

Regional Overview

Contents

Introduction	1
Regional Trends and Issues.....	2
Land Use.....	2
Demographics.....	9
Housing Trends.....	12
Transportation	13
State of Infrastructure	16
Natural Hazards and Climate Change	17
Energy.....	19
Assets and Resources	21
Quality of life and quality of place	21
Assets and Resources	21
What the Region Said	22
Local Master Plans.....	22
Public Input from Regional Workshop.....	22
NH Listens Public Outreach Event in Kingston, NH on May 14, 2013	23
Statewide and RPC Region Survey – UNH Survey Center.....	25
RPC Online Community Survey Results	26
Key Issues and Actions for the Future	27
Transportation	27
Economic Development	28
Housing	30
Natural Resources	31
Historic Resources	31
Energy	32
Natural Hazards and Climate Change	33
Support for the Regional Vision and Goal	35

Regional Overview

Introduction

The Regional Overview serves as an executive summary of the Plan. As such it includes background information about the region, how it has changed over time, and description of significant trends and issues that are at work effecting its development. It also includes a summary of public opinion and input gathered during the development of the plan and finally, a review of the key recommendations and actions that are presented in the subsequent chapters.

A History of Growth and Change

Since the very earliest European settlement at Odiorne Point in 1623 to the present day, the story of this region is one of constant change. This change was driven by waves of European settlement, resource extraction, industrialization, migration and by general economic expansion, growth and development. These changes nearly always manifested themselves in great changes in land use and landscape.

From the late 1600s, and throughout the 1700s southeastern New Hampshire was one of the most heavily industrialized areas of the English colonies, driven initially by the extraction of its valuable white pine forest resources, and aided by inland access provided by the navigable Great Bay and its tidal tributaries. In the 1700s, a rich agricultural economy developed throughout the rest of the region, and at the same time the expansion of mercantile trade made New Hampshire's seacoast one of the most active commercial areas in New England.

That early economic surge began to level off by the 1830s with the opening of the western frontier facilitated by the development of two new transportation technologies – a canal system, soon followed by the development of the railroad. As evidenced through census records, the opening of the West and decline in agriculture and trade resulted in long periods of relatively slow growth in the region, and even occasional decline, which was common in most of New England.

The region did not begin to grow in a sustained way again until after 1910, and then only moderately. (Figure RO2) After World War II, however, a period of explosive growth ensued lasting until nearly the end of the 20th century.

Many factors converged to cause high population growth and rapid land use change in the region. These included both general factors common throughout much of the country, such as the advent of the "baby boom", a growing ubiquity of cars and road systems, the decline of dairy and other agricultural land use, a

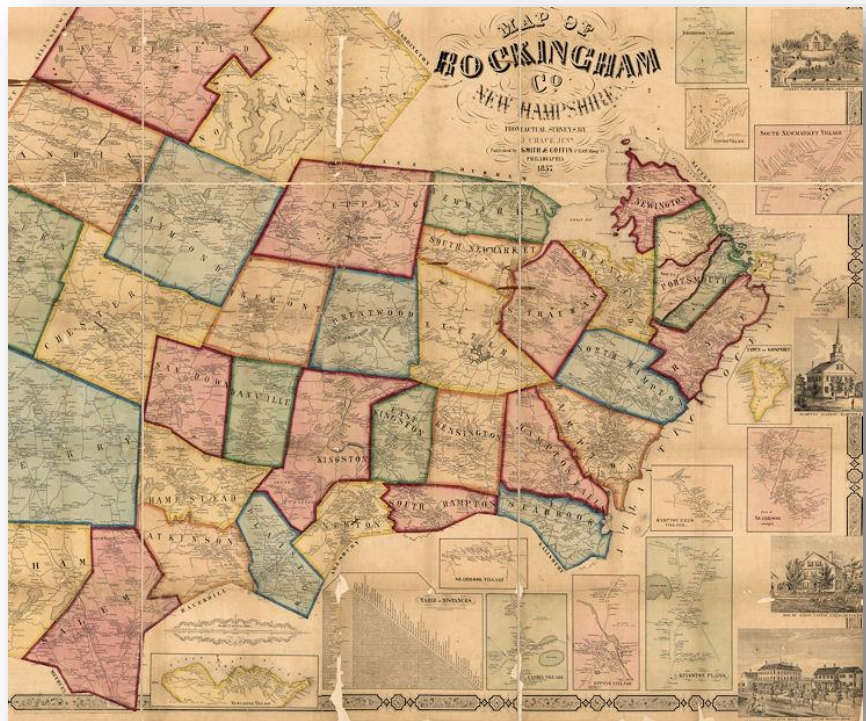


Figure RO1 - Map of Rockingham County circa 1857 Source: U.S. Library of Congress.

growing preference for suburban development patterns over urban centers, as well as other factors more specific to this region, like the availability of inexpensive undeveloped land, the development of two interstate highways and Pease Air Force base, expanding high tech employment in Massachusetts, the lack of income taxes compared to our bordering states and overall high quality of life. This period of rapid growth literally changed the landscape and put in place a pattern of growth and development which defines the region today. This pattern of growth in some places has continued our traditional town center settlements with surrounding rural lands but in many others has replaced it with a more uniform low density suburban style development along with highway oriented commercial development.

As with many places, the region is a composite of its history. It has the architectural and cultural heritage of its New England colonial roots mixed with that from the industrial age, the post-World War II 'auto-age' and the more recent new urban and mixed use development.

Recently, growth in the region, as with most of New Hampshire, has slowed to less than one percent per year and is forecast to remain that way through 2040. A number of factors are converging to cause this: the baby boom population is beginning to age out of the workforce, immigration into the region is slowing, especially from other northeastern states, land is less available and more expensive, and high property taxes have diminished the New Hampshire tax advantage. While a renewal of economic growth could change this, the slower pace of growth has noticeably changed the focus of planning in many of the region's communities away from managing growth and toward planning for community development and redevelopment.

Regional Trends and Issues

Land Use

Changes in population growth and physical development after World War II have had profound effects on land use in the region. The historical view of population growth observed from decennial census data shows that through much of its early history, the region's population was relatively stable, experiencing some periods of mild expansion and contraction, but overall remaining essentially level. (The region's population in 1810 was about the same as 1910 – about 35,000 people.) The post war boom ended that stability. From 1950 to 2010 the population more than quadrupled, with additions to population and housing units averaging more than 2200 people and 1,000 units per year.

The historical landscape and land use characteristics of the region were significantly altered as a result of this growth – not just because of the number of people and housing units added, but because of how they were accommodated. The land area of the region was mostly rural and agricultural at the beginning of this growth period. Only a few communities had densely developed town and city centers and the sewer and water facilities that support them. As the region grew most communities avoided sewer and water system development, both because of the cost and the desire to remain rural.

As the growth came communities responded by establishing a low density development pattern through large lot zoning or soil-based lot sizing that could sustain both on-site septic disposal and private wells for water supply without the necessity of sewer or water or built in fire suppression systems. One result of this approach (called by some a 'sewer avoidance strategy') was growth that did not require large expenditures for physical infrastructure, except for schools. Another was that buildout of these communities would be limited to a density of less than 1 house per acre on average, thus retaining a non-urban, if not exactly rural, character. Some of the consequences however, were that residential land uses, along with roads and traffic, grew rapidly

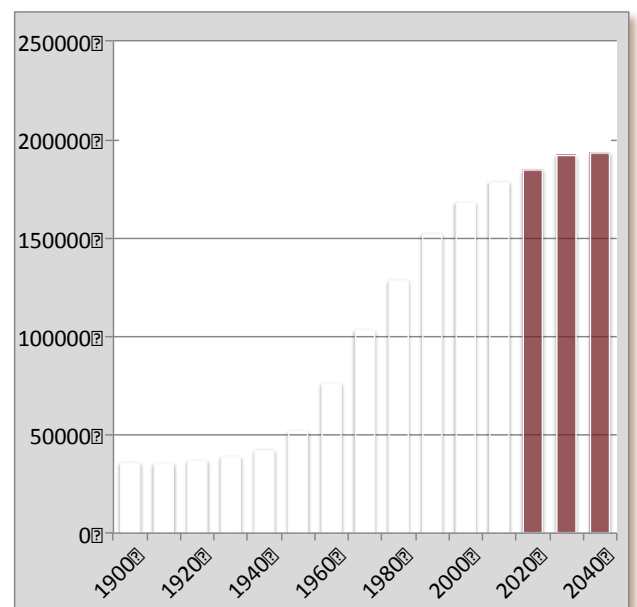


Figure RO2 Population growth and population projections in the RPC region. Source: U.S. Census Bureau and NHOEP.

– even faster than the population – along with a separation of residential and commercial uses, a stunting of town center development and the development instead of large commercial developments along highways.

Rural to Urban Continuum

A rural to urban continuum is evident in the region’s landscape and land use patterns. Residential development is distributed relatively widely across the region while commercial and industrial development is concentrated in urban centers and along major transportation corridors. The most dense population centers are found in Portsmouth, Exeter, Hampton, and Salem. With the exception of Salem, these were the earliest urban settlements in the region. They were its commercial and industrial centers and thus developed the infrastructure to support a concentration of residential, commercial and industrial development. Salem was an agricultural community but developed intensively in the 1960s and 1970s as a commercial and early high tech industrial center and attracted many early migrants from Massachusetts seeking a less urban setting and lower taxes. As shown in the map below, even to this day, much of the region retains a low average population density. Many of these communities struggle to maintain a rural quality of life in the face of lost agricultural land uses and low-density but widespread residential subdivisions. Retaining rural character remains a core objective in most of the local master plans.

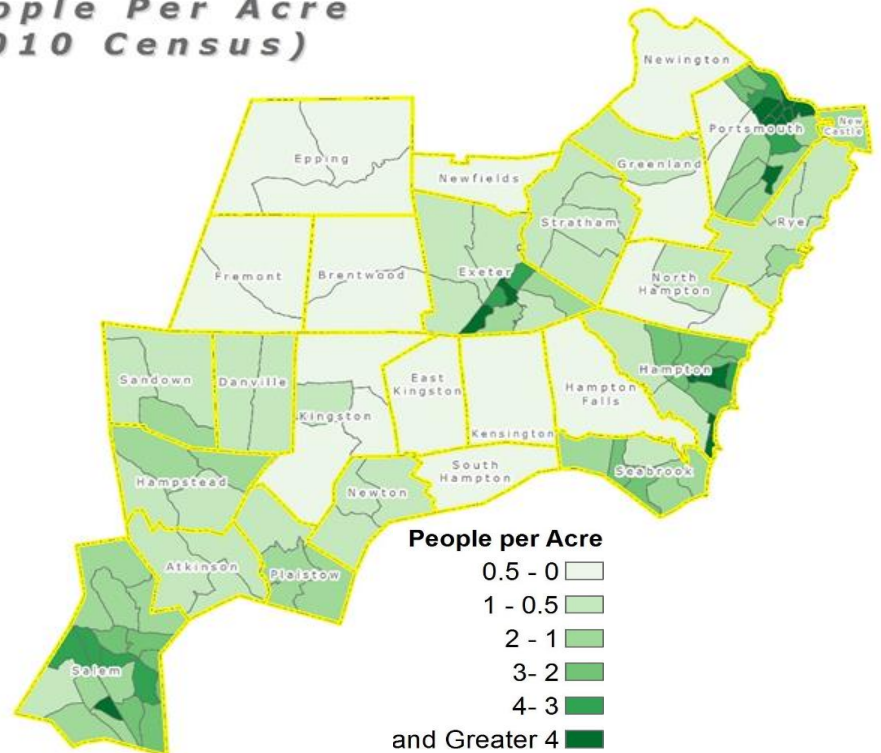
- Rural Areas**
- Larger areas of undeveloped land.
 - Residential lots are typically larger (~2 acres or greater)
 - Most areas served by private wells and septic systems.
 - Most trips require a car.
 - Larger agricultural operations exist (hayfields, livestock and pasture lands).

- Suburban Areas**
- Smaller blocks of undeveloped land.
 - Residential lots are typically smaller (~2 acres or smaller).
 - Mixture of private wells, septic systems, and municipal water and sewer service.
 - Minimal public transit and limited sidewalks.
 - Smaller agricultural operations exist (vegetables, plants/flowers, niche products).

- Urban Areas**
- Most undeveloped lands are limited to public parks and conservation land.
 - Residential lots are typically less than 0.5 acres.
 - Most areas are served by municipal water and sewer service.
 - Public transit and bicycle and pedestrian accommodations are more widely available.
 - Farmers' markets and small, backyard gardens exist.

Figure RO3 Map of persons per acre in the region.

**People Per Acre
(2010 Census)**



Land Use Change

Table RO1 reports land use statistics for 1962, 1974, 1998, 2005 and 2010. These data are derived by the classification of land use from aerial photographs which are available for these years. Several trends are apparent in this 48 year history of land use in the region.

- Residential development increased 163 percent from 1962 to 1998 but only 18 percent from 1998 to 2010, reflecting a slowing of population growth and residential construction.
- Active agricultural land decreased by 62 percent from 1962 to 2010, small farmsteads increased by 30 percent in the same time period. This is consistent with the more recent trend in the increase in the number of agriculture establishments especially since 2000. In 1962 the ratio of agriculture to residential acres was 1.5-to-1; in 2010 it was 0.18-to-1 – a six fold decrease.
- Industrial and commercial development increased by 91 percent from 1962 to 1998 and decreased slightly by four percent from 1998 to 2010. The decrease is due a change in classification of land use types.
- Transportation uses increased by 64 percent from 1962 to 1998 and 35 percent from 1998 to 2010, reflecting primarily new road construction.
- Total developed land grew from 11 percent to 30 percent between 1962 and 2010; net land conversion from undeveloped to developed categories was 48,000 acres or about 20 percent of the region’s land area.
- Nearly 7 out of 10 acres in the region remains as undeveloped land (forest, agriculture, wetland, and open land), however the undeveloped lands are much more fragmented. In 1962 the average size of undeveloped blocks was 182 acres; in 2010 it was only 69 acres.
- The number of developed acres used rose from 0.35 to 0.42 acres per person, indicating a less efficient use of land.

