood landscapes throughout the city.

Single Residence A (SRA)
The SRA district accommodates new residential development on lots larger than was typical through the 1960s. With dimensional requirements of a minimum lot area of 1 acre, 150 feet of frontage, 200 foot minimum lot depth, and 50% open space, the SRA zone is second only to the Rural Residential zone in being the least dense among all residentially-zoned areas. Single family use is the predominant use allowed in this zone, with limited home occupation, limited day care, city parks, farms, and accessory uses also permitted. Uses requiring special permits in this zone include nursing homes, certain types of recreational use, day care centers serving more than 7 children, and historic house museums.

SRA zones in Portsmouth are almost exclusively located south of downtown, and east of I-95. Sagamore Avenue, Banfield Road, Elwyn Road, Peverly Hill Road, and Ocean Road all feature SRA zones nearby.

Single Residence B (SRB)
The SRB district accommodates smaller lot areas, reflecting the reality of development from the 1940s through the 1960s. Requiring a minimum lot area of 15,000 s.f., the SRB zone permits single family and other uses in similar to the SRA district, but in a substantially denser layout. All permitted and special permitted uses are identical to the SRA, with the single exception of commercial greenhouses being allowed by special permit in the SRB.

General Residence A (GRA)
The GRA district encompasses a variety of older residential neighborhoods, particularly the area between North Mill Pond and Interstate 95 and the area bounded by Middle Street, South Street, and South Mill Pond. The GRA zone allows single family as well as two, three, and four family dwelling units per lot. A minimum of 7,500 s.f. per dwelling unit is required. Rooming houses are allowable via special permit, and unlike the SRA, SRB, and R zones, conversion of structures to accommodate up to four families is permitted subject to dimensional requirements.

General Residence B (GRB)
The GRB district encompasses older neighborhoods with a variety of types of residential structures on small lots. The major GRB districts are located south of the Central Business District, generally within three or four blocks from the waterfront, and in the Atlantic Heights neighborhood. Like the GRA, the GRB allows single to four family dwelling units use, but only requires a minimum lot size of 5,000 s.f. In contrast to the GRA, several uses are subject to greater restriction or scrutiny, including day care (small-scale allowed by special permit, but 7+ child facilities are not permitted), recreational uses (not permitted), religious institutions (not permitted) and nursing homes (not permitted).

Garden Apartment and Mobile Home (GA/MH)
This zone excludes single family residential use, focusing solely on apartment, mobile homes, and multifamily. Two to four family uses are permitted, as well as five or more units on a lot. Conversion of structures existing prior to 1980 is not allowed in this zone. This is the only zone in which mobile homes are permitted. Mobile homes that are on permanent foundations, however, are allowed throughout the City. A minimum area of 5 acres is required in this zone, with 10,000 s.f. per dwelling unit needed.

GA/MH zoning is limited to land near Berry's Brook in the southeastern part of the city, a few smaller areas near Greenleaf Avenue/Sagamore Creek, and on the Newington border at Wedgewood Road.

Apartments (A)
Featuring the smallest minimum lot requirement of all residential zones (3,500 s.f.), the Apartment district is designed to permit a wide variety of residential housing types, including single and two-four family structures. According to the City's Zoning Map, the A district appears limited to one area in the vicinity of Cabot, Union, Madison, and Austin Streets. It is surrounded by MRO, MRB, OR and CBB districts.

Rural Residential (R)
Requiring a minimum of 5 acres per dwelling unit, the rural residential zone is intended to preserve the rural character and fragile nature of its environs by allowing flexibility in siting of structures. No street frontage is required. Single family use is permitted, along with limited home occupation, limited day care, city parks, and farms. More restrictive than the SRA zone, most recreational uses are not permitted, but 25+ acre golf course are allowed by special permit. In addition, commercial greenhouses, historic houses, and places of worship are among uses allowed by special permit.

Rural residential zones can be found abutting the city's natural resource protection areas, near Berry's Brook, Sagamore Creek and Belle Island, and in the Great Bog.

Mixed Residential Districts

The two districts that comprise the category of "mixed residential," share identical dimensional requirements, differing only in their allowed uses. A 40 foot height limit applies to all structures, along with a minimum lot area of 7,500 s.f., 100' of frontage, depth of 80', 40% lot coverage, and 25% minimum open space. Front, side, and rear yard setbacks are 5', 10', and 15' respectively.

Unlike the residential districts, these "mixed" zones permit residential use to exist alongside certain retail, business, and consumer service uses. Mixed zones generally function as transitional areas.

Mixed Residential Office (MRO)
Single to four family use is permitted, as is conversion of residential structures to accommodate up to four families (subject to dimensional requirements). Also permitted are rooming houses, non-profit museums, some home occupations, municipal parks, historic houses, and accessory uses. Bed and breakfasts, nursing homes, some home occupations, recreational uses, and day care for less than 6 children are among uses requiring special permits. Retail sales are not permitted.

Professional "office" use is permitted only if several conditions are met, the effect of which is to limit the intensity and breadth of the use. Only business, real estate, professional, and data processing offices are allowed, and none can occupy more than 5,000 s.f. of gross floor area.

Mixed Residential Business (MRB)
Like the MRO zone, single to four family uses are permitted, as is conversion of residential structures to accommodate up to four families (subject to dimensional requirements). Business offices, financial institutions, and real estate office are permitted. Also permitted are rooming houses, bed and breakfasts, funeral parlors, small scale day acre, home occupations, municipal parks, historic houses, and accessory uses. Professional offices, boarding houses, day care for more than 7 children, nursing homes, non-profit clubs, and recreational uses are among those requiring special permits.

Several uses are allowed by right if they occupy less than 2,000 s.f. in gross floor area; these include retail sales of convenience goods, consumer services, trade, craft and general service establishments, and manufacture of retail goods sold on the premises.

A special permit required for take out food (except fried food), and for consumer services exceeding 2,000 s.f. of gross floor area.

Business Districts

The Table of Uses that regulates the 5 business zones comprises 13 pages of the City's Zoning Ordinance; accordingly, the range of uses featured therein covers a wide variety of types of businesses, from retail sales to motor vehicle repair shops. The 2 central business districts accommodate the dense urban setting of the downtown via a lot area minimum of 1,000 s.f. without setbacks and 95% coverage allowed, while the general business zone, found outside of the core, requires businesses to have a lot of at least 1 acre. Heights for business uses vary from 35 to 60 feet depending on the zone.

Central Business A (CBA)
The mix of uses allowed in the CBA includes retail, office, restaurants, and hotels, but a special permit is generally required when these uses exceed certain thresholds, for example, 24-hour operation of convenience goods sales, hotel use that includes public assembly/function rooms, restaurant, entertainment, or cultural uses that invite public assembly or occupancy. The CBA is

water-related, and is generally more restrictive than the CBB, with the exception of marina-related uses which are allowed in the CBA but not the CBB. The CBA and the CBB also allow residential uses.

Central Business B (CRB)
Like the CBA, the CBB allows for a broad range of business uses. While the CBB allows some uses that are not permitted in the CBA (i.e. boarding houses, fraternal organizations, trade, craft, and general service organizations), the CBB does not allow for marina, excursion or passenger boat transport, or docking/mooring use, while the CBA does. A 60' height limit is respectful of the prominence of the North Church steeple.

General Business (GB)
This zone requires a minimum lot area of 1 acre, the most of any business district. Accordingly, 200 feet of frontage and a 30% lot coverage ratio are also required.

This zone permits the majority of uses listed in the business district table, with a few notable exceptions: residential use, boarding houses, fraternal organizations, plus a few marine-related uses. This is the only zone that allows sexually-oriented business use by special permit.

Business (B)
The B zone requires a minimum lot area of 20,000 s.f. and a maximum height of 50 feet. Retail sales, business offices, consumer services, bed and breakfasts, and residential use that is mixed with other uses are permitted in this zone. In contrast to other business districts, the B zone does not allow for nightclub, or hotel or restaurant use that is accompanied by any assembly/function room uses.

Waterfront Business (WB*)*
As its title suggests, this zone is reserved for marine-related uses with very few exceptions – retail sales, schools, and historic houses being among these. Of all business zones, this is the most restrictive of heights, with a maximum set at 35'. This zone is intended to preserve the City's water-related heritage, and uses that would be detrimental to water access and related activities are prohibited.

Industrial Districts

Encompassing uses from offices to research laboratories, to manufacturing to wholesaling, the city's three industrial zones require minimum lot areas of two to three acres. These zones are typically located along the Boston and Maine Railroad line, and along the Route 1 corridor.

Industrial (I)
This zone accommodates the widest variety of industrial uses of the 3 districts, and not permitting uses such as hospitals or hotels that may not be complementary to this type of use. Potentially noxious uses such as truck fueling facilities or chemical manufacturing plants require special permits.

Office Research (OR)
Designed to encourage high quality development, this zone permits office and research facilities, but restricts many of the industrial uses allowed in the I district. Also permitted are hospitals, medical offices, post-secondary schools, and hotels and motels. This zone requires a minimum lot area of 3 acres, the largest lot size requirement outside of the airport districts.

Waterfront Industrial (WI)
Focused on accommodating water-dependent uses, this district does not permit most other uses, and is intended to allow uses that would take advantage of the deep port. Special exceptions exist for those structures within 100' of the CBD.

Airport Districts

The Pease Development Authority, pursuant to RSA 12-G:10, II, has established its own zoning, subdivision, and site plan regulations to apply to the development of land under its jurisdiction. While the PDA retains decision-making power in consideration of all development proposals, those within the Industrial, Business and Commercial, Natural Resources Protection, and a portion of the Airport Industrial Zones are referred to officials in local municipalities for their review and comment prior to the PDA's recommendation. The PDA retains sole administration of proposals within the airport zone, and a portion of the airport industrial zone.

Generally speaking, the airport zones as defined by Portsmouth Zoning Ordinance correlate to those featured in the PDA regulations.

Airport (A)
"Intended to provide for uses associated with the operation of an airport,"[14] this zone allows for airport use, and aviation-related structures and activities. This zone is fairly restrictive with regard to the scale of passenger service, differing from the PDA ordinance in this regard.

Airport Industrial (AI*)*
Developed to allow for industrial uses that require close proximity to the airport, this zone permits several types of airport-related uses such as hangers, cargo terminals, maintenance shops, parts manufacturing, etc. Minimum lot required is 5 acres with 100 feet of frontage.

Pease Industrial (PI)
In addition to allowing uses that occur within the airport industrial zone, this district also permits business offices, warehousing, light industry and manufacturing, and industrial uses. Minimum lot size is also 5 acres.

Airport Business Commercial (ABC)
Requiring a minimum lot area of 10 acres, this attracts Portsmouth's largest facilities. Manufacturing, business offices, conference facilities, cultural facilities, and restaurants are among permitted uses.

[14] Pease Development Authority Zoning Ordinance, p. 8.

Conservation Districts

Two zones are fall under the "conservation" category in the City's zoning ordinance: the municipal and the natural resources protection zones. They differ in self-explanatory ways: the Municipal (M) zone permits unlimited types of municipal uses, public facilities (including parking garages), parks and playgrounds, tree farms and forestry, wildlife refuge, and nature trails. The Natural Resource Protection (NRP) zone permits only tree farms and forestry, parks and playgrounds, wildlife refuge, natural trails, and conservation-restriction related uses. The municipal zone is not guided by any specific dimensional requirements, but the NRP zone does require lots to be 95% open space with 70 foot setbacks on al sides and structures not to exceed 35' in height.

Overlay Districts

Office Research/Mariner's Village
Designed to facilitate a planned development, this overlay zone is "comprised of three land use components. Apartment, Office Research, and Spinnaker Point Condominium." Some of the housing developed under this district will remain affordable for a minimum of 40 years. Permitted residential uses are very specific, limited to the development plan. The office/research component generally references Section 10-209 for its requirements, with special provisions for a vegetative buffer and screening between office/research and residential uses.

Historic District
While Portsmouth adopted its first historic districts on the heels of the State's enabling legislation in 1963, the Portsmouth Historic District in 2003 governs over 900 structures with a comprehensive approach to preservation. Fully described in Article X of the Zoning Ordinance, the Historic District Commission regulates changes to structures within district boundaries, as it reviews proposed alterations and developments to ensure that the city's historic and architectural heritage is protected and enhanced. This district is notably local in its designation and review authority as it is not listed as part of the National Register of Historic Places.

Land Use Regulation Issues

The consultants' review of the Zoning Ordinance and Zoning Map, along with discussions with City officials, has revealed a number of land use regulation issues that should be considered and addressed in the Master Plan process. The following sections outlines several of these issues, which will be further refined and expanded during the planning process.

Central Business District

A set of important concerns relates to preserving the special character and long-term health of the downtown area. The central business district is a unique resource that draws on and is supported by a mix of residents, business employees and visitors, resulting in a vibrant civic and commercial center. Land use regulations in the downtown area should be designed to help preserve of the balance between nonresidential and residential uses. In this regard, two specific issues are of concern: preventing the loss of commercial floor space, and preserving the dense mix of first-floor businesses oriented to foot traffic.

Downtown Portsmouth has become increasingly attractive as a place to live. While this popularity has spurred reinvestment in older buildings, it has also resulted in the conversion of some retail and commercial space to residential use as the value of property for residential uses exceeds its value for the previous nonresidential use. In addition to reducing the stock of available retail space, this process can harm the vitality of the street: as former storefronts are closed off to become private residences, the street becomes less interesting to the pedestrian, potentially resulting in the loss of business for remaining retail establishments. It is therefore important to preserve first-floor commercial uses from conversion to uses that are not accessible to the public.

A related issue is the potential for conversion of existing office space to residential use. It is important to maintain a good balance between the daytime and nighttime populations in order to support the continued vitality of the central business district. However, in the past year several major employers—notably, Bottomline Technologies and Bowstreet Inc.—have relocated out of the downtown, resulting in a surplus of commercial floor area. Restaurants and other businesses that depend on a significant daytime population have been adversely affected by this contraction in the downtown's workforce.

Another issue relates to the establishment of chain stores and franchises in the downtown area. Many residents and businesses have expressed concern that these large companies and marketing associations could change the character of the central business district, creating more of a shopping-mall atmosphere and destroying the unique qualities that draw visitors and residents to the downtown. This question can be addressed through design controls to protect the historic character of the building stock, combined with regulations on spacing of building entries, windows, etc. In general, land use controls should focus on the physical and functional aspects of building design and use, rather than on secondary issues such as whether the individual establishment is independently owned or part of a broader marketing operation.

Quality of Development

The City of Portsmouth has done an exceptionally good job of maintaining the character and quality of development in its historic downtown area, thanks in great part to the rigorous review that is afforded by the historic district regulations. However, the city has been less successful in ensuring a high quality of site and building design in its other commercial areas, such as Lafayette Road, Woodbury Avenue, and even Islington Street. Improved design standards and review procedures may be warranted on a citywide basis or in specific districts, in order to enhance the appearance of new commercial development and achieve incremental upgrading of these commercial districts.

This is not to say that the same level of regulation and review needs to be applied to all areas as currently exists in the historic district. Rather, the City should consider site and building design issues on an area by area basis, and should adopt strategies appropriate to each area. These strategies could include:

- enhanced site plan review processes,
- improved regulation of on-premise signage,
- landscaping and buffer requirements, and
- design standards for parking lots (including requirements for internal and perimeter landscaping, lighting, and pedestrian circulation).

Architectural design review may be warranted for some areas, but is unlikely to be necessary on a citywide basis.

Specific Uses

Drive-in/drive-through businesses are largely unregulated in Portsmouth. Better controls are needed, for example, with respect to traffic management, queuing, etc.

Telecommunications facilities are currently addressed in a variety of ways. There is a need for an ordinance to systematically address and regulate the wide range of telecommunications facilities that are being developed as technology changes and the industry evolves.

Development Impact Mitigation

In general, the City is comfortable with the current process of negotiating contributions for upgrading of facilities to compensate for the impact of development. However, the City should consider developing a more formal impact fee system to address larger-scale issues, such as corridor-wide traffic circulation and safety or off-street parking needs.

HOUSING

Role of Housing Analysis in Planning

An adequate supply of affordable housing is a critical issue for the regional economy, the local community and the individual household. Regional economic health relies on the availability of housing to sustain an adequate labor force within a reasonable distance of job centers. The mix of housing units by type and density can influence population growth and the nature of residential demands on public services. From the perspective of the individual household, housing expenditures for rent or for ownership will often represent one's single largest lifetime investment. The need for affordable housing is underscored by New Hampshire RSA 672:1, III-e, which states:

> "All citizens of the state benefit from a balanced supply of housing which is affordable to persons and families of low and moderate income. The establishment of housing which is decent, safe, sanitary and affordable to low and moderate income persons and families is in the best interest of each community and the State of New Hampshire and serves a vital public need…"

In this statute, the NH State Legislature further declared that opportunities for the development of such housing should not be prohibited or discouraged by municipal planning and zoning powers or by unreasonable interpretation of those powers.

The housing section of a local master plan (listed as an optional element under RSA 674:2, III) must assess local housing conditions and project future housing needs of residents of all levels of income and ages in the municipality and the region as identified in the regional housing needs assessment prepared by the regional planning commissions under RSA 36:47, II. The statute also directs that the municipal plan's housing section should integrate the availability of human services with other planning undertaken by the community.

The focus of this chapter is to review characteristics of housing demand, supply, cost and affordability in Portsmouth and the region, and to provide a draft approach to estimate future housing production needs.

Change in Population and Households in Portsmouth

As of the 2000 Census, Portsmouth was a city of 20,784 persons. The City's population declined by nearly 20% 1990 to 2000, representing a net loss of 5,141 persons during the period. A major demographic transition occurred in Portsmouth during those years, in large part the result of the closure of the Pease Air Force Base (AFB) and associated housing demolition. Most of the population and household loss during the period was in the under-35 year old age groups, in part reflecting the decline of younger military and civilian support personnel and families. The number of school age children (age 5-17) declined by 1,187 or about 32% during the period. Total renter-occupied units declined by over 1,064 households, while the number of owner-occupied units increased by 610.

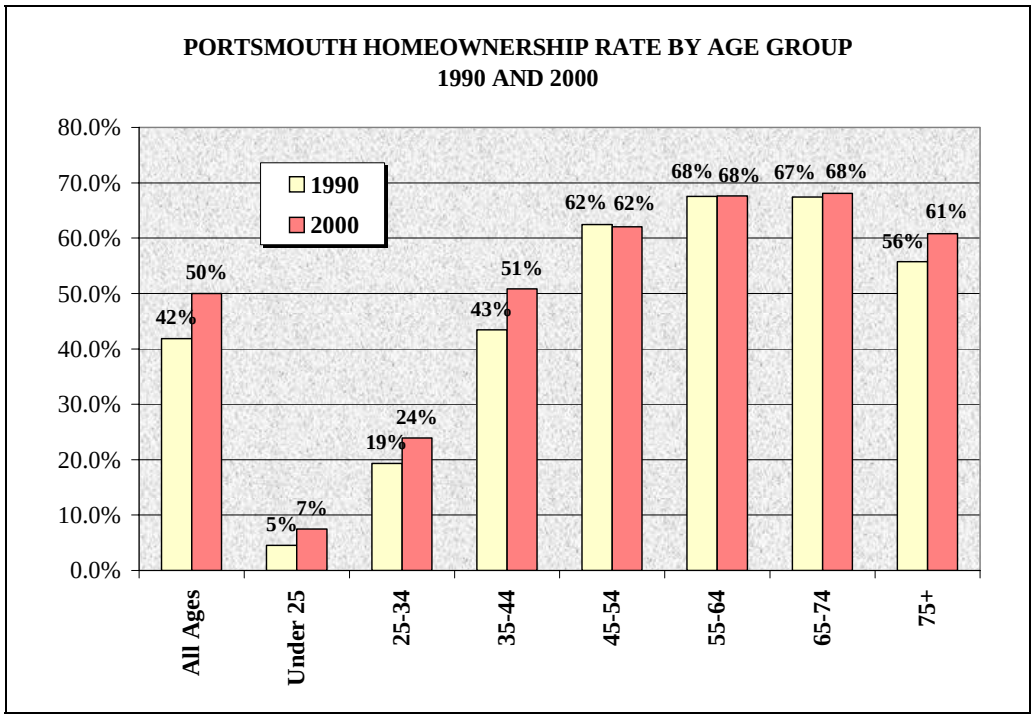
Households by Size, Tenure and Age

Most of the loss in population and households in the city occurred within Census Tract 695, which includes the location of the former Pease AFB. The decline in households occurred primarily among larger families of three or more persons who had been living in rental housing.

The only net increase in the number of households in Portsmouth from 1990-2000 occurred among one and two-person households. By age group, most of the net change in households occurred within the 45-54 year old age group.

In 1990 58% of Portsmouth households were renters; by 2000 the ratio was 50%. Much of this significant change in tenure was brought about by the outflow of renter households. Between 1990 and 2000, the city's homeownership rate increased among households under age 45 (in part due to the loss of renter-occupied units), and among households age 75 and older.

Figure 8: Home Ownership by Age



As of 2000, nearly 22%, or more than one in five Portsmouth households, are headed by a person age 65 or older. During the 1990s, the number of households headed by persons age 65 and older increased by 12% among homeowners, but only by 1% among renters. Seniors age 65+ comprised 12.2% of the population in 1990, and 16.3% in 2000.

Table 19: Population, Households, Tenure and Household Size

PORTSMOUTH NH - POPULATION, HOUSEHOLDS BY SIZE AND TENURE	1990	2000	Change 1990-2000	1990-2000 Change in Percent
Total Population	25,925	20,784	(5,141)	-19.8%
Group Quarters Population	1,236	607	(629)	-50.9%
Subtotal in Military Quarters	677	78	(599)	-88.5%
Subtotal in Nursing Homes	307	356	49	16.0%
Subtotal in other Group Quarters	252	173	(79)	-31.3%
Population by Age				
Under 5	2,071	1,009	(1,062)	-51.3%
5-17	3,743	2,556	(1,187)	-31.7%
18-24	3,095	1,495	(1,600)	-51.7%
25-34	6,167	4,002	(2,165)	-35.1%
35-44	3,783	3,524	(259)	-6.8%
45-54	2,051	2,952	901	43.9%
55-64	1,863	1,862	(1)	-0.1%
65-74	1,666	1,629	(37)	-2.2%
75-84	1,072	1,215	143	13.3%
85 & Older	414	540	126	30.4%
School Age (5-17) Per Household	0.36	0.26	-0.10	-28.6%
Population in Households	24,689	20,177	-4,512	-18.3%
Average Household Size	2.39	2.04	-0.35	-14.5%
Average Owner-Occupied Unit	2.44	2.27	-0.17	-7.0%
Average Renter-Occupied Unit	2.35	1.81	-0.54	-23.0%
Households	10,329	9,875	(454)	-4.4%
Homeowners	4,326	4,936	610	14.1%
Renters	6,003	4,939	(1,064)	-17.7%
Ownership Tenure %	41.9%	50.0%		
Rental Tenure %	58.1%	50.0%		
Households By Persons in Unit				
Total Occupied Units	**10,329**	**9,875**	**(454)**	**-4.4%**
1 Person	2,951	3,846	895	30.3%
2 Persons	3,471	3,544	73	2.1%
3 Persons	1,793	1,252	(541)	-30.2%
4 Persons	1,408	837	(571)	-40.6%
5+ Persons	706	396	(310)	-43.9%
Owner Occupied Units	**4,326**	**4,936**	**610**	**14.1%**
1 Person	973	1,376	403	41.4%
2 Persons	1,698	2,020	322	19.0%
3 Persons	793	719	(74)	-9.3%
4 Persons	592	568	(24)	-4.1%
5+ Persons	270	253	(17)	-6.3%
Renter Occupied Units	**6,003**	**4,939**	**(1,064)**	**-17.7%**
1 Person	1,978	2,470	492	24.9%
2 Persons	1,773	1,524	(249)	-14.0%
3 Persons	1,000	533	(467)	-46.7%
4 Persons	816	269	(547)	-67.0%
5+ Persons	436	143	(293)	-67.2%

Table 20: Households by Age and Tenure

PORTSMOUTH HOUSEHOLDS BY AGE AND TENURE	1990	2000	Change 1990-2000	1990-2000 Change in Percent
Households by Age of Householder				
Total Households	10,329	9,875	-454	-4.4%
Under 25	793	429	-364	-45.9%
25-34	3,011	2,193	-818	-27.2%
35-44	2,185	2,126	-59	-2.7%
45-54	1,192	1,788	596	50.0%
55-64	1,146	1,180	34	3.0%
65-74	1,077	1,072	-5	-0.5%
75+	925	1,087	162	17.5%
Homeowners by Age of Householder				
Total Homeowners	**4,326**	**4,936**	**610**	**14.1%**
Under 25	36	32	-4	-11.1%
25-34	581	525	-56	-9.6%
35-44	949	1,081	132	13.9%
45-54	744	1,109	365	49.1%
55-64	774	798	24	3.1%
65-74	726	730	4	0.6%
75+	516	661	145	28.1%
Renters By Age of Householder				
Total Renters	**6,003**	**4,939**	**-1,064**	**-17.7%**
Under 25	757	397	-360	-47.6%
25-34	2,430	1,668	-762	-31.4%
35-44	1,236	1,045	-191	-15.5%
45-54	448	679	231	51.6%
55-64	372	382	10	2.7%
65-74	351	342	-9	-2.6%
75+	409	426	17	4.2%
SENIOR POPULATION & HOUSEHOLDS				
Total Population Age 65+ Including Group Qtrs	3,152	3,384	232	7.4%
Percent of Total Population	12.2%	16.3%		
Households Headed by Persons 65+	2,002	2,159	157	7.8%
Percent of Total Households	19.4%	21.9%		
Homeowners Age 65+	1,242	1,391	149	12.0%
Renters Age 65+	760	768	8	1.1%
Senior Ownership Tenure %	62.0%	64.4%		
Senior Rental Tenure %	38.0%	35.6%		

Prevalence of Disability Within Senior Population

As of 2000, Portsmouth's non-institutional senior population (age 65 or older) totaled 3,050 persons. Of these, nearly 40% have some level of disability. Some of these disabilities represent minor limitations such as difficulty walking up stairs, which can be addressed by barrier-free housing or housing with elevators.

Table 21: Disability Level Age 65+

NON-INSTITUTIONAL POPULATION AGE 65+ BY DISABILITY LEVEL

Disability Level	Age 65+ Non-Inst. Population	Percent of Non-Institutional Population Age 65+
One Type of Disability Only	630	20.7%
Two or More Disabilities Incl. Self-Care	244	8.0%
Two or More Disabilities Not Incl. Self-Care	343	11.2%
No Disabilities	1,833	60.1%
Total Non-Inst. Population Age 65+	3,050	100.0%
Total With Some Disability	1,217	39.9%
Subtotal Two or More Disabilities	587	19.2%
Two or More Including Self Care	244	8.0%

Source: 2000 Census - data based on a sample

In 2000, there were 587 non-institutional seniors in the city (19% of the non-institutional population 65+) with two or more disabilities. Persons with more than one disability may be in need of supportive services or congregate housing (typically providing meals with some transportation and housekeeping assistance). Within this group, seniors with more than one disability, one of which includes self-care limitations (limited ability to dress, bathe, etc.) may represent a need for assisted living or in-home personal care services. As this population continues to age, especially among households age 75+ and 85+, the need for supportive services will grow.

Housing Supply

Census Data 1990-2000

As of 2000, there were 10,186 housing units in Portsmouth. Portsmouth's owner-occupied housing increased by nearly 14% during the decade, but the city realized a net loss of 1,183 housing units in total (-10%), most of which was the result of the elimination of rental housing units from the inventory. These losses appear to be primarily the result of demolition of units in census tract 695 (where Pease AFB was located), and from a net loss of units in tract 694 (redevelopment of the former Mariners Village). As the regional economy improved beginning in the middle part of the decade, housing demand began to increase, absorbing most of the vacant housing supply. Portsmouth realized a decline in overall housing vacancy from 6.4% in 1990 to only 1.6% in 2000.

Table 22: Housing Supply by Structure Type and Tenure

PORTSMOUTH - HOUSING SUPPLY AND UNITS BY STRUCTURE TYPE	1990	2000	Change 1990-2000	1990-2000 Change in Percent
Total Housing Units	11,369	10,186	(1,183)	-10.4%
Vacant for Sale Units	165	45	(120)	-72.7%
Vacant for Rent Units	539	116	(423)	-78.5%
Rented or Sold, Awaiting Occupancy	76	26	(50)	-65.8%
Vacant Seas, Migratory, Occ. Use and Other Vacants	260	124	(136)	-52.3%
Total Vacant & Seasonal Units	1,040	311	(729)	-70.1%
Ownership Stock Except Sold, Awaiting Occupancy	4,491	4,981	490	10.9%
Rental Stock Occupied or Vacant for Rent	6,542	5,055	(1,487)	-22.7%
Total Stock Occupied or Available for Occupancy	11,033	10,036	(997)	-9.0%
Vacancy Rate Ownership	3.7%	0.9%		
Vacancy Rate Rental	8.2%	2.3%		
Vacancy Rate Total	6.4%	1.6%		
Housing Units by Occupancy and Units in Structure				
Owner Occupied	**4,326**	**4,924**	**598**	**13.8%**
Single Detached	3,283	3,562	279	8.5%
Single Attached (Incl. Townhouse)	240	344	104	43.3%
Two Family	204	214	10	4.9%
3-4 Family	111	223	112	100.9%
5+ Family	138	369	231	167.4%
Manufactured Housing & Other	350	212	-138	-39.4%
Renter Occupied	**6,003**	**4,950**	**-1,053**	**-17.5%**
Single Detached	452	454	2	0.4%
Single Attached (Incl. Townhouse)	1,176	246	-930	-79.1%
Two Family	615	589	-26	-4.2%
3-4 Family	1,224	840	-384	-31.4%
5+ Family	2,426	2,801	375	15.5%
Manufactured Housing & Other	110	20	-90	-81.8%
Vacant Units	**1,040**	**309**	**-731**	**-70.3%**
Single Detached	119	80	-39	-32.8%
Single Attached (Incl. Townhouse)	465	6	-459	-98.7%
Two Family	63	23	-40	-63.5%
3-4 Family	64	43	-21	-32.8%
5+ Family	231	115	-116	-50.2%
Manufactured Housing & Other	98	42	-56	-57.1%
Total Housing Stock by Units in Structure	**11,369**	**10,183**	**-1,186**	**-10.4%**
Single Detached	3,854	4,096	242	6.3%
Single Attached (Incl. Townhouse)	1,881	596	-1,285	-68.3%
Two Family	882	826	-56	-6.3%
3-4 Family	1,399	1,106	-293	-20.9%
5+ Family	2,795	3,285	490	17.5%
Manufactured Housing & Other	558	274	-284	-50.9%
Occupied Units by Bedrooms				
Owner Occupied	**4,326**	**4,924**	**598**	**13.8%**
No Bedroom	0	17	17	nc
One	108	211	103	95.4%
Two	1,271	1,423	152	12.0%
Three	2,078	2,323	245	11.8%
Four	683	824	141	20.6%
Five or More	186	126	-60	-32.3%
Renter Occupied	**5,966**	**4,931**	**-1,035**	**-17.3%**
No Bedroom	236	309	73	30.9%
One	1,651	1,639	-12	-0.7%
Two	2,416	2,354	-62	-2.6%
Three	1,457	552	-905	-62.1%
Four	206	77	-129	-62.6%
Five or More	37	19	-18	-48.6%

The vacancy rate reflects the relative availability of housing units, not all of which are of standard quality. Since at least the early 1970s, housing analysts have utilized a range of 5%-7% as a level of vacancy rate that is sufficient to accommodate reasonable housing choice. The most common ratio applied to the ownership stock for the availability of homeowner units is 2%. The vacancy rate includes only those units which at the time of the Census were vacant and for sale or for rent. The rate does not incorporate other vacant units such as units already rented or sold, but awaiting occupancy, nor does it include seasonal units or other vacant units that are held off the market, or retained for other purposes. Later in this chapter, more conservative vacancy rates of 5% for the rental stock, and 1.5% for the ownership stock, are applied to the local and area housing inventories to estimate future housing production needs.

Statewide, vacancy rates were comparatively high in 1990 after a period of overbuilding and a decline in employment. Beginning in the mid-1990s, employment growth and increased housing demand largely absorbed those vacancies, and housing production lagged behind, resulting in very low vacancy rates by 2000. In Portsmouth, the rental vacancy rate declined from 8.2% in 1990 to only 2.3% in 2000. Portsmouth's home ownership vacancy rate was 3.7% in 1990, but declined to 0.9% in 2000.

Table 23: Comparison of Occupied Housing Stock and Vacancy Rates in 2000

	Occupied Housing 2000				Vacancy Rate 2000	
Area	**Owner**	**Renter**	**Total**	**Rental Tenure %**	**Owner**	**Renter**
PORTSMOUTH	4,936	4,939	9,875	50.0%	0.9%	2.3%
Cities/Towns of Similar Population:						
Salem	8,132	2,270	10,402	21.8%	0.5%	2.6%
Merrimack	7,601	1,231	8,832	13.9%	0.2%	1.8%
Hudson	6,249	1,785	8,034	22.2%	0.2%	1.3%
Dover	5,920	5,653	11,573	48.8%	0.7%	1.8%
Keene	5,120	3,835	8,955	42.8%	1.0%	2.6%
Rochester	7,643	3,791	11,434	33.2%	0.9%	2.8%
Other Cities						
Manchester	20,367	23,880	44,247	54.0%	0.5%	3.1%
Nashua	19,703	14,911	34,614	43.1%	0.4%	1.6%
Concord	8,373	7,908	16,281	48.6%	0.8%	2.9%
Regional/State						
Portsmouth PMSA (NH Part)	51,572	27,390	78,962	34.7%	0.8%	3.1%
Rockingham County	78,992	25,537	104,529	24.4%	0.6%	3.3%
New Hampshire	330,700	143,906	474,606	30.3%	1.0%	3.5%

Source: U. S. Census for 2000

Compared with other communities of similar population size, as well as some larger cities, Portsmouth has a proportion (50%) of renters as a percent of its total occupied units. The rental tenure rate in Portsmouth is also higher than in the larger cities of Concord and Nashua, but lower than the 54% ratio found in Manchester. Throughout the region, and within smaller and larger cities in southern and central New Hampshire, the ownership and rental vacancy rates remained well below the desirable averages. These low vacancy rates reflect a limited supply relative to demand, and are associated with the increased housing costs that occur in a tight market.

The detailed changes in the housing stock by structure type in this section are based on the decennial U. S. Census for 1990 and 2000. [15] Changes in renter occupied housing between 1990-2000 reflect the elimination of many rental units, primarily those with three and four bedrooms. Most of the net losses in the rental stock were in units classified by the Census as attached single-family structures (row or townhouse style) and in three to four family structures. This coincides with the household data that showed a major loss of larger renter households, primarily the result of units removed from the inventory. Within ownership tenure, an increase in the number of owner-occupied multifamily units is indicated by the 1990-2000 Census data.

Building Permit Data

Building permit data for housing units authorized in Portsmouth indicates that the city has not had a major "up" cycle of housing production since the mid-1980s. Prior to that, the early 1970s were high years of production, probably owing to federal multifamily housing production incentives. The volume of housing units authorized by permit during the 1990-2001 period (average of only 25 per year) has been only a fraction of the permit activity typical of the prior two decades (128 to 143 per year).

Table 24: Units Authorized by Building Permit 1970-2001

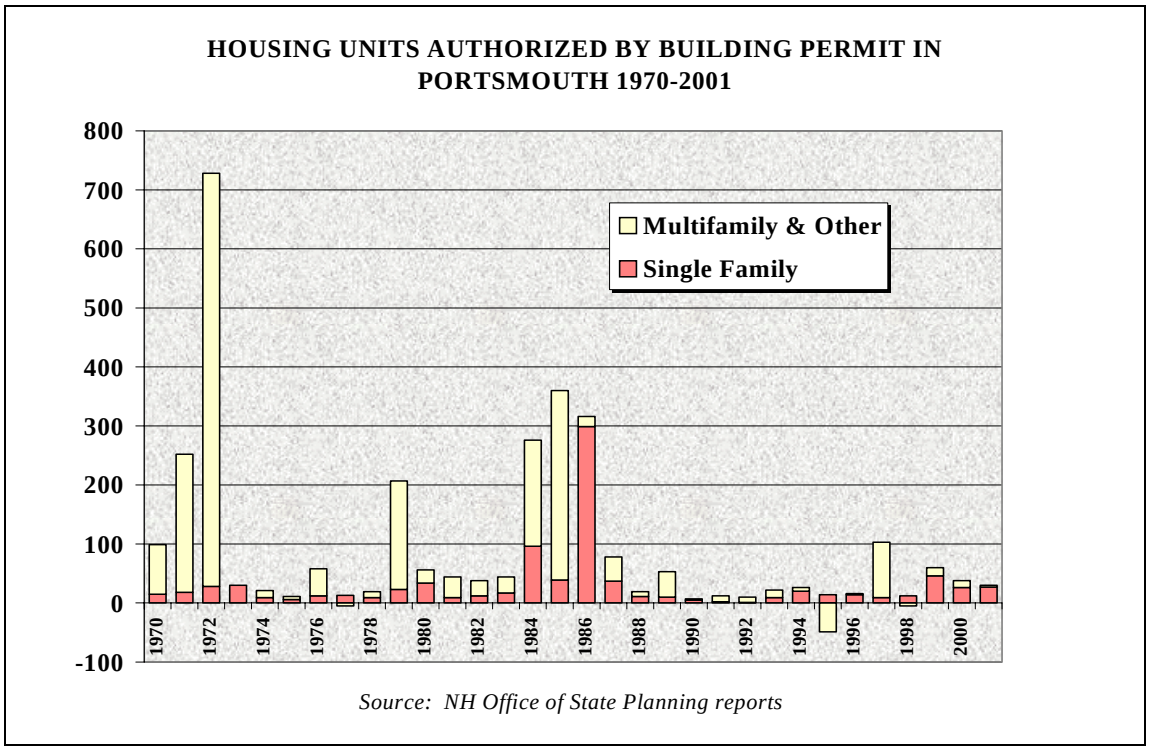
Period	Total Units Authorized	Avg. Annual
1970s	1,433	143
1980s	1,284	128
1990-2001	296	25

City Assessment Data

Based on City assessment data, about 45% of the housing units in Portsmouth were constructed prior to 1940. About 40% of the housing units are single-family detached structures; the balance or 60% of the inventory are in a mix of attached, two or more family, manufactured housing, and mixed use structures.

[15] For 1990, the Census data on housing units by structure type represents a 100% count, while the 2000 Census data reflect information collected using sampling. Therefore some differences in the count may have resulted from the sampling methods.

Figure 9: Housing Units Authorized



Source: NH Office of State Planning reports

Table 25: Tabulation of Assessment Data

PORTSMOUTH LIVING UNITS BY STRUCTURE TYPE AND AGE (THROUGH 2001)

Year Built	Single Family	Condo	Two Family	Multifamily 3+ Units	Multifamily With Mixed Use	Manufactured Housing (1)	Units Within Primarily Commercial Properties	Total Living Units
Unknown	1	101	0	0	0	0	5	107
Pre-1900	640	223	334	753	299	0	52	2,301
1900-1939	1,013	144	471	504	50	0	44	2,226
1940-1949	503	2	26	3	5	0	2	541
1950-1959	822	6	29	10	19	0	16	902
1960-1969	427	13	4	61	11	2	9	527
1970-1979	161	163	2	547	3	9	177	1,062
1980-1989	198	800	5	368	6	41	83	1,501
1990 or Later	206	160	0	289	2	9	136	802
Total	3,971	1,612	871	2,535	395	61	524	9,969
% of Total	*40%*	*16%*	*9%*	*25%*	*4%*	*1%*	*5%*	*100%*

Source: Analysis of Assessment Data Base. (1) Unit count not complete for manufactured housing units.

Housing Costs

Housing costs are evaluated in this section based on Census data as well as market data surveyed by the New Hampshire Housing Finance Authority (NHHFA). With respect to rental costs, the Census measures rent according to the amount paid to the landlord by the tenant. In areas where a large number of households benefit from a housing subsidy, Census data will tend to represent median rental costs that are well below that of the unsubsidized market. NHHFA rent survey data represent market-rate units excluding subsidized housing.

Estimated home values reported in the Census are based on the respondent's opinion of the value of the home. Values declined just after 1990; therefore the Census-based estimates for that year are probably higher than achievable sales prices at the time. The NHHFA purchase price data represent actual sale prices of homes, including condominiums, purchased as primary residences (excludes seasonal homes).

In general, the comparison of 1990 and 2000 data show that median family and median household income in Portsmouth increased at a faster rate than the County medians. Within Portsmouth, median homeowner household income grew at a rate equivalent to the increase in median purchase prices in the city, and local renter median income grew somewhat faster than the median gross rent.

Table 26: Change in Median Costs and Median Income

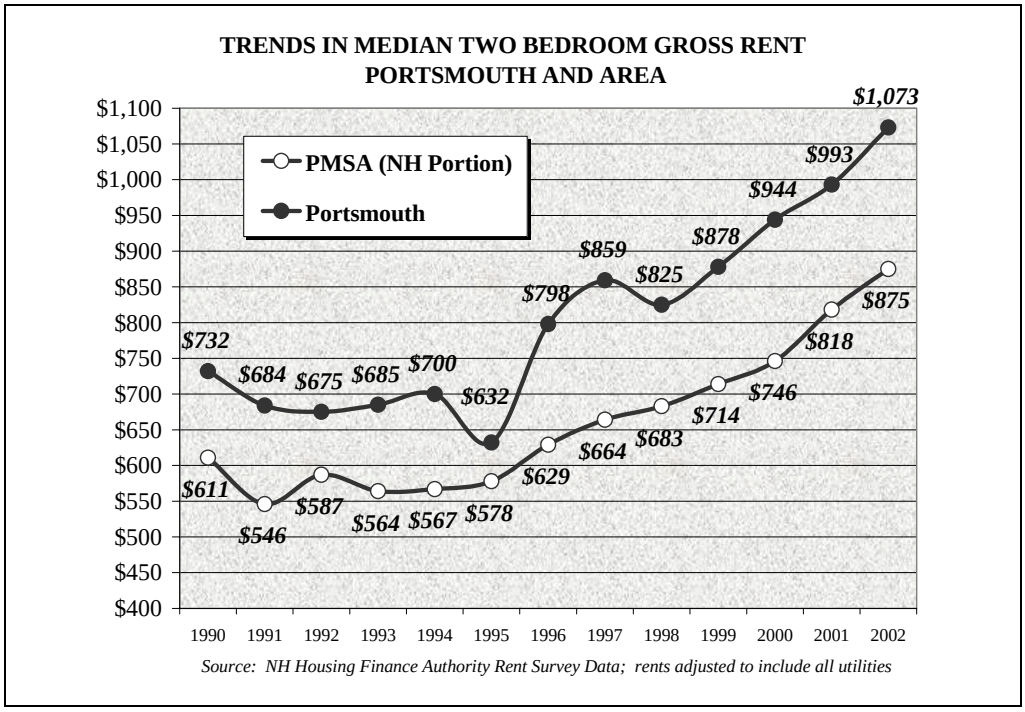
CHANGE IN COSTS AND HOUSEHOLD INCOMES - PORTSMOUTH & REGION	1990	2000	Change 1990-2000	1990-2000 Change in Percent
Median Contract Rent-Census	$497	$661	$164	33.0%
Median Gross Rent-Census	$553	$727	$174	31.5%
Median Gross Market Rent - NHHFA Mkt Survey	$692	$861	$169	24.4%
Median Value Single Fam. Owner Occ.Units (Owner Estimate from Census)	$137,600	$168,600	$31,000	22.5%
Median Sale Price Existing Primary Homes - NHHFA Survey	$119,048	$173,000	$53,952	45.3%
Median Family Income (County)	$46,942	$66,345	$19,403	41.3%
Median Family Income (City)	$34,344	$59,630	$25,286	73.6%
Median Household Income (County)	$41,881	$58,150	$16,269	38.8%
Median Household Income (City)	$30,591	$45,344	$14,753	48.2%
Owner Occupied Units (City)	$41,661	$60,477	$18,816	45.2%
Renter Occupied Units (City)	$25,615	$35,503	$9,888	38.6%

Rental Housing Costs

Rental housing costs are measured in terms of "contract rent" and "gross rent". Contract rent is the amount of money paid to a landlord by a tenant; it may or may not include the cost of heat, hot water or other utilities depending on the rental arrangement. Gross rent is a more equalized measure of the total cost of occupancy, representing the combined cost of rent paid to the landlord, plus any additional costs to the tenant for heat, hot water, cooking fuel, and electricity.

As of 2002, the median gross rent for a two-bedroom unit in Portsmouth was $1,073 per month. Within the New Hampshire portion of the PMSA[16], the median was $875. Based on rent surveys conducted by NHHFA since 1990, the median rental cost in Portsmouth tends to be between 20-25% higher than that of the metro area. Rents have risen rapidly in Portsmouth and the region since 1995, as a recovery in job growth allowed the inventory of formerly vacant units to be absorbed, while little new production took place.

Figure 10: Two Bedroom Gross Rent



In Portsmouth, the U. S. Census data indicate a 33% increase in median contract rent, and a 32% increase in median gross rent during the 1990-2000 period. Median gross rent (market rent) increased by 24% during the period based on NHHFA rent surveys. However, the median market rents measured in the NHHFA rent surveys are considerably higher than the median gross rents indicated by the Census.

[16] The PMSA is the Portsmouth-Dover-Rochester Primary Metropolitan Statistical area, which includes some nearby Maine communities. Some housing cost and housing payment data are presented only for the NH portion of the PMSA.

Table 27: Gross Rent by Bedrooms

MEDIAN GROSS RENTAL COSTS FOR MARKET-RATE UNITS
CITY AND METRO AREA

	PORTSMOUTH				PMSA-NH PORTION			
Year	Median Gross Rental Cost For All Units	Median One Bedroom	Median Two Bedroom	Median Three Bedroom	Median Gross Rental Cost For All Units	Median One Bedroom	Median Two Bedroom	Median Three Bedroom
2002	$1,054	$793	$1,073	$1,236	$819	$725	$875	$1,141
2001	$990	$709	$993	$1,227	$771	$659	$818	$1,094
2000	$861	$650	$944	$1,081	$717	$614	$746	$953
1999	$828	$615	$878	$1,063	$674	$585	$714	$841
1998	$773	$583	$825	$1,036	$643	$561	$683	$788
1997	$759	$551	$859	$987	$629	$549	$664	$803
1996	$766	$558	$798	$986	$588	$511	$629	$781
1995	$500	$500	$632	---	$536	$486	$578	$671
1994	$627	$536	$700	$720	$540	$486	$567	$690
1993	$587	$525	$685	$558	$535	$460	$564	$690
1992	$609	$530	$675	$811	$552	$500	$587	$709
1991	$684	$468	$684	$801	$529	$468	$546	$801
1990	$692	$541	$732	---	$590	$503	$611	$806

Source: NHHFA Annual Rent Surveys

Home Purchase Prices

Home prices average about 10% higher (overall, including condos) in Portsmouth than in the New Hampshire portion of the PMSA. Survey data indicate a median price for an existing home in Portsmouth at $203,000 for the 1st half of 2002. For non-condominium housing, the Portsmouth median price was $230,000 for that period. The median purchase price for a non-condominium ownership unit in Portsmouth increased by about $100,000 between 1997 and 2002.

Within the region, the gap in pricing between existing and new homes has been widening. During the early 1990s the median price of a new home was not much higher than that of existing units. By the 1st half of 2002, the median price of a new home in the PMSA was about $275,000, or about 59% more than that of an existing unit. At typical price to income ratios, a median priced new home would require a household income of about $100,000 unless the purchaser has substantial equity proceeds from a prior home sale.

Census data indicate a 23% increase in estimated median home value from 1990-2000 based on owner estimates. Actual median purchase prices, according to NHHFA, increased by over 45% during the period. The median income of homeowners increased by the same percentage from 1989-1999 based on Census information. In part the impact of price increases was mitigated by a significant decline in mortgage interest rates during the period.

Figure 11: Median Home Price in the PMSA

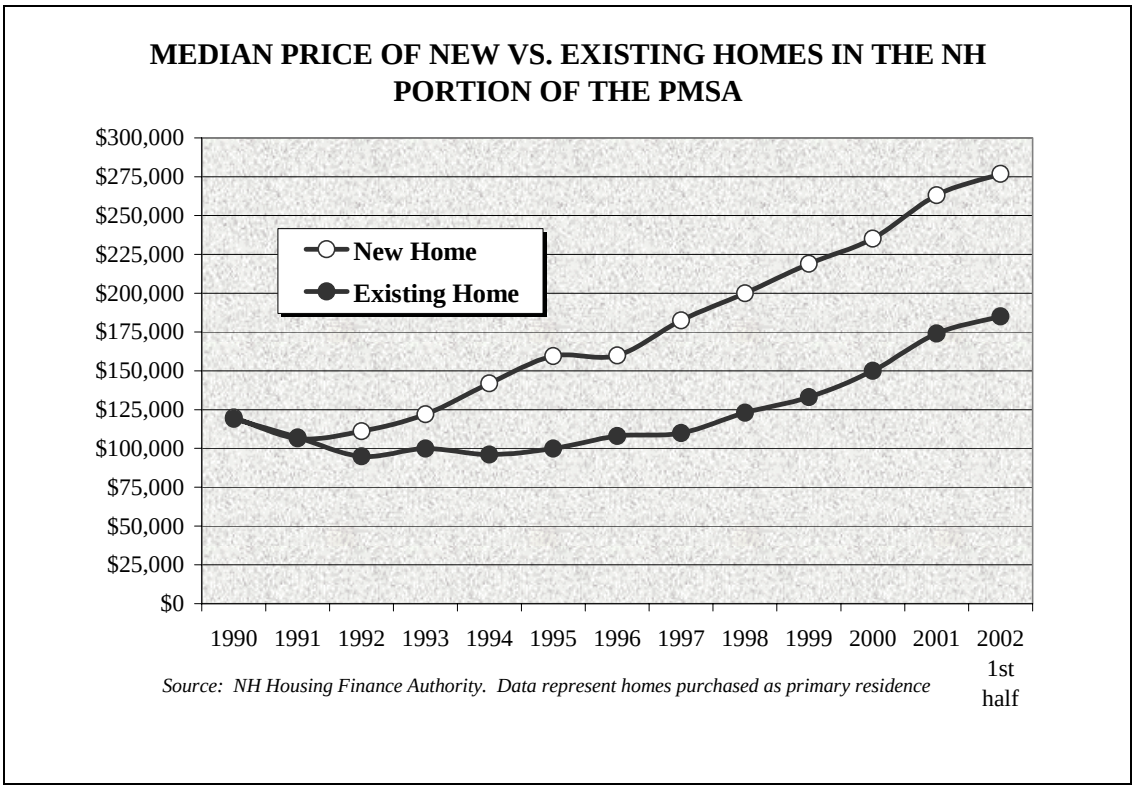


Figure 12: Median Price Portsmouth and PMSA

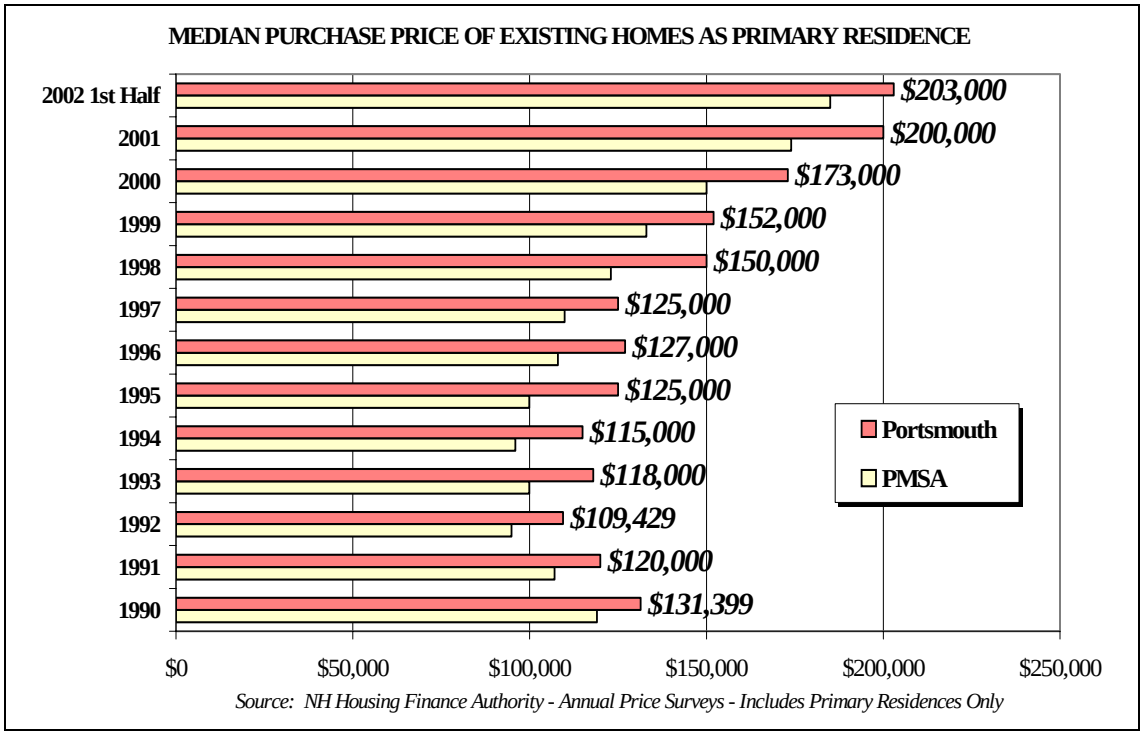
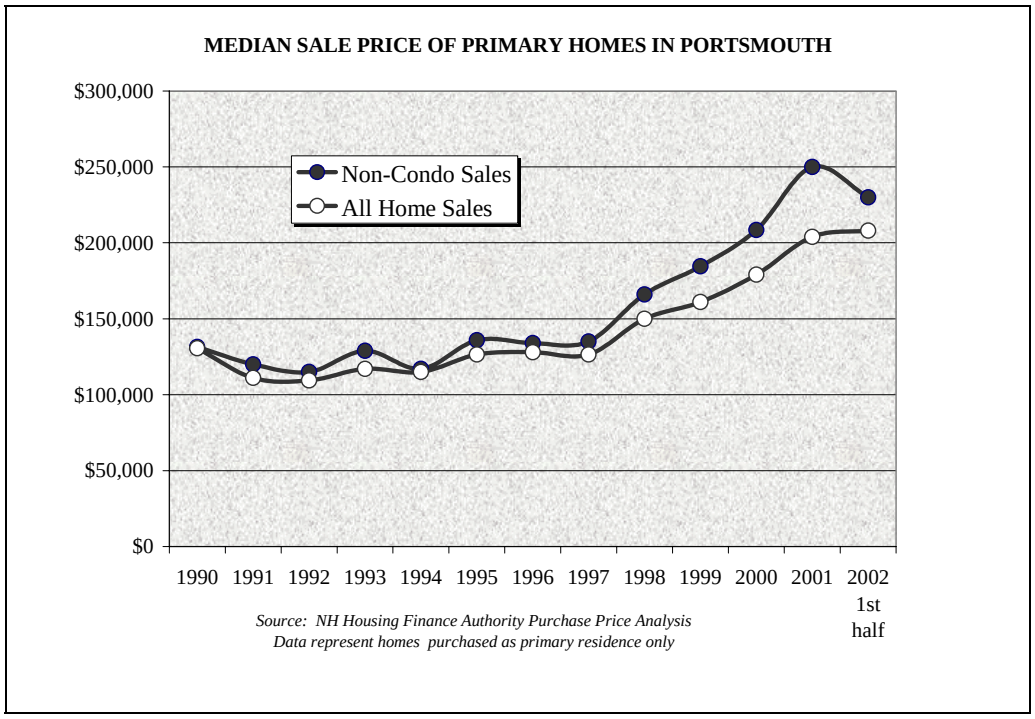


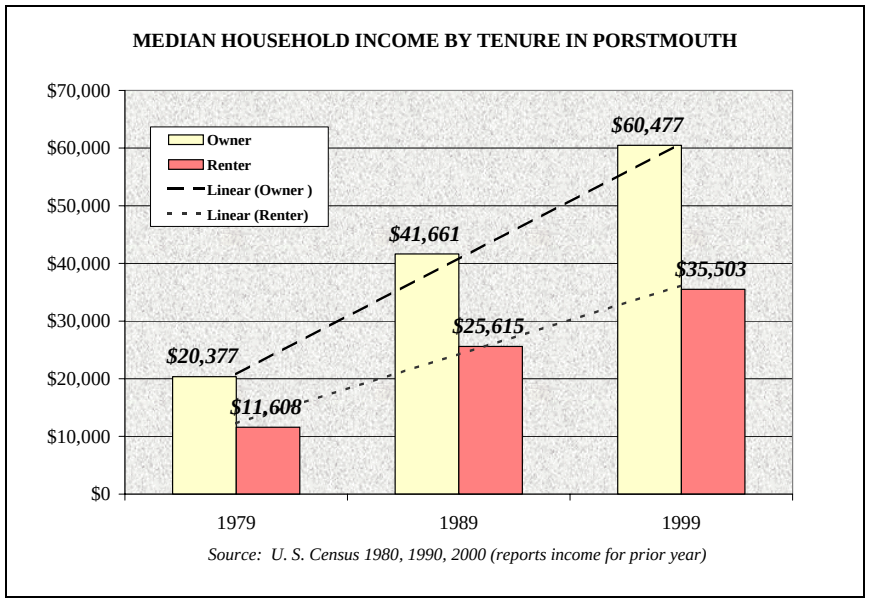
Figure 13: Median Price All Homes and Non-Condo Units in City



Income and Affordability

During the 1990-2000 period (measuring 1989 and 1999 incomes), the median family income in the city increased by 74% compared to only 41% for Rockingham County. Median household income in Portsmouth was up 48% for the period vs. 39% for the County.

