



TOWN OF SANDOWN, NH

Master Plan | 2013

Prepared by the Sandown Master Plan Steering Committee, Planning Board
and Rockingham Planning Commission

ADOPTION SIGNATURES

**Certification of Master Plan Adoption
Town of Sandown, New Hampshire**

In accordance with New Hampshire RSA 674:4, Master Plan Adoption and Amendment, and New Hampshire RSA 675:6, Method of Adoption, the Sandown Planning Board, having held a duly authorized public hearing on the Sandown Master Plan on December 3, 2013, hereby certifies that the Master Plan was duly adopted by a majority of the Board's members on December 3, 2013.

Date of Signature by Planning Board

Town Clerk

Date Filed

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CHAPTER 1

[COMMUNITY VISION]



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INTRODUCTION

Sandown - Today and In the Future

Sandown is located in what is currently one of the fastest growing counties in New Hampshire. This growth trend is fueled by the attractive natural beauty of the region, reasonable real estate costs, proximity to the Boston and Portland Metropolitan areas, high valued employment markets, and a growing transportation network. The residents - both those whose forefathers helped settle the town and more recent residents - find Sandown an attractive community, accepting of its limited business services, and appreciative of its quaint home town feel. As a growing community, there are diverse opinions about whether to severely limit future development and focus needs on infrastructure to support the current population, while others recognize development will continue but wish it were somewhat more planned and controlled.

Recent studies in NH, and as reflected in Sandown's 2011 Community Survey and 2003 Community Profile project, open space is viewed as a highly valuable resource and one very much needed to maintain the quality of life in New Hampshire and Sandown. With that in mind, there continues to be overwhelming town-wide support for continued use of revenue from the Land Use Change Tax to acquire and protect lands that may become available in the future.

Both the 2011 Community Survey and the 2003 Community Profile project recognized the need to develop a conceptual plan for a more "Main Street look and feel" of the town center area. Long range planning initiatives should take into consideration the needs of the town and the desire of the community to create a downtown or town center. In recent years numerous projects and plans have not succeeded largely due to either a lack of supporting conceptual plans or vision. For example, a 2004 sidewalk project would have required a commitment from the town of 20% matching funds against eighty percent funding was provided by the State of NH. However, the Warrant article to approve use of the funds was not approved by voters.

So where will Sandown be in 5 or 10 years? The future cannot be predicted. However, with citizen participation controlling some of the events in the future are within the citizenships' grasp. Special interests need to be set aside for a larger philosophy. This philosophy must realize, we are only current caretakers of this fine community and owe future residents and families' part of what we so value in our town; citizenship, community, beauty, public safety and a friendly place that we can be proud of to call "Our Town." This delicate balance of open space, municipal planning, business and residential development can occur with positive efforts and dialogue through the current and future town leadership.

A COMMUNITY VISION

- A) With technical assistance from Cooperative Extension Services at the University of New Hampshire, Sandown completed a Community Survey to solicit opinions and preferences from residents on a variety of community based topics including housing, natural resources and environment, economic development, community character, and community facilities.

B) The 2011 Survey included ***Five Community Profile components*** which provide recommendations and guiding principles for updating the Vision Chapter of the Master Plan. 129 people responded to the survey (106 full responses and 23 partial responses) for a household response rate of 5.7%. 52% of respondents were female; 48% were male. 98% of respondents own and live in their home, 1% rent, and 1% own a home in Sandown but don't live there. The following is a breakdown of respondents by age:

- under age 18 1%
- ages 19-34 19%
- ages 35-54 50%
- ages 55-64 23%
- ages 65 and over 7%

The section below provides a brief overview of the community survey results.

MAJOR SURVEY FINDINGS

- Protecting natural amenities and water resources was a high priority for respondents.
- Support policies to stabilize the property tax rate, including redevelopment of existing structures and implementing energy conservation measures.
- Support a diverse mix of housing to include affordable options for seniors and working families.

SUMMARY OF FIVE COMMUNITY PROFILE COMPONENTS

I. Housing

- 90% strongly agreed or somewhat agreed that Sandown should encourage development of single family homes.
- 76% strongly agreed or somewhat agreed that there should be more flexible options for 'in-law' apartments.
- 75% strongly agreed or somewhat agreed that there should be policies that enable seniors on a limited or fixed income to stay in Sandown and 64% strongly agreed or somewhat agreed there should be more affordable housing options for seniors.
- 63% strongly agreed or somewhat agreed that Sandown should encourage development of more duplexes.
- 61% strongly agreed or somewhat agreed there should be more affordable housing for young families.
- 88% and 89% ***somewhat disagree*** or ***strongly disagree*** the town should encourage mobile homes and mobile home parks.

II. Natural, Recreational and Historic Resources

- 95% of respondents indicated that protecting drinking water sources was very important or somewhat important.
- 89% indicated that protecting water resources for recreational use was very important or somewhat important.
- 90% and 86% of respondents respectively strongly agree or somewhat agree that Sandown should support homeowner and community gardens.

- 89% said they agree or strongly agree Sandown should protect agricultural lands for current or future food production; 91% strongly agree or somewhat agree the town should support the production and sale of local agricultural products.
- 78% agreed or somewhat agreed Sandown should establish downtown architectural design standards; 83% agreed the town should install signage to identify historic buildings/places.
- 67% said the town should play a role in encouraging less consumption.

III. Economic Vitality

- 88% of respondents strongly agreed or somewhat agreed Sandown should implement energy conservation measures for municipal facilities and 83% said the town should develop alternative energy sources for municipal facilities.
- 67% strongly agreed or somewhat agreed that Sandown should facilitate the re-development of existing structures.
- 58% strongly agreed or somewhat agreed that a gas station would have a positive impact on the town.
- 54% strongly or somewhat support selling appropriate town owned vacant land to stabilize or reduce the tax rate.
- 52% said they strongly agreed or somewhat agreed that Sandown should facilitate new construction in downtown.
- 51% said they strongly support or somewhat support making more land available for commercial development to stabilize or reduce the property tax rate.
- 47% agreed or somewhat agreed that economic development beyond downtown should be encouraged.
- 71% said they *somewhat do not support* or *not at all support* allowing commercial or mixed residential commercial buildings greater than 4 stories in the downtown.
- 63% said they *somewhat do not support* or *not at all support* shopping plaza developments outside of downtown.
- 50% *strongly disagree* or *somewhat disagree* that a tax rate with similar rates as the past is acceptable.

IV. Community Character

- 95% of respondents said that town's natural setting is important to making Sandown a desirable place to live (75% very important, 20% somewhat important).
- 94% of respondents indicated that the town's small New England character is important to making Sandown a place where they want to live (69% very important, 25% somewhat important).
- 93% strongly agreed or somewhat agreed the town should do more to preserve historic structures.
- 91% said that sense of community was very important or somewhat important the quality of life in Sandown.
- 86% indicated that the quality of schools was very important or somewhat important to the quality of life in Sandown.

V. Community Facilities and Infrastructure

- 68% strongly agreed or somewhat agreed that an expanded community recreational center for people of all ages would enhance Sandown residents' quality of life.

- 57% and 52%, respectively, rated Sandown's school and the library as excellent or good.
- 53% rated Sandown's transfer station as excellent or good.
- 50% rated Sandown's fire & rescue stations as excellent or good; only 22% rated the police station as excellent or good.
- 45% rated Sandown's athletic playing fields as excellent or good, 31% had no opinion. 31% rated indoor rec facilities as excellent or good, 36% had no opinion.
- 79% of respondents indicated that public transportation in Sandown was ***not very important*** or ***not at all important***.
- 9 respondents identified the intersection of 121A and North Road as a hazard, with multiple other Main Street intersections identified as hazards.

Note: The complete 2011 Sandown Community Survey report is available in the Planning Office at Town Hall.

FUTURE STUDY ISSUES

At the conclusion of the Visioning session, six key issues emerged as important to evaluate for the future of Sandown.

- ***Small New England Character***
- Sale of Town Owned Vacant Land
- Implementation of Energy Conservation
- Protect the Rural Setting
- Quality of Schools
- Protect Water Resources for Recreation

The majority of the discussion was dedicated to detailed evaluation of Priority #1 - Small New England Character. Results of the discussion are summarized below.

Small New England Character

Needs Improvement or Evaluation

- Lack of a defined and useful town center
- Parking lots/areas highly visible
- Lack of public gathering area (events)
- Improve activity and mobility
- Pedestrian safety issues on Route 121A
- Improve access, circulation and parking
- Lack of support for public land purchase
- Need for sidewalks and lighting, connections to public amenities and recreation areas
- Lack of knowledge among residents about public amenities and assets
- Limited incentives and lack of interest in private investment
- Support lacking due to absence of "vision and plan" for town center

Positive Aspects, Attributes and Actions

- Develop a plan that depicts “existing conditions and resources”; identify ways to promote and make better use of amenities
- Identify what is needed to create a town center
- Develop conceptual graphic images of streetscapes, parking, landscaping and public areas
- Develop a conceptual “phased approach” to creating a town center
- Identify financial resources to support projects identified in the town center concept plan
- Form a committee to direct development of a town center concept plan
- Consider sale of town (vacant) land to fund land purchase to create public areas in town center
- Encourage use of the Train Depot as a focal point for public use and events
- Install historical markers for locally significant historic buildings, sites and events (create a map of these assets)

Additional input was provided on the following topics covered in various chapters of the Master Plan.

Economic Vitality

- Sell town owned small waterfront properties/lots to create municipal revenue. Plan to manage and/or sell these lots at a reasonable price.

Community Character

- Town has many historical residential buildings, barns and outbuildings, mill sites, cemeteries.

Transportation

- Need for safe bicycle lane along Route 121A and Fremont Road, and more public walking trails.
- Improve transportation services for those in need. Some services available now but limited for medical appointments, shopping, general transport, etc.
- Make trail systems available to recreational vehicles and horses during certain periods.

Energy

- Regulate wind turbine placement with respect to noise pollution.
- Town transfer station should offer opportunity to recycle a greater variety of materials.
- Propose tax exemption for alternative and renewable energy installations.

Wildlife and Habitat

- Protect turtle habitat and road crossings through migration corridors.

CHAPTER 2

[POPULATION]



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POPULATION GROWTH

Communities surrounding Sandown in southern New Hampshire have grown significantly since 1970. This trend can be seen in Table 2-1, which notes population growth for Sandown and its neighboring communities based on census data from 1970 to 2010. During the past decade however, the rate of growth significantly decreased in all but a few of these communities and the towns of Fremont and Plaistow had an overall reduction in population.