Table RO1 Historical Land Use - RPC Region (reported in acres)					
Land Use Type	1962	1974	1998	2005	2010
<i>Active Agricultural</i>	26,051.9	17,802.6	10,882.1	9,777.0	9,799.5
<i>Auxiliary Transportation</i>	--	--	--	1,272.5	1,445.7
<i>Farmsteads</i>	839.8	689.3	138.8	1,062.0	1,088.8
<i>Forested</i>	163,716.5	158,618.3	142,922.7	100,198.3	97,739.2
<i>Industrial/Commercial</i>	4,992.8	7,184.5	9,564.4	8,704.0	9,171.1
<i>Mixed Urban</i>	1,019.5	1,608.5	3,455.1	692.0	729.1
<i>Open Wetlands</i>	9,603.3	9,782.5	9,524.0	38,373.9	38,354.3
<i>Other/Idle</i>	10,234.4	12,618.7	9,367.2	12,020.3	11,733.5
<i>Playing fields & Outdoor Rec.</i>	--	--	--	3,460.4	3,596.9
<i>Railroad</i>	--	--	--	134.2	134.2
<i>Residential</i>	16,789.2	23,954.0	44,258.1	50,575.6	52,084.9
<i>Transportation</i>	3,222.3	3,818.8	5,292.7	6,750.3	7,134.0
<i>Utilities</i>	--	--	--	2,339.3	2,342.9
<i>Water</i>	12,079.6	12,472.4	13,144.4	13,189.5	13,195.5
Grand Total	248,549.4	248,549.4	248,549.4	248,549.4	248,549.4

** Note: Years 1962, 1974 and 1998 were mapped from lower resolution aerial photography than subsequent years and used a simpler classification of land uses and therefore are not fully comparable. Auxiliary Transportation, Playing Fields and Utilities are categories only broken out in 2005 and 2010. Due to the lower resolution aerial photos, many wetlands were classified as 'Forested' before 2005. The more accurate classification caused the very large increase in reported wetland acres between 2005 and prior.

Conservation and Open Space Land

The significant land use change and growth seen in the RPC region in the last four decades has put increasing pressure on remaining natural and open spaces. Much of the open space in the region is vulnerable to being developed because of its high value for developed uses, particularly agricultural lands. Among RPC communities, several of the highest priorities identified in local master plans include protecting natural resources for water quality protection, recreation, open space, conservation and wildlife protection. This is a long standing priority in the region. Significant local and state conservation efforts began as far back as the 1970s and 1980s with agricultural preservation easements, followed later with conservation and preservation efforts fostered by the the Land and Community Heritage Program. Many of the communities in the region have put land conservation goals into action by using local dedicated funds and conservation grants for the purpose of open space protection, resulting in many hundreds of acres of permanently conserved open space and conservation land. In addition the region is fortunate to have a long and successful history of private land conservation, often facilitated by efforts of local conservation commissions and private conservation organizations such as the Southeast Land Trust (SELT). The SELT has protected more than 7,500 acres on 115 sites and 18 reservations throughout the Seacoast and Rockingham County. Other successes in land conservation have occurred around the Great Bay throughout the 1990s and 2000s led by organizations like the Great Bay Resource Protection Partnership which has conserved over 6000 acres and protected 25 miles of shoreline along the Great Bay. Equally important is the approach: science-based determination of land protection priorities based on resource conservation needs matched with federal, state and private funding opportunities.

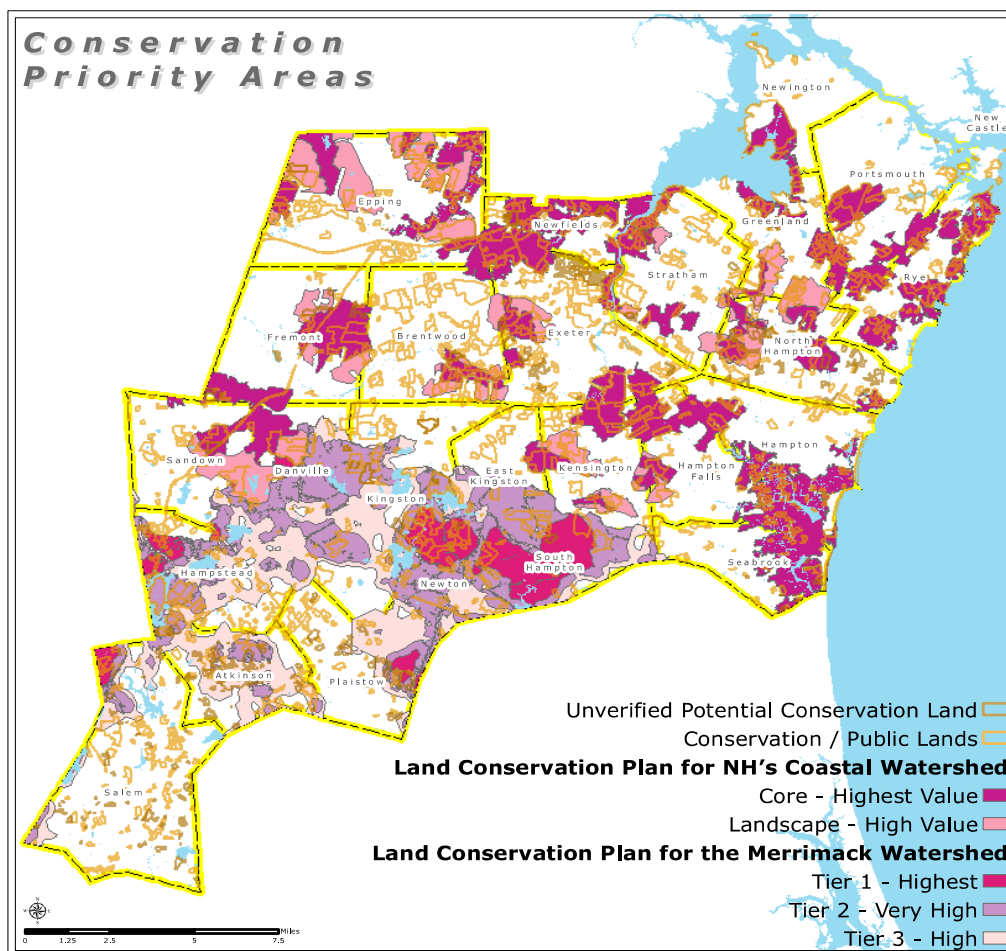
At present approximately 18 percent of land in the RPC region is permanently protected and ranges greatly from community to community (Table RO2). An often cited goal by the Society for the Protection of New Hampshire Forests is for every community in the state to have at least 25 percent of its land permanently protected from development. This goal aims to protect open spaces, recreational opportunities, agricultural lands, wildlife habitats, and environmental services. While protecting 25 percent of the land may not be attainable for all communities, it provides a useful target for the region in order to help preserve the resources and quality of life enjoyed by its residents.

Two regional-scale land conservation plans exist for southeast New Hampshire that can help to prioritize future voluntary land conservation efforts. The Land Conservation Plan for New Hampshire’s Coastal Watershed (2005) and The Lower Merrimack Conservation Plan (2014) were both collaborative efforts, spearheaded by the Nature Conservancy of New Hampshire and the Forest Society for the Protection of NH Forests, which identify land conservation priorities based upon a science-based determination of resource conservation values (see Figure RO4 Conservation Priority Area Map). They are valuable conservation tools for conservation commissions and land trusts which can supplement local conservation planning efforts and help secure federal, state or private funding opportunities to match local funds. More detail on these plans is contained in the Natural Resources Chapter of this Plan.

Municipality	Land Acres	%
Atkinson	1,444	20.2
Brentwood	2,956	27.6
Danville	681	9.1
East Kingston	999	15.6
Epping	3,362	20.2
Exeter	4,257	34
Fremont	1,007	9.2
Greenland	1,439	21.6
Hampstead	1,599	18.8
Hampton	910	11
Hampt. Falls	1,168	15
Kensington	1,780	23.3
Kingston	2,602	20.7
New Castle	111	20.9
Newfields	1,282	28.2
Newington	1,343	25.6
Newton	788	12.4
No. Hampton	1,769	19.9
Plaistow	940	13.8
Portsmouth	1,435	14.3
Rye	1,681	20.8
Salem	1,473	9.3
Sandown	1,065	11.9
Seabrook	531	9.3
So. Hampton	392	7.8
Stratham	1,758	18.2
RPC Region	38,771	17.7

* Note: Includes public lands used as natural areas (such as town forests), but not permanently protected by easement.

Figure RO4. Conservation Priority Areas identified in the Land Conservation Plan for New Hampshire's Coastal Watershed (2005).



Impervious Surfaces and Water Quality Decline

Since 1990, the percent of impervious surface cover in the Coastal Watershed, which largely covers the RPC region, has nearly doubled from 4 percent to 10 percent (PREP, 2013). At around 10 percent total impervious surface coverage in a watershed water quality generally begins to decline. Stormwater runoff from impervious surfaces, lawns and agricultural lands are the main cause of this water quality decline, and specifically causes over 90 percent of the water quality problems in the RPC region (NHDES, 2012). The increase in impervious surface cover and stormwater runoff in the region has occurred in a slow, incremental fashion as the region has developed. As more development occurs, the impacts associated with impervious surfaces and stormwater runoff will continue to cause water quality decline in the region unless proactive steps are taken by

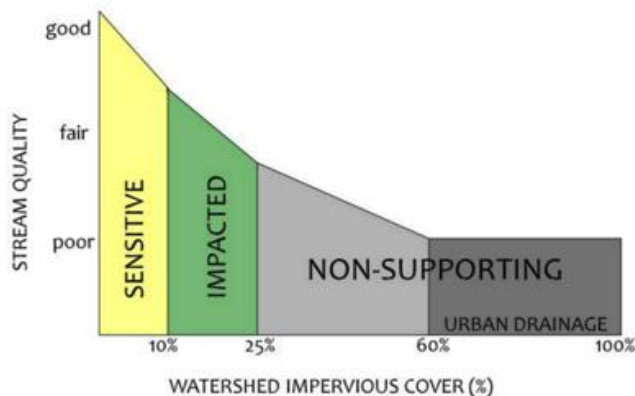


Figure RO5 - As impervious surface coverage in a watershed increases the water quality begins to decline. Source: NHDES, 2013.

individuals, municipalities, and the region.

As the acreage of developed land has increased, so has the area of impervious surface (the land surface covered with buildings, driveways, pavement and other surface that are impervious to the infiltration of rain or runoff). The growth of impervious surface coverage in the RPC region has outpaced the population growth from 1990 through 2010. During that period, the impervious surface coverage has almost doubled, while the population has only grown by approximately 20 percent.

	1990	2000	2010
Population	115,536	128,140	137,392
Acres of Impervious Surface	29,541	40,415	50,438
Acres of Impervious Surface per person	0.26	0.32	0.37

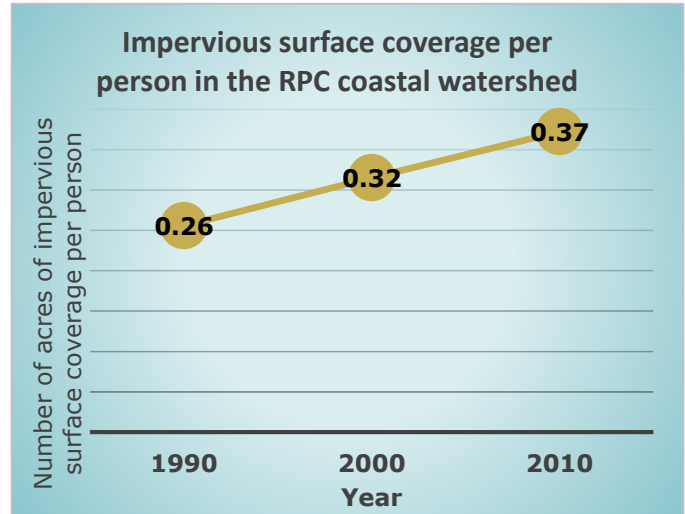


Figure RO6 - The data shown in the graph to the right and table above represents only the population and impervious surface coverage for those communities located within the Coastal Watershed Source: NHGRANIT, U.S. Census Bureau

For the RPC region, the increase in impervious coverage, and thus the decline in water quality, has had specific impacts and many of which are causing long-term impacts to the region. One example of this is the 2008 NHDES designation of the Great Bay Estuary as an “impaired” waterbody that does not meet state water quality standards. An additional cause of this “impaired” status is attributable to nutrients from wastewater treatment facilities and septic systems. The Great Bay Estuary declaration is motivated by concerns about public and environmental health, and has invoked stricter regulations and higher costs for wastewater treatment. While all of these issues must be dealt with, there are innovative approaches to growth that communities and developers can take to both mitigate the cumulative impact of increase impervious coverage and to help them develop in such a way that does not add to the problem.