Figure 14: Median Income by Tenure

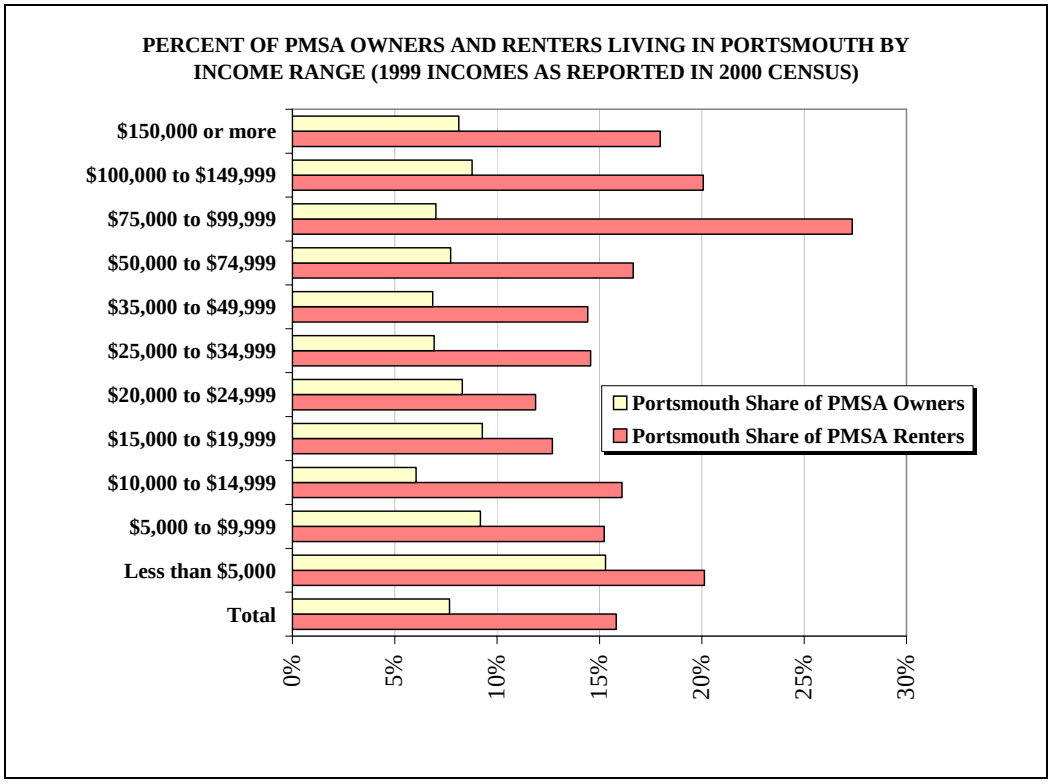


Within the city, median homeowner income in 1999 was $60,477 while the median renter household earned $35,503. The income data indicate a somewhat more affluent income profile has been emerging for both owners and renters in the city. In part this is related to the decline in the number of younger households present in 1990, and an increase in the number of persons living in the city who are employed in white-collar jobs.

Affordability of Rental Housing

As of 2000, about 16% of the renter households in the PMSA (NH portion) lived in Portsmouth. The City had about 20% of the region's lowest income renter households (earning $5,000 or less), but also high shares of the highest income renter households earning over $75,000. The data indicate that it is not only a tight housing supply, but also an increase in more affluent households within the city that have affected housing demand and relative affordability.

Figure 15: Portsmouth Share of PMSA Households by Income Range



About 34% of the renters in Portsmouth have household incomes that can support gross rents of no more than $600 per month. The NHHFA rent survey for 2002 indicated that only 2% of the market rental units in Portsmouth were available at or below this cost. If not for the existence of subsidized housing in the city, these households would essentially be priced out of the market unless they devoted excessive amounts of income to rent.

Table 28: Renter Income and Affordable Market Rental Units

PORTSMOUTH RENTER HOUSEHOLDS BY INCOME RANGE				
Area median family income in 1999 (2000 Census):	$40,318	(PMSA Median Family Income)		
Program Income Maximum and 1999 Reference Income Maximum (1)	Upper End of Income Range	Cumulative Number of Renters at or Below This Income	Cumulative Percent of Renters	Gross Rent Affordable @ 30% of Income
Under 30% AMFI	$12,000	858	17%	Under $300
Under 50% AMFI	$20,000	1,423	29%	Under $500
Under 60% AMFI	$24,000	1,662	34%	Under $600
Under 80% AMFI	$32,000	2,058	42%	Under $800
Under 100% AMFI	$40,000	2,743	55%	Under $1000
Above 100% AMFI	Over $40,000	2,207	45%	$1,000 or More
Renters by Income Range	Income Range	Renters In Income Range	% of Renters In Income Range	Affordable Gross Rent
Under 30% of Median	Under $12,000	858	17%	Under $300
30-50% of Median	$12,000-$20,000	565	11%	$300-$500
50-80% of Median	$20,000-$32,000	635	13%	$500-$800
Above 80% of Median	Over $32,000	2,892	58%	Over $800

(1) Actual program eligibility varies by household size; data not available to adjust estimates by household size.

Table 29: Income to Support Market Rents

GROSS MARKET RENTAL COSTS IN PORTSMOUTH 2002 AND INCOME NEEDED TO SUPPORT				
Gross Rent	Number of Units	Percent of Units	Cumulative % of Units	Income Needed at Mid-Point of Rent Range
Under $500	1	0.3%	0.3%	$20,000
$500-$599	8	2.0%	2.3%	$22,000
$600-$699	30	7.5%	9.8%	$26,000
$700-$799	17	4.3%	14.0%	$30,000
$800-$899	42	10.5%	24.6%	$34,000
$900-$999	62	15.5%	40.1%	$38,000
$1000-$1099	112	28.1%	68.2%	$42,000
$1100-$1199	78	19.5%	87.7%	$46,000
$1200-$1299	35	8.8%	96.5%	$50,000
$1300-$1399	8	2.0%	98.5%	$54,000
$1400+	6	1.5%	100.0%	$58,000
Units Represented in Sample	399			

The maximum gross rent affordable to households earning up to 80% of area median family income (AMFI)[17] based on the 2000 Census is about $800 per month. This income group comprises about 42% of Portsmouth's renter households. Based on the NHHFA rent survey, only about 14% of the market-rate inventory cost less than $800 per month in 2002.

Affordability of Homeownership

In the home ownership market, only about 37% of the units sold in Portsmouth in 2002 were affordable to median income homeowners, and only 10-12% of the units sold were affordable to a median income renter household.

Table 30: Income Needed to Afford City Home Prices
PORTSMOUTH HOME PURCHASE PRICES IN 2001 AND INCOME NEEDED TO AFFORD

Price Range	Percent of Units Sold	Cumulative % of Units Sold	Household Income Needed at Mid-Point of Price Range
Under $60,000	0%	0%	Under $22,000
$60,000-$79,999	3%	3%	$25,455
$80,000-$99,999	6%	10%	$32,727
$100,000-$119,999	2%	12%	$40,000
$120,000-$139,999	8%	19%	$47,273
$140,000-$159,999	7%	27%	$54,545
$160,000-$179,999	10%	37%	$61,818
$180,000-$199,999	11%	48%	$69,091
$200,000-$219,999	7%	55%	$76,364
$220,000-$239,999	8%	62%	$83,636
$240,000-$259,999	5%	68%	$90,909
$260,000-$279,999	4%	71%	$98,182
$280,000-$299,999	2%	74%	$105,455
$300,000-$319,999	2%	76%	$112,727
$320,000-$339,999	5%	81%	$120,000
$340,000-$359,999	3%	84%	$127,273
$360,000-$379,999	5%	88%	$134,545
$380,000-$399,999	3%	91%	$141,818
$400,000+	9%	100%	Over $142,000

Source: Price distribution reflects 2001 sample of Portsmouth primary home sales compiled by NHHFA
Income required assumes price/income ratio of 2.75

Roughly 13% of Portsmouth's renters (representing prospective 1st time buyers) have an adequate income to afford the median priced home in Portsmouth, provided they could accumulate a sufficient down payment.

[17] Area median family income is established annually by the U. S. Department of Housing and Urban Development for metro areas and counties. For the purposes of calculations using 2000 Census data, this analysis uses the 1999 median family income for the Portsmouth-Dover-Rochester PMSA as the benchmark figure.

Table 31: Detail of Household Income by Tenure

HOUSEHOLD INCOME IN 1999 BY TENURE IN 2000

Tenure and Income	Portsmouth	Balance of PMSA	PMSA Total	Portsmouth	Balance of PMSA	PMSA Total
Total Households	**9,874**	**85,609**	**95,483**	Percent Distribution by Income Range		
Less than $5,000	349	1,543	1,892	3.5%	1.8%	2.0%
$5,000 to $9,999	546	3,539	4,085	5.5%	4.1%	4.3%
$10,000 to $14,999	584	4,417	5,001	5.9%	5.2%	5.2%
$15,000 to $19,999	526	4,290	4,816	5.3%	5.0%	5.0%
$20,000 to $24,999	530	4,770	5,300	5.4%	5.6%	5.6%
$25,000 to $34,999	1,156	10,083	11,239	11.7%	11.8%	11.8%
$35,000 to $49,999	1,618	15,072	16,690	16.4%	17.6%	17.5%
$50,000 to $74,999	2,179	19,498	21,677	22.1%	22.8%	22.7%
$75,000 to $99,999	1,163	10,810	11,973	11.8%	12.6%	12.5%
$100,000 to $149,999	824	7,481	8,305	8.3%	8.7%	8.7%
$150,000 or more	399	4,106	4,505	4.0%	4.8%	4.7%
Owner occupied	**4,924**	**59,255**	**64,179**	Percent Distribution by Income Range		
Less than $5,000	101	559	660	2.1%	0.9%	1.0%
$5,000 to $9,999	116	1,147	1,263	2.4%	1.9%	2.0%
$10,000 to $14,999	133	2,067	2,200	2.7%	3.5%	3.4%
$15,000 to $19,999	232	2,270	2,502	4.7%	3.8%	3.9%
$20,000 to $24,999	231	2,553	2,784	4.7%	4.3%	4.3%
$25,000 to $34,999	436	5,861	6,297	8.9%	9.9%	9.8%
$35,000 to $49,999	715	9,716	10,431	14.5%	16.4%	16.3%
$50,000 to $74,999	1,239	14,790	16,029	25.2%	25.0%	25.0%
$75,000 to $99,999	727	9,652	10,379	14.8%	16.3%	16.2%
$100,000 to $149,999	655	6,808	7,463	13.3%	11.5%	11.6%
$150,000 or more	339	3,832	4,171	6.9%	6.5%	6.5%
Renter occupied	**4,950**	**26,354**	**31,304**	Percent Distribution by Income Range		
Less than $5,000	248	984	1,232	5.0%	3.7%	3.9%
$5,000 to $9,999	430	2,392	2,822	8.7%	9.1%	9.0%
$10,000 to $14,999	451	2,350	2,801	9.1%	8.9%	8.9%
$15,000 to $19,999	294	2,020	2,314	5.9%	7.7%	7.4%
$20,000 to $24,999	299	2,217	2,516	6.0%	8.4%	8.0%
$25,000 to $34,999	720	4,222	4,942	14.5%	16.0%	15.8%
$35,000 to $49,999	903	5,356	6,259	18.2%	20.3%	20.0%
$50,000 to $74,999	940	4,708	5,648	19.0%	17.9%	18.0%
$75,000 to $99,999	436	1,158	1,594	8.8%	4.4%	5.1%
$100,000 to $149,999	169	673	842	3.4%	2.6%	2.7%
$150,000 or more	60	274	334	1.2%	1.0%	1.1%

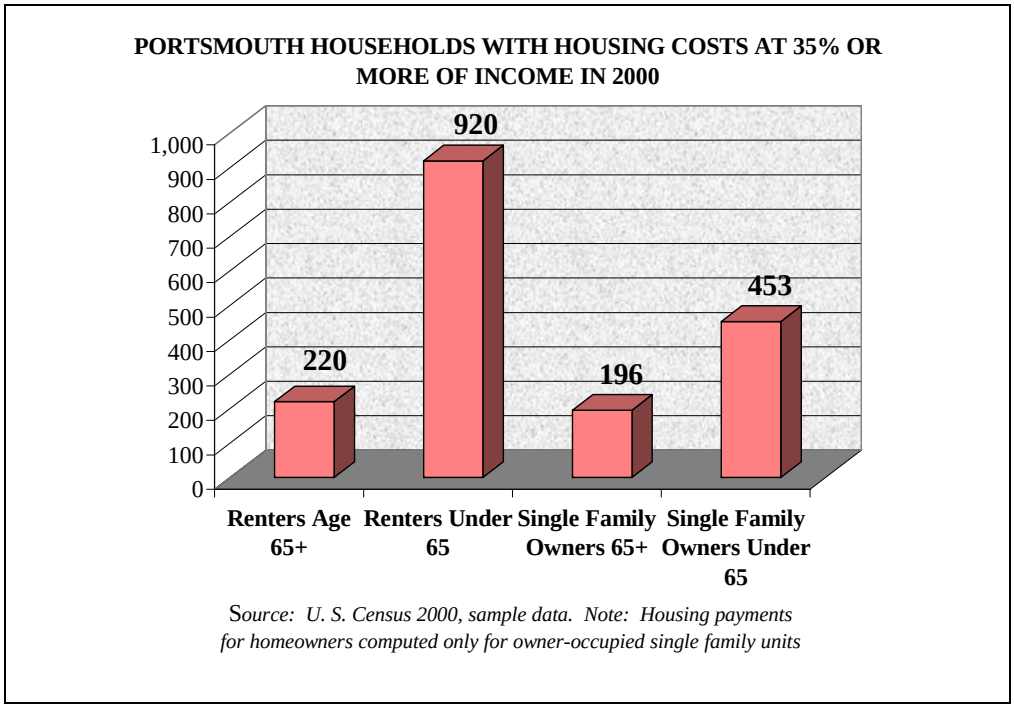
Source: U. S. Census, 2000. Data based on a sample

Housing Cost Burden

The U. S. Census tabulates housing payments for renter occupied housing units and some owner occupied units by household income range, providing an estimate of the number of households with excessive housing cost burdens. An excessive housing cost burden is often associated with the expenditure of more than 30% of household income on housing costs, inclusive of utilities. Data from the U. S. Census allow the calculation of cost burden thresholds of at “30% or more” or “35% or more” thresholds. Because many households receiving rental subsidies pay exactly

30% of income for gross rent, there may be overlap between the needs defined by cost threshold and those already receiving assistance. In this chapter, the "35%+" threshold has been used, as the needs defined at this level are less likely to overlap with existing subsidy recipients.

Figure 16: Cost-Burdened Households by Tenure and Age



Source: U. S. Census 2000, sample data. Note: Housing payments for homeowners computed only for owner-occupied single family units

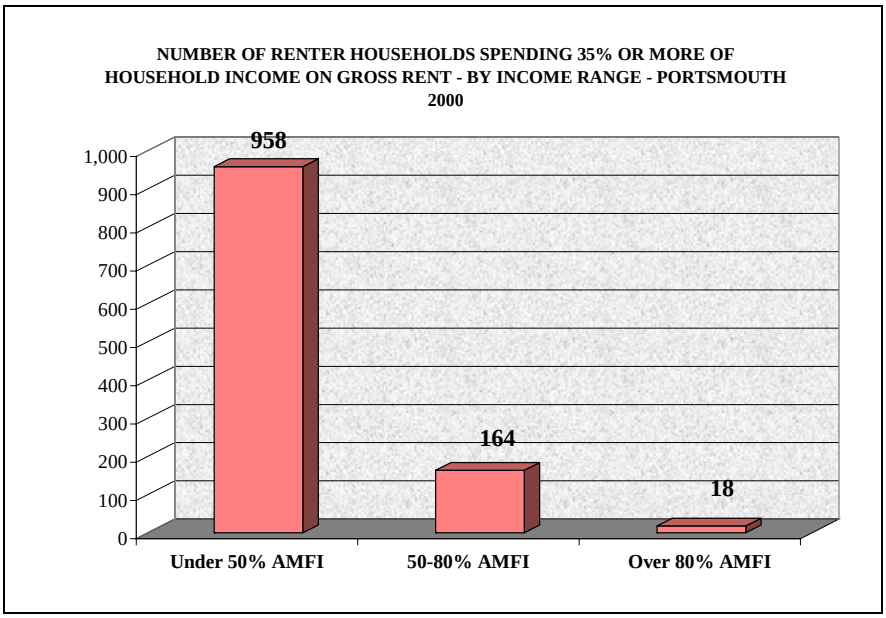
Cost Burden for Renter Households

Among renters in Portsmouth, 1,140 households paid 35% or more of their income to gross rent in 2000. Most of this excessive rental cost burden is found among renter households earning under 50% of area median family income. There is relatively little cost burden problem among those earning 50%-80% of median or higher.

Among renters earning under 50% of AMFI, about 47% spend 35% or more of their income on gross rent, compared to 15% among the renters earning 50-80% of AMFI.

Of the 1,140 renter households with a high cost burden, 920 (over 80%) were non-elderly households (under age 65), and 220 (about 20%) were 65 and older. This reflects the fact that a higher percentage of elderly renters than younger renters occupy assisted housing units.

Figure 17: High Renter Cost Burden by Income Range



Among New Hampshire municipalities, Portsmouth ranks 7th highest in the number of renters who have a very high cost burden of 50% or more of their income to gross rent (a total of 669 households, or 14% of renters in the city in 2000).

Table 32: Renters Spending 50% or More of Income on Gross Rent

NH MUNICIPALITIES WITH HIGHEST NUMBER OF RENTERS PAYING 50 PERCENT OR MORE OF INCOME FOR GROSS RENT

(TOP 20 BASED ON NUMBER OF HOUSEHOLDS WITH VERY HIGH RENT BURDEN)

City/Town	Total Renter Sample	Pay 50%+ of Income on Rent	Pay 35%+ of Income on Rent	Pay 50%+ as Percent of Those Computed	Pay 35% as Percent of Those Computed
Manchester	23,861	3,401	6,187	14.9%	27.2%
Nashua	14,886	2,141	3,988	14.8%	27.6%
Concord	7,872	1,271	2,018	16.7%	26.4%
Dover	5,652	750	1,392	13.6%	25.3%
Keene	3,827	730	1,169	20.0%	32.0%
Rochester	3,777	682	1,123	18.8%	31.0%
Portsmouth	**4,945**	**669**	**1,140**	**14.1%**	**24.1%**
Derry	4,322	545	1,101	12.9%	26.0%
Laconia	2,894	513	825	18.6%	30.0%
Durham	1,214	434	551	38.8%	49.3%
Exeter	1,913	373	609	21.3%	34.8%
Claremont	2,389	373	655	16.2%	28.4%
Lebanon	2,605	334	643	13.3%	25.6%
Hampton	2,069	334	539	17.0%	27.4%
Berlin	1,754	290	536	17.7%	32.7%
Newmarket	1,576	275	484	17.8%	31.4%
Franklin	1,390	267	435	20.2%	32.9%
Salem	2,260	256	531	12.1%	25.1%
Hanover	930	244	341	29.0%	40.5%
Somersworth	2,021	222	539	11.5%	27.9%

Source: Compiled from U. S. Census, 2000 data based on a sample

Table 33: Renter Cost Burden – Cumulative by Income 1990 and 2000

INCOME, TENURE, HOUSING COST BURDEN	PORTSMOUTH			PMSA (NH PORTION)			CITY % OF AREA	
	1990	2000	Change 1990-00	1990	2000	Change 1990-00	1990	2000
RENTERS - Total Sample	5,982	4,945	(1,037)	25,499	27,152	1,653	23.5%	18.2%
Number for Which Payment Ratio Computed	4,934	4,735	(199)	23,723	25,875	2,152	20.8%	18.3%
Renters - Pay 30%+ Of Income To Gross Rent	1,838	1,524	(314)	9,558	9,321	-237	19.2%	16.4%
Renter Households Cumulative by Income								
Under 30% AMFI	663	769	106	3,947	5,068	1,121	16.8%	15.2%
Under 50% AMFI	1,249	1,169	(80)	7,274	7,556	282	17.2%	15.5%
Under 60% AMFI	1,392	1,352	(40)	7,824	8,591	767	17.8%	15.7%
Under 80% AMFI	1,675	1,466	(209)	8,917	8,994	77	18.8%	16.3%
Under 100% AMFI	1,789	1,506	(283)	9,371	9,173	-198	19.1%	16.4%
Over 100% AMFI	49	18	(31)	187	148	-39	26.2%	12.2%
Renters - Pay 35%+ Of Income To Gross Rent	1,217	1,140	(77)	7,194	7,295	101	16.9%	15.6%
Renter Households Cumulative by Income								
Under 30% AMFI	570	661	91	3,430	4,525	1,095	16.6%	14.6%
Under 50% AMFI	993	958	(35)	6,006	6,298	292	16.5%	15.2%
Under 60% AMFI	1,051	1,083	32	6,301	6,951	650	16.7%	15.6%
Under 80% AMFI	1,165	1,122	(43)	6,888	7,155	267	16.9%	15.7%
Under 100% AMFI	1,209	1,135	(74)	7,123	7,238	115	17.0%	15.7%
Over 100% AMFI	8	5	(3)	71	57	-14	11.3%	8.8%

Table 34: High Renter Cost Burden By Income Range 1990 and 2000

RENTERS WITH HIGH COST BURDEN BY INCOME RANGE

Renters With High Cost Burden by Income Range	PORTSMOUTH			PMSA - NH Portion			CITY % OF AREA	
	1990	2000	Change 1990-2000	1990	2000	Change 1990-2000	1990	2000
Total Renters Represented by Sample								
Under 50% AMFI	2,064	2,056	-8	9,938	11,970	2,032	20.8%	17.2%
50-80% AMFI	1,682	1,098	-584	6,458	6,776	318	26.0%	16.2%
Over 80% AMFI	2,236	1,791	-445	9,103	8,406	-697	24.6%	21.3%
Total	5,982	4,945	-1,037	25,499	27,152	1,653	23.5%	18.2%
Renters With Gross Rent 35%+ of Income								
Under 50% AMFI	993	958	-35	6,006	6,298	292	16.5%	15.2%
50-80% AMFI	172	164	-8	882	857	-25	19.5%	19.1%
Over 80% AMFI	52	18	-34	306	140	-166	17.0%	12.9%
Total	1,217	1,140	-77	7,194	7,295	101	16.9%	15.6%
Percent of Renters Pay 35%+ of Income to Rent								
Under 50% AMFI	48.1%	46.6%		60.4%	52.6%	-7.8%		
50-80% AMFI	10.2%	14.9%		13.7%	12.6%	-1.0%		
Over 80% AMFI	2.3%	1.0%		3.4%	1.7%	-1.7%		
Total	20.3%	23.1%		28.2%	26.9%	-1.3%		

Source: Interpolation of 1990 and 2000 U. S. Census sample data

Cost Burden for Selected Single Family Homeowners

Payment ratios are also computed in the Census for "specified" owner occupied units. This sample is representative only of owners of single-family detached homes, and owners of attached and multifamily units are excluded. As of 2000, there were 649 Portsmouth homeowners spending 35% or more of their income on monthly housing costs (including utilities). Roughly half of these owners earn less than 50%-60% of median area family income. Among the 649 single family homeowners with a high cost burden, about 70% were under age 65, and 30% were 65 or older. In part this reflects the generally lower mortgage cost burden of seniors compared to that of younger households who purchased houses more recently at comparatively high prices.

Table 35: Cost Burden for Single Family Homeowners

COST BURDEN FOR SINGLE FAMILY HOMEOWNERS								
	PORTSMOUTH			PMSA (NH PORTION)			CITY % OF AREA	
SINGLE FAMILY HOMEOWNERS (Census Defined "specified owner-occupied units")	**1990**	**2000**	**Change 1990-00**	**1990**	**2000**	**Change 1990-00**	**1990**	**2000**
SINGLE FAMILY OWNERS - Total Sample	3,339	3,719	380	30,471	38,047	7,576	11.0%	9.8%
Number for Which Payment Ratio Computed	3,318	3,689	371	30,358	37,857	7,499	10.9%	9.7%
Single Family Homeowners - Pay 30%+ For Housing	514	898	384	8,605	8,750	145	6.0%	10.3%
S. F. Homeowners Cumulative by Income Level								
Under 30% AMFI	162	198	36	1,571	1,814	243	10.3%	10.9%
Under 50% AMFI	258	356	98	2,683	3,528	845	9.6%	10.1%
Under 60% AMFI	320	433	113	3,329	4,370	1,041	9.6%	9.9%
Under 80% AMFI	444	600	156	4,620	5,951	1,331	9.6%	10.1%
Under 100% AMFI	540	710	170	5,792	6,952	1,160	9.3%	10.2%
Over 100% AMFI	277	188	(89)	2,813	1,790	-1,023	9.8%	10.5%
Single Family Homeowners - Pay 35%+ for Housing	514	649	135	5,931	6,033	102	8.7%	10.8%
S. F. Homeowners Cumulative by Income Level								
Under 30% AMFI	131	158	27	1,386	1,551	165	9.5%	10.2%
Under 50% AMFI	188	281	93	2,246	2,890	644	8.4%	9.7%
Under 60% AMFI	235	340	105	2,735	3,536	801	8.6%	9.6%
Under 80% AMFI	328	460	132	3,708	4,532	824	8.8%	10.2%
Under 100% AMFI	386	541	155	4,443	5,122	679	8.7%	10.6%
Over 100% AMFI	128	108	(20)	1,448	911	-537	8.8%	11.9%

Source: Interpolation of 1990 and 2000 U. S. Census sample data

Housing Demographics and Cost Burden Within the City By Census Tract

The distribution of renter households, categorized by gross rent as a percentage of household income, is illustrated below in Table 36 for the city's seven Census Tracts (Map 4 depicts the Census Tract boundaries).[18] The data in Table 37 provides a comparison of population, households, tenure, income and housing costs for each Tract for 1990 and 2000.

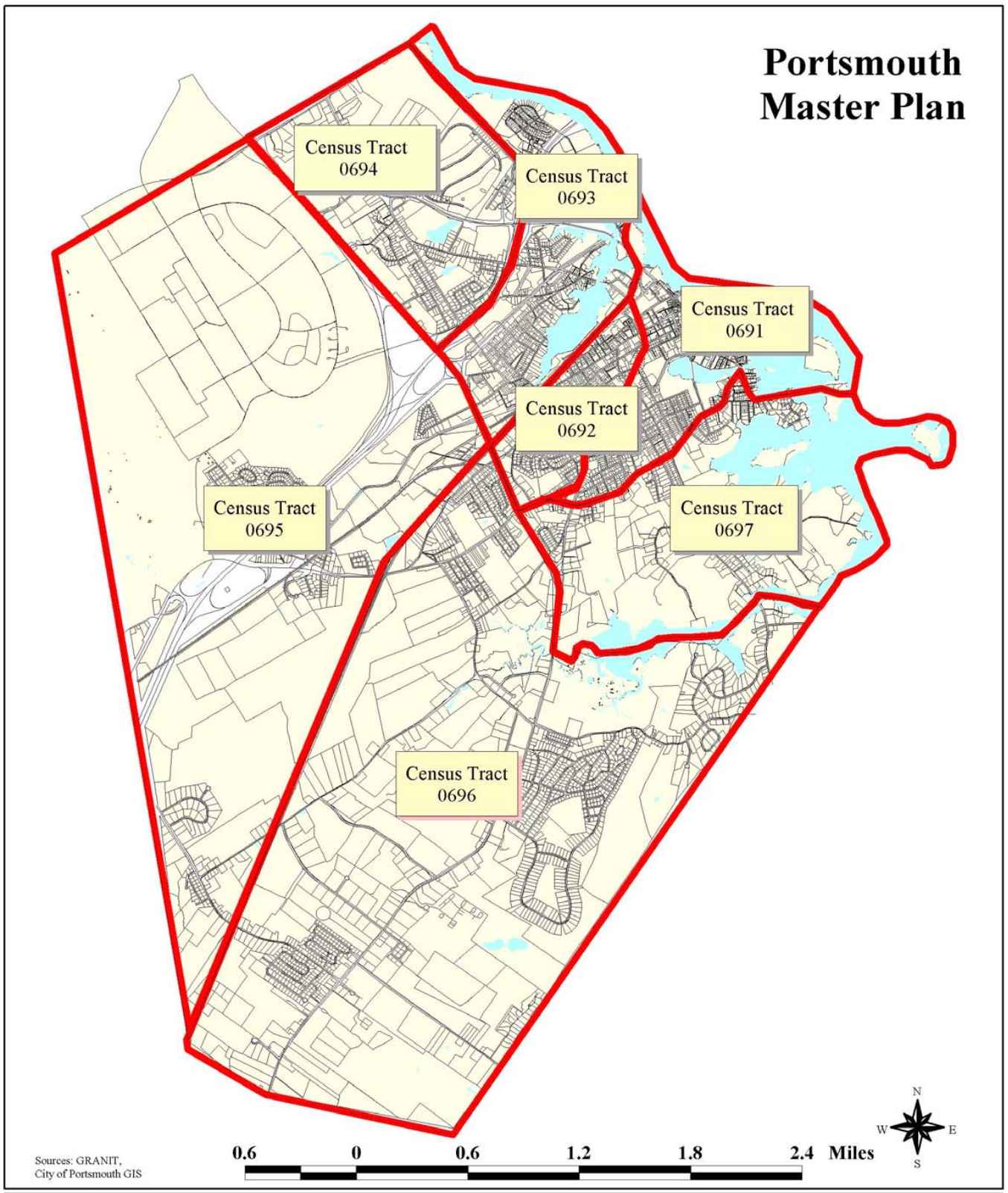
Table 36: Relative Renter Cost Burden Within Portsmouth

RENTER HOUSING COST BURDEN IN PORTSMOUTH BY CENSUS TRACT (2000 CENSUS)

Gross Rent as a Percent of Household Income	Census Tract 691	Census Tract 692	Census Tract 693	Census Tract 694	Census Tract 695	Census Tract 696	Census Tract 697 (part)	City Total
Total	1,228	975	480	604	49	1,148	461	4,945
Less than 10 percent	110	34	12	58	0	75	10	299
10 to 14 percent	186	135	43	49	6	167	41	627
15 to 19 percent	241	152	108	74	6	206	71	858
20 to 24 percent	209	162	76	96	0	184	89	816
25 to 29 percent	173	109	66	68	14	132	49	611
30 to 34 percent	83	60	53	73	0	95	20	384
35 to 39 percent	8	30	12	29	8	49	36	172
40 to 49 percent	31	93	20	55	0	72	28	299
50 percent or more	125	149	50	89	7	154	95	669
Not computed	62	51	40	13	8	14	22	210
Total for Whom Ratio Computed	1,166	924	440	591	41	1,134	439	4,735
% of Computed That Pay 35%+	14%	29%	19%	29%	37%	24%	36%	24%
% of Computed That Pay 50%+	11%	16%	11%	15%	17%	14%	22%	14%

Source: U. S. Census 2000, data based on a sample

[18] The Census Tracts defined for Portsmouth have remained fairly stable through several decennial censuses. For the 2000 Census, Tract 697 was expanded to include the town of New Castle (0.83 sq. mi., population 2,140). In the Housing chapter of this report, only the Portsmouth portion of the tract is included in the data and analysis. In the Economic Development chapter, the "Existing Business Profile" for Census Tract 697 (page 103) includes the portion of the tract within New Castle; however, the impact should not be significant because of the small number of businesses in that town.



Census Tracts
Map # 4

Table 37: Detailed Housing Information by Tract

HOUSING AND COST CHARACTERISTICS BY CENSUS TRACT
PORTSMOUTH 1990 AND 2000

1990 CENSUS DATA BY TRACT	691	692	693	694	695	696	697	City Total
Population	3,955	2,652	2,196	2,353	6,336	5,988	2,445	25,925
Group Quarters Population	150	33	0	0	729	65	245	1,222
Population in Households	3,805	2,619	2,196	2,353	5,607	5,923	2,200	24,703
Average Household Size	1.90	2.03	2.30	2.45	3.37	2.37	2.33	2.39
Total Households	2,006	1,293	956	961	1,664	2,495	945	10,320
Owners	744	419	505	389	445	1,363	461	4,326
Renters	1,262	874	451	572	1,219	1,132	493	6,003
% Own	37%	32%	53%	40%	27%	55%	49%	42%
% Rent	63%	68%	47%	60%	73%	45%	51%	58%
Total Housing Units	2,200	1,368	1,009	1,385	1,694	2,705	1,008	11,369
Median Gross Rent	$515	$530	$594	$463	$550	$680	$566	$553
Median Household Income	$28,365	$24,971	$32,193	$26,853	$28,703	$35,328	$35,456	$30,591
Median Family Income	$41,806	$37,917	$37,782	$26,691	$28,783	$40,383	$39,900	$34,344
Total Renter Sample for Cost Burden Data*	1,262	874	493	530	1,204	1,092	527	5,982
Renters Spending 30%+ on Gross Rent	400	488	192	192	66	325	175	1,838
Renters Spending 35%+ on Gross Rent	253	324	122	147	25	246	100	1,217
			*not computed for 940 renters in Tract 695 in 1990					
Total Single Family Owner Sample for Cost Burden Data:	531	320	414	280	411	984	399	3,339
S.F. Owners Spending 30%+ on Housing	175	101	112	77	50	229	73	817
S.F. Owners Spending 35%+ on Housing	97	80	81	46	39	130	42	515

2000 CENSUS DATA BY TRACT	691	692	693	694	695	696	697	City Total
Population	3,876	2,621	2,126	2,506	1,271	6,009	2,375	20,784
Group Quarters Population	163	13	0	1	39	90	301	607
Population in Households	3,713	2,608	2,126	2,505	1,232	5,919	2,074	20,177
Average Household Size	1.73	1.79	2.10	2.21	2.49	2.21	2.16	2.04
Total Households	2,145	1,457	1,012	1,132	495	2,673	961	9,875
Owners	916	480	531	518	452	1,525	514	4,936
Renters	1,229	977	481	614	43	1,148	447	4,939
% Own	43%	33%	52%	46%	91%	57%	53%	50%
% Rent	57%	67%	48%	54%	9%	43%	47%	50%
Total Housing Units	2,252	1,497	1,049	1,162	499	2,740	987	10,186
Median Gross Rent	$671	$707	$712	$679	$850	$834	$757	$727
Median Household Income	$46,122	$42,977	$38,778	$41,300	$54,635	$47,355	$44,327	$45,195
Median Family Income	$74,250	$62,083	$51,765	$41,895	$57,917	$58,349	$61,050	$59,630
Total Renter Sample for Cost Burden Data:	1,228	975	480	604	49	1,148	461	4,945
Renters Spending 30%+ on Gross Rent	247	332	135	246	15	370	179	1,524
Renters Spending 35%+ on Gross Rent	164	272	82	173	15	275	159	1,140
Renters Spending 50% + on Gross Rent	125	149	50	89	7	154	95	669
Total Single Family Owner Sample for Cost Burden Data:	607	351	426	393	428	1,108	406	3,719
S.F. Owners Spending 30%+ on Housing	135	53	80	69	73	257	67	734
S.F. Owners Spending 35%+ on Housing	85	51	94	72	70	228	49	649

Table 37 (Continued)

CHANGE 1990-2000 BY TRACT	691	692	693	694	695	696	697	City Total
Population	(79)	(31)	(70)	153	(5,065)	21	(70)	(5,141)
Group Quarters Population	13	(20)	0	1	(690)	25	56	(615)
Population in Households	(92)	(11)	(70)	152	(4,375)	(4)	(126)	(4,526)
Average Household Size	(0.17)	(0.24)	(0.20)	(0.24)	(0.88)	(0.16)	(0.17)	(0.35)
Total Households	139	164	56	171	(1,169)	178	16	(445)
Owners	172	61	26	129	7	162	53	610
Renters	(33)	103	30	42	(1,176)	16	(46)	(1,064)
Total Housing Units	52	129	40	(223)	(1,195)	35	(21)	(1,183)
% Change in Median Gross Rent	30%	33%	20%	47%	55%	23%	34%	31%
% Change in Median Household Income	63%	72%	20%	54%	90%	34%	25%	48%
% Change in Median Family Income	78%	64%	37%	57%	101%	44%	53%	74%
Total Renter Sample for Cost Burden Data:	(34)	101	(13)	74	(1,155)	56	(66)	(1,037)
Renters Spending 30%+ on Gross Rent	(153)	(156)	(57)	54	(51)	45	4	(314)
Renters Spending 35%+ on Gross Rent	(89)	(52)	(40)	26	(10)	29	59	(77)
Renters Spending 50% + on Gross Rent	nc	nc	nc	nc	nc	nc	nc	nc
Total Single Family Owner Sample for Cost Burden Data:	76	31	12	113	17	124	7	380
S.F. Owners Spending 30%+ on Housing	(40)	(48)	(32)	(8)	23	28	(6)	(83)
S.F. Owners Spending 35%+ on Housing	(12)	(29)	13	26	31	98	7	134

Local Employment, Housing Affordability, and Supply

Housing Costs Supportable by Average Local Wages

Table 38 compares average wages in Portsmouth employment to the gross rents and housing purchase prices those jobs would support. The comparison is shown both for the average wages generated by a single job within in each major economic sector, and for 1.32 jobs per household in each sector.[19]

With one person working, about 26% of the jobs in Portsmouth generate an average wage that would support the median gross rent in the city. If there are an average of 1.32 workers in the household, the median gross rent is supportable by all economic sectors except for retail trade. For young single-person households entering the job market, sharing a rental may be a necessity to afford local housing costs.

A household with a single worker earning an average wage in any of the major job sectors shown could not afford the median priced home in Portsmouth. Even with 1.32 workers per household in any given sector, less than 15% of the jobs in the city are in sectors with an average wage high enough to enable the household to afford a median priced Portsmouth home. A typical household with 1.32 wage earners would need a home priced at about $135,000 to be affordable. Less than 19% of the homes in Portsmouth were sold at or below that price in 2001. A typical single person

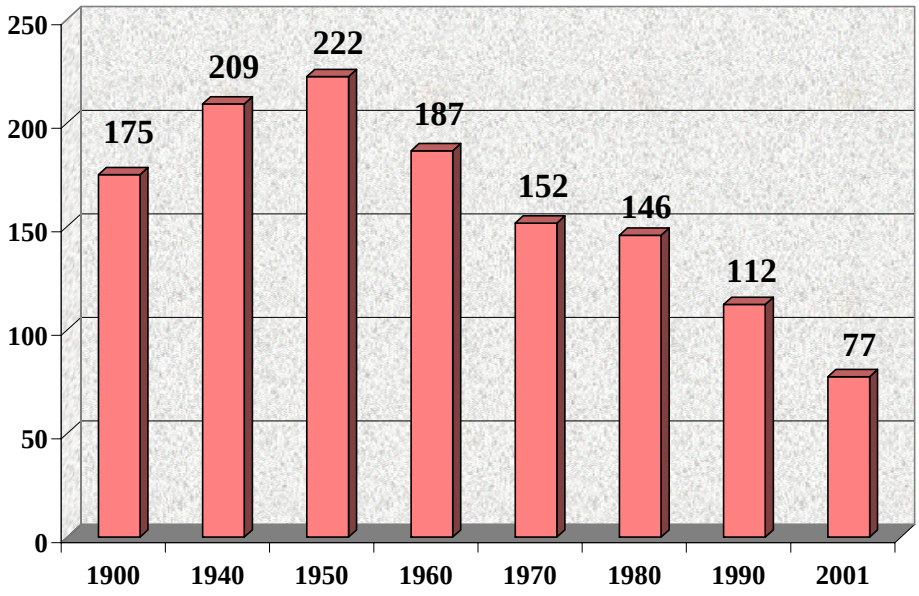
[19] Based on the 2000 Census for the NH portion of the PMSA, there is an average of 1.32 working residents per household living in the region.

working locally could afford a home of about $103,000. Only 10% of homes sold in the city in 2001 were priced at or below that level.

Housing Supply Needed to Support Commercial-Industrial Development

A second issue of significance in the jobs/housing balance is the volume of housing development in relation to commercial-industrial development in the city. Figure 18 shows how the ratio of total housing units to commercial-industrial floor area in Portsmouth has changed over time. Based on tax assessment data, it was estimated that as of 1970, the City had about 152 dwelling units for every 100,000 square feet of commercial-industrial floor area. By 2001, this ratio had declined to only 77 units per 100,000 square feet of commercial-industrial space.

Figure 18: Ratio of Living Units to Commercial-Industrial Floor Area



Ratio represents an estimate of total housing units per 100,000 square feet of gross floor area in non-residential buildings, excluding government, institutional, and non-profit uses. (Derived from tabulation of assessment data by year built)

This means that an increasing share of employees working in Portsmouth, regardless of affordability of the stock, must seek housing elsewhere simply because sufficient housing production to support employment growth has not been available locally.

Based on the area average of 1.32 working residents per household, and a ratio of roughly 1 job in the city per 400 square feet of commercial-industrial space (estimated using assessment information), 100,000 square feet of new development (assuming it generates net new jobs to the area) would represent a need for about 187 housing units somewhere in the region.

Table 38: Rents and Prices Supportable by Average Wages in Portsmouth Jobs

LOCAL EMPLOYMENT AND WAGES - PORTSMOUTH 2000 AND SUPPORTABLE HOUSING COSTS

Portsmouth Employment and Wages by Sector				**Annual Household Income**		**Max. Rent Supportable**		**Max. Price Supportable**	
Employment Sector	Covered Employment (1) in 2000	% of City Covered Employment	Average Weekly Wage	1 Person Working in Sector	1.32 Persons Working in Sector (2)	Maximum Gross Rent Supportable With 1 Person Working	Maximum Gross Rent Supportable With 1.32 Persons Working	Affordable Price - 1 Working in Sector	Affordable Price - 1.32 Working in Sector
Retail Trade	6,100	22%	$416	$21,644	$28,570	$541	$714	$59,521	$78,568
Construction	547	2%	$675	$35,103	$46,336	$878	$1,158	$96,533	$127,424
Services	10,664	38%	$676	$35,173	$46,428	$879	$1,161	$96,726	$127,678
Government	1,825	6%	$685	$35,632	$47,034	$891	$1,176	$97,988	$129,344
Manufacturing	1,883	7%	$748	$38,880	$51,322	$972	$1,283	$106,920	$141,134
Transportation & Utilities	1,290	5%	$885	$46,032	$60,762	$1,151	$1,519	$126,588	$167,096
Finance, Ins., Real Estate	4,160	15%	$1,048	$54,470	$71,900	$1,362	$1,798	$149,793	$197,726
Wholesale Trade	1,737	6%	$1,137	$59,119	$78,037	$1,478	$1,951	$162,577	$214,602
City Average	28,304	100%	$717	$37,297	$49,232	$932	$1,231	$102,567	$135,388

(1) "Covered employment" means jobs covered by unemployment compensation insurance. Major exclusions from covered employment are the Armed Forces, fully commissioned salespersons, elected officials, most railroad workers, and most self-employed workers.

(2) Average number of working residents per household was 1.32 in based on 2000 ratios using Census data for NH portion of PMSA Gross rent maximum assumes 30% of income to gross rental costs. Supportable price assumes purchase price = 2.75 times income.

During the 1990-2001 period, about 4.7 million square feet of space was created in commercial-industrial development in the city. That volume of development, at existing averages, represents an equivalent of demand for about 800 housing units per year to support the workforce needs of commercial-industrial growth. The City is hosting only a small fraction of the housing supply demand that is being created by the substantial increase in its commercial-industrial floor area and associated jobs.

Distribution of Low Income Rental Housing

Distribution of Assisted Rental Housing in the PMSA

As of 2002, Portsmouth's assisted rental inventory of 1,184 units contained 872 rent-assisted apartments for low-income households. Of the total units in the inventory, 461 (39%) are owned by the Portsmouth Housing Authority. These units do not include additional assistance provided by the Authority in the form of individual Section 8 and voucher subsidies that are allocated to income-eligible households.

As of July 2001 the Portsmouth Housing Authority had an allocation of 256 rental assistance vouchers, of which 193 were being utilized. Of the 193, a total of 137 were being applied in privately owned rental housing in non-subsidized projects. According to estimates developed by the City of Portsmouth Community Development Department in July 2001, Portsmouth ranks 3rd in New Hampshire with respect to the percentage of total housing units in the community that are in subsidized rental housing.

Portsmouth is home to about 16% of the renter households in the NH portion of the PMSA. Because it is a center for assisted housing, the city has about 31% of the total units in assisted rental housing developments, and 27% of the area's rent-assisted units that have been developed for low-income households.

The "Fair Share" Concept

The concept of "fair share" housing relies on the need for local communities to recognize their role in providing for some portion of the housing needs for households of all income levels by the economy of an entire region. A significant NH Supreme Court decision on the matter of fair share housing (*Britton v. Chester, 1991*) centered on a finding that "the general welfare" served by local land use regulation is not limited to the welfare of persons already living within the community. Rather, the notion of providing for the "general welfare" in local regulation must also include that of the region of which a community is a part. Thus local regulations should allow a realistic opportunity for the construction of a proportionate share of housing for all households including low and moderate-income families.

In economic terms, the need for a community to provide for some share of regional housing needs is clear. The *demand* for housing is generated by regional employment growth and demographic and economic forces that transcend municipal (and state) boundaries. In New Hampshire, the *supply* of housing to meet that demand is controlled locally by a land use permitting process governed by highly variable standards and practices among the cities and towns of an economic region.

Table 39: Portsmouth Assisted Housing Inventory

Portsmouth Assisted Rental Housing Developments - 2002 Inventory

			Total Units in Development				Subtotal Rent-Assisted Units				
Development Name	Location	Type of Development	Total Units	Occupied by Seniors	Occupied by Non-Elderly	Units for Special Needs	Rent Assisted Units Total	Elderly Assisted Units	Non-Elderly Assisted Units	Special Needs Assisted Units	Ownership: Public Housing or Other (1)
Osprey Landing	10 Sanderling Way	General Occupancy	329	0	167	0	167	0	167	0	Other
Ledgewood Manor	Lafayette Road	General Occupancy	150	0	150	0	30	0	30	0	Other
Margeson Apartments	245 Middle Street	Elderly	137	137	0	0	137	137	0	0	Public Housing
Gosling Meadows	40 Wedgewood Road	General Occupancy	124	12	112	0	124	12	112	0	Public Housing
Feaster Apartments	140 Court Street	Elderly	100	100	0	0	100	100	0	0	Public Housing
Wamesit Place (Ridgewood Apts.)	175 Greenleaf Avenue	General Occupancy	100	20	80	0	70	0	70	0	Other
Keefe House	20 Islington Street	Elderly	58	58	0	0	58	58	0	0	Other
Portsmouth Apartments	263 Rockland Street	Elderly	48	48	0	0	48	48	0	0	Public Housing
Woodbury Manor	Woodbury Avenue	Elderly	40	40	0	0	40	40	0	0	Public Housing
Atlantic Heights	1 Bedford Way	Elderly	30	30	0	0	30	30	0	0	Other
Betty's Dream	75 Longmeadow Lane	Elderly	24	24	0	24	24	24	0	0	Other
State Street Project	940 State Street	Elderly	12	12	0	0	12	12	0	0	Public Housing
Great Bay School & Training	413 Lafayette Road.	Special Needs	12	0	0	12	12	0	0	12	Other
Residential Opportunities	200 Greenleaf Avenue	Special Needs	12	0	0	12	12	0	0	12	Other
Pleasant St. Project	444 Pleasant Street	Elderly	8	8	0	0	8	8	0	0	Public Housing
Total Units			1,184	489	509	48	872	469	379	24	
Public Housing Subtotal			461	349	112	0	461	349	112	0	
Public Housing Percent of Total			39%	71%	22%	0%	53%	74%	30%	0%	

Source: NHHFA Directory of Assisted Housing 2002

(1) Developments listed as Public Housing are those owned and operated by the Portsmouth Housing Authority.

Table 40: Metro Area Assisted Housing Inventory

ASSISTED RENTAL HOUSING INVENTORY FOR THE PMSA (NH PORTION)

	Total Housing Units In Assisted Developments				Rent-Assisted Units Within Development				% Senior Housing	
City/Town	Total Units	Available for General Occupancy	Exclusively for Senior Occupancy	Special Needs	Total Assisted	Family Assisted	Senior Assisted	Special Needs Assisted	% of Total Units for Seniors Only	% of Assisted Units for Seniors
Portsmouth	**1,184**	**703**	**457**	**24**	**860**	**379**	**457**	**24**	39%	53%
Dover	1,017	660	344	13	941	576	352	13	65%	37%
Durham	76	0	76	0	63	0	63	0	0%	100%
Epping	76	36	40	0	67	27	40	0	47%	60%
Exeter	117	32	85	0	114	29	85	0	27%	75%
Farmington	115	65	50	0	108	47	61	0	57%	56%
Hampton	78	0	78	0	78	0	78	0	0%	100%
Newington	12	0	0	12	12	0	0	12	0%	0%
Newmarket	320	243	77	0	174	89	85	0	76%	49%
Rochester	423	104	319	0	420	91	329	0	25%	78%
Rollinsford	12	12	0	0	12	12	0	0	100%	0%
Somersworth	337	98	239	0	335	96	239	0	29%	71%
PMSA Total (NH Part)	3,767	1,953	1,765	49	3,184	1,346	1,789	49	52%	56%
Portsmouth % of PMSA (NH Part)	31%	36%	26%	49%	27%	28%	26%	49%		

Source: Derived from NHHFA Directory of Assisted Housing database.

Note: "General occupancy" developments are those in which occupancy is not limited by age. There ares some senior tenants in these developments.

Table 41: Assisted Housing as Percent of Units in PMSA Communities in NH

ASSISTED RENTAL HOUSING IN NH PART OF PMSA AS PERCENT OF HOUSEHOLDS

City/Town	Total Units in Assisted Rental Developments	Rent-Assisted Units Within Developments	General Occupancy Units As % of Total in Assisted Projects	All Occupied Rental Units 2000	Total Households 2000	Units in Assisted Developments as % of All Occupied Rental Units	Rent Assisted Units As % of All Occupied Rental Units	Rent-Assisted Units as Percent of Total Households
Portsmouth	**1,184**	**860**	**59.4%**	**4,939**	**9,875**	**24.0%**	**17.4%**	**8.7%**
Dover	1,017	941	64.9%	5,653	11,573	18.0%	16.6%	8.1%
Durham	76	63	0.0%	1,254	2,882	6.1%	5.0%	2.2%
Epping	76	67	47.4%	473	2,047	16.1%	14.2%	3.3%
Exeter	117	114	27.4%	1,918	5,898	6.1%	5.9%	1.9%
Farmington	115	108	56.5%	630	2,146	18.3%	17.1%	5.0%
Hampton	78	78	0.0%	2,063	6,465	3.8%	3.8%	1.2%
Newington	12	12	0.0%	65	294	18.5%	18.5%	4.1%
Newmarket	320	174	75.9%	1,600	3,379	20.0%	10.9%	5.1%
Rochester	423	420	24.6%	3,791	11,434	11.2%	11.1%	3.7%
Rollinsford	12	12	100.0%	311	1,033	3.9%	3.9%	1.2%
Somersworth	337	335	29.1%	2,028	4,687	16.6%	16.5%	7.1%
Balance of PMSA (NH Part)	0	0	0.0%	2,665	17,429	0.0%	0.0%	0.0%
PMSA Total (NH Part)	3,767	3,184	46.9%	27,390	79,142	13.8%	11.6%	4.0%

Source: Compiled from Directory of Assisted Housing (NHHFA) and U. S. Census 2000

For fiscal and other reasons, communities often place severe restrictions on some types of housing developments that could otherwise provide for some of the needs of low and moderate-income households. New Hampshire communities have been encouraged by court decisions and by the planning and development statutes to assess their local policies to determine whether artificial barriers exist that would preclude the expansion of lower income housing opportunities.

Fair share goals for the creation and distribution may also be frustrated by strong regional employment growth that drives up land costs, prices and rents for new and existing housing. Under these conditions, fair share goals for affordable housing may be difficult to achieve, even in the absence of regulatory barriers.

Rockingham Planning Commission Housing Needs Assessment 1994

The most recent regional housing needs analysis that evaluates "fair share" housing distribution in the region is contained in the Regional Housing Needs Assessment-1994 prepared by the Rockingham Planning Commission in response to RSA 36:47,II. The baseline needs data of the report rely on the 1990 Census. Relevant portions of that report are reviewed in this section. The Commission anticipates updating its needs assessment, perhaps using a different format, during 2003 that will incorporate 2000 Census information and other updated estimates of housing need.

The Regional Housing Needs Assessment does not support or represent any type of mandatory allocation of "fair share" housing production responsibilities for municipalities, but does provide indicators of possible imbalances in the distribution of low income housing opportunities within the region. The 1994 report identified 5,350 renter households of low income (under 80% of median area income) in the County who paid 30% or more of their income to gross rental costs in 1990. Of the total, 1,771 resided in Portsmouth (33% of the County total). The study found that, after adjustment for credits for affordable housing produced since the base year, Portsmouth had a fair share need for affordable housing that would accommodate 876 low income renter households (about 17% of net reallocated need within the region). Since this need figure is based on the 1990 Census, a higher regional need figure would probably be allocated if a similar methodology is applied to 2000 Census data.

The baseline need has been defined to include low income renters with a cost burden of 30% or more of gross income. This definition tends to exclude households already living in subsidized units, as the subsidy they enjoy should have relieved that cost burden. Since it is essentially a "net need" that already reflects the presence of assisted housing, no credits for existing subsidized units are deducted from the fair share allocation. However, the model does implicitly credit those municipalities that already host a disproportionate share of low income needs in the initial step of the fair share allocation. The first step in that process defines the presence of an "excess need" to exist where the community's share of the region's low income, rent-burdened households is higher than its share of the region's total occupied dwelling units. The "excess need" from these communities (including Portsmouth) is then allocated to other communities that bear disproportionately low shares of low income, cost burdened renters.

It should be noted that the regional study uses an income level of up to 80% of median area income to define renter household needs, while actual eligibility for relevant program subsidies is generally limited to those earning less than 50% of AMFI (and sometimes under 60% of AMFI for tax credit units).

The regional fair share model measures local progress in meeting the redistributed housing need (low income renters with a housing cost burden) on the basis of "credits" for affordable housing units added *since the base year* (1990) of the need calculation. In the 1994 regional needs assessment, these credited units can include manufactured housing, units constructed or rehabilitated for rent-assisted housing, owner-occupied units rehabilitated with Community Development Block Grant (CDBG) funds, or building permits issued for low and moderate income housing units whether owner or renter occupied.

Housing Production Needs

Future household growth is often forecast based on population projections. The most recent municipal-level population projections developed by the NH Office of State Planning (NHOSP) were released during March 2003. These projections indicate a future population in Portsmouth of 22,210 by 2010 and 24,380 by 2020. Even at the 2020 level of projected population, the city would still have fewer persons than it did in 1990.

An initial estimate of housing production needs has been made below using the NHOSP March 2003 projections of the 2010 and 2020 population of New Hampshire municipalities of the Portsmouth PMSA. While the NHOSP does not project population at the PMSA level, its cumulative projection for the NH municipalities in this region indicates average annual growth of about 2,100 persons per year in the region over the next 20 years. The total population projected by NHOSP for the city in both 2010 and 2020 represents 10.1% of the PMSA total (for NH communities). The NHOSP projections provide estimates for population growth only; projections of households and housing units require additional assumptions.

The model in Tables 23 and 24 uses the NHOSP population projections as a starting point to estimate future non-seasonal housing production needs. The assumptions used in this model include the following:

- The percent of the population living in group quarters, average household size, and tenure split (owner/renter percent of households) were held constant at 2000 Census values for the region and the city.

- Normalized vacancy rates of 1.5% for ownership units and 5% for rental units are applied to provide an allowance to support more adequate housing choice.

- The model projects the total need for units available in the inventory (occupied or vacant and available for rent or for sale). Other vacant units held off the market, seasonal or other vacant inventory are ignored for projection purposes.

- Average household size for 2010 is projected at 98% of the year 2000 average, consistent with U. S. Census national projections of change in household size.

- The projections do not include an allowance for housing units lost from the inventory as the result of demolition or disaster.

Under this scenario, total regional housing production in the NH portion of the PMSA would need to be roughly 1,000-1,150 units per year to meet the demands of growth and to provide more housing choice by rectifying existing vacancy deficits. About 37% of the average annual production should be oriented to rental housing production if tenure ratios remain constant.