Table 2-1 Population Growth 1970-2010

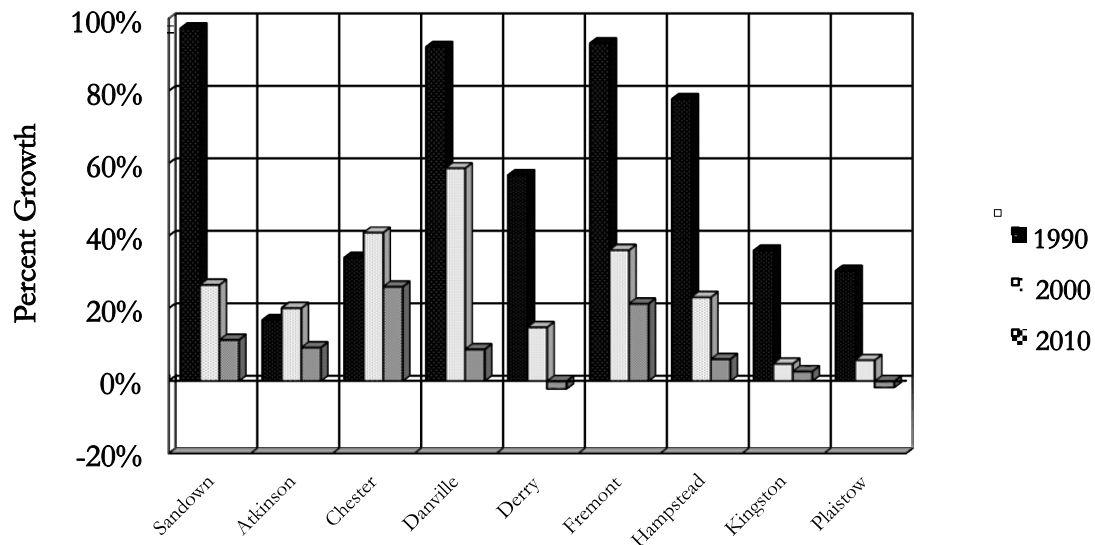
TOWN	1970	1980	% INCR. 70-80	1990	% INCR. 80-90	2000	% INCR. 90-00	2010	% INCR. 00-10
Sandown	741	2,057	177.5%	4,060	97.3%	5,143	26.6%	5711	11.04%
Atkinson*	2,291	4,397	91.9%	5,138	16.8%	6,178	20.2%	6753	9.3%
Chester	1,382	2,006	45.1%	2,691	34.1%	3,792	40.9%	4782	26.1%
Danville*	924	1,318	42.6%	2,534	92.2%	4,023	58.7%	4377	8.8%
Derry	11,712	18,875	61.1%	29,603	56.8%	34,021	14.9%	33,269	-2.2%
Fremont	993	1,333	40.2%	2,576	93.2%	3,510	36.2%	4263	21.4%
Hampstead	2,401	3,785	57.6%	6,732	77.8%	8,297	23.2%	8804	6.1%
Kingston	2,882	4,111	42.6%	5,591	36.0%	5,862	4.8%	6020	2.7%
Plaistow*	4,712	5,609	19.0%	7,316	30.4%	7,747	5.8%	7,609	-1.8%
Rockingham County	138,951	190,345	36.9%	245,845	29.10%	277,359	12.8%	295,223	6.4%
State of NH	737,579	920,475	24.7%	1,109,117	24.2%	1,235,550	11.4%	1,316,470	6.5%

* Timberlane School District Towns

From Table 2-1, the population growth during the seventies and eighties showed Sandown significantly outpaced some communities in the region. From 2000 to 2010 this pace slowed substantially with Sandown's population growing 11.04 percent, third in the region behind Chester – 26.1 percent and Fremont – 21.4 percent. In all decades since 1970, Sandown has outpaced the County and State in the rate of population growth. In comparison with its neighboring communities, Sandown remains a relatively small town of 5,711 residents.

Figure 2-1 depicts population growth from 1990 to 2010, clearly showing decreased growth rates in Sandown and other communities.

Figure 2-1 Population Growth 1990-2000-2010



AGE DISTRIBUTION

Table 2-2 compares age distribution percentages from the 1980, 1990, 2000 and 2010 Census for Sandown and the three other communities associated with the Timberlane School District. The percentage of the population between the ages of 5–19 years in Sandown saw a steady increase from 1980 to 2000, but decreased from 2000 to 2010. Atkinson and Plaistow also had a decrease, while Danville showed a slight increase. In addition, the percentage of people over the age of 65 had significant growth over this same time period for all four Towns, particularly in the ranges of 20–63 years of age.

Table 2-2 Age Distribution of Residents 1980-2010

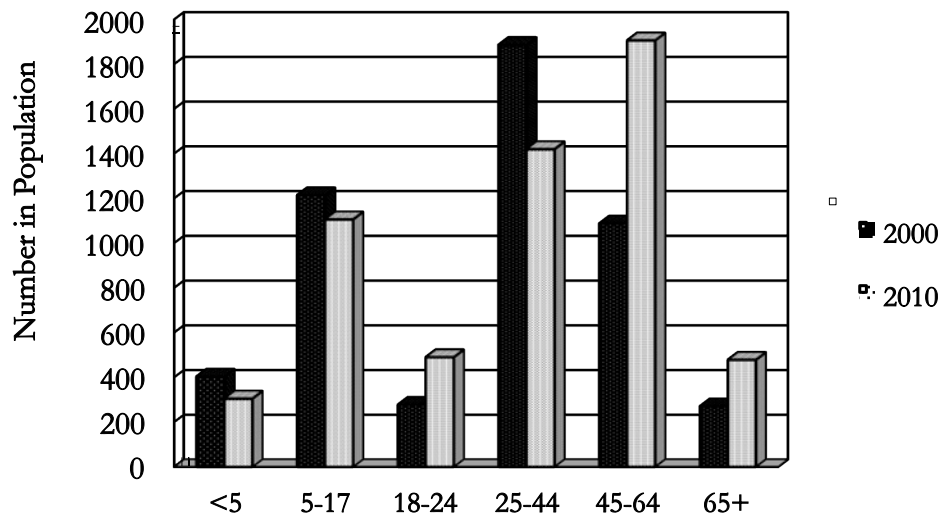
	1980 / 1990 / 2000/2010	1980 / 1990 / 2000/2010	1980 / 1990 / 2000/2010	1980 / 1990 / 2000/2010
TOWN	<5 YRS	5-19 YRS	20-64 YRS	65+ YRS
Sandown	9.3%/11.7%/7.7%/5.4%	24.1%/23.4%/26.2%/22.4%	59.3%/60.2%/63.6%/63.9%	7.2%/4.8%/5.3%/8.4%
Atkinson	7.3%/6.5%/6.4%/3.8%	29.3%/22.5%/22.1%/19.3%	57.9%/63.7%/62.2%/60.1%	5.6%/7.4%/11.4%/16.8%
Danville	7.1%/9.1%/8.2%/4.5%	28.6%/20%/22.7%/23.4%	54.8%/63.7%/62%/62.5%	9.5%/7.2%/7.2%/9.6%
Plaistow	6.8%/7.8%/6.8%/5.2%	27.9%/20.1%/21.2%/20.6%	58.1%/64.2%/62%/61.7%	7.4%/7.8%/10.1%/12.5%

Table 2-3 Sandown Age Distribution 1990-2010

AGE RANGE	1990	% TOTAL	2000	% TOTAL	2010	% TOTAL
<5	475	11.7%	404	7.7%	306	5.4%
5 – 17	853	21.0%	1215	23.6%	1107	19.4%
18 - 24	232	5.7%	278	5.4%	491	8.6%
25 - 44	1802	44.3%	1887	36.6%	1,421	24.9%
45 - 64	503	12.3%	1088	21.1%	1,907	33.4%
65 +	195	4.8%	271	5.2%	479	8.4%

A further review of the census data in Table 2-3 provides a more detailed understanding of the age of residents in Sandown. School aged children decreased by 108, along with a decrease in the <5 years age bracket. The 18-24, and 65+ age brackets saw the largest increases at 76% with the 45-64 year age group a close second at a 75% increase. Figure 2-2 also details the distribution of the six age categories noted in Table 2-3.

Figure 2-2 Sandown Age Distribution 2000-2010



POPULATION PROJECTIONS

In 2012, the New Hampshire Office of Energy and Planning (OEP) discontinued publishing population projections for the State's counties and municipalities. OEP estimates, which were produced each year, helped provide some insight to communities on future growth and population trends. The last published projections from OEP included estimated population trends to 2015. Table 2-4 reports 2001 and 2010 Census Data for population and OEP's population projections for 2015.

Table 2-4 Population Projections

TOWN	*2001	*2010	% CHANGE 2001-2010	2015	% CHANGE 2001 TO 2015
Sandown	5,220	5711	9.4%	6,220	19%
Atkinson	6,390	6753	5.7%	7,390	16%
Chester	4,090	4782	16.9%	4,880	19%
Danville	4,120	4377	6.2%	4,860	18%
Derry	34,440	33269	-3.4%	40,150	17%
Fremont	3,680	4263	15.8%	4,380	19%
Hampstead	8,440	8804	4.3%	9,980	18%
Kingston	6,100	6020	-1.3%	7,050	16%
Plaistow	7,810	7609	-2.6%	9,070	16%
Rockingham County	283,960	295,223	3.9%	328,960	16%

* Census Data

CHAPTER 3

[HOUSING]



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BASIC NECESSITY

Housing is a basic necessity required by all and the issues surrounding housing has and will remain a critical focal point in the community and the region. The region has long ago shed the depressed housing market of the early nineties. Housing growth, fueled by low interest rates, continues to remain strong throughout a majority of southern New Hampshire.

Table 3-1 Building Permit Activity from 2000-2013

TYPE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Single Family Duplex	17	61	63	41	69	55	29	30	11	23	35	29	22
Multi-family													

The fiscal impacts associated with new housing are always a major concern of local communities. These costs include the demands on the school system, road network, the fire and police departments and other town services. The Town of Sandown is primarily a bedroom community with few non-residential uses providing tax revenue to assist in offsetting the cost of new residential development. School impact fees are currently in place to assist in paying for school capital facility debt, but these fees do not fully offset the costs associated with growth. Additional impact fees such as for roads and recreation are also being discussed. In response to growth related concerns, a growth management regulation limited the issuance of building permits from 1995 – 2000.

HOUSING CHARACTERISTICS

As noted, Sandown is primarily a rural single family bedroom community with few non-residential uses. The 2000 Census notes that there were 1,777 total housing units in Sandown, 1,527 (85.9 %) of which were single family homes. If building permit activity is added to the 2000 Census figures, at the end of 2003 there were a total of 1,959 housing units. The remaining housing types outlined in the 2000 Census include: townhome units (85), duplexes (12 units), multi-family units (77) and manufactured housing (76). Of these various housing types, 171 units were noted as rental properties. In addition, 95.3% (1,694) of the housing units were occupied and of this total, 89.9% were owner occupied and 10.1% were renter occupied. With the recreational ponds located in Sandown, the Census also noted that there are 70 seasonal housing units in the community. There are currently no subsidized housing units in Sandown.

Since the 1995 Master Plan, single family home developments have dominated the market. This sole growth of single family housing in the community has reduced the percentage of other forms of housing, thereby limiting the supply diversity of housing choices that are available to all income groups. Existing zoning regulations currently limit the ability to construct multi-family housing units. The lack of a municipal and/or private water supply and sewer systems has played a role in the Town's decision to limit multi-family developments.

Table 3-2 Housing Types as a Percentage of Total Housing [2000 Census]*

TOWN	SINGLE FAMILY	MULTI-FAMILY	MANUFACTURED
Sandown	85.9%	9.7%	4%
Atkinson	75.1%	24.4%	.004 %
Chester	89.2%	8.6%	2.0%
Danville	69.9%	7.6%	224
Derry	49.8%	45.8%	4.0%
Fremont	84.0%	11.2%	4.6%
Hampstead	75.1%	17.6%	7.2%
Kingston	80.5%	13.2%	6.1%
Plaistow	61.0%	38.4%	.005%
Rockingham Co.	64.%	28.7%	6.7%

** Note: Table 3-2 will be updated when new data is available in 2014 from the Rockingham Planning Commission Regional Housing Needs Assessment.*

Table 3-2 further illustrates the predominance of single family homes in Sandown and the region. Derry and Plaistow have the highest percentage of multi-family housing in the area and Sandown ranks seventh out of the nine area communities. Except for Danville, manufactured housing remains a relatively minor housing option in the area.

HOUSING DEVELOPMENT TRENDS

Table 3-3 outlines housing development trends in the region since the 1990 Census. Sandown grew 19.4% from 1990 to 2000. Sandown ranked 6th in housing growth in the 1990's compared to the eight regional communities and outpaced the County, which grew 11.1%. Between the 2000 Census and the year 2002, the OEP estimates that Sandown's housing units have grown 7.9%, which is third fastest in the region and again exceeds the growth rate for the County.

The Residential Development History Map notes the location of housing development since 1990. The map shows development occurring throughout the community and is not isolated to one area of the town. The one trend that is clear is that a majority of the housing development has occurred since 1999.

Table 3-3 Housing Unit Growth from 1990 to 2010

TOWN	1990	2000	% INCREASE 1990-2000	2002	2010	% INCREASE 2000-2010
Sandown	1,488	1,777	19.4%	1,918	2,214	24.59
Atkinson	1,885	2,431	29.0%	2,620	2,788	14.68
Chester	924	1,247	35.0%	1,464		
Danville	960	1,479	54.1%	1,588	1,684	7.37
Derry	11,869	12,735	7.3%	12,940		
Fremont	920	1,201	30.5%	1,316	1,573	9.58
Hampstead	2,661	3,276	23.1%	3,363	3,727	2.66
Kingston	2,115	2,265	7.1%	2,375	2,480	4.86
Plaistow	2,691	2,927	8.8%	2,985	3,016	1.98
Rockingham Co.	101,773	113,023	11.1%	118,249		

HOUSING COSTS AND AFFORDABILITY

The standard for housing affordability is that costs should cost no more than 30 percent of a family's household income, in order for there to be enough money remaining for other basic needs. For many families, accessing housing had become increasingly difficult given the rapid rise (Table 3-4) in area housing costs, but with the recent decline in housing market, purchasing a home or renting an apartment has become more affordable.