Agriculture and Farming

A common value in many RPC communities is the preservation of rural character and agricultural heritage. A key component in preserving agricultural production is maintaining or protecting soils that allow for agricultural production. The RPC region has over 70,000 acres of soils defined by the Natural Resource Conservation Service (NRCS) as prime or important farmland soils. These prime or important farmlands are described as land that contains the best combination of physical and chemical characteristics to produce agricultural products. (See Natural Resources Chapter for additional detail and Appendix J for a map of farmland soils.)

Within the RPC region, several communities contain high amounts of all three categories of important agricultural soils, including Atkinson, Brentwood, Kensington, East Kingston, Epping, Greenland, and Stratham. Due to the nature of farmland soils, generally being fairly well drained soils and their proximity to waterways, the areas are highly desirable as building sites, particularly for sites requiring septic systems. The ability to recognize the importance of farmland soils and ensure their availability for use into the future is a key component of

New Hampshire is the third highest ranked state for supporting local food production, behind Vermont and Maine (Strolling of the Hiefers, 2014).

maintaining productive agriculture in the region and maintaining this irreplaceable resource for future needs.

After decades of decline, agriculture in Rockingham County is now growing as a use of land and in economic importance. The latest U.S. Census of Agriculture shows farming as a major component of our state's economy. In 2012, our farmers sold nearly \$200 million worth of agricultural products. While the number of farms around the country dropped by four percent since the last census, our farm numbers grew five percent since 2007. Our farmland acreage also grew by four percent since the 2007 Census of Agriculture. Farming is also more diverse than in the past, producing different crops, livestock, and specialty products. Agriculture has a major influence on the county's character and quality of life, and has a significant impact on the economy, employment, and tax revenue. The top products are nursery and greenhouse crops, fruits and berries, hay and silage, vegetables, dairy, and livestock. (University of New Hampshire-Cooperative Extension)

The 2012 and 2007 Agricultural Census report includes some remarkable and surprising information:

- New Hampshire ranks first in the nation in direct sales of farm and forest products to consumers. 23 percent of New Hampshire farms sell directly to consumers versus six percent of farms nationally.
- Rockingham County ranks in the top two percent (38th of 3,130 counties) in the United States in the value of direct market sales (\$3,685,000). The total market value of agriculture products sold in Rockingham County annually is \$26,035,000.
- There are 594 farms in the county (a 32 percent increase from 2002) and more than half the farms are small farms run by family operators. (2007 USDA Census of Agriculture)
- Only 17 percent of important agricultural soils in the RPC region are within conservation land or protected by agricultural easement.
- The amount of land in the RPC region dedicated to agriculture, including forestry, is now increasing instead of declining. Agricultural acreage in Rockingham County in 2007 was 33,570, a six percent increase from 31,656 in 2002.

This data highlights the important statewide (and nationwide) trend of residents discovering the value of the working landscape of farms, forests and fisheries and their importance in expanding the local food system and the renewed economic development opportunities they represent. Communities interested in supporting a local food system will need to be proactive in helping to support agricultural operation and land uses.

Future Buildout Scenarios

A Regional Buildout Analysis was undertaken as part of the development of this Plan to determine the approximate maximum amount of future development that would be possible under current zoning and land use regulations. The buildout analysis takes into account land use and zoning constraints, lot and building dimensional requirements, and environmental protection overlays such as wetlands and stream buffers. These factors are combined in various ways to test different development outcomes. By modifying factors such as setbacks, densities, and building restrictions buildout results can change significantly. Comparing results allows local planning officials to 'test' the effects and consequences of various land use and zoning policies before proposing them in their community. Buildout results for individual communities are included in the Scenario Planning Chapter. It should

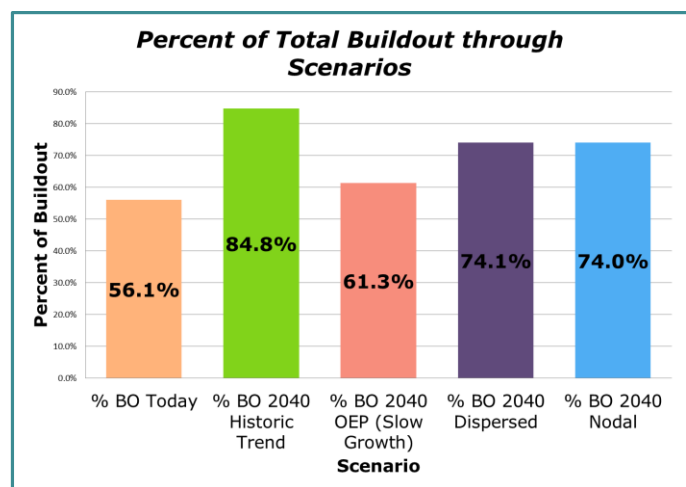


Figure RO7 - The graph above depicts percent of total buildout based on four types of growth and development scenarios: historic trend, slow growth, dispersed growth (sprawl) and nodal growth (compact development).

be noted that far more vacant land zoned for industrial and commercial development exists than could be supported given the limits to residential development. The residential buildout limit therefore acts as a constraint on the commercial and industrial buildout.

The year 2040 was used as the projection limit for buildout. Two growth scenarios were tested: one based on the historic growth trend for the region, a second based on the 2014 OEP/RPC population projections (Figure RO8).

The 2014 Regional Buildout Analysis also includes a full regional buildout result not associated with any point in time. This is the theoretical maximum level of development aggregated across the region that could occur under current zoning and land development regulations in force at the municipal level:

- 77 percent increase in the number of dwelling units
- 106 percent increase in developed lands
- 47 percent increase in number of dwelling units per acre
- A range of 61 percent to 74 percent buildout at 2040 under slow, dispersed and nodal growth scenarios

<i>Indicator</i>	Existing Conditions	Percent of full Buildout	Conditions at full Buildout	Change from Existing Conditions
<i>Dwelling Units</i>	65,528	56%	116,824	51,296 additional units
<i>Developed Acres</i>	74,130 acres developed	48% (of developable land)	152,837	78,707 acres of additional development
<i>Residential Density</i>	0.48 dwelling units per acre	N/A	0.71 dwelling units per acre	48% increase

Table RO3 - Results of the RPC Regional Buildout Analysis.

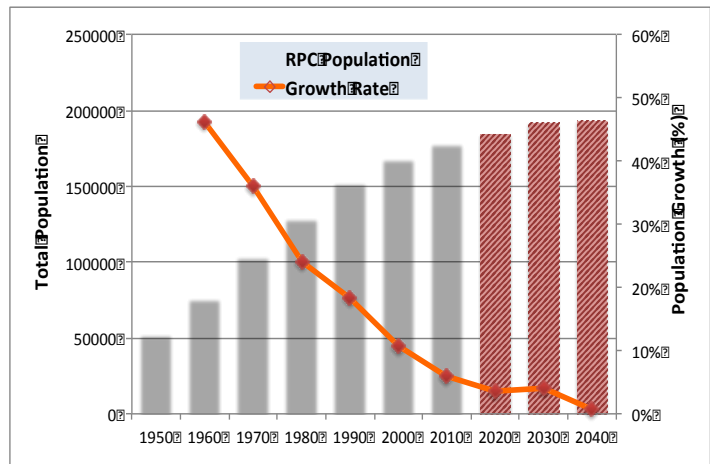
Buildout results are available at a town by town level in addition to the regional aggregate. These results and a more complete explanation of the buildout process and assumption are available in the Scenario Planning Chapter of the Plan.

Demographics

Historical and Projected Population Growth

Demographic conditions and trends significantly influence the trajectory of the region’s future development, land use, housing, infrastructure needs, and virtually all aspects of planning. As noted earlier in this chapter, for most of the past 50 years, the RPC has been strongly influenced by rapid population growth. At times during the 1970s and 1980s several towns in the region grew at a faster pace than any in the state. The number of people added between 1950 and 1990 averaged nearly three percent per year or about 2,500 per year. Between 2000 and 2010, that rate fell by 60 percent to about 1000 persons per year across the region (Figures RO8 and RO9) and now has been less than one percent per year.

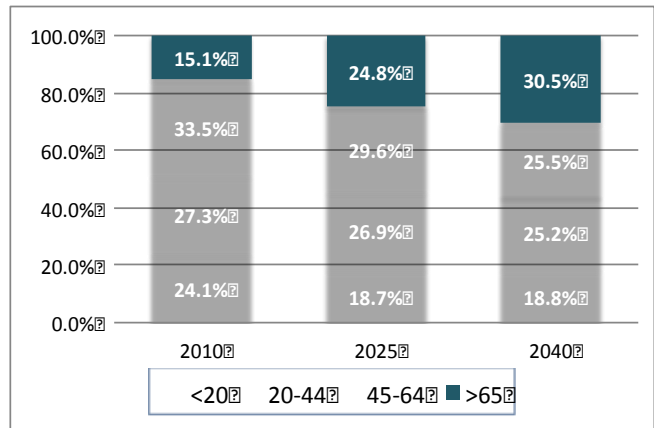
Figure RO8 - Population, Growth Rate and Projections from 1950-2040



Age Demographics

Looking forward, based on the age demographics of the region’s population, it is likely that we have entered a prolonged period of relatively slow growth unless other factors intervene. The New Hampshire RPCs together with the N.H. Office of Energy and Planning (NHOEP) collaborated in 2013 to produce updated population projections for the state. The new projections show relatively slow growth in the region’s population from 2010 to 2040 and zero growth from 2030-2040. This projection is driven primarily by the effect of the large baby-boom cohort beginning to age out of the population after 2030. It assumes that migration, the net number of people moving into the region, will remain on average as it was from 2000 to 2010 so even with in-migration occurring, population growth will flatten as a natural consequence of the age structure. Assuming that recent trends hold true, between 2010 and 2040 it is anticipated that the population of citizens aged 65 and older will more than double from 26,500 to 57,200 people. At the same time, the number of residents under the age of 20 is expected to decline by about 13 percent from just over 42,000 to 36,400. This has wide implications for the region in terms of impacts to employment and the labor force, access to health care, education, elderly transportation needs, and housing among other areas. Significant planning and preparation will be needed to prepare for this growth in the elderly population.

Figure RO9 -
 Age Cohorts in the Region from 2010-2040



Labor Force

Unless the in-migration rate seen over the past decade increases, the regional labor force is expected to become slightly smaller over the next 30 years and to change in demographic composition as well. Overall, the size of the labor force in the region is projected to decline by approximately seven percent between 2010 and 2040. This is due to a combination of national trends such as the aging of the baby boom generation and local demographics. According to Bureau of Labor Statistics projections, young workers (16-24) participation in the labor force has declined over 20 years from 66 percent in 1992 to 55 percent in 2012 and is expected to fall further by 2022. At the same time, participation by individuals 65 and older has *increased* from 11.5 percent in 1992 to 18.5 percent in 2012 and is expected to increase to 23 percent by 2022. This growth in senior workers is substantial but may not be enough to offset the decline in younger workers, possibly leading to a smaller labor force in the region – the first time that has happened since the 1940s.

Population Diversity

Table RO-3 identifies the number of racial and ethnic minority residents for each municipality in the RPC region, as well as minority residents as a percentage of overall population. Region-wide minorities make up approximately 6.6 percent of the population, a very low percentage by national standards and lower than the statewide average of 8.9 percent. This average is exceeded in two communities: Portsmouth (11.2 percent), and Salem (12.0 percent). Statewide, members of racial and ethnic minority groups make up 8.9 percent of the population. This is a significant increase since the 2000 census, when racial and ethnic minorities made up only 5.6 percent of the population statewide, and 3.5 percent of the population in the MPO region. Both the region’s and state’s population diversity is expected to slowly increase with time, but remain behind surrounding state’s and regions.

Table RO4 - Racial and Ethnic Minority Population in the RPC Region – 2010

Area	Total Pop	Black	Amer. Indian	Asian & Pacific Islander	2+ Races	Hispanic or Latino	Minority Total	Minority Percent
Atkinson	6,751	34	3	65	50	96	264	3.9%
Brentwood	4,486	30	6	50	59	67	233	5.2%
Danville	4,387	28	8	15	83	68	214	4.9%
East Kingston	2,357	3	1	17	21	22	71	3.0%
Epping	6,411	22	13	84	105	100	343	5.4%
Exeter	14,306	79	15	289	234	240	887	6.2%
Fremont	4,283	9	6	11	66	54	159	3.7%
Greenland	3,549	22	3	66	45	31	177	5.0%
Hampstead	8,523	23	7	71	87	84	287	3.4%
Hampton	15,430	89	32	199	205	264	867	5.6%
Hampton Falls	2,236	9	1	17	17	14	63	2.8%
Kensington	2,124	7	4	24	14	24	77	3.6%
Kingston	6,025	20	16	34	90	85	264	4.4%
New Castle	968	1	1	8	8	5	23	2.4%
Newfields	1,680	6	2	17	10	22	64	3.8%
Newington	753	4	1	10	9	8	36	4.8%
Newton	4,603	14	11	19	41	67	167	3.6%
North Hampton	4,301	19	8	56	38	41	167	3.9%
Plaistow	7,609	42	13	45	47	175	358	4.7%
Portsmouth	20,779	359	46	725	479	573	2,335	11.2%
Rye	5,298	16	1	50	41	58	177	3.3%
Salem	28,776	259	42	942	410	1,270	3,454	12.0%
Sandown	5,986	18	7	19	61	94	232	3.9%
Seabrook	8,693	46	10	92	119	126	446	5.1%
South Hampton	814	8	0	4	13	13	41	5.0%
Stratham	7,255	11	7	143	90	95	356	4.9%
RPC Region	178,383	1,178	264	3,072	2,442	3,696	11,762	6.6%
Rockingham Cty	295,223	1,996	486	5,043	4,054	6,142	19,399	6.6%
State of N.H.	1,316,470	15,035	3,150	28,791	21,382	36,704	117,124	8.9%

Source: 2010 U.S. Census

Populations in Poverty

According to the U.S. Census Bureau, for 2011 the poverty threshold in the RPC region was approximately \$23,000 for a family of four. RO Figure-12 uses the American Community Survey 2011 5-year data compilation to show the number and percent of households in poverty by municipality in the Rockingham Planning Commission region. The mean percentage of households in poverty for the MPO region was 4.8 percent. The table also identifies eight communities where the percentage of households in poverty exceeds this regional mean: East Kingston (5.4 percent), Exeter (5.7 percent), Greenland (6.0 percent), Hampton (8.6 percent), Newton (5.8 percent), Portsmouth (9.0 percent), Sandown (7.8 percent), and Seabrook (6.5 percent).

percent). Statewide, approximately eight percent of the population falls below the federal poverty line, while nationally for 2011 an estimated 15 percent of the population lived in poverty.