For Portsmouth, the same model indicates that about 10% of regional housing production (roughly 100-110 units per year) would be needed in the City to meet expected local population growth. About 53-56% of the City's production needs would be for rental housing under the assumptions made in the model. This projection assumes, based on the population projections of NHOSP, that the City's share of the PMSA (NH part) population declines from 10.4% (2000) to 10.1% (2010). It is important to recognize that such a projection does not represent the City's potential for housing growth based on its market absorption potential (high) or its developable land supply (low).

Based on further work in the master plan process, this model can be modified to test alternative expectations by changing such variables as: (1) the city's share of regional population or households; (2) average household size; (3) tenure split; and (4) desired vacancy rates. It is likely that household size will continue to decline by some amount in the future, requiring more housing units per person, and that tenure shifts will change gradually over the long-term.

Table 42: Regional Housing Production Need (Non-Seasonal) – Draft Estimate

Draft Model - Assumes Constant Average Household Size and Tenure Split

PORTSMOUTH-DOVER-ROCHESTER PMSA (NH portion)	1990	2000	2010 OSP Projection (Total Pop.)	2020 OSP Projection (Total Pop.)	Change 2000-2010	Change 2000-2020	Avg Annual 10 Yr	Avg Annual 20 Yr
Total Population	185,631	199,323	220,750	241,700	21,427	42,377	2,143	2,119
Institutional & Group Quarters Population	8,822	7,546	8,357	9,150	811	1,604	81	80
Population in Households	176,809	191,777	212,393	232,550	20,616	40,773	2,062	2,039
Average Household Size	2.52	2.42	2.37	2.37				
Households	70,129	79,142	89,438	97,926	10,296	18,784	1,030	939
Owners	44,217	51,752	58,485	64,035	6,733	12,283	673	614
Renters	25,912	27,390	30,953	33,891	3,563	6,501	356	325
Ownership Tenure %	63.1%	65.4%	65.4%	65.4%				
Rental Tenure %	36.9%	34.6%	34.6%	34.6%				
Vacant for Sale Units	1,241	404	891	975	487	571	49	29
Vacant for Rent Units	3,840	876	1,629	1,784	753	908	75	45
Vacant Seas, Migratory, Occ. Use and Other	5,114	5,188	not projected					
Total Vacant/Seasonal/Occ Use and Other	10,195	6,468	not projected					
Total Housing Units	80,324	85,610	not projected					
Total Ownership Stock Except Sold, Not Occ.	45,458	52,156	59,376	65,011	7,220	12,855	722	643
Total Rental Units Except Rented, Not Occ.	29,752	28,266	32,583	35,675	4,317	7,409	432	370
Total Stock Occupied or Available	75,210	80,422	91,958	100,685	11,536	20,263	1,154	1,013
Vacancy Rate Ownership	2.7%	0.8%	1.5%	1.5%				
Vacancy Rate Rental	12.9%	3.1%	5.0%	5.0%				
Vacancy Rate Total	6.8%	1.6%	2.7%	2.7%				

Table 43: Portsmouth Housing Production Need (Non-Seasonal) – Draft Estimate

Draft Model – Total Population for 2010-2020 Based on NHOSP Projections 3/03
Assumes Constant Average Household Size and Tenure Split

CITY OF PORTSMOUTH	1990	2000	2010 OSP Projection (Total Pop.)	2020 OSP Projection (Total Pop.)	Change 2000-2010	Change 2000-2020	Avg Annual 10 Yr	Avg Annual 20 Yr
Total Population	25,925	20,784	22,210	24,380	1,426	3,596	143	180
Group Quarters Population	1,236	607	649	712	42	105	4	5
Population in Households	24,689	20,177	21,561	23,668	1,384	3,491	138	175
Average Household Size	2.39	2.04	2.00	2.00				
Households	10,329	9,875	10,768	11,820	893	1,945	89	97
Homeowners	4,326	4,936	5,382	5,908	446	972	45	49
Renters	6,003	4,939	5,386	5,912	447	973	45	49
Ownership Tenure %	41.9%	50.0%	50.0%	50.0%				
Rental Tenure %	58.1%	50.0%	50.0%	50.0%				
Vacant for Sale Units	165	45	82	90	37	45	4	2
Vacant for Rent Units	539	116	283	311	167	195	17	10
Vacant Seas, Migratory, Occ. Use and Other	336	150	not projected					
Total Vacant/Seasonal/Occ Use and Other	1,040	311	not projected					
Total Housing Units	11,369	10,186	not projected					
Total Ownership Stock Except Sold, Not Occ.	4,491	4,981	5,464	5,998	483	1,017	48	51
Total Rental Units Except Rented, Not Occ.	6,542	5,055	5,669	6,223	614	1,168	61	58
Total Stock Occupied or Available	11,033	10,036	11,133	12,221	1,097	2,185	110	109
Vacancy Rate Ownership	3.7%	0.9%	1.5%	1.5%				
Vacancy Rate Rental	8.2%	2.3%	5.0%	5.0%				
Vacancy Rate Total	6.4%	1.6%	3.3%	3.3%				

Another possible method of projecting housing growth scenarios would be to estimate comercial-industrial growth (square feet), the number of housing units supported by associated job growth regionally, and the city's share of regional housing development. For example, Portsmouth's growth in commercial-industrial development from 1990-2001 was earlier estimated to support about 800 units per year regionally.

In 2000, 12.5% of the households living in the NH portion of the PMSA lived in Portsmouth. If the city assumed the same share of job-based housing production at the pace of the last decade, it would need to be at least 100 housing units per year to maintain that ratio. Even with this proportion, however, the percentage of local workers living in the city would continue to decline. In 1990, about 32% of those working in the city also lived there. A 32% share regional job-based housing production would require 256 units per year in Portsmouth to maintain the jobs/residence ratio at the 1990-2001 pace of commercial-industrial development.

The housing production forecast in the population-based model (about 100 units per year) is at the low end of these two job-based estimates of future local housing development. Such projections are well below the market absorption potential for housing in Portsmouth. The future volume of housing development in Portsmouth will not be defined by a population projection. Actual housing growth will be determined by demand as well as by the variables of land availability, the allocation of land to residential vs. non-residential uses, and the density at which housing units can be constructed in the future.

Housing Trends and Issues - Observations

1. The closure of Pease AFB resulted in a significant decline in the city's population, especially among people under age 35 and school-age children in larger renter households. There was a large net loss in the total housing supply during the 1990-2000 period, mostly from the elimination of older rental units that housed relatively large families residing at Pease.

2. Portsmouth has a relatively high share of the region's lowest income renters and homeowners with incomes of under $5,000. At the same time, it also has a high concentration of the metro area's most affluent renters earning $75,000 or more. However, the city does not have a high share of the region's affluent homeowners.

3. Median rental housing costs are typically 20-25% higher in Portsmouth than in the New Hampshire portion of the metro area. Home prices are high both in Portsmouth and the region. The availability of higher-density ownership alternatives in Portsmouth such as condominiums has some moderating effect on the median purchase price of ownership units in the city.

4. Because Portsmouth is capable of supporting high market rents, it is an excellent location for the acquisition or development of housing under the Low Income Housing Tax Credit (LIHTC) program, which relies on a mix of market rate and subsidized rents to create affordable rental units. The City and the Portsmouth Housing Authority are already taking a leadership role in utilizing LIHTC and other available funding sources to redevelop Cottage Hospital into 20 units of affordable senior housing. Tax credits can be applied to the acquisition and rehab of affordable rental units or in new construction for large and small scale developments.

5. Younger households living in Portsmouth (under 35) rely heavily on the availability of rental housing. This part of the housing inventory is important to sustaining the labor supply younger workers.

6. The change in median renter and homeowner incomes in Portsmouth indicates that it is not only the tight housing supply, but also rising household incomes in the city that have been fueling an increases in prices and rents. The economic data also shows a trend toward a transition to higher income, white-collar professional job base.

7. Most of City's housing is not affordable to those earning average wages paid by most local jobs in the predominant employment sectors.

8. Portsmouth's success in securing a high volume of commercial-industrial development has not been matched by growth in the local housing supply to support the associated labor force. The number of housing units in the city per 100,000 square feet of commercial-industrial space today is only about half of what it was in 1970. This trend means that increasing proportions of Portsmouth workers will be less connected with residential life in the city, and implies more long-distance commuting into Portsmouth from a large region.

9. Strong regional and local demands for residential and commercial uses have placed high pressure on the limited supply of developable land that remains in the City. The competition for these uses in Portsmouth represents a significant challenge to the land use allocation process to achieve balanced development in the City.

10. The City has enabled numerous developments in the past using the Planned Unit Development (PUD) concept. The role of the PUD in allowing for a mix of housing types and densities within the same site, or in mixing housing development with commercial uses, should be reviewed with respect to its utility in shaping future land use.

ECONOMIC DEVELOPMENT

Recent Economic Development Trends

Growth in Nonresidential Floor Area

Portsmouth's recent nonresidential growth has been extremely rapid compared to past periods in the city's history (see Table 44, Table 45, Figure 19, Figure 20, and Figure 21). Nearly 60 percent of the private nonresidential building floor area in Portsmouth has been built since 1980, and 37 percent has been built since 1990, during a period when the city's population has declined by nearly 20 percent as a result of the closure of Pease Air Force Base. As is demonstrated later in this chapter (see page 111), much of this commercial and industrial growth has been directly attributable to the development of the Pease International Tradeport

This rapid overall growth has been accompanied by a shift in the type of development: manufacturing, industrial, and research & development space accounted for 27 percent of the nonresidential growth since 1990, compared to 18 percent of the nonresidential space built before 1990. Nearly half of the manufacturing/industrial/R&D space in Portsmouth—1.26 million square feet—is less than thirteen years old, so that the city has a significant stock of modern facilities.

Another trend worth noting is that lodging space has not kept pace with office, industrial and retail growth in Portsmouth. Only 4 percent of the floor area developed during the 1990s was for lodging facilities, compared to 6 percent in the 1980s and 10 percent before 1980. This may indicate a shift in the balance of the economy away from tourism and visitor services, and suggests an area for further analysis in relation to supporting the tourism sector.

Figure 19: Gross Floor Area In Portsmouth Commercial-Industrial Uses Constructed 1950 Or Later, By Year Built

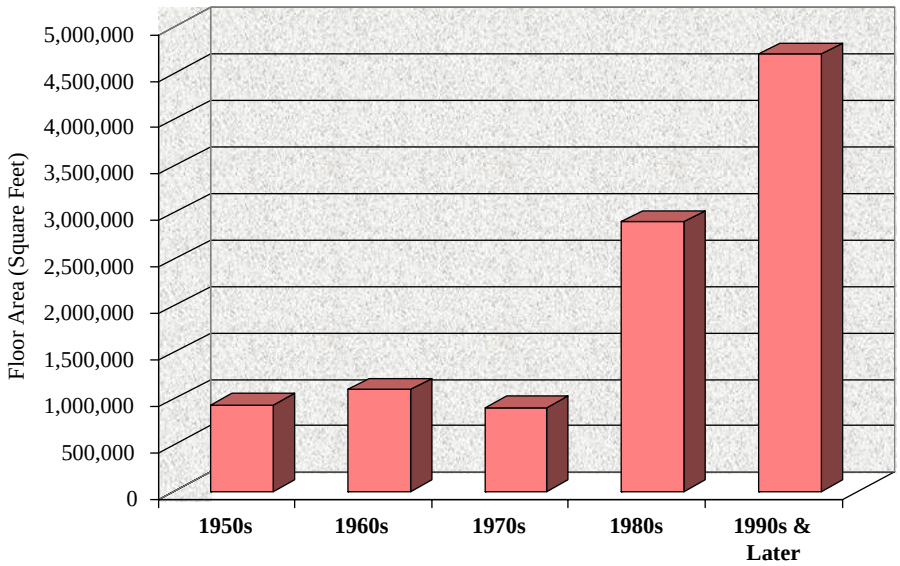
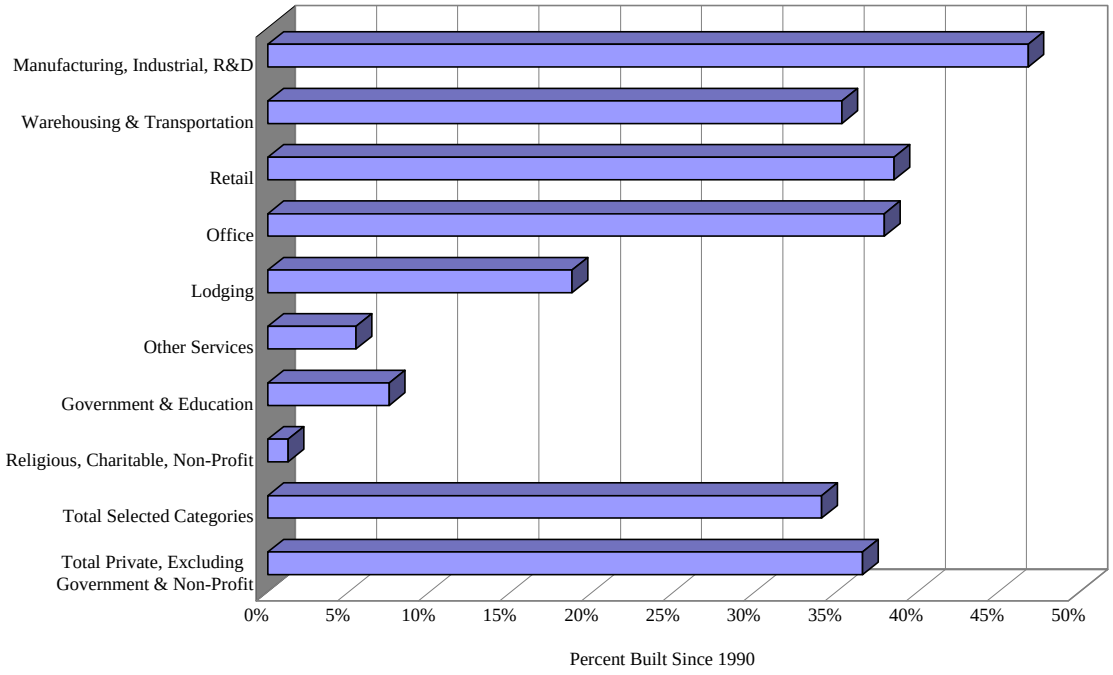


Table 44: Portsmouth Development History – Non-Residential Floor Area by Use by Year Built

Year Built	Manufacturing, Industrial, R&D	Warehousing & Transportation	Retail	Office	Lodging	Other Services	Government & Education	Religious, Charitable, Non-Profit	Total Selected Categories	Total Private Excluding Government & Non-Profit
Unknown	196,008	3,942	13,127		148,455		9,044		370,576	361,532
Pre-1900	118,044	28,285	282,244	537,552	33,913	14,457	75,523	118,753	1,208,771	1,014,495
1900-1939	122,390	53,132	156,636	330,930	131,232	45,242	6,440	40,070	886,072	839,562
1940-1949	0	17,896	46,239	40,151	0	7,256	1,831	0	113,373	111,542
1950-1959	26,352	462,342	107,732	180,395	110,545	43,152	165,775	18,734	1,115,027	930,518
1960-1969	303,539	170,535	177,815	369,355	78,099	0	99,400	13,528	1,212,271	1,099,343
1970-1979	142,959	10,240	284,085	222,174	45,885	196,585	353,207	71,909	1,327,044	901,928
1980-1989	521,941	146,112	736,333	981,187	183,401	332,775	7,409	87,591	2,996,749	2,901,749
1990 or Later	1,258,965	487,454	1,131,612	1,627,275	168,385	36,759	58,037	4,455	4,772,942	4,710,450
Total	2,690,198	1,379,938	2,935,823	4,289,019	899,915	676,226	776,666	355,040	14,002,825	12,871,119
Percent Built Since 1990	*47%*	*35%*	*39%*	*38%*	*19%*	*5%*	*7%*	*1%*	*34%*	*37%*

Source: Compiled from interpretation and tabulation of Portsmouth property tax assessment data.

Figure 20: Percent of Total Commercial-Industrial Floor Area Built Since 1990



Source: Estimated using City assessment data

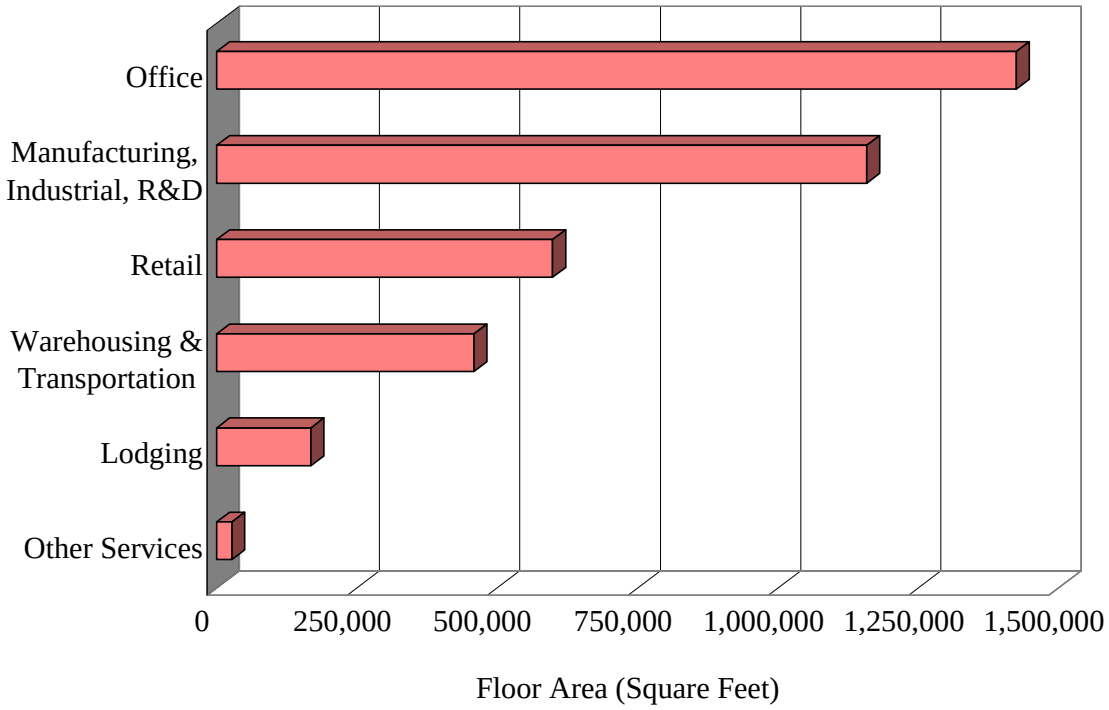
As Table 45 and Figure 21 indicate, office development has continued to be the major type of nonresidential development since 1995. Nevertheless, its share of total commercial and industrial floor area has increased only marginally since the 1950s: office space represents approximately 33 percent of the private nonresidential floor area built prior to 1960, and about 34 percent of the City's total commercial-industrial floor area.

Table 45: Portsmouth Commercial-Industrial Floor Area Built 1995-2001

Type Development	Floor Area	Percent of Total
Manufacturing	1,258,965	26.7%
Warehousing & Transportation	487,454	10.3%
Retail	1,131,612	24.0%
Office	1,627,275	34.5%
Lodging	168,385	3.6%
Other Services	36,759	0.8%
Total Major Sectors	4,710,450	100.0%

Source: Estimated using City assessment data

Figure 21: Portsmouth Commercial-Industrial Floor Area Built 1995-2001



Source: Estimated using City assessment data

Growth in Local Employment, 1990-2000

Table 46, Figure 22, and Figure 23 present data on employment in Portsmouth businesses from 1990 through 2000. These data include "covered" employment, which refers to jobs that are covered by state unemployment insurance. Employment that is not included in these statistics include most agricultural workers on small farms, members of the Armed Forces, commission only real estate and insurance agents, elected officials, most employees of railroads, most domestic workers, most student workers at schools, workers at church supported services, and employees of certain small nonprofit organizations. Most self-employed individuals and unpaid family workers are excluded.[20]

Reflecting the changing regional and national economies, there has been a steady loss of manufacturing jobs in the city over the past two decades, and manufacturing employment in 2000 was 42 percent lower than in 1990. However, growth in nonmanufacturing employment has more than compensated for the loss in manufacturing jobs. With the exception of a 7 percent loss in nonmanufacturing jobs between 1989 and 1991, there has been a steady increase in such jobs throughout the 1990s and 2000s; and since 1991 the number of nonmanufacturing jobs has increased by between 5 and 7 percent each year.

[20] *2000 County Profile Covering New Hampshire's Counties, Cities, Towns, and Unincorporated Places,* March 2002, New Hampshire Employment Security, Economic and Labor Market Information Bureau, p. iv.

Note that the data in Table 46 and Figure 22 do not reflect government employment for the years before 1993. Thus, they do not show the sharp drop in employment that resulted from the closing of Pease Air Force Base, completed in March 1991. Prior to the closure, Pease provided 4,000 on-base jobs and supported an estimated 7,000 jobs in the region.[21]

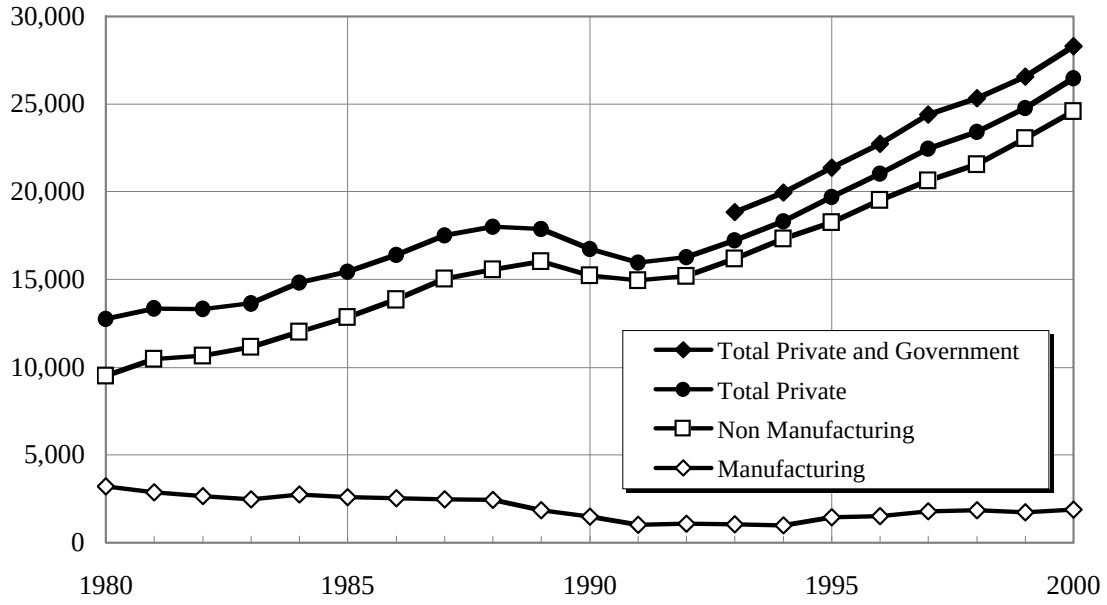
Table 46: Employment History for Portsmouth 1980-2000

Year	Private Sector: Manufacturing	Private Sector: Non Manufacturing	Total Private	Government (1)	Total Private and Government
1980	3,220	9,540	12,760	n.r.	n.r.
1981	2,864	10,484	13,348	n.r.	n.r.
1982	2,658	10,676	13,334	n.r.	n.r.
1983	2,468	11,168	13,636	n.r.	n.r.
1984	2,759	12,044	14,803	n.r.	n.r.
1985	2,589	12,859	15,448	n.r.	n.r.
1986	2,542	13,843	16,385	n.r.	n.r.
1987	2,477	15,042	17,519	n.r.	n.r.
1988	2,446	15,550	17,996	n.r.	n.r.
1989	1,855	16,027	17,882	n.r.	n.r.
1990	1,498	15,224	16,722	n.r.	n.r.
1991	1,035	14,928	15,963	n.r.	n.r.
1992	1,088	15,172	16,260	n.r.	n.r.
1993	1,054	16,165	17,219	1,615	18,834
1994	986	17,332	18,318	1,628	19,946
1995	1,453	18,250	19,703	1,662	21,365
1996	1,510	19,530	21,040	1,677	22,717
1997	1,809	20,644	22,453	1,962	24,415
1998	1,861	21,562	23,423	1,903	25,326
1999	1,739	23,037	24,776	1,804	26,580
2000	1,883	24,596	26,479	1,825	28,304

Source: NH Employment Security Annual County Profiles (1) Not reported (n.r.) prior to 1993

[21] Applied Economic Research, "Northern Tier Development Analysis: Metropolitan Portsmouth Economic Trends," November 3, 1998, p. 3.

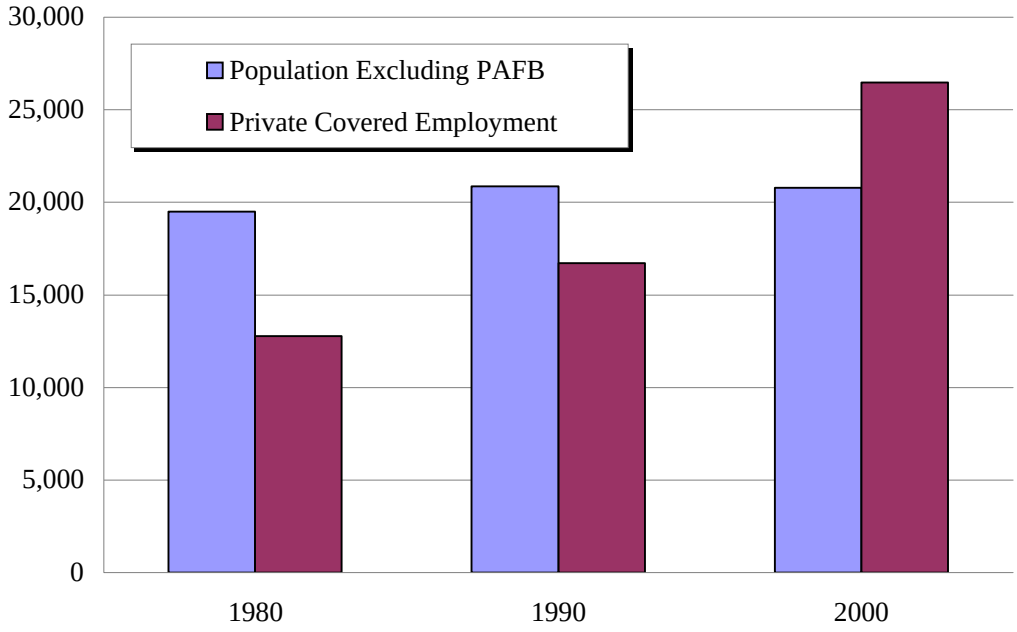
Figure 22: Covered Employment in Portsmouth, 1980-2000



Source: NH Employment Security, Annual County Profile

Figure 23 compares population change and private job growth over the 1980-2000 period, and clearly indicates the extent to which Portsmouth has become a net exporter of jobs to the surrounding region (i.e., excess of jobs over local population).

Figure 23: Employment and Population Growth, 1980-2000



Tax Base

The total taxable valuation of $2.8 billion represents 89.7 percent of total assessed valuation in the city (municipal property accounts for 2.1 percent of total valuation, and other public and nonprofit property makes up 8.1 percent of the total). Table 47 summarizes the existing distribution of assessed property valuation among taxable classifications. The city has a strong nonresidential tax base, with commercial and industrial properties making up more than 40 percent of the total.

Table 47: Portsmouth's Property Tax Base, FY 2003

Classification	Assessed Value	% of Total
Residential	$1,578,574,150	56.2%
Commercial	$919,809,600	32.8%
Industrial	$269,567,095	9.6%
Vacant & Agriculture	$38,877,860	1.4%
Total	$2,806,828,705	100.0%

Source: City of Portsmouth Assessing database

Portsmouth's strong economic growth in the 1980s and 1990s has resulted in a very high relative equalized property valuation per capita, ranking 35th among the state's 229 cities and towns (see Figure 24). Theoretically, this means that Portsmouth should have significantly more fiscal capacity to provide municipal services than other urban communities in the state. However, as city officials and residents are well aware, this apparent advantage does not automatically translate into strong fiscal returns. Several factors contribute to this situation:

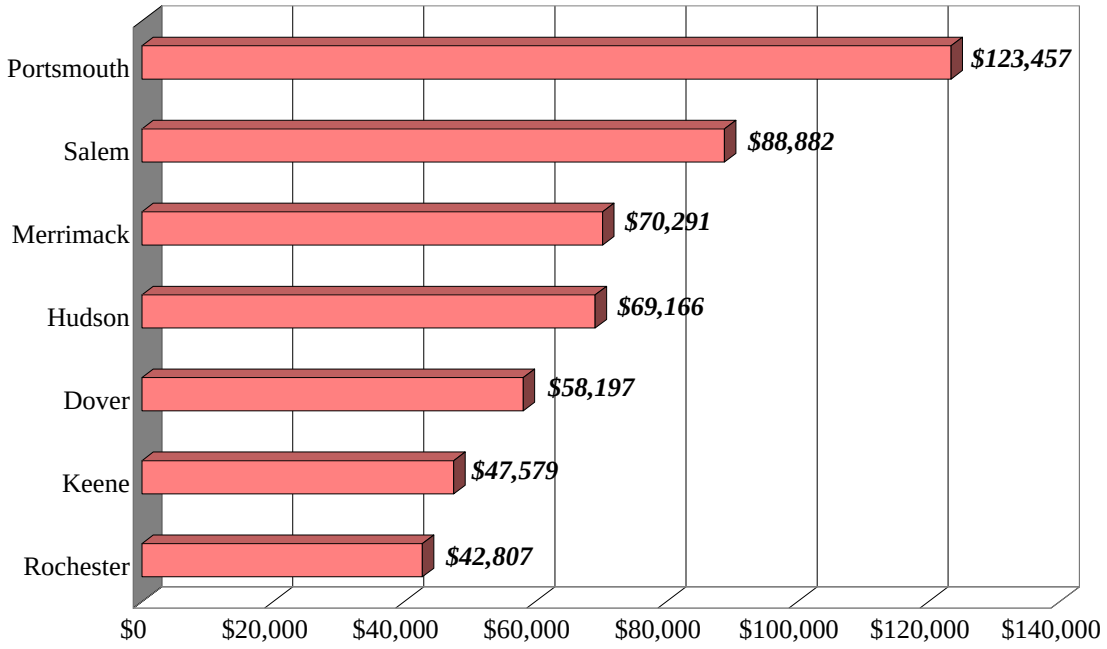
- First, although nonresidential development does not directly create demand for education and social services, it increases municipal service costs in other areas such as street maintenance and public safety.

- Second, the current school funding system redistributes resources from communities with higher equalized valuations per capita to those with lower equalized valuations, regardless of the socioeconomic characteristics of residents.[22]

- Finally, a substantial portion of the property tax valuation at Pease International Tradeport is exempted from school taxes under the Municipal Services Agreement between the City of Portsmouth, the town of Newington, and the Pease Development Authority.

[22] According to the City's Coalition Communities website, "84 percent of New Hampshire communities with median household income above the state average are designated as 'Receiver' towns under the current education funding system" (http://www.cityofportsmouth.com/coalition/facts-median.html, April 2003).

Figure 24: Equalized Valuation Per Capita in New Hampshire Communities of Similar Population Size, 2000



Source: New Hampshire Office of State Planning Equalized Value includes railroads and utilities

Major Property Owners

Table 48 lists the 50 property owners with the largest total taxable (nonexempt) nonresidential property valuations in the City of Portsmouth in 2002. The valuations in this table are broken down by the classifications in the City Assessing Department database, and may represent multiple parcels for an individual property owner.

Collectively, these 50 property owners represent 23 percent of the city's total nonexempt valuation and 62 percent of the total commercial valuation. The top 15 property owners in this group represent 13 percent of total nonexempt valuation and 21 percent of total commercial valuation.

The 2002 data shows some significant changes from the 1989 and 1990 data reported in the City's 1993 Master Plan. As the city's tax base has expanded during the past decade, the relative importance of the largest property owners has diminished, representing a healthy diversification of the tax base. In 1990, the top 15 taxpayers comprised 24.3 percent of the city's taxable valuation, compared to only 12.8 percent in 2002. Within this overall trend, the relative importance of individual taxpayers has changed significantly: for example, Public Service Co. of New Hampshire, the city's largest taxpayer, represented 3.8 percent of total valuation in 2002, down from 9.1 percent in 1990; and Liberty Mutual's share of the city's total valuation decreased from 2.7 percent in 1990 to 0.9% in 2002. However, HCA Health Services (Portsmouth Regional Hospital) maintained its 1.6 percent share of total valuation.

Table 48: Largest Nonresidential Property Valuations in Portsmouth, 2002

Non-Exempt Rank	Owner	Commercial	Pease - Airport	Pease - NonAirport	Utility	Total Non-Exempt Valuation	% of City's Total Nonexempt Valuation
1	Public Service Co of NH				$107,608,210	$107,608,210	3.8%
2	HCA Health Services of NH Inc	$43,872,500				$43,872,500	1.6%
3	Liberty Mutual Insurance	$25,657,500				$25,657,500	0.9%
4	US Property Investment Fund	$21,237,300				$21,237,300	0.8%
5	Inishmaan Assoc Ltd Ptnshp	$21,138,600				$21,138,600	0.8%
6	Harborside Assoc	$18,832,000				$18,832,000	0.7%
7	Durgin Sq\ DSP\Endicott	$17,198,000				$17,198,000	0.6%
8	EDF Portsmouth LLC	$16,083,600				$16,083,600	0.6%
9	Lonza Biologics		$14,500,200			$14,500,200	0.5%
10	Flatley Thomas J	$12,373,600				$12,373,600	0.4%
11	Northern Utilities				$12,032,285	$12,032,285	0.4%
12	Forum Development LLC	$12,000,900				$12,000,900	0.4%
13	Griffin Family Corp	$11,966,800				$11,966,800	0.4%
14	Acre CLS LLC		$11,870,500			$11,870,500	0.4%
15	One Hundred Market Group LLC	$11,806,900				$11,806,900	0.4%
16	Demoulas Super Markets Inc	$11,187,300				$11,187,300	0.4%
17	Festival Fun Parks LLC	$11,130,900				$11,130,900	0.4%
18	Nine Seven Six Realty Trust	$10,581,400				$10,581,400	0.4%
19	Maritimes Northeast Pipeline		$9,737,100		$821,000	$10,558,100	0.4%
20	Parker and Plummer Inc			$10,131,200		$10,131,200	0.4%
21	Lafayette Plaza LLC	$9,530,600				$9,530,600	0.3%
22	Kanerd Development LLC			$9,489,700		$9,489,700	0.3%
23	Macleod Enterprises Inc	$9,349,400				$9,349,400	0.3%
24	C H Sprague	$9,255,100				$9,255,100	0.3%
25	Patriots Park Assn	$9,042,400				$9,042,400	0.3%

Non-Exempt Rank	Owner	Commercial	Pease - Airport	Pease - NonAirport	Utility	Total Non-Exempt Valuation	% of City's Total Nonexempt Valuation
26	Bailey Frederick J III	$9,027,400				$9,027,400	0.3%
27	US Department of State		$8,989,600			$8,989,600	0.3%
28	Muirfields LLC	$8,973,100				$8,973,100	0.3%
29	One New Hampshire Ave LLC		$8,857,200			$8,857,200	0.3%
30	325 Corporate Drive II LLC			$8,834,200		$8,834,200	0.3%
31	Home Depot USA Inc	$8,774,400				$8,774,400	0.3%
32	Wal-Mart Real Est Business Tr	$8,746,200				$8,746,200	0.3%
33	National Gypsum Co	$8,742,600				$8,742,600	0.3%
34	Two International Group		$8,080,800			$8,080,800	0.3%
35	Heritage Storage Center Inc	$7,846,600				$7,846,600	0.3%
36	Natick Portsmouth Realty Corp	$7,546,500				$7,546,500	0.3%
37	Kuzzins Bowden Hospitality II LLC	$7,264,500				$7,264,500	0.3%
38	Red Hook Brewery Inc			$7,159,600		$7,159,600	0.3%
39	273 Corporate Drive LLC			$7,081,800		$7,081,800	0.3%
40	Parade Office LLC	$6,999,000				$6,999,000	0.2%
41	C H P Limited Liability Co	$6,794,500				$6,794,500	0.2%
42	Lafayette Limited Ptnshp	$6,735,700				$6,735,700	0.2%
43	Ocean Properties Ltd			$6,728,600		$6,728,600	0.2%
44	High Liner Foods Inc	$6,434,400				$6,434,400	0.2%
45	119 International Drive LLC			$6,086,100		$6,086,100	0.2%
46	Millroc Portsmouth NH LLC	$5,932,300				$5,932,300	0.2%
47	RPL Properties LLC	$5,824,700				$5,824,700	0.2%
48	Labrie JA	$5,821,300				$5,821,300	0.2%
49	Aries Pease One LLC		$5,708,800			$5,708,800	0.2%
50	Coventry Assets Ltd	$5,137,200				$5,137,200	0.2%

Source: City Assessors database

Exempt Properties

Table 49 summarizes the properties listed in the City Assessors database in the various "exempt" classifications. As the table indicates, these parcels include several classifications that are administrative in nature in addition to nontaxable properties; therefore, the "Subtotal" row presents a better estimate of total nontaxable parcels than does the "Total" row. In addition, it is evident that the figures in the "Floor Area" column are incomplete, showing, for example, no floor area for colleges and schools and very little floor area for houses of worship.

The total valuation assigned to the exempt land uses is $287.3 million, representing about 9.7 percent of the city's total property valuation (down from 15.9 percent in 1990, as reported in the 1993 Master Plan). The exempt valuation is approximately the same as the total industrial valuation in the city ($269.6 million), and is about one-third of the city's commercial valuation.

Establishments, Employment and Sales by Industrial Sector

Table 50 presents estimated 2002 employment and sales by industrial sector for Portsmouth establishments. Retail trade is by far the largest sector in Portsmouth's economy, with 20 percent of all local businesses, 27 percent of total employment, and 34 percent of total business receipts. It is followed in importance by health services and manufacturing, which each represent about 10 percent of total local employment, as well as finance, insurance and real estate, with 12 percent of total sales.

Table 51 compares the employment and sales data for Portsmouth to the surrounding metropolitan statistical area, and Table 52 presents a "location quotient" analysis to indicate the relative concentration of each sector in the local economy, compared to the metropolitan area and the state. A location quotient measures the relative concentration of employment in an industry in one area (in this case, the city of Portsmouth) compared to that industry's share of employment in a wider region (in this case, the Primary Metropolitan Statistical Area [PMSA] and the state). A location quotient greater than 1.0 indicates that the industry has a higher share of employment in the study area than in the wider region generally, and may indicate that the region has a particular strength or specialization in that industry. Conversely, a location quotient less than 1.0 indicates that the industry provides fewer jobs in the study area than in the wider region.

Table 49: Summary of "Exempt" Properties in City Assessors Database

Land Use Classification	Land Use Code	Parcels	Area (Acres)	Dwelling Units	Floor Area	Land Value	Building Value	Total Value
United States Properties	900	9	41.24	1	219,867	$2,017,600	$17,979,600	$19,997,200
State	901	8	29.95	0	29,098	$3,828,300	$3,630,000	$7,458,300
Municipalities	903	51	609.69	0	245,334	$28,108,200	$38,515,200	$66,623,400
Colleges, Schools	904	7	104.52	1	-	$14,005,300	$39,855,000	$53,860,300
Charitable Organizations	905	43	135.58	13	197,716	$15,452,200	$28,193,700	$43,645,900
Churches, Synagogues, Temples	906	33	79.90	12	12,596	$7,768,200	$34,490,200	$42,258,400
Housing Authority	908	14	39.63	32	282,367	$7,158,900	$11,227,500	$18,386,400
Exempt Parking Lots	909	22	188.43	0	3,078	$8,935,500	$4,282,400	$13,217,900
Nonprofits	910	16	13.08	216	286,639	$3,204,300	$16,650,500	$19,854,800
Exempt Railroad	932	2	3.37	0	-	$470,100	$0	$470,100
Exempt Utilities	995	3	5.75	1	-	$513,200	$27,500	$540,700
Exempt Pease Devel. Auth.	996	6	0.00	0	33,936	$0	$1,011,900	$1,011,900
Subtotal		214	1251.14	276	1,310,631	$91,461,800	$195,863,500	$287,325,300
Condominium Master Cards	998	136	1,519.45	20	-	$6,412,700	$1,266,100	$7,678,800
To be reprocessed	930	114	547.51	0	-	$15,386,100	$889,300	$16,275,400
New lots for next tax year	997	1	0.00	1	1,232	$0	$92,500	$92,500
Deleted parcels	999	24	2.29	15	-	$344,900	$1,157,000	$1,501,900
Total		489	3,320.37	312	1,311,863	$113,605,500	$199,268,400	$312,873,900

Source: City Assessors database

Table 50: Estimated Total Employment, Number of Establishments and Sales by Industrial Sector, 2002

ESTIMATED TOTAL EMPLOYMENT FOR 2002, NUMBER OF ESTABLISHMENTS AND SALES BY INDUSTRIAL SECTOR
PORTSMOUTH, NEW HAMPSHIRE

INDUSTRIAL SECTOR	EMPLOYEES	NUMBER OF ESTABLISHMENTS	SALES IN MILLIONS OF DOLLARS	% OF EMPLOYEES	% OF ESTABLISHMENTS	% OF SALES
Agriculture & Mining	155	32	$3	0.5%	1.1%	0.1%
Construction	964	142	$166	2.8%	4.8%	4.5%
Manufacturing	3,295	137	$256	9.7%	4.6%	6.9%
Transportation, Communications, Utilities	2,306	99	$216	6.8%	3.3%	5.8%
Wholesale Trade	1,085	109	$188	3.2%	3.7%	5.1%
Retail Trade	9,172	612	$1,249	26.9%	20.5%	33.8%
Finance, Insurance, Real Estate	2,301	248	$442	6.8%	8.3%	12.0%
Business Services	2,279	212	$290	6.7%	7.1%	7.8%
Health Services	3,578	294	$238	10.5%	9.9%	6.4%
Educational Services	892	42	$92	2.6%	1.4%	2.5%
Social Services	920	95	$65	2.7%	3.2%	1.8%
Engineering & Management Services	1,074	154	$149	3.2%	5.2%	4.0%
All Other Services	2,990	462	$206	8.8%	15.5%	5.6%
Public Administration	1,352	91	N.A.	4.0%	3.1%	N.A.
Unclassified	2,027	258	N.A.	6.0%	8.7%	N.A.
ALL SECTORS	34,039	2,982	$3,695	100.0%	100%	100.0%

Source: Estimates for 2002 by Claritas, Inc.

Table 51: Estimated Employment and Sales by Industrial Sector, 2002

ESTIMATED 2002 EMPLOYMENT AND SALES BY INDUSTRIAL SECTOR

	PORTSMOUTH			PMSA (ME and NH)			CITY AS % OF PMSA		
INDUSTRIAL SECTOR	EMPLOYEES	NUMBER OF ESTABLISH-MENTS	SALES IN MILLIONS OF DOLLARS	EMPLOYEES	NUMBER OF ESTABLISH-MENTS	SALES IN MILLIONS OF DOLLARS	EMPLOYEES	NUMBER OF ESTABLISH-MENTS	SALES IN MILLIONS OF DOLLARS
Agriculture & Mining	155	32	3	1,658	310	$79	9%	10%	4%
Construction	964	142	166	6,717	1,204	$1,273	14%	12%	13%
Manufacturing	3,295	137	256	17,749	707	$1,371	19%	19%	19%
Transportation, Communications, Utilities	2,306	99	216	7,231	462	$700	32%	21%	31%
Wholesale Trade	1,085	109	188	5,940	626	$1,094	18%	17%	17%
Retail Trade	9,172	612	1,249	37,091	3,031	$4,643	25%	20%	27%
Finance, Insurance, Real Estate	2,301	248	442	8,201	970	$1,647	28%	26%	27%
Business Services	2,279	212	290	8,895	790	$1,306	26%	27%	22%
Health Services	3,578	294	238	14,108	1,278	$1,029	25%	23%	23%
Educational Services	892	42	92	12,031	290	$1,136	7%	14%	8%
Social Services	920	95	65	4,140	419	$276	22%	23%	24%
Engineering & Management Services	1,074	154	149	3,607	585	$507	30%	26%	29%
All Other Services	2,990	462	206	18,260	2,469	$1,539	16%	19%	13%
Public Administration	1,352	91	N.A.	7,655	599	N.A.	18%	15%	N.A.
Unclassified	2,027	258	N.A.	9,861	980	N.A.	21%	26%	N.A.
ALL SECTORS	34,039	2,982	3,695	163,144	14,720	$16,600	21%	20%	22%

Source: Based on estimates generated by Claritas, Inc.

Table 52: Relative Concentration of Businesses by Number of Employees, 2002 Estimate

RELATIVE CONCENTRATION OF BUSINESSES BY NUMBER OF EMPLOYEES - 2002 ESTIMATE

	EMPLOYMENT BY SECTOR			LOCATION QUOTIENT FOR EMPLOYMENT		
INDUSTRIAL SECTOR	% OF CITY	% OF PMSA	% OF STATE	LQ CITY TO PMSA	LQ CITY TO STATE	LQ PMSA TO STATE
Agriculture & Mining	0.5%	1.0%	1.0%	0.45	0.45	1.00
Construction	2.8%	4.1%	4.9%	0.69	0.58	0.84
Manufacturing	9.7%	10.9%	13.3%	0.89	0.73	0.82
Transportation, Communications, Utilities	6.8%	4.4%	3.9%	**1.53**	**1.72**	**1.12**
Wholesale Trade	3.2%	3.6%	4.5%	0.88	0.71	0.81
Retail Trade	26.9%	22.7%	21.0%	**1.19**	**1.28**	**1.08**
Finance, Insurance, Real Estate	6.8%	5.0%	5.4%	**1.34**	**1.25**	0.93
Business Services	6.7%	5.5%	4.2%	**1.23**	**1.61**	**1.31**
Health Services	10.5%	8.6%	8.1%	**1.22**	**1.30**	**1.07**
Educational Services	2.6%	7.4%	7.8%	0.36	0.34	0.95
Social Services	2.7%	2.5%	3.1%	1.07	0.87	0.81
Engineering & Management Services	3.2%	2.2%	2.0%	**1.43**	**1.56**	**1.09**
All Other Services	8.8%	11.2%	10.2%	0.78	0.86	**1.10**
Public Administration	4.0%	4.7%	6.7%	0.85	0.60	0.71
Unclassified	6.0%	6.0%	3.8%	0.99	**1.55**	**1.57**

Source: Computed using estimates of employment generated by Claritas, Inc.

As shown in Table 52, Portsmouth has a high concentration of employment relative to the PMSA and state in the following sectors:

- Transportation, Communications, & Utilities
- Retail Trade
- Business Services
- Health Services
- Engineering and Management Services

In contrast, Portsmouth has a lower concentration of employment in construction, manufacturing, wholesale trade, educational services, and public administration

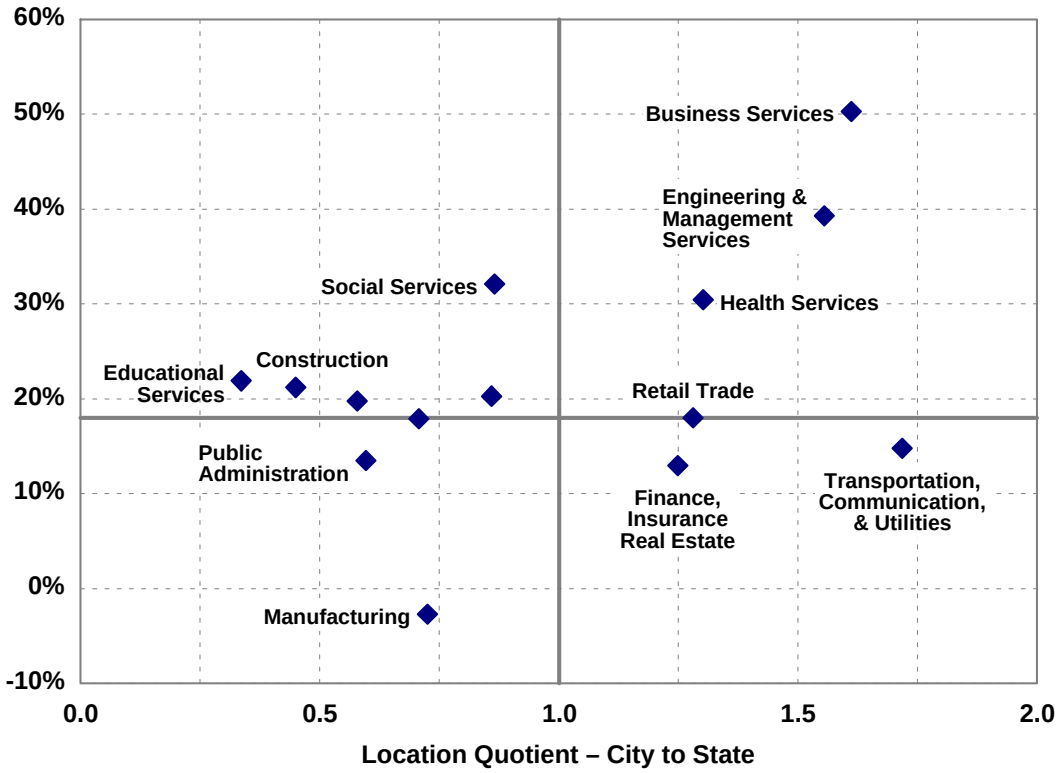
This analysis of business concentrations is important when considered in combination with employment forecasts by industry: a high concentration of jobs in a growing industry results in a more positive economic outlook than if local employment is highly concentrated in a declining industry. In February 2003 the New Hampshire Economic and Labor Market Information Bureau issued employment projections by industry and occupation for the year 2010.[23] The report projects that total wage and salary employment in the state will increase by 18.1 percent between 2000 and 2010, and forecasts continued strong growth in several sectors in which Portsmouth has a concentration of jobs (see Table 53 and Figure 25).

Table 53: Portsmouth Employment Concentrations and New Hampshire Employment Growth Forecasts by Industrial Sector

Industrial Sector	Location Quotient– City To State	New Hampshire Growth Forecast
Transportation, Communications, Utilities	1.72	14.8%
Business Services	1.61	50.3%
Engineering & Management Services	1.56	39.3%
Health Services	1.30	30.4%
Retail Trade	1.28	18.0%
Finance, Insurance, Real Estate	1.25	13.0%
Social Services	0.87	32.1%
All Other Services	0.86	20.3%
Manufacturing	0.73	-2.7%
Wholesale Trade	0.71	17.9%
Public Administration	0.60	13.5%
Construction	0.58	19.8%
Agriculture & Mining	0.45	21.2%
Educational Services	0.34	21.9%

[23] *New Hampshire Employment Projections by Industry and Occupation, Base Year 2000 to Projected Year 2010*, New Hampshire Employment Security, Economic and Labor Market Information Bureau, February 2003.

Figure 25: Portsmouth Employment Concentrations and New Hampshire Employment Growth Forecasts by Industrial Sector



Average Wages by Sector

Table 54 and Figure 26 present average wages by industrial sector for Portsmouth, Rockingham County, and New Hampshire. Overall average wages in Portsmouth businesses are 4 percent higher than for the county and 7 percent higher than for the state, and wages are higher in most sectors. However, the manufacturing and construction sectors pay lower average wages in Portsmouth than in the county or state.

Table 54: Average Weekly Wage in Covered Employment, 2000

Industrial Sector	Portsmouth	Rockingham County	New Hampshire
Agriculture, Forestry, Fishing	$413	$386	$441
Retail Trade	$416	$366	$371
Construction	$675	$769	$736
Services	$676	$662	$640
Government	$685	$599	$600
Manufacturing	$748	$1,080	$893
Transportation, Communications & Utilities	$885	$861	$786
Finance, Insurance, Real Estate	$1,048	$955	$957
Wholesale Trade	$1,137	$1,032	$1,044
Average All Industries	$717	$689	$668

Source: NH Employment Security, 2000 County Profile

Figure 26: Average Weekly Wage in Covered Employment, 2000

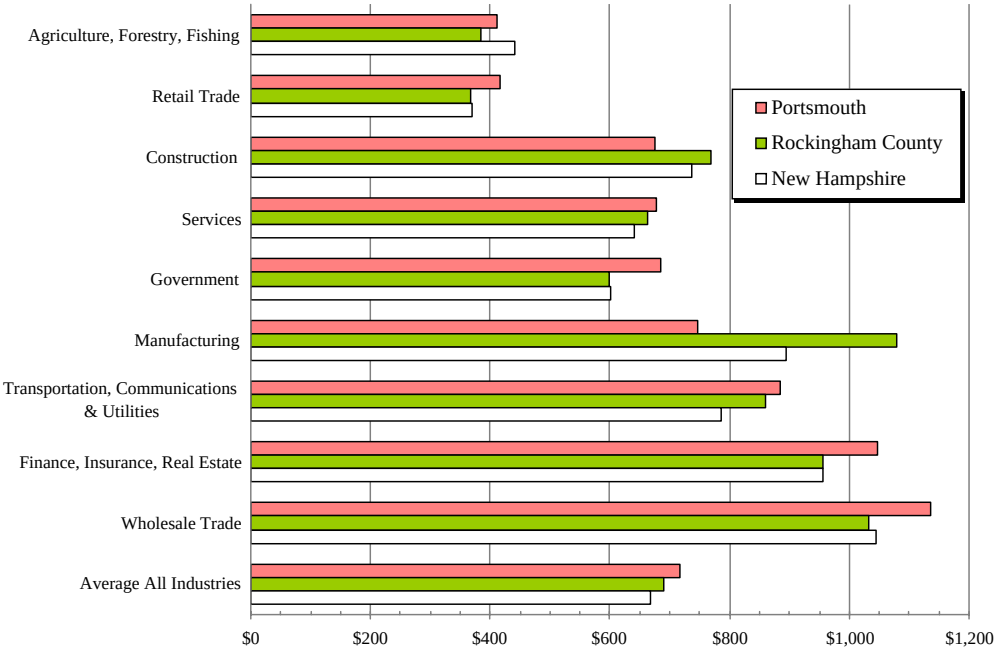


Table 55 and Table 56 present a more detailed look at wages in specific industries for Portsmouth, Concord, Manchester and Nashua, using data from the 1997 Economic Census. These data show that Portsmouth does very well in comparison to the state and other urban centers in several industries: education services; accommodation and food services; wholesale trade; administrative and support; and real estate, rental and leasing services.

Conversely, wages in Portsmouth lag behind the state's other major urban areas in the health care and social assistance sector, and in "other services (except public administration)." Portsmouth wage levels are lower than the state average, but comparable to the other urban centers, for manufacturing jobs.

Table 55: Average Payroll Per Employee, 1997

NAICS Industry Code	Industry Description	New Hampshire	Concord	Manchester	Nashua	Portsmouth
NAICS INDUSTRIES						
31-33	Manufacturing	$ 33,977	$ 29,722	$ 32,360	$ 46,690	$ 30,882
42	Wholesale trade	$ 38,665	$ 33,980	$ 36,104	$ 50,462	$ 45,961
44-45	Retail trade	$ 16,894	$ 16,545	$ 18,502	$ 16,771	$ 17,705
53	Real estate & rental & leasing	$ 22,760	n.a.	$ 23,346	$ 25,872	$ 25,157
54	Professional, scientific, & technical services	$ 39,035	$ 45,313	$ 43,806	$ 48,757	$ 39,870
56	Administrative & support & waste management & remediation serv	$ 21,405	$ 21,931	$ 19,139	$ 23,293	$ 23,802
61	Educational services	$ 20,477	$ 22,018	$ 16,238	$ 12,813	$ 36,140
62	Health care & social assistance	$ 28,949	$ 39,399	$ 34,281	$ 31,821	$ 26,545
71	Arts, entertainment, & recreation	$ 15,222	n.a.	$ 11,716	$ 27,214	$ 15,921
72	Accommodation & foodservices	$ 10,234	$ 9,538	$ 9,323	$ 10,672	$ 11,910
81	Other services (except public administration)	$ 20,795	$ 21,888	$ 23,856	$ 24,086	$ 20,646
MERCHANT WHOLESALERS						
42	Wholesale trade	$ 36,870	$ 33,046	$ 34,636	$ 44,446	$ 43,489
MANUFACTURERS' SALES BRANCHES AND SALES OFFICES						
42	Wholesale trade	$ 44,988	n.a.	$ 45,939	$ 60,228	n.a.
AGENTS, BROKERS, AND COMMISSION MERCHANTS						
42	Wholesale trade	$ 47,302	n.a.	$ 41,154	$ 59,038	n.a.

Source: U.S. Bureau of the Census, 1997 Economic Census

Table 56: Average Payroll as Percentage of New Hampshire Average, by Industry, 1997

NAICS Industry Code	Industry Description	Concord	Manchester	Nashua	Portsmouth
NAICS INDUSTRIES					
31-33	Manufacturing	87%	95%	137%	91%
42	Wholesale trade	88%	93%	131%	119%
44-45	Retail trade	98%	110%	99%	105%
53	Real estate & rental & leasing	n.a.	103%	114%	111%
54	Professional, scientific, & technical services	116%	112%	125%	102%
56	Administrative & support & waste management & remediation serv	102%	89%	109%	111%
61	Educational services	108%	79%	63%	176%
62	Health care & social assistance	136%	118%	110%	92%
71	Arts, entertainment, & recreation	n.a.	77%	179%	105%
72	Accommodation & foodservices	93%	91%	104%	116%
81	Other services (except public administration)	105%	115%	116%	99%
MERCHANT WHOLESALERS					
42	Wholesale trade	90%	94%	121%	118%
MANUFACTURERS' SALES BRANCHES AND SALES OFFICES					
42	Wholesale trade	n.a.	102%	134%	n.a.
AGENTS, BROKERS, AND COMMISSION MERCHANTS					
42	Wholesale trade	n.a.	87%	125%	n.a.