Table 3-4 Sandown Median Home Sale Prices^[2]

YEAR	ALL HOMES	% INCREASE	EXISTING HOMES	% INCREASE
1995	\$96,500	-	-	-
2003	\$263,000	9.8%	\$236,500	10%
2005	\$294,900	-	\$290,500	-
2006	\$298,400	1.2%	No data	No data
2007	\$275,000	-7.8%	No data	No data
2008	\$278,500	1.3%	No data	No data
2009	\$243,000	-12.7%	\$232,000	-20.1%
2010	\$231,000	-4.9%	No data	No data
RPC Region				
1995	\$136,000	-	\$129,900	-
2003	\$284,525	109%	\$270,000	107%
2005	\$329,000	-	\$321,000	-
2010	\$285,000	-13.3%	\$280,000	-12.8%

In recent years the affordable housing challenge has become so acute, both locally and nationally, that the term Workforce Housing has emerged as an additional problem. Workforce Housing is generally considered housing for those individuals that historically have not had difficulty in finding housing. This group included teachers, police officers, health care workers, blue collar employment trades, and other service workers. With the high cost of housing, many of these professionals are unable to afford to live in the communities in which they work.

In the Lawrence area (NH Portion), HUD defines a family of four Low Income if the family's yearly income is \$68,250^[3] year or less (\$32.81/hour). With this income, it is assumed that a Low Income family can afford a \$158,000 home or pay \$1,706 a month to rent an apartment. A Very Low Income family of four earns \$51,180/year (\$24.61/hour) and can afford a home costing \$124,575 and pay \$1,280 a month for rent. The median 2013 home sale price in Sandown was \$253,000 and the average monthly rent for an apartment was \$1,150/month. Although the average monthly rent of \$1,150 is considered affordable, the supply of rental housing units in Sandown is limited as noted in Table 3-2. Table 3-5 notes the region's Median Gross Rents.

Table 3-5 Monthly Median Gross Rental Cost 2010 (includes utilities)

REGION	MONTHLY MEDIAN GROSS RENTAL
Rockingham Planning Region	\$1,086
Rockingham County	\$1,099
Hillsborough County	\$1,026
Manchester PMSA	\$946
Lawrence – NH PMSA	\$1,012

It should be noted that although the cost of single-family homes is out of reach to Low Income families, 2013 sales on condominiums show an average sales price of \$118,000, which does meet the noted affordable housing criteria. Home affordability was not an issue in the recent past. In the Regional Housing Needs Assessment recently completed by the Rockingham Planning Commission, the report notes that based upon 1999 Median Household Income for Rockingham County, a median priced (\$156,400) Sandown home was considered affordable in 2000. This is no longer the case, given the rapid rise in single-family home values in Sandown and in the region.

Addressing this issue is not only important to insure housing is available to all income groups, but is also a vital economic development issue for the area. In order to have a local thriving economy, a diversified workforce must be available to businesses for growth and expansion.

Table 3-6 outlines median income for the Sandown area and other local regions as well. Sandown is part of the Lawrence Primary Metropolitan Statistical Area (PMSA) which is ranked second in the regions Median Family Income.

Table 3-6 Primary Metropolitan Statistical Area (PMSA) Incomes^[4]

PRIMARY METROPOLITAN STATISTICAL AREA (PMSA)	MEDIAN FAMILY INCOME	LOW INCOME*	VERY LOW INCOME*
Lawrence MA-NH	\$75,500	\$57,500	\$45,300
Manchester	\$69,800	\$55,850	\$41,880
Nashua	\$78,900	\$57,500	\$47,340
Rockingham County	\$73,600	\$57,500	\$44,160

*Based upon family of four

HOUSING NEEDS ASSESSMENT

RSA 674:2 provides guidance for municipalities which chose to have a housing section in the master plan, suggesting that any such section include a discussion of affordable housing based on the regional housing needs assessment performed by the regional planning commission. In 2008 the Rockingham Planning Commission published a Regional Housing Needs Assessment. Unlike past documents, the Commission did not project a specific number of affordable housing units needed for communities. (The 1994 Regional Needs Assessment noted that Sandown required an additional 99 units of affordable housing to meet its regional “fair share”.) The Assessment Report notes, “The RPC, and most of the other regional planning agencies in New Hampshire, found that the early fair-share appropriation methodologies were flawed”. As such, the document did not contain a fair-share apportionment. The more general purpose for the Needs Assessment is to provide

communities in the region with background information and analysis needed to develop their own housing needs assessments for master plan purposes.

Working with the NH Housing Finance Authority, the Commission analyzed three different housing models and concluded that the Constant Share Approach (which assumes that the RPC region maintains its share of the state's reported employment from 2000 through 2010) appeared to provide the most appropriate methodology and set of assumptions from which to project future housing demand for the RPC region. Based upon this model, the Commission notes that the region will have to construct 1,400 affordable housing units per year (between 2000 and 2010), to supply the estimated affordable housing demand in the region. Over this ten year period, these regional demand numbers translate into the need for an additional 10,517 owner occupied units and 3,639 rental units.

HOUSING OPPORTUNITIES

As noted above, since the 1995 Master Plan, single family home developments have dominated the residential housing growth in the community. This form of housing is the most expensive and other forms of housing have been restricted due to zoning regulations. The 1995 Master Plan notes that “the current zoning ordinance allows for a full diversity of housing types”, which is no longer the case in Sandown.

The following types of housing are permitted by the Zoning Ordinance, Article II Open Space Development: single-family dwellings with a maximum of four bedrooms per dwelling unit; two-family dwellings with a maximum of three bedrooms per dwelling unit; manufactured housing as defined in RSA 674:31; and multi-family housing buildings or structures containing a minimum of three and a maximum of eight, two or three bedroom dwelling units per building or structure. Duplexes are allowed by Special Exception; however the lot area upon which the proposed duplex is to be constructed contains a minimum lot area which is equal to at least twice that required for a single family home constructed on the same soil type. In addition, one-bedroom accessory apartments are allowed by Special Exception. Elderly housing is allowed at a higher density than other residential uses, but does not address the housing need for younger age groups.

The most affordable home to purchase in the community is a condominium, with 2013 sale prices meeting the cost criteria for low/moderate income families. This type of housing cannot be constructed (three to six unit townhomes or garden style flats) in the Sandown today. This form of development provides a critical housing option to people who may have grown up in the community and want to stay. The ability to expand the rental housing market is also restricted, even with the ability to have accessory apartments. Although the current rents in the community support low and very low/moderate income residents, the availability is limited and the vacancy rate is very low, with very few units coming on the market before they are rented again. As require by RSA 674:58 through 674:61, New Hampshire municipalities must provide realistic opportunities for the creation of multifamily housing. This can be accomplished by amending the zoning ordinance to allow for a greater variety of housing choices including multi-family units in the majority of land area zoned for residential use, provided that adequate soils are present and an adequate water supply is available.

RECOMMENDATIONS

1. Consider allowing the conversion of large, older homes into apartment buildings. The character of the buildings would be maintained and the limited apartment supply could be expanded.
2. The Planning Board should consider allowing for the construction of duplexes on smaller lots.
3. In an effort to create more of a town center environment, areas close to the town center should be considered for this type of higher density residential zoning.

CHAPTER 4

[COMMUNITY FACILITIES]



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Refer to the *Community Facilities map on page 132* for the location of the municipal facilities described in this Chapter.

SCHOOL SYSTEM

New Hampshire SAU # 55, whose office is located in Plaistow, administers the Town of Sandown School System. Sandown is also a part of the Timberlane Regional School district, which also serves the towns of Atkinson, Danville and Plaistow. The Regional Middle School and High School are located on a 97-acre campus in Plaistow.

A District wide, \$32 million dollar capital project campaign was completed on the District's school buildings in 2001, expanding both classroom and core facilities at all grade levels. Modular classrooms were replaced with permanent facilities and improvements were made to all of the schools in the District. The Timberlane School District schools were increased by 180,000 square feet, increasing the capacity for the District's to accommodate future growth. School Impact Fees have been charged in Sandown since 1997 and changes to the fee schedule were initiated in 2002 to reflect these new capital costs.

The Timberlane Regional School District Class Size Policy was last revised in 2011 and strives to maintain the following grade to teacher ratios: K-1: not to exceed 20 children per class, Grades 2 and 3: not to exceed 23, Grades 4 and 5: not to exceed 26 and Grades 6 thru 12: not to exceed 30.

SANDOWN CENTRAL ELEMENTARY SCHOOL

This 52,550 square foot building is the older of the two elementary schools and was first built in 1950 and renovated in 2001. The Central School currently accommodates grades 4 and 5 and features 18 classrooms. This 5.25 acre site is located in the downtown area, on Route 121A. A playground and one ball field exists behind the school. In addition, Central has an indoor basketball court, which also serves as a lunchroom.

SANDOWN NORTH ELEMENTARY SCHOOL

This 50,125 square foot facility was built in 2001, on a 42-acre site and features 25 classrooms. Kindergarten through grade 3 are currently located at this site. The building lies at the end of Stagecoach Drive. A playground exists behind the school. Sandown North has a full size basketball court, with adjoining locker rooms.

TIMBERLANE REGIONAL MIDDLE SCHOOL

This 125,000 square foot facility was renovated in 2001 and was originally constructed in 1974. The Middle School accommodates grades 6 – 8, in 60 classrooms. This school shares a site with the High School, on Greenough Road in Plaistow.

TIMBERLANE REGIONAL HIGH SCHOOL

The High School was originally constructed in 1967 and along with many of the other schools in the District, was renovated in 2001. The School has 100 classrooms and a total of 172,000 square feet, for grades 9 – 12.

As part of the major renovations to this facility, a Performing Art Center (P.A.C.) was constructed. The P.A.C. includes a 938-seat auditorium, which also can be converted into a 240-seat recital hall. The facility is not only used for education purposes, but also hosts concerts and theater productions by outside organizations.

ENROLLMENT HISTORY AND SCHOOL CAPACITY

The key factor that impacts future capital school needs is student enrollment. Table 4-1 outlines Sandown's and the District's enrollment figures for the 2012/13 school year and the rated capacity of each school. According to the District's Superintendent, school capacity issues can arise when enrollments exceed 80 percent of a school's rated capacity. This is especially true at the high school level. From the Table it can be seen that adequate capacity currently exists for both Sandown elementary schools. Sandown North is operating at 52% capacity and Sandown Central is operating at 77.5% capacity. The regional middle school is currently over capacity, operating at 106%. The regional high school is currently operating at 93.4% capacity if no modular classrooms are used. If modular classrooms are used, the high school is operating at 87.5% capacity.

When the renovations and expansions took place at the District's schools, it was anticipated that the facilities would accommodate growth to the year 2010. Table 5-2 and 5-3 outline Sandown's and the District's enrollment figures since 2006, as well as projections through the school year 2017/18. Sandown's elementary enrollment has declined by 14.7% from 2006/07 to the 2012/13 school year. Although the districts overall population has increased by 5.8%, the percentage of school age children has seen the smallest overall population increase. The tables show a projected decline in enrollments for all grade levels. This trend is consistent in both Sandown and the District.

Table 4-1 School Capacity and Enrollment*

SCHOOL	GRADES	# CLASSROOMS	SQ.FT.	CAPACITY	2012/13 ENROLLMENT
North Elementary	K-3	25	50,125	520	275
Central Elementary	4-5	18	52,550	200	155
Timberlane Middle	6-8	65	125,000	900**	958
Timberlane High	9-12	100	172,000	1500 without modulars/1600 with modulars	1,401

Table 4-2 Sandown Enrollment Figures 2006/07, 2012/13 and projected to 2017/18*

SCHOOL	2006/07	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Sandown Elementary K-5	504	430	402	370	353	343	330
Timberlane Middle	286	270	260	254	243	230	229
Timberlane High	447	362	352	340	340	351	329
TOTAL	1,237	1,062	1,014	964	936	924	888

Table 4-3 Timberlane School District Enrollment Figures for 2006/07, 2012/13 and projected to 2017/18*

SCHOOL	2006/07	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
TRSD Elementary K-5	1,839	1,606	1,523	1,429	1,384	1,364	1,354
Timberlane Middle	1,130	958	933	892	883	831	781
Timberlane High	1,591	1,401	1,391	1,330	1,251	1,216	1,174
TOTAL	4,560	3,965	2,847	3,651	3,518	3,411	3,309

*Current enrollment reports for Sandown and the Timberlane District have been completed by NESDEC (New England School Development Council). This analysis is based on life birth data and residential building data.