This represents some change from the 2000 Census data, which showed five percent of residents in the region living in poverty. Several towns with above average populations in poverty in 2011 were below average in 2000. These include East Kingston, Greenland and Sandown. This may reflect demographic shift or may to some degree reflect sampling anomalies in these small towns. Hampton traditionally shows a high population in poverty due to short term winter rental residents in the beach district, while Portsmouth as the only city in the area, and a community with lots of students and retail workers, also traditionally shows above average poverty levels.

Table R05 - Population in Poverty – 2011

Geography	Total Population	Population in Poverty	% of Population in Poverty
Atkinson	6,739	241	3.6%
Brentwood	3,857	83	2.2%
Danville	4,379	87	2.0%
East Kingston	2,358	127	5.4%
Epping	6,313	297	4.7%
Exeter	14,135	800	5.7%
Fremont	4,193	202	4.8%
Greenland	3,516	211	6.0%
Hampstead	8,547	395	4.6%
Hampton	15,179	1,307	8.6%
Hampton Falls	2,247	54	2.4%
Kensington	2,035	13	0.6%
Kingston	6,016	107	1.8%
New Castle	858	23	2.7%
Newfields	1,862	10	0.5%
Newington	699	26	3.7%
Newton	4,596	265	5.8%
North Hampton	4,276	52	1.2%
Plaistow	7,642	366	4.8%
Portsmouth	20,343	1,834	9.0%
Rye	5,279	169	3.2%
Salem	28,775	1,169	4.1%
Sandown	5,935	462	7.8%
Seabrook	8,630	565	6.5%
South Hampton	715	22	3.1%
Stratham	7,208	60	0.8%
RPC Region	176,332	8,947	5.1%
Rockingham County	292,589	14,237	4.9%
New Hampshire	1,275,969	101,634	8.0%

Source: ACS 2011 5-year data compilation based on 5 year moving average sample.

Housing Trends

Cost of Ownership

Housing availability, diversity and affordability are important factors in creating and maintaining a favorable environment for creative, diverse, vibrant communities and healthy economic development. The quality of the housing stock in the region, as measured by common census statistics like age of units, number of bedrooms,

utility status, etc., is generally good. Another positive metric for the state and region is the high homeownership rate, which correlates with overall prosperity. New Hampshire ranked second nationwide in homeownership with 71 percent occupied housing units being owned versus rented (ACS 2012, 3 Year Average). In Rockingham County, 77 percent are owned, the highest of all areas in the state except Carroll County. On the other hand, the RPC region has comparatively high housing costs which can translate into higher living costs for the region's workforce, and in turn, high labor costs for the region's employers if higher wages are needed to attract the workforce their business demands.

Statewide, the percentage of households where costs for housing exceed 30% of income is similar to the other New England states. Contrary to expectations, the rate of overpayment in Rockingham County and the Seacoast region is only modestly higher due to higher household incomes in the region.

Supply of Workforce Housing

Beginning in the 1970s and continuing to today, the region has had a relatively constrained supply of workforce-affordable housing, both owned and rental. At least two factors have and continue to contribute to this. First, the proximity to the Boston housing market and high housing costs in neighboring communities in Massachusetts tends to inflate the cost of housing here, whereas wages are not as strongly affected. Second, there is an undersupply in multifamily housing which is an important source of both rental and other affordable housing units in the region. Two additional factors contribute to this lack of multifamily housing: lack of municipal sewer and water services which permits development density conducive to multifamily development, and zoning provisions that discourage or make it infeasible. The Workforce Housing statute (RSA 674:58-674:61) requires municipalities to provide reasonable and realistic opportunities for the development of workforce-affordable housing by removing unnecessary barriers in zoning and land use regulations. Nevertheless legacy zoning provisions, combined with density limitations from lack of sewer, make such housing economically unattractive to developers in many parts of the region.

Lack of Affordable and Multi-Family Units

As of the 2010 Census, about two-thirds of the housing units in the region were single-family units, but for many small communities that number is over 80 percent. Zoning restrictions in many communities make it more difficult to construct affordable multi-family housing, but these restrictions are often in place because of the lack of municipal sewer and water infrastructure in the majority of the towns in the region. Only ten of the 26 RPC communities have municipal sewer systems, and in most of those, the sewer district covers only a small portion of the town. Even where allowed by zoning, that lack of infrastructure increases the

Multifamily construction was virtually non-existent in the mid- to late 1990s and slowed dramatically again after 2005. The net effect is a lagging housing stock for multifamily units. Since average prices and rents for multifamily housing are lower than single family housing, the affect is to reduce the available stock of workforce affordable housing. Since the recession, rental prices for multi-family units have remained strong and increased demand for this type of construction.

relative cost of multifamily construction in rural areas and becomes less attractive to builders. Another factor in the comparatively small supply of multifamily housing presently available in the region is the relative weakness in the housing construction sector which began with the recession in the early to mid 1990s which affected the multi-family sector more than the single family sector.

Transportation

The region is served by a well-developed roadway network, a small and geographically limited public transportation system, and a large variety of domestic and international freight transportation carriers. All modes of transport and goods movement are available within or near to the region including the Port of New Hampshire, Pan Am Railways main line (the former Eastern Line of the Boston and Maine Railroad) and the Pease and Manchester airports. Rail freight access has significantly declined over the past 50 year, while motor carrier freight access has dramatically increased.

State and Local Roadway Network

The region has a network of 1,846 miles of well-developed state and local roadways. Local and private roads represent 82 percent of the total road miles among all classes.

Table RO6 - Road Miles by Functional Class

Rural Roadways	Miles	Urban Roadways	Miles
Principal Arterials	1.8	Principal Arterials – Interstate	61.9
Minor Arterials	0.6	Principal Arterials – Other Freeways and Expressways	67.6
Major Collector	22.3	Principal Arterials –Other	54.6
Minor Collector	27.0	Minor Arterial	88.2
Local Road	240.3	Collector	150.3
Private Roads	245.9	Local Road	885.5
Sub-total	537.9	Sub-total	1,308.1
Total Road Miles = 1,846.2 miles			

Detailed descriptions of roadway functional classes, road miles by town, and roadway network distribution are provided in the main body of the Transportation Chapter and Appendix A and Map TR1.

Freight

The movement of goods by freight is summarized below by total value and percent mode. The largest percentage of total freight is moved by transport truck. Details of freight movement including volume are provided in Appendix C of the Transportation Chapter.

Table RO7 - Freight Movement by value and % mode for 2011.

Total Exports (Millions of Dollars)	\$95,520.52
Total Imports (Millions of Dollars)	\$66,340.11
Total Goods Movement by Value (Millions of Dollars)	\$161,860.63
Percentage of Total Goods Movement by Mode	
Air (include truck-air)	2.78%
Multiple modes & mail	20.52%
Other and unknown	1.96%
Pipeline	1.57%
Rail	0.69%
Truck	69.95%
Water	2.54%

[Source: Freight Analysis Framework. With the exception of the data for the Port of New Hampshire, all information available is for the state as a whole and not specific to the region.]

Shipping

The region is host to the Port of New Hampshire in Portsmouth, an active port handling over 8.8 million tons of cargo each year and expected to nearly double that by 2040 (USDOT). The Division of Ports and Harbors (DPH) Market Street Marine Terminal, located on the Piscataqua River, is the only public access, general cargo terminal on the River. In addition, Portsmouth is within 50 miles of the Port of Boston, one of America's major

port facilities, and has convenient access by highway and rail to other major and regional ports including New York, Portland, and Montreal.

Table RO8 - Estimated Goods Movement through the Port of New Hampshire (1000s of tons)

	2011	2015	2020	2025	2030	2035	2040
Imports	8,377.68	9,330.36	10,436.82	11,461.28	12,263.23	13,198.45	14,255.60
Exports	474.48	622.28	814.18	1,041.30	1,270.01	1,491.81	1,746.02
Total	8,852.16	9,952.64	11,250.99	12,502.58	13,533.23	14,690.26	16,001.61

[Source: Freight Analysis Framework]

Rail

The area is served by the main line of Pan Am Railways, a major U.S. regional railroad, which was historically known as the Boston and Maine Railroad (B&M) Main Line West running between Boston and Portland, and in the RPC region traversing the towns of Atkinson, Plaistow, Newton, Kingston, East Kingston, Exeter, and Newfields. The mainline is currently categorized as a Class 4 track which allows passenger rail speeds up to 80 MPH and freight rail. Branch line freight services are currently available between the main line and Portsmouth and over the Sarah Long Bridge into Maine on a Class 1 track. Intermodal (rail-truck) facilities operated both by Pan Am and Conrail in the Boston area and by the St. Lawrence and Atlantic Railway in Auburn, Maine are within easy reach of the Seacoast region. Through these connections, shippers have access by rail to points throughout North America and, using Rail Land Bridge services, throughout the world.

Air Freight

The region is served by direct airfreight service at Pease International Tradeport. The Fixed Base Operator at Pease Airport provides cargo handling by truck and air. The facility can accommodate the largest cargo planes and has 45,000 square feet of warehouse facilities in close proximity to rail, deep water port and I-95. Boston's Logan Airport and the Manchester-Boston Regional Airport are located less than 50 miles away, adding access to a wide variety of air cargo services serving markets throughout North America and the world.

Public Transportation

Public transportation plays an important and growing role in addressing the mobility, traffic congestion, and air quality issues facing the RPC region. The number of communities in the region served by transit has increased in the past ten years, from five to seven; and ridership on all forms of transit has seen dramatic growth in response to rising fuel prices and growing transit dependent populations. Still, fewer than a third of the 26 communities in the region are served by public transportation, and significant challenges exist to expanding services, including funding availability, and low density development patterns making fixed route service inefficient in many towns. Regional transit routes are shown on Map 1 in the Transportation Chapter.

Other public transportation services and facilities in the region include (see Transportation Chapter for detailed descriptions of each service):

- Cooperative Alliance for Seacoast Transportation (COAST);
- The Greater Derry-Salem Cooperative Alliance for Regional Transportation (CART);
- Intercity bus service in the I-95, I-93, NH Route 125 and NH Route 101 corridors;
- Amtrak's Downeaster service between Boston, Portland and Brunswick Maine; and
- Seven Park & Ride facilities operated by the N.H. Department of Transportation (NHDOT).

State of Infrastructure

Water Infrastructure Needs

Wastewater Treatment Facilities

There are eight wastewater treatment facilities in the RPC region that primarily cover the more populated areas of the region, particularly in the coastal and eastern parts of the region. Many of these facilities were built between 30 and 50 years ago. While the capacity of most of the facilities (the exception being Portsmouth's facility on Pierce Island) have enough capacity to service residents, many of them do not meet current water treatment standards and are in need of major upgrades. The estimated cost of wastewater infrastructure needs for the RPC region is \$252.4 million and a total of \$1.7 billion is needed statewide (New Hampshire Department of Environmental Services, 2012). These wastewater infrastructure needs include four different areas: treatment, replacement and rehabilitation of existing sewer systems, new sewers, and correcting combined sewer overflow systems.

Water Pollution and Stormwater

Water pollution from stormwater runoff accounts for over 90 percent of the cause of surface waters not meeting state water quality standards in the RPC region. Much of this stormwater comes from runoff from impervious surfaces (roads, parking lots, and rooftops). Municipalities face challenges in implementing standards for the draft 2013 EPA Municipal Separate Storm Sewer Systems (MS4) permit including costs of complying with new data, monitoring and regulatory standards, and opportunities for cost savings (e.g. through municipal cooperation). The impervious surface acreage in the region has nearly doubled since 1990 as a result of a period of rapid growth creating additional challenges to meeting the new EPA MS4 permit requirements. The estimated cost for the region to upgrade existing stormwater infrastructure, including upgrades associated with the MS4 Permit is over \$36.6 million dollars

Transportation Infrastructure Needs

State and Regional Plans

There are three project planning and programming documents that guide the implementation of transportation projects in the RPC region; The Long Range Transportation Plan (LRTP), the State Ten Year Plan, and the Transportation Improvement Program (TIP). Together these plans identify needs and priorities for transportation infrastructure improvement in the region.