Source: U.S. Bureau of the Census, 1997 Economic Census

Major Employers in Portsmouth

Table 57 lists the businesses in Portsmouth with the largest number of employees in July 2002. These ten businesses account for at least 15 percent of total employment in the city.

Table 57: Portsmouth's Largest Employers in 2002

Employer	Product/Service	Employees
Liberty Mutual Insurance	Insurance	1,800
Columbia HCA Hospital	Health Care	1,000
Lonza Biologics	Biotechnology	555
Erie Scientific/Sybron Lab Products	Laboratory Equipment	350
Pan Am Airlines/Boston-Maine Airways		350
Home Depot	Home Products	265
Aprisma		245
Flextronics		232
Highlander Foods USA	Seafood Products	218
Bottomline Technology	Electronic Payments	200

Source: NH Employment Security, community profile updated 7/17/02

Census Tract Profiles

In order to focus the analysis of economic activity geographically, data on existing businesses (as of 2002) were collected and analyzed by U.S. Census Tract. The information was compiled by ESRI Business Information Systems (www.esribis.com), using data provided by InfoUSA. The following section presents the data and discusses the major characteristics of each Census Tract area. Table 58 summarizes the land area, number of businesses and total employees for each Census Tract; and Map 5 shows the Census Tract boundaries in relation to the planning areas described in the Land Use chapter.

Table 58: Summary of Businesses and Employees by Census Tract

Census Tract	General Description	Land Area (square miles)	Total Establish-ments	Establish-ments per Square Mile	Total Employees	Employees per Square Mile
691	Central Business District	0.66	703	1,062	5,458	8,243
692	Islington St. / State St.	0.39	365	934	2,106	5,390
693	No. Mill Pond / Riverfront	0.86	187	217	1,383	1,601
694	Woodbury / Outer Market	1.32	157	119	2,582	1,956
695	Pease / Borthwick	5.38	485	90	5,914	1,100
696	Lafayette Road	5.64	506	90	4,872	864
697	Sagamore Ave	1.36	151	111	1,270	934
	City of Portsmouth	15.61	2,554	164	23,585	1,511

Planning Areas & Census Tracts
Map # 5

- Census Tract
- Downtown Core
- Islington Street
- Sagamore Avenue
- Middle/South Sts
- Route 1 Corridor
- I-95 Corridor
- North Mill Pond
- Woodbury/Maplewood
- Upper Waterfront
- Pease

Census Tract 691: The Central Business District

Census Tract 691 encompasses the downtown core, the working waterfront along Market Street, the Northern Tier, and North Mill Pond, as well as the primarily residential areas between Middle Street and South Street. The tract contains 4.2 percent of the city's land area (0.66 square mile) and 18.6 percent of its population (3,876 persons).

This census tract represents the historic core of Portsmouth, and has the highest density of businesses (1,062 per square mile) and employees (8,243 per square mile) in the city. Although Tract 695, which includes Pease, has slightly more employees, the downtown area contains the largest number of individual businesses. This density of businesses and employees (as well as residents) provides the "critical mass" that is important to the vitality of the downtown, but is also an indicator of the need for intensive infrastructure and service support, particularly in relation to transportation and parking.

Table 59: Existing Business Profile – Census Tract 691

Sector	Total Establishments in Sector	% of All Establishments in Tract	% of City Establishments in Sector	Total Employees in Sector	% of All Employees in Tract	% of City Employees in Sector
Agriculture & Mining	5	0.7%	18.5%	11	0.2%	13.8%
Construction	22	3.1%	14.8%	41	0.8%	8.7%
Manufacturing	14	2.0%	14.6%	91	1.7%	3.6%
Transportation	16	2.3%	22.9%	136	2.5%	8.9%
Communication	1	0.1%	4.8%	6	0.1%	3.2%
Electric, Gas, Water, Sanitary Services	2	0.3%	18.2%	11	0.2%	8.9%
Wholesale Trade	14	2.0%	11.7%	33	0.6%	3.4%
Retail Trade	229	32.6%	37.1%	2,179	39.9%	27.4%
Finance, Insurance, Real Estate	54	7.7%	29.5%	441	8.1%	39.9%
Services	253	36.0%	27.3%	2,047	37.5%	27.0%
Government	24	3.4%	**34.3%**	357	6.5%	**51.1%**
Other	69	9.8%	26.4%	105	1.9%	27.3%
Totals	703	100.0%	27.5%	5,458	100.0%	23.1%

Economic activity in the downtown area is concentrated in retail trade, services, and finance, insurance and real estate. Reflecting its role as a local and regional retail and service center, these two sectors comprise the great majority of businesses in the central core (69 percent of establishments, 77 percent of employment). Over one-third of Portsmouth's retail stores and over one-quarter of its service businesses are locate in this tract. In addition, this Census Tract contains more than half of the government employment in the city (it includes the municipal complex on Junkins Avenue as well as the Federal Building on Daniels Street). In contrast, this is not a significant area of the city for construction, manufacturing, transportation, communications, utilities, or wholesale trade.

Census Tract 692: Islington Street and State Street

Census Tract 692 extends down Islington and State Streets from the edge of the downtown area at Maplewood Avenue to the Route 1 Bypass, and extends southeast to Middle Road and Middle Street. This is the smallest of the census tracts in Portsmouth, and ranks behind only the downtown area in terms of density of businesses and employment.

However, the distribution of businesses by sector in this tract is markedly different from the downtown area. Although retail trade and services comprise about 30 percent of all establishments and about 25 percent of employment, this area is also relatively important for construction, communications, and wholesale trade, reflecting the mix of commercial, industrial and storage uses, particularly in the Business zoning district.

Table 60: Existing Business Profile – Census Tract 692

Sector	Total Establishments in Sector	% of All Establishments in Tract	% of City Establishments in Sector	Total Employees in Sector	% of All Employees in Tract	% of City Employees in Sector
Agriculture & Mining	8	2.2%	29.6%	24	1.1%	30.0%
Construction	21	5.8%	14.1%	65	3.1%	13.8%
Manufacturing	16	4.4%	16.7%	125	5.9%	5.0%
Transportation	10	2.7%	14.3%	105	5.0%	6.9%
Communication	5	1.4%	23.8%	25	1.2%	13.4%
Electric, Gas, Water, Sanitary Services	-	0.0%	0.0%	-	0.0%	0.0%
Wholesale Trade	12	3.3%	10.0%	88	4.2%	9.0%
Retail Trade	79	21.6%	12.8%	672	31.9%	8.5%
Finance, Insurance, Real Estate	22	6.0%	12.0%	80	3.8%	7.2%
Services	157	43.0%	16.9%	909	43.2%	12.0%
Government	1	0.3%	1.4%	-	0.0%	0.0%
Other	34	9.3%	13.0%	13	0.6%	3.4%
Totals	365	100.0%	14.3%	2,106	100.0%	8.9%

Census Tract 693: North Mill Pond and the Upper Piscataqua Riverfront

Census Tract 693 stretches from North Mill Pond and the railroad line on the southeast, north across Market Street to Atlantic Heights and the PSNH power plant at the Newington town line. It thus includes areas that are primarily residential as well as distinct commercial and industrial areas.

The primary business sectors in this tract are wholesale and retail trade, services, and manufacturing. This area represents nearly 20 percent of the city's wholesale trade employment.

Table 61: Existing Business Profile – Census Tract 693

Sector	Total Establishments in Sector	% of All Establishments in Tract	% of City Establishments in Sector	Total Employees in Sector	% of All Employees in Tract	% of City Employees in Sector
Agriculture & Mining	4	2.1%	14.8%	16	1.2%	20.0%
Construction	21	11.2%	14.1%	47	3.4%	10.0%
Manufacturing	6	3.2%	6.3%	162	11.7%	6.5%
Transportation	1	0.5%	1.4%	-	0.0%	0.0%
Communication	-	0.0%	0.0%	-	0.0%	0.0%
Electric, Gas, Water, Sanitary Services	1	0.5%	9.1%	-	0.0%	0.0%
Wholesale Trade	17	9.1%	14.2%	184	13.3%	18.7%
Retail Trade	27	14.4%	4.4%	320	23.1%	4.0%
Finance, Insurance, Real Estate	20	10.7%	10.9%	79	5.7%	7.2%
Services	77	41.2%	8.3%	477	34.5%	6.3%
Government	3	1.6%	4.3%	50	3.6%	7.2%
Other	10	5.3%	3.8%	48	3.5%	12.5%
Totals	187	100.0%	7.3%	1,383	100.0%	5.9%

The data in this table do not reflect employment at the PSNH power plant, but it is important to note the city's largest taxpayer is located in this Census Tract.

Census Tract 694: Woodbury Avenue and Outer Market Street

Census Tract 694 is separated from most of the rest of the city by transportation routes, being bounded by the Spaulding Turnpike, Interstate 95, and the railroad tracks paralleling the riverfront. It is also defined by the major city streets that bisect the area—Woodbury Avenue, Maplewood Avenue, and outer Market Street.

Retail trade in this census tract represents more than half of its total employment, and constitutes 17 percent of the city's retail employment. Employment is also relatively concentrated in services and in finance, insurance and real estate. In contrast, construction, manufacturing, communications, and wholesale trade have minimal presence in this tract.

Table 62: Existing Business Profile – Census Tract 694

Sector	Total Establishments in Sector	% of All Establishments in Tract	% of City Establishments in Sector	Total Employees in Sector	% of All Employees in Tract	% of City Employees in Sector
Agriculture & Mining	1	0.6%	3.7%	18	0.7%	22.5%
Construction	6	3.8%	4.0%	9	0.3%	1.9%
Manufacturing	5	3.2%	5.2%	79	3.1%	3.1%
Transportation	2	1.3%	2.9%	5	0.2%	0.3%
Communication	2	1.3%	9.5%	3	0.1%	1.6%
Electric, Gas, Water, Sanitary Services	-	0.0%	0.0%	-	0.0%	0.0%
Wholesale Trade	6	3.8%	5.0%	12	0.5%	1.2%
Retail Trade	49	31.2%	7.9%	1,387	53.7%	17.5%
Finance, Insurance, Real Estate	15	9.6%	8.2%	161	6.2%	14.6%
Services	53	33.8%	5.7%	833	32.3%	11.0%
Government	6	3.8%	8.6%	72	2.8%	10.3%
Other	12	7.6%	4.6%	3	0.1%	0.8%
Totals	157	100.0%	6.1%	2,582	100.0%	10.9%

Census Tract 695: Pease International Tradeport and Borthwick Avenue

Census Tract 695 includes both Pease International Tradeport on the northwest side of Interstate 95, and the Borthwick Avenue and Greenland Road areas on the southeast side of the highway, extending south to the second railroad line. This area is the second largest census tract in the city (behind the Lafayette Road tract to the south), and provides the largest number of jobs of all the city's census tracts. Employment density (employees per square mile) is lower than average for the city, because this census tract also encompasses several areas with little or no economic activity, including the Great Bog, two highway interchanges, and the Pease airport runway and golf course.

Manufacturing is an important sector in this Census Tract: although the number of manufacturing firms is about average for the city, they are larger than in other areas of the city, with the result that this area is responsible for more than half of Portsmouth's manufacturing jobs. This census tract also has relatively high concentrations of establishments and employees in the transportation, communication, and utilities sectors. Finally, the Portsmouth Regional Hospital is a major employer in the Services sector.

Table 63: Existing Business Profile – Census Tract 695

Sector	Total Establishments in Sector	% of All Establishments in Tract	% of City Establishments in Sector	Total Employees in Sector	% of All Employees in Tract	% of City Employees in Sector
Agriculture & Mining	6	1.2%	22.2%	2	0.0%	2.5%
Construction	38	7.8%	25.5%	86	1.5%	18.3%
Manufacturing	21	4.3%	21.9%	1,416	**23.9%**	**56.5%**
Transportation	19	3.9%	27.1%	842	14.2%	55.0%
Communication	5	1.0%	23.8%	73	1.2%	39.2%
Electric, Gas, Water, Sanitary Services	3	0.6%	27.3%	83	1.4%	67.5%
Wholesale Trade	28	5.8%	23.3%	259	4.4%	26.4%
Retail Trade	66	13.6%	10.7%	1,395	23.6%	17.6%
Finance, Insurance, Real Estate	29	6.0%	15.8%	124	2.1%	11.2%
Services	171	35.3%	18.4%	1,432	24.2%	18.9%
Government	23	4.7%	**32.9%**	115	1.9%	16.5%
Other	76	15.7%	29.1%	87	1.5%	22.6%
Totals	485	100.0%	19.0%	5,914	100.0%	25.1%

Further discussion of the role of Pease International Tradeport is presented beginning on page 110.

Census Tract 696: Lafayette Road

Census Tract 696 is the largest tract in the city, extending the length of Lafayette Road and including all of Peverly Hill Road, Elwyn Road, the City's industrial park (Heritage Avenue and Constitution Avenue), and most of Banfield Road. This tract encompasses many residential areas, and has the largest population of all the tracts in the city (6,065 residents, or about 27 percent of the city total).

While Lafayette Road is a significant commercial corridor, economic activity in this census tract is diverse. Sectors with concentrations of establishments and employment that are above average for the city include construction, manufacturing, transportation, utilities and wholesale trade. This pattern may reflect the relatively good accessibility provided by Lafayette Road and Ocean Road.

Table 64: Existing Business Profile – Census Tract 696

Sector	Total Establishments in Sector	% of All Establishments in Tract	% of City Establishments in Sector	Total Employees in Sector	% of All Employees in Tract	% of City Employees in Sector
Agriculture & Mining	3	0.6%	11.1%	9	0.2%	11.3%
Construction	31	6.1%	20.8%	198	4.1%	42.0%
Manufacturing	32	6.3%	**33.3%**	624	12.8%	24.9%
Transportation	17	3.4%	24.3%	389	8.0%	25.4%
Communication	-	0.0%	0.0%	-	0.0%	0.0%
Electric, Gas, Water, Sanitary Services	5	1.0%	**45.5%**	29	0.6%	23.6%
Wholesale Trade	35	6.9%	29.2%	392	8.0%	39.9%
Retail Trade	134	26.5%	21.7%	1,728	35.5%	21.8%
Finance, Insurance, Real Estate	32	6.3%	17.5%	203	4.2%	18.4%
Services	167	33.0%	18.0%	1,149	23.6%	15.2%
Government	5	1.0%	7.1%	26	0.5%	3.7%
Other	45	8.9%	17.2%	125	2.6%	32.5%
Totals	506	100.0%	19.8%	4,872	100.0%	20.7%

Census Tract 697: Sagamore Avenue and New Castle

Census Tract 697 includes the area east of Lafayette Road and South Street, and also encompasses the town of New Castle. It is the most residential of the tracts in the city, and has the lowest total employment of all tracts in Portsmouth.

The largest sector in this tract is services, constituting 57 percent of the employment in the tract and 10 percent of the city's service sector. Within this sector, the two largest components are health and education services. Retail employment is also significant, as the tract includes the Lafayette Plaza shopping center and adjoining businesses on the east side of Lafayette Road, north of Sagamore Creek.

Table 65: Existing Business Profile – Census Tract 697

Sector	Total Establishments in Sector	% of All Establishments in Tract	% of City Establishments in Sector	Total Employees in Sector	% of All Employees in Tract	% of City Employees in Sector
Agriculture & Mining	-	0.0%	0.0%	-	0.0%	0.0%
Construction	10	6.6%	6.7%	25	2.0%	5.3%
Manufacturing	2	1.3%	2.1%	11	0.9%	0.4%
Transportation	5	3.3%	7.1%	54	4.3%	3.5%
Communication	8	5.3%	**38.1%**	79	6.2%	42.5%
Electric, Gas, Water, Sanitary Services	-	0.0%	0.0%	-	0.0%	0.0%
Wholesale Trade	8	5.3%	6.7%	14	1.1%	1.4%
Retail Trade	34	22.5%	5.5%	263	20.7%	3.3%
Finance, Insurance, Real Estate	11	7.3%	6.0%	16	1.3%	1.4%
Services	50	33.1%	5.4%	726	**57.2%**	**9.6%**
Government	8	5.3%	11.4%	78	6.1%	11.2%
Other	15	9.9%	5.7%	4	0.3%	1.0%
Totals	151	100.0%	5.9%	1,270	100.0%	5.4%

Resident Labor Force, Employment and Unemployment

Recent trends in the labor force, employment and unemployment are shown in Table 66. The table also presents unemployment rates for the Portsmouth Labor Market Area (LMA)[24] and the state of New Hampshire for comparison with the local unemployment rates.

With the closing of Pease Air Force Base in 1991 the city lost nearly 20 percent of its labor force, and the local unemployment rate jumped from 4.7 to 7.9 percent. The unemployment rate started to decrease as workers continued to leave the area over the next several years, and then continued its decline as the local economy began to resurge beginning in 1997.

In the last five years the labor force has grown by more than 8 percent. While unemployment has begun to creep up in the last two years, Portsmouth unemployment rate remains well below the state average.

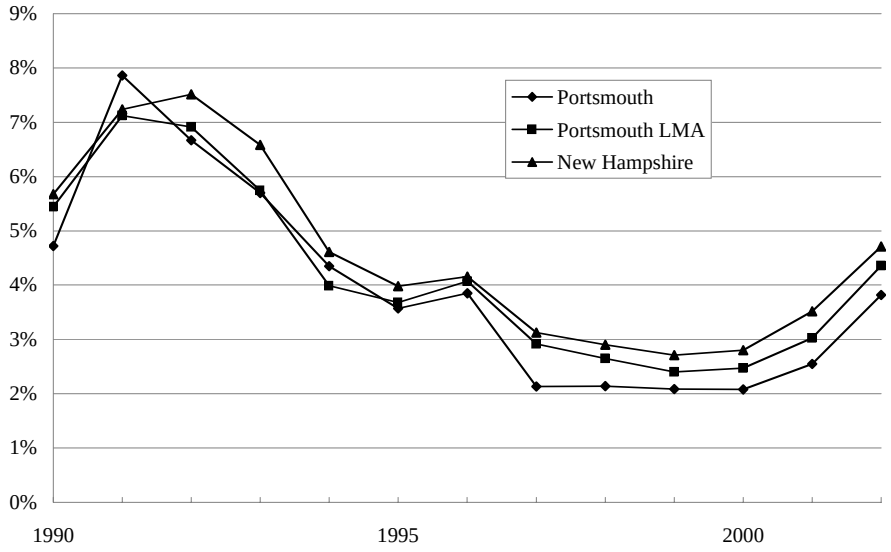
Table 66: Labor Force, Employment and Unemployment

Year	Civilian Labor Force	Total Employment	Total Unemployment	Unemployment Rate		
				Portsmouth	LMA	State
1990	13,252	12,627	625	4.7%	5.4%	5.7%
1991	10,771	9,924	847	7.9%	7.1%	7.2%
1992	10,135	9,459	676	6.7%	6.9%	7.5%
1993	10,114	9,538	576	5.7%	5.7%	6.6%
1994	9,816	9,389	427	4.4%	4.0%	4.6%
1995	10,028	9,670	358	3.6%	3.7%	4.0%
1996	9,724	9,350	374	3.8%	4.1%	4.2%
1997	12,409	12,144	265	2.1%	2.9%	3.1%
1998	12,283	12,020	263	2.1%	2.7%	2.9%
1999	12,391	12,132	259	2.1%	2.4%	2.7%
2000	12,851	12,584	267	2.1%	2.5%	2.8%
2001	13,158	12,823	335	2.5%	3.0%	3.5%
2002	13,437	12,924	513	3.8%	4.4%	4.7%

Source: New Hampshire Labor Market Information

[24] "A Labor Market Area is an economically integrated region within which workers may readily change jobs without changing place of residence" (New Hampshire Economic and Labor Market Information Bureau web site, http://www.nhes.state.nh.us/elmi). The Portsmouth-Rochester LMA is defined as the Portsmouth-Rochester Primary Metropolitan Statistical Area, and includes Barrington, Brentwood, Dover, Durham, East Kingston, Epping, Exeter, Farmington, Greenland, Hampton, Hampton Falls, Kensington, Lee, Madbury, Milton, New Castle, Newfields, Newington, Newmarket, North Hampton, Portsmouth, Rochester, Rollinsford, Rye, Somersworth, and Stratham, NH; and Berwick, Eliot, Kittery, South Berwick, and York, ME. However, the state of New Hampshire reports labor force, employment and unemployment statistics only for the New Hampshire portion of the LMA.

Figure 27: Unemployment Rates, 1990-2002



Employment of Portsmouth Residents by Industry and Occupation

Census data from 1990 and 2000 reveal important changes in both the types of industry and the types of occupations in which Portsmouth residents are employed. In terms of industries, there has been a major shift from employment in the manufacturing, wholesale and retail trade, and finance/ insurance/real estate sectors, and increases in employment in professional and other services.

Table 67: Portsmouth Employed Civilian Population By Industrial Sector (For Employed Persons Age 16+)

			Change 1990-2000	
Industrial Sector of Employment	1990	2000	Number	Percent
Agriculture, Forestry, Fisheries, Mining	78	76	-2	-2.6%
Construction	603	605	2	0.3%
Manufacturing	1,848	1,482	-366	-19.8%
Transportation, Comm., Warehousing, Utilities	795	805	10	1.3%
Wholesale Trade	407	335	-72	-17.7%
Retail Trade	2,792	1,803	-989	-35.4%
Finance, Insurance, Real Estate	1,028	817	-211	-20.5%
Entertainment and Recreation Services	206	326	120	58.3%
Professional Services	2,720	3,793	1,073	39.4%
Other Services	1,147	1,271	124	10.8%
Public Administration	777	564	-213	-27.4%
Total Employed Residents	12,401	11,877	-524	-4.2%

Source: U. S. Census, sample data, 1990 and 2000 and consultant interpretation of comparable classifications, which differ between Census years.

At the same time, the percentage of residents in management, professional and related occupations increased by nearly one-third, while all other occupational categories declined in importance.

Table 68: Portsmouth Employed Civilian Population by Occupation (For Employed Persons Age 16+)

			Change 1990-2000	
Occupation of Resident Worker	1990	2000	Number	Percent
Management, professional, and related	3,882	5,157	1,275	32.8%
Service occupations	1,853	1,645	-208	-11.2%
Sales and office occupations	4,308	3,266	-1,042	-24.2%
Farming, fishing, and forestry	114	52	-62	-54.4%
Construction, extraction, and maintenance	861	720	-141	-16.4%
Production, transport. & material moving	1,383	1,037	-346	-25.0%
Total	12,401	11,877	-524	-4.2%

Source: U. S. Census, sample data, 1990 and 2000 and consultant interpretation of comparable classifications, which differ between Census years.

According to recent forecasts by the New Hampshire Economic and Labor Market Information Bureau,[25] employment growth is projected to be strong in management, professional and related occupations during the current decade. In particular, professional and related occupations will represent more than 30 percent of job growth from 2000 to 2010.

Commuting Patterns

Table 69 and Table 71 summarize information on commuting patterns from the 1990 U.S. Census. Data from the 2000 Census are not yet available, and will undoubtedly show significant changes from 1990 due to the employment growth at Pease International Tradeport and elsewhere in the city and region.

Table 69 summarizes the commuting patterns of the city's residents in 1990. Approximately one-half of employed Portsmouth residents worked within the city, and an additional 14 percent were employed in Newington. About 6 percent worked in Kittery, and about 3 percent in Dover. No other community represented more than 2 percent of jobs held by Portsmouth residents.

[25] *New Hampshire Employment Projections by Industry and Occupation: Base Year 2000 to Projected Year 2010*, New Hampshire Employment Security, Economic and Labor Market Information Bureau, February 2003, page 17.

Table 69: Portsmouth Resident Workers by Place of Work in 1990

Place of Work	Number of Portsmouth Residents Working	% of Working Residents
Portsmouth	7,205	50.7%
Newington	1,943	13.7%
Kittery	826	5.8%
Dover	440	3.1%
Hampton	280	2.0%
Greenland	263	1.9%
Rye	256	1.8%
Durham	211	1.5%
Seabrook	171	1.2%
Exeter	159	1.1%
North Hampton	141	1.0%
Rochester	128	0.9%
Somersworth	116	0.8%
Stratham	102	0.7%
York	101	0.7%
Other NH Locations	590	4.2%
Other Maine Locations	222	1.6%
Massachusetts	797	5.6%
Other States	259	1.8%
Total Resident Workers	14,210	100.0%

Note: Data shown for individual municipalities in which at least 100 residents worked.
Source: Census data file provided by NH Employment Security

Although 2000 data on specific commuting patterns have not yet been released, the Census Bureau has released information on residents' travel times to work. As shown in Table 70 and Figure 28, average commuting times increased significantly during the 1990s. While the total number of resident civilian workers decreased by 17 percent over the decade, the number who commute more than half an hour increased by 21 percent.

Table 70: Travel Time to Work of Portsmouth Resident Workers

Travel Time to Work for Resident Civilian Workers Age 16+ Years	1990	2000	% of Total 1990	% of Total 2000	% Change, 1990-2000
Work at Home	538	631	3.8%	5.4%	17.3%
Under 15 Minutes	7,996	5,551	56.3%	47.1%	-30.6%
15 Minutes to 1/2 Hour	3,755	3,272	26.4%	27.8%	-12.9%
1/2 Hour to 1 Hour	1,273	1,374	9.0%	11.7%	7.9%
1 Hour or More	648	949	4.6%	8.1%	46.5%
Total	14,210	11,777	100.0%	100.0%	-17.1%

Source: U. S. Census sample data 1990 and 2000

Figure 28: Travel Time to Work of Portsmouth Resident Workers

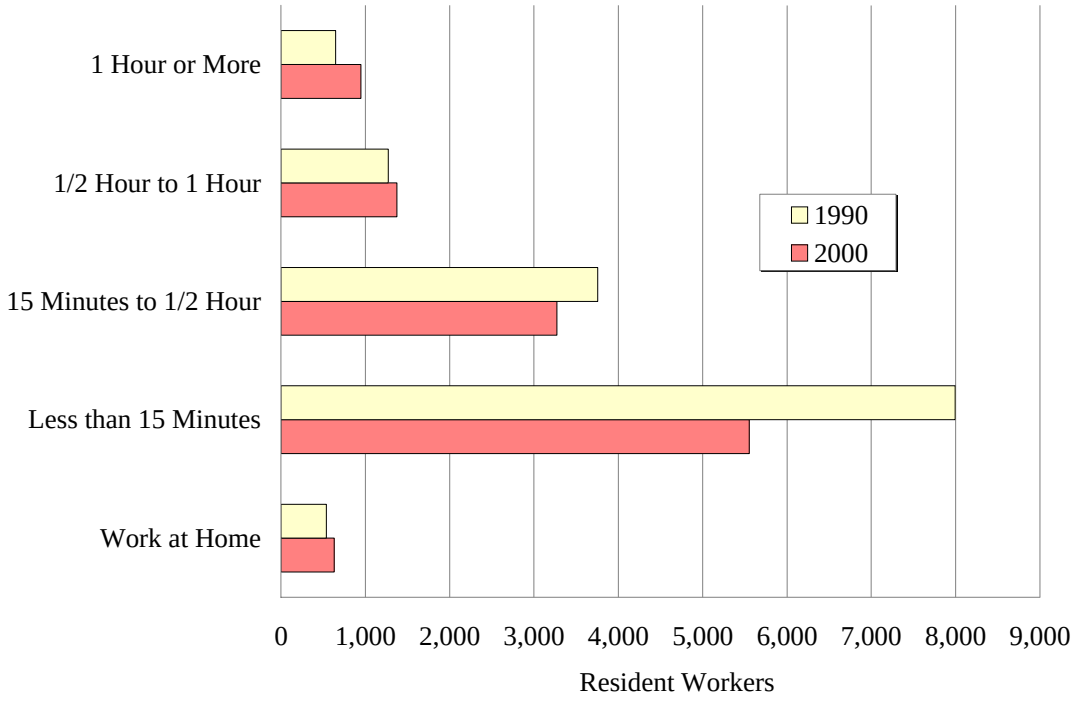


Table 71 presents the 1990 journey to work data organized in terms of the place of work, rather than place of residence. Nearly one-third of the jobs in Portsmouth in 1990 were held by Portsmouth residents. Dover residents represented the next largest group of employees in Portsmouth, accounting for nearly 9 percent of the total. These data include residents and employees at Pease Air Force Base; and therefore the 2000 data will reveal decreases in the percentages of Portsmouth residents who work in the city and employees of Portsmouth businesses who live the city.

Table 71: Residence of Persons Working in Portsmouth in 1990

Residence of Worker	Number Working in Portsmouth	Percent of Employees
Portsmouth	7,205	32.1%
Dover	1,958	8.7%
Rochester	1,045	4.7%
Hampton	994	4.4%
Rye	908	4.0%
Kittery	811	3.6%
York	729	3.2%
Eliot	621	2.8%
Somersworth	610	2.7%
Exeter	604	2.7%
Newmarket	471	2.1%
Stratham	451	2.0%
South Berwick	449	2.0%
Greenland	448	2.0%
North Hampton	399	1.8%
Barrington	327	1.5%
Durham	293	1.3%
Lee	188	0.8%
Newington	180	0.8%
Rollinsford	140	0.6%
North Berwick	136	0.6%
New Castle	135	0.6%
Sanford	126	0.6%
Nottingham	125	0.6%
Berwick	120	0.5%
Seabrook	113	0.5%
Manchester	106	0.5%
Other NH Locations	1,632	7.3%
Other Maine Locations	455	2.0%
Massachusetts	532	2.4%
Other States	137	0.6%
Total Employed in Portsmouth	22,448	100.0%

Note: Data shown for individual municipalities from which at least 100 workers originate.
Source: Census data file provided by NH Employment Security

An important aspect of this data is the number of employees commuting to Portsmouth from the north and therefore crossing the Little Bay and General Sullivan bridges. In 1990, nearly one in five employees of Portsmouth businesses lived in Dover, Rochester, Somersworth, Durham and

Lee; and this has undoubtedly grown in both percentage and absolute terms in the intervening decade.

Major Economic Resources and Initiatives

Portsmouth Naval Shipyard

The Portsmouth Naval Shipyard (PNSY) has long been a vital element in the economy of the Seacoast region of Maine and New Hampshire. Located on Seavey Island in the Piscataqua River between Portsmouth and Kittery, the Shipyard is a major overhaul and refueling facility for all classes of submarines.

After a period of declining employment, the Shipyard is now in a growth period, strengthened by its position as one of only four U.S. Navy bases capable of housing nuclear submarines. The Shipyard currently employs about 100 military personnel and about 4,300 civilian personnel, of whom 40 percent are New Hampshire residents; and its total civilian and military payroll in 2002 was $283 million.

The Shipyard's impact on the economy goes beyond direct employment. In 2002, the facility generated $34 million in purchases in the New England area (out of a total of $61 million in purchases), and contracted for $30 million in facility services.[26]

Portsmouth's 1993 Master Plan identified uncertainty about the Shipyard's future as a serious concern, and stated that "the City should plan for continuing reductions in its labor force," including creation of "new employment opportunities … to employ the existing labor force."[27] Fortunately, the outlook for the Shipyard is much brighter now than at the time of the last Master Plan. Moreover, the City's economy has significantly grown and diversified in the last decade, and is less reliant on military spending than in the past: for example, total employment at Pease International Tradeport now exceeds that of PSNY, and Portsmouth's six largest employers provide approximately the same number of jobs as does the Shipyard. Nevertheless, PSNY remains a very important factor in the regional economy.

In addition to its direct role in the economy, the Shipyard has the potential to generate additional economic benefits through "outleasing" of its underutilized facilities. In the spring of 1998, the Naval Sea Systems Command (NAVSEA) began a process of identifying such facilities as candidates for outlease to the private sector. This process resulted in the award of a lease for reuse of the former Navy prison building to Seavey Island LLC, which plans to redevelop the facility for technology company tenants.[28]

[26] Portsmouth Naval Shipyard Fact Sheet, http://www.ports.navy.mil/factsheet.htm, 4/30/03.
[27] Master Plan: Portsmouth's Future Presence, Vol. 1, p. 70.
[28] "Navy Innovates with Outleasing Authority for Better Asset Management," *Real Property Policysite*, GSA Office of Governmentwide Policy (http://www.gsa.gov/realpropertypolicy), Spring 2001, pp. 3-4.

Pease International Tradeport

The most significant change in land use in Portsmouth since the 1993 Master Plan, the redevelopment of the former Pease Air Force Base (PAFB) is regularly characterized as a tremendous success and serves as a model for transitioning military bases across the country. When the base closure was approved in early 1989, the city of Portsmouth responded to the news with a comprehensive analysis of the impact such an event would have on the city's fiscal, economic, social, and environmental well being. Testing a variety of scenarios for future land use and weighing related revenues and service costs, the City predicted that without proper planning, the closure had the potential to cause an annual deficit of $8 million. Working in concert with state and federal officials, the City recommended several strategies for redevelopment that would mutually benefit a future Redevelopment Authority and City.

Table 72 summarizes the total floor area at Pease by general land use category, as of 2001; and Table 73 illustrates the share of Portsmouth's recent commercial and industrial development activity that is represented by development at Pease. The largest use category in the portion of Pease in Portsmouth is office space, comprising an estimated 40 percent of total floor area at the Tradeport and representing 57 percent of all office space developed in Portsmouth between 1990 and 2001. The second largest category is manufacturing, industrial and R&D, which constitute 31 percent of the floor area at Pease and fully 68 percent of all manufacturing floor area built in the city since 1990. Warehousing and transportation uses represent the third most important category, comprising 25 percent of total floor area at Pease.

Table 72: Pease Floor Area in Portsmouth Through 2001

Type of Structure	Floor Area	% of Floor Area
Manufacturing, Industrial, R&D	929,245	30.8%
Warehousing & Transportation	769,572	25.5%
Retail	17,449	0.6%
Office	1,208,120	40.1%
Lodging	65,378	2.2%
Other Services	17,867	0.6%
Government and Education	5,208	0.2%
Total	3,012,839	100.0%

Source: Estimated using City assessment data

Table 73: Commercial-Industrial Development Activity in Portsmouth – Structures Built 1990-2001

Type Development	Total Floor Area	Pease & Airport Subtotal	Pease % of Activity
Manufacturing	1,258,965	861,996	68%
Warehousing & Transportation	487,454	278,723	57%
Retail	1,131,612	0	0%
Office	1,627,275	926,333	57%
Lodging	168,385	65,378	39%
Other Services	36,759	0	0%
Total Major Sectors	4,710,450	2,132,430	45%

Table 74 summarizes the role of the Pease International Tradeport in Portsmouth's local economy. The Tradeport provides more than one out of every four manufacturing jobs in the city, and one our of every five jobs in the city in all sectors.

Table 74: Pease International Tradeport Businesses as Percentage of Portsmouth Totals, 2002

	Establishments	Employment	Sales	Establishments with 20+ Employees
Manufacturing	16.7%	26.1%	25.4%	19.0%
Retail	9.1%	14.7%	12.1%	10.4%
Total	16.1%	20.2%	18.7%	18.4%

Source: Claritas

In 2002, the Development Authority received revenues in the range of $8-9 million, and contributed approximately $2.6 million to the city as part of a negotiated cost of services agreement.

Foreign Trade Zone

A Foreign Trade Zone (FTZ) is a site within the United States where items may be imported, stored and processed with deferral or elimination of customs duties and excise taxes. Firms operating in an FTZ are thus able to operate more competitively in the international market.

New Hampshire has one Foreign Trade Zone (FTZ No. 81, awarded by the federal government in 1982) consisting of five distinct sites, three of which are located in Portsmouth: 2,095 acres at Pease International Tradeport (including the airport), 10 acres at the Port of New Hampshire, 50 acres at the Portsmouth Industrial Park on Lafayette Road.

The Port of New Hampshire

Portsmouth is host to one of the oldest working ports in the country, and its working waterfront is a source of tremendous pride and affection for city residents. Taking advantage of a deep natural harbor, the Port serves as an industrial shipping center that services international trade. In addition to cargo shipping, the today's Port also serves pleasure boating and sport and commercial fishing.

Founded in 1957, the Port operated under the New Hampshire Port Authority until transfer of control and authority to the Pease Development Authority in July 2001. The Port facility occupies approximately 11.5 acres at the edge of downtown, and consists of the following key facilities[29]:

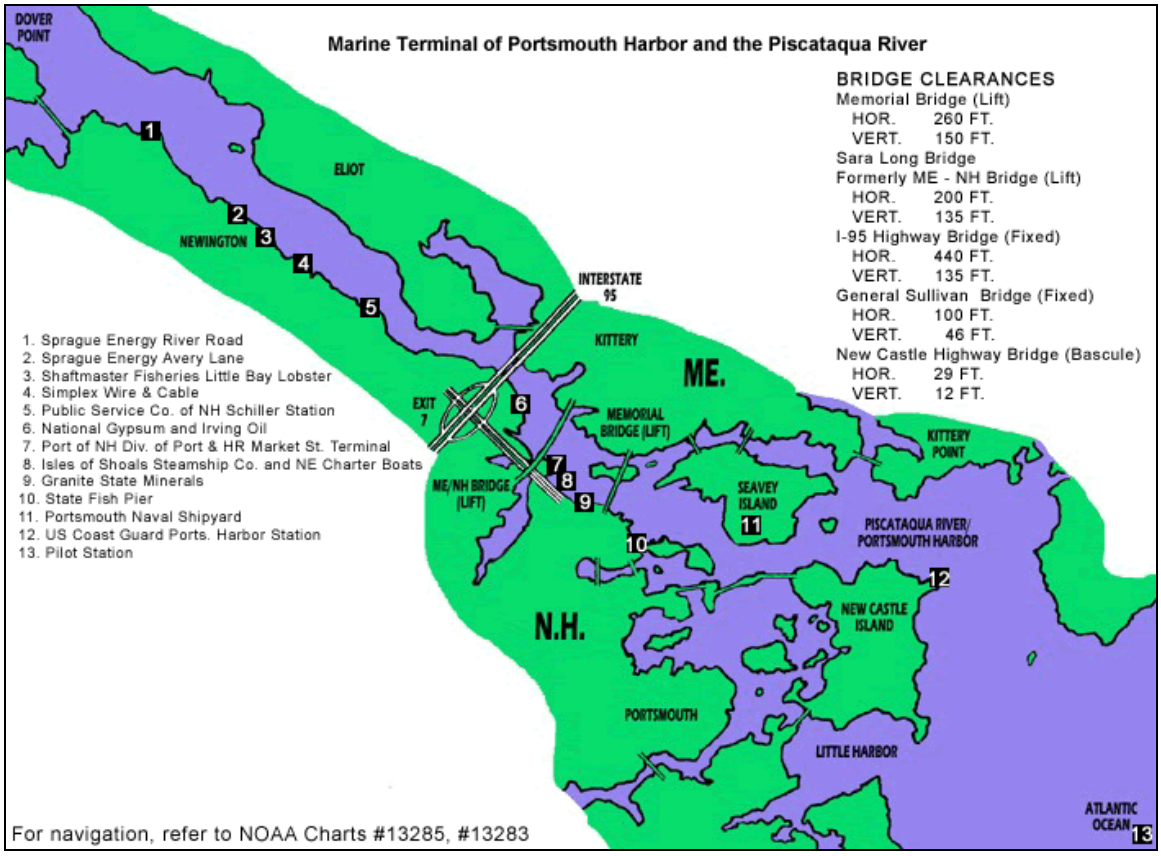
- 66' wharf, 33-35' water depth
- 310' long barge pier: 22' water depth
- Two warehouse structures: approx. 50,270 s.f.
- Container port operations

[29] Market Street Marine Terminal Master Plan 2000, NH Port Authority, p. 5.

The Port is served by Guilford Rail and has excellent access to Interstate 95. In addition to its industrial and commercial role, it is also host to the Isle of Shoals Steamship Company under a lease agreement that runs through 2009 (the Steamship Company carries 60,000 passengers annually).

The Port is one of 10 marine terminals on the river. It serves as an important economic contributor to the State as it offers handling of specialized cargo, and cost-effective shipping and receiving. One estimate asserts that the Port is responsible, directly and indirectly, for upwards of 1,000 high quality jobs. Four of the Port's main users include: Simplex Wire and cable, ABB/Combustion Engineering, Chart Industries, and the University of New Hampshire. A UNH-sponsored 1993 Economic Impact Analysis concluded that the Port had an annual economic impact of $56 million at that time.

Figure 29: Marine Terminals of Portsmouth Harbor and the Piscataqua River



Source: Port of New Hampshire website (http://www.portofnh.org/who.html)

In 2000, the NH Port Authority undertook a Master Planning process for the future of the Port. Four alternatives were considered: Full Port, Downtown Expansion/Gateway, Strategic Land Exchange, and Water-Dependent Tourism/Flexible Use. Of these, the "Downtown Expansion" scheme, that envisioned conversion of the Port to non-harbor related use, received no public support and was thus eliminated from any further examination. Of the remaining ideas, continued commitment to cargo use and commercial fishing, plus possible expansion of water-dependent tourism uses (charter fishing, excursion vessels) received support. Several specific recommendations serve to implement three essential goals that comprise the Plan's Action

Agenda: 1) Support waterway management/public safety, 2) Serve the essential needs of NH manufacturers, and 3) Foster tourism/visitor activity in downtown Portsmouth and the region.

The City provides services to the Port, including specialized police and fire services. As of 2000, services rendered far exceeded payment from the Port Authority ($30,000/yr.), and the City petitioned the State legislature to take over the Port. After a year-long evaluation of the Port by a legislative study committee, the State decided to transfer Port control to the PDA effective in July 2001. Transfer of the Port's operations to the PDA was made with the desire to maximize its profitability by increasing efficiency, improving management, and promoting its facilities.[30]

In 2002 the PDA took two newsworthy actions to transform business at the Port. In May, the Board adopted a policy to limit the amount of time cargo could be stored on Port land: shipped in goods are limited to a 30 day stay, and materials arriving by truck or rail to 75 days. Second, the PDA signed a contract with Amer Transport Services to focus on container cargo that promises to increase the Port shipping activity and make the most of its Foreign Trade Zone status.

The Northern Tier

As referenced in the Land Use chapter, one of the most significant opportunities for expansion of Portsmouth's downtown lies at the "Northern Tier." In 1999, Sasaki Associates, in conjunction with Applied Economics Research and the Sherwood Consultancy, completed a Feasibility Study that demonstrated that redevelopment of this area, in addition to improving the physical environment, could generate substantial economic benefit.

The study assumed a 20-year development horizon, and presented two alternatives for future development. Alternative A featured construction of 80 townhouses and a small conference center, while Alternative B featured a 70,000 convention center and no townhouses. The total additional building area of both schemes approached 500,000 s.f. At this level of development, the study concluded:

- an increase to property tax revenues ranging from $1-1.2 million,
- a rate of return on public investments needed to support the development of 3.5-8.8%, and
- annual direct/indirect regional impact: $7.3 - $18.1 million.

The study also maintained that successful redevelopment of the Northern Tier would have a positive impact on the Port, and vice versa.

eCoast Strategy

The eCoast Technology Roundtable is an initiative of the Greater Portsmouth Chamber of Commerce to promote the Seacoast region for high-tech businesses. The effort began in January 1999 with the founding of the Greater Portsmouth Chamber of Commerce Technology Roundtable. The "eCoast" name was chosen in May 1999, and was made official by a proclamation of the Governor in September. In December 1999 the Chamber commissioned qualitative research on what could be done to attract, retain, and support high-tech businesses in

[30] Market Street Marine Terminal Master Plan 2000, NH Port Authority, p.6-7.

the greater Portsmouth area. The consultant's report on this research[31] highlighted five principal findings:

1. The key to the region's *current* success is *quality of life*.
2. The key to the region's *continued* success is *managed growth*.
3. There is substantial support for a technology campus centered in the Pease area.
4. Most high-tech companies in the area are recruiting their employees from other parts of the country and would welcome initiatives to improve the educational and training opportunities available on the Seacoast.
5. Reaction to the e-Coast name was largely positive.

The report emphasized:

> [O]ngoing promotion of the 'e-Coast' [should] be done in a way that is sensitive to the demands of *planned, managed growth*. Publicizing the designation without backing it up in terms of a stronger commitment in the area to improved infrastructure and financing runs the risk of creating an empty promise that will ultimately damage the area's reputation. Too much publicity without a plan for controlling the expansion of high-tech businesses runs the risk of creating a sprawl that can decrease the area's quality of life. [emphasis in original]

In February 2002 the eCoast Strategy Assessment Task Force was formed to review the status of the eCoast Technology Roundtable. The Task Force report[32] defined the following vision statement for the eCoast:

> A thriving entrepreneurial technology center that complements the overall economic mix of the New Hampshire and southern Maine Seacoast. The eCoast includes both established firms and entrepreneurial startups in hardware and software manufacturing, biotechnology, research, military, and technology services ventures.

The report identified the eCoast's constituency as "a balanced mix of established technology companies and small entrepreneurial technology firms within a 15- to 20-mile radius of Portsmouth;' and established two objectives to achieve the Roundtable's mission: fostering an environment that encourages entrepreneurial growth, and increasing the awareness of the eCoast both outside the region (to encourage investment and relocation) and within the region (to enhance awareness of the economic impact of the technology firms).

The recent downturn in the technology sector of the economy has created a challenge for the eCoast concept. While the emphasis of the eCoast initiative remains on high-tech businesses, the "eCoast" brand is now being broadened to encompass "entrepreneurial" businesses more generally.

[31] *Managed Growth: Helping the E-coast to Flourish – Report on Qualitative Research*, Prepared for the Greater Portsmouth Chamber of Commerce Technology Roundtable, by The Taylor Research & Consulting Group, Inc., January 2000.
[32] *eCoast Strategy Assessment: Mapping the Future – Strategy Assessment Task Force Results*, Prepared for eCoast Technology Roundtable, The Greater Portsmouth Chamber of Commerce, by The Taylor Research & Consulting Group, Inc., May 2, 2002.

TRANSPORTATION

Introduction & Regional Context

Portsmouth is located at a prominent position within the regional transportation network and has a mature local transportation system. This local system is greatly influenced by recent and historical development patterns and Portsmouth's maritime heritage. The City is served by interstate and state highways and rail lines; has vibrant port facilities; has a mix of parking facilities; is connected by several fixed-route, demand response and intercity bus services; has a well established sidewalk system; and, has an emerging local and regional bicycle network.

The Seacoast Metropolitan Planning Organization (MPO) and Strafford Regional Planning Commission provide transportation and community planning services to Portsmouth. The MPO performs transportation studies, prepares a long range regional transportation plan and selects projects for use of federal transportation funds in the region. The MPO recently completed a draft of an update to its long range transportation plan in January 2003.

The Pease Development Authority completed an update of its Surface Transportation Master Plan in 2002. The plan recognizes the significant increases in traffic demand at both the Tradeport's main entrance (Pease Boulevard) and the Grafton Drive entrance, and recommends long-term improvements to accommodate projected future demand. It also addresses the need to update several intersections on the Tradeport as it continues to develop. The multi-modal plan addresses a desire to expand the existing bicycle, sidewalk and transit systems on the Tradeport, and to improve connections to Portsmouth and Newington.

Roadway & Highway System

Interstate Highways and Freeways

Interstate 95 bisects Portsmouth approximately three-quarters of a mile northwest of the downtown area. It is a major corridor for travelers in New England. Average daily traffic volumes vary from 65,000 to 90,000 vehicles per day (vpd). Three interchanges are located in Portsmouth. The southernmost interchange at Route 33 (Exit 3), provides direct access to the Pease International Tradeport. The middle interchange—actually a grouping of interchanges that are functionally related (Exits 4, 5, and 6)—provides a connection to the Spaulding Turnpike the Portsmouth Traffic Circle, Route 1 and Route 1 Bypass. The northernmost interchange (Exit 7) provides access to Market Street.

The Spaulding Turnpike (Routes 4/16) is a limited access facility beginning at I-95 and continuing northerly to the Newington town boundary. The Spaulding Turnpike provides direct access to the Newington Mall area and the main entrance to the Pease International Tradeport. It continues northward and provides connections to Dover and beyond via Route 16. Route 4 splits from the Spaulding Turnpike in Dover and connects to Concord.

US and State Routes

Route 1 is an arterial roadway that provides regional access to many parts of Portsmouth of widely differing characteristics: the historic heart of Portsmouth and more recent commercial district that has evolved along the Lafayette Road/Route 1 corridor. In the southern Route 1 corridor, it is primarily a three lane suburban arterial (one lane in each direction and center turn lane) with numerous curb cuts. In 1999 the NHDOT widened U.S. Route 1 to a five-lane cross-section between Greenleaf Woods Drive and Peverly Hill Road. In the downtown, Route 1 is a two lane urban arterial with traffic signals located at major side streets. Route 1 connects to Kittery, Maine via the Memorial Bridge. The volume at the Rye line to the south is 14,000 vpd, at Richardson Avenue is 11,000 and at the Memorial Bridge is 12,000 vpd.

The Route 1 Bypass is a limited access highway that connects I-95 and the southern terminus of the Spaulding Turnpike at the Portsmouth Traffic Circle and Route 1/Lafayette Road. The Bypass connects the Traffic Circle to Kittery, Maine via the Mildred Long Bridge. Traffic volumes at the State line are 14,000 vehicles per day (vpd). The By-Pass continues southeasterly from the Traffic Circle to connect with Route 1 near Greenleaf Woods Drive. Volumes near this intersection are 25,000 vpd.

Route 33 is an important gateway into Portsmouth connecting the City to its growing neighbors to the west (including Greenland and Stratham) and also connecting to the Portsmouth Transportation Center and the Pease International Tradeport. At the Greenland town line there are 27,000 vpd while near the Islington Street intersection the volumes drops to 15,000 vpd at Dodge Avenue.

Local Street System

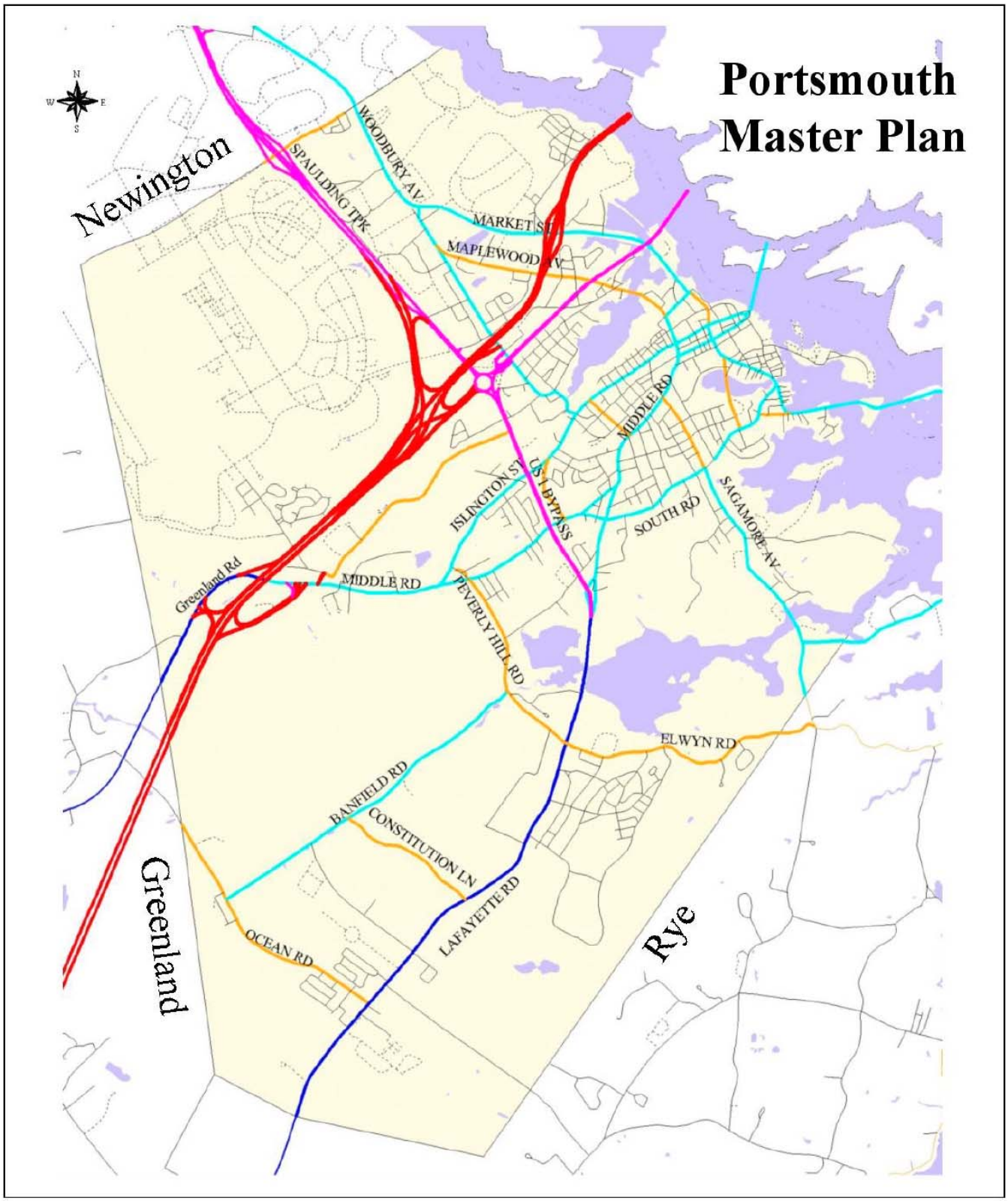
Portsmouth has several State Highways passing through the city which carry significant volumes of traffic. There are a few collector streets which connect into the downtown area as well.

The City does not have functional classification for streets. Map 6 shows the federal functional classification system that identifies a hierarchy of streets in Portsmouth. Arterial streets provide regional connectivity to major activity centers and have a primary function of providing for through traffic. Collector streets provide important intra- and inter-community connections. Local streets provide access to residences and other adjacent land uses.

- Woodbury Avenue parallels Route 4/16 (Spaulding Turnpike) and provides access from downtown to Newington and the malls. Average daily traffic volumes are 7,300 vehicles near Cate Street, 9,300 vehicles near the Maplewood Avenue intersection and 21,000 vehicles east of Durgin Lane.

- NH Route 1A (Miller Avenue/Sagamore Avenue) is a major connection from the downtown to the southeast and the beaches in Rye. In the downtown area the volume is 5,500 vehicles and near the Rye town line the volume increases to 9,600 vehicles per day.

- Market Street is one of the primary east-west routes between I-95 and the downtown, particularly to and from the north. The Market Street Extension carries approximately 14,000 cars per day just south of the I-95 interchange.



Roadway Classification
Map 6

Source: NHDOT/GRANIT, 2002.

- Interstate
- Freeway
- Principal Arterial
- Minor Arterial
- Collector
- Local
- Private

- Gosling Road is a connector road between the main entrance to Pease International Tradeport, the Spaulding Turnpike and Woodbury Avenue. Approximately 16,000 vpd use this short section of road.

- Peverly Hill Road is a north-south road which connects Route 33 to Route 1. This road carries about 11,000 vehicles per day.

- Ocean Road also connects Route 33 to Route 1. The state road carries 11,000 vehicles per day.[33]

- Other roads that carry significant traffic include:
  Maplewood Avenue - up to 12,000 vpd
  Islington Street - 12,000 to 14,000 vpd.

Existing Traffic Volumes and Trends

Traffic volume data is available from the City, the Rockingham Planning Commission, and NHDOT. The primary source is the NHDOT with in town counts from the Rockingham Planning Commission. Counts were performed between 1996 and 2000. For various development projects over the last 5 years the City has some traffic impact studies which includes traffic counts in specific areas. Table 76 presents the traffic volumes.

As noted in the table, traffic volumes have been increasing at many locations within the city over the reported six years. Locations with significant growth are listed in Table 75.

Table 75: Locations With Significant Traffic Growth Rates

Location	Growth and Time Period	Annual Growth Rate
Gosling Road west of Woodbury Avenue	114%, 1998–2001	29%
Pease International Tradeport Main Gate	98%, 1997–2000	26%
US 1 Bypass SB-NB east of Greenleaf Road	47%, 1998–2001	14%
NH 1A south of Sagamore Avenue	20%, 1998–2000	10%
Ocean Road	52%, 1996–2001	9%
I-95 SB-NB north of on-ramp to NH 16	50%, 1996–2001	8%
NH 1A south of Middle Street	12%, 1998–2000	6%
Spaulding Turnpike	19%, 1996–2001	4%
Woodbury Avenue east of Maplewood Avenue	5%, 1998–2001	2%

Traffic volumes have also increased significantly at the Pease International Tradeport's secondary entrance (Grafton Drive), but only one count (from 2000) is currently available. (The 2002 Pease Surface Transportation Master Plan Update projects 12 percent annual traffic growth from 2000 to 2010.)

[33] Rockingham Regional Planning Council, Ocean Road Truck Study, May 2002.