** The 2008 facilities report conducted by NESDEC lists the middle school capacity at 1,500 students. It does not take into consideration space issues in the cafeteria or other recent modifications to the school; thus it is the opinion of the district that the student capacity at the middle school is 900 students.

IMPACT FEES

The Town of Sandown has been charging a school impact fee since 1997 and the Planning Consultant, Bruce C. Mayberry updated the fee methodology in 2002. These fees are allocated towards offsetting the existing capital facility bonds that were used to expand the school system in Sandown. The 2002 School Impact Fee for residential development is: \$4,511 – Single Family Detached, \$2,940 – Townhouse, Duplex, \$3,422 - Three/Four Unit, \$2,842 - Five + Unit, \$1,619 - and Manufactured Housing - \$3,105.

SCHOOL SYSTEM RECOMMENDATIONS

1. The Timberlane Regional School District will be reviewing the Capital Improvement Plan (CIP) in the 2012/13 school year. According to the recommendations outlined in the 2009-2020 CIP the Timberlane Regional School District should undertake the construction of a new High School and renovate/retrofit the current High School as a Middle School. Architectural and engineering studies have deemed the current Middle School as “end-of-life” and not a viable facility for continued long-term occupancy.
2. Recommendations in the CIP also include a plan to consolidate both Sandown Central School and Sandown North Elementary School into one facility. A modest addition is indicated with appropriate site work to accommodate grades K-5 at Sandown North.
3. The need for additional and improved athletic facilities for TRHS and TRMS are also addressed in the district CIP. The above mentioned consolidation/addition at Sandown North also calls for improved play areas and athletic fields.

POLICE DEPARTMENT

The Sandown Police Department is located in the Fire-Police safety complex, occupying 1,476 square feet of space. The Department has 5 full-time officers and 5 part-time officers. One part time person handles animal control. The number of total calls has increased substantially from 1998 to 2012 as outlined in Table 4-4. The number of accidents and arrests have varied over the last five years but the total calls has steadily increased.

Table 4-4 Police Department Activity 1998-2012

YEAR	TOTAL CALLS	ACCIDENTS	ARRESTS
1998	6,561	71	105
2007	10,221	81	177
2008	11,334	77	138
2009	10,659	49	139
2010	12,910	90	90
2011	15,424	61	124
2012	9,381	69	196

The department currently has a 2006 Crown Victoria, two 2011 Crown Victorias and a 2005 Ford Explorer.

A critical overriding need for the Police Department is a new Police Station. A site has been identified on Main Street in Sandown and building designs have been completed. The estimated cost to build the proposed station as of the March 2013 Warrant Article is \$945,000. A Police Station Capital Reserve fund was established in 2009 to raise the appropriate funds and as of March 2013,

\$540,500 had been raised. A warrant to raise and appropriate the remaining \$404,500 so that construction could begin on April 15, 2013 was voted down by a town vote and instead the town voted to raise and appropriate an additional \$200,000 to be added to the capital reserve fund.

POLICE DEPARTMENT RECOMMENDATIONS

1. The overriding need for the Police Department at this time is a new Police Station and should remain a priority for the town.

FIRE DEPARTMENT

The Sandown Fire Department is an all volunteer force, except for the full time Fire Chief. The Department has two Deputy Chiefs and four Fire Engineers. The ambulance service is a part of the Fire Department and consists of 8 Emergency Technicians (EMT's), 9 EMT-I's and 1 Paramedic. The Department has a total of forty members.



The 4,800 square foot fire station is located in the center of Town and was constructed in 1980. The building houses seven pieces of equipment, in addition to the dispatch center and meeting rooms. With the growth in needs for the Department, the adjoining Police space could be used at this time. When a new police station is constructed, the Department will create a few doors into the space and begin using the area immediately.

The second station, Angle Pond, lies along the southern portion of Main Street on a small 2,000 square foot site. The building was totally renovated in 2002, including taller garage doors to handle today's equipment. The building houses the parade truck (1922 International Pumper) and the forestry truck and boat during the winter months. The building is also used for storage. Table 5-5 notes the Department's apparatus.

With the receipt of a recent \$50,000 grant for FEMA (with a 10% match from the Town of Sandown), the Department is replacing its 1984 breathing equipment. Twelve complete packs (backpack, air bottle, and facemask), twelve spare air bottles and eighteen facemasks will be purchased.

Table 4-5 Sandown Fire Department Equipment

VEHICLE TYPE	CONDITION
1922 International Parade Truck	Good
1969 Forestry Tanker	Good
2006 International Heavy Rescue	Excellent
1987 Pumper-Attack Truck 1,000 gal.	Good
1994 Pumper Backup Attack Truck 1,000 gal.	Excellent
2002 International Tanker Truck 3,500 gal.	Excellent
1995 Ambulance	Good
2011 F-350 Forestry Truck	Excellent

ACTIVITY

Total calls into the Department have remained fairly constant over the last three years, with 488 calls in 2010, 529 in 2011 and 484 in 2012. Table 4-6 outlines the breakdown of the calls since 2008.

Table 4-6 Fire Department Call Activity 2008-2012

Response Type	2008	2009	2010	2011	2012
Structure Fire	25	19	18	20	16
Vehicle Fire	4	4	1	2	3
Vegetation Fire	17	10	10	2	4
EMS	345	309	375	391	381
Hazardous Cond./Materials	33	12	19	59	36
Service Calls	51	26	35	20	14
Good Intent Calls/False Alarms	32	18	22	28	20
Other calls and incidents	5	5	8	7	10

The Community Forum noted the existence of a volunteer fire department as a department strength, and indicated the need to adequately fund the Department.

FIRE DEPARTMENT RECOMMENDATIONS:

1. Major short-term capital requirements include the immediate need for a new, 1,000-gallon attack pumper. This truck is expected to cost \$500,000-800,000
2. Another potential future cost is the possibility that the current fire analog radio system may be replaced with a digital system. Under the Homeland Security Act, a review of this system is now under way. A grant award may provide for up to five radio systems, but with a forty man Department, this change in systems could cost over \$100,000. This proposal is still in the discussion stage, but Rockingham Dispatch believes this change could occur within the next 5 to 10 years.
3. The department will need a second ambulance in the next couple of years.
4. Future paid staff demands will be dependent upon the ability to maintain a sound volunteer Department and the level of demands placed upon the Service. At this time the Department is well staffed by dedicated community volunteers.

HIGHWAY DEPARTMENT

The Highway Department is located on 14.9-acre site on Depot Road and is housed in a 2,064 square foot building constructed in 1970. Adjacent to the building is a 26 x 14 canopy, which is used to store equipment. An appointed, full-time Road Agent currently oversees the Department. He is assisted by one full-time and one part-time employee.

The Department's equipment includes:

- One Curtis 2 cubic yard sander
- Two Torwell 2 cubic yard sanders
- 1985 Chevy C7 sanding truck
- 2011 John Deer backhoe 410G
- 2008 Ford F450
- 2001 Ford F450
- 2013 Ford F350 pickup

In 2000, the Department constructed a salt shed, which holds 100 tons of material. Additional equipment and laborers are hired on an as needed basis, especially during the winter months to assist in snow plowing efforts. Maintaining and plowing of roads will be a challenge in the future, as the community continues to grow. Additional traffic will be added to the road system, increasing the wear and tear on the road system.

HIGHWAY RECOMMENDATIONS

1. A new larger salt shed is needed in order to purchase larger quantities of salt. The old salt shed can be used to store sand.
2. With the increased demands placed upon the Highway Department, the Public Works Director believes another full-time employee would be extremely helpful to his Department. This position would require a commercial driver's license, which would give the Department greater flexibility and reduce the need to hire outside help.
3. The Department should be adequately staffed and funded to insure proper maintenance of the community's roads is maintained.
4. The Public Works Director and Board of Selectmen should investigate, review and analyze the lease/purchase equipment needs of the Department.
5. The Planning Board should investigate the need for road impact fees to assist in offsetting the costs of improvements necessary to accommodate growth.

SANITATION DEPARTMENT

The Town of Sandown, like many communities, closed its landfill in 1980 and operates a transfer station and recycling center at the Depot Road site. The station is currently open on Wednesday evenings, Saturdays and Sundays. Curbside pickup is available to residents from private haulers, who charge a fee for their service.

A need that was noted in the 2005 Master Plan was to expand the recycling center at the transfer station and to increase awareness of recycling. Since then, the Transfer Station has significantly improved recycling. Currently, residents can recycle construction debris, metal, electronics, batteries, paper, cardboard, glass, tin and aluminum cans, plastics (1 and 2), books, oil, antifreeze and clothing. The costs for both hauling and waste disposal have seen a significant decrease since 2006, as outlined in Table 4-7. This decrease in cost is directly related to the increase in recycling.

Table 4-7 Disposal Costs 2006-2012

SERVICE	2006	2007	2008	2009	2010	2011	2012	% CHANGE 2006- 2012
Hauling	\$106,441.32	\$106,821.18	\$76,303.13	\$76,817.52	\$77,759.35	\$81,619.20	\$80,983.48	-23.9%
Waste Disposal	\$172,506.40	\$145,995.12	\$168,623.97	\$141,971.26	\$129,751.30	\$142,608.99	\$140,598.11	-18.5%

SANITATION RECOMMENDATIONS

1. Continue to review and analyze the costs associated with operating the Department. This would include options to control costs and seek alternative sanitation solutions.

TOWN CEMETERIES

There are two Town owned cemeteries and one family owned graveyard, which is maintained by the Town and is also available for residents. The Center Cemetery is the main cemetery for the community. The North Road Cemetery is very small in size and has a limited number of additional sites available. The Wells Village Cemetery is family owned and only a small number of sites are available. Adequate land area exists at the Center Cemetery to accommodate demand well into the future.

TOWN HALL

The Town Hall lies in the center of the community and is a two-story, 5,875 square foot building. The main office areas and a meeting room lie on the ground floor and the auditorium occupies the second floor. Our local access cable TV station also operates out of an office on the second floor. The Town Hall was expanded by 1,500 square feet in 1990.

At the present time, the Town Clerk/Tax Collector, Deputy Clerk and Municipal Clerk share an office. The Town Clerk/Tax Collector is a full-time position, the Deputy Clerk and Municipal Clerk are both part-time positions. The Selectmen's Office, with two full-time positions, shares office space. The Finance Director, with one full-time position, the Assessing Office, with one part-time position, the Building Department, comprised of 4 part time positions and the Planning Board/Zoning Board, with one part-time position all share office space.

Many Town, private organizations and residents of the Town currently compete for space in Town Hall for meetings, functions and classes. Some of these groups include: The Board of Selectmen, Planning Board, Board of Adjustment, Conservation Commission, Cable TV Advisory Committee, local committees, Girl Scouts, Boy Scouts, Cub Scouts, Mother's Club and Karate classes. This often creates space need issues, with more than one group meeting in the Town Hall at one time.

The Board of Selectmen reports that additional space is needed for both general office and public meeting space and with increasing demands for town assistance, a private meeting space is also necessary to ensure the privacy of applicants. In addition, the Board believes that a higher priority should be given to general upkeep and repairs to existing town buildings.

In 2012, the Town moved forward a warrant article to raise and appropriate funds to renovate the lower hall space which included removing the large outdated kitchen and adding additional office space. The public voted against that warrant article, so the Board of Selectmen explored the option of reorganizing the current space to better manage the needs of all departments. In March of 2013, the Building Department, Planning/Zoning Boards and Board of Selectmen changed places and reorganized the offices to assist with some of the privacy concerns.