- The LRTP is a 20-plus year document that identifies anticipated transportation improvement needs in the region. This document is required to be fiscally constrained and contains approximately \$360 million in long term transportation improvement needs.
- The State Ten Year Plan is a statewide listing of priority projects for construction over the next decade. This document is updated every two years by NHDOT with approvals from the Governor's Council, the Legislature, and the Governor and includes short and medium term project needs. This document contains approximately \$1.6 billion in funding statewide, and about \$571 million in projects for the region between 2015 and 2024. A large portion of this funding is tied into three large multi-regional projects: the I-93 expansion from Salem to Manchester, the Newington-Dover Spaulding Turnpike expansion, and the replacement of the Sarah Mildred Long (SML) Bridge between Portsmouth and Kittery, Maine.
- The TIP covers a four-year timeframe and only includes federally funded or other regionally significant projects that will be built in the short term. There is a statewide version (known as the STIP) and a regional version that only includes projects that impact the region directly. The TIP currently includes approximately \$958 million in projects statewide and about \$420 million dollars in the region, largely into the three big projects of I-93, Newington-Dover, and SML Bridge.

Road Maintenance Costs

Operation and maintenance of transportation infrastructure continues to be a growing need in the region as the costs of construction continue to escalate. Estimates from the New Hampshire Department of Transportation indicated that operating and maintaining the state highways costs approximately \$12,000 per mile and estimates from local highway budgets indicate that a similar cost is associated with maintaining and

operating local roadways as well. Funding provided for this purpose has remained inadequate however, and this has begun to cause a backlog in maintenance needs that are being pushed off to future years at a higher cost.

Energy Infrastructure Needs

Increasing Dependence on Natural Gas

As reported in the 2013 Comprehensive Economic Development Strategy (REDC, 2013) New Hampshire has rapidly increased its reliance on natural gas as fuel for generating electricity. As shown in Figure RO10 at right, natural gas now comprises 52 percent of the state’s current energy mix for electric generation compared with 16 percent in 2000. This is creating a short term supply constraint, especially during the winter months when competing demand for gas for heating peaks. This is resulting in large seasonal increases in electric rates for many utilities. Several proposals to expand gas transmission capacity into New England are being considered, including a joint proposal by the New England State Governors. The status of these is uncertain, however, until transmission capacity is addressed seasonally constrained gas supplies will lead to price instability.

Some municipalities are interested in expanding local natural gas distribution lines as a means to bring more energy options to serve residential, commercial and industrial uses. Hampton successfully negotiated expansion of the local natural gas pipeline to serve a high density residential area (refer to the Energy Chapter for a detailed description of this effort).

The state’s growing dependency on a single energy fuel source increases our exposure to uncertainties in supply, transportation and infrastructure interruptions, and market price fluctuations during times of high demand. As recommended in the 2014 State Energy Strategy, the state’s energy future lies in diversifying its energy portfolio to include both expanded transmission capacity and expanded use of renewable energy sources such as wind, solar, biomass, geothermal and hydroelectricity.

Need for Electrical Grid Modernization

The N.H. State Energy Strategy (2014) describes a vision for electric grid modernization that could provide multiple benefits to New Hampshire consumers and meet several strategies outlined in the Plan. Grid modernization would provide the platform upon which to effectively manage energy sources, demand, supply and efficiency statewide. Grid modernization refers to ensuring that the electric grid is more resilient and flexible, has adequate storage capacity, able to integrate intermittent energy sources (such as energy produced through net metering), and able to provide real-time information to help customers manage their energy use. The potential benefits of grid modernization can include: better outage response and increased reliability; customer engagement in reducing peak demand; improved integration of distributed generation, renewable resources and storage; improved efficiencies for distribution utilities; integration of electric vehicles; and cost savings for all customers.

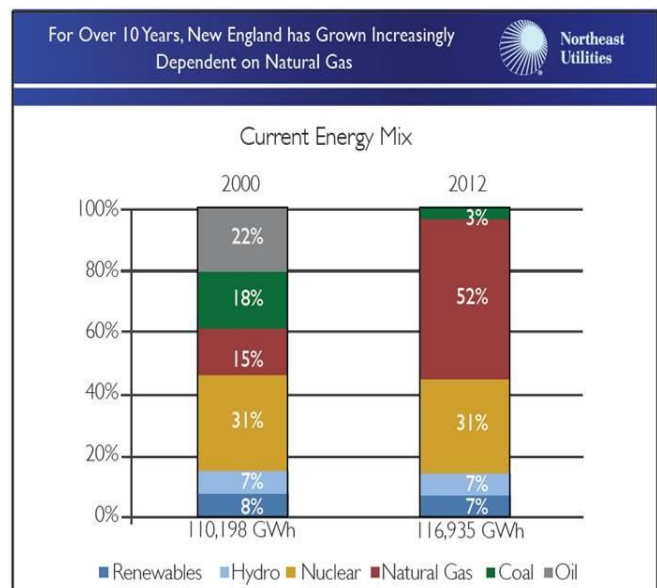


Figure RO10 – Current New England energy mix. Source: PSNH

Natural Hazards and Climate Change

Changes in New Hampshire's climate are well documented in local records of sea level, growing seasons, range of flora and fauna, precipitation and temperature. New Hampshire and its municipalities have many opportunities and time to prepare and adapt to a changing climate and minimize impacts from natural hazards related to weather events and natural earth processes. Climate change can increase the severity of existing

and future hazards such as coastal storms, flooding, strong winds, extreme precipitation, extreme temperatures and drought, and alter the frequency and occurrence of weather related events. To prepare for and adapt to future conditions, state, regional and local efforts will require understanding of ongoing climate projections and assessments, applying technology and data to solve problems, and learning from other states and communities that have successfully implemented effective strategies and solutions. RPC communities have the additional vulnerability from projected rise in sea level, which will require a significant level of planning, preparation and adaptation in the decades to come.

Current Conditions

Changes in climate are well documented in historical records. Trends indicate acceleration of certain conditions particularly in the last 100 years.

Sea Level Rise and Coastal Flooding

For the period 1926 to 2001, sea level rose nearly half a foot (5.3 inches), at a rate of about 0.693 inches per decade. This change in sea level has noticeably influenced permanent inundation of uplands surrounding tidal wetlands and exacerbated flooding during seasonal high tides and storm events.

Precipitation

Since the 1990s the magnitude and frequency of extreme precipitation events have increased compared with historical trends since 1950. In most areas of the region, the amount of rainfall associated with the 100-year, or one percent chance storm event has increased by two to three inches.

Costs of Disasters

The frequency and related costs of declared disasters and emergency declarations have increased since the late 1990s. This increase is in part due to the increase in extreme weather events but also continued investment and growth in high risk areas such as riverine and coastal floodplains.

Environment/Natural Resources

Records indicate shifts in forest and wetland species composition, ranges of flora and fauna, decline in marine shellfish and fish populations, and availability of water resources in certain years.

Health Impacts

According to the Centers for Disease Control and Prevention, New Hampshire and specifically Rockingham County have one of the highest occurrences of Lyme Disease in the country and among the New England states.

Future Projected Conditions

Sea Level Rise

The range that best covers plausible sea level rise increases to 2050 and 2100 are those prepared for the U.S. Third National Climate Assessment (2013) and include the "Highest", "Intermediate High" and "Intermediate Low" sea level rise scenarios based on varying greenhouse gas emissions and other climate responses. However, given current trends in worldwide growth and consumption of fossil based fuels, the Intermediate Low sea level rise scenario is an unlikely future condition.

Time Period*	Intermediate Low	Intermediate High"	Highest"
2050	0.6 ft.	1.3 ft.	2.0 ft.
2100	1.6 ft.	3.9 ft.	6.60 ft.

*using mean sea level in 1992 as a reference (Parris et al., 2012)

Table RO9 - Source: Science and Technical Advisory Committee Report, NH Coastal Risks and hazards Commission, (Kirshen, Wake, Huber, Knuuti, & Stampone, 2014) based on sea-level rise scenarios provided by the National Climate Assessment.

Storm Surge

Given the uncertainties associated with changes in storm surge severity in the future, experts recommend that projects continue to use the present frequency distributions for 100-year and 500-year storms (as depicted in the 2014 FEMA Flood Insurance Rate Maps for Rockingham and Strafford Counties. (Kirshen, Wake, Huber, Knuuti, & Stampone, 2014)

Precipitation

Projected increases in annual precipitation are uncertain but could be as high as 20 percent in the period 2071-2099 compared to 1970-1999, with most of the increases in winter and spring with less increase in the fall and perhaps none in the summer. While unable at present to assign with confidence future changes in extreme precipitation events, experts recommend at a minimum that all related infrastructure be designed with storm volumes based on the current Northeast Regional Climate Data Center (Cornell) precipitation atlas to represent current conditions. Infrastructure is recommended to be designed to manage a 20 percent increase in extreme precipitation events after 2050 and that a review of these projections be continued. (Kirshen, Wake, Huber, Knuuti, & Stampone, 2014)

Energy

New Hampshire sources nearly 90 percent of its energy from out of state as it has no in-state sources of fossil fuels or nuclear material. Petroleum and nuclear power alone comprise 55 percent of the state's total energy portfolio. Of the energy produced in New Hampshire, 79 percent is derived from nuclear power and natural gas, with lesser use of renewable sources, hydroelectric, coal and petroleum sources. Total energy production in the state is derived from 89 percent non-renewable and 11 percent renewable sources.

New Hampshire consumes the most amount of energy in support of four primary uses: transportation, residential development, commercial development and industrial development. Residential and commercial development combined account for 52.5 percent of energy consumption in the state

New Hampshire Climate Action Plan

The N.H. Climate Action Plan recommends that New Hampshire strive to achieve a long-term reduction in greenhouse gas emissions of 80 percent below 1990 levels by 2050. The recommended strategies are organized into the following overarching plan goals:

1. Maximize energy efficiency in buildings.
2. Increase renewable and low CO²-emitting sources of energy in a long-term sustainable manner.
3. Support regional and national actions to reduce greenhouse gas emissions.
4. Reduce vehicle emissions through state actions.
5. Encourage appropriate land use patterns that reduce vehicle-miles traveled. Reduce vehicle-miles traveled through an integrated multi-modal transportation system.
6. Protect natural resources (land, water and wildlife) to maintain the amount of carbon fixed or sequestered.
7. Lead by example in government operations.
8. Plan for how to address existing and potential climate change impacts.
9. Develop an integrated education, outreach and workforce training program.

2014 State Energy Strategy

The 2014 State Energy Strategy identifies as part of the Energy Vision for N.H. key drivers (high impact, high influence) that will define New Hampshire's energy future – energy efficiency, renewable power generation, fuel choice and availability, transportation options, and grid modernization. Figure RO11 summarizes critical actions to advance these key drivers and achieve the Strategies' vision. These actions will require collaboration among federal, state, regional, local and private partners and across all sectors of energy production and consumption.

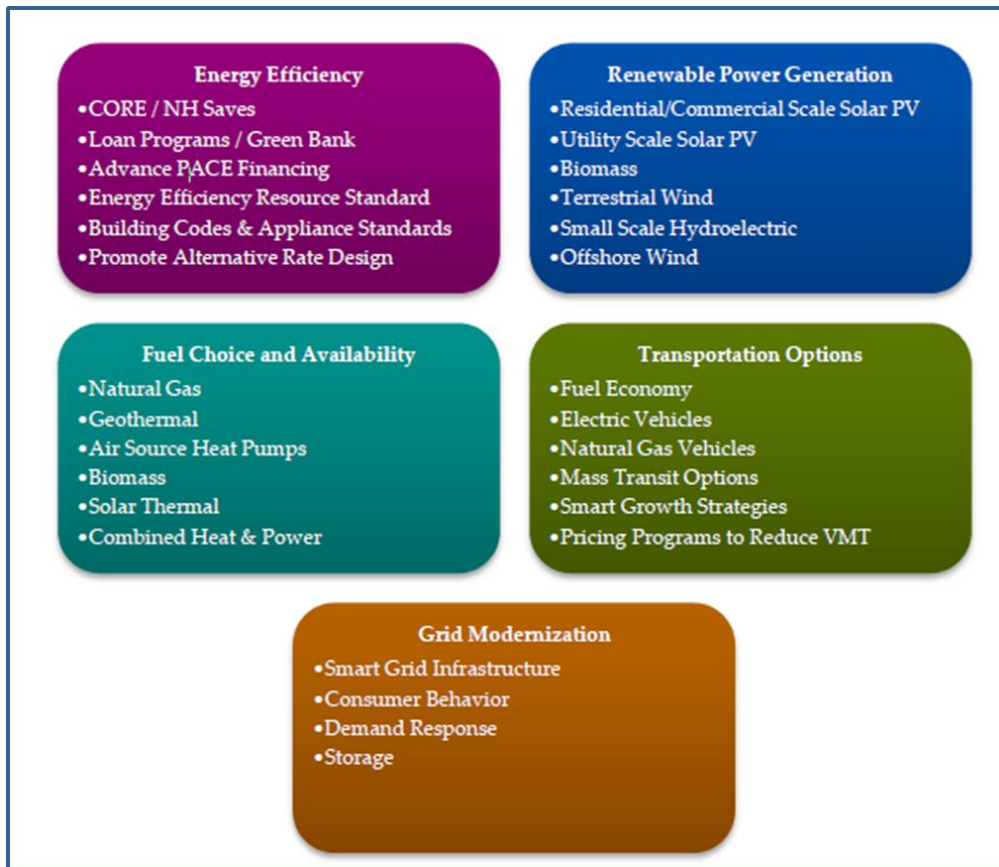


Figure RO11 – Key drivers of New Hampshire’s energy future.
Source: 2014 State Energy Strategy, NHOEP

Assets and Resources

Quality of life and quality of place

The assets of the region are largely derived from abundant resources, strategic location and diverse choices in living, working and recreating. These features combine to create what is widely perceived as the region’s greatest asset: its high quality of life. This is reinforced by the many amenities the region offers – including a rich mix of historic, cultural and natural assets, and a location that is accessible to and from attractions like Boston, the ocean and the White Mountains. This overall desirability as a place has been an important reason for its success and points to the important role of planning in helping to maintain that quality of place.