Table 76: Average Daily Traffic, 1996 to 2001

Station	Location	1996	1997	1998	1999	2000	2001
379010	US 1 Lafayette Road south of South Road			14,000		12,000	
379011	I-95 SB-NB south of Maplewood Ave Exit 6-7	53,800	58,000	59,000	63,000	59,000	65,000
379015	US 4 & NH 16 SB-NB north of Rockingham Ave., Exit 1, I-95	27,000	29,000	29,000	30,000	30,000	32,000
379018	Woodbury Ave. South of Boyd Rd, SB-NB		6,900	7,300		7,300	6,800
379021	US 1 at Rye Town Line			16,000		16,000	14,000
379022	Gosling Road east of Spaulding Turnpike ramps				16,000		
379024	Main Gate WB-EB at Pease International Tradeport		8,100			16,000	
379030	South Road east of US 1, EB-WB		6,800			6,600	
379031	US 1 (Middle St) north of NH101			11,000		7,400	11,000
379032	NH 33 (Middle St) at US 1 Bypass Bridge		6,800			6,800	
379033	NH 1A (Miller Ave) south of Middle Street			4,900		5,500	
379034	US 1 (Middle St) south of Congress St.		12,000			11,000	
379035	Maplewood Ave east of Raynes Ave.			12,000	12,000		
379036	Maplewood Ave east of Woodbury Ave.			4,400	4,600		
379037	Woodbury Ave east of Maplewood Ave, SB-NB.			8,900			9,300
379039	Banfield Road at B&M RR west of Heritage Drive			4,300			3,900
379041	NH 33 (Middle Street) east of Dodge Ave, EB-WB		16,000	17,000		18,000	14,000
379044	Islington Street north of Summer Street		12,000				12,000
379053	I-95 NB on ramp from NH 33, Exit 3	9,700	10,000	10,000	10,000	9,400	7,900
379054	I-95 SB off ramp to NH 33, Exit 3	1,600	1,900	2,200	2,300	6,000	8,400
379055	I-95 SB on ramp from NH 33, Exit 3	3,700	4,100	3,900	4,200	4,300	4,300
379056	I-95 NB off ramp to NH 33, Exit 3	3,800	4,100	4,200	4,600	5,100	4,900

Station	Location	1996	1997	1998	1999	2000	2001
379057	NH 33 at Greenland town line		26,000			27,000	
379059	NH 33 east of Islington Street, EB-WB.		12,000	12,000		13,000	9,200
379062	I-95 SB-NB south of Circle, Exit 3-4	78,300	85,000	86,000	90,000	85,000	90,000
379063	US 4 & NH 16 SB-NB south of Gosling Rd, Exit 1, I-95	48,000	51,000	53,000		61,000	63,000
379065	US 1 Bypass SB-NB east of Greenleaf Ave.			17,000			25,000
379068	US 1 Bypass NB-SB south of bridge over State line		14,000			13,000	14,000
379071	NH 1A (Sagamore Ave) east of Little Harbor Rd			8,000		9,600	
379072	US 1 (Lafayette Rd) south of Greenleaf Ave.			12,000			13,000
379073	Maplewood Ave east of US 1 Bypass		11,000			11,000	
379074	NH 33 east of B&M railroad		16,000		17,000		17,000
379075	NH 33 west of I-95 bridge			18,000		12,000	
379078	Islington Street north of Cass Street, EB-WB				13,000	14,000	
379079	US 1 (Memorial Bridge) at Maine State line, SB-NB		11,000	12,000	11,000		11,000
379122	Traffic Circle west leg in (I-95 NB off ramp), Exit 5	5,500	5,900	5,300	5,500	5,000	4,900
379123	Traffic Circle west leg out (I-95 SB on ramp), Exit 5	5,400	5,800	5,600		5,600	5,200
379124	Peverly Hill Road south of NH 101			11,000			11,000
379126	Sherburne Road at I-95 overpass			2,700		1,900	1,900
379130	Gosling Road west of Woodbury Ave.			5,600			12,000
379134	I-95 NB on ramp from traffic circle, Exit 5	5,200	5,500	5,400	6,000	5,900	6,400
379135	I-95 NB off ramp to US 4& NH 16 WB Exit	12,000	13,000	13,000	14,000	12,000	12,000
379136	I-95 SB off ramp to US 4 & NH 16 WB Exit 5	6,000	6,300	6,000	6,200	6,100	6,000
379155	I-95 SB-NB on bridge over US 4 & NH 16, Exit 5-6	54,600	59,000	60,000	64,000	61,000	67,000
379158	I-95 SB-NB north of on ramp to NH 16, Exit 4-5	43,400	47,000	49,000	51,000	59,000	65,000

Station	Location	1996	1997	1998	1999	2000	2001
379159	I-95 at Maine State line	64,354	66,044	68,658	71,200		73,000
379172	I-95 SB off ramp to NH 33 SB, Exit 3A	9,000	9,100	9,600		1,000	970
379173	I-95 NB off ramp to Woodbury Ave, Exit 6	840	900	1,100	1,100	1,200	1,400
379174	I-95 SB on ramp from US 4 & NH 16 SB, Exit 4	12,000	13,000	13,000	14,000	14,000	14,000
379175	I-95 SB off ramp to Market Street, Exit 7	6,500	6,500	7,000	7,400		7,000
379176	I-95 SB on ramp from Market Street, Exit 7	3,200	3,400	3,500	3,700	3,800	4,000
379177	I-95 NB off ramp to Market Street, Exit 7	2,200	2,400	2,500	2,700	2,900	3,100
379178	I-95 NB on ramp from Market Street, Exit 7	6,900	6,800	7,400	7,600	7,400	7,500
379195	US 4 & NH 16 SB on ramp from Gosling Drive, Exit 1				8,200	7,100	7,300
379196	US 4 & NH 16 off ramp to Gosling Drive, Exit 1				8,200	7,600	7,600
379197	Omni Road - access road NB on ramp to US 1 & NH 16				1,500	1,800	1,700
379198	US 1 & NH 16 NB off ramp to Brady Ave.				2,400	2,500	2,400

Source: NHDOT; Strafford Regional Planning Commission; City of Portsmouth.

Congested Intersections

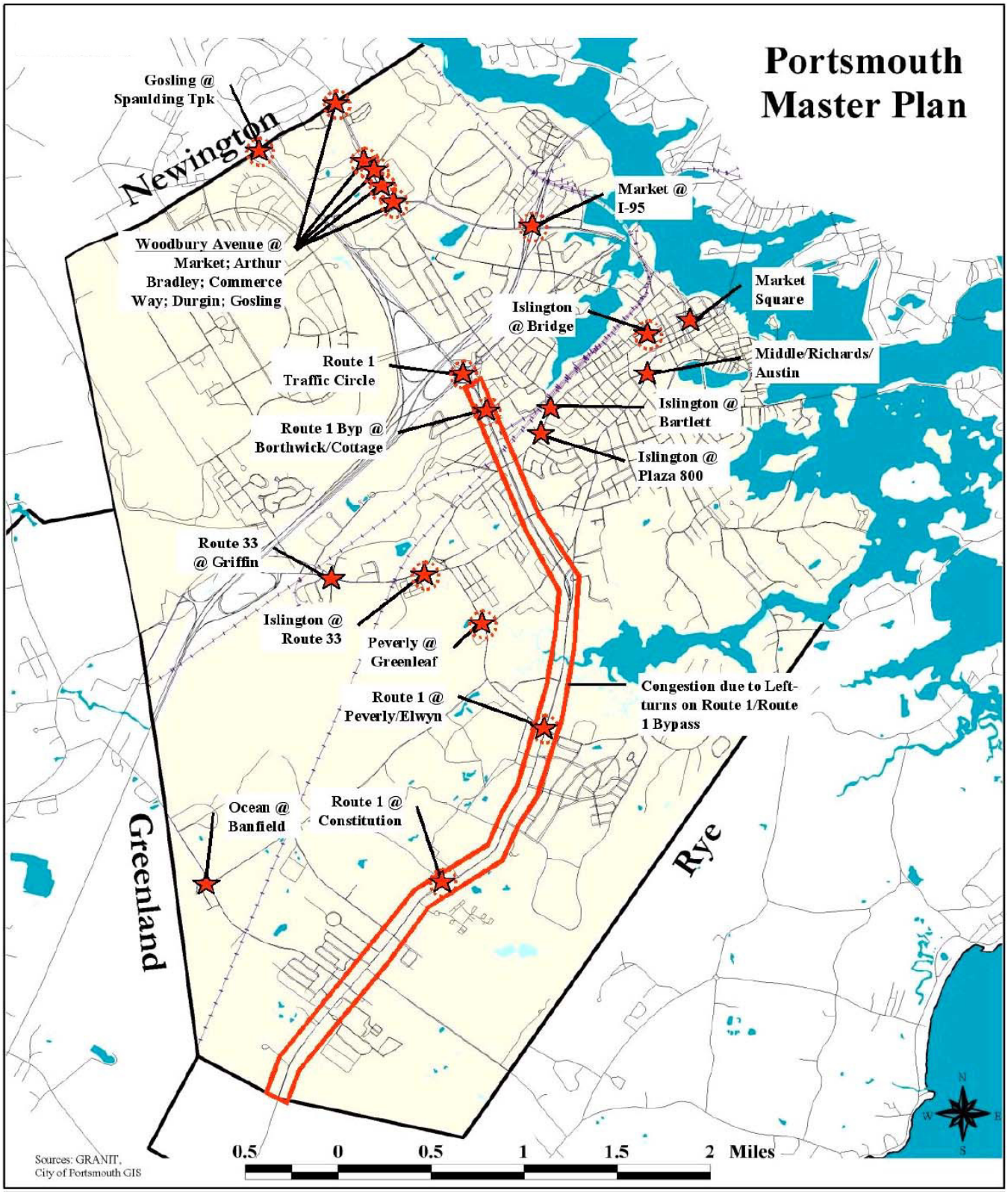
The identification of congested locations within Portsmouth was based upon previously conducted traffic studies. Map 7 notes locations that currently operate at poor levels of service and therefore would be a location that experiences excessive delay. These locations include:

- Market Square
- Market Street Extension at Kearsarge Way
- Middle Street at Richards Avenue/Austin Street
- Islington Street at Bartlett Street
- Islington Street at Plaza 800
- Route 33 at Griffin Road
- Ocean Road at Banfield Road
- Route 1/Route 1 Bypass to Traffic Circle
- Woodbury Avenue at several locations:
    - Market Street
    - Arthur Brady Drive
    - Commerce Way
    - Durgin Lane
    - Gosling Road
- Market Street at I-95 (identified in Greenpages Traffic Impact Study and Osprey Landing Traffic Impact Study)

- Portsmouth Traffic Circle (identified in NHDOT Conceptual Study)

It is believed that other locations within the city also operate poorly during certain time periods (but no current studies document congestion at these locations). Known locations (also shown on Map 7) include:

- Gosling Road/Spaulding Turnpike – Vehicles back up through multiple signals on Gosling Road.
- Peverly Hill Road/Greenleaf Avenue – Excessive peak-period delays and queuing for Greenleaf Avenue traffic entering onto Peverly Hill Road.
- Islington Street/Route 33 – Difficulty making left turns onto Islington Avenue during peak periods.
- Islington Street/Bridge Street – Excessive queuing on Islington Street to Bridge Street approach.
- Route 1/Constitution Avenue – Difficulty entering Route 1 during most hours of the day.
- Route 1/Heritage Avenue – Excessive delays and queuing during peak periods.
- Route 1/Elwyn Road/Peverly Hill Road – Excessive delays and queuing on Peverly Hill Road and Elwyn road approaches during peak periods. Difficulty for trucks turning right onto Peverly Hill Road from Route 1.
- Route 1/Borthwick Avenue/Cottage Street – Vehicles back up through both signals during peak periods.



Congested Locations Map 7

Source: Various Traffic Studies (star); Parking & Transportation Director (star with dashed circle).

Congested Locations/ Intersection

Congested Corridor

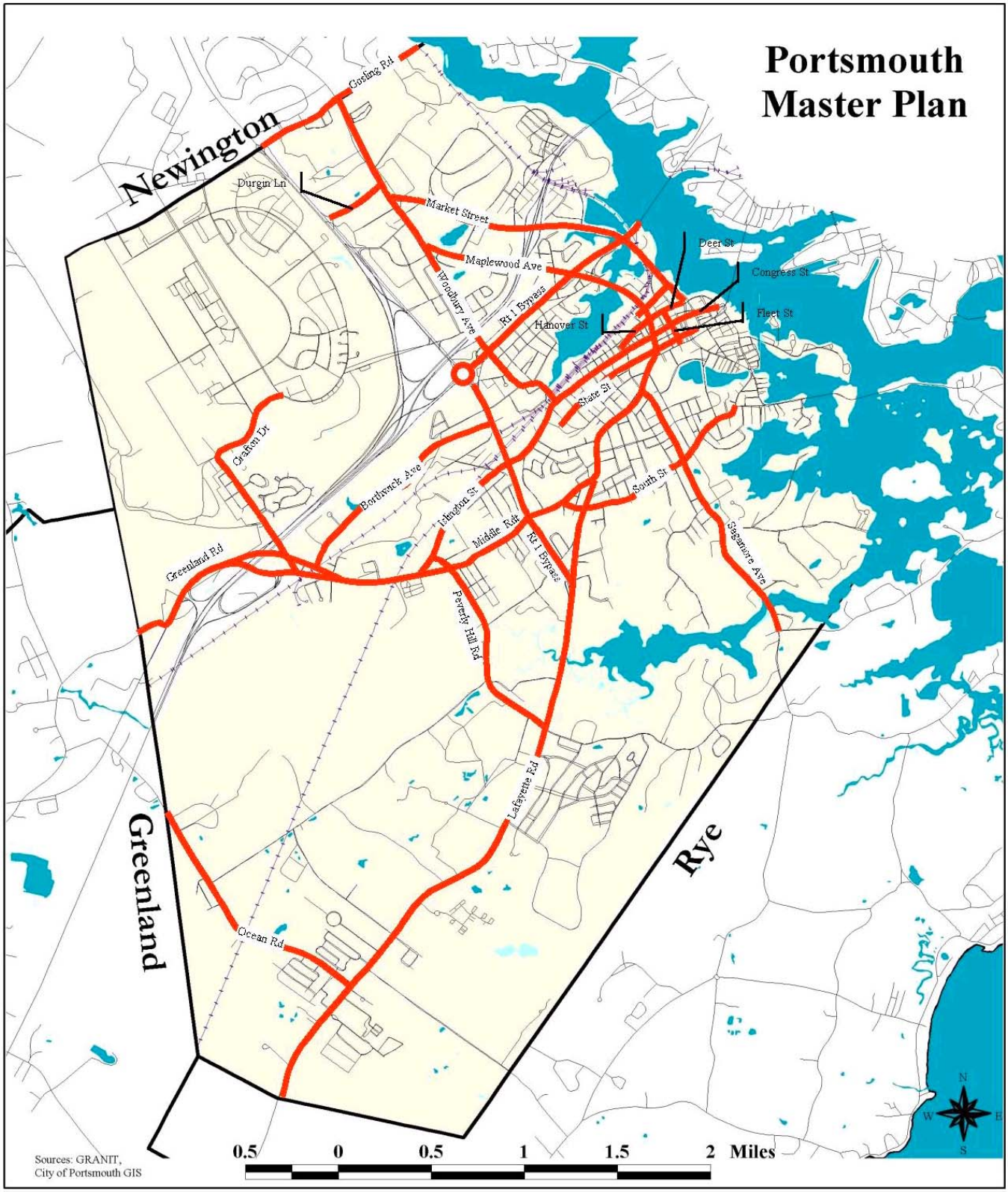
Locations with High Incidence of Crashes

Motor vehicle crash data was obtained from the Portsmouth Police Department for period from 1999 through early March 2003 (1999 was the year that Department switched to a new computer system). The data contained information for over 2900 crashes during this period. Table 77 shows a review of the data in the accident file. The table shows that the Lafayette Road corridor (Route 1 for a majority of its length) had 415 crashes at roadway segments and 66 crashes at intersections during this period, the highest total for any corridor. The Woodbury Avenue and Islington Street corridors also had a very high incidence of crashes over this period. Map 8 shows the locations of these corridors. (The data were not specific enough to locate specific portions of the corridor so the entire corridor is highlighted.)

Table 77: Corridors/Streets with a High Incidence of Crashes, 1999 Through Early 2003 (Twenty or More Total Crashes)

Street	Number of Crashes in Corridor	
	Along the Segment	At Intersections
Lafayette Rd	415	66
Woodbury Ave	303	47
Islington St	175	30
Market St	77	54
Maplewood Ave	46	46
Greenland Rd/Rt 33	46	45
State St	64	27
Hanover St	60	25
Rt 1 By-Pass Nb	55	13
Middle Rd	27	37
Rt 1 By-Pass Sb	44	13
Peverly Hill Rd	21	27
Gosling Rd	26	20
Borthwick Ave	36	7
Durgin Lane	32	2
South St	8	23
Congress St	22	8
Sagamore Ave	24	6
Fleet St	11	17
Ocean Rd	13	15
Deer St	9	15
Grafton Dr	12	11
Corporate Dr	16	6
Daniel St	17	5
Elwyn Rd	10	10
International Dr	10	10

Source: Portsmouth Police Department Accident File, 2003.



Streets with High Incidence of Crashes

1999 - March 2003

Map # 8

Segments / Intersections
(20 or more crashes)

Source: Police Department, City of Portsmouth, 2003.

Table 78 identifies the individual intersections that had the highest incidence of crashes.

Table 78: Intersections with a High Incidence of Crashes, 1999 Through Early 2003 (Eleven or More Crashes)

Intersection	Number of Crashes
Hanover St & Maplewood St	35
Route 1 Traffic Circle	31
Woodbury Ave & Gosling Rd	22
Maplewood Ave & Deer St	21
Route 33 & Grafton Dr	20
Market St & Kearsarge Way	19
State St & Fleet St	18
Lafayette Rd/Rt 1 & Ocean Rd	16
Market St @ I-95 Northbound	15
Islington St & Greenland Rd	11
Middle St & Peverly Hill	11

Source: Portsmouth Police Department Accident File, 2003.

Additionally, the Police Department identified locations it felt were major accident locations and potential main causes of the accidents at each location.

- Route 1 Bypass at Greenleaf Avenue – running red light
- Maplewood and Hanover intersection – running red light
- Route 1 corridor – rear end collisions and turning
- Gosling Road and Woodbury Avenue – rear end collisions and turning
- Market Street at I-95 on and off ramps – rear end collisions and turning

This confirmed many of the locations cited in Table 77 and Table 78. The only location not cited in these tables in the Route 1 By-Pass at Greenleaf Avenue which was noted to have 7 crashes during this period (Source: personal communication, Portsmouth Police Department, 2003).

Traffic Speeds

The speed of traffic on commercial and residential streets has been identified by City staff and through complaints to City departments as a significant concern of City residents. Along with high traffic volumes, speeding traffic can contribute to unsafe conditions for pedestrians, bicyclists and other motorists. Speeding traffic also negatively impacts residential neighborhoods.

Table 79 documents the findings of speed surveys conducted at various locations throughout Portsmouth by the Police Department in 2000 and 2001. The data show that a majority of the streets surveyed have average speeds 5 mph higher than the posted speed limit and 85th percentile speeds 10+ mph over the posted speed limit. The 85th percentile speed is the speed that 85 percent of the traffic is moving at or under. It is a measure that is commonly used to set speed limits on streets. Locations with 85th percentile speeds considerably higher than posted speed limits should evaluate the appropriateness of the speed limit, the design of the street, and/or the effectiveness of enforcement measures. Not shown are the maximum speeds that were recorded as part of the

surveys. Maximum speeds at some locations were documented at over 50 mph for streets that are posted for 25 mph.

Table 79: Speed Survey Data on Surveyed Portsmouth Streets

Street/Location	Speed Limit (mph)	Average Speed (mph)	85th Percentile Speed (mph)
Greenleaf Avenue	20	31	36
Ocean Road at Patricia Drive	30	37	41
Ocean Road at Mariette Drive	30	35	39
Ocean Road at	30	37	41
Banfield Drive	30	37	42
Islington Street	30	30	34
McKinley Road	20	25	29
Lincoln Avenue at Park Street	20	24	29
Sagamore Avenue	30	36	40
Woodbury Avenue at Boyd Road	20	29	33
Woodbury Avenue at Farm Lane	25	32	37
Woodbury Avenue	20	21	25
Maplewood Avenue at Edmond Avenue	25	34	38
Maplewood Avenue at Edward Street	25	34	38
Market Street westbound	35	43	48
State Street at Wright Avenue	20	20	24
South Street at Mt. Vernon Street	20	24	27
South Street at Richards Avenue	20	26	31
South Street at Union Street	20	30	34
South Street at Elwyn Road	20	26	30
Aldrich Road at Joffre Terrace	20	27	32
Echo Avenue at Echo Hill	20	24	29
Peverly Hill Road at Greenleaf Avenue	25	33	37
Pleasant Street at Howard Street	20	22	26
Miller Avenue at Highland Street	25	30	35

Source: Speed Surveys, City of Portsmouth Police Department, 2000-2001.

Bridges

The City of Portsmouth owns and maintains thirteen (13) bridges. The bridges consist of a wide variety of length, bridge type, material, age, condition and location. An inventory and analysis was performed on the bridges in 1997. Using Federal Highway Administration (FHWA) and New Hampshire Department of Transportation (NHDOT) criteria, the study determined that four bridges qualify for replacement and three qualify for rehabilitation. The following list the bridges and pertinent information in order of the report's recommended priority.

1. Maplewood Avenue over North Mill Pond	replacement
2. Sagamore Avenue (NH 1A) over Sagamore Creek	replacement
3. Bartlett Street over Hodgson Brook	rehabilitation
4. US Route 1 over Scott Avenue	rehabilitation
5. Coakley Road over Hodgson Brook	rehabilitation
6. Cate Street over Hodgson Brook	replacement
7. Peirce Island Road over Little Harbor	replacement
8. Market Street over Tidal Basin	maintenance
9. Marcy Street (NH 1B) over South Mill Pond	maintenance
10. Kearsarge Way over B&M Railroad	maintenance
11. Pedestrian Bridge over Market Street	repairs
12. Greenland Road Pedestrian Bridge over B&M Railroad	repairs

Source: Bridge Evaluation Program Inspection Report, City of Portsmouth, 1997

Truck Routing

The City does not have designated routes for trucks. During the 1990's a series of measures were publicly debated regarding the establishment of preferred truck routes and the prohibition of trucks from specific streets in Portsmouth. Beginning in 1994 and continuing through 1997, a large number of meetings on this issue were held by the Planning Board, City Council, a Transportation Subcommittee and a Working Group composed of Transportation Subcommittee members and City staff. In 1994 the Planning Board adopted an Interim Truck Route Map that raised a number of issues related to which streets should be designated as truck routes. Primary issues raised during these meetings were:

- The negative impacts that heavy truck traffic is having on streets that are predominantly residential in nature;
- The large growth in truck traffic during the 1990s (and continuing today);
- The potential for diversion of truck traffic from one street to another that is not necessarily better suited for it (from one residential street to another residential street);
- The long term costs the City may incur through accepting responsibility for street maintenance if a street is transferred from State to City jurisdiction;
- The need to consider truck routing on a regional basis rather than by a single locality.

In May 2002 the Rockingham Planning Commission completed the Ocean Road Truck Routing Study that explored options for managing the growing truck traffic on Ocean Road, a connector between Route 1, Route 33 and I-95. Land uses in the Portsmouth portion of Ocean Road are residential. The study documented the unusually high number of heavy trucks as a percentage of overall traffic using Ocean Road (nearly 10%), the origins and destinations of the truck traffic and options for addressing the problem. The study recommends a combination of measures to best solve the problem. It also recommends that "a regional or statewide comprehensive truck movement study should be undertaken to develop policies for keeping trucks off local roads" (Rockingham Planning Commission, et al, Ocean Road Truck Routing Study: Final Report, May 2002).

Through a City Ordinance, Chapter 7: Section .7, the City has prohibited truck traffic on certain streets, prohibited bus traffic on certain streets, and established local delivery routes.

Parking

In 1998, a City commissioned study reviewed existing data and evaluated the parking environment in the Central Business District. The study references a survey performed by City staff in 1994 which determined that at that time there was a total of 3,590 spaces (1,887 public and 1,703 private) in the Central Business District (CBD), and 750 fringe spaces located on the periphery of the downtown. Since 1998, several improvements have been implemented and the number of public off-street spaces has increased by about 600 spaces.

Prior to the 1998 study, the City had appointed blue ribbon committees in 1982 and 1995 to evaluate parking issues in the downtown and develop recommendations.

Public Parking Resources

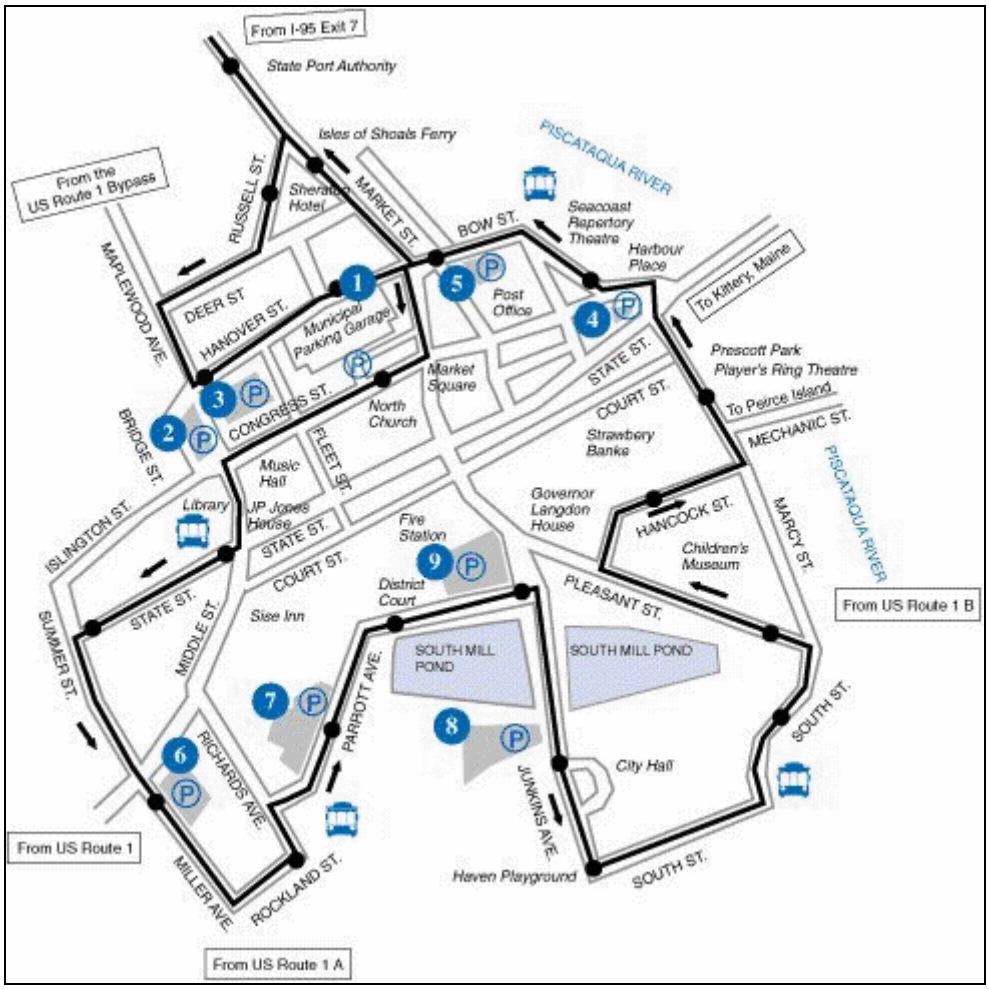
The City maintains and manages over 2,500 public parking spaces downtown. Some are located within the municipal parking garage, others are a series of surface lots distributed throughout the city, and the remainder are on-street parking spaces – metered and un-metered. The charge for meters and certain lots is 50-cents per hour. Map 9 shows the location of public off-street parking resources in the downtown. The numbers below are keyed to the locations shown on the map.

The municipal off-street lots include the following:

1. High-Hanover Parking Garage. 915 spaces, open 24 hours a day, 7 days a week. $0.50/hr. Monthly leases available.
2. Bridge Street Lot. 67 spaces with 2-hour limit. $0.50/hr. Free after 6pm.
3. Vaughn Mall Lot. 82 spaces (including 5 handicapped spaces) with 2-hour limit. (This does not include 28 reserved spaces at this lot, for a total of 110 spaces. The City is considering converting this surface lot into a parking garage with a capacity of 440 spaces, for a net increase of 330 spaces.) $0.50/hr. Free after 6pm.
4. Wright Avenue Lot. 45 spaces with 2-hour limit.
5. Post Office Lot. Closed to the public.
6. Masonic Lot. 70 spaces with 72-hour limit. Free.
7. JFK Lot. 140 spaces with 72-hour limit. Free.
8. South Mill Lot. 90 spaces with 72-hour limit. Free.
9. Parrott Avenue Lot. 186 spaces with 72-hour limit.

The 1998 study documented 803 metered on-street parking. It also documented 40 ‘free’ or unmetered on-street parking spaces as well.

Map 9: Public Off-Street Parking Resources



Source: City of Portsmouth website, 2002.

Map 9 also shows the route of the Downtown Trolley. One objective of the trolley is to link the public parking lots on the periphery of the downtown (lots 6, 7, 8 and 9) to downtown attractions.

Parking Utilization

High-Hanover Parking Facility

Utilization data for the High-Hanover Parking Facility is tracked hourly throughout the year. Utilization data fluctuates considerably by season (i.e., tourist) and day of week (transition from employees dominant on weekdays to customer/visitor/nightlife weekends).

In general, during fiscal year 2003 garage use peaks weekdays between 12 noon and 2 p.m. at 65% to 80% from November to April and 80% to 100% from May to October. Friday and Saturday nights are also busy. Between 7 and 9 p.m., garage use peaks at 50% to 75% from November to April and 75% to 100% from May to October.

The parking garage filled over 200 times in 1999 before it was expanded, primarily between 12 noon and 2 p.m. and on Friday and Saturday nights. The garage filled only 20 times in 2002 (post-expansion), primarily in the summer between 7 p.m. and 9 p.m.

Monthly Leaseholders. As of April 2003 there are 385 monthly leaseholders in the parking garage, which is down from a high of 650 in May 2002. The primary reason for the decline is a loss of 290 leaseholders from two large downtown tenants that relocated in 2002. The office space the two firms occupied is vacant and presumably will be leased in the near future.

Cash-paying Customers. The number of cash-paying customers or "transients" using the garage hit an all time high in 2003. Transient customers are up 12% thus far in fiscal year 2003 over fiscal year 2002 and 17% over fiscal year 2001 (City of Portsmouth, Parking and Transportation Division).

On-Street Parking

There has been no update of on-street parking utilization since the 1998 parking study. That study showed that on-street parking was at capacity (greater than 85% utilization) from May thru October but that on-street parking is reasonably available during the off-season November to April (except during holiday periods).

The 1998 study documented that turnover at most metered spaces is in accordance with the time limits at the meters (typically 2 hours). It also identified three locations (Russell Street, Deer Street, and Market Street from Deer Street to Russell Street) where on-street parking was under-utilized and recommended reducing parking fees or increasing time allowances to encourage greater use. Since the 1998 Parking Study, the City has increased its supply of 4-hour parking meters on Russell Street, Deer Street, and Bridge Street, and at the Bridge Street Parking Lot.

Public Transportation

Numerous public transit providers offer a wide variety of transit services for Portsmouth's residents. These services allow travel within Portsmouth, to neighboring communities, to employment centers, and connections outside the region through inter-city bus providers. Portsmouth local bus routes are depicted on Map 10.

Fixed-Route Bus Service

Fixed-route bus service provides service on a fixed schedule and route. Fixed-route service providers include COAST and Wildcat Transit. Service frequencies above 60 minutes are not typically conducive to commuting for work purposes for so-called 'choice' riders—riders that have the option of driving or taking transit.

Cooperative Alliance for Seacoast Transportation—COAST

The Cooperative Alliance for Seacoast Transportation (COAST) serves the New Hampshire seacoast region of Rockingham and Strafford Counties and Berwick, Maine. COAST has provided transit service since 1981. COAST provide several routes and services in the area.

COAST offers three options for system passes: monthly pass ($25); six month pass ($135) and twelve month pass ($270). Passes are also accepted on Wildcat Transit. Its new buses feature low floor design for greater ease of entry for persons with disabilities.

COAST provides transit service within Rockingham and Strafford Counties. COAST routes that serve Portsmouth are described below.

Route 2

Route 2 includes connections between Portsmouth/Newington/Dover/Somersworth/ Rochester, covering the region's three largest cities and the regional malls in the Newington area. The route in Portsmouth takes it to downtown Portsmouth via Woodbury Avenue and Market Street. (Route and Fare Structure Analysis, Tech. Memo #1: Operations Review, 2001) Stops in Portsmouth include Market Square and Marshall's Plaza/Kmart. It provides a connection to the Amtrak Train Station in Dover to access the Downeaster service between Portland, Maine and Boston, Massachusetts. Route 2 also provides connections to Route 1 which provides service to Somersworth, NH and Berwick, ME.

Route 7

Route 7 connects Newmarket-Newfields-Exeter-Stratham-Newington. Transfers to Route 2 and the COAST trolley occur at the Fox Run Mall. Route 7 operates Monday through Friday with four runs in each direction. Route 7 provides a connection to the Amtrak Train Station in Exeter to access the Downeaster service between Portland, Maine and Boston, Massachusetts.

Islington Street/Pease Tradeport Trolley

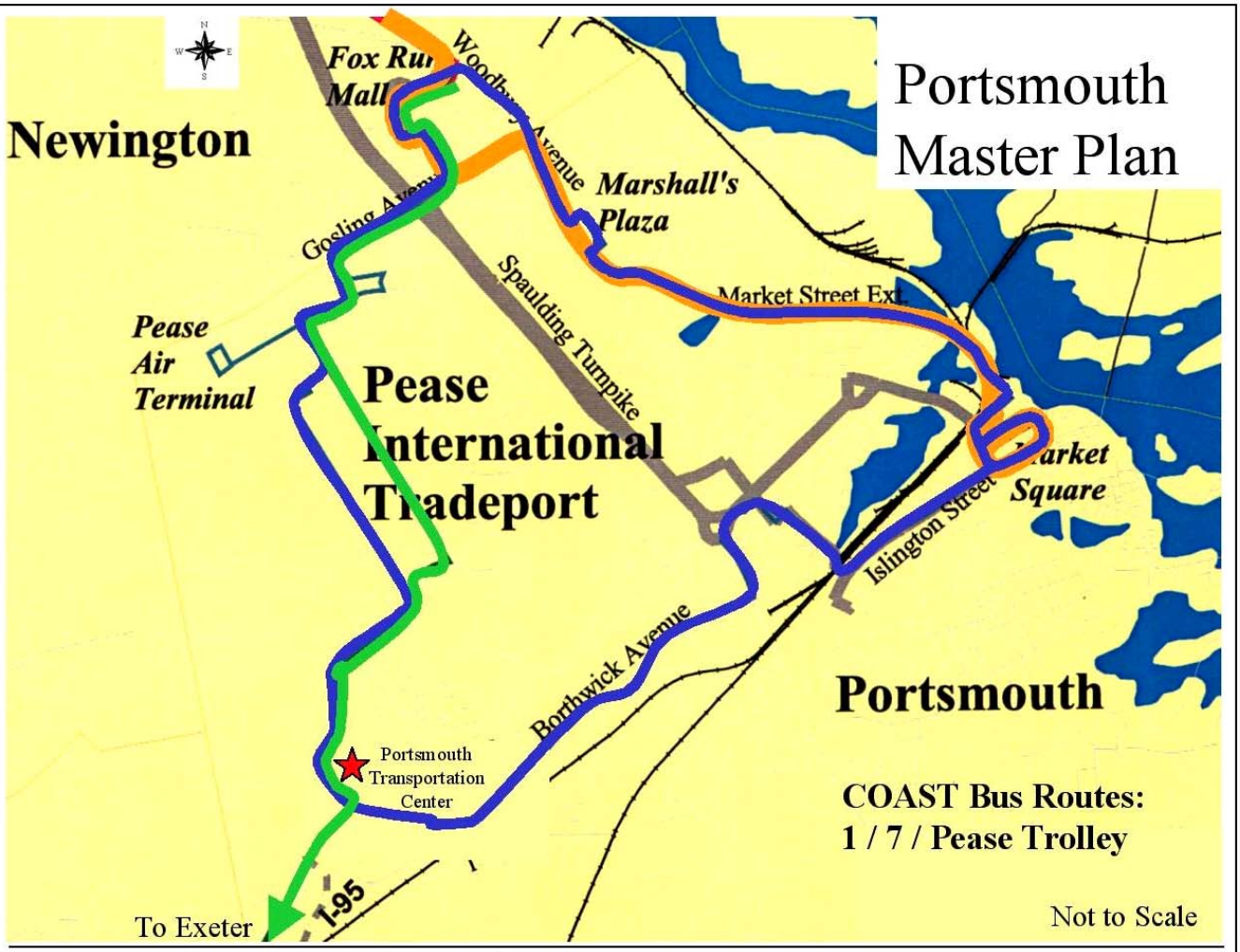
A revised year-round trolley goes into service on June 2, 2003. The Islington Street/ Pease Tradeport Trolley connects Market Square to the Tradeport and the Fox Run Mall via Islington Street and Route 33. The service makes stops at the Public Library, the Keefe Center, Plaza 800, the residential neighborhoods along Islington Street, the Plains Ballfield, the City's Park and Ride lot, and the Portsmouth Transportation Center. It also runs through the Tradeport to the Fox Run Mall with demand service to the Pease Airport. The service connects with the new Lafayette Road Trolley so that passengers can travel the trolley to Lafayette Road without making a transfer.

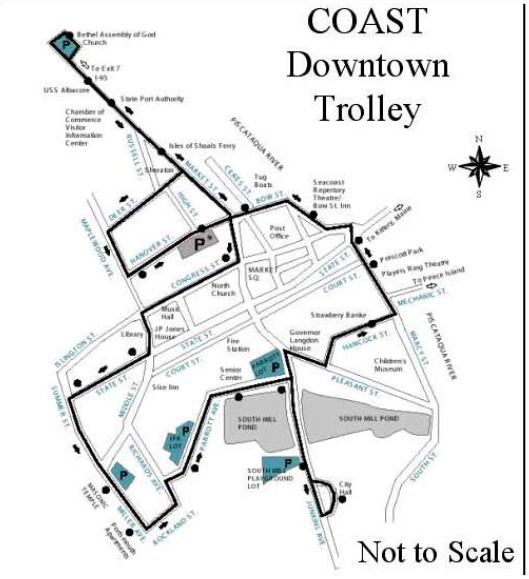
Lafayette Road Trolley

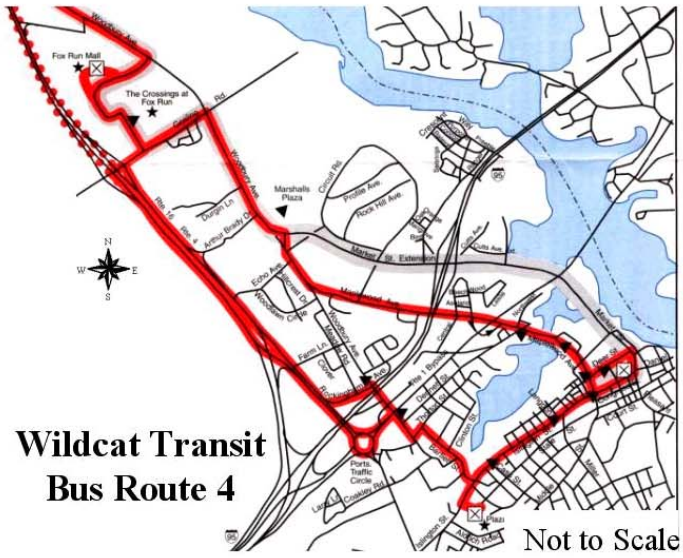
The new Lafayette Road Trolley goes into service on June 2, 2003. The trolley connects Market Square to the many residential developments and shopping centers along U.S. Route 1. Major stops include Margeson Apartments, Lafayette Park, Portsmouth High School, Lafayette Plaza, Market Basket Plaza, Water Country, Southgate Plaza, WalMart, and various housing developments along U.S. Route 1. The Lafayette Trolley connects with the Islington Street/Pease Tradeport Trolley so that passengers can travel the trolley to Islington Street and the Tradeport without making a transfer.

Seasonal Downtown Loop

The COAST Trolley Downtown Loop is seasonal and runs during the summer months with numerous stops throughout the downtown area. It also provides additional transit access to and circulation within the downtown.







Portsmouth Local Bus Routes
Map # 10

- COAST Route 2
- COAST Route 7
- COAST Pease Trolley
- Downtown Trolley
- Wildcat Transit Route 4

Wildcat Transit

Wildcat Transit provides fixed route and ADA paratransit service focused upon service to the University of New Hampshire in Durham. Three fixed routes provide service to Dover (Route 3), Portsmouth (Route 4) and Newmarket (Route 5). There are also a number of campus shuttles. Wildcat service to Portsmouth (Route 4) is described below.

Route 4

During the week there are eight (8) runs between approximately 7am and 11pm. On the weekend the number of runs decreases to three (3). And a reduced service schedule only provides two (2) runs a day. Fares are a dollar, with UNH students free with valid ID with an option for system passes which are also accepted by COAST. Buses are equipped with bicycle racks.

Key destinations of Route 4 include the University of New Hampshire (Durham), Fox Run Mall, Downtown Portsmouth/Market Square, Portsmouth Library and Plaza 800.

Table 80: Portsmouth Transit Routes – Service Frequency (Minutes) and Ridership

Route	Serving	Weekday			Saturday	Annual Passenger Trips [3]
		AM Peak	Mid-day	PM Peak		
2 – COAST	Rochester/Dover/ Portsmouth	60-110	60-125	60-135	125-195	87,653 (19,000)[4]
7 – COAST	Newmarket/Exeter/ Portsmouth	N/A	183-235	N/A	None	5,413
COAST Trolley[1]	Pease Tradeport-Portsmouth	60-80	60-90	60-100	60-100	31,651[2]
Downtown Trolley – COAST	Downtown Portsmouth	30	30	30	30	(see note above)
4 – Wildcat Transit	UNH - Portsmouth	180	120	120	150-210	Not known

[1] One-direction frequency only.
[2] Data includes COAST Trolley and seasonal Downtown Trolley. COAST Trolley being reconfigured beginning June 2003, split into two distinct trolley routes with 60-minute headways.
[3] Ridership data for COAST are for 2002.
[4] Rider trips with Portsmouth beginning and/or end.
Source: Route and Fare Structure Analysis, Tech. Memo #1: Operations Review, 2001; Wildcat Transit timetable, website, 2003; Ridership data, COAST, 2003.

Table 81: Portsmouth Transit Routes – Service Time of Service

Route	Serving	Weekday		Saturday	
		Start	End	Start	End
2 – COAST	Rochester/Dover/ Portsmouth	5:55 am	10:57 pm	6:55 am	10:57 pm
7 – COAST	Newmarket/Exeter/ Portsmouth	6:25 am	6:35 pm	N/A	N/A
COAST Trolley*	Pease Tradeport-Portsmouth	6:10 am	9:09 pm / 10:35 pm	6:10 am	9:09 pm / 10:35 pm
Downtown Trolley – COAST *	Downtown Portsmouth	6:15 am	8:40 pm / 10:45 pm	6:15 am	8:40 pm / 10:45 pm
4 – Wildcat Transit **	UNH - Portsmouth	6:50 am	11:09 pm	1:05 pm	8:17 pm

* Later end times reflect Friday and Saturday service
** Reduced service is provided during the summer months and school vacations.
Source: Route and Fare Structure Analysis, Tech. Memo #1: Operations Review, 2001;
Wildcat Transit timetable, website, 2003.

Transit Facilities

Principal transfer points for transit in Portsmouth are located at Market Square and at the Portsmouth Transportation Center (PTC) at the Pease Tradeport adjacent to I-95. Local fixed route service, intercity buses and taxis serve the PTC. There are also park and ride parking spaces and bicycle racks. Market Square is served by local fixed route, intercity bus and taxi. The City has plans to incorporate a bus transfer center into the Hanover Street Parking Facility (Draft Capital Improvement Program, City of Portsmouth, 2003) to overcome congestion/crowding at Market Square.

Paratransit/Demand Response ADA Service

COAST and Wildcat Transit provide ADA-accessible service in its service area for those unable to use its fixed route service due to a disability.

Intercity Bus Service

Vermont Transit

Formerly Greyhound, bus service through Portsmouth connects Boston to Maine. Daily there are four southbound trips south from Maine through Portsmouth and five north into Maine. Southbound departures are at: 8:05 am; 10:05 am; 1:15 pm; and 6:00 pm. Northbound departures are at: 7:05 am; 10:05 am; 1:25 pm; 6:30 pm and 8:55 pm. Vermont Transit departs from Market Square in Downtown Portsmouth.

C&J Trailways

Bus service between Logan Airport and Portsmouth approximately every hour. Service through Portsmouth connects to Boston, Logan Airport, Durham and Dover. Service originates out of the Portsmouth Transportation Center at the Pease Tradeport. On weekdays, there are 20 southbound departures and 19 northbound departures to Boston via Dover. On weekends, there 12 southbound departures and 12 northbound departures to Boston. There are one to three departures per day connecting Portsmouth with Durham and Boston.

Passenger Rail

Currently, Portsmouth is not directly served by passenger rail service. COAST provides bus transit links to Amtrak service in Dover and Exeter.

In 2000 the Rockingham Planning Commission conducted a preliminary feasibility study for a new passenger rail service between Portsmouth and Boston on the Hampton Branch. In 2003, the Planning Commission will conduct an alternatives analysis of restoring rail passenger service on the Hampton Branch. This analysis will include options for rail passenger connections to the Rockingham Branch or enhanced intercity bus service.

Greater Portsmouth Transportation Management Association

The Greater Portsmouth Transportation Management Association (TMA) is an independent, nonprofit organization of employers working together to address employee transportation issues in the Greater Portsmouth area. It is funded by a federal Congestion, Mitigation and Air Quality grant administered by New Hampshire Department of Transportation with matching funds provided by the Pease Development Authority.

Established in 2002, the mission of the TMA is to maintain the economic viability of the Portsmouth area by reducing traffic congestion and improving air quality through the creation of services and materials that promote commuting alternatives to driving alone to work. Main programs include carpool and vanpool, bicycle/pedestrian and transit usage. The program offers a Guaranteed Ride Home program as an incentive to participate as well as promoting the benefits to individual employees and employers to participate (Greater Portsmouth Transportation Management Association website, 2002).

Bicycle and Pedestrian Facilities

Bicycle Facilities

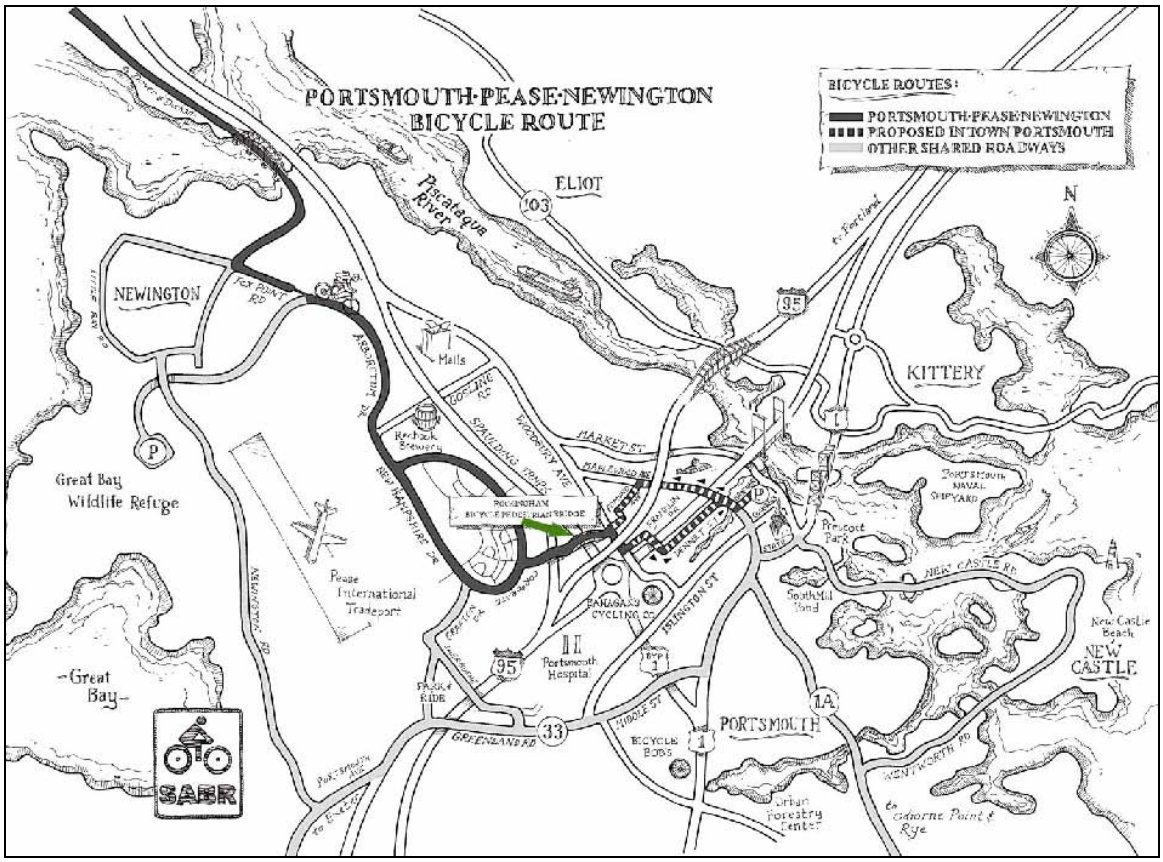
The City of Portsmouth does not have any formal bicycle routes or signed/designated bicycle facilities. Bicycle facilities may include:

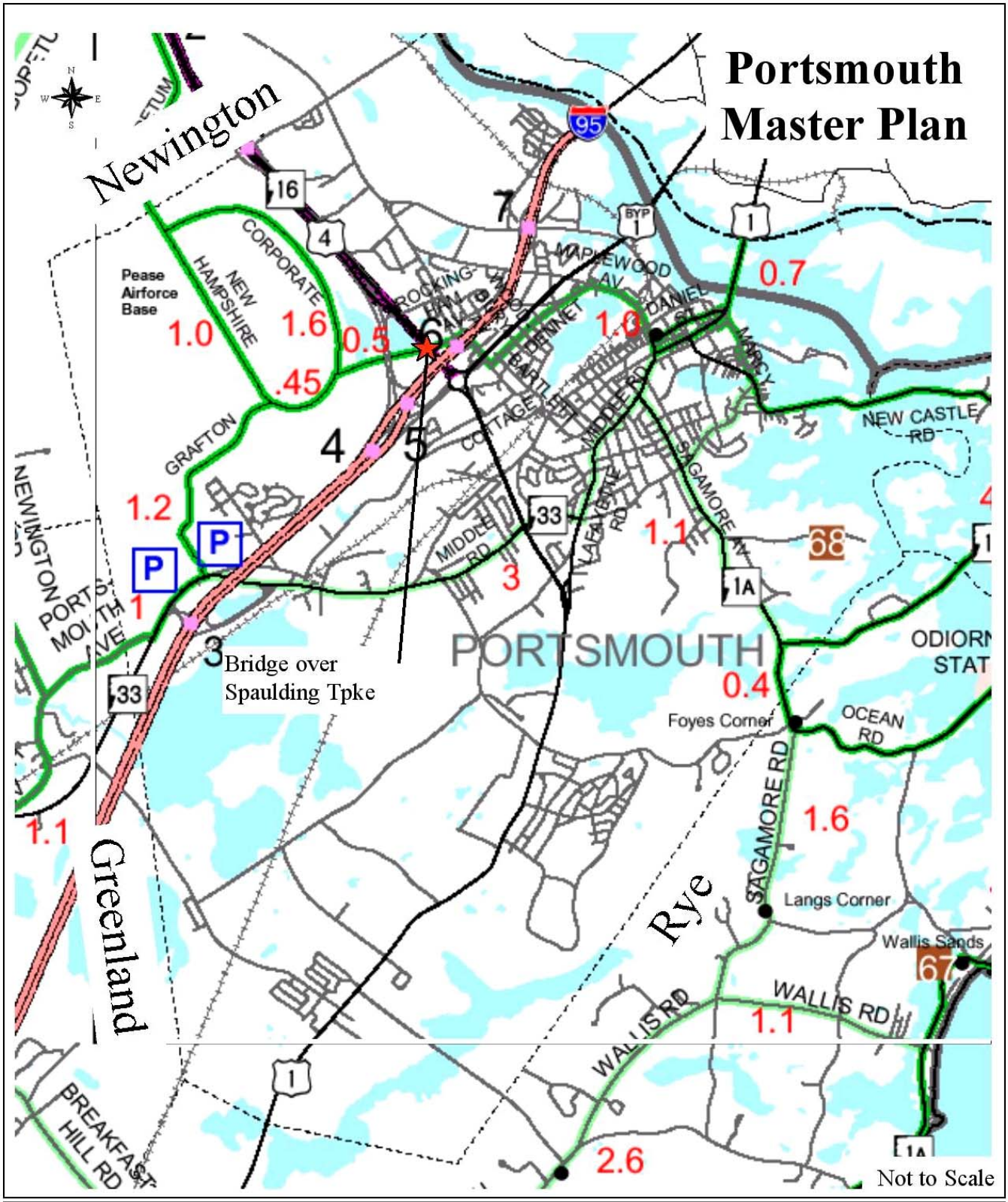
- Bicycle Lanes—portions of a roadway with pavement markings and signage denoting preferential or exclusive use by bicyclists (typically 5 feet to 6 feet wide);
- Paved Shoulders—the right hand portion of the roadway defined by space to the right of an edge white stripe which provides operating space for bicyclists (not for exclusive use by bicyclists; typically 2 feet to 8 feet wide);

- Wide Curb Lane—the right-most travel lane with additional width (typically 14 feet to 16 feet in total) beyond the standard 12-foot travel lane width (provides additional operating space in the same travel lane as automobiles);
- Shared Lane—standard width travel lane (typically 10-foot to 12-foot) that bicyclists and motorists share;
- Shared Use Path—pathway separated from the roadway that provides complete separation from motor vehicle traffic (typically 8 feet to 14 feet wide, minimum 10 feet preferred) for shared use by bicyclists, pedestrians and other users depending on surface and width.

The NHDOT has developed statewide bicycle routes which include designated routes in the city. Map 12 shows the NHDOT routes in the region and a detail of the city of Portsmouth routes. Additional routes are available on the NHDOT website at *www.nhbikeped.com*. Private groups such as SABR, Seacoast Area Bicycle Routes, maintain informal maps or descriptions of routes. Map 11 shows the SABR route map. A significant bicycle-pedestrian bridge facility was constructed over the Spaulding Turnpike to facilitate the development of a high quality connection between the downtown, neighborhoods and the Pease Tradeport. SABR currently reviews all design projects within the City and provides feedback to City staff.

Map 11: SABR Bicycle Route Map





NHDOT Area Bicycle Routes
Map # 12

Bicycle Route

Source: NHDOT, 2002.

Sidewalks

Sidewalks are mostly located in the older, urban areas of Portsmouth. Sidewalks are generally located on both sides of the streets within the downtown and in the adjacent residential neighborhoods. The areas with newer, strip type development are typically lacking sidewalks. Map 13 shows the location of sidewalks within the community. Over 50 miles of sidewalk currently exist in the City.

Important characteristics of sidewalks are that they provide direct connections, are well maintained and be free of obstructions and have curb ramps at intersections to maintain ADA accessibility.

The City Capital Improvement Program for 2004 to 2009 contains a number of projects to improve pedestrian facilities and pedestrian linkages to transit including streetscape improvements, traffic calming, building and rehabilitating sidewalks and constructing segments of trail. These projects are envisioned to be implemented throughout the City. It is estimated that approximately $17 million will be needed to maintain and improve this system. Currently, $500,000 per two year period is programmed to address these needs, in addition to individual projects (CIP, 2004-2009, p. 78).