In January 2013, the town constructed a handicap restroom in the upper hall. The town voted to raise and appropriate the sum of \$19,700 at the 2012 town meeting to pay for those renovations.

TOWN HALL RECOMMENDATIONS

1. With the growing population, administrative space needs and public meeting space at the Town Hall must be addressed immediately. A space needs committee should be formed to review the scope of the problem and determine potential costs. This analysis would include a review of the adequacy of the existing Town Hall and cost/benefit's analysis of renovating or building a new facility. If construction of a new Town Hall is considered, site selection options will have to be reviewed and use of the old Town Hall discussed.
2. Appropriate funds should be set aside each year in the operating budget to address general maintenance issues with town buildings.
3. Possible relocation of the existing kitchen and renovation of the lower hall to create additional office space.
4. Work with the SAU Office to coordinate and simplify the use of school facilities for town related activities.

PUBLIC LIBRARY



The Sandown Public Library is located in the center of the community and lies on approximately one acre of land. The Library is 3,648 square feet and was originally built in 1975, with an expansion constructed in 1991.

The Sandown Public Library currently holds over 34,444 items which includes books, dvds, audiobooks, and magazines. The volume of books is up 58% from the 14,376 noted in the 1995 Master Plan. This increase in items available to the public has reduced the space available on shelves to hold all of these volumes. Handicapped

accessibility to the basement continues to be an issue especially with an increase in programs for adults and senior citizens. In 2011, the library held 102 events for adults and 206 events for children. Most events are held in the lower level meeting room.

Table 5-8 outlines the Library's circulation and visit statistics since 1990. Matching the community's growth over time, both visits and circulation have increased each year. Although the present building is meeting most of the community's needs, the present building is currently over the projected capacity for shelving materials.

Table 4-8 – Library Visits and Circulation 1990-2011

YEAR	VISITS	CIRCULATION
1990	11,204	17,674
1995	14,964	27,675
2000	26,911	32,224
2005	36,845	51,584
2010	40,820	64,976
2011	40,844	35,466

LIBRARY RECOMMENDATIONS

1. As noted in the 1995 Master Plan, handicapped accessibility remains an issue for access to the basement. In order to address this issue, the Library Trustees recommend that a handicap access meeting room be pursued to provide improvements to the library in the near term (five to ten years).
2. The Library's circulation and visit rates should continue to be monitored to insure the Library can meet the needs of the community. If growth continues, an expanded or new facility may be required within five years. A full review of the existing site's ability to accommodate an expansion will have to be undertaken. A new location for the Library may also need to be considered.
3. Appropriate funds should be set aside each year in a capital reserve account to address general library maintenance issues.

PUBLIC WATER SUPPLY

At this time the entire community is served by individual wells. Some community water systems exist in a few neighborhoods. Although the establishment of a public water supply served from an adjoining community has been discussed in the past, at this time plans do not exist to provide a community water source to Sandown's residents.

CHAPTER 5

[RECREATION]



Photo credit: ©Lisa L. Sears, Running Creek Design Studio, Sandown, NH

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Refer to the **Community Facilities map on page 132** for the location of the recreation facilities described in this Chapter.

INTRODUCTION

Many of Sandown's non-school recreational programs and facilities are overseen by the Parks and Recreation Department of the town. The department is overseen by the Recreation Commission which operates under RSA 35B Chapters 1-7. The Recreation Commission employs a part-time recreation director.

The following list outlines recreation opportunities available to the citizens of Sandown both within the Recreation Department and among other organizations.

Parks and Recreation Department:

Activities for senior citizens:

- Fall Foliage Trip
- Fall Luncheon
- Holiday Bus Trip
- Holiday Party
- Special Events
- Line Dance
- Exercise Classes
- Weekly Drop-In Sessions for cards, games, socializing
- Health and Safety Programs

Activities for adult citizens:

- Weekly Volleyball
- Weekly Basketball
- Cake Decorating
- Ballroom Dance
- Archery
- Zumba Exercise Class
- Bus Trips
- Red Sox Games
- Special Events

Activities for children:

- Daily Summer Recreation Program Grades 1-8
- Counselor-in-Training Program Grades 9 and above
- After School Physical Activity Program Grades 1-5
- School Vacation Week Activities Grades 1-6
- Archery Grades 4 to adult
- Certified Babysitter Classes Ages 11-15
- Holiday Concert

Recreation Other:

Youth Sports:

Cal Ripken Youth Baseball for ages 4-12
Girls Youth Softball for ages 7-12
Babe Ruth Baseball for 13-15 years old

Sandown Baseball Association
Sandown Baseball Association
Sandown Baseball Association

Soccer Recreational Play for ages 5-14
Soccer Travel League for ages 8-14

Timberlane Youth Soccer League
Timberlane Timberwolves

Junior Football – Varsity and Junior Varsity
Flag Football

Timberlane Tornadoes
Timberlane Tornadoes

Cheerleading – Flag, Junior, JV, Varsity

Timberlane Tornadoes Cheerleading

Lacrosse for Grades 1-8

Timberlane Youth Lacrosse

RECREATION FACILITIES

ROY L. MILLER RECREATION PARK

Maintained by the Parks and Recreation Department the 11 acre Roy L. Miller Recreation Park is a major recreation area for the community and is located at 212 Main Street. It is heavily utilized by both children and adults of the town. The site contains a basketball court, Skate Park, playground, and two fenced ball fields for baseball and softball. A third field is located at the park. In 2009 that field underwent some improvements, through private endeavor, to increase field space availability. This third field is still in need of a full renovation. There is a heavily utilized concession stand. There is also fully enclosed batting cage area which was donated by the Sandown Baseball Association providing a safe environment to practice both pitching and hitting.

Recommendations:

1. Parking needs to be addressed. The need for additional parking at this site is critical and has exceeded all available space.
2. There remains no regulation size baseball field for those ages 13 and older.
3. The skate park is in need of updating and improvement.

SEELEY PARK

Seeley Park and Beach is a 1.7 acre area located on Phillips Pond. A medium size beach/swimming area exists along with a grassy picnic area. It is maintained by the Recreation Department. Lifeguards are present 7 days a week during the summer months. A shed was added which houses electricity and a telephone land line for emergencies as well as emergency rescue equipment. The stairs were rebuilt as an Eagle Scout project. Participants in the town's Summer Recreation Program utilize the beach several days a week. Local groups have utilized the beach for special events.

Recommendations:

1. There is a need for reclaiming portions of the beach which have become overgrown with creeping grass which has reduced the original beach size area.

EDWARD C. GARVEY RECREATIONAL FACILITY

This 8- acre site is a year-round recreation facility for the town. Located at 25 Pheasant Run Drive it is maintained by the Parks and Recreation Department. The facility contains a year-round 2,400 square foot building with large meeting room, fully equipped kitchen, handicap accessible rest rooms and recreation office. The building is monitored with fire and security systems and enjoys central air conditioning. A fully irrigated 3-acre multi-purpose field is available for varying activities. A small playground is being installed in multi-year phases. Thirty-three paved spots and a large unpaved area are available for parking. Recreation programming takes place at the site and, when not utilized by the Recreation Department, the facility is available to other non-profit community groups and for private rental to residents and others.

Recommendations

1. The recreation facility at this location should continue to be improved. Future plans call for finishing the basement area into 2-3 smaller activity rooms, with the addition of a handicap accessible bathroom and an elevator to allow for handicap accessibility.
2. Future plans for the outdoor areas include incorporating a skating rink with a basketball court along with expanded playground equipment and an overall improvement in the playground area.
3. The town should explore the opportunity to acquire additional abutting property so a baseball field could be added. Existing infrastructure such as an irrigation system is already available and could be expanded.
4. Future drainage work will need to be done on the existing fields to improve playability and to enable full use of the fields.

SCHOOL FACILITIES

As outlined in the School System section, the Central and Sandown North Elementary schools do have some recreational facilities. Both schools have playgrounds and indoor basketball courts. Central School has a baseball field, although the grounds are in serious need of attention. Local basketball programs use both basketball courts for their programs.

ROCKINGHAM RECREATIONAL TRAIL

The Rockingham Recreational Trail (RRT) is a 12 mile long, former railroad corridor owned by the New Hampshire Department of Transportation. This trail winds through the communities of Sandown, Windham, Derry, Hampstead and Fremont. Maintenance of the Trail is undertaken by a host of local off road groups which share in this responsibility. The Trail is multi-use, and is used by off road riders, walking, cross-country skiing, snowmobiles, horse riding and bicycles.

The highly valued resource runs through the heart of the community, entering from the south, through the town center and then proceeds to the northeast. The convenient location of the trail provides numerous opportunities within the community to gain access to the trail. Sandown has seen an increased use of the Trail in recent years, as adjoining communities have closed off access to this facility.

BOAT RAMP ACCESS TO ANGLE POND AND PHILLIPS LAKE

As noted on the Open Space/Recreation map, a number of options do exist to access some of the community's water bodies. Angle Pond can be accessed from points on Pillsbury Road, Round Hill

Road, Holts Point Road and Trues Parkway. Phillips Pond may be accessed from North Shore Road, although the condition of the boat ramp could be improved. These access points lack areas to park vehicles and trailers, which often creates conflicts in these neighborhoods. A number of other public water bodies do not have public access to them, which restricts the public's ability to enjoy these local amenities. Securing adequate access to these areas should be explored.

FUTURE FACILITIES AND SITES

A 10.8 acre site on Snow Lane has been set aside for future recreational uses and is currently vacant. At this time, specific recreational uses have not been determined for this property.

NEEDS ANALYSIS

Many different factors are involved in reviewing the potential recreational needs of a community. In the past, national and state standards were available to help guide a community looking to plan for programs over time. These standards were useful guideposts, but local demands and individual circumstances should dictate the type, form and quantity of facilities in a community. For example, the demand for an ice rink may be high in the northeast and not be a priority in many southern locations.

In the past, the National Recreation and Park Association (NRPA) had set general guidelines based upon population for recreational facilities. Because of the over reliance on the national standards to gauge local demand, the NRPA has drifted away from these specific numbers and notes, “...*in reality, no two communities are the same. Therefore, in deference to this uniqueness, due to differing geographical, cultural, social, economic, and environmental characteristics, each community must select a level of service guideline which they can live with in terms of their community setting*”. With the movement away from population-based criteria, past participation rates will be used to evaluate future community recreational needs.

PROGRAM PARTICIPATION

The number of individuals that participate in sports programs provides the clearest gage to the popularity of a sport and the need for additional facilities. Table 5-1 outlines participation in Sandown's sports programs since 2008.

Table 5-1 Sandown Recreation Participation 2008-2012

PROGRAM	2008	2009	2010	2011	2012	%CHANGE 2008-2012
Summer Recreational Program	115	129	132	144	155	+29%
Recreational Soccer*	--	--	288	334	300	--
Senior Fall Trip**	55	55	55	55	55	--
Senior Luncheon	115	102	105	97	110	-4.5%

**Recreational Soccer enrollment figures for 2008 and 2009 are not available; **Only received funding for one bus, which holds 55. This figure does not include people who were turned away due to lack of seats.*

With the addition of space at the Edward C. Garvey Recreation Facility programming continues to grow, driven by community request. New programming is being added continually. Soccer teams have found a home on the multi-purpose field at the ECG Facility, seniors are utilizing exercise and

social programming and various community groups including Girl Scouts, Boy Scouts, Police Explorers, Sixty Plus Club, Baseball Association, Soccer Association, Garden Club and more are utilizing the facility when not occupied by recreation department programming. Residents utilize the facility privately by renting for events such as bridal showers, family reunions and birthday parties providing a source of revenue to help offset facility operation expenses. Future plans need to include finishing the basement area to help meet the growing demand for space. A handicap accessible restroom, sprinkler system and elevator would need to be incorporated into any plans to finish the basement area. Currently, due to fire codes and handicap accessibility it is restricted from public use.

RECOMMENDATIONS

1. With the rapid increase in enrollments for T-Ball and Little League, plans should continue to review a location and cost of a new baseball field. One option that should be further explored is rebuilding the lower field at Miller Park. A 10 to 15 foot elevation change exists between home plate and the outfield, which makes this field unsuitable for baseball. The cost of this option should be weighed against constructing a new field at another location in town. A private organization called “Field of Dreams”, raised approximately \$30,000 to fund the building of a new field, but they never reached their financial goals and that organization has since dissolved.