Assets and Resources

The RPC region is one of abundant natural resources, cultural and historical assets, scenic beauty and economic opportunity. Listed below are the assets and resources that contribute to the region’s quality of life and place.

Table RO10 – The RPC Region’s Key Resources and Assets

Resources and Assets	Supports
Clean and Abundant Freshwater Resources: Aquifers and surface waters for drinking water supply, recreation, aquatic habitat and productivity	Recreation, Tourism, Harvesting/Production, Wildlife, Economic Development
Well-developed Highway Network: I-95, I-93, US Route 1, NH 101, and NH 125	Access To People, Goods, Services, Employment Centers
Diverse Transit System: Downeaster, COAST, Pease, park/ride facilities (although geographically limited)	Transportation Choices, Mobility
Deep Water Port Export and import of fuels, goods and materials	Economic Development
Harbors and Working Waterfront: Boating, fisheries/shellfish and goods/services	Recreation and Tourism, Economic Development
Great Bay and Coastal Areas: Diverse and abundant natural resources, wildlife habitat and scenic beauty	Recreation and Tourism Economic Productivity
Land Development and Use: Villages, developable land stock, and natural resources	Earth Materials, Water Resources, Recreation, Wildlife Habitat
Cultural and Historical Resources: First European settlements, village settlement patterns, historic buildings, production mills	Iconic Cultural and Historical Resources
Pease International Tradeport: Redevelopment of former naval base into a business park and airport	Economic Development, Employment Center, Transportation Hub
Educational Institutions: Great Bay Community College and University of New Hampshire	Highly Educated Population and Workforce
Proximity to Metropolitan Centers: Greater Boston and Portland, connected via I-95 corridor and passenger rail (Downeaster)	Employment, Goods, Services, Recreation and Tourism
Diverse and Historical Housing Stock: Urban and rural, particularly mill buildings and large historic homes	Adaptive Reuse and Redevelopment of Brownfields
Open Space and Conserved Land: Municipal, state and federal governments, and federal and local non-profit organizations	Recreation, Forests, Wildlife Habitat And Ecosystem Functions
Recreation and Tourism Base: Beaches, coastline, all-season recreation, wildlife and ecology	Local and Regional Economy
Agriculture and Food Production: Traditional crops and more recently craft and specialty products	Recreation and Tourism Food Security and Local Business
Local Volunteers In NH, 28.4 percent of residents volunteer a total of \$738.4 million in contributed services	Local/Municipal Capacity, Community Character, Enhanced Services
Diverse Workforce: Skilled technicians, skilled trades and craftsmen, educators and service workers	Economic Development, Business of (all types) Including Independent

What the Region Said

The content of the regional master plan is informed by a significant amount of public input that was gathered during its development. This input was drawn from four main sources:

1. Contents of the individual local master plans from communities in the region (as available through 2013).
2. Opinions expressed by attendees at the regional visioning workshops held in 2013.
3. Results from the statewide and regional opinion telephone survey conducted by the UNH Survey Center (Spring 2013) and an online version of the telephone survey conducted by the RPC.
4. Comments and opinions expressed by RPC Commissions as they reviewed components of the draft Plan.

The full reports of all outreach results are available online at: <http://rpc-nh.org/gsf/get-involved/outreach>.

Local Master Plans

A comprehensive review of current local master plans was undertaken by the RPC staff at an early stage of the plan's development, focusing specifically on goals, objectives and recommendations. The following table is a ranked summary of topics that were most frequently cited as areas of interest or concern in these local master plans:

1	Natural and Water Resource Protection	11	Bike and Pedestrian Facilities (lack of)
2	Transportation (access and condition)	12	Agriculture, Forests, Farmlands Protection and Preservation (loss of farms and agricultural assets)
3	Land use (loss of open space)	13	Sense of Community, Active Involvement, Volunteerism
4	Housing (condition, access, affordability)	14	Historic Preservation (loss of assets; community character)
5	Community Facilities (condition, adequacy, increased demand)	15	Access to Recreational Areas
6	Recreation and Trails (access, expansion)	16	Downtown (define, enhance, preserve)
7	Preserving Rural, Architectural, and Cultural Heritage	17	Rural Atmosphere Near Amenities and Services
8	Economic Development (tax base, jobs)	18	Planning For Growth
9	Conservation and Open Space (loss of open space; environmental quality)	19	Clean Air and Water, Open Spaces
10	Infrastructure (condition, adequacy, need for investment)	20	Energy (conservation and source diversity)

Public Input from Regional Workshop

September and October 2013

Six regional visioning workshops, called "community conversations", were held around the region in 2013 soliciting input about key concerns and issues on several topics, including natural resources, transportation and housing, economic development, climate change, energy, and land use. The discussion format followed the "SWOT" format: a brainstorming session that moved sequentially to discussion of the region's strengths, weaknesses, opportunities and threats. The key themes that arose



Figure RO12 - Portsmouth Community Conversation hosted at the Portsmouth Library in October 2013.

from these discussions are more fully explored as they pertain to each topic chapter in the Regional Master Plan.

A number of key themes, which cut across multiple topics, were raised repeatedly in different workshops. The most frequently cited perceptions of key strengths and opportunities focused on the following:

- A high quality of life.
- The region's diverse natural resources, recreational opportunities and growing support for local agriculture
- The diverse historical and cultural resources.
- Availability of clean water, energy sources, and transit network.
- Access and proximity to Boston, Portland and Manchester/Concord.
- The schools and educational opportunities in region are strong.
- The highway network is good and generally well maintained
- A highly educated and motivated workforce.

The common perceptions of weaknesses and threats to the region centered on the following:

- Lack of infrastructure in parts of the region (sewer, water, natural gas, broadband internet access, transit)
- Inadequate investment, maintenance and upgrading of existing infrastructure, especially sewer, water systems.
- Further loss of open space from additional development and the impact recreation, regional character and natural resources.
- The scarcity of workforce-affordable housing, high relative cost of energy.
- The lack of inter-municipal cooperation in approaching regional scale problems and needs.
- The cost stricter environmental regulations will impose on communities.
- Challenges of helping senior residents stay in their homes and communities, and keeping and attracting young families.
- Too much development of 'big box' retail establishments.
- Concern over sustainability of groundwater as a principle public water supply
- Vulnerability to increased flooding

University of New Hampshire-Cooperative Extension-NH Listens

Regional Themes from the NH Listens Public Outreach Event in Kingston, NH on May 14, 2013

UNH Cooperative Extension and NH Listens designed and hosted a public outreach and engagement event for residents in the region to talk with neighbors to identify local assets, local needs, and ways to effectively use limited government resources. Small group discussions focused on the core principles of traditional settlement patterns, housing choices, transportation choices, natural resources, community and economic vitality, climate change and energy efficiency. Participants were asked to consider the critical questions:

- 1. How should we plan for the future?**
- 2. What core considerations should be the basis of planning for a thriving future?**

Following is a summary of discussions from the public outreach and engagement event.

Who We Are and How We Are Changing

There was an interest in both the increase of senior populations and the declining populations of young people in New Hampshire

Seniors

- Groups expressed concern that seniors were untapped potential in the state, and that there was a need to



Figure RO13 - Participants at the NH Listens Kingston, N.H. public outreach event in 2013.

motivate this population to bring time and talent to the community.

- There was also a concern about how elderly populations would function in the future, particularly in relation to transportation and getting to needed services and resources.
- Participants discussed the need for competitively priced healthcare, particularly for seniors.

Youth

- In particular, groups expressed concern about youth migration out of the state.
- As groups discussed lack of jobs in the area, one focus was creating more jobs to support and attract young people.
- Another concern was the quality of education in general and a lack of affordable higher education in the state for young people

How We Use Land

- Groups discussed how to balance economic development with the local charm of the area, the beauty of the natural landscape, and a clean and healthy environment.
- There was discussion of the value of natural resources, the environment, green spaces, and an interest in developing local agriculture.
- The groups also discussed the potential and complications of attracting more tourism to the area. One concern was that people come to NH just to get affordable cigarettes and alcohol.
- There was some controversy among groups about land and taxes.
- Many groups discussed complications with zoning and guidelines in relation to development.
- Overall, there was a desire to value natural resources while supporting economic development.

Jobs and Economic Development

- Groups discussed a need for support of business growth.
- Many groups agreed upon a need for more types of job opportunities and increased availability of local jobs.
- There was discussion about a need for infrastructure that is supportive of a new economy and technology (broadband, cell phone coverage).
- Groups also commented on a need for educational training and improvement of education in general.

Quality of Life

- Many participants talked about maintaining our "quality of life" but admitted we think very differently about what quality of life means.
- Groups want to maintain the character of the state, enhance infrastructure, and attract jobs.
- There was an interest in building safe and healthier communities.
- People love the quality of life in the area but feel there needs to be jobs to support the community.

Housing and Transportation

- Groups discussed a need for more effective transportation for populations who experience challenges driving such as the elderly, sick, disabled, or low-income individuals.
- Some groups felt that this transportation should be publically funded whereas others discussed how a transportation system could evolve from volunteerism and local initiatives.
- There was a concern in the groups about where the funding would come from for public transportation.
- Some groups discussed an interest in creating more walkable communities and ride and walk services in addition to cars.
- Groups discussed the importance of proximity of local business and jobs to where people live.

How We Govern Ourselves

- There was discussion about a need for more effective communication both within towns and between different towns.
- Groups discussed a need for transparency in regional planning.
- Some groups commented on a distrust of the government.
- There was discussion about the limits of local and state regulations.

- Groups expressed some controversy over taxes and local funding.

Statewide and RPC Region Survey – UNH Survey Center

The Survey Center University of New Hampshire, July, 2013

Tracy A. Keirns, M.A. Zachary S. Azem, M.A. and Andrew E. Smith, Ph.D.

May 2013 - July 2013

During May-July 2013, the University of New Hampshire Survey Center conducted a statewide random sample survey for New Hampshire's nine Regional Planning Commissions, as part of the *Granite State Future* and *New Hampshire Broadband Mapping and Planning* initiatives. Funded in part by a grant from the US Department of Housing and Urban Development (HUD), and from the National Technology Infrastructure Administration (NTIA).

The specific areas of interest were New Hampshire resident's opinions on a range of issues facing communities around the state – transportation infrastructure, housing, economic development, natural resource management, energy, natural hazard mitigation, broadband services and others. A survey of two thousand nine hundred and thirty-five (2,935) New Hampshire adults was conducted by telephone between May 9 and July 21, 2013. The response rate was 33% and the margin of sampling error for the survey is +/- 2.2%. (See Technical Report for a more detailed description of survey methods.)

The intent of the survey was to provide the nine RPCs with statistically valid results on public opinion concerning these issues, and with enough sampling in specific areas so that differences in opinions and attitudes between regions could be discerned. The key difference and value of the survey is that it represents the opinion of a representative cross section of the population rather than those who have self-selected to participate.

The key findings from the survey are summarized below. The full report, including detailed tables and graphs and cross tabulated results for each question in the survey, can accessed at:

<http://granitestatefuture.org/regions/rockingham-region/>.

These are a few of the highlights of the results.

Key Findings

- Responses from residents of the Rockingham region were largely similar to those of statewide residents. The big difference involved what type of neighborhood residents live in (**more Rockingham residents live in a neighborhood close to the town center and less live in a rural location away from the town**).
- **Residents believe that environmental protection and natural resource protection should be the top priority for investing public dollars**, and a majority believes that all environmental protection measures mentioned should be high priorities for policymakers.
- Residents view energy efficiency and energy choices as the second most important priority for investing public dollars. **Residents are largely in favor of energy efficiency and renewable energy projects**, except for the idea of having public charging stations made for electric vehicles.
- **Residents view safe and affordable housing as another important priority** for investing public dollars. The development of single family housing and assisted living facilities were particularly favorable to residents while development of manufactured housing and apartments were the least favorable.
- **Residents say that the top activity that their community should actively encourage is promoting local agriculture (91%)**. Majorities want to encourage many other activities as well, including protecting historic buildings and neighborhoods (90%), and promoting safe places to walk or bike (87%).
- **Residents view quality schools as the most important thing to have in their community (94%)**. Other important aspects of a community include having small businesses and retail stores (83%), grocery stores (82%) nearby job opportunities (82%), and cultural and recreation facilities (82%).
- **Residents view maintaining our bridges and highways to be the most important priority for transportation funding (70%)**. Residents were split on funding for other transportation initiatives,

with a narrow majority favoring funding for the availability of bike paths (58%), and for senior and special needs transportation (54%).

- **The vast majority of residents (94%) have internet access at home**, and almost all of them (94%) consider their internet access adequate for their uses. Almost as many (87%) would not be willing to pay any additional money in exchange for faster internet speeds.

RPC Online Community Survey Results

September through December 2013

From September through December 2013, Rockingham Planning Commission (RPC) conducted an online survey as part of the Commission's outreach efforts for updating the Regional Master Plan. The online survey focused on the needs and wants of residents in the region now and into the future on a range of topics including land use, transportation, economic development, natural resources, climate change and energy, and historical resources. Over 250 residents of the RPC region participated in the survey.

The online survey was a modification of a state-wide telephone survey conducted by the University of New Hampshire Survey Center on behalf of the state's nine Regional Planning Commissions as part of the Granite State Future project. (The intent of the Granite State Future project is to update all nine regional master plans in the state in a coordinated fashion.) The results of the state-wide survey are statistically representative and additional telephone survey work was conducted in the RPC region to obtain statistically representative regional results. The online survey was conducted to provide residents an additional opportunity to participate in the regional master plan update.