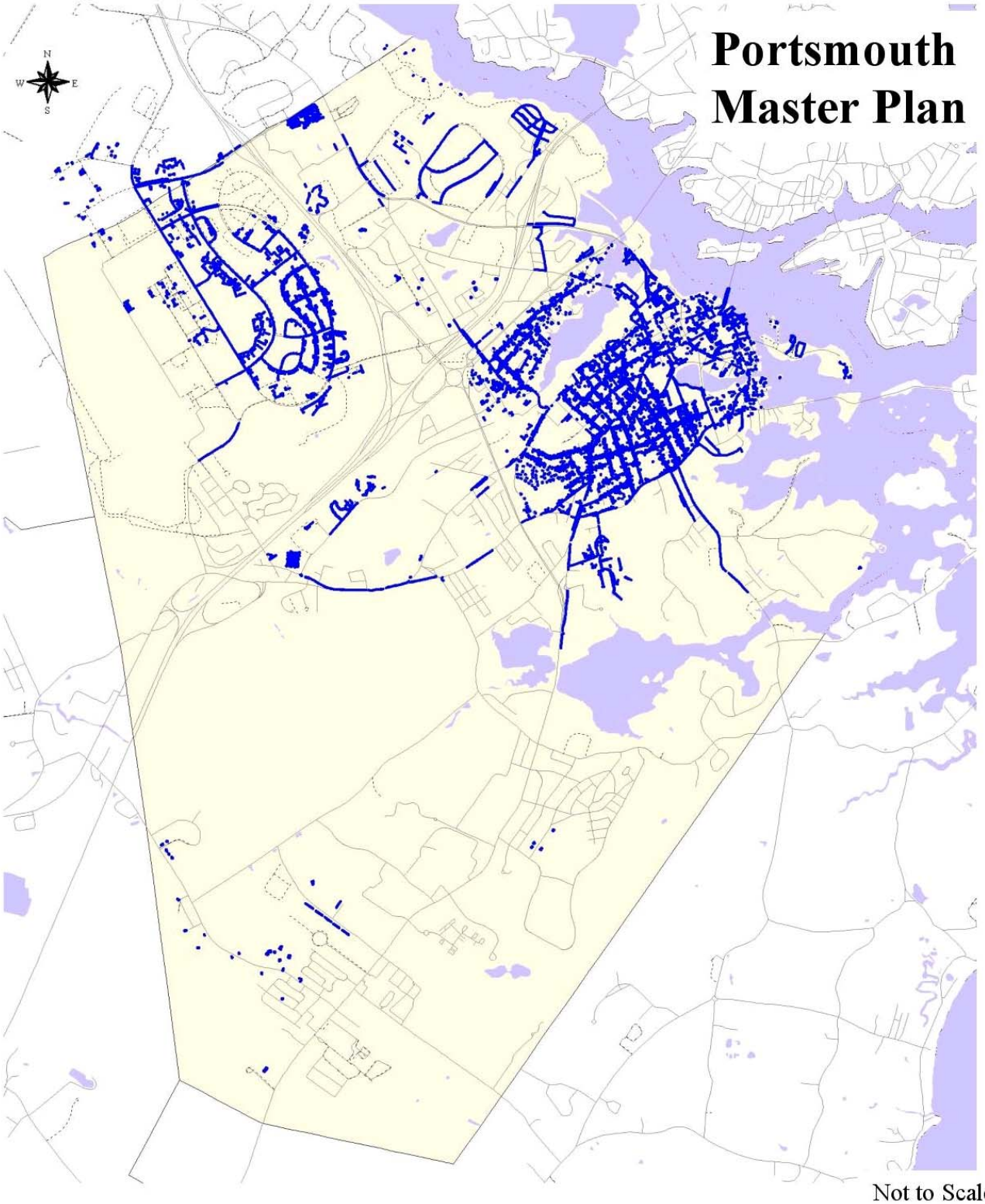
Trails

There is no mapped trail system for the city. There are some conservation parcels around the city with informal trails. Many do not have parking or signage. The City is developing or planning for additional trails on Peirce Island and along the Piscataqua River.

The Portsmouth Harbor Trail is a self guided walking tour in the downtown that incorporates short riverfront trail sections in Prescott Park with longer portions along City sidewalks connecting historic sites throughout the downtown.

Park and Ride Lots

Two NHDOT owned and maintained park and ride lots are located in Portsmouth. Both are located in close proximity to Exit 3 of I-95 at Route 33. The largest is located at the Portsmouth Transportation Center at the Pease Tradeport. There are over 750 parking spaces on site. The second lot is located just east of I-95 and has parking for 50 vehicles. It also has a bicycle rack, telephone and is lighted.



Existing Sidewalks
Map # 13

Sidewalk/Walkways

Source: City of Portsmouth GIS, 2003.

Signage and Wayfinding

Signage and wayfinding systems play a pivotal role in not only getting travelers to their destination efficiently but also are important for establishing the identity of a community. There are multiple levels of signage (interstate and local street) and multiple layers of signage (e.g., directional, informational, vehicle-oriented, pedestrian-oriented). It is critical that each of these levels and layers are well coordinated. These signs should be integrated with economic development/business promotion programs within a community. Fundamental aspects of wayfinding systems are:

- identifying the routes you want to direct travelers to use;
- identifying important 'decision points' to get travelers to their destination;
- providing the right information, in a legible format, at the right locations to the destinations.

Interstate and Highway Signage

Interstate/Freeway Signage

Interstate 95, the Spaulding Turnpike (Routes 4/16), Route 1, Route 1 Bypass and Route 33 provide the primary regional access to Portsmouth and to the downtown. Primary destinations in/near Portsmouth include:

- Pease Tradeport and the Portsmouth Transportation Center,
- Route 1 strip commercial business district,
- Portsmouth/Newington mall area,
- Portsmouth Downtown, historic district, port and adjacent neighborhoods.

Interstate/Freeway Signage. Signs on I-95 and the Spaulding Turnpike provide information for individual exits as they occur but do not provide adequate advance information to travelers unfamiliar with Portsmouth. There are no advance signs that provides an overview of the access options to these major destinations within Portsmouth.

Of particular interest are signs directing travelers to the downtown area. Northbound I-95 signage to the downtown is located just prior to the Market Street exit (Exit 7). Signs on the ramp indicate destinations (Port Authority, Waterfront and Historic Sites). Signs at the end of the ramp direct travelers to either Newington (left) or Portsmouth (right). Southbound I-95 highway signs provide direct travelers to the Business District / Portsmouth / Newington; destination signage (brown) directs travelers to this exit for the Port Authority / Waterfront / Historic Sites.

Freeway signage is located on the Spaulding Turnpike and the Route 1 By-Pass. No signs on the Spaulding Turnpike specifically direct travelers to an exit. Signs at the split of Route 1 and the Route 1 By-Pass direct travelers to remain on Route 1 to access the downtown. The Route 1 Bypass provides limited access to the downtown area but does provide access to the Woodbury Avenue

State Highway Signage

Signs along state highways (Route 1, Route 33) provide the necessary information to keep travelers on the routes and to direct travelers to destinations (see Local and Wayfinding Signage below).

Local Wayfinding and Signage

A variety of local wayfinding and directional signage is located throughout the city. A sampling of these signs is provided in
Figure 30. These include:

- General Street signs
- Welcome/Gateway signs
- Directional signage (e.g., related to one-way streets / prohibited turns)
- Destination signage ("Port Authority", "Beaches")
- Parking direction signage ("Municipal Parking Garage ←")
- Attraction signage ("Strawbery Banke", "Seacoast Repertory", "Harbor Trail", "Music Hall", Urban Forestry Center", Seacoast Science Center")
- Bike Route signs
- Visitor Information Signs.

Most of the signs are in good to fair condition. Numerous signs are in poor condition with the text and graphics faded and support posts broken or bent. While in most locations the quality of the information provided is good, the image presented by the signs is fair. For instance, the gateway signboard itself ("Welcome to Portsmouth") on Market Street presents a high quality image, but the method of installation and context (lack of supporting landscaping) detract from the sign and the intended image (see top left sign,
Figure 30). Most of the signs for local attractions are owned, posted and maintained by private entities. Sign standards and posting requirements in the public right-of-way are not currently regulated by Ordinance (Parking and Transportation Division).

Portsmouth Master Plan

Gateway Sign: Market Street

Destination, Attraction & Visitor Info.Signs

Bike Route Sign: Woodbury Avenue

Destination & Attraction Sign: Downtown

Freeway Destination Sign: Route 1

Parking & Attraction Signs: Russell Street

Signage & Wayfinding: Representative Signs Figure 30

Source: Wilbur Smith Associates.

Airport

Pease International Airport is located on the former Pease Air Force Base in the northwest corner of the city, including a portion of Newington. Adjacent to the Pease International Tradeport and operated by the Pease Development Authority, the airport includes a 11,300 foot runway, a 55,000 square foot passenger terminal and customs facility, and a 50,000 square foot air cargo facility.

There are currently 114 aircraft based at the field, including single engine airplanes (57), multi-engine airplanes (24), jet airplanes (20), helicopters (3), military aircraft (10).[34] Between September 30, 2001 and September 30, 2002, there were over 41,000 operations (either a take-off or landing) at the airport. Seventy-one percent of operations were by general aviation aircraft; 17 percent by military aircraft and 12 percent by commercial aircraft.[35]

Figure 31: Pease International Airport

Source: Pease Development Authority website, http://www.peasedev.org/web/aviation/history.htm

[34] AirNav.com, FAA, 20 March 2003.
[35] Portsmouth Herald, 30 December 2002.

Scheduled passenger air service is provided by Pan American Airways and Boston-Maine Airways, both owned by Guilford Transportation. The carriers provide service to several eastern cities and charter flights to the Caribbean Islands – twenty-four destinations in all. In 2000, the Pease passenger terminal served more than 79,000 passengers.

The current passenger terminal has a capacity of approximately 350 passengers per hour but the airport is primarily constrained by equipment (lack of boarding bridges), limiting the number of aircraft that can be handled simultaneously. A two-phase expansion plan would incrementally expand the existing 55,000 sq. ft. passenger terminal first to 100,000 sq. ft., and then to 150,000 sq. ft.; and increase the number of boarding bridges from the current two to a maximum of six. These expansions would increase the passenger capacity to 667 passengers per hour in the first phase, and to 1,000 passengers in the second phase, resulting in a final capacity of approximately 290,000 annual enplanements (580,000 passengers per year).[36] This significant public discussion began with a public hearing sponsored by the PDA on May 7, 2002,[37] and will continue to develop as additional plans unfold. The City of Portsmouth is generally opposed to increases in passenger flights because of noise impacts.

Over the past year, the airport has seen a 38-percent increase in cargo operations. In 2001, the airport handled over 25 million pounds of cargo (CY 2001 ACAIS, FAA). Major users of the cargo facility include Emery Worldwide Airfreight, BAX Global, and SeaCoast Aviation.[38]

In addition to the passenger and cargo carriers, Pease is also home to numerous corporate and private aircraft.

The Airport currently has two Fixed Base Operators (FBO): Pan Am and Port City Aircraft Repair, Inc. (PortCity Air). An FBO operates under a contractual arrangement with the airport owner for the use of land, buildings and facilities, in order to provide services related to general aviation. The types of services provided by an FBO may include sale of aviation fuel; ground handling services; aircraft rental and sales; aircraft maintenance and repair; radio and instrument sales and service; aircraft parking, storage, tie-down and hangaring; and student pilot training.

Hangar space is provided by the airport authority and the two FBOs.

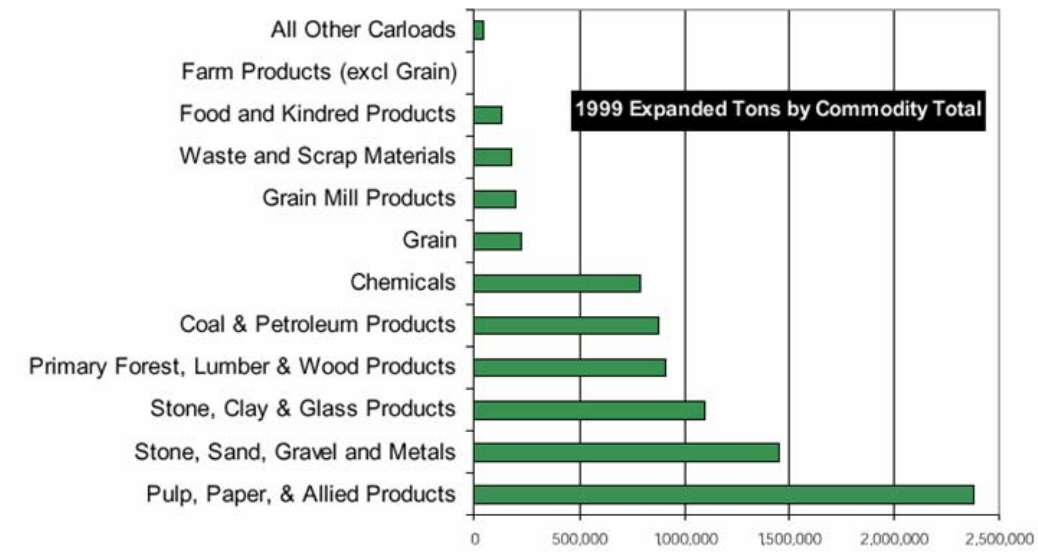
New Hampshire Air National Guard, the 157th Air Refueling Group, operates and shares the airfield.

Rail

Statewide, rail freight traffic increased by over 25 percent between 1994 and 1999. Figure 32 shows the distribution of rail freight by major commodity groups, by weight. By far, the largest commodity group in 1999 was Pulp, Paper and Allied Products, with nearly 2.4 million tons hauled.

[36] Airport Master Plan Supplement 2001, HTA Consulting Engineers, p. 13.
[37] "Pease Master Plan Update Draws Fire at a Public Hearing," The Union Leader, 5/10/02.
[38] Pease Development Authority website.

Figure 32: New Hampshire Rail Freight Commodities



Source: NH State Rail Plan, NHDOT, 2001.

Three rail lines run to and through Portsmouth: the Newington Branch, Portsmouth Branch and Main Line–East. Table 82 identifies the rail line's primary characteristics as listed in the New Hampshire State Rail Plan (NHDOT, April 2001). All three lines are owned by the Boston and Maine Corporation and operated by the Springfield Terminal Company.

Table 82: Portsmouth Rail Line Characteristics

Name	Distance (mi.)	To - From	Service Frequency	Condition
Newington Branch	3.5	Newington - Portsmouth	Weekly	Fair - Poor
Portsmouth Branch	10	Newfields - Portsmouth	Weekly	Good - Fair
Main Line - East	10	Hampton - Portsmouth	Not determined	Poor - Fair

Source: New Hampshire State Rail Plan, NHDOT, April 2001.

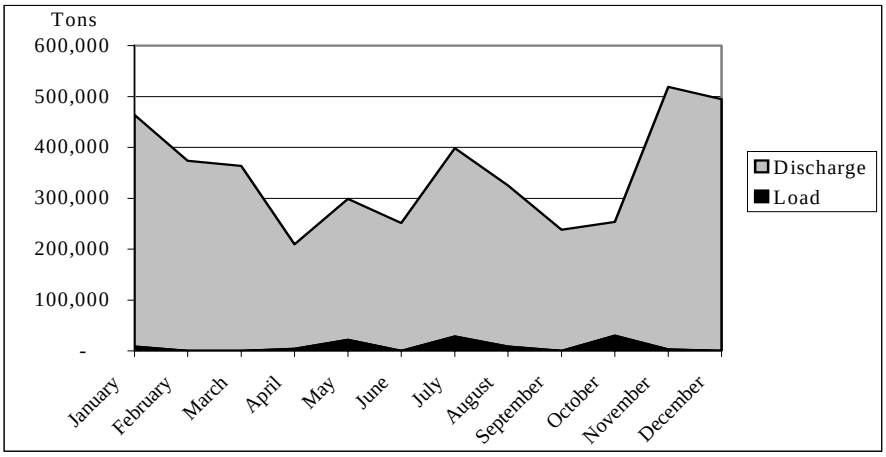
Marine Port Facilities

The Pease Development Authority Division of Ports and Harbors oversees and manages the tidal waters of the Piscataqua River Basin and the Port of New Hampshire.[39] Activities at the Port include pleasure boating, sport and commercial fishing, and bulk and general cargo transport. Vessels of all types visit the Port, including general purpose liners, bulk carriers, passenger ships, container carriers, feeder vessels and barges. The Port is ice-free year-round with a channel depth of 35 feet and bridge clearances between 135 and 150 feet. In addition, the Port has its own heliport site.

[39] Jurisdiction over the Port was transferred to the Pease Development Authority from the New Hampshire State Port Authority (NHPA) in July 2001.

The Port can provide fresh water, stores, bunkers, ant telephones to vessels. There is full rail service to the Port and Interstate 95 is one-half mile away. On average, the port handles 5 million tons of cargo per year;[40] in 2002 it handled over 4 million tons. Only a small portion of the cargo is loaded at the Port, with over 97% of cargo discharged.[41] Major types of incoming cargo in 2002 included: salt, fuel (oil, kerosene, propane, diesel, coal and gasoline), gypsum, asphalt, and cement. Outgoing cargo included cable, tallow and scrap metal.

Figure 33: Cargo Data for Port of Portsmouth, 2002



Source: Pease Development Authority, Division of Port and Harbors

A 1993 University of New Hampshire Study estimated that the Port overall contributed approximately $2 billion to the New Hampshire economy and generated 18,000 jobs.

There are ten marine terminals located at the Port along the Piscataqua River, including five in Portsmouth (see Figure 29, page 113 above). The Market Street Marine Terminal, a public general cargo facility owned by the PDA, consists of 11.5 acres with deepwater access with a 600-foot long wharf. There is also a 310-foot barge pier which is used for barges and containers which provides a depth of 22-feet. Cargo handling capabilities are provided by a 225 ton crane, a 165 ton crane and 35 ton yard cranes. In 2000, the NHPA completed a Master Plan for the Market Street Marine Terminal.[42]

[40] New Hampshire State Port Authority (NHPA) website, 2000.
[41] Portsmouth Pilots log, Pease Development Authority, Division of Ports and Harbors, 2002.
[42] Market Street Marine Terminal Master Plan 2000, NHPA, 2000.

Figure 34: Market Street Marine Terminal

Source: NHPA website.

COMMUNITY SERVICES AND FACILITIES

The City maintains a wide array of lands, buildings, and resources in serving Portsmouth's residents. City-owned land occupies 1,252 acres in Portsmouth, representing 11.6 percent of its overall area. All City-owned structures—ranging from major facilities such as its schools to minor sheds and dugouts—number 168 in total. Table 83 and Map 14 highlight the City's major facilities.

For Master Planning purposes, it is important to take stock of facilities and services to ensure that the community's on-going and future needs are met, and to ensure that existing resources are being utilized efficiently and effectively.

Municipal Complex

In 1987, the City of Portsmouth purchased the land and buildings at Junkins Avenue, formerly the Portsmouth Hospital, for use as its City Hall and Police Station. Acquisition of the property and buildings was funded through 10-year bonds issued in October 1987.

The Seybolt Building, attached to City Hall is currently leased by the City to seven non-profit agencies, which provide housing, health care, and other social services to local and area residents. In 1999, a $1 million renovation project, funded primarily through State and Federal CDBG dollars, was carried out at the Seybolt Building, which included an upgrade of the electrical system, installation of an HVAC system, and replacement of the elevator system and all windows.

Cottage Hospital, located at the City Hall complex on Junkins Avenue, has been vacant since 1986. The building, also known as the 1895 building, is on the National Register. During the 1990s, the City considered various building re-use options, however, none proved feasible and/or cost effective. In early 2002, the City and the Portsmouth Housing Authority began working together on plans to create affordable senior housing in the Cottage Hospital building. The PHA obtained the necessary financing for this $3 million renovation project through a number of sources including HUD HOME funds, the Federal Home Loan Bank, Portsmouth CDBG and federal low income housing and historic tax credits. The City will retain ownership of the property and will enter into a long-term lease with PHA, similar to the lease arrangement the City has with the non-profit agencies in the Seybolt Building.

Fire Department

The City of Portsmouth Fire Department is comprised of forty-four full-time uniformed fire fighters in three locations, twelve fire officers, one fire marshal, three chief officers and one administrative personnel. The firefighters are also cross-trained as paramedics, EMT-Intermediates and are continually being trained in fire fighting, emergency medical and emergency rescue. In addition, the City maintains a fleet of five engine trucks and one aerial ladder truck as well as three ambulances. At present, this department is responsible not only for fire suppression, but also a number of other services including emergency medical service, vehicle extrication, special rescue services including water rescue, hazardous materials response and shipboard fire and emergency response for vessels up to one mile from the City. The

department also provides a number of non-emergency services including fire prevention and code enforcement, public fire and safety education, and fire investigation.

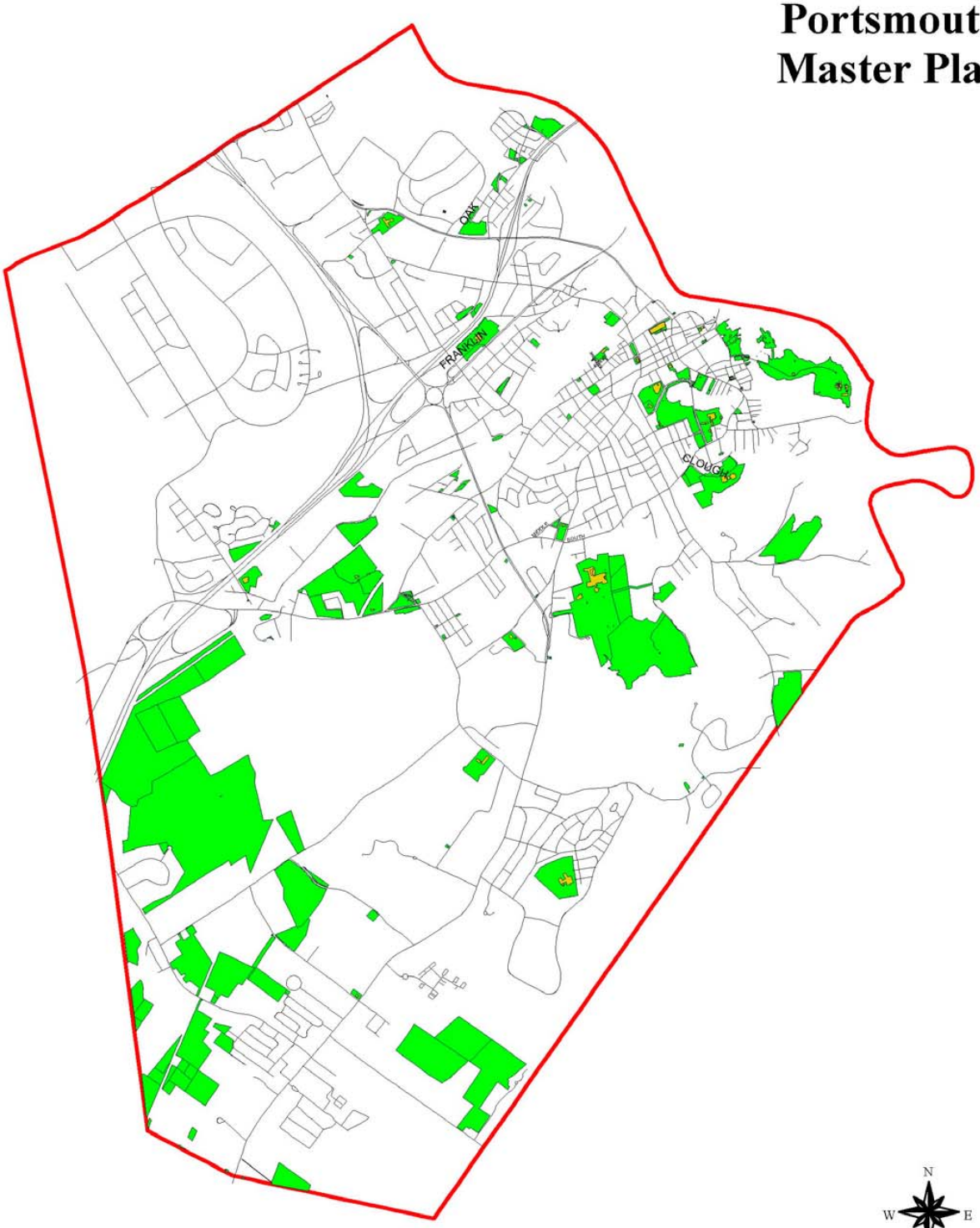
Buildings and Equipment

The department maintains three fire stations that are staffed 24 hours a day. A full list of major apparatus and equipment has been prepared as an appendix to the 2004-2009 City of Portsmouth Capital Improvement Plan.

Table 83: Major City Facilities

General	City Hall Complex Police Department Seybolt Building (leased to non-profit agencies) 1895 Cottage Hospital Building (being developed by PHA for senior housing)	JFK Memorial Building Lafayette School (vacant) Public Library Public Parking Garage Public Works Facility Rock Street Garage (storage) Stump Dump Facility
Fire	Central Fire Station Station 1 Station 2 at Pease Tradeport	
Water Supply	Madbury Water Treatment Facility Pease Water Treatment Facility	
Wastewater Treatment	Peirce Island Wastewater Treatment Facility Pease Wastewater Treatment Facility	
Schools	Dondero Elementary School Little Harbour Elementary School New Franklin Elementary School	Portsmouth Middle School Portsmouth High School Sherburne Alternative School
Leased Property	South Meeting House (leased to Children's Museum) Creek Athletic Club (leased to social club) The Plains Schoolhouse (leased to social club) Prescott Park Brick Building (leased to The Players Ring) Wentworth School (leased to Exchange City)	
Recreation Facilities	Connie Bean Community Center Spinnaker Point (Adult) Recreation Center Greenleaf Recreation Center Indoor Pool Peirce Island Outdoor Pool Peirce Island Boat Launch Four Tree Island Recreation Area	Leary Field Alumni Field (next to Middle School) Clough Field Hislop Little League Central Little League Field (next to Leary Field)
Parks and Playgrounds	Aldrich Park Big Rock Park Cater Park Connie Bean Playground Four Tree Island Picnic Area Goodwin Park Hislop Park Hanscom Park Haven Park Haven School Playground Langdon Park	Lafayette Park Maple Haven Park Maynard Park Pannaway Park Pine Street Park Peirce Island Park Prescott Park Rock Street Park South Playground The Plains

Portsmouth Master Plan



Source: City of Portsmouth GIS

City-Owned Sites & Facilities
Map # 14

Station 1
Located in the historic downtown district at 170 Court Street, Station 1 houses the administrative and prevention offices of the Portsmouth Fire Department and houses Engine 1 and 5 and Ambulance 1 as well as command support resources. The department also maintains two marine units one at Station 1 and the other is docked along the waterfront at Prescott Park. Built in 1919, this facility is a three-story brick structure with a total of about 17,000 s.f.

Station 2
Station 2 is located at 2700 Lafayette Road in the southern portion of the City and houses Engine 4 and Ladder 2, and Ambulance 2. Built in 1965 this facility is a one-story masonry building that is approximately 3,000 s.f.

Station 3
This facility, located at 127 International Drive at the Pease International Tradeport, houses Engine 3, Ambulance 3 and Rescue 3. Three reserve engines complement the fleet. Built in the late 1950's as the fire station for Pease Air Force Base, it is a one-story brick structure that is approximately 4,428 s.f. in size.

Capital Improvements

The Fire Department has 3 items in the City's 2004-2009 Capital Improvements Plan. These are summarized in Table 84.

Table 84: Capital Improvement Plan Equipment and Projects

Items	Projected Cost
City Fire Alarm System	$135,000
A variety of equipment including turnout gear, hose replacement, defibrillator replacement, gas meter replacement, Hurst tool replacement.	$150,000[1]
Confined Space Rescue Equipment Replacement	$50,000
Central Station Improvements	$250,000
Replacement of Station 2	$2,000,000

Source: City of Portsmouth, Capital Improvement Plan, 2004-2009
Note: This equipment is in the Capital Improvement Plan because in total it meets the funding guidelines.

Number of Calls

Over the past three years the fire department has responded to approximately 6,000 calls each year or an average of 14 calls per day. Approximately 1/2 of these are fire and the other 1/2 rescue as shown in the table below.

Table 85: Fire Department Calls from 2000 through 2002

	2000	2001	2002
Fire	2754	2881	2574
Rescue	2509	2611	2417
Total	7263	7493	6993

Sources: Portsmouth Fire Department, March, 2003.

The department has mutual agreements with all the surrounding communities and border communities in Maine and Massachusetts should additional assistance be necessary.

The department has indicated that there is a need for additional EMT-Paramedics staff and to eventually staff Ambulance 2 at Station 2 on Lafayette Road on a full-time basis.

Fire and Rescue Service Response Time

Response time is a measure of how quickly fire and emergency personnel can reach the scene of an incident. A guideline of seven minutes is typically used based on the amount of time a structure and its contents can typically be fully in flames. This time includes detection, reporting and travel time to the scene. Travel time should be approximately four minutes. The Portsmouth Fire Department reports that its average time to incident is four minutes. At present, with its three station locations, the fire department's response time is adequate.

Police Department

The Portsmouth Police Department is located on the ground floor of City Hall at 3 Junkins Avenue. The Department, under the direction of the three-member Portsmouth Police Commission, is comprised of 95 full-time and 31 part-time employees including 71 full-time Police Officers, 28 Auxiliary Police Officers and 24 non-sworn civilian employees including dispatchers and clerical staff.

Organization

The department is organized into three major divisions: Patrol, Administration, and Investigative Services. The Patrol Division consists of uniformed field personnel, an Accident Investigation Team, an Emergency Response Team, police K-9, motorcycle patrol, animal control, field training officers and a police explorer post. Administrative Services directs personnel and training, community relations/internal affairs, communications, automated information systems, court prosecutors, fleet maintenance, clerical staff, and reports and records. Members of the Bureau of Investigative Services are responsible for major crime investigations, juvenile investigations, school resource officers, crime stoppers, and the undercover narcotics unit. The Bureau undertook 4366 criminal investigations in 2002, 5032 investigations in 2001 and 4823 in 2000.

Within the Patrol Division is a specialty emergency response team. The Portsmouth Police Department currently has 15 highly skilled officers and civilian staff assigned to the team. The Department is a member of the Seacoast Emergency Response Team (SERT) comprised of 10 member communities with approximately 45 assigned personnel, with responsibilities in tactical operations, crisis negotiation and tactical dispatch. SERT is responsible for handling incidents beyond the capabilities of standard police tactics, training and resources. Areas of responsibility include barricaded suspects, hostage situations, terrorist activities, crowd control/civil disobedience VIP security and sniper incidents.

The Emergency Communications Dispatch Center is also housed in the police department, which acts as the Communications Center for the City, dispatching all Police/Fire/EMS calls for service, as well as Department of Public Works calls after business hours. The 11 fulltime dispatchers and

one part time dispatcher answer over 44,000 telephone calls during the course of the year. The Center also assisted in 48,000 "calls for service" for 2002 which include motor vehicle stops, ambulance calls and calls for structure fires.

Physical Space and Equipment

The existing police space was renovated in 1991 when the police department moved from its downtown location into a portion of the former Portsmouth Hospital that is now the City Hall Complex. At present, the department is undertaking another renovation that will provide additional reception, dispatch, a lounge/cafeteria and a briefing room. In addition, a $54,000 project to improve the Indoor Training Range is scheduled in the Capital Improvement Program.

At present, the Department has 20 cruisers and 7 other vehicles. The Department has also requested a Mobile Command Post Vehicle as part of the City's Capital Improvements Plan which will provide an key component of the Department's Communications and Emergency Response program.

Schools

The Portsmouth public school system serves more than 2,700 students. The academic program is complemented by a full array of extracurricular activities including music, sports, clubs, social events, drama, and service learning opportunities. The school system is governed by an elected School Board and administered through the Superintendent's office that is located at the Little Harbour School. The School Board establishes educational policy and prepares the school system budget in conjunction with the Superintendent.

Existing Conditions

The City of Portsmouth currently operates three elementary schools (Dondero, New Franklin and Little Harbour), a middle school, and a senior high school, which includes a vocational center. In addition, the Sherburne and Wentworth Schools continue to be operated by the School Department, but for alternative educational programs. All of these facilities are within a two and half-mile radius of City Hall.

Table 86: Portsmouth School Department Facilities Summary

	High School	Middle School	Dondero	Little Harbour	New Franklin
Land Acreage	54.2	5.74	19.17	17.59	13.27
Building Area	237,409	104,086	53,689	57,862	30,992
Building Cover	13%	41%	6%	8%	5%
Classrooms	70	46	26	25	14
Capacity	1387	702	435	476	264
Population-2000	1064	536	480	373	198

Source: Portsmouth School Department, March 2003

In 1999, the School Department contracted with PDT Architects to conduct an educational space needs study, which included a physical building analysis of each school, enrollment trends and

projections through 2009 and recommendations for capital improvements. Assessments of function and quality contained in the following facility descriptions are taken from this study.

New Franklin Elementary School
This school has an enrollment of 229 students in grades K-5 and is located off Woodbury Avenue near the US Route 1 By-Pass. The school is located on approximately 13 acres. This school building has recently undergone a significant addition to permit the addition of 35 students through redistricting. The addition includes four new classrooms, a separate cafeteria, storage and loading facilities, and increased parking. As part of the addition project the main building was completely sprinklered, reroofed and had all new protective siding added. These improvements were approved by the City Council for $2 million and the City has qualified for 30% New Hampshire School Building Aid.

Dondero Elementary School
Replaced following a fire loss in 1974, this school is located in the southern portion of Portsmouth on Van Buren Avenue, this facility is sited on 19 acres of land. With an enrollment of 401 students this facility through redistricting has seen its student population drop to an acceptable number for its size. It does not have a full gymnasium and currently uses a "playroom" that is about ½ the size of an elementary gymnasium. The art and music space are small and were not built with this function in mind. Six classrooms, which were built as part of the open space concept, are only accessible by walking through other classrooms, resulting in an inconvenient situation. Although recent improvements have been made, the school also lacks adequate small group and specialty rooms where instructors, tutors and specialists can work with students. At present, these activities are sometimes taking place in closets, hallways or storage rooms.

Little Harbour Elementary School
Built in 1968, the Little Harbour School is located on 17+ acres of land on Clough Drive along the shore of the tidal Back Channel. This school has a good mix of educational spaces such as kindergarten rooms, full-sized cafeteria and full-sized gymnasium. However, the school suffers from inefficiencies that are the result of a floor plan that used the open space concept. Consequently, there are a number of space/infrastructure problems:

- There is much square footage in the center of the school which is not enclosed within hallways,
- There are few small spaces for resource programs which don't need the existing large spaces, and
- The mechanical system would need to be altered to allow for rezoning of heating and ventilation for self-contained classrooms.

An increased population could be accommodated at this school if an investment is made in the internal reconfiguration of walls with associated electrical and mechanical infrastructure.

Portsmouth Middle School
The Portsmouth Middle School, located in downtown Portsmouth on Parrott Avenue, has an enrollment of 551 students in grades 6-8. It was built in 1930 as a well-constructed building but its structural arrangement does not support a Middle School philosophy of education. It also provides educational services for Newington students in the 7th and 8th grades. The 1975 addition is not constructed as well as the original building; it suffers from narrow hallways, undersized classrooms, undersized windows and relatively poor acoustics and ventilation. Now 73 years old, the school is in need of major renovation to the electrical, plumbing, and mechanical systems as well as floors, walls and hardware. Because the building is downtown and a major City landmark,

it might be appropriate to reinvest in the structure for another 30-40 years of use. It is also possible an educational feasibility study will find renovation of this building not cost effective for future school use. In this case an alternative site for the middle school would be sought as well as alternative municipal use for this fine older building. Although the building is on a relatively small site, 5.74 acres, it relies on the adjacent community playing fields for physical education and athletics.

Portsmouth High School and Vocational Center
Built in 1957, this facility has an enrollment of just fewer than 1,100 students in grades 9-12 and is currently 237,406 s.f. The high school is situated on over 50 acres of land that allows for great flexibility for future building plans and athletic facilities. It also provides educational services for students from New Castle, Rye, Newington, and Greenland. The New England Association of Schools and Colleges has recently accredited the high school. The facility includes a vocational center, a gymnasium, cafeteria, and auditorium. As a result of the 1999 PDT Assessment noting that because of the age of the facility, it was in need of infrastructure upgrades such as mechanical and electrical systems and that the standard classroom size and configuration was not suited to today's needs for more varied sized spaces. Furthermore, the equipment and furnishings were in need of replacement. In 2000 the School Board and City Council approved a plan and $36 million of local funding for a 210,000 square foot addition and complete renovation of most of the remaining building. This project has qualified for New Hampshire SBA in the amount of 55%. This project got underway in early 2002 and will be ready for occupancy in phases beginning in the spring of 2004. When completed, Portsmouth High School will be able to house over 1400 students in 320,000 square foot all new instructional, library gymnasium, and auditorium with all new cafeteria student support space.

Sherburne School
This wood frame building is on 5+ acres of land, is 61 years old, and can hold approximately 140 students. At present, it does house the School Department's PASS (Portsmouth Alternative Secondary School) program, which has approximately 40 students.

Wentworth School
This wood frame facility was built in 1942. While it is no longer used as a school, the building is still retained by the School Department. At present, it is the home of Exchange City New England that leases the building from the School Department. This is a not-for-profit educational venture dedicated to bring economics and business education program(s) and curriculum to the site for use by public school districts (including Portsmouth). This current use and program have been adopted by the School Board and Administration as an "adjunct" to the regular school program.

Enrollments

After the closure of Pease Air Force Base in the early 1990's, Portsmouth school enrollments fell dramatically (see Table 87). Since that time they have generally increased except for the last several years. Total enrollment for the system was 3,757 in 1990 and 2,511 in 1991, a decrease of 1,246 students or 33.1%. Since that time the elementary enrollments reached a high of 1,218 in 1994 and as of 1998 were at 1,183. The most recent figure for 2002 has the elementary population at 1,045. During that same period the Portsmouth Middle School reached a high of 576 for the current year. The high school enrollments also reached a post Pease closure high point in 2002 with 1,070 students. The High School continues to show modest annual student growth because the population increases in the four "sending" towns. As of 2000 the total enrollments were still approximately 1,000 less than prior to the Pease closure.

Projections

In 1999 Planning Decisions, Inc., as part of the PDT Team's school assessment project, prepared school projection figures through 2008. The results of these are presented in Table 88. Based on the decreasing level of births to residents in Portsmouth since 1992 and the out migration trend of families with pre-school children, the projections for enrollments at the elementary level are expected to be in the range of 984 and 1,013 students through 2008. The decrease from the high of 1997 is evident in the 2000 enrollment figure of 1,051 for the elementary level. Even if the "alternative" high projections are factored as Planning Decisions did, the 2008 enrollment is projected to be 1,082, still within the elementary schools' capacity. Middle school projections are expected to remain relatively stable until 2005 when the numbers are expected to decrease to a level of 477 students in 2008. This decrease is attributable to the decreases in resident birth levels in recent years. The high school enrollment is projected to increase to a level of about 1,281 in 2006 with a slight decrease after that. This decrease is the result of the lower projected class sizes in the lower grades over the next few years progressing through the system.

Redistricting and Capital Planning

Capital Planning for the Middle School

The City has also recommended up to $20 million in funds for the 2004-2009 Capital Improvement Plan for capital improvements to the Portsmouth Middle School. The building will require a complete engineering review and an educational space needs analysis in addition to complete renovation of the building and possibly some new construction.

Redistricting and Capital Planning for the Elementary Schools

Subsequent to the completion of the PDT school system assessment, the School Department and School Board established a process to take advantage of the existing and projected demographics within the City and the existing educational infrastructure. It was determined that future plans should focus on the quality and equity in education, since the school population was not projected to increase beyond the system's physical capacity. This approach would require redistricting for the elementary schools and initial capital improvements to the elementary schools and the high school with subsequent capital improvements to the middle school.

In March of 2001 a Redistricting Committee of the School Board prepared a set of recommendations that included redistricting and physical changes to both the New Franklin School and the Dondero School. The aim of the committee was to:

- Create comparable facilities at all three elementary schools;
- Create more space for the existing elementary school population in existing buildings;
- Try to maintain a class size not to exceed 18-20 students;
- Minimize the length of time for students to be on buses and
- Try to maintain special programs such as art, music, and guidance in their current locations as much as possible.

Table 87: Portsmouth Public Schools - 10 Year School Enrollments 1989-1998

Grade	Oct. 1989	Oct. 1990	Oct. 1991	Oct. 1992	Oct. 1993	Oct. 1994	Oct. 1995	Oct. 1996	Oct. 1997	Oct. 1998
K-5	1,795	1,338	1,072	1,153	1,171	1,218	1,169	1,164	1,183	1,152
6-8	727	569	520	530	529	514	550	559	571	563
9-12	1,235	1,024	919	906	931	951	961	1,021	1,052	1,030
Total	3,757	2,931	2,511	2,589	2,631	2,683	2,680	2,744	2,806	2,745

High school (9-12) enrollment figures include Portsmouth resident students as well as students from Newcastle, Newington, Greenland and Rye. Middle school (6-8) enrollment figures included Portsmouth resident students as well as Newington students for the 7th and 8th grade years.
Source: City of Portsmouth School Department

Table 88: Portsmouth Public Schools School Projections 2000-2008

Grade	Oct. 2000	Oct. 2001	Oct. 2002	Oct. 2003	Oct. 2004	Oct. 2005	Oct. 2006	Oct. 2007	Oct. 2008
K-5	1,111	1,064	1,020	996	984	987	984	1,013	1,013
6-8	560	549	576	580	583	539	519	476	477
9-12	1,106	1,171	1,187	1,212	1,227	1,233	1,281	1,270	1,242
Total	2,777	2,784	2,783	2,788	2,794	2,759	2,784	2,759	2,732

Source: City of Portsmouth School Department, Planning Decisions, Inc., 1999

Based on the existing facilities and enrollments, the committee recommended the following:

- Undertake a redistricting plan that would move approximately 60 students to the New Franklin School and include Tucker's Cove neighborhood in the Little Harbour district to accommodate new students from approximately 55 newly constructed homes.

- Build four new classrooms plus an "all purpose" room for physical education at the New Franklin School, remove modulars at Dondero and make recommended internal classroom changes to both the Dondero and Little Harbor Schools. With the reduction in enrollment in Dondero, four classrooms would become available, eliminating the need for modular classrooms.

These recommendations were accepted by the School Board in April 2001. The Board moved forward with the redistricting and the renovations to the New Franklin school as described previously. At present, 35 students have been added through the redistricting.

The School Department has recommended renovations to all three elementary schools in the 2004-2009 Capital Improvement Plan. These renovations would be scheduled during 2008-2009. All of these schools are over 30 years old and are reaching the end of their operating life cycle. Mechanical, environmental and educational delivery systems will be outdated. A complete engineering and educational space needs review will be needed prior to design and construction.

Library

The Portsmouth Library is located on Islington Street in downtown Portsmouth and is currently housed in three structures that are physically joined. The original library was established on the third floor of the Daniel Street Custom House in 1881. With no permanent quarters the library moved 15 years later into the Portsmouth Academy Building, which was constructed in 1809. In the 1950s, a small structure was built combining the Academy Building and the Thomas Morton House, constructed in 1811. Both buildings are listed on the National Register of Historic Places. In 1976 an addition was constructed that permanently joined the two older buildings and added additional library space.

The two older buildings are constructed of brick and granite and the 1976 building is reinforced concrete. There is a total of 8,240 s.f. on two floors. In addition to the open shelves, there is a reference and periodical section as well as a separate Children's Room. The library currently houses 136,000 volumes and during the year 2001 there were 340,532 items loaned, 22,281 reference questions and 247,749 user visits. The library is open almost 65 hours per week Monday through Saturday. There are currently fifteen (15) full time and seven (7) part time employees.

For a number of years the City has been investigating the construction of a new library. A Library Building Committee was established and an architectural firm has been hired to assist the committee. The current space is not adequate for the number of volumes the library needs to house and the types of services that a modern library requires. By comparison, the City of Dover has a somewhat smaller collection, but has more than twice the space. The current facility needs additional space for staff, new acquisitions, public meeting rooms, a larger children's room and an adequate reading area. The building is not energy efficient and there are areas that are not sprinklered and are not in compliance with the Americans with Disabilities Act. In addition, user access is very difficult since there is no on-site parking and handicapped access is poor or

inadequate. Electrical and electronic services are outdated, limiting the library's efforts to modernize its services.

The Building Committee has recommended a building site on Parrott Avenue (where the JFK Community Center stands) next to the Middle School. The Committee has agreed that the new building should provide the needed space to offer the necessary services of a modern library including up-to-date technologies, a user-friendly reference area, a multi-purpose meeting room, building systems such as heating and electrical systems that are capable of future expansion and the capability to expand specific functions such as children's services or electronic work stations. The project is budgeted at $7 million that could come from both public and private sources. The current building program includes two floors each with about 19,000 s.f. The projected completion date is 2004. The spaces include:

- Adult Circulation, incorporating fiction stacks; periodicals, browsing and circulation,
- Adult Reference, incorporating non-fiction reference and special collections,
- Children's Area,
- Meeting and Conference Rooms, and
- Technical Services and Administration.

Public Works

Introduction

The Department of Public Works is responsible for maintaining the City's extensive municipal infrastructure, including City streets, sidewalks and bridges; all municipal buildings; the City's vehicle and equipment fleet; public parks, playgrounds and other recreation facilities; Portsmouth's historic cemeteries (Union, North, Point of Graves, Pleasant Street); all public street trees; the wastewater collection and treatment system; the water supply and treatment system; and solid waste collection and disposal. In addition to these infrastructure maintenance responsibilities, the Department manages the City's Geographic Information Mapping System (GIS); implements City-sponsored capital projects; oversees planning related to the transportation network and parking facilities; and manages the Adopt-a-Spot program.

The DPW's main facility is located at 680 Peverly Hill Road. This new facility was funded through the sale of the former DPW property located off Islington Street, and includes a 2-story steel frame building which houses department offices, shop space and a vehicle maintenance and storage facility. Also located at the facility are a new salt shed, a vehicle fueling facility for all City-owned vehicles, the City Recycling Center, and a privately-owned cell tower (per a revenue producing lease with the City). The City will soon be adding mini-storage facilities and expanding the vehicle storage and repair bays.

The Department is overseen by a Director and Deputy Director, and has an annual operating budget of $5.3 million, not including water and sewer. The goals of the Department are to maintain and improve the City's infrastructure in accordance with local, state and federal regulations; and to provide a high level of service in a cost effective and efficient manner. The Department of Public Works' five divisions are as follows:

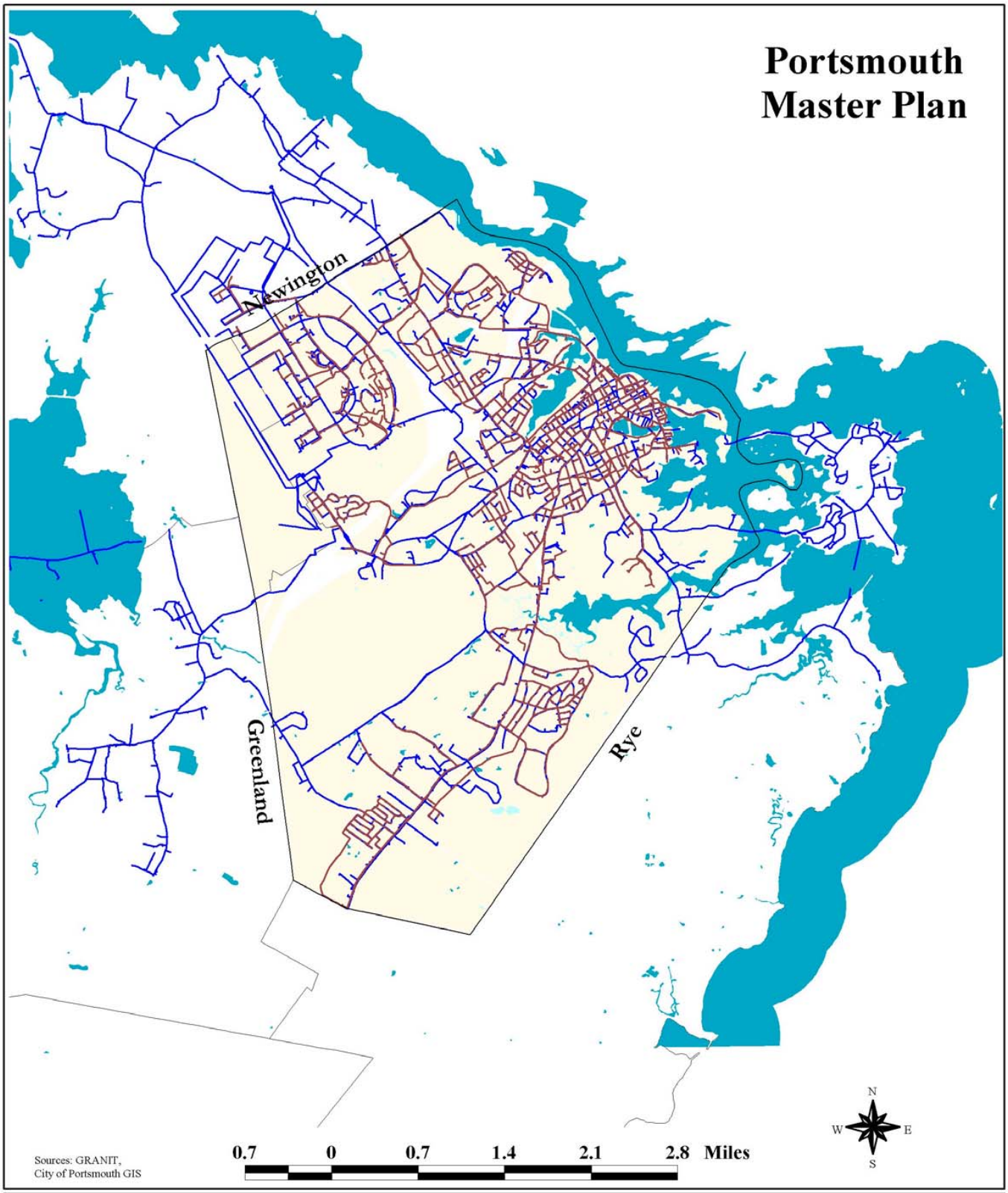
Engineering Division: This division oversees the design, bidding, inspection and construction of the City's capital projects; provides

	technical review of subdivisions and site plans; and provides technical engineering support to other City departments.
Highway Division	This division is responsible for the maintenance of all City streets, sidewalks, and bridges, including snow removal operations, street signs, pavement markings and traffic lights; implementation of the City's pavement management program; maintenance of City buildings, including all custodial services; maintenance of the City's parks, playgrounds, pools and other recreation facilities; maintenance of the City's vehicle and equipment fleet, which includes plows, dump trucks, garbage packers, loaders, mowers, etc.; implementation of the City's mosquito control program; stormwater management (described in more detail below); and solid waste collection and disposal (described in more detail below).
Water Division	This division operates and maintains the City's water supply, distribution and treatment system (described in more detail below); and ensures regulatory compliance with all applicable laws and regulations.
Sewer Division	This division operates and maintains the City's waste-water collection and treatment system (described in more detail below); and ensures regulatory compliance with all applicable laws and regulations.
Parking & Transportation Division	This division manages the City's transportation and parking programs and systems, including planning; regional coordination; oversight of federal/state funding; parking facilities and operations, including publicly owned or leased surface lots and the public parking garage; public transportation systems; and implementation of City parking rules and regulations.

Water Supply System

The City of Portsmouth is a regional water supplier, with a service area that includes customers in Portsmouth, Durham, Greenland, Madbury, New Castle, Newington, and Rye, plus the Pease International Tradeport. Areas served within the City of Portsmouth are depicted on Map 15. As of 2002, the *average day* use for the Portsmouth water system was approximately 5.10 million gallons per day (mgd), and the *maximum day* usage was roughly 7.10 mgd.

The City's water supplies are drawn from a combination of surface and ground waters. Surface water supply consists of the Bellamy Reservoir located in the Town of Madbury. Treatment of this water supply is provided at the Madbury Water Treatment Plant, operated by the City. This water is then pumped to Portsmouth through a pipeline, which runs through portions of Madbury, Durham and Newington.



Water & Sewer Service Areas
Map # 15

Portsmouth Sewer System
Portsmouth Water System

The City's groundwater supply is provided by a total of nine individual wells; eight wells are currently in operation, and one is in the process of being reactivated. Three wells are located in Madbury at the site of the Madbury Water Treatment Plant, three are located within the Pease Tradeport, two are east of I-95 in Portsmouth, and one is located in the Town of Greenland.

The City's water distribution system includes approximately 150 miles of pipe in two pressure zones: the Portsmouth zone (serving all areas except Pease) and the Pease zone. The City also owns, operates, and maintains 6 water distribution storage facilities at the following locations:

- Newington Booster Station Tank
- Spinney Road Elevated Tank
- Islington Street Standpipe
- Osprey Landing Elevated Tank
- Lafayette Road Tank
- Hobbs Hill Tank

In addition, the NH Air National Guard (NHANG) Elevated Tank is connected to the Pease distribution system, although not maintained by the City. The total volume of all facilities, including the Pease tank, is 11.51 million gallons.

Water storage facilities provide water for fire protection and are used to "equalize fluctuations in customer demand, establish and maintain water pressure, provide operational flexibility for water supply facilities, and to improve water supply reliability."[43]

Water Supply System Trends and Needs

In 1999, the City initiated the first phase of a comprehensive two-phase Water System Master Plan. The Phase 1 study focussed primarily on the City's distribution pipe network, distribution storage tanks, the system's pumping capacity, and future water system demands. In addition, the Phase 1 master plan recommended distribution system improvements, and indicated that future water demands might exceed available water supply capacity.

In that much of the City's water pipe is 50 to 100 years old, and many of the older pipes are undersized and at the end of their design life, the Phase 1 Water System Master Plan identified approximately $34 million worth of needed water line upgrades. The City has prioritized those replacement needs, and carries out systematic replacement under its Annual Water Line Replacement Program; whenever possible, the installation of new water lines is carried out in conjunction with road reconstruction projects.

Recently completed water infrastructure projects include the new Spinney Road tank, and the replacement of the Constitution to Congress Street water main. In addition, the City has already begun to implement many of the other recommendations contained in the Phase 1 Plan, which include increasing promotion of water conservation through a variety of media; increasing public education of best practices in watershed management for the Bellamy Reservoir; and expanding the water quality sampling program beyond the routine quality sampling, which is already performed.

[43] Phase 1 Water System Master Plan, p. 5-25.

The recently completed Phase 2 Water System Master Plan, which looks to future needs in the year 2020, assessed the reasonableness of the Phase 1 water demand predictions, identified the sustainable yields[44] of the City's groundwater and surface water (Bellamy Reservoir) supplies, and outlined actions the City would need to take to ensure the water system had sufficient supply, production and treatment capacity to meet both future demand and water quality regulations.

According to the Phase 2 Plan's analysis, *average day* demand is projected to be 7.39 million gallons per day (mgd) in 2020 (see Table 89), and the *maximum day* demand is projected to be 10.88 mgd in that same year. About one-third of the projected growth in average day demand is attributable to residential users in Portsmouth and other serviced communities, one-third to projected commercial and industrial growth at Pease, and one-third to nonresidential growth outside Pease.

Table 89: Sources of Projected Increases in Average Daily Water Demand

	1999 Actual (mgd)	2020 Projected (mgd)	Increase (mgd)	Percent Increase	% of Total Increase
Residential	1.50	2.51	1.01	67.3%	32.7%
Nonresidential:					
- Pease	0.20	1.24	1.04	520.0%	33.7%
- Non-Pease	2.60	3.64	1.04	40.0%	33.7%
Total	4.30	7.39	3.09	71.9%	100.0%

As already indicated above, part of the water system master planning effort included conducting geologic and hydrogeologic investigations of the City's wells and aquifers to assess their sustainable yields. The study found that the total sustainable yield of the City's aquifers, including the Madbury, Pease-Portsmouth, and Greenland aquifers, is estimated to be 3.2 mgd.

The City's surface water supply, Bellamy Reservoir, is estimated to have a current water storage capacity of 770 million gallons. Based on this, and using data from historic drought conditions, the sustainable yield of the Bellamy Reservoir was estimated to be 4.3 mgd during severe drought.

The combined sustainable yields for the City's groundwater and Bellamy Reservoir sources totals 7.5 mgd during drought conditions. In the year 2020, the average day demand for water is projected to be 7.39 mgd. This means that in the year 2020, during *average day* conditions, the City would only have a 0.11 mgd surplus from its existing water sources.

The Phase 2 Water System Master Plan indicates that there appears to be sufficient sustainable yield to meet future *average day* demands. However, responsible water system management dictates that designs must meet maximum, not average, demand. This is essential to, for example, providing the critical buffer needed should any one significant water source have to be taken off line, temporarily or permanently. Therefore, the plan strongly recommends that the City pursue efforts to locate and develop new water sources in order to increase the margin of safety.

[44] The sustainable yield of a water source is how much water can be withdrawn over time without depleting ("drying up") the resource.

The Phase 2 plan also recommends that the City will need to develop sufficient production and treatment capacity to exceed the year 2020 *maximum day* demand of 10.88 mgd. In that current pumping and treatment capacity is estimated to be only 9.1 mgd, the plan recommends increasing pumping and treatment capacity to a minimum of 10.88 mgd by the year 2008 and, in order to provide a margin of safety, as much as 13.6 mgd by the year 2020.

In order to accomplish the needed increases in water supply expected in the future, the Phase 2 Water System Master Plan identifies existing groundwater resources which are being underutilized, and should have pump upgrades. More importantly, the plan recommends that major pumping and treatment capacity upgrades at the Madbury Water Treatment Plant are needed both to meet future water supply demands, and to upgrade treatment to meet new water quality standards that will come into effect. Specifically treatment/pumping capacity should be upgraded from the current 4.2 mgd, to a minimum of 8.0 mgd.