In August of 2006 the Planning Board approved a subdivision plan for Hoyt Realty Trust, Tax Map 16, Lot 6, and 7-1 and Henry Torromeo, Tax Map 16 Lot 8B. Within that agreement are certain recreation requirements for the developer to meet which would provide improvements to Miller Park. These improvements include but are not limited to the construction of a full size baseball field. Improvements would begin with the issuance of the 5th building permit and would be completed by the issuance of the 20th building permit or two years from the date of the recording of the plans. Given that 5 years have passed with no activity in that development plan an additional plan to build a ball field is needed.

2. The existing baseball field located at Sandown Central Elementary School should be upgraded. The Baseball Association has added bleachers and fencing. The field itself remains in poor condition and is still in need of loam, seed, and a water source to maintain it.
3. With the high usage of Miller Park, ADA accessibility must be improved including permanent ADA accessible rest room facilities, and installation of a new septic system.
4. The summer recreation program continues to grow. Currently it operates from the Edward C. Garvey Recreation Facility and from the Sandown Central School. While the Edward C. Garvey Facility provides a much needed space for the program, the program is too large to operate indoors at this facility during inclement weather. Alternatives must be made when the weather is inclement. This presents an ongoing challenge and currently the program is dependent on the school district allowing use of the school gym at Sandown Central School.
5. The Planning Board should continue to require the development community to provide recreational facilities or support for recreational facilities as part of the subdivision plan review process. There is a direct link between the demand for additional recreational opportunities and a growing residential population of varying ages.
6. The Planning Board should investigate the use of impact fees to assist in paying for recreational facilities in Sandown.

7. With the continued aging of the population, activities for all ages should be explored and expanded. With the addition of dedicated space at the Edward C. Garvey Facility it is easier to plan for programs and events allowing for the increase in programming
8. Boating access to both Angle Pond and Phillips Pond should be studied to review options to expand parking opportunities near these boat ramp locations. The Phillips Pond boat ramp should be improved. Adequate access to other public waters in the community should be explored.
9. Other recreational opportunities should be explored in the community, such as hockey and tennis. The Recreation Commission is exploring the possibility of adding an outdoor skating area at the Edward C. Garvey Facility as well as tennis courts.
10. An effort should be made to provide some form of public access to all of Sandown's public waters, which may include trails, canoe put-ins, and boat ramps. Conservation easements and conservation properties should be explored for these types of activities.
11. Monitor the parking demands associated with the Rockingham Trail to determine if existing access points are being overly utilized.

CHAPTER 6

[TRANSPORTATION]



Photo credit: ©Lisa L. Sears, Running Creek Design Studio, Sandown, NH

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INTRODUCTION

With the lack of direct access to a major highway, the Town of Sandown remained an isolated community that for years experienced very little growth. With people's willingness to undertake longer commuting times, the town has grown significantly since the nineteen seventies.

Major access to the community is provided by two state maintained highways, Route 121 and 121A, both of which are generally north-south routes. Access to both the Manchester and Haverhill, Massachusetts's employment centers are available using these roadways. East to west access is available through Hampstead via Route 111 and from NH Route 102 to the north in Chester.

PURPOSE, VISION STATEMENT AND GOALS

Guide expansion of transportation systems to best serve community current and future needs as expressed by the residents.

Monitor the effects of transportation and growth on stormwater runoff and water quality, as well as the impact on land use patterns.

ACCOMPLISHMENTS AND SIGNIFICANT CHANGES SINCE 2005

- a. Frequent closures of Route 121A due to flooding.
- b. Increase of 26 miles in town roads from 2005 to 2013.
- c. Replacement of the culvert on Wells Village Road and bridge on Fremont Road.

ROADWAY CLASSIFICATION

Roads and highways are classified according to administrative and functional classification systems. The administrative classification system defines governmental responsibilities for construction and maintenance purposes. The functional system is based on the role of a given road in terms of the amount of traffic it carries and the type of area it serves:

ADMINISTRATIVE CLASSIFICATION

Under RSA 229:5, highways under state maintenance and control include Class I, II and III highways. Class IV, V and VI are under the jurisdiction of municipalities. The descriptions below detail the differences between administrative classes.

Class I, Trunk Line Highways, consist of all existing or proposed highways, which are part of the primary state highway system, except portions of such highways that lie within the compact sections of towns and cities. The New Hampshire Department of Transportation (NHDOT) assumes complete control and pays the costs of construction, reconstruction, and maintenance of these sections. The sections within the compact areas are controlled by the cities and towns under Class IV highways.

Class II, State Aid Highways, consist of all existing or proposed highways on the secondary state highway system, except those portions of such highways, which are within the compact sections

of towns and cities. These are classified as Class IV highways. Routes 121 and 121A are Class II highways.

Class III, Recreational Roads, consist of all roads leading to, and within, state reservations designated by the legislature. The NHDOT controls the construction, reconstruction, and maintenance of such roads.

Class IV, Town and City Streets, consist of all highways within the compact sections of towns and cities. As previously stated, extensions of Class I and Class II highways through these areas are included in this classification.

Class V, Rural Highways, consist of all other traveled highways, which the town has the duty to maintain regularly.

Class VI, Un-maintained Highways, consist of all other public ways, including highways discontinued as open highways, highways closed subject to gates and bars, and those highways, which have not been maintained in suitable condition for travel for a period of five years or more. There are approximately three miles of Class VI roads within the community and include: portions of School House Road, portions of Hersey Road, portions of Cranberry Meadow Road, Cemetery Road and Steel Drive.

Scenic Roads are special town designations (by vote of the town meeting) or any road, other than a Class I or Class II highway, where repair, maintenance, reconstruction, or paving work shall not involve or include the cutting or removal of trees, or the destruction of stone walls, except as provided for under RSA 231:157. There are presently no Scenic Roads in Sandown.

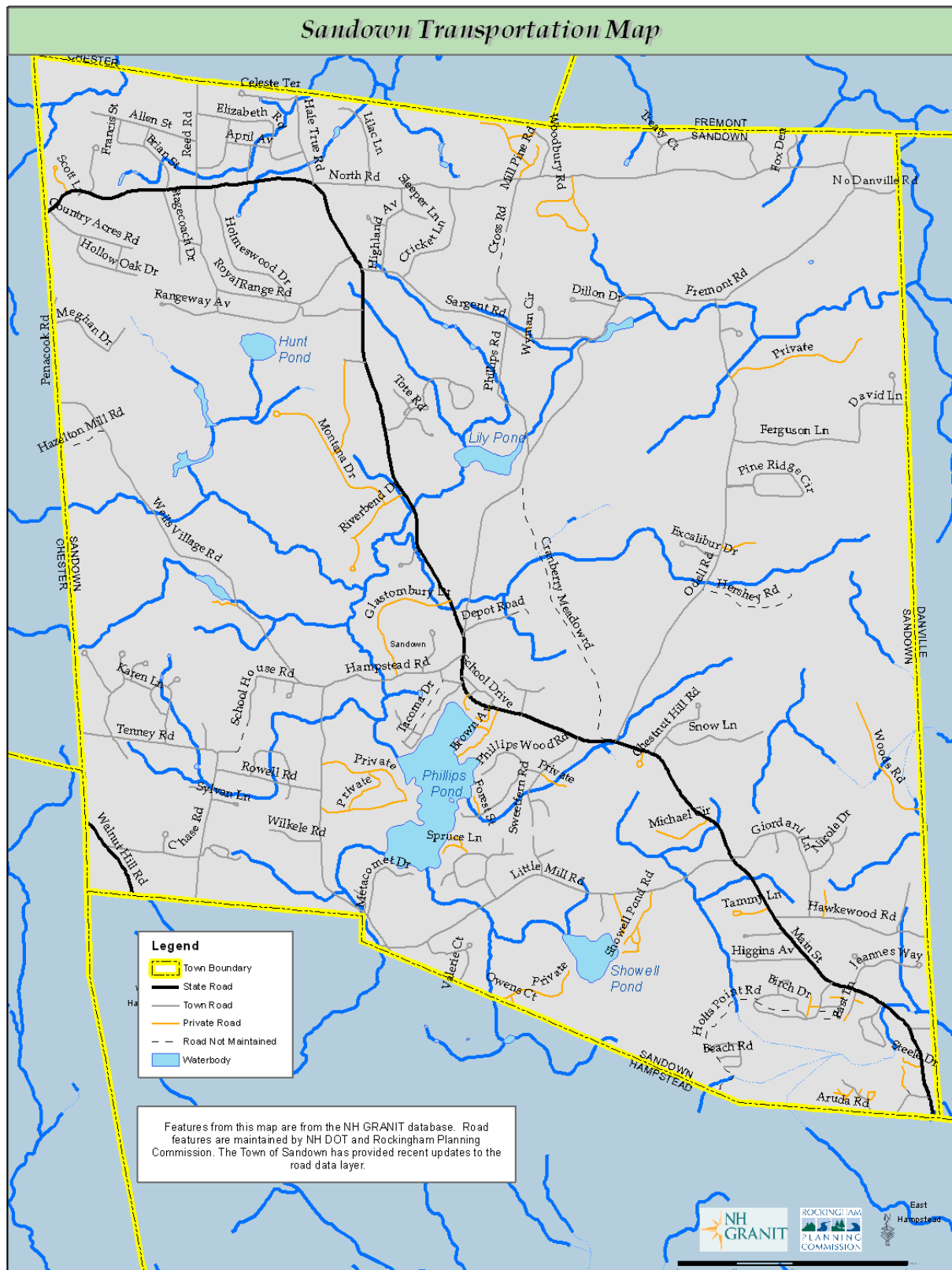
The transportation network in Sandown consists of the following: 6.97 miles of Class II roads (State maintained), 53.97 miles of Class V roads (Town maintained), 5.78 miles of private roads, and 3.04 miles of Class VI unmaintained roads.

FUNCTIONAL CLASSIFICATION

The functional classification system, utilized for transportation planning purposes, classifies roads according to the various functions they perform. Highway systems have two purposes: to provide mobility and to provide land access.

Since the highway's primary function is to provide mobility, relatively high and preferably sustained speeds are desirable. In contrast, low speeds are necessary where the highway's function is to provide safe access to and egress from abutting land uses. In between these extremes are other highways, which have a dual function of having to provide both mobility and access. Travel speeds may be somewhat higher on these roads than on those which primarily serve an access function, but rarely as high as on roads whose primary function is to provide mobility.

Figure 6-1. Map of the state, town and private road systems in Sandown.



Under the state highway system, roadways are categorized as follows:

Principal Arterial – Interstate: Consist of all designated routes on the Interstate system. These facilities have the capacity to handle high traffic volume at sustained speeds. Access to these highways is controlled; opposing traffic is separated; grade separations are provided for all cross streets; and they carry an extensive amount of through traffic, which has neither its origin nor its destination within the community.

Principal Arterial – Other: Consist of the highways which interconnect with the interstate system and other expressways, providing service to trips of moderate lengths at somewhat lower levels of mobility. They link cities, towns and major resort areas that are capable of attracting sufficient travel.

Minor Arterial: These include all arterials not classified as principal, and include facilities that place more emphasis on land access than does the higher system, and offer a lower level of mobility. These facilities provide intra-city and intra-town continuity, generally without penetrating identifiable neighborhoods. Included in this category are NH Route 121 and 121A.

Collector Streets: These roadways penetrate neighborhoods collecting traffic from local streets in the neighborhoods and channeling it into the arterial systems, and vice-versa. These routes link places with nearby towns, cities or routes of higher classification and/or link the locally important traffic generators. Roads included in this category are North Road, Fremont Road, Wells Village Road, Hampstead Road, Cross Road, Odell Road, Little Mill Road and Hawkewood Road.

Local Streets and Roads: These facilities primarily provide direct access to adjacent land and access to the higher orders within the highway network. They usually provide service to travel relatively short distances compared to collectors and other higher components of the system. All other streets not otherwise classified above are local streets.

TRAFFIC STATISTICS AND DATA

The NH DOT has collected traffic data at a number of locations in Sandown since 1995. These traffic counts were not collected in every year, but the data does provide some insight into traffic growth experienced within the community over the past seven years. Table 6-1 reports the number of vehicles passing the noted seven traffic count locations each day.