The online survey was published on the Commission's website, email notifications were sent to RPC contacts (including RPC Commissioners, municipal officials and land use boards), and postcards with the survey website were distributed at various local and municipal meets and events. Below are the number of survey responses by RPC municipality. The survey results below are intended to highlight major themes represented in the results. The results of the online survey are not statistically representative of the region. Ultimately, the results of all survey work, along with all other public input received, will be used to inform the Regional Master Plan update as part of the Granite State Future project.

Key Findings

- Most survey respondents (64%) live away from a town center (153 versus 85). A smaller majority of respondents (55 percent versus 45 percent) would prefer to live in a larger home with a larger yard even if it means longer commute time versus a smaller home and yard with a shorter commute time.
- Most respondents rate the condition and availability of public transit and pedestrian/bicycle transportation options as somewhat poor or poor. There is limited support for investing in more funds to invest in these areas of transportation. The condition of roads and highways is generally rated as good or excellent. There is general support for continued investment in maintaining the road network; however, respondents were split between a willing to pay more by paying a higher gas tax.
- Nearly all respondents considered protecting air and water quality a medium or high priority. Preserving farms and recreational areas were also considered relatively high priorities. These findings were also repeated with the majority of respondents indicating that having farms and recreational facilities in their community is important.
- Having quality schools, nearby job opportunities, and nearby business and retail opportunities were all considered either very important or somewhat important by the large majority of respondents.
- Very few respondents considered housing for rent or purchase very affordable in their communities. Most respondents supported town's encouraging single family homes almost twice as often as multi-family housing options.
- The top three items respondents indicated should be actively encourage in their communities were promoting safe places to walk or bike, promoting local agriculture, and protecting historic homes in neighborhoods.
- The majority of respondents strongly supported policies that encourage energy efficiency with the exception of public charging stations for electric cars.
- There was a mixture of concern for community emergency preparedness and most respondents indicated they were concerned with power outages and snow storms more than flooding, drought, wind damage, or wildfires.

Key Issues and Actions for the Future

During the course of developing this Plan many issues, opportunities, and potential recommendations have been identified which are relevant to the region's future development. They have come from multiple sources, including the analysis of conditions identification of relevant trends in the region, from common planning priorities expressed in local master plans, and from input from the public and various stakeholders. Each chapter of the Plan identifies key issues and challenges as well as recommendations and actions specific to that chapter's subject matter. Many cut across multiple topics and appear in multiple chapters. In the following section, the most important of these issues and recommendations are summarized. Additional detail and recommended actions can be found in individual chapters.

Transportation

Issues

Changing Travel Patterns: In 2004 the per capita Vehicle Miles of Travel (VMT) peaked after 30 years of growth and began to decline due to a combination of technology change, demographic shifts, and high oil prices and other economic factors. These trends and broad public input suggest that the way we prioritize investment in the transportation system needs to change, moving away from capacity increasing highway projects, and directing more resources towards roadway system preservation and expansion of access to pedestrian, bicycle, and transit to serve the growing number of non-drivers.

Adequacy of Funding for Transportation Infrastructure: The poor physical state of transportation infrastructure in the region remains a problem and maintaining the system with inadequate funding is a challenge. Funding for public transportation is a particular challenge as the state ranks consistently near the bottom nationally in funding and relies almost exclusively on local funds to maintain services.

Freight Movement: Goods movement is expected to increase by 48% and more freight will be moved by rail, ship, and pipeline. This raises concerns about roadway damage from heavier trucks, the safety of transporting hazardous materials, and the need for investment in rail, port, and other infrastructure.

Land Use Patterns: Existing land use patterns represent several significant challenges to the transportation system:

- Lower density development that is spread out over a large area is much more difficult to serve with transit than in a more compact development pattern, where centrally located stops can serve many residents and businesses within walking distance.
- Subdivisions with many dead end streets do not provide for a good network of interconnected streets and do not provide redundancy in access to land uses.
- Commercial highway development causes significant congestion on the region's secondary arterial highways if developed without appropriate access management features.

Climate Change: The trend of increased frequency and severity of storm events over the past decade has significant implications for transportation system operations, maintenance and future investment planning. Roadway infrastructure in coastal areas are particularly vulnerable to those impacts. Additional attention is needed to identify and make appropriate modification to vulnerable roads and culverts.

Complete Streets: Bicycle and pedestrian accommodations are often only prioritized in highway projects in response to input from advocacy organizations, rather than as an integral piece from the start. A response to this is the concept of *Complete Streets*, which emphasizes that streets should be designed and operated to enable safe access for all users.

Safe Sharing of Roadways: Each day in the United States, more than 9 people are killed and more than 1,060 people are injured in crashes that are reported to involve a distracted driver (NHTSA). Distracted driving is one of only two causative factors that is growing in New Hampshire and is a factor in 27 percent of fatal crashes over the last three years (Rayno, 2014). As bicycle and pedestrian use of roadways continues to grow, the region has seen an increase in user conflicts and a need for broader public outreach on the rights and responsibilities of all highway users, and safe sharing of the road.

Transportation Needs of an Aging Population: As documented in this Plan and many other sources, the population of non-drivers in the region will increase dramatically as the baby boom generation ages. With that, and the desire for many residents to age in place, a large increase in elderly transportation services will be needed. In rural areas, this will be exceedingly expensive to implement unless volunteer driver programs or other low cost rural transportation services are able to greatly expand.

Recommendations

- Prioritize transportation investment in the region's already developed areas through weighting of project selection criteria.
- Promote development of highway designs and standards and other methods of maximizing the efficiency and effectiveness of the transportation system.
- Work with NHDOT on the development of the Statewide Freight Plan.
- Work to increase the amount of Federal, State, local, and private funding available to address project needs across all modes. In particular, work to establish a dedicated state funding stream for public and community transportation.
- Expand volunteer driver programs and integrate them with existing community transportation systems to better serve elderly populations.
- Refine the project development process through early data collection and scoping to better enable project selection with more complete information.
- Develop and adopt a Complete Streets policy for the Rockingham Planning Commission MPO and ensure that pedestrian facilities are not omitted from highway projects due to lack of an entity willing to take responsibility for long-term maintenance.
- Provide technical assistance to municipalities for bicycle, pedestrian and public transportation planning.
- Identify and track performance measures related to transportation safety.
- Complete the current vulnerability analysis of the transportation system to severe storm events, and determine where investments can be made to reduce impact potential.

Economic Development

Issues

Demographic Headwinds: An aging population represents several challenges to the regional economy. We have a small age cohort of people aged 15-34, a very large cohort of those aged 45-64 and a labor force participation rate statewide that has fallen gradually for the past two decades. Over the next 20 years this will mean, unless mitigated by other factors, a smaller workforce available to businesses and low- to no-net population growth in the region. Second, the size of the aging population will add to healthcare and home care costs incurred by individuals, businesses and communities. The region lacks a well developed home health and community transportation systems that will enable a larger population of seniors to age place. Both factors will act as a drag on the regional economy.

Infrastructure Investment: Economic development depends on the availability and adequacy of infrastructure to support that development. Development in many communities in the region is and will continue to be limited because they lack the type of infrastructure, including sewer, water, natural gas, broadband and rail access that is a prerequisite for certain businesses and industries. Communities that do have infrastructure face high costs of maintaining and upgrading that infrastructure. Deferred investment, especially in sewer, water and transportation infrastructure is shifting these capital costs to the future and adding a cost burden on the economy going forward, either through loss of services from failed infrastructure or from higher fees and taxes required to restore it.

Broadband Access and Capacity: The ongoing ability of the region to attract the most sought after industries and manufacturers in the future will depend on near universal access to high speed internet connections, with the bandwidth and capacity to meet future demand of businesses, institutions and residents. Broadband access has become an important differentiator in determining the competitiveness of a region for

economic development and is likely to become much more so in the future. Broadband access in the region is very high (>90%) and available speeds in most areas are adequate, however costs are high. A significant concern going forward is that broadband services in most communities have very limited competition which may deter competitive pricing and service in the future.

Housing Supply: A constrained housing supply and high relative housing cost is likely to make some businesses, especially ones relying on lower wage employees less able to attract the workers they need. It may cause them to be less competitive compared to other regions if wages are commanded in order to compensate for higher costs of living. The RPC region has the highest average cost for housing, both purchase and rental in the state, but average wage rates are not significantly higher than the state average, according to NH Employment Security surveys.

Workforce Development & Training: Targeted, industry-specific workforce training and skill set development is increasingly recognized both in New Hampshire and elsewhere as a critical economic development strategy. Equally important is recruiting and retaining a well educated talented, creative workforce. Such efforts are well aligned with an overall strategy to identify and support the needs of the key industry clusters that either exist or are developing in the region including Advanced Materials, Manufacturing, Machine Manufacturing and others which require highly skilled and specialized workforce training.

Regional Cooperation: From an economic development standpoint, the region's and state's reliance on municipal government to deliver nearly all local services is both a strength and a potential weakness. The strengths come in having accessible, responsive, accountable and flexible government. The weaknesses lie in the inherent duplication, inefficiency and lack of capacity in organizing and administering those services, especially in smaller communities. Greater levels of regional cooperation in the delivery of certain municipal services such as sewer, water, waste disposal, emergency services, purchasing, IT management, etc. hold the promise of achieving economies of scale, while retaining the benefits of local governance.

Climate Change and Coastal Impacts: The region's coastal municipalities are confronted by a particularly challenging set of land use and hazard management concerns that include extreme weather events, storm surges, flooding, coastal erosion, and loss of key coastal habitats. These issues are exacerbated by changes in climate that result in an increase in the frequency and intensity of storms and an increasing rate of sea level rise. Projections of sea level rise over the next century range from 1.6 to 6.6 feet, according to the latest National Climate Assessment (2013) and has the potential to displace coastal populations, threaten infrastructure and may lead to the loss of homes, businesses, public infrastructure, recreation areas, public space, coastal wetlands and salt marsh. These increased flood risks are compounded by continued growth and development in low-lying vulnerable areas. Preparing for higher sea level could be enormously costly and economically damaging as it becomes necessary to elevate building and infrastructure.

Quality of Life: Perhaps the most important asset the region has in creating economic success is its overall appeal and quality of life from amenities the region offers – including a rich mix of historic, cultural and natural assets, and a location that is accessible to and from attractions like Boston, the ocean and the White Mountains. This high quality of life attracts people, especially those that have discretion about where they live, including young, creative and entrepreneurial workers as well as higher income retirees. These factors may be leveraged to maintain economic growth in the midst of the other negative factor described above as 'headwinds'. However, these assets must also be protected to attract economic development and in-migration. To the extent that these assets or the character of the region are diminished from poorly planned and poorly designed development or from inadequate investment in our communities, schools, and infrastructure then we will lose this advantage.

Recommendations

- Fund, maintain, upgrade and expand the region's infrastructure (transportation, sewer, water, energy, telecommunications and broadband) to address current and future needs of the region.
- Develop service models and governing capacity to enable municipalities to share and consolidate municipal services where efficiencies and outcomes would be improved.
- Develop the skills and education in the workforce at all levels (high school, vocational/technical, community college, university) to match the needs of the region's employers.
- Protect the region's high quality of life and cultural and natural amenities.

- Eliminate unnecessary barriers to the development of workforce-affordable housing in all parts of the region.
- Take “no-regrets” actions beginning immediately to reduce future vulnerabilities and costs associated with climate change.
- Implement regional strategies for transportation, land use and the built environment that improve energy efficiency, increase cost effective renewable energy production and utilization.
- Coordinate state, regional and local infrastructure and development project priorities to maximize funding and investment opportunities.
- Work with communities and service providers such as the University of New Hampshire and the state and Federal government to ensure adequate broadband access and capacity to meet the future needs of all users in the region.

Housing

Issues

Housing Affordability: The RPC region continues to be an expensive place to live. Median house costs (\$299,900) and median gross rental costs (\$1,237) are higher than those for the rest of the state. Although the recession caused a general down turn in housing costs, they have returned to an increasing trend in the past 18 months. Factors driving these costs include high land values associated with the regions proximity to Boston, restrictive zoning which often prohibits densities required to construct smaller more affordable homes, local and neighborhood resistance to workforce, affordable and multi-unit housing, and a housing industry that has tended to favor high end housing construction.

Housing Needs for an Aging Population: Like the rest of the state, the RPC region is experiencing a aging of its population. In the RPC region, the number of renters and owners aged 65 and older is expected to double by 2020. Seniors face significant challenges such as lower median incomes, higher levels of disability and limited access to transportation and other services making housing choices more limited. Dramatic increases in the number of elderly citizens will have an impact upon housing in the region in several ways. While seniors generally want to age in place, this desire is complicated by several factors, including high rates of disability, lower median income and savings, declining caregiver population, and lack of access to transportation and services. Older residents choosing to age in place often find their housing to become unaffordable as their income decreases. The existing housing stock in the region, with a preponderance of single family detached homes located away from services is not necessarily a good match for the housing needs of this population.

Workforce Housing: The opportunity for workforce housing remains elusive in many communities within the RPC region, especially where there is little multi-family housing available. The newest models of housing production that take into account the latest NHOEP population projections, indicate only a modest near term need for new workforce affordable housing. Based on the RPC region’s near term future population growth from 2010 – 2020, the annual need for new housing construction will be 225 housing units per year. Of these 2,250 units approximately 1,000 of these will need to be workforce housing units.