The total cost of recommendations contained in the Phase 2 Water System Master Plan is $20 million to $30 million, over the next 15 to 20 years. The most significant capital cost ($18 million) is for a new water treatment facility to replace the Madbury Water Treatment Plant. Recommendations also include new water supply source development, pumping system upgrades, operational modifications to optimize the combined use of surface and ground water supplies, and operational changes to improve the efficiency of the distribution system (see Table 90 below).

Table 90: Phase 2 Water System Master Plan Recommendations

Project	Estimated Cost	Estimated Time Frame
New Madbury Water Treatment Facility	$18 million	2006-2008
New source development	$5.5 million	2005-2015
Pumping system upgrades	$1.0 million	2004-2008
Operational modifications to optimize combined use of groundwater and surface water	$1.5 million	2005-2010
Bellamy Dam improvements	$1.0 million	2010-2012
Operational changes to improve the distribution system efficiency including the Greenland pressure zone	$2.5 million	2003-2010

The City's 2004-2009 Capital Improvement Program details projects the City plans to implement in the near term.

Wastewater Collection and Treatment System

The City's wastewater system services Portsmouth, the Pease International Tradeport, New Castle (for wastewater treatment), a small portion of Rye (the Adams Mobile Home Park), and a private entity in Greenland. Areas served within the City of Portsmouth are depicted on Map 15. The collection and treatment system includes approximately 115 miles of sewer lines (excluding Pease), 18 pumping stations, and an advanced primary wastewater treatment plant (WWTP) located on Peirce Island. Treated effluent from the Peirce Island WWTP is discharged to the Piscataqua River.

In addition, pursuant to Portsmouth's long-term Municipal Services Agreement with the Pease Tradeport, the City operates and maintains collection and treatment facilities at Pease that consist of approximately 15 miles of sewer lines, one pumping station, and a secondary wastewater treatment plant.

Upgrades to the City's two wastewater treatment facilities – the Peirce Island WWTP and the Pease WWTP -- are ongoing, as are improvements to both the wastewater collection and pumping systems. Wastewater infrastructure improvements, both those underway and those planned for the future, are highlighted below, as are the extensive planning and design studies that underlie them.

Wastewater System Trends and Needs

In the late 1990s, the City completed its 201 Sewer System Facilities Plan, which provides an inventory and review of existing facilities along with a 20-year improvement plan, thus becoming the master plan for the City's wastewater collection and treatment system. Specifically, this plan evaluates Portsmouth's wastewater collection and treatment systems, identifies infrastructure needs, and makes improvement recommendations.

The 201 Facilities Plan also makes projections regarding future wastewater demands based on historic data projected population growth, land use changes and growth patterns. In the year 2020, *total annual average daily flow* to the Peirce Island WWTP is projected to be 7.27 million gallons per day (mgd), an increase of 32% over 1998 average daily flows of 5.51 mgd.

The City has been carrying out the 201 Plan's phased recommendations on an annual basis since the plan was completed. The first phase of improvements recommended in the 201 Facilities Plan are complete. A number of Phase II improvements are scheduled and funded in fiscal year '04. These Phase II improvements include the construction of a new pump station and force main to correct sewer backups along Brackett Road, and upgrades to the Gosling Road and Rye Line pump stations. The $22.5 million Phase III Sewerage Improvement Program, scheduled to begin in fiscal year '09, includes upgrades to the Peirce Island WWTP as well as further Long Term Control Plan projects (described below) and sewer upgrades.

Improvements to the City's wastewater infrastructure are costly due, in large part, to the need to comply with environmental regulations and permit requirements that are increasingly complex, particularly as they apply to coastal communities. The City has utilized the 201 Facilities Plan as the basis to secure funding for the recommended wastewater collection and treatment system improvements. Specifically, funding is provided as 30 percent grants through the State Aid Grant (SAG) program and as low interest loans through the State Revolving Loan Fund (SRF), with repayment only required after the entire improvement program has been completed.

As indicated above, the Peirce Island WWTP provides advanced primary treatment. This WWTP currently operates in compliance with a National Pollution Discharge Elimination System (NPDES) permit, and what is known as a 301(H) waiver, which waives certain secondary treatment requirements. The City is nearing completion of a $420,000 planning effort that includes an in-depth study and modeling of the impacts of the Peirce Island Wastewater Treatment Plant on the Piscataqua River and the surrounding coves and bays. This study supports the City's re-application for a 301(h) waiver and, when complete, will be submitted to EPA and the NH Department of Environmental Services for their review.

In addition, as is typical in older cities, Portsmouth's wastewater system includes combined sewers, which carry both wastewater and stormwater. Under periods of heavy rain, combined systems can result in sewer backups, as well as discharges of excess flows to surface waters, which are known as combined sewer overflows (CSOs).

The City has taken many steps over the last several decades that have significantly reduced the frequency of these backups and discharges. In addition to the 201 Facilities Plan described above, the City has a Long Term Control Plan, which is Portsmouth's ten-year master plan for addressing the remaining combined sewer overflows (CSOs) in the system. The Long Term Control Plan includes a series of projects, which will result in the separation of the remaining combined sewers, increase sewer capacity, and increase sewer pump station capacities.

Since 1997, as part of ongoing improvement efforts, the City has spent more than $12 million on sewer system upgrades, focussed primarily on sewer separation projects. These sewer separation projects have eliminated the sewer backups that would occur during rain events in the Essex Avenue/ Hampshire Road area, Thaxter/Fells area, Pannaway Manor neighborhood, and lower South Street.

The Long Term Control Plan, which has been submitted to EPA, specifically recommends that the City proceed with sewer separation projects in the combined sewer overflow areas adjacent to the South Mill Pond. The next sewer separation projects will begin in the immediate South Mill Pond area, and work towards the Lincoln Avenue neighborhood. The design of the initial sewer separation project for this area is complete, and the construction is scheduled to begin in 2003.

Stormwater Management

The Department of Public Works is responsible for ensuring the proper collection and management of the City's stormwater, including maintenance of the City's stormwater system, which includes culverts, storm sewers, detention/retention ponds and drainage swales. This infrastructure serves to collect, transport and store runoff from storms. Proper management of stormwater and stormwater infrastructure is key to maintaining the quality of surface and ground water, while controlling flooding. Stormwater management efforts include ongoing maintenance of stormwater infrastructure, and ensuring compliance with stormwater regulations.

Stormwater runoff may contain pollutants, which can adversely impact water quality. These pollutants can include gasoline, oil, antifreeze, road salt or heavy metals, which enter runoff from, for example, streets and parking lots. Other stormwater contaminants can include fertilizers, herbicides and pesticides applied to lawns or disposed of improperly. Road sand applied during the winter months and construction activities that cause increased soil erosion can also result in sediments that reduce the capacity of stormwater management systems, and negatively impact water quality as well as flora and fauna.

The City is responsible for ensuring compliance with stormwater regulations. This responsibility is carried out with regard to private development through the implementation of local subdivision, site plan and other land use regulations and the technical review of private development proposals. The City is also in the process of preparing a Stormwater Management Plan pursuant to new U.S. Environmental Protection Agency (EPA) regulations, which are intended to strengthen local stormwater management efforts under the provisions of the Clean Water Act.

Solid Waste Management

The objectives of the City's solid waste program, managed by the DPW's Highway Division, are to:

- provide the City a means of collecting and disposing of solid waste curbside, including recycling and bulky waste, in the most efficient and cost effective manner;
- dispose of waste at minimal cost and within industry guidelines;
- ensure waste management practices are in compliance with local, state and federal regulations;
- keep City streets, sidewalks and the Central Business District free of debris and litter; and
- provide the City with curbside collection and proper disposal methods for yard waste materials.

Waste is collected from residences and businesses that fall within established criteria, as well as from all municipal facilities, excluding schools. The City disposes of its solid waste at the Turnkey Landfill in Rochester under a contract agreement. The City also has a contract with an outside vendor to collect and recycle glass bottles, plastic, aluminum, tin, and paper fiber materials; this service is provided to taxpayers both as curbside pick-up and at the Recycling Center.

Prior to the mid-1990s, 100 percent of the City's solid waste was disposed of at the Turnkey Landfill. Since that time, the City has been active in taking steps to reduce both disposal costs and the amount of the waste stream going to the landfill, increasing the frequency of bulky waste collection, and improving environmental stewardship efforts regarding waste management. Specifically, these efforts have included removing recyclable materials, bulky materials (furniture, appliances, tires, wood scraps, etc.), and hazardous wastes from the waste stream, identifying less expensive disposal markets, and managing resources more efficiently.

Recent initiatives have included adoption of a new solid waste ordinance, effective January 2003, which established the Recycling Center at the DPW's main Peverly Hill Road location, re-organizing the curbside bulky waste collection program to become an on-demand pick-up system, and making recycling mandatory. In addition, two times each year, the City sponsors household hazardous waste collection days, which provide residents with a means to properly and safely dispose of these wastes.

In 2002, the City disposed of a total of 8,870 tons of rubbish, bulky waste, and recyclable material. Of that, 2,169 tons were recycled. The City's current recycling rate, including all material diverted from the landfill, is 24 percent.

The City continues to take steps to meet its solid waste goals. Specifically, these goals are to improve the efficiency and cost effectiveness of its solid waste management operations and reduce the waste stream, while maintaining a focus on environmentally friendly approaches to solid waste management and improving the Recycling Center.

NATURAL RESOURCES AND OPEN SPACE

Introduction

Portsmouth's natural resources and open spaces are critical considerations in establishing a proper approach for land planning and management. Natural resource and open space features such as soils, vegetation, wildlife habitat, and tidal and fresh water resources add to Portsmouth's character, provide recreational opportunities and contribute to the quality of life for Portsmouth's residents.

Recent residential and commercial growth in Portsmouth has placed increased development pressure upon the City's limited supply of undeveloped land. Land that has historically held limited attraction for development is experiencing new found interest amid dwindling availability. As a result, protection of natural resources and key open spaces in Portsmouth is an important issue the City is facing. Preserving key access points, habitat areas, and open space corridor connections are key considerations that factor into planning efforts.

Topography and Geology

The City of Portsmouth, along with the majority of the coastline in New England, lies in the Seaboard Lowlands Section of the New England Physiographic Province. Topographic relief is limited to less than approximately two hundred feet in the Seaboard Lowlands. Variation notwithstanding, Portsmouth is predominantly flat.

Portsmouth lies in an area that was inundated by the ocean and areas of large glacial lakes during the last glacial retreat. As glaciers retreated after the Ice Age some fifty thousand years ago, till (unstratified glacial drift consisting of clay, sand, gravel, and boulders) and outwash (loose material consisting mainly of gravel and sand that has been carried by running water from the melting ice of glaciers and laid down in stratified deposits) were left. These became the dominant materials in the Portsmouth area. As the glaciers melted, the sea level rose along with the land. As a result, marine silts, clays, and sands were mixed together with the previously deposited till and outwash. Glacial deposits are generally coarse in texture and possess a high degree of permeability. Most groundwater supplies in the Portsmouth area are found in these glacial deposits. While glacial deposits have a high degree of permeability, marine deposits, which are fine in texture, generally are impermeable to ground water flows. Such deposits are associated with Portsmouth's tidal streams and brooks.

Soils

According to the 1994 US Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) *Soil Survey of Rockingham County, New Hampshire,* Portsmouth soils can be characterized by four broad categories: wetland (hydric), seasonally wet, shallow to bedrock, and sand and gravelly. With over 30 percent of the City comprised of wetland[45], hydric soils can be found in abundance.

[45] Includes surface/open water.

Rare Plants, Animals, and Exemplary Natural Communities

The New Hampshire Natural Heritage Bureau identifies, tracks, and facilitates the protection of New Hampshire's rare plants, rare animals, and exemplary natural communities. Table 91 lists the rare plants and exemplary natural communities in Portsmouth and indicates whether the species or community is listed as "threatened" or "endangered" under the NH Native Plant Protection Act of 1987 (NH RSA 217-A).[46] Under the NH Native Plant Protection Act, "endangered" species are those in danger of being extirpated from the state, while "threatened" species face the possibility of becoming "endangered." The list includes species that are biologically rare, but which are not formally listed as "threatened" or "endangered."

In addition to presenting the listing status of rare species, the Bureau also rates the relative quality of rare species and natural communities based on a combination of how rare the species or community is and how large or healthy its examples are in the town. Species are rated from highest importance to extremely high, very high, or high importance. A species ranked with highest importance is an excellent example of a globally rare species or natural community, while a rare species or community ranked as high is a marginal example of state rarity.

Table 91: Rare Plants and Exemplary Natural Communities in Portsmouth

Species or Community Name	State Listing	Importance of Local Species Population or Natural Community
Natural Communities - Palustrine		
Atlantic White Cedar Basin Swamp	–	Extremely high
SNE Acidic Seepage Swamp	–	Extremely high
SNE Seepage Marsh	–	Very high
Natural Communities - Estuarine		
Gulf of Maine Salt Marsh	–	Very high
Plants		
Alaskan Goose-Grass	Endangered	Very high
Atlantic White Cedar	–	Very high
Black Maple	Threatened	High
Dwarf Glasswort	Threatened	Very high
Greater Marsh-Bellflower	–	Very high
Green Adder's-Mouth	Threatened	High
Hairy-Fruited Sedge	–	High
Marsh Elder	Threatened	Extremely high
Salt-Marsh Gerardia	Threatened	Very high
Tufted Loosestrife	Threatened	Extremely high
Variegated Horsetail	–	[not ranked]

Source: NH Natural Heritage Bureau, January 2003

[46] New Hampshire Natural Heritage Bureau, *Rare Plants, Rare Animals, and Exemplary Natural Communities in New Hampshire Towns*, January 2003.

Historic data has not been compiled in order to determine if the City's rare species and natural communities are being impacted by incremental land use changes. Further investigation into the degree to which these resources are changing, what types of changes may be occurring, and the associated causal relationships is needed in order to gain a more complete understanding of this issue, as well as to inform protection efforts.

In an effort to protect these resource areas, the NH Natural Heritage Bureau does not identify precise locations. Upon request from a community, the Bureau will publish a map of the community illustrating general locations. A majority of Portsmouth's listed rare plants and exemplary natural communities are located in the southern portion of the city. Some are located near the border between Portsmouth and the towns of Rye and Greenland.

The Natural Heritage Bureau does not list any rare animal species in Portsmouth.

Water Bodies and Watersheds

The city of Portsmouth includes portions of the watersheds of the Piscataqua River and Berry's Brook. Drainage from both these watersheds eventually empties into Portsmouth Harbor and Little Harbor and then into the Atlantic Ocean. The Piscataqua River watershed includes such water bodies as the Piscataqua River, Great Bay, Winnicutt River, and Sagamore Creek in Portsmouth. The Berry's Brook Watershed comprises an area of 3,802 acres in four seacoast communities: approximately 40 percent of the drainage basin is in Portsmouth, 55 percent in Rye, and 5 percent in Greenland, with a very small amount in North Hampton.

Within each of these watersheds are significant surface water features:

- Berry's Brook is a freshwater stream that becomes tidal after it crosses into Rye before discharging into Little Harbor.
- Pickering Brook has its headwaters in the Great Bog and flows westerly before it becomes tidal in Newington where it discharges into Great Bay.
- Elwyn Brook and the upper reaches of Sagamore Creek are freshwater streams that join at Peverly Hill Road where Sagamore Creek becomes tidal before discharging into Little Harbor and the Piscataqua River.
- Hodgson Brook has its headwaters at Pease International Tradeport and flows southeasterly under I-95 before discharging into the North Mill Pond near Bartlett Avenue where the flow becomes tidal.

There are a number of smaller brooks in the Tradeport area including Lower Newfields Brook, Lower Grafton Brook and Pauls Brook. In addition to these fresh and tidal water streams, there are a number of small ponds and streams, mostly in the southern portion of the City.

Other significant water bodies in Portsmouth include South Mill Pond near City Hall, and North Mill Pond located between Bartlett Street and Maplewood Avenue.

Recent Watershed/Water Body Planning Efforts

A number of watershed planning and protection efforts have been undertaken in recent years. These are described below.

Berry's Brook Watershed

During the early 1990s, the Berry's Brook Watershed Management Plan was developed on behalf of the City with the goal of protecting the natural resource values of wetlands within this watershed. Because more than half of the brook's drainage system is in Rye, this was a cooperative planning effort with the Town of Rye. As part of the planning process, critical watershed resources were mapped and analyzed, and protection mechanisms were considered. The 40–acre Stetson property on Lang Road, which was purchased by the City in 1998 for open space preservation purposes, was an outcome of the Berry's Brook watershed planning effort.

North Mill Pond Feasibility Study

In response to the desire of residents and local officials to enhance the appearance of the McDonough Street shoreline of the North Mill Pond, and improve passive recreational use, the North Mill Pond Feasibility Study was prepared in 1997 on behalf of the City. The study proposes the construction of a 2,500 linear foot walking path and bike trail along the McDonough Street side of the pond, paralleling the existing rail line. Such a bikeway/pathway would serve to connect Maplewood Avenue and Bartlett Street as an alternative bikeway/ pedestrian corridor to Islington Street. However, there is currently an active freight rail line in this corridor and, more importantly, the property is privately owned; easements are required from property owners before the project can proceed.

Rebuilding the Ecosystem of North Mill Pond, 1997-2000

Funded by the US Environmental Protection Agency, the University of New Hampshire's Jackson Estuarine Laboratory teamed with the local non-profit group Advocates of the North Mill Pond and fourth grade students from the New Franklin School to carry out a series of 15 restoration projects over the course of three years. The restoration activities addressed pond, upland edge, and high and low marsh areas, and ranged from revegetation and transplantation to ice erosion control and debris removal.

Hodgson Brook Watershed Study

In 2001 the Advocates for North Mill Pond received an EPA Watershed Management Grant through the NHDES to address the sources of contamination in the North Mill Pond. This project has been focusing on the Hodgson Brook Watershed, which is the main freshwater source for North Mill Pond. The Advocates have established a Local Advisory Committee to assist them with preparing a restoration plan for the watershed. Much of this watershed includes major portions of the Pease International Tradeport where there are a number of potential contamination sources.

The Advocates are currently preparing an Environmental Assessment that is based on existing data including results of water quality sampling in the North Mill Pond and various locations on the Tradeport. The assessment will also identify potential sources of non-point source pollution as well as data gaps that will need to be addressed in the next phase of the study. The Advocates will prepare a final restoration plan within the next year that will include an education and outreach component to inform individuals about techniques for improving water quality in Hodgson Brook

and the North Mill Pond. Once the plan is completed, the Advocates plan to seek additional funding to implement the recommendations and strategies proposed in the plan.

Great Bog Planning and Protection

The Great Bog is one of the most notable wetland complexes in New Hampshire due to its rare type and the fact that it is home to a wealth of flora and fauna, some of which occur nowhere else in the State. The bog is one of the largest seepage swamps in the eastern United States and is part of the Great Bay Estuarine Research Reserve. The wetlands are also important to Portsmouth's public water supply because of their proximity to Well #1.

In order to protect the valuable natural resource and avert proposed and potential development within the area, the City of Portsmouth acquired a parcel of approximately 193 acres in April 2001, with the Seacoast Land Trust holding a conservation easement. A master plan for this parcel and surrounding conservation lands has been developed through a partnership between the City and the Seacoast Land Trust, addressing natural habitat protection, water quality, linkage of conservation lands, passive recreation and open space, and public education.[47]

Wetlands

Wetlands comprise approximately 33 percent of the City's overall area.[48] Major wetland areas in and adjacent to the City include the Great Bog, Berry's Brook, Sagamore Creek tidal wetland system, and Packer Bog.

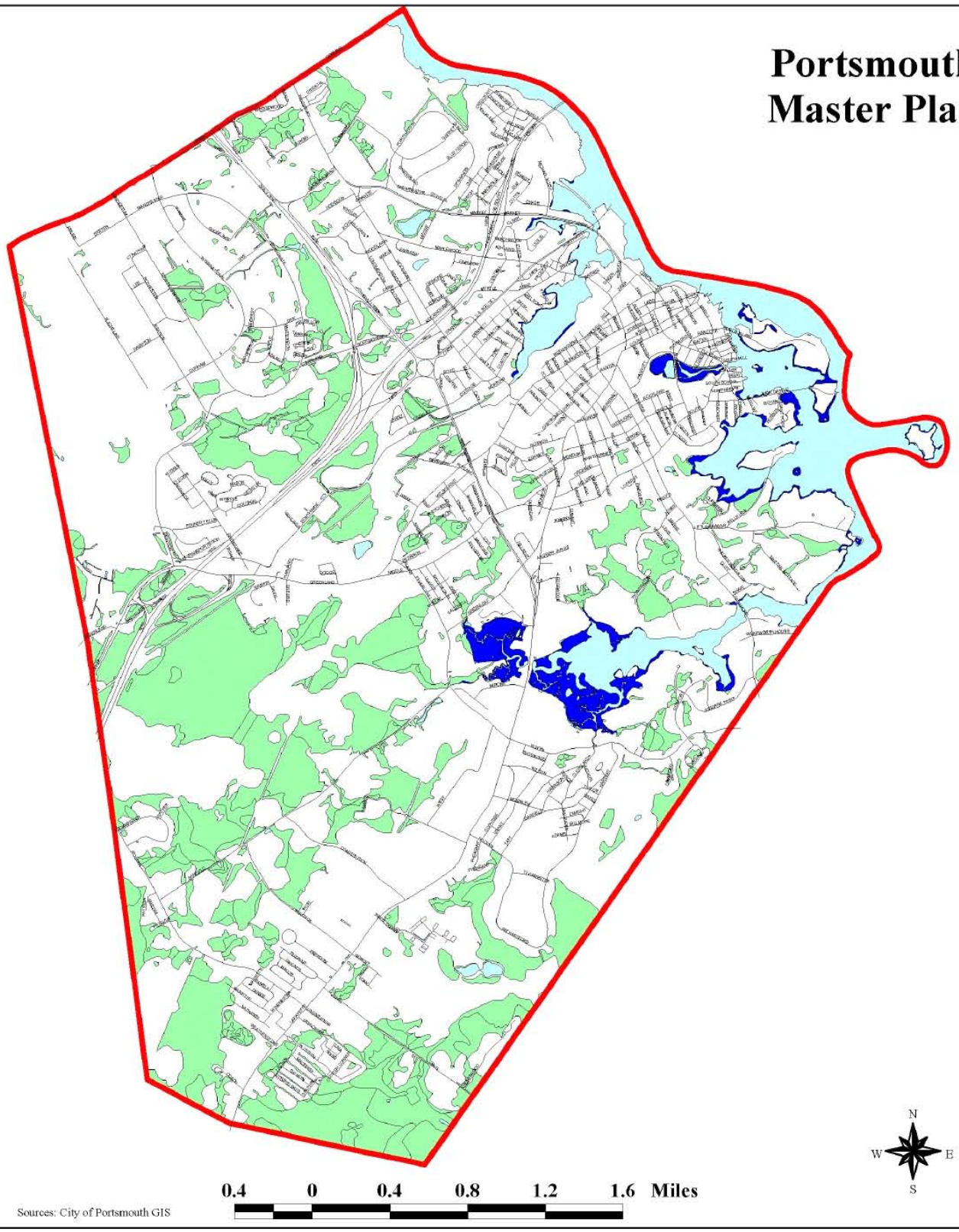
Wetland areas are valuable for the variety of functions they serve, including maintenance of water quality by filtering sediments and pollutants; flood control; groundwater recharge for water supply; wildlife, plant, and fish habitat; and opportunities for education, recreation, and scenic diversity. In March 2003 the City completed a comprehensive wetland identification and assessment project. This work was intended to update and expand on the City's 1985 wetlands delineation and mapping project, which was based on 1979 aerial photos. The 2003 project identified and mapped the vegetative boundary of all wetlands in the city that are one-half acre or larger. (Map 16 shows the wetlands identified in this project.)

Particularly valuable wetlands are noted as candidates for Prime Wetland status under RSA 483-A:7 and Chapter Wt 700 Prime Wetlands of the NH Code of Administrative Rules using the New Hampshire Method for Wetland Identification. These Prime Wetlands candidates, at least 2 acres in size, are also ranked according to their value. Based on this hierarchy, the City is developing an action plan including prime wetlands in its wetlands protection strategy.

Connectivity is a particularly important consideration for habitat preservation. The wetlands mapping and evaluation project identified three areas of high opportunity for enhanced connections: the Berry's Brook wetland system north and south of Lang Road, the southeasterly end of the Great Bog just north of the intersection of Banfield Road with the railroad, and the Sagamore Creek wetland system near the US Route 1 bridge.

[47] "The Great Bog – From Vision to Reality," Seacoast Land Trust web site, http://www.seacoastlandtrust.org/greatbogfacts.htm.
[48] The 2003 Wetlands Inventory identified 3,538 acres of wetland; the City encompasses 10,763 acres total, including land and water.

Portsmouth Master Plan



Sources: City of Portsmouth GIS

Wetlands Map # 16

- Open Water
- Tidal
- Wetland

Wetland Regulations

For the purposes of managing and permitting activities in wetlands that are of state interest, the New Hampshire Wetlands Bureau has jurisdiction of all activities affecting inland and tidal wetlands and regulated buffer areas.

The City of Portsmouth has adopted an Inland Wetlands Protection Ordinance (Article 6) as part of its Zoning Ordinance. The purposes of this regulation are, in part, as follows:

- to preserve wetland functions for filtering pollutants allowing maintenance of water quality and flood storage and for flood storage to protect property against flood hazards, and
- to protect groundwater supplies, wildlife habitats, unusual natural areas, shellfish and fisheries.

This regulation establishes an overlay district for wetlands of one-half acre or more. It establishes permitted uses and standards for activities within the wetland district. These uses—such as wildlife refuges, open space, conservation areas and trails, and recreational activities—are consistent with the intent of the regulation to minimize impacts to the wetland resource area. The ordinance also establishes a 100-foot buffer zone around the Inland Wetlands Protection District boundary and regulates the type of activities that can be undertaken in this buffer zone. Activities within the buffer zone are limited to replacement of a septic system or a building that has been destroyed by fire, or the use of a motor vehicle when its use is necessary for any of the purposes of the ordinance. In addition to the City's Inland Wetlands Protection ordinance, the City has a 100-foot tidal setback along Sagamore Creek and Little Harbor, which provides additional regulatory protection of those natural resources.

Groundwater

An aquifer is a water-bearing stratum of permeable rock, sand, or gravel that can serve as a significant source of public water supply, as is the case in Portsmouth. An aquifer recharge area is a surface area where water enters the ground either from precipitation or streams and percolates into the aquifer.

In Portsmouth, groundwater occurs in stratified drift materials that consist principally of medium to coarse sand overlying significant thicknesses of clay, silt, and fine sand or medium sand to cobble gravel. The most extensive aquifer in the city lies beneath the Pease International Tradeport, extending from Portsmouth into Newington. This particular aquifer is of great value to Portsmouth since it contains five of the City's groundwater wells that provide a significant contribution to the City's water supply (the City's groundwater supply and wells are discussed in greater detail in the Water Supply section of the Community Facilities chapter of the Master Plan). Another extensive aquifer lies between Sagamore Creek and the Rye town line. A regional groundwater study that includes Portsmouth is currently in progress.

Water Quality

Potential Threats to Water Resources

Threats to Portsmouth's water resources fall into two categories: point pollution sources and nonpoint pollution sources. Point pollution sources are uses that discharge directly into a water body at a specific point. Nonpoint source pollution involves the diffuse discharge of wastes from sources, which are widely spread and sometimes hard to control. Nonpoint pollution sources can be a more serious concern due to their cumulative effect on surface and groundwater quality. Examples of these includes landfills, subsurface disposal systems, construction sites, hazardous waste sites, salted roadways and salt storage areas, fuel and chemical storage tanks, surface impoundments, and sand and gravel excavation.

Federal and State Water Quality Assessment Programs

The Federal Clean Water Act has established water quality standards with goals that each state must meet. States are required to designate various uses for each water body, which in turn determine the level of water quality to be achieved in order to meet the goals of the Clean Water Act. The New Hampshire Department of Environmental Services (NHDES) Watershed Management Bureau defines these designated uses by classifying the state's water bodies. Surface waters in New Hampshire are classified by statute (RSA 485-A:8) as either Class A or Class B. Class A waters are considered to be of highest quality and optimal for use as water supplies after adequate treatment. Class B waters are considered acceptable for fishing, swimming, and other recreational purposes and for use as water supplies after adequate treatment has been applied.

All surface waters within the City of Portsmouth are designated as Class B.

National Pollution Discharge Elimination System (NPDES)

The federal Clean Water Act has also established a permitting system for point sources to regulate all "end-of-pipe" discharges to surface waters. This permitting system is known as the National Pollutant Discharge Elimination System (NPDES) and is handled by the NHDES. The City of Portsmouth has an NPDES Permit for its wastewater treatment facility (Permit # NH0001473). The Pease Development Authority (Permit # NH0100234) and the PSNH Schiller Station (Permit # NH0090000) also have active NPDES Permits.

Since stormwater runoff is one of the leading causes of water pollution, the EPA has undertaken a Phase II NPDES program to regulate stormwater discharges from municipalities, private industries and constructions sites. Portsmouth is undertaking a stormwater management plan to comply with this program, which is further discussed in the Community Facilities section.

Air Quality

The Clean Air Act Amendments of 1990 identify areas that do not meet basic air quality requirements, called "nonattainment areas." Strafford and Rockingham Counties, including Portsmouth, are in such an area.

The New Hampshire Department of Environmental Services, Air Resources Division, monitors the air quality at three stations in Portsmouth: on Market Street at the Port Authority, on Court Street, and on Peirce Island. Pollutants measured on Market Street include ozone, nitrogen dioxide, nitrogen oxides, sulfur dioxide, and toxics. In addition, meteorological data (temperature, wind speed, and direction) are collected. The pollutants measured on Court Street and Peirce Island include particulate matter (PM 2.5, PM 10)[49] which is solid matter or liquid droplets from smoke, dust, fly ash, and condensing vapors. The collected data are sent to the Environmental Protection Agency (EPA) and evaluated to determine pollutant trends and to assess the levels of these pollutants relative to the National Ambient Air Quality Standards.

Based on observed air quality data, ozone is the primary pollutant of concern in Portsmouth. This pollutant is known to have health consequences when the standard is exceeded. Ozone can aggravate asthma and chronic lung diseases such as emphysema and bronchitis, can reduce the immune system's ability to fight off bacterial infections in the respiratory system, and may cause permanent lung damage. These effects can be worse in children and exercising adults.[50]

The U.S. Environmental Protection Agency has set National Ambient Air Quality Standards (NAAQS) for ground-level ozone, and has designated nonattainment areas for the one-hour ozone standard of 0.12 parts per million (ppm). Nonattainment areas for the one-hour ozone standard were classified as marginal, moderate, serious, severe, or extreme depending upon the severity of the air quality problem at the time the Clean Air Act Amendments of 1990 were passed. Along with all of Massachusetts and Rhode Island and most of Connecticut, the Seacoast region was classified as "moderate."

In July 1997, EPA issued new National Ambient Air Quality Standards for ground-level ozone. The new standard is set at 0.08 ppm averaged over 8 hours. Areas are not attaining the new standard if the 3-year average of the annual fourth highest daily maximum 8-hour ozone concentration exceeds 0.08 ppm. During the summer of 2000, the New England states submitted recommendations to EPA as to which areas should be designated nonattainment for the 8-hour ozone standard based on 1997-1999 air quality data.[51] A Southern New Hampshire nonattainment area was proposed, which includes Portsmouth. Table 92 lists historical ground-level ozone exceedances in Portsmouth from 1994 through 2002. Although the most recent three-year period did not exceed the 0.08 threshold for the average of the fourth highest daily concentration, over the longer term the city has consistently exceeded this threshold.

The only other measured pollutant that approaches the federal standard appears to be PM 2.5 (particulate matter 2.5 microns or smaller in diameter, or "fine particles"), which reached 13.0 micrograms/m^3 on Peirce Island during 2001 and 10.1 micrograms/m^3 at Court Street in 2002.

[49] "PM 10" denotes particles with diameters of 10 microns or less. "PM 2.5" is particulate matter that is 2.5 microns in diameter or smaller, also called "fine particles."
[50] U.S. Environmetnal Protection Agency, http://www.epa.gov/region01/eco/dailyozone/oz_prob.html.
[51] U.S. Environmental Protection Agency, http://www.epa.gov/region01/eco/ozone/nattainm.html.

Table 92: Historical 8-Hour Ozone Concentrations in Portsmouth, 1994-2002

Year	Total Number of Days Exceeding 0.084 ppm	4th Highest Daily Concentration (ppm)
1994	5	0.086
1995	4	0.085
1996	1	0.079
1997	5	0.089
1998	3	0.084
1999	5	0.089
2000	0	0.067
2001	0	0.059
2002	8	0.090

Source: U.S. Environmental Protection Agency, http://www.epa.gov/region01/eco/ozone/histexc.html

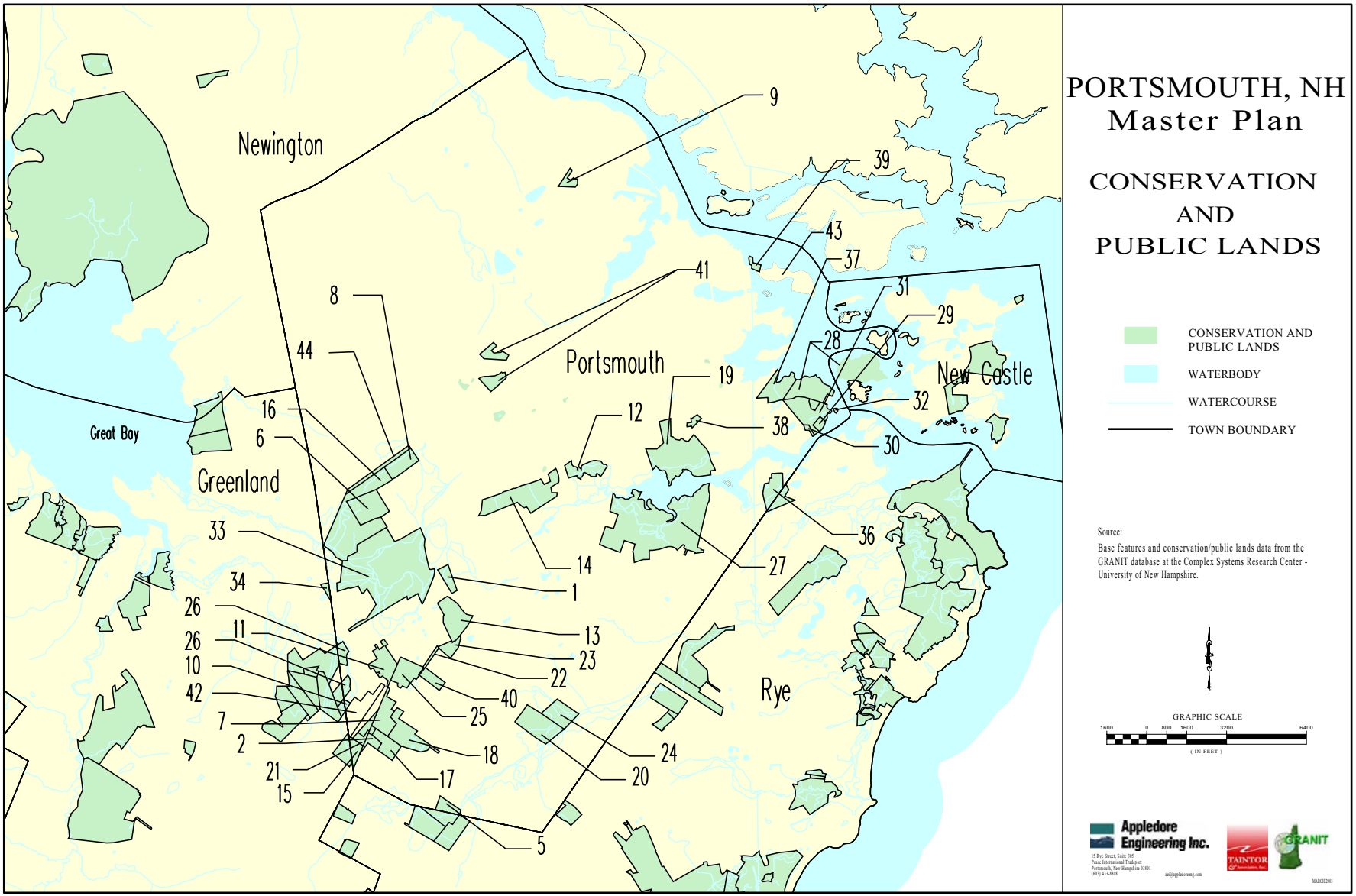
Open Space

Open space in Portsmouth—that is, land that is not developed—is comprised of both publicly owned and privately owned land. Open spaces, like historic resources, are also often characterized by the level of protection they enjoy. For example, open spaces may be protected from development in perpetuity through public ownership or a publicly held conservation easement; or open space may be developable land that is not yet developed. In addition, open space land may be held for a variety of uses including passive or active recreation, conservation, agriculture, or water supply protection. Still other land may be open space due to the fact that it cannot be developed due to wetlands or other environmental constraints.

Protected Open Space

Permanently protected open space in Portsmouth totals 10 percent of the City's area. As seen on Map 17, a majority of this land is south of South Street, with substantial portions in the Great Bog (195.5 acres), the Urban Forestry Center (182.3 acres), near the Rye Town line, and the Sagamore Creek area.

In March of 2002, GRANIT Systems at the Complex Systems Research Center at the University of New Hampshire inventoried parcels of land in the state that are two acres or more in size and are mostly undeveloped and protected from future development. The inventoried parcels in Portsmouth are shown on Map 17 and summarized by ownership in Table 93.



PORTSMOUTH, NH
Master Plan

CONSERVATION AND PUBLIC LANDS

CONSERVATION AND PUBLIC LANDS

WATERBODY

WATERCOURSE

TOWN BOUNDARY

Source:

Base features and conservation/public lands data from the GRANIT database at the Complex Systems Research Center - University of New Hampshire.

GRAPHIC SCALE

1600 0 800 1600 3200 6400

(IN FEET)

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TAINTOR

GRANIT

MARCH 2003

Table 93: Protected Open Space

Type of Protection	Acres
Land owned by City of Portsmouth	691.2
Land on which City holds conservation easements	122.6
Land owned by NH Dept. of Resources & Economic Development	249.5
Land owned by Society for the Protection of NH Forests	35.2
Land owned by The Nature Conservancy	22.3
Total	1,120.8

Source: NH GRANIT

In addition, the City of Portsmouth protects a total of 792 acres at the Bellamy Reservoir in the town of Madbury: 338 acres are owned by the City, and the remaining 454 acres are protected through easements.

Current Use Land

The Current Use Program was created by the State of New Hampshire in 1973 to encourage the preservation of open space and its associated agricultural, forest, water, and wildlife resources. This program is often used to lower taxes until such time as development or sale is economically feasible or desirable and is seldom used as a means for long-term land protection. When current use land is developed, a land use tax change penalty is assessed, which is ten percent of the assessed full market value of the land at the time that it is removed from the Current Use Program. The revenues from the tax go directly to the municipality where the change occurred.

In 1988, the Current Use Program was amended to allow communities that collect the land use penalty to establish and fund special non-lapsing accounts that can be used to fund land conservation efforts. In Portsmouth, the penalty money is placed in a conservation fund, which has approximately $286,000 in it at present.[52]

According to the NH Department of Revenue Administration, the total acreage enrolled in the Current Use Program in the City of Portsmouth declined by 279 acres (32 percent) between 1997 and 2001 (see Table 94). In 1997, 80 parcels containing 868 acres (8.65 percent of Portsmouth's total land area) were enrolled in the Current Use Program, In 2001, 52 parcels containing 589 acres (5.87 percent of the City's land) were enrolled. (Data for 2002 are expected to be available in June 2003.)

[52] Per conversation with Environmental Planner, Peter Britz.

Table 94: Current Use Land in Portsmouth, NH 1997 & 2001

Year	1997	2001
Total Land Area	10,034 acres	10,034 acres
Land Area in Current Use	868 acres	589 acres
% of Land in Current Use	8.65%	5.87%
Number of Current Use Parcel Owners	27	26
Number of Current Use Parcels	80	52

Source: NH Department of Revenue Administration, 1997, 2001

Land Conservation Efforts

In all towns and cities including Portsmouth, it is necessary to preserve key open space areas in order to manage development, protect natural resources, and maintain community character. This can be accomplished through regulatory means such as zoning ordinances, or through non-regulatory means such as land acquisition and conservation easements.

One of the major resource protection issues facing the city is commercial and residential development that results in a diminishing supply of valuable open space. The City's efforts have included acquisition, guiding development to appropriate locations through local regulations, while avoiding sensitive resource areas, and working with private landowners to maintain large tracts of land that contribute to the character of the community. Local resource protection is also furthered through the City's planning, inventory and evaluation efforts, including a recent extensive wetlands inventory/evaluation.

The Conservation Commission is the City's prime vehicle for open space protection. While it has ably responded to threats to individual properties, no prioritized list for open space protection currently exists. The 2003 Wetlands Inventory and Evaluation report, as well as the Regional Open Space Plan (described in the following section), can play an important role in prioritizing future open space protection efforts.

Regional Open Space Plan

The Rockingham Planning Commission completed a Regional Open Space Plan in March of 2000, which includes the City of Portsmouth. The plan identified large unfragmented areas of undeveloped land with important natural, scenic or cultural resources, which could provide open space linkages. The Regional Open Space Map (Map 18) identifies these lands and interconnected corridors.

Each community was given an opportunity to recommend local historical, natural, and cultural resources that are worthy of protection. The City of Portsmouth recommended fifteen sites, ranging in size from one acre to more than 100 acres and totaling approximately 560 acres. Table 95 lists the name or location of each of these sites, the reason the site was considered worthy of protection, and its estimated acreage. Many of the sites were recommended because they are adjacent to existing protected lands; or they have wildlife habitat, watershed, wetland, water quality, or natural heritage value; or they contain sensitive ecosystems. Some of the larger sites, ranging from fifty to sixty acres in area, include the Packer's Brook, Pickering Brook, Berry's Brook, and Hodgson Brook areas, and Peirce Island.

Table 95: Sites Worthy of Protection

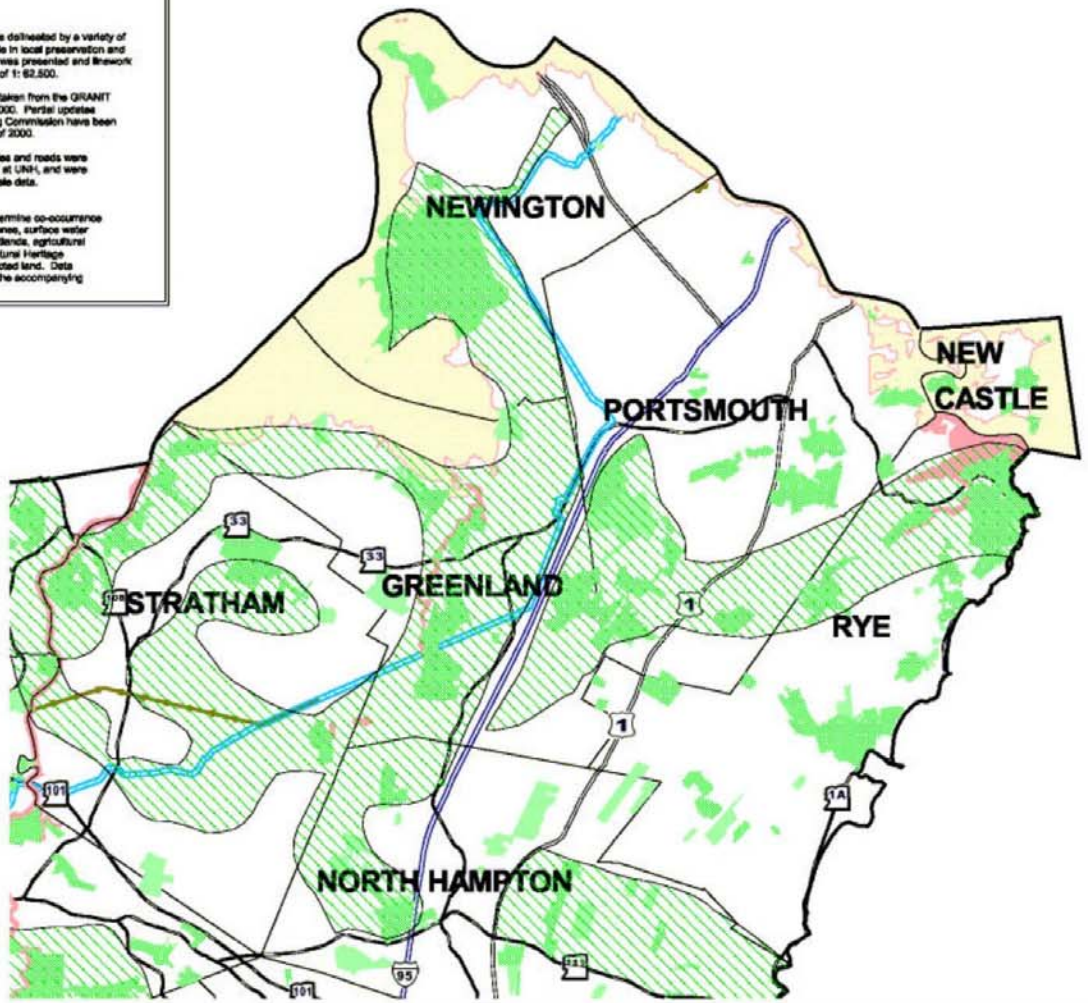
	Name	Reason for Listing	Acres
1	Adjacent to Route 1; industrial land	Adjacent to conservation land; possible recreation area	6.55
2	Adjacent to Route 1; industrial land	Surrounded by wooded swamp forests; possible recreation area	1
3	Adjacent to Route 1; industrial land	Unbuildable land; wetland protection	5
4	Adjacent to Route 1; industrial land	Unbuildable land; wetland protection	6
5	Off Middle Street	Undeveloped lands; possible recreation area; protection of open lands	25
6	Pease International Tradeport	Black gum swamp forest; feeds into Hodgson Brook and North Mill Pond; wildlife habitat; watershed protection; natural heritage protection	20
7	Packer's Brook Area	Adjacent to protected lands; adjacent to protected lands in Greenland; natural heritage protection; wildlife habitat; wetland protection; sensitive ecosystem	60
8	Pickering Brook	Adjacent to protected lands; adjacent to protected lands in Greenland; natural heritage protection; wildlife habitat; wetland protection; sensitive ecosystem	50
9	Berry's Brook	Adjacent to protected lands; adjacent to protected lands in Rye; natural heritage protection; wildlife habitat; wetland protection; sensitive ecosystem	50
10	Hodgson Brook	Spans from North Mill Pond to Pease International Tradeport; watershed protection; wetland protection	51
11	Sagamore Creek; near Greenland Avenue	Spans from inlet through protected lands and areas in need of natural heritage protection; watershed protection	25
12	Great Bog*	Spans from Greenland into Portsmouth; wildlife habitat; water resource protection; wetland protection; natural heritage protection; sensitive ecosystem	192
13	Peirce Island**	Island suffers from heavy development pressures; coastal ecosystem protection; natural heritage protection; water quality protection; possible public access options	27
14	Tree Island***	Island suffers from heavy development pressures; coastal ecosystem protection; natural heritage protection; water quality protection; possible public access options	10
15	Belle Island	Island suffers from heavy development pressures; coastal ecosystem protection; natural heritage protection; water quality protection; possible public access options	30

Source: *Regional Open Space Plan*, Rockingham Planning Commission, March 2000
* The City acquired the Great Bog tract subsequent to the development of this list of priority parcels.
** Peirce Island is owned by the City of Portsmouth.
*** This entry apparently refers to Four Tree Island (3 acres), owned by the City of Portsmouth.

Portsmouth Master Plan

Map 18

Preliminary Regional Greenways Identification Plan



DATA SOURCES

Potential greenways were delineated by a variety of individuals knowledgeable in local preservation and natural resources. Data was presented and linework was compiled at a scale of 1: 62,500.

Conservation Lands are taken from the GRANIT database, 1998, at 1:24,000. Partial updates for Rockingham Planning Commission have been completed in the spring of 2000.

Corridors, town boundaries and roads were provided by NH GRANIT at UNH, and were derived from 1:24000 scale data.

The features used to determine co-occurrence include aquifers, flood zones, surface water with 100 foot buffers, wetlands, agricultural land, prime farmland, Natural Heritage Inventory data and protected land. Data sources are provided in the accompanying report.

- Preliminary Greenways
- Conservation Lands
- Town Boundaries
- River Corridors
- Pipeline Corridors
- Powerline Corridors
- Interstate Highways
- US Routes
- State Routes

N

Published Scale 1:100,000

Funding for the map and the accompanying report was provided by the NH Department of Environmental Services under the 1998 Regional Environmental Planning Program.

Rockingham Planning Commission

TAINTOR

Environmental Services

GRANIT

Recent Open Space Protection Activities

In 2001, the City acquired 193 acres in Great Bog, one of the most notable wetland complexes in New Hampshire due to its rare type and the fact that it is home to a wealth of flora and fauna, some of which occur nowhere else in the State. This acquisition was done as part of the City's ongoing effort to conserve open space and wetlands, with the goals of protecting important fish, wildlife, and birds as well as the habitat they depend on, and recharging public water supply wells.

The City worked in close collaboration with a number of organizations and agencies in pursuing the purchase of the Great Bog, including the Seacoast Land Trust, Society for Protection of New Hampshire Forests, The Nature Conservancy, NH Fish and Game Department, NH Department of Environmental Services. Since the Great Bog is considered part of the Great Bay National Estuarine Research Reserve due to its close proximity to, and hydrologic/ecologic connection with, Great Bay, partial funding ($300,000) for the acquisition of the Great Bog parcels was made available from the National Oceanic and Atmospheric Administration (NOAA). Another important funding partner in the Great Bog acquisition project was the NH Department of Environmental Services, which provided partial funding ($138,000) through its Water Supply Land Conservation Grant Program because of the proximity of the Great Bog to the City's groundwater wells. The balance of the needed funding was provided by the National Fish and Wildlife Foundation.

The Seacoast Land Trust, under a Stewardship Agreement with the City, is responsible for the management of the Great Bog property with assistance from the City. The Seacoast Land Trust is spearheading an ongoing restoration effort in the Great Bog to enhance neo-tropical migrant birds by clearing invasive shrub species.

Previous City land acquisition efforts have included the 1998 purchase of the 40-acre Stetson property on Lang Road, which abuts City-owned conservation land, and private land with conservation easements; and the 1989 purchase of a conservation easement on the Hett Farm with funding from the Land Conservation Investment Program (LCIP, the predecessor of the state's current LCHIP program). The Hett Farm is the City's last working farm, and was also part of one of the City's first three working farms, the Walford Plantation established in 1647.

As previously indicated, the City has a conservation fund, which is funded through the Current Use land use change penalty, and set aside for the purpose of future open space protection efforts. In addition, the 2004-2009 Capital Improvement Program has targets annual allocations of $25,000 to $50,000 to bolster land acquisition efforts. These funds, are combined to leverage federal, state and private open space protection grants.

Local and regional open space protection efforts recognize the importance of creating a network of connected open lands, rather than protecting parcels that exist in isolation. This is because connected open space systems protect natural resource systems such as wetlands, provide important wildlife corridors, maintain wildlife, plant and fish habitat systems, and create the opportunity for connected passive recreation trails along natural features such as streams and rivers.

NATURAL HAZARDS AND EMERGENCY MANAGEMENT

Natural Hazards

The City of Portsmouth has relatively low risk from natural hazards. The most likely natural hazards to occur within the city are flooding, hurricanes, snow and ice storms and earthquakes. Of these earthquakes are the most infrequent event, although there have been several low level earthquakes in the Northern New England Region in the past 20 years. Each of these hazards are addressed as part of the city's Emergency Management Plan that was prepared in October 2002.

Flooding tends to be the most common natural hazard in Portsmouth, although most of this is in the city's riverine environment, such as Sagamore Creek or areas of low elevation, such as the Great Bog. These areas are consistent with the Special Flood Hazard Area Maps for Portsmouth that identify the 100-year flood areas. Additional discussion of these flood areas is in the Natural Resources Chapter of this Master Plan. Over the past 35 years there have been ten major storms that have resulted in significant flooding, as noted in Table 96.

Emergency Management

Background

The City of Portsmouth's Emergency Management Plan (EMP) was prepared by the city's local staff and based on a model developed by the NH Department of Safety, Office of Emergency Management (NHDOS–OEM) in the 1980s. In light of the post September 11, 2001 environment, the city and its Emergency Management Coordinator, who also serves as the Fire Chief, recognize the limitations of the current EMP and expect to receive funding from the NHDOS–OEM to update the city EMP. The additional funding for the plan's update will enable the city to focus more on terrorist type events. Some professionals refer to a terrorist type of event as a high-grade intense hazardous materials incident. While New Hampshire is generally considered to be a low risk area for a terrorist attack, the Portsmouth and Seacoast areas are most at risk in the state.

The City of Portsmouth and its emergency response team have extensive experience in the emergency management and response field. City emergency responders participated in several Seabrook Nuclear Power Station drills and exercises since 1986, the nationwide TOP OFF federal terrorist exercise in May 2001 and are active members of the Piscataqua River Emergency Planning Team, which consists of emergency responders from coastal Maine and New Hampshire communities. Portsmouth was one of three communities nationwide to participate in the TOP OFF exercise, the other two being Denver and Washington, D.C. While only a small portion of the city's jurisdiction falls within 10 miles of the Seabrook Nuclear Power Station, the entire city has been included in the emergency planning zone (EPZ) for planning purposes.

Table 96: Flooding History in the Seacoast

Period	Assessment
March, 1968	Heavy rain combined with snowmelt causing small river flooding in southeast New Hampshire and coastal Maine region.
April, 1973	Five to seven inches of rain fell along the New Hampshire - Maine seacoast during a 36-hour period that coincided with high tides averaging seven feet above the mean sea level (MSL).
January, 1978	Extensive coastal flooding caused significant damage.
February 6 – 8, 1978	This blizzard coincided with a high tide causing extensive damage in Seacoast New Hampshire. In some locations, the storm produced a 11.5 foot high tide and winds of 50 to 70 mph.
September, 1985	Hurricane Gloria. This intense but short-lived hurricane caused moderate to extensive flooding.
August, 1991	Hurricane Bob. Another intense hurricane, caused moderate to extensive flooding in coastal NH – Maine. This storm received a Presidential disaster declaration.
October 30 – 31, 1991	No Name Storm. Two storms, one from the west and a Northeaster from the south, converged and stalled over the Massachusetts, New Hampshire and Maine coastal area and caused a significant amount of rainfall in a 36-hour period. The storm created coastal damage to private and public property, especially property facing the northeast.
October 20 – 21, 1996	This storm generated approximately 19 inches of rain in a thirty-six hour period. The storm received a Presidential disaster declaration.
June, 1998	This storm involved a series of heavy rain related events.
September 14, 1999	Tropical Storm/Hurricane Floyd. Portsmouth experienced moderate to heavy rainfall thus creating minor flooding conditions.

The Portsmouth Emergency Management Plan (EMP)--A Summary

The Portsmouth Emergency Management Plan contains three parts:

Part I – Purpose and Authority

This part includes statements regarding the purpose of the EMP, the local, state and federal authority for the plan, the particular situation in the city and the city's Emergency Management Organization, which includes twelve city officials and the Seacoast Amateur Radio Emergency Service. The purpose of the plan is to make each city organization and department aware of its responsibility in all hazard emergency operations. The City Manager officially serves as Emergency Management Director and delegates the normal and routine emergency responsibilities to the Emergency Management Coordinator, who also serves as the city's Fire Chief.

The following charts identify the Emergency Management Organization and the responsibility of each city agency for a particular task in the event of an emergency.

Figure 35: Emergency Management Organization Chart

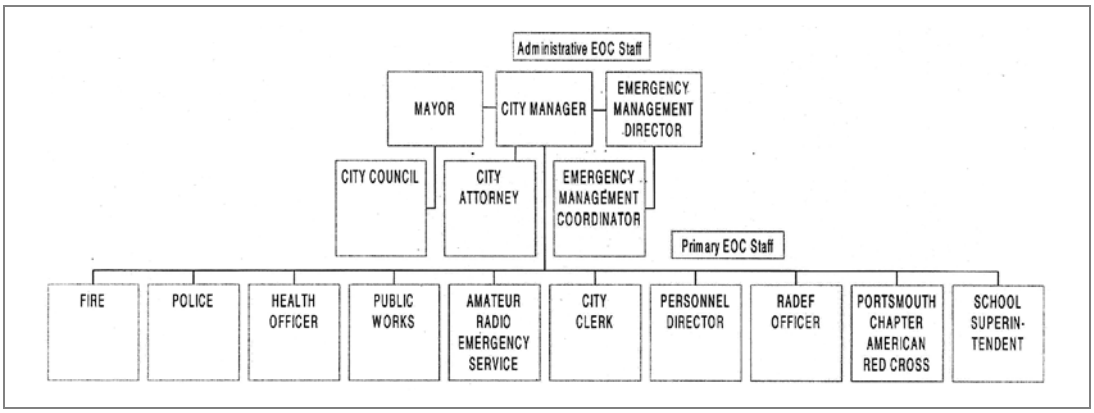


Figure 36: Emergency Management Function/Responsibility Matrix

FUNCTION	AGENCY	CITY MANAGER	EMA DIRECTOR	EMA COORDINATOR	POLICE	FIRE	PUBLIC WORKS	RADEF OFFICER	SCHOOL SUPER	HEALTH OFFICER	PERSONAL DIRECTOR	AMERICAN RED CROSS
Direction & Control	X	X										
Communications					X	X						
Warning			X	X	X	X						
Radiological Defense								X		X		
Law Enforcement					X							
Fire Suppression						X						
Rescue				X	X	X						
Evacuation					X	X						
Resource Management											X	
Health & Medical										X		
Shelter & Feeding			X									
Emergency Public Info.				X	X							
Recovery	X	X	X	X	X	X			X		X	
Mitigation		X	X									

In this part, the city has identified the following seventeen (17) "natural or man-made emergencies" of prime consideration:

1. Hazardous materials (both transportation and storage);
2. Railroad accident;
3. Conflagration;
4. Earthquake;
5. Downed aircraft;
6. Snow and ice storm;
7. Hurricane;
8. Electric outage;
9. Water outage;
10. Fuel shortage;
11. Tornado;
12. Bomb threat;
13. Flooding including riverine, coastal storm surge, ice jam and dam breach;
14. Nuclear power plant accident;
15. Nuclear attack blast;
16. Explosion; and
17. Civil disturbance.