The highest traffic volumes can be seen on NH 121A at the Hampstead town line, increasing by approximately 26 percent between 1995 and 2004. The increases in daily traffic volumes are clearly indicative of the population expansion in the community. Traffic counts at the other six stations in Fremont have stayed fairly constant from 1995 through 2010.

Table 6-1. Traffic count data from 1995-2010

LOCATION	1995	1997	1998	1999	2001	2003	2004	2005	2006	2007	2008	2009	2010
Route 121A at Chester town line	*	*	*	*	*	2,300	*	*	2,300	*	*	2,300	*
NH 121A at Hampstead town line	7,900	8,100	*	9,300	9,700	9,400	10,000	*	*	10,000	*	*	10,000
Hampstead Road north of Little Mill Rd.	*	*	1,400	*	1,600	*	*	*	*		*	*	1,800
NH 121A @ Exeter River	*	*	3,600	*	4,300	*	4,000	*	2,000	4,100	1,900	*	4,100
Phillips Road @ Exeter River	*	*	150	*	250	*	490	*	*	380	*	*	420
Fremont Road @ Exeter River	*	*	310	*	300	*	*	*	*	220	*	*	320
Odell Road @ Exeter River	*	*	610	*	1,100	*	780	*	220	770	*	*	770

* No data available

EXISTING ROADWAY CONDITIONS

With the NH DOT maintaining only seven miles of roadway within the community, the remaining 80 miles of roads are the responsibility of the Highway Department. As noted in the last 1996 Master Plan, a majority of the local road network can be characterized as relatively narrow, with many poorly constructed. As a result, these roads are very susceptible to damage from heavy loads and high traffic volumes.

ROAD SYSTEM IMPROVEMENT PLAN (2002)

In 2002, the engineering firm of Keach-Nordstrom Associates, Inc. proposed a Road System Improvement Plan for Sandown's collector roads. With consideration from the inventory summary established with the Road Surface Management System data from the Technology Transfer Center at the University of New Hampshire, eleven roads were pinpointed as requiring overlay or rehabilitation. A ten year plan was established to distribute the anticipated \$4,900,000 cost for these improvements in order to reduce significant tax rate impacts. Pavement overlays were recommended on Chase Road, Tenney Road and Wells Village Road. More extensive work was noted for Fremont Road, Hale True Road, Little Mill Road, North Road, portions of Odell Road and Stagecoach Road. Improvements to Little Mill, Hampstead Road and Stagecoach Roads were recently completed. Additionally, three key intersections require various levels of upgrading to address irregular geometries, these include Route 121A at North & Hale True Roads; Wells Village Road at Hampstead Road; and Main Street (Route 121A) at Fremont and Depot Roads.

SANDOWN ROAD SYSTEM ACTION PLAN (2008)

In 2008, the Road Agent and engineering firm of Keach-Nordstrom Associates, Inc. developed a report *Sandown Road System Action Plan* to replace and update the 2002 report *Road System Improvement Plan* developed by the Town Engineer on half of the Board of Selectmen. The 2008

plan details a roadway maintenance and improvement schedule through 2018. In preparing the plan, a comprehensive inventory and inspection of all Class V roads was completed, and based on the results, the Road Agent and Town Engineer developed recommendations for a prioritized program of systematic improvements over the 10 year period. Through implementation of the plan, the town will manage its public road system in an efficient and fiscally responsible manner. As of March 2012, the town has completed improvements scheduled for FY2009 and FY2010, with all scheduled improvements for FY2011 underway or completed. Improvements scheduled from 2012 through 2019 have been moved forward by one year due to funding limitations. Two new projects were added to the 2012 improvement schedule (moved to 2013) – reconstruction of Holts Point Road and resurfacing of North Road.

HIGHWAY DEPARTMENT

For FY 2010, the Highway Department operating budget totaled \$488,736 for operations and payroll. With the majority of the budget allocated for payroll, the largest expenses were plowing, purchase of salt, paving and gasoline consumption. Also in 2011, residents approved at town meeting the Road Improvement Plan for FY 2010 which enabled the Department to complete a number of local road improvement projects including:

- Reconstruction of Hawkewood Road and Morrison Lane
- Replacement of many culverts and pipes due to storm damage
- Repair of catch basins
- Clearing in the right-of-way on all major town roads

The first phase of the Road Improvement Plan (approved by voters in 2009) included improvement projects on Celeste Terrace, Hale True, Lakeview Road and Woodland Road.

The FY 2011 Road Improvement Plan (included in the 2008 *Sandown Road System Action Plan*) includes repair of Chase Road, Roswell Road and Tenney Road.

CIRCULATION AND CONNECTIVITY

1. Town officials and the Planning Board recognize the lack of roadway connectivity between some residential neighborhoods.
2. Several subdivisions have easements for future roadway connections. These easements were required on a case-by-case by the Planning Board as part of subdivision approval. Such easements are not required by regulation but are required at the discretion of the Planning Board and the Fire Chief for safety reasons or to accommodate anticipated future growth on adjacent parcels.
3. Cul-de-sacs create an atmosphere that residents find desirable for some neighborhoods. These neighborhoods are valued in the community. In some instances, cul-de-sacs are necessary to construct to allow development of parcels that contain certain landscape and environmental features such as wetlands and river systems.

ROADWAY ACCIDENTS AND PUBLIC SAFETY

The intersections of Route 121A with Hale True Road, North Road and Odell Roads pose several challenges to future development in the Village Center District, including limited sight distances and pedestrian safety particularly where crossings are not designated.

EMERGENCY VEHICLE ACCESS

1. The town completed a new house numbering system for their E-911 plan.
2. The Board of Selectmen have instituted a policy of not plowing and maintaining certain private and Class VI roads due to equipment and vehicle damage sustained in the past; however several such roads have been plowed in winter months to improve emergency access. Typically the Board of Selectmen review this policy on an annual basis and make adjustments as deemed necessary.

COMMUTING DATA AND STATISTICS

There has been little change in the commuting patterns of Sandown residents between the 1990 and 2000 Census (Table 6-2). Being a rural community, the fact that 86.9% of residents commute alone is not surprising. Carpooling has decreased from 11.2% to 7.6% in ten years. A car pool lot does not exist in the community and was noted as one of the Transportation Challenges during the group discussions at the Community Profile. A commuter lot does exist in Hampstead at the intersection of Route 121 and 111. Those who work at home increased from 3.2% of workers to 3.7% between 1990 and 2000. A majority of households continue to own two vehicles and have a mean travel time to work of 34 minutes. Although the percentage of commuters working in Massachusetts has decreased since 1990, work outside the State remains an important employment destination for workers, with key local destinations being Manchester, Derry and Salem.

Table 6-2. Commuting choices of workers

	1990	2000
Households with two vehicles	52.6%	53.1%
Drive alone	83.6%	86.9%
Carpooled	11.2%	7.6%
Worked at home	3.2%	3.7%
Mean travel time to work in min.	31.7	34.4
Mean travel time, + 45 min.	27.4%	28%
Work out of State	44.5%	34.7%

[Note Commuter data is not available as part of the 2010 Census.]

REGIONAL ISSUES AND STUDIES

Sandown is a participating member in the regional Rockingham Metropolitan Planning Organization (MPO), which is overseen by the Rockingham Planning Commission (RPC). One of the primary functions of the MPO is to assess and address long term transportation issues for the region. In 2002, the RPC published a Long Range Transportation Plan 2003 – 2022. The Plan contains the region's adopted policies, goals, and objectives and project recommendations regarding the development of the transportation system through the year 2022.

An outgrowth of this planning effort is to assess the region's transportation needs by identifying critical needs. High priority issues can be placed on the regional Transportation Improvement Plan (TIP) for inclusion in the State's Ten-Year Highway Plan. Projects included in the state plan are

eligible for state funding, as well as, potential federal monies. Participation in these regional programs is an important consideration for the community. As Sandown continues to grow, traffic will become one of the prime concerns facing the town.

COMMUNITY TECHNICAL ASSISTANCE PROGRAM BUILDOUT ANALYSIS

CTAP is a five-year initiative funded by the NH DOT designed to assist communities that will be affected by the rebuilding of I-93. The Community Technical Assistance Program (CTAP) Buildout Analysis report details the results for the Town of Sandown of different growth scenarios using parameters such as zoning, land protection and other planning policies and regulations. The buildout is designed to allow a community to assess their future needs and help them reduce any negative consequences from the increased development pressure caused by the widening of I-93. Below is a summary of the selected information from the buildout report that may be helpful in evaluating the effects of growth on the transportation network.

Table 6-3. Results of CTAP Buildout Analysis

DEVELOPMENT TYPE	CURRENT	BASE BUILDOUT
Developed - Residential Acres	2,181 acres	5,205 acres
Residential Dwelling Units	2,712	4,467
Residential Housing Density	1.24 dwellings/acre	0.86 dwellings/acre
Developed - Non-Residential	61 acres	117 acres
Commercial Floor Area	221,430 sq. ft.	488,103 sq. ft.
Population	7,350*	12,106

* 2009 populations estimate from NH Office of Energy and Planning

FEDERAL, STATE AND REGIONAL PROGRAMS

Refer to Appendix A for information about *Federal Transportation Policy, Planning and Regulations*.

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT)

Administrative Function

The New Hampshire Department of Transportation (NHDOT) has statutory authority under New Hampshire law to plan, design, build, and maintain state highways and public transportation facilities of the state. The NHDOT maintains administrative oversight and funding of the responsibilities for MPO planning process, and the authority in regions outside of federally designated Transportation Management Areas (TMAs) to select eligible transportation projects for implementation through the STIP. In addition, the NHDOT is represented on the MPO Policy Committee and TAC and has a wide range of responsibilities with respect to the MPO transportation planning program including: infrastructure construction; data collection; air quality analysis support; preparation of special studies and providing advice and technical assistance to the MPO. The NHDOT also has specific responsibilities with respect to the MPO transportation planning process, as defined in the Memorandum of Understanding between the Rockingham MPO and the NHDOT.

NH Ten year Transportation Improvement Plan 2011-2020

Sandown does not have any projects in the State's Ten Year Transportation Improvement Plan 2011-2020.

NHDOT Driveway Permitting Process

The NH DOT has jurisdiction over access to State highways, which however does not grant authority to prevent or prescribe development, or to completely prohibit access to land abutting those highways. *New Hampshire RSA 236:13 Driveways and Other Accesses to the Public Way*, establishes the authority to regulate driveways and accesses to State highways, and this is expanded procedurally in the *NH DOT Policy Relating to Driveways and Access to the State Highway System*, which establishes the permitting process and the specific standards necessary to follow for residential and commercial driveways. These procedures provide NH DOT with discretion over the location and design of access points from any particular development. The purpose of the policy is to establish a consistent and fair process for all applicants while keeping the following principles a priority:

- Provide maximum safety and protection to the traveling public through the orderly control of traffic movement;
- Minimize conflict points;
- Acquire appropriate site distance on or to any class I, III or the state maintained portion of class II highways;
- Maintain the serviceability of affected highways, which could require alterations to the existing highway;
- Monitor the design and construction of driveway entrances and exits; and
- Maintain compliance with RSA 236:16, effective July 1, 1971, as amended.

NHDOT ACCESS MANAGEMENT MEMORANDUM OF UNDERSTANDING

Because NH has both state and local control of land use and driveway access, it is important that NH DOT and the communities work cooperatively to manage access and traffic of state roadways. Difficulties in coordinating driveway permitting led the Department of Transportation to work with the Regional Planning Commissions and communities around the state to develop an Access Management Memorandum of Understanding (MOU). The MOU is an agreement between the municipality and NH DOT whereby the two cooperate to ensure that information is shared, processes are clear, and that driveway permitting is coordinated with the local site plan approval process.

The MOU calls for the community and NHDOT to develop cooperatively an Access Management Plan can be applied community wide, or to specific roadways, intersections or parcel specific locations. The Access Management Plan in general, delineates present and future driveway locations; joint access points; intersections layouts, including present and future plans for signalization; and frontage/service roads. The purpose of the Plan is to provide for the orderly development and redevelopment in compliance with the access management standards adopted by the town. Prospective developers of properties along the corridor would be required to incorporate and construct the appropriate components of the Plan into their development plans and driveway permit applications as determined by the Planning Board and NH DOT.