Recommendations

- Communities should periodically evaluate their land use policies, including zoning and land use regulations to ensure that they provide adequate and realistic opportunities for the development of a diverse housing stock including workforce housing.
- Communities should encourage housing opportunities that address the needs of senior residents. This may include senior housing located close to necessary services and/or with community or elderly transportation access to health services and retail facilities, and allowing flexible use of single family homes to include accessory units, live-in caregivers and similar options.
- Communities should evaluate their present housing stock in regard to affordability thresholds and if existing housing stock does not meet appropriate thresholds for regional need, lands use regulations should be pursued, such as inclusionary housing provisions or density bonuses to allow for such housing developments.

- Encourage communities to develop mixed use and multi-density and nodal zoning ordinances which allow and encourage additional residential development in or near existing town centers or planned areas of new mixed use development.

Natural Resources

Issues

Impervious Surface and Water Quality: Increases in impervious surface and land use change is causing water quality to decline. In the RPC region, over 90 percent of the water pollution entering lakes, rivers, streams, and estuaries is from stormwater runoff. Much of this run off comes from impervious surfaces (e.g. parking lots, roads and rooftops) which have nearly doubled in the last twenty years. One of the most cost-effective ways to treat existing stormwater pollution is by keeping the areas near waterways as natural as possible.

Water Infrastructure Requires Greater Investment: The cost of maintaining water infrastructure is growing. The region's water systems, wastewater systems, dams, and stormwater infrastructure is becoming increasingly costly to maintain due to lack of historical investments, increase demands on the systems, stricter state and federal standards for water treatment, and increased demand from development and damage from storm events. For example, in the next 10 years the RPC region's wastewater systems are expected to need over \$250 million in investments. The maintenance, repair and upgrade costs often fall entirely on the area or municipality they serve, and in some cases, such as dams, the individual owner.

Loss of Unfragmented, Open Space: The region continues to lose open space for recreation, agriculture, wildlife habitat, environmental service protection, and scenic beauty. Having open space can provide many benefits to communities, including: scenic beauty, wildlife habitat, aquifer protection, buffers between developed areas, flood control, recreational opportunities, forestry, and agriculture uses. As the region has continued to grow, particularly into more undeveloped areas, open space is becoming increasingly smaller and fragmented. Currently, only 15 percent of the land in the RPC region is permanently protected from development and will always remain as open space. In 1962 the average size of undeveloped blocks in the region was 182 acres; in 2010 it was only 69 acres.

Recommendations

- Reduce the rate of growth of new impervious surfaces to minimize stormwater runoff and protect water resources.
- Increase the natural buffer areas around waterways to help remove pollution from stormwater.
- Develop long-term investment and maintenance plans for water infrastructure systems, including identification of long-term funding sources.
- Owners and operators of water infrastructure seek out opportunities for collaboration with other systems, by connecting systems or pooling maintenance resources, to reduce costs.
- Communities prioritize areas of open space to protect that provide multiple benefits (environmental, recreational, or cultural) and implement regulations to encourage their protection.

Historic Resources

Issues

Consideration of Historic Resources in Community Planning Process: While in the abstract, a large majority of the public sees protecting historic resources as a public role (UNH Survey). In practice the consideration of historic resources is not as well integrated into the planning process as it could be. This is particularly the case for resources outside of designated historic districts.

Redevelopment, Densification and Teardowns: Pressure for development and redevelopment is growing as the economy rebounds and land values increase. Where property values are highest, this is leading to tear-downs of relatively modest older homes and other historic structures to build larger residences or higher density commercial or mixed use developments.

Historic Resources and Sustainability: A characteristic of older buildings that is often overlooked by energy efficiency advocates and the building industry is the high level of embodied energy present in old buildings. Simply defined, *embodied energy* is the energy required to extract, process, manufacture, transport, and install building materials. When older buildings are preserved and reused this embodied energy is conserved, new material needs are minimized, and large carbon emissions from new construction avoided. Beyond energy efficiency, historic resources are in and of themselves key components of community sustainability – creating the character and sense of place in a community, adding economic value and fostering a sense of community pride and stewardship.

Historic Resource Inventories: Extensive historic resource inventory work was completed for Rockingham County in the 1980s-1990s. The location and status of some of these inventories is unknown and much of this information has never been integrated with local or regional Geographic Information Systems for ease of access by planners and policymakers. Further, much of this original survey work focused on 17th-19th Century, high-style buildings and did not address early 20th Century resources. Significant inventory work has been done more recently as part of major infrastructure projects per Federal requirements, but major gaps exist and most communities report a lack of resources for updating inventories.

Historic Assets to the Region: The region’s historic assets are an underappreciated element of its desirability and appeal as a place to live work and play. The opportunity exists to better integrate and utilize these assets in the “heritage tourism” component of our economy.

Recommendations

- Include a chapter on historic and cultural resources in municipal master plans that: recognizes community character, includes provisions for updating resource inventories, and considers the economic and community development potential of protecting local heritage.
- Expand local use of innovative land use policies to promote rehabilitation and continued use of historic properties, and ensure new development and redevelopment complement community character.
- Establish Heritage Commissions and/or Historic District Commissions as local champions for the identification, recognition, protection, and management of historic and cultural resources.
- Promote local and regional efforts to use historic and cultural resources as economic development tools, including Scenic Byways and local Main Street programs and other heritage tourism initiatives.
- Expand and promote local and regional educational initiatives focusing on local history to further public understanding of and appreciation for historic resources.
- Develop funding sources in the region for conducting local historic resources inventories, conservation, rehabilitation, and education initiatives.
- Build local and regional capacity for the protection and management of historic and cultural resources; develop capacity at the Rockingham Planning Commission to assist member communities with historic and cultural resources planning.

Energy

Issues

Energy Pricing and Choices: Energy is not priced in ways that promote efficiency and choice of renewable sources. The built in advantages of natural gas and oil for base load electricity generation and for home heating together with public ambivalence toward social, environmental and health impacts of fossil based fuel use dampen choices toward renewable and alternative energy sources. Total energy production in the state is derived from 89 percent non-renewable sources and 11 percent renewable sources (State Energy Strategy, 2014).

Energy Security and Renewable Energy: Energy security and renewable energy are important for our economy and quality of life. Most of New Hampshire’s energy is imported from outside the U.S. The N.H. Climate Action Plan and NH State Energy Strategy recommend expanding the capacity of renewable

energy sources. This can reduce the dependence on imported fuel and energy, and retain more energy dollars in New Hampshire, which also has a positive impact on non-energy sectors of the state economy.

State Energy Strategy: In 2014, the state developed a comprehensive energy strategy which developed recommendations for action in various areas including grid modernization, energy efficiency and development of renewable energy sources and markets. In terms of implementation, the state has several policies already enacted to help address energy consumption and GHG emissions (RGGI and RPS) but lacks dedicated funding or other necessary policies to advance the strategies and recommendations in either the N.H. Climate Action Plan and State Energy Strategy (2014).

Recommendations

- Implement a diverse and interconnected set of energy solutions that promote energy independence of both individuals, communities and New Hampshire as a whole.
- Expand the installation of and capacity to distribute energy from renewable energy sources.
- Increase energy production from renewable and low-CO²-emitting sources of energy in a long-term sustainable manner.
- Implement energy strategies that reduce greenhouse gas emissions across all sectors of energy consumption.
- Increase energy efficiency and conservation measures to moderate use of non-renewable energy sources.
- Secure local and regional funding sources to implement recommendations from the N.H. Climate Action Plan and NH State Energy Strategy.

Natural Hazards and Climate Change

Issues

Increased magnitude and frequency of extreme precipitation events: Since the 1990's the magnitude and frequency of extreme precipitation events have increased compared with the historical trends since 1950. These events often cause widespread damage to roads and infrastructure and disruption of businesses, schools and daily life.

Sea Level Rise Threatens Coastal Resources: Seasonal coastal flooding and sea level rise is impacting ecosystems and environmental services. Resources impacted include coastal wildlife, forests and tidal wetlands, and environmental services that protect the built environment such as critical flood storage. The 2014 U.S. National Climate Assessment indicates that coastal communities should prepare for sea level rise over the next 100 years that could range between 1.7 and 6.6 feet. The Science Panel Report of the NH Coastal Risk and Hazards Commission (RSA 483-E) has concurred that these national estimates are applicable to the coast of New Hampshire. The report presents the plausible range of sea level rise along New Hampshire's coast is between 0.6 and 2 feet by 2050 and between 1.6 and 6.6 feet by 2100 (compared to mean sea level in 1992). The report recommends that for coastal locations where there is very low tolerance for risk in protecting new infrastructure, existing coastal settlements, infrastructure or ecosystems that the assumption of sea level rise in the range of 1.3 to 2.0 feet be used for the year 2050 and 3.9 to 6.6 feet be used for 2100.

Development in High Hazard Risk Areas: Development, investment and population have increased in high risk coastal areas and riverine floodplains. Seasonal flooding and coastal storm related flooding have worsened, often impacting public and private investments. Investment in these high risk areas has increased over time, including the density of development and conversion of seasonal structures to year-round residents and businesses.

Funding for Infrastructure Upgrades: The state and municipalities have limited financial resources for long-term infrastructure improvements and upgrades. The state and municipalities lack consistent and dedicated funding sources to implement necessary upgrades to roads and infrastructure today and to address future impacts of climate change. There is also a lack of information to help prioritize management actions.

Municipal and Agency Coordination for Natural Hazards Planning: Municipalities lack capacity for coordination and long range planning for natural hazards. Only a handful of municipalities have full-time planning staff. Others have part-time staff or circuit rider planners, or no planning support. Even those municipalities with planning support find it difficult to increase workloads particularly to address a complex topic like natural hazards and climate change. The NH Coastal Adaptation Workgroup (CAW) is a collaborative network of organizations agencies and municipalities working toward providing information and increasing the capacity of others to plan for future impacts of climate change.

Protect Coastal Resources: The protection of natural and constructed systems, social services, and historic and cultural resources should be integrated with engineering and regulatory frameworks of shoreline management. The formation of coastal dunes, beaches and marshes provide flood protection for the built environment. Shallow tidal waters provide critical habitat for fish, shellfish and recreation that support local and regional economies. Modification to natural shoreline and coastal processes today can significantly reduce the ability of these systems to adapt to rising sea level and greater storm surge.

Recommendations

- Prepare multi-hazard and climate change vulnerability assessments for coastal and Great Bay municipalities (including inventories of existing infrastructure, assets and facilities) to provide municipalities and state agencies the information necessary to adequately prepare for future conditions.
- Collaborate with natural resource and environmental agencies and organizations to conserve and protect environmental services provided by natural landscapes.
- Develop technical assessment tools to guide planning and regulatory decisions that consider both the human and natural environments.
- Work with state agencies, utilities and municipalities to plan for future use of lands in high risk areas served by state, municipal and private infrastructure, considering adaptive reuse, relocation, and retreat strategies.
- Evaluate new and alternative funding mechanisms for upgrades and planned actions that address future impacts of climate change.
- Prepare comprehensive management plans that prioritize improvements for regular maintenance and incorporate actions to address future impacts of climate change.
- Create local multi-sector planning committees to identify and integrate key cross-cutting issues and recommendations into municipal policies and programs, regulations and building codes.
- Incorporate information on future hazards and climate change in municipal planning documents (e.g. Hazard Mitigation Plans, Master Plans, capital improvement plans, and open space and land conservation plans).
- Continue support of collaborative partnerships and networks of professionals, practitioners, and researchers that provide technical assistance and build capacity for municipal actions.
- Improve shoreline management to address the intensifying challenges posed by climate change, including management of development and infrastructure investments in high risk areas.

Support for the Regional Vision and Goal

The Vision and Goal for the RPC region for 2040 were developed by incorporating the goals of local master plans, past RPC regional master plans, RPC Commissioners and public input received during the development of this Regional Master Plan. To help ensure the chapter goals found within each topical chapter of this Plan reflected the overarching Regional Goal, each chapter goal was ranked to determine to what level it supported the different aspects of the Regional Goal (**RO Figure 16**). Overall, chapter goals support or partially support the Regional Goal. A detailed summary of each Chapters' goals support of the regional goal can be found within the Implementation Matrix chapter.

REGIONAL VISION

The southeastern New Hampshire region enjoys a high quality of life represented by a strong regional economy, distinct community character, and outstanding natural and recreational resources. This has been achieved through careful planning, wise stewardship of natural resources, infrastructure investment, and increasing regional cooperation on shared issues.

REGIONAL GOAL

Promote efficient use of land, resources and infrastructure in southeastern New Hampshire that:

- Creates a high quality built environment while protecting important natural and cultural resources.
- Promotes positive effects of development and minimizes adverse impacts.
- Promotes economic opportunities and community vitality.
- Enhances the coordination of planning between land use, transportation, housing and natural resources.
- Considers and incorporates climate change into local and regional planning efforts.

Figure RO14 – Summary of chapter goals support for the RPC Regional Goal.

	Regional Goal - Promote the efficient use of land, resources and infrastructure that:				
	Creates a high quality built environment while protecting important natural and cultural resources.	Promotes positive effects of development and minimizes adverse impacts.	Promotes economic opportunities and community vitality.	Enhances the coordination of planning between land use, transportation, housing and natural resources.	Considers and incorporates climate change into local and regional planning efforts.
Number of chapter goals that support the regional goal.	58	54	50	41	34
Number of chapter goals that partially support the regional goal.	7	11	11	22	18
Number of chapter goals that do not apply to the regional goal.	1	1	1	3	14
Number of chapter goals where it is unknown if the chapter goal supports the regional goal due to lack of information or unknown future conditions.	0	0	4	0	0