The plan further notes that the city is in a "Risk Area" which refers to its location within the 10-mile Emergency Planning Zone (EPZ) for the Seabrook Nuclear Power Station. Portsmouth officials have worked cooperatively with the state OEM and officials from other Seacoast communities on emergency planning for the power station. In the event of a nuclear incident, all but essential personnel would require relocation from Portsmouth.

The city has not established priorities for the above emergencies. As a management tool for the allocation of limited city resources, the establishment of priorities would be helpful. The following is one approach for the city. Such a prioritization can assist city decision-makers to allocate the necessary resources for dealing with higher risk emergencies.

Table 97: Primary Types of Emergencies

HAZARD	RISK LEVEL	STATEMENT
Hazardous materials	Medium to High	Identify source points of hazardous materials. Participate in training programs. Ability to access state resources if required.
Flooding related	Low to Medium	Be aware of flood prone areas. Knowledge of past flooding events. Weather software to track storm. Plan for flooding conditions.
Hurricane	Low	Weather software to track storm. Plan for hurricane conditions.

Local emergency management officials have already identified source points of hazardous materials that are currently located at commercial, industrial and medical establishments in the city. Secondary emergencies that could be similarly assessed include a railroad accident, earthquake, electric outage and a bomb threat.

The city has not conducted a formal risk analysis of any these identified natural or man-made situations with the exception of potential hazardous materials incidents. The NHDOS – OEM can provide financial assistance to individual communities and the regional planning commissions to conduct multi-purpose hazard analysis and mitigation strategies, and the City is now applying for funds through the OEM for this purpose.

Part II – Functional Annexes

These annexes are individual plan sections that provide descriptions of the specific functions or actions that might be required should Portsmouth experience a natural or man-made emergency. Each annex also defines the responsibility of each relevant city agency in dealing with that particular situation or emergency. The annexes are identified and summarized below:

Direction and Control

The City Manager and other key city officials will exercise direction and control from the city's Emergency Operations Center (EOC), located in City Hall. The plan identifies responsibilities and a concept of operations. The city can establish an alternative EOC at the Central Fire Station. At present, the EOC is small and needs to be enlarged. This annex includes a list of responsibilities for key officials and a concept of operations.

Communications

This annex describes the communications network and provides an inventory of the communications equipment in the police, fire and public works departments. These departments maintain radio networks on a day-to-day basis and would form the basis of an emergency communications system. They have the ability to communicate with regional mutual aid and state agencies. Telephones would be used as long as they are in operation and amateur radio could be used as a back up system, if necessary.

Warning

The warning annex describes the procedure for notification of emergency response officials and the general public and conditions for an emergency situation. WOKQ 97.5 FM is the lead Emergency Alert System (EAS) radio station in the state. This annex contains a description of the Public Warning Alert System (also know as the Public Alert Notification System – PANS) for the Seabrook Nuclear Power Station. It describes the specific methods for warning the public such as sirens and cable TV stations. It identifies the location of each of the eight sirens in the city and describes the procedures for activating the siren system. The city needs to exercise great care when and if it activates the EAS in order to minimize undue public anxiety.

Radiological Defense (RADEF)

This annex has its origins in the planning for a possible nuclear attack on the United States based on pre-planning for a World War III type of scenario. However, some components of this element are applicable in light of potential terrorist attempts to explode a "dirty" type of radiological bomb or to detonate a nuclear weapon in an unprotected harbor. Since a terrorist attack would likely occur in a heavily populated area, these scenarios are not likely in Portsmouth, but they are not impossible. An inventory of radiological equipment is included.

Law Enforcement

The annex describes the organization, equipment, and concept of operations and responsibilities of the Police Department in the event of an emergency.

Fire Suppression

The annex describes the organization, equipment, and concept of operations and responsibilities of the Fire Department in the event of an emergency including a serious fire. Members of the Fire Department are also the first responders in a hazardous materials incident. The Fire Department has written procedures for such an incident. It also describes the situation "in the event of an actual nuclear attack" which most professionals would consider highly unlikely, but possible, in the post September 11, 2001 environment.

Rescue

The annex describes the organization, equipment, and concept of operations and responsibilities of the Portsmouth Ambulance Service in the event of an emergency.

Evacuation

The annex identifies areas in the city that might require an evacuation due to riverine or coastal flooding, areas close to a hazardous materials facility, potential military targets, etc. The annex includes a reference to a Community Road Map (the maps need to be prepared and included in the plan) and the evacuation routes for the NH Radiological Emergency Response Plan (RERP), which may be required as a result of an accident at the Seabrook Nuclear Power Station. These include I-95 north and south, NH Route #101 west and the Spaulding Turnpike north. The plan notes that "during a period of increasing international tension," there could be an option to relocate persons to "relatively safer host areas" within New Hampshire. For example, in the event of an evacuation of Portsmouth, Rochester is the designated host community. The nature of a specific emergency dictates the specific evacuation routes and reception centers that the city's emergency response team would establish. A purely local emergency may require a different evacuation route than a regional emergency.

Resource Management

This annex provides guidelines for the most effective use of resources in an emergency. It also provides an inventory of resources (both personnel and equipment) that might be necessary in an emergency. NH RSA 107 provides that if the Governor declares a "State of Emergency" the state could command necessary equipment and resources. In some instances the city may find that the resources and personnel needed to implement protective action recommendations are lacking in this instance. It should consider securing voluntary letters of agreement with potential vendors such as ambulance companies, towing services, etc. For example, Tow Masters, a statewide organization of tow truck companies, would be willing to assist in an emergency effort.

Health and Medical

The city has one major health facility--Portsmouth Regional Hospital--that will be available for emergency situations. There are also numerous medical professionals in the community who can augment the medical capability of volunteers with first aid training. The Fire Department maintains and operates the rescue service and there are two private ambulance services serving the city.

Shelter & Feeding

During an emergency the City Manager would use the Emergency Alert System (EAS) to inform city residents of shelter and feeding facilities, which include Portsmouth High School and the Dondero Elementary School. The annex also describes the role of the Red Cross in providing food and clothing in emergency situations.

Emergency Public Information

This annex provides guidelines for the analysis, preparation and dissemination of timely and factual information. The EAS will be the primary means of disseminating information. This section also identifies the range of media and contacts for each, which includes four radio stations, one television station, a cable access station and two newspapers.

Recovery

This annex provides guidelines for the community to recover from an emergency and to return to its normal activities.

Mitigation

This annex recognizes that there are programs and activities that can minimize the affect of an emergency situation. For example, the city participates in the National Flood Insurance Program, which requires that structures within areas subject to flooding be floodproofed to protect inhabitants from flood damage. The document suggests that the city consider the mitigation programs such as:

- A Floodplain Management Plan
- Site-specific Emergency Plan for Hazardous Materials
- Industrial Zoning

Although the city has instituted pieces of some of these programs, additional work is necessary and underway.

Part III – Site Specific Operation Plans

This portion of the EMP is not complete, but calls for specific emergency plans for incidences involving the Seabrook Nuclear Power Station and hazardous materials as well as a more specific plan for medical emergencies involving Portsmouth's health facility.

Portsmouth School District Emergency Management Plan

As a part to the overall emergency management program, in 1997 the city established the Portsmouth Safe Schools Team, which was made up of representatives from the school department, fire and police departments, city and county attorneys, parents and community members. This Team prepared an Emergency Management Plan for administrators, teachers and students in each of the city's schools--the high school, middle school and the three elementary schools. As part of this planning process the school district has undertaken a significant education program in each classroom. Students have been instructed on plans for evacuation as well as what

to do in the event of any emergency from a chemical spill to a natural disaster. Emergency procedure information is available on flip charts in every classroom.

In summary, the EMP provides a framework for decision-making in emergency situations and includes several basic components such as direction and control, notification, communication and the ability to provide and implement protective action recommendations such as sheltering and evacuation. The plan identifies responsibilities for individual emergency responders for various functional activities.

Formulation of protective action recommendations and the communication of those recommendations to the general public are significant elements of any local EMP. For events of a purely local nature, the city is responsible for this function. For events larger in scope, the city will closely coordinate it efforts and recommendations with the NHDOS – OEM. While there may need to be clearer guidelines for local officials from U.S. Department of Homeland Security's and the new five tier classification level of risk, the city should prepare its own local response actions for each level of risk and remain in close contact with NHDOS – OEM during the two highest levels.

Level of Risk for Specific Geographic Areas

The following three geographic areas in the city are of particular concern regarding potential hazards:

- Piscataqua River from the General Sullivan Bridge to Portsmouth Harbor including the Portsmouth Naval Shipyard;
- The Pease International Tradeport and
- Interstate 95.

The Piscataqua River corridor is home to several oil storage facilities, natural gas and propane fuel tank farms and the Portsmouth Naval Shipyard. Several times a week, tankers pass through the city's downtown area while transporting 1) Liquid Propane Natural Gas (LPNG) to a fuel distribution center in Newington, New Hampshire 2) to terminals for Sprague and Irving Oil. Vessel traffic also includes transport of bulk materials to the NH Port Authority and Granite State Minerals. There is significant risk for small and large emergencies resulting from this level of river traffic. The Portsmouth Naval Shipyard repairs and rehabilitates nuclear powered submarines and in the process handles nuclear materials. The Portsmouth Naval Shipyard has an Emergency Response Plan.

The Pease International Tradeport and the NH National Guard pose a risk in terms of an aviation emergency or an inadvertent oil spill.

In addition to being the east coast's major north-south highway, Interstate 95 is major commuter road for Maine and New Hampshire and a major transportation corridor for weekend and summer traffic. Interstate 95 handles a significant amount of hazardous materials during the course of a normal business day.

Assessment

Portsmouth's local emergency responders have demonstrated their response capabilities on numerous occasions in various local, state and federal emergency drills. The city's Emergency Management Plan needs to be updated to reflect the realistic assessment of potential natural and technological risks in light of present conditions. In order to accomplish the above, the city should conduct an analysis of likely natural and technological hazards that could occur by risk level and geographic area. This analysis, in process, can from the basis for an updated Emergency Management Plan.

RECREATION

Recreation Programs

For a City of relatively small size, Portsmouth offers many diverse recreational opportunities for its residents. Managed through the City's Recreation Department, a number of year-round, diverse programs span a wide range of interests and abilities, from traditional sports leagues to organized day trips. In addition to meeting a variety of recreational needs, the Department strives to make its programs "available and affordable to all."

A full-time Recreation Director and Assistant Director direct a full time staff that includes supervisors at the Connie Bean Center, Spinnaker Point Adult Recreation Center, and the Indoor and Outdoor Pools. In addition, the Department has three full time Head Lifeguard positions (one currently vacant) and a part-time account clerk. Part time staff ranges from 45-60, and 15-30 work-study/interns, 15-20 summer staff, and hundreds of volunteer coaches rounding out the Department's human resources.

A range of activities for youth, adults, and families are offered, in addition to a summer camp program. The following is a partial list of the programs the department offers, according to information currently featured on the City's web site:

Youth Programs: Whiffleball, T-Ball, Multisport, Hershey Track team, Girls Softball, Friday Fun Trips, Miniature Golf tour, Juniors Par 3 tour, Learn Golf/Life Skills, Fishing Trips, All Day Field Trips Week, Fall Soccer, Judo, Field Hockey, Instructional Baseball League, Fun and Games.

Adult Programs: Serious Summer Basketball, Over the Hill Basketball, Spring Tennis Lessons, and Senior Exercise Class.

Family Programs: Annual Easter Egg Hunt, Fireworks Display, Two Great Trips for the Entire Family, and Mother/Son Mother's Day Dance.

Camps: April School Vacation Day camp, Golf, Field Hockey, Boys and Girls Basketball, Volleyball, Girls Softball, Seacoast United 2003 Portsmouth Soccer Camp, Skyhawks 2003 Sports Programs for Kids, KL Tennis Camps and Lessons, Recreation Camp Funstuff 2003.

Pool-Related Programs: The City offers numerous swimming, water exercise, water safety, water polo, and other water-related classes and programs at its indoor and outdoor pool facilities.

Recreation Facilities

The City of Portsmouth maintains well over a dozen neighborhood parks and playgrounds, which are distributed throughout the City; a number of Citywide parks and playgrounds (including South Playground across from City Hall, and Peirce Island); an indoor recreation facility for adults as well as one for youth; a skateboard park; outdoor and indoor pools; little league fields; and multi-purpose play fields. In addition, multi-purpose fields are also located at the City's schools, and handicapped accessible playgrounds are located at each of the City's three elementary schools.

The City's parks, playgrounds and recreational facilities are listed in Table 98, and mapped on Map 17 in the Natural Resources and Open Space section of the Master Plan.

Table 98: Recreation Facilities, Parks, and Playgrounds
(including School-owned facilities)

Recreation Facilities	Parks & Playgrounds
Connie Bean Community Center	Aldrich Park
Spinnaker Point (Adult) Recreation Center	Big Rock Park
Greenleaf Recreation Center	Cater Park
Indoor Pool	Connie Bean Playground
Peirce Island Outdoor Pool	Four Tree Island Picnic Area
Peirce Island Boat Launch	Goodwin Park
Four Tree Island Recreation Area	Hislop Park
Leary Field	Hanscom Park
Alumni Field (next to Middle School)	Haven Park
Clough Field	Haven School Playground
Hislop Little League	Langdon Park
Central Little League Field (next to Leary Field)	Lafayette Park
	Maple Haven Park
	Maynard Park
	Pannaway Park
	Pine Street Park
	Peirce Island Park
	Prescott Park
	Rock Street Park
	South Playground
	The Plains

Source: City of Portsmouth

The following section lists the major recreational facilities in the city along with a brief description of what each has to offer:

Spinnaker Point Adult Recreation Center

The Spinnaker Point Adult Recreation Center is located on Spinnaker Way and includes:

A full court gymnasium,
Indoor track 1/12 of a mile with rubberized flooring and banked corners,
Expanded cardiovascular room with treadmills, lifecycles, elliptical machines, stairmaster and rowing machines, separate weight room with free weights and body masters exercise machines,
50-foot four lane indoor pool and hot tub,
Sauna in both men's and women's locker rooms and
An all-purpose gym.

In addition, two large rooms (one large wooden dance floor room and one carpeted exercise room) that are available for use when not scheduled with activities. Membership to the Spinnaker Point Adult Recreation Center is available only for the residents of Portsmouth.

Connie Bean Community Center

The Connie Bean Community Center is located on Daniel Street and is predominantly a recreation center for children of all ages. This very popular facility is used during after school hours and during school vacations, and offers a basketball program, special events, and general space to "hang out" and socialize. The Center also hosts other community organizations such as the Portsmouth Judo Club, Ballet New England, and the Seacoast African American Cultural Center. Special events, forums, and community gatherings likewise take place here. The gym is available for performances and rehearsals, and a small conference room is available for group meetings of up to 10 people.

The City recently completed major improvements at the Center to make it ADA accessible.

Greenleaf Recreation Center

The Greenleaf Recreation Center is a facility used almost exclusively for adult and youth organized seasonal programs and where all adult day trips depart and return to. It is open seven days a week to rent for programs, classes, birthday parties, and different functions. The center offers the following amenities:

An outdoor skateboard park,
A gymnasium,
An outdoor basketball court,
A game room (ping pong, air hockey, foosball, bumper pool, and board games) and
A separate meeting room with kitchen facilities.

Municipal Pool

The City's indoor pool is located on Andrew Jarvis Drive adjacent to the Portsmouth High School and is open to both residents and non-residents for a fee. Swim classes such as Red Cross Learn-To-Swim, lifeguard training, junior lifeguard/Guard Start training, adapted aquatics for special needs children, water safety/swim lesson instructor, and adult swim lessons are available. There are different times set aside for different groups such as adult swim, open swim, and senior citizen swim.

The outdoor pool is located on Peirce Island, and is only open during the summer months. A new parking area in support of the pool was recently completed, as were improvements to the pool apron and fencing.

Prescott Park

Prescott Park is located at the edge of the Piscataqua River and across from Strawberry Banke Museum. Two sisters, Josie and Sarah Prescott, donated the Park around the turn of the century to the City of Portsmouth. The popular waterfront park features flower gardens, including large

demonstration beds where many varieties of flowers are shown each summer. The Park is also host to the Prescott Park Arts Festival – an outdoor summer festival held during July and August of every year.

Peirce Island

Peirce Island is a 27-acre city owned island which is home to two playgrounds, walking trails, picnic areas, the municipal boat launch, and the state fish pier, as well as the City's outdoor pool. In 1999, the City developed a Master Plan for the Island, and improvements have been implemented on an annual basis since that time. The City's current focus is on the development of walking trails, scenic overlooks, and other amenities on the Island's eastern end.

Recent and Ongoing Capital Improvements

Portsmouth has completed major rehabilitations of its parks and playgrounds throughout the city over the last six years. The following parks and playgrounds have been upgraded: Cater, Goodwin, Haven School, Lafayette, Pine Street, Rock Street, Pannaway, South, Hislop, Hanscom, Maynard, Big Rock, and Rock Street. New handicapped accessible playgrounds were installed at the City's three elementary schools—Dondero, New Franklin, and Little Harbour — several years ago. Maple Haven and The Plains are the only remaining playgrounds that have not undergone major upgrades. $25,000 is budgeted for improvements to the Maple Haven Playground in FY 2004. In addition, on-going improvements are being completed at Goodwin and Haven Parks, where conservation treatments of outdoor sculptures are being executed. A Master Plan for Hislop Park in Atlantic Heights is likewise being developed and implemented.

Recreation projects included in the 2004-2009 Capital Improvement Program are:

On-Going Implementation of the Peirce Island Master Plan: As aforementioned, this is a multi-year project. The City is focusing on developing trails, overlooks, and other amenities on the island's eastern end, as well as improvements to the outdoor pool facility.

Ledgewood Manor Park: The St. Nicholas Greek Church has leased a parcel of land adjacent to Ledgewood Manor apartments for development of a park targeted to Ledgewood residents. Design was completed in 2000, and scheduled improvements include regrading, drainage, lighting, and installation of picnic tables, benches, trash receptacles, and the like. The project is awaiting funding through a public-private partnership.

North Mill Pond Pedestrian and Bike Pathway: Pursuant to the recommendations of the North Mill Pond Feasibility Study, construction of a 2,500 foot linear path along the McDonough Street shore is planned. Easements from property owners are required prior to commencement of construction.

Pease International Tradeport Athletic Fields: This project is a cooperative venture between the City and the Pease Development Authority to identify and secure long term leases to sites that may be suitable for multi-purpose play fields.

Reclamation of Former Stump Dump for Recreational Use: As part of a larger project that would close the stump dump in accordance with the requirements of the NH Department of Environmental Services, the site would be leveled and capped and converted to recreational use.

Recreation Needs

As evidenced by the above, the City is actively addressing many of the recreational needs of its residents via programmatic initiatives and facilities improvements. Future needs cited by the Recreation Department include multi-purpose playing fields for softball, baseball, lacrosse, and soccer, as well as indoor basketball courts and meeting rooms, and outdoor basketball and tennis courts.

CULTURAL & HISTORIC RESOURCES

Widely regarded as a center for arts and culture in New Hampshire, a large component of Portsmouth's community character, quality of life, and economy relies upon its strong tradition of preserving and supporting its cultural and historic resources. In addition, Portsmouth's arts have proven profitable to more than the human spirit and intellect: the 2000 "Arts and Economic Prosperity" Study conducted by Americans for the Arts reported that the arts contribute $26 million in the local economy.

Having completed a Cultural Plan in 2001, Portsmouth is prepared to take action to preserve and enhance its cultural assets. Developed over a two year period by the 16-member Mayor's Blue Ribbon Committee on Arts and Culture, the Cultural Plan was adopted into the City's existing Master Plan in January, 2002.

As the Cultural Plan process unfolded, several focus groups worked to synthesize the community's desires with regard to arts and culture. Six primary goals represent the consensus:

- *Preservation:* Identify and preserve buildings and open spaces contributing to the unique character and cultural assets of Portsmouth;
- *Space:* Expand and support spaces for cultural activities and events, including affordable space for artists, and venues and space for performances, exhibitions, meetings, storage, rehearsal, and education;
- *Youth:* Engage young people in arts and cultural opportunities in all aspects of their life, including educational, recreational, and social setting;
- *Business:* Engage businesses with the arts and cultural community;
- *Marketing:* Market Portsmouth as a business and cultural destination;
- *Agency:* Create an arts and culture agency to act on the City's behalf on all matters related to arts and culture

These goals are supported by several strategies and actions in the Plan.

The City is involved in the preservation and promotion of cultural and historic resources in several ways: as a repository of information, an owner, a funder/space provider, a regulator, an organizer, a marketer/ educator, etc. Its on-going and steady support is vital to the health and well being of these resources.

Cultural Resources

According to the Cultural Plan, over 35 non-profit groups in Portsmouth are dedicated to arts-related enterprises. Several organizations work to foster cultural activities, including Pro-Portsmouth, the Prescott Park Arts Festival, the Music Hall, the Greater Piscataqua Community Foundation, and others. Due to the volume of institutions involved in Portsmouth arts and culture, no attempt to inventory these resources is made herein – as the Cultural Plan states, "The nurturing of culture happens everyday in countless and unseen ways in Portsmouth." Readers are encouraged to reference the Cultural Plan for a more thorough examination of the arts and culture in Portsmouth.

The State of New Hampshire likewise supports the arts through distribution of funds collected under the "1/2 percent for arts" program enacted pursuant to RSA Chapter 19-A, Section 19A:9.

Public Art and Sculpture

One visible indicator of a community's commitment to arts is the degree to which art is an accessible part of the built environment. Over 300 resources located within the City are catalogued by the Smithsonian Institution's Inventory of American Paintings and Sculpture. Of these, 37 are sculptures that are located throughout the City and have been inventoried in the early 1990's as part of a nationwide effort by the group Save Outdoor Sculpture (SOS). Following is a list of these with owner information – detailed descriptions are available at http://www.siris.si.edu/ .

Table 99: Public Sculptures in Portsmouth

	Sculpture	Artist	Owner
1	The Black Dolphin	Lyford Cabot 1925-	Albacore Park
2	(Cormorant)	Liff Walter	Beaupre Richard & Judith
3	(The Heron)	Liff Walter	Beaupre Richard & Judith
4	Untitled	Fenwick Mark	Botnay Bay Computers
5	General Fitz John Porter	Kelly James Edward 1855-1933	City of Portsmouth
6	Soldiers and Sailors Monument	Monumental Bronze Co. founder	City of Portsmouth
7	(Liberty Pole Eagle)	Pitts George	City of Portsmouth
8	Neptune Statue	Unknown (Italian)	City of Portsmouth
9	Fisherman's Luck	Lyford Cabot 1925-	City of Portsmouth
10	My Mother the Wind	Lyford Cabot 1925-	City of Portsmouth
11	Madonna and Child	A DA Prato Company fabricator	Immaculate Conception Church
12	St Francis Xavier Cabrini	Unknown	Immaculate Conception Church
13	St Theresa	Unknown	Immaculate Conception Church
14	World War Memorial Bridge	Gorham Manufacturing Co. Founder	ME-NH Interstate Bridge Auth.
15	Bust of Sir Walter Scott	Unknown	Portsmouth Athenaeum
16	Bust of Charles J Fox	Unknown	Portsmouth Athenaeum
17	Bust of Jeremiah Mason	Unknown	Portsmouth Athenaeum
18	Bust of Zachary Taylor	Unknown	Portsmouth Athenaeum
19	Bust of Daniel Webster	Unknown	Portsmouth Athenaeum
20	Bust of Captain Robert T Spence	Unknown	Portsmouth Athenaeum
21	Bust of John Adams	Unknown	Portsmouth Athenaeum
22	Bust of George Washington	Unknown	Portsmouth Athenaeum

	Sculpture	Artist	Owner
23	Bust of Napoleon	Unknown	Portsmouth Athenaeum
24	Gaudama The Buddah of the Burmese	Unknown	Portsmouth Athenaeum
25	Bust of Benjamin Franklin	Unknown	Portsmouth Athenaeum
26	Bust of Alexander Hamilton	Unknown	Portsmouth Athenaeum
27	Bust of General Lafayette	Unknown	Portsmouth Athenaeum
28	Bust of Levi Woodbury	Unknown	Portsmouth Athenaeum
29	Firefighters Monument	Happny Peter	Portsmouth Fire Department
30	Portrait Head of Ellen Koopman	Koopman Augustus 1869-1914	Restricted Owner
31	Rockingham Hotel Terra Cotta Heads	Lamb Francis Mortimer 1861-1936	Rockingham House Condominium Assoc.
32	Spring Summer Fall Winter	Lamb Francis Mortimer 1861-1936 (possibly by)	Rockingham House Condominium Assoc.
33	(The Rockingham Lions)	Unknown	Rockingham House Condominium Assoc.
34	Daniel Webster	Ball Thomas 1819-1911	Sawyer Richard A Jr
35	St Catherine of Siena Relief	Unknown	St Catherine's Church
36	Our Lady of the Streets	Unknown (Italian)	St Catherine's Church
37	Little Harbor Chapel Pediment Sculpture	Unknown	Trustees of Little Harbor Chapel

Notably, the City has recognized the importance of public art in Portsmouth as it has included sculpture restoration and preservation projects in its Capital Improvement Program (CIP) and Community Development Block Grant (CDBG) program. As part of a larger effort to completely revitalize Goodwin Park, the Soldiers and Sailors monument will be the focus of a $190,000 conservation effort to be completed by Daedelus, Inc. of Cambridge. In addition, the General Fitz John Parker statue is scheduled for treatment. A focal point in Haven Park, the monument was surveyed in 1994 by Harvard University specialist Dr. Henry Lee. Pursuant to his report and subsequent assessments, a multi year project will implement the recommendations for long-term conservation. A total of $20,000 in CIP funds are targeted for this project.

The Cultural Plan suggests that the City consider a "percent for the arts" program (similar to Seattle's program, perhaps) be explored as one means of producing new revenues in support of local artists and cultural organizations.

Performance and Exhibition Space, Live/Work space, and Arts Education
According to the Cultural Plan, the "severe shortage of affordable space in Portsmouth is the greatest challenge facing artists and cultural organizations." Demand for increased activities is constant – two institutions, the Strawbery Banke and the Children's Museum are actively pursuing plans to expand their space; plus, a new Seacoast African American Cultural Center opened in the Connie Bean Community Center last October. The Plan draws a comparison to the City's impressive record of accommodating citizen needs for recreational facilities and activities, and encourages similar treatment for arts and culture.

Housing affordability and availability also factor prominently in preserving Portsmouth's artist population. Common knowledge has observed high rents and the lack of live/work spaces as top reasons for artists to leave the city.

In addition to the City's commitment to carrying forth the Statewide arts curriculum, the Cultural Plan recommends several initiatives to more thoroughly introduce students to the arts.

Arts and Culture Agency
Pursuant to a key recommendation of the Cultural Plan, a 13-member Arts and Cultural Agency was formed in November, 2002. Made up of residents and non-residents, the group was chosen for its combined experience in "marketing, business, grant writing and volunteer experience."[53] The agency is charged with implementing the Cultural Plan.

Historic Resources

Portsmouth's historic resources are vast; the City's well-preserved architecture is a vital contributor to the community's character and aesthetic appeal. The City's Historic District Commission acts as its lead regulatory agency, with groups such as the Portsmouth Advocates, the Strawbery Banke Museum, the Society for the Preservation of New England Antiquities (SPNEA), the Portsmouth Black Heritage Trail, and others playing vital supportive roles in the overall effort to preserve the built environment.

Inventory

Several existing sources provide detail as to the breadth and nature of the City's historic resources. The Nomination Form for the Historic District, written by the Portsmouth Advocates, provides a good description of the history Portsmouth architecture; in addition, several books, including Richard Candee's "Building Portsmouth: The Neighborhoods And Architecture Of New Hampshire's Oldest City" serve as excellent documentation of the City's history.

For the purpose of this report, the historic properties are categorized by the degree to which they are recognized by formal inventories and/or the level of protection they have been afforded.

National Register of Historic Places Properties
Created pursuant to the National Historic Preservation Act of 1966, the National Register (NR) is a compilation of nearly 76,000 of the country's most significant historic resources. The NR program works to identify, evaluate, and protect the nation's historic and archaeological resources.

According to information retrieved from the National Park Service, Portsmouth has 37 properties and one historic district (Strawbery Banke) listed as part of the National Register of Historic Places.

Properties can be nominated for National Register Listing if they meet one of the following criteria:

> "The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess

[53] "Portsmouth Names Members of New Arts, Culture Panel," *Foster's Online,* 10/31/02.

integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded or may be likely to yield, information important in prehistory or history."[54]

The practical effect of listing a property on the National Register is three-fold: 1) any changes to listed properties that involve federal funding or permitting undergo review pursuant to Section 106 of the National Historic Preservation Act, 2) listed structures may receive special consideration or exemption from certain other regulations (e.g., energy conservation rules, ADA compliance, etc.) and 3) listed properties are eligible to receive certain tax credits, and other grants. State funded, permitted, and otherwise "assisted" projects must undergo review to identify and mitigate any adverse impact on the historic resource (NH RSA Section 227-C:9). In addition, Register listing provides official recognition of a property's historic significance, and may lend it added value (monetary or otherwise).

Following is a table of Portsmouth's National Register listings. Map 19 illustrates the district as it relates to the National Register listings.

Table 100: Portsmouth Properties Listed on the National Register of Historic Places

	Property Name*	Applicable Criterion	Level of Significance	Period of Significance
1	Beck, Samuel, House	Architecture/Engineering	Local	
2	Benedict House	Architecture/Engineering	Local	1800-1824
3	Franklin Block	Architecture/Engineering	Local	1875-1899
4	Hart, Jeremiah, House	Architecture/Engineering	Local	1750-1799
5	Hart, John, House	Architecture/Engineering	Local	1750-1799, 1800-1824, 1825-1849
6	Hart, Phoebe, House	Architecture/Engineering	Local	1800-1824
7	Hart-Rice House	Architecture/Engineering	Local, State	1700-1749, 1750-1799, 1800-1824
8	Haven–White House	Architecture/Engineering	Local	1750-1799, 1800-1824
9	**Jones, John Paul, House**	Person	National	1750-1799

[54] http://www.cr.nps.gov/nr/listing.htm

	Property Name*	Applicable Criterion	Level of Significance	Period of Significance
10	**Langdon, Gov. John, Mansion**	Person	National	1750-1799, 1800-1824
11	Larkin–Rice House	Architecture/Engineering	State	1800-1824
12	**MacPheadris–Warner House**	Architecture/Engineering	National	1700-1749
13	**Moffatt–Ladd House**	Architecture/Engineering	National	1750-1799
14	Neal, James, House	Architecture/Engineering	Local	1825-1849
15	New Hampshire Bank Building	Architecture/Engineering		1825-1849, 1850-1874, 1875-1899, 1900-1924
16	Nutter–Rymes House	Architecture/Engineering	Local	1800-1824
17	Old North Cemetery	Event, Art	State	1750-1799, 1800-1824, 1825-1849
18	Pinkham, Daniel, House	Architecture/Engineering	Local	1800-1824
19	Porter, General, House	Architecture/Engineering	Local	1750-1799, 1800-1824, 1825-1849, 1850-1874, 1875-1899
20	Portsmouth Athenaeum	Architecture/Engineering	State	1800-1824
21	Portsmouth Cottage Hospital	Architecture/Engineering	Local	1875-1899, 1900-1924, 1925-1949
22	Portsmouth Public Library	Architecture/Engineering	Local, State	1800-1824, 1825-1849, 1850-1874, 1875-1899
23	Rockingham Hotel	Architecture/Engineering	National	1750-1799, 1875-1899
24	Rogers, George, House	Event	Local	1825-1849, 1850-1874
25	Rundlet–May House	Architecture/Engineering	State	1800-1824
26	Shapley Town House	Architecture/Engineering	Local	1800-1824
27	Sherburne, Henry, House	Architecture/Engineering	Local, State	1750-1799
28	Smith, Simeon P., House	Architecture/Engineering	Local	1800-1824
29	South Meetinghouse	Architecture/Engineering	Local	1850-1874

	Property Name*	Applicable Criterion	Level of Significance	Period of Significance
30	South Parish	Architecture/Engineering	State	1800-1824, 1825-1849
31	St. John's Church	Architecture/Engineering	State	1800-1824
32	Strawbery Banke Historic District	Architecture/Engineering	National	1650-1699, 1700-1749, 1750-1799, 1800-1824, 1825-1849, 1850-1874, 1875-1899, 1900-1924, 1925-1949
33	**USS Albacore**	Architecture/Engineering	National	1950-1974
34	Wentworth, Gov. John, House	Architecture/Engineering	State	1750-1799, 1800-1824
35	**Wentworth–Coolidge Mansion**	Architecture/Engineering	National	1650-1699, 1700-1749, 1750-1799
36	Wentworth–Gardner and Tobias Lear Houses	Architecture/Engineering	National	1750-1799, 1760
37	**Wentworth–Gardner House**	Architecture/Engineering	National	1750-1799
38	Whidden-Ward House	Architecture/Engineering	Local	1700-1749, 1720

* Listings in bold are also National Historic Landmarks.

National Historic Landmarks Program
Among properties listed on the National Register are those which have exceptional value to the illustration or interpretation of United States history. Designated by the Secretary of the Interior as National Historic Landmarks, these properties number approximately 2,500 nationwide, just 3% of those listed on the Register. In Portsmouth, 8 sites, or 21% of NR listings, are National Historic Landmarks. These properties are eligible to receive technical preservation assistance and advice from the National Park Service professionals. In some instances, National Historic Landmarks may also receive priority for grant funding.

State Register of Historic Places
In 2001, the State of New Hampshire began to compile a State Register of Historic Places. Currently featuring just 43 properties, listing on the State Register is another method of recognizing a property's historic value and promoting its preservation. Eligibility for listing is sometimes used as part of a pre-qualification process for grant programs, and criteria for listing are similar to those used for the National Register.

The People's Baptist Church at 45 Pearl Street is Portsmouth's single listing on the State Register. It became part of the Register in January, 2002.

Portsmouth Historic District
The City's most far-reaching historic designation involves those properties that fall within the boundaries of its local historic district. Encompassing a 200+ acre area anchored in the downtown, the district is roughly bounded by the Route One Bypass, the Piscataqua River, New Castle Avenue (both sides), Junkins Avenue, Parrot Avenue, Middle Street (extending 150' beyond both sides of the right of way to near its intersection with Middle Road), Islington Street (both sides of the street to the intersection of Union Street, then up to Dover Street on the west side), Bridge Street, the North Mill Pond, and Walker and Prospect Streets.

Surveyed by the Portsmouth Advocates in 1982, the local district is comprised of over 900 structures. Visible changes that are not part of ordinary maintenance must receive Historic District Commission approval before proceeding. All but two (the USS Albacore and the Wentworth-Coolidge Mansion) of the National Register and National Historic Landmark properties are also within this local district.

The Commission is made up of seven members and two alternates, and conducts business on the first Wednesday of each month.

NH Historic Marker Program
Enacted by the State legislature in 1955 (RSA 236.40), the Historic Marker Program is responsible for making New Hampshire's history more accessible to the public through the erection of signage along state highways. While the Commissioner of Transportation is the program's authorizing official, nominations to the program are administered through the Division of Historical Resources; a petition signed by twenty NH residents is a minimum requirement for nomination. Local municipalities are responsible for the cost and maintenance of the signage.

Portsmouth has three sites that participate in the Marker Program: the Portsmouth Plains, located on NH 101 about .5 mile east of its junction with Interstate 95; North Cemetery, located on a corner of the Old North Cemetery on Maplewood Road, east of US 1; and John Langdon (1741-1819), located at the State of New Hampshire Urban Forestry Center, on Elwyn Road, east of its intersection with US 1.

Preservation Easements (Restrictions/Covenants)
A preservation easement is the most effective regulatory measure used to preserve historic properties and structures. Recorded as part of the property deed, a preservation easement restricts present and future owners from making inappropriate alterations to the historic resource. An easement may be effective for a limited term or may be in perpetuity, and are enforced by the holder of the restriction – restrictions are often donated to or purchased by a government body or preservation organization and can be tax deductible.

At present, the NH Division of Historical Resources holds restrictions on the following Portsmouth properties:

- Hough and Drisco Houses at Strawbery Banke Museum;
- the Rundlett-May House on Middle Street (owned by SPNEA);
    - Wentworth Coolidge Mansion, a state-owned historic site.

In addition, historic preservation/restoration grant recipients of the Land and Community Investment Program (LCHIP) are required to record a restriction on their properties, the length of which varies in relationship to the amount received. The Portsmouth Black Heritage Trail received a $164,000 matching LCHIP grant to perform restoration work on the "Pearl of

Portsmouth," the People's Baptist Church, located at 45 Pearl Street, and would be expected to record a 50 year easement on the property according to LCHIP guidelines.

Archaeological Sites
Several excavated sites in Portsmouth have revealed information about the City's history and pre-history. Strawbery Banke has been the source of several important sites, and the museum's Archaeology Center is located at the Jones House. Due to its intact nature, the Banke area is considered to be one of the most important urban archaeology sites in the country.

The former Vaughn Street Urban Renewal Area has likewise proven to be a significant archeological resource. Retrieved artifacts, particularly of ceramic materials, have led to discoveries concerning the development of Portsmouth's material culture from c.1700 through the 19th century.

Current Initiatives/Emerging Issues

The City is presently pursuing a significant adaptive reuse project at the 1895 Cottage Hospital, a four story brick building located on Junkins Avenue on the site of the City Hall complex. Working in conjunction with the Portsmouth Housing Authority, the City is planning to convert this building into 20 elderly housing units, completely renovating the structure, and restoring and/or replacing in kind its historic features. This project has undergone Historic District review and received its approval in October, 2002.

The local Historic District Commission is charged with overseeing the preservation of the district, and is generally thought to be doing a good job of maintaining the character of the downtown. Some of the preservation-issues the Commission has faced recently and may confront in the near future include:

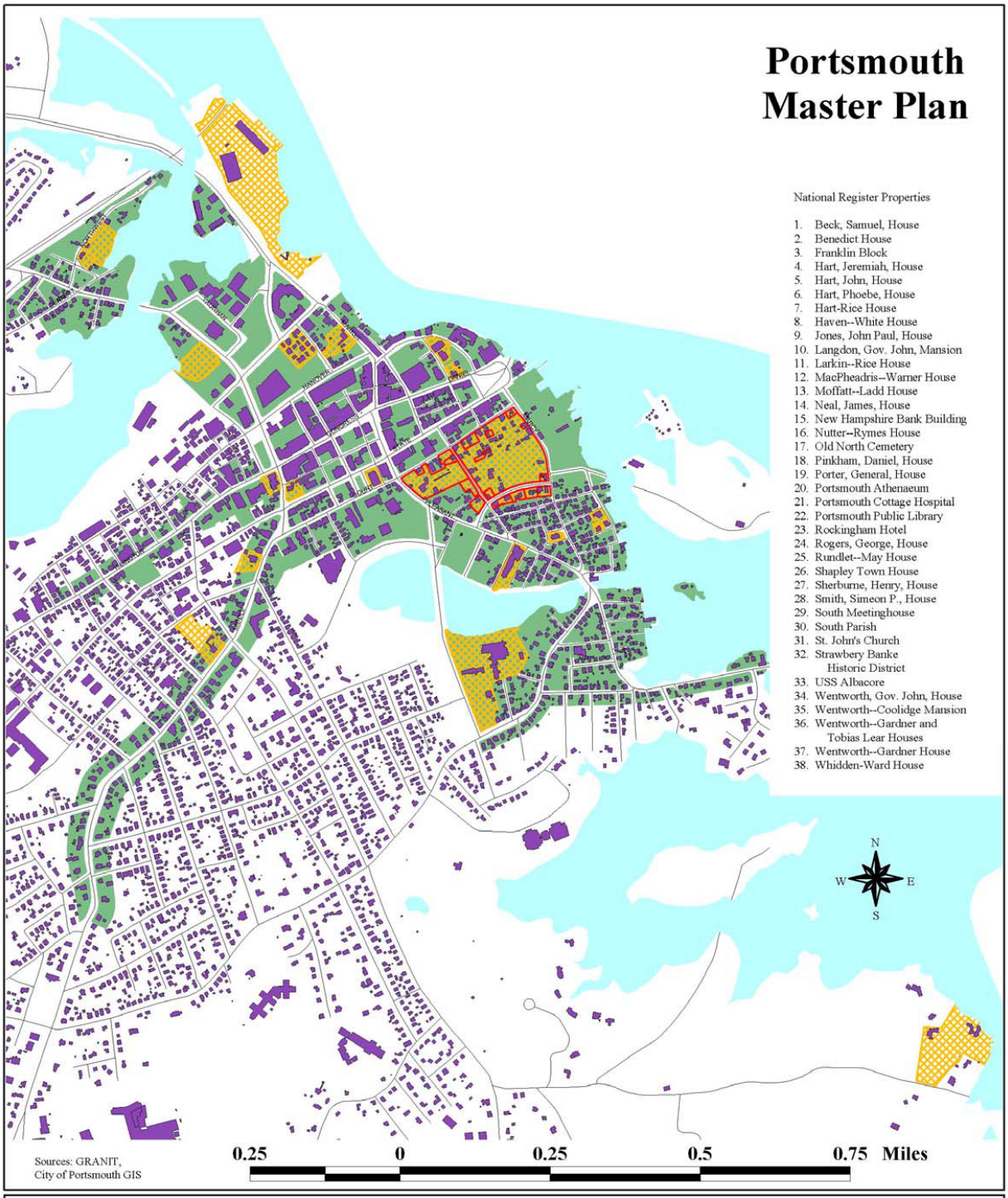
- Re-use and/or re-development of the Federal Building;
- Revitalization of the Northern Tier and its connections to Downtown;
- Expansion of its review authority to encompass non-historic site elements such as pools and patios;
- The need for additional public education and information disbursement about the district and its design review procedures;
- Lack of control of changes occurring just outside district boundaries;
- Lack of an overall Preservation Plan for the district; and
- Lack of a comprehensive inventory of district properties (the Portsmouth Advocates-sponsored survey notwithstanding).

In addition, there is no governmental or government-sanctioned group that provides a venue for consideration of issues that are located outside of district boundaries. The Portsmouth Advocates do address preservation-related issues within the City as a whole, however, have no regulatory authority. There are numerous historic properties that exist outside of the district that have neither been inventoried nor have any type of protection. Places such as Elwyn Park, Atlantic Heights, South Street, Portsmouth Plains, Pease, and neighborhoods just off of Islington Street all have historic structures that merit attention.

The Cultural Plan recommends hiring a Preservation Planner to administer to all of the City's historic resources.

Scenic Resources

Scenic resources are the result of careful or traditional human intervention in the landscape, and include urban streetscapes, scenic roads, and scenic vistas. While Portsmouth clearly enjoys bountiful scenery, these types of resources have gone largely without inventory or protection. This may be especially true in the downtown, where recent projects have stirred controversy as to whether their designs would impact beloved view corridors to the waterfront.



Historic Resources
Map # 19

Buildings

National Register Listings

Strawbery Banke NR District

Local Historic District

SOCIAL SERVICES

According to the City's Consolidated Plan[55], Portsmouth is well served by a wide variety of social service organizations and networks that meet the needs of the community. The City fulfills three essential roles in the social services arena: as a direct service provider, as a funding resource[56], and as a conduit for disseminating information. In addition, the City may be in the position to enhance access to services in planning for public transportation, supplying support space for services, assisting agencies in identifying resources, etc. Planning for current and future needs addresses a variety of types of issues, from health care to violence prevention.

A number of organizations provide information and assistance to individuals seeking social services. InfoLink is a comprehensive, NH-based referral system that provides free, 24-hour access to community resources. The Community Resource Network is another referral agency, and the United Way of the Greater Seacoast is a vital source of funding and technical support to regional service providers. In addition, the end of 1999 witnessed the opening of the Community Campus on Banfield Road, an 80,000 s.f. facility that is home to several non-profit organizations who share a mission of serving Seacoast area families and children. In October of 2000, a new center for seniors that houses the Portsmouth Housing Authority Senior Center and Compass Care, providing health and related activities to seniors.

Health Care

Portsmouth is fortunate to have excellent health care services available to its residents of all incomes. Lack of awareness of free and subsidized services, however, is a fundamental obstacle to health care in the Seacoast region.[57] According to the Foundation for Seacoast Health, the top prioritized health needs of the area are:

- Access to affordable mental health services;
- Access to preventative and restorative dental services;
- Access to affordable child day and after school care;
- Access to affordable primary medical care; and
- Coordination and dissemination of health information related to identified priority needs.

Among the agencies fulfilling the need for affordable health care is the Families First Health and Support Center. Located at the Community Campus, Families First is a non-profit agency offering primary, pre-natal, and oral health care; parenting groups and classes; one-on-one family support; health education and counseling; and care coordination. In 2002, Families First served approximately 3,500 individuals.[58] Two new programs offering affordable dental care and health care for the homeless are expected to increase the number of people served by Families First; while primary and pre-natal care services have managed to keep pace with customer demand as needed, the newly established dental care program is already outstretching resources as it

[55] City of Portsmouth Consolidated Plan 2000-2005, Action Plan FY2000/2001, Portsmouth Community Development Department, May 15, 2000

[56] In 2003, grants from the General Fund and the CDBG program totaled just over $356,000. Each year, the City's Welfare Department makes recommendations for social service funding. For a detailed list of agencies and their individual allocations, see the City's Annual Budget report.

[57] Frisbee Memorial Hospital Community Needs Assessment, June 22, 2000.

[58] Conversation with Helen Taft, Executive Director, Families First, 4/1/03.

currently has a three month waiting period for an appointment. With patient fees comprising only about 4% of its annual budget, the continued success and expansion of services is dependent upon on-going income from fundraising, foundations, government grants, insurance reimbursements, and other sources.

Other direct health care service providers include Portsmouth Regional Hospital, SeaCare Health Services, Planned Parenthood of Northern New England, and the Seacoast Mental Health Center (SMHC). Specialized support for AIDS patients is provided through AIDS Response of the Seacoast, and substance abuse services are provided through Seacoast Mental Health and the Seacoast Pavilion, located at Portsmouth Hospital. Brief descriptions of these providers follow, taken in part from the City's Consolidated Plan:

- Located at 333 Borthwick Avenue, **Portsmouth Regional Hospital** offers a full complement of health services within a facility of 144 beds. Over 200 physicians are among the hospital's staff which totals around 1,000 employees. Specialized units include Women's Care, Behavioral Health, a Heart and Lung Center, a Wound Care Center, and physical and occupational therapies. The Behavioral Health program, also known as the **Seacoast Pavilion**, has recently downsized, but continues to offer 30 in-patient beds in addition to its multifaceted outpatient services.

- **SeaCare Health Services** includes a volunteer network of over 400 physicians, dentists, nurse practitioners, podiatrists and mental health providers. Once enrolled in the program, individuals and families are able to establish a relationship with a local provider and receive preventative care, prompt attention to illnesses and referrals to specialists. Participants pay a small fee determined by their household income.

- The mission of **Planned Parenthood of Northern New England (PPNNE)** is to give people the knowledge and resources necessary to make informed, responsible reproductive choices. The major goals are to reduce unintended pregnancies; to reduce the incidence of sexually transmitted diseases and to increase people's knowledge about reproduction and sexuality Funding is provided by CDBG, federal state and private sources. Beneficiaries are very low, low and moderate-income small and large households.

- **AIDS Response of the Seacoast** is a non-profit agency that provides direct service and support to HIV/AIDS clients. In addition, AIDS Response offers frequent anonymous testing (HIV, STDs, pregnancy, hepatitis) from its traveling van unit, as well as education regarding disease prevention. Other services include case management, referrals, legal assistance, support groups, and the like.

- **Seacoast Mental Health Center** provides psycho-therapy services including sexual offender's programming, substance abuse evaluation and treatment, and crisis intervention to individuals with mental disabilities. Funding is provided by federal, state and local agencies. Very-low- and low-income individuals who are eligible for state funded mental health services are the beneficiaries of this service.

Several organizations are dedicated to advocating for improved health care in the region. The Foundation for Seacoast Health, the Alliance for Community Health, the Women's Health Consortium, and the Portsmouth Regional Health Support Associates are among these.

The City actively supports the provision of health care to Portsmouth's residents by providing funding to some of these agencies through the General Fund and the Community Development Block Grant program.

Dental care, substance abuse treatment, and mental health care continue to rank among the community's highest health care needs, as demand for these services outstrips resources.

Child Care

According to the 2001 Community Needs Profile sponsored by the United Way, "There is a critical shortage of child care in the region. Much of the care that does exist puts an enormous strain on working families." The U. S. Census reports that 17.3 percent of Portsmouth families with children under age 5 had incomes below the poverty level in 2000. This was twice the percentage for the state of New Hampshire as a whole, and nearly four times as high as the average for Rockingham County (see Table 101).

Table 101: Families Below the Poverty Level, 2000

	Portsmouth		Rockingham County %	State %
	#	%		
All Families	4954	100.0%		
Families below poverty level	318	6.4%	3.1%	4.3%
With children under 18	282	13.3%	4.5%	6.5%
With children under 5	143	17.3%	4.8%	8.9%

Source: U.S. Census

The Community Campus has a "pro-family" mission at its core. In addition to Families First, the Community Child Care Center, Head Start, Portsmouth Early Education Program, the New Heights Teen Summit, Family Harbor, and the Seacoast Child Advocacy Center are located at the campus. Day and after-school care is available.[59] While affordability is the hallmark of these programs, the demand for child care in the Portsmouth area far exceeds the supply of service providers, and the cost of care is frequently challenging for the median family income. The annual cost for full-time care of one toddler is approximately 12.5 % of its gross income.[60] Very few opportunities for evening and weekend care exist, making it very difficult for employees in the service industries to find suitable care.

The other day care centers in Portsmouth include:

Agape Preschool	397 Lafayette Rd.
Children's Garden School	290 Peverly Hill Rd.
Leap Into Learning Preschool	1155 Sagamore Ave.
Little Blessings Day Care	1035 Lafayette Rd.
Discovery Child Enrichment Center	30 E. Rye St.

[59] The Community Child Care Center also provides after school care at the Little Harbour, Dondero, and New Franklin Elementary Schools.
[60] Based upon $155/week rate currently offered at Community Child Care.

In addition to child care, there are several other child-focused organizations that serve the Portsmouth community.

- **Child and Family Services of NH (CFS)** is an independent non-profit organization with offices throughout the State that serve children and family needs. Counseling, Home-Based Family Therapy, Teen Support, and Parenting Skills are among the services they provide.

- The **Community Diversion Program** is a small non-profit agency that works with at-risk youth to eliminate or prevent the need for court system involvement. Services include Alcohol, Tobacco and Drug Education, Conflict Resolution Courses, Family Mediation and Victim Offender Mediation.

- The **Court Appointed Special Advocates of New Hampshire, Inc. (CASA)** is a private non-profit organization that provides Guardian ad Litem services for children with cases of abuse and neglect.

- The **Seacoast Big Brothers/Big Sisters of NH** program establishes and monitors one to one relationships between adult volunteers and children considered at-risk due to family problems. In April 2003 the program reached a milestone of matching 200 children with mentors.

- The **Seacoast Family YMCA** offers several child care, before and after school, and recreational programs to area children.

The City supports several (all except CASA) of the above service providers via funding through the CDBG program and/or the General Fund.

In addition, the City's Recreation Program offers a wide variety of activities. Reduced fees for programming are available to any individuals or households who are unable to afford the regular fee. Six to 10 individuals and/or households are charged a reduced fee each year.

Homelessness

The City has two staff that are committee members of the Greater Seacoast Continuum of Care, a congress of homeless service providers. Several regional providers are located in Portsmouth or its immediate vicinity, thus offering relatively good access for the City's homeless population. From emergency beds to permanent housing to vocational counseling and advocacy, these services aim to assist the homeless in finding and receiving the help they need. Taken from the City's FY2000-2005 Consolidated Plan, Table 102 presents a partial inventory of agencies and the respective services they offer and plan to offer:

Table 102: Portsmouth Area Agencies Providing Homeless Services

AGENCY	SERVICES IN PLACE
Emergency/Transitional Shelter	
A Safe Place	12 beds for victims of domestic violence. Case management, support groups, legal and social advocacy, information and referrals, transportation, peer counseling, resource libraries, hotline services
Cross Roads House	40 emergency beds; 28 emergency beds for families; 18 transitional beds for individuals; 24 transitional beds for families. Case management, mental health counseling (in collaboration with SMHC), information and referral, vocational counseling, anger management classes, adult tutoring/GED preparation, in-house AAA meetings.
Permanent Housing	
The Housing Partnership	None, in Portsmouth
Permanent Supportive Housing	
Betty's Dream/ Rainbow apartments	24 units of accessible housing, service coordination, transportation, activities, and advocacy.
Seacoast Mental Health Center – Housing Department	Permanent housing in 2 locations: Three 2-bedroom condominiums serving 6 individuals, and an SRO with 5 units.
Great Bay Resident Facility	Group housing for 12 disabled individuals..
Supportive Services	
Seacoast Mental Health Center	Case management, therapy, medication, education/monitoring, MIMS, ADL assistance, 24 hour supervision, life skills training, all other services available through the Community Support program of SMHC.
Homeless Outreach Intervention Project	Outreach, transportation, food and clothing.
Rockingham Community Action (RCA) – COMPASS/ COMPASS Youth	Case management, life skills training, peer leadership/mentoring, short terms rental assistance, advocacy, connection to local resources.
RCA Housing Services program	Resource and referral, crisis assistance, landlord/tenant mediation, budget counseling, life skills training, security deposit loan program.

Elder Services

The total number of seniors citizens in Portsmouth increased 7.6% from 1990 compared to a fairly stable overall population base.[61] According to the Census 2000, approximately 8% of seniors earned incomes below the federal poverty level. Increasing costs of living put a particular strain on seniors who are often on fixed incomes. According to the United Way 2001 Community Needs Profile, "The elderly in the Greater Seacoast area need greater access to a variety of health and lifestyle-related programs and services."

[61] Refer to Chapter 1, Population and Social Characteristics for more information on 1990 to 2000 census comparisons and accounting for the closure of Pease Air Force Base.

Specific challenges facing seniors in Portsmouth include transportation, isolation and access to health care services. In Portsmouth, services which exist to help seniors are featured below.

The Portsmouth Senior Citizen Center addresses the needs of seniors by providing socialization, nutrition (a home-cooked meal is served daily), health education, information and referral, exercise and art classes, and rest and relaxation to the elderly and/or disabled person. Transportation to medical appointments and grocery shopping is also offered at the Center.

The Community Council of Senior Citizens is an information distribution center for senior citizens. This agency offers education and job skills development as well as publishes a newsletter for senior citizens.

The Retired and Seniors Volunteer Program (RSVP) matches citizens over 55 years old with volunteer opportunities in the community that take advantage of the individual's experience while helping to solve problems.

Rockingham Nutrition and Meals on Wheels Program subsidizes the cost of providing nutritional meals to elderly and disabled individuals unable to prepare their own meals.

Area HomeCare and Family Services provides assistance with homecare tasks to enable the elderly and individuals with disabilities to remain in their own homes.

Compass Care is a non-profit organization that promotes the "health, independence, and well being" of seniors. It offers adult day care, health and wellness programs, and senior companionship services to Portsmouth's elderly citizens.

Domestic Violence and Abuse Prevention

According to FBI Crime Reporting indices, Portsmouth witnessed 13 incidents of forcible rape and 23 cases of aggravated assault in the year 2001. In the case of rape, this statistic reveals a much higher rate than national indices, and is the only crime category for which the City exceeds national averages.

Sexual Assault Support Services (SASS) provides 24-hour hotline services, crisis intervention and support services to victims/survivors of sexual assault and childhood sexual abuse and their non-offending parents, partners and friends. Last year, SASS served Portsmouth residents with "74 hotline calls, 84 hours of in-person support to 54 residents, 297 hours of support group sessions for 32 residents, 47 information calls, and 72 hours of education and training sessions to 812 students, 98 teachers, and 304 community volunteers."[62]

A Safe Place provides free shelter and support to victims of domestic abuse.

[62] City of Portsmouth 2003-2004 Proposed Annual Budget, p. 107.