Access Management

Access management involves prescribing specific standards for the location and design of all entrance points to a public highway. The intent is to preserve the safety and efficiency of the roadway, while at the same time providing reasonable access to the adjacent properties. Access management techniques include policies, regulations, design standards, as well as guidelines for physical improvements to the roadway. Access management provides benefits for all users of the transportation systems as well as the community as a whole.

Table 6-4. Access management principles and techniques

ACCESS MANAGEMENT PRINCIPLES	ACCESS MANAGEMENT TECHNIQUES
<i>Limit Number of Conflict Points</i>	Restrict number of driveways per lot Restrict number of frontage lots Locate driveways away from intersections Provide adequate site distance between access points
<i>Separate Existing and Potential Conflict Areas</i>	Regulate driveway location and spacing Encourage shared access and driveways Provide pedestrian and bicycle facilities
<i>Eliminate Turning Conflicts</i>	Restrict turning movements in/out of driveways Provide dedicated right-turn and left-turn lanes
<i>Reduce Traffic Volumes</i>	Provide parcel connections and internal circulation Establish frontage and rear access roads
<i>Improve Roadway Operations</i>	Require adequate intersection spacing Control proper signal timing Connect to supporting local street network Increase capacity by widening (where necessary)
<i>Improve Driveway Operations</i>	Adopt driveway design standards

Access management implementation requires that certain steps be undertaken to develop an Access Management Plan for the community. These steps include: establish an Access Management Memorandum of Understanding with the NHDOT (see Section 6.2 for details about the MOU); integrate access management principles into the Master Plan; develop a general roadway plan; adjusting zoning and land use to compliment the access management standards; incorporate access management principles and design standards into subdivision and site plan review regulations; and establish a traffic impact analysis procedure as part of review of new development project. Access management principles and techniques are summarized in the table below.

ROCKINGHAM METROPOLITAN PLANNING ORGANIZATION (MPO)

The integration and coordination of transportation planning occurs via the Rockingham Metropolitan Planning Organization (RMPO). In July 2007, the RMPO was established as the entity responsible for transportation planning in the Portsmouth-Kittery NH-Maine urbanized area (UZA) and New Hampshire portion of the Boston urbanized area. Currently, there are 18 southeastern New Hampshire communities in the RMPO region.

The Rockingham MPO is the result of a realignment and redesignation of the former Seacoast MPO and Salem-Plaistow-Windham MPO. The redesignation became permissible under Federal MPO designation rules following the 2000 Census when the former Portsmouth-Dover-Rochester NH-ME urbanized area was split into the Dover-Rochester NH-ME UZA and the Portsmouth-Kittery NH-ME UZA. The Rockingham MPO study area is the result of the combination of the 27 communities included in the former Salem-Plaistow-Windham MPO and the RPC portion of the former Seacoast MPO. Together, these communities represent the State-defined planning district of the Rockingham Planning Commission as it has existed since 1982.

Former Seacoast MPO communities (18):

Brentwood, East Kingston, Epping, Exeter, Fremont, Greenland, Hampton, Hampton Falls, Kensington, New Castle, Newfields, Newington, North Hampton, Portsmouth, Rye, Seabrook, South Hampton, and Stratham

Former Salem-Plaistow-Windham MPO communities (9):

Atkinson, Danville, Hampstead, Kingston, Newton, Plaistow, Salem, Sandown and Windham

As a member of the MPO, Sandown has appointed representation on the MPO's technical advisory and policy committees. These committees oversee and approve MPO transportation planning activities, including funding for specific traffic, corridor and transit studies. As an MPO member, Sandown can request transportation planning assistance from the MPO and transportation projects for the town are included in the MPO's long range transportation plan, including projects that involve federal funds.

MPO Project Selection and Planning Process

The RMPO Long Range Transportation Plan 2009-2035 contains the region's adopted policies, goals and objectives and specific project proposals to improve the transportation system through the year 2035, but are not funded in the State's 10 Year Transportation Improvement Plan (TIP). From the Long Range Plan, the MPO developed the Transportation Improvement Plan (TIP) 2009-2012, which is a program of regional transportation improvement projects scheduled for implementation over a period of four years. The TIP includes all transportation projects within the MPO area proposed for federal funding, as well as any regional project that will require a federal action. Development of the TIP includes project solicitation from the MPO area communities. Sandown's participation in this process can be guided by the recommendations developed in this Master Plan. The TIP must conform with the State Implementation Plan (SIP) for air quality attainment and is included in the State TIP. Given the importance of the MPO Long Range Plan and TIP, it is important for the town to remain actively involved in the MPO committees and to update the Transportation Chapter on a regular basis.

STATE AND FEDERAL FUNDING PROGRAMS

Since the early nineteen nineties, the Federal government has funded had a number of programs that provide transportation focused monies to local communities. These programs are described below.

NH State Aid Funds

State Aid Funds for Class I, II, and III Highways (RSA 235:10-:21) are provided for the purpose of constructing or reconstructing sections of Class I, II, and III highways. This work, when requested by a municipality, would include improvements to unimproved sections of State secondary, Class II highways and Class III highways or to advance the priority of construction for special types of work such as improving drainage, riding surface, or elimination of sharp curves on Class I highways or improved sections of Class II highways.

Preliminary discussions between the municipality and the State (to include the District Engineer and the Municipal Highways Engineer) should be conducted to determine whether a desired improvement qualifies for Program funding. If a project qualifies, a determination is made as to how to prepare a cost estimate, which forms the basis of State/municipality's anticipated funding required. With provision of an estimate to the municipality, an Application for Construction or Reconstruction must be made to the Municipal Highways Engineer by May 1st. The Application shall state that the municipality has raised, appropriated, or set aside its contributions for State Aid. Forms are available on the Department's Web Site (www.nhdot.com "Business Center"), in the District offices, or from the Municipal Highways Engineer, Bureau of Planning and Community Assistance (by telephone (603) 271-2107 or email at bureau46@dot.state.nh.us).

NH Bridge Aid Funds

Bridge Aid Funds (RSA 234) consist of both State and Federal Highway Funds budgeted for construction or reconstruction of structures on Class IV and Class V highways as well as municipally-maintained bridges on Class II highways. Structures having a clear span of ten (10) feet or greater qualify for State Bridge Aid funds. Federal funds may be utilized for structures having a span of 20 feet or greater. The ratio for the aid is 80% Federal or State and 20% municipality. Construction of Class II bridges transfers the maintenance responsibility from the municipality to the State. Also see "Process for Bridge Aid Municipally-Managed Projects".

All bridges (except covered bridges) rehabilitated with Bridge Aid Funds shall have a carrying capacity of at least 15 tons. Replacement bridges constructed with Bridge Aid Funds shall have a carrying capacity of at least the legal load as stipulated in RSA 266. Rehabilitation of covered bridges is possible under the Bridge Aid Program; however, such improvement must be of a nature that will provide a minimum six-ton carrying capacity as compared to 15-ton capacity in other categories. Expenditures under this provision cannot exceed the cost of constructing a standard type bridge (RSA 234).

Applications for Preliminary Estimates must be made on forms available on the Department's Web Site (www.nhdot.com "Business Center"), in the District offices, or from the Municipal Highways Engineer, Bureau of Planning and Community Assistance (by telephone 271-2107 or email at bureau46@dot.state.nh.us). Submission of the Application should be made early in the year to allow

the necessary time for field review and estimate preparation. An estimate will be prepared and submitted for approval by local officials before work begins.

Highway Block Grant Aid Funds

Highway Block Grant Aid Funds (RSA 235:23 & :25) come from a portion of the total road toll and motor vehicle registration fees collected by the State and given to municipalities for the purpose of constructing, reconstructing, or maintaining Class IV and V highways. These funds are apportioned to all municipalities on a yearly basis as follows:

Apportionment A: These funds are allocated from an annual apportionment of not less than 12% of the total highway revenues collected the preceding fiscal year. The amount distributed is based on one-half (1/2) mileage and one-half (1/2) population as the city/town factors bear to the State total.

Apportionment B: These funds are allocated from an annual apportionment of \$400,000. The amount available to municipalities is based on a formula using equalized valuation and Class V mileage and is designed to give the greatest benefit to municipalities with low, equalized valuations and high road mileage.

Block Grant Aid payments are made as follows: 30% in July, 30% in October, 20% in January, and 20% in April. Unused balances may be carried over to the following municipal fiscal year. Atkinson received \$102,119 from this funding source in 2003.

Contribution to Damage Losses

Contribution to Damage Losses (RSA 235:34) is available to any municipality which suffers damage to its highways through a disaster which is estimated to exceed one-eighth (1/8) of one percent (1%) of its assessed valuation providing the Commissioner of Transportation is notified and requested to investigate the damage. Aid of this nature shall be computed on that amount in excess of one-eighth (1/8) of one percent (1%) of assessed valuation but shall not exceed 75% of the cost of the damage in excess of this amount. There are no Emergency Funds in the State Highway Budget at this time.

FEMA Pre-Disaster Mitigation Funds

The Pre-Disaster Mitigation (PDM) program provides funds to states, territories, Indian tribal governments, communities, and universities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. Funding these plans and projects reduces overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations. PDM grants are to be awarded on a competitive basis and without reference to state allocations, quotas, or other formula-based allocation of funds.

ALTERNATIVE TRANSPORTATION OPTIONS

The importance of alternative transportation options were highlighted in Component 3 of the Community Profile report, Statement of Purpose, noting that: *Roads get most of us where we need and want to go, and most people drive their own cars for convenience. However, more vehicles sharing the roads results in increased highway maintenance, air pollution and traffic congestion.*

Alternatives to automobile travel include pedestrians and bicycle travel and bus and rail transportation.

BUS

On the regional level, the RPC has been exploring transportation options for the area. A recently completed report produced by the RPC entitled Greater Salem-Derry Transit Plan noted that:

The limited nature of transit service in the Greater Derry-Salem region creates a barrier to accessing health care, employment, and basic life needs for many of the region's transit dependent residents. During 2002 the RPC, together with the Greater Derry Greater Salem Regional Transportation Council, the Southern NH Planning Commission, and the Nashua Regional Planning Commission, conducted a study analyzing the need for transit in the region; and defining an action plan for improving transit through coordination and expansion of existing demand response service; and development of standard fixed route bus service.

Although the region is dominated by dispersed populations and employment centers, the Plan did determine a demand for bus service does exist and that there is a legitimate need for transportation assistance for the elderly, disabled, lower income, and young adults. The lack of this transportation option creates a barrier for many of these groups for access to health care and employment.

A number of route options were explored which would be concentrated in the Derry-Salem corridor, along with potential links to other regional systems such as Manchester. Feeder service to the more rural communities such as Sandown was reviewed as a potential alternative. The report findings recommend a schedule of actions to move the plan toward implementation. A significant amount of work still remains before this transit option arrives in the region.

PARK-RIDE FACILITIES

Park and Ride facilities are one way of providing links to various modes of travel and for encouraging commuters to use them. The NHDOT has constructed 30 park and ride lots throughout the State in support of individual efforts to access alternative forms of transportation. Park and ride lots serve as centralized meeting places where commuters park vehicles and then participate in carpools, vanpools, or use other transit services. Some lots are outfitted with bicycle racks or lockers for bicycle commuters. The NHDOT constructs park and ride facilities as part of highway improvement projects, with Congestion Mitigation and Air Quality (CMAQ) funds to help reduce emission, and with highway project funds combined with 20% state matching funds.

There are no park and ride lots in Sandown, however several surrounding communities have park and ride lots that are within a reasonable distance for use by Sandown residents. These lots are located in Figure 6-2.

NH RIDESHARE PROGRAM

NH Rideshare is a FREE commuter matching service provided by the NH Department of Transportation and dedicated to finding an alternative way for commuters to travel to and from work. Driving alone is not only expensive, but it also contributes to increased traffic congestion and air pollution. To help commuters cut costs and to reduce traffic congestion and air pollution, NH

Rideshare uses Geographical Computer Matching to provide commuters with information and assistance about ridesharing and alternatives to the single occupancy vehicle including carpools, vanpools, buses, and trains.

Registration information for the NH Rideshare Program is available at <http://www.nh.gov/dot/nhrideshare/> or by calling the Rideshare Coordinator at (800) 462-8707 (in NH only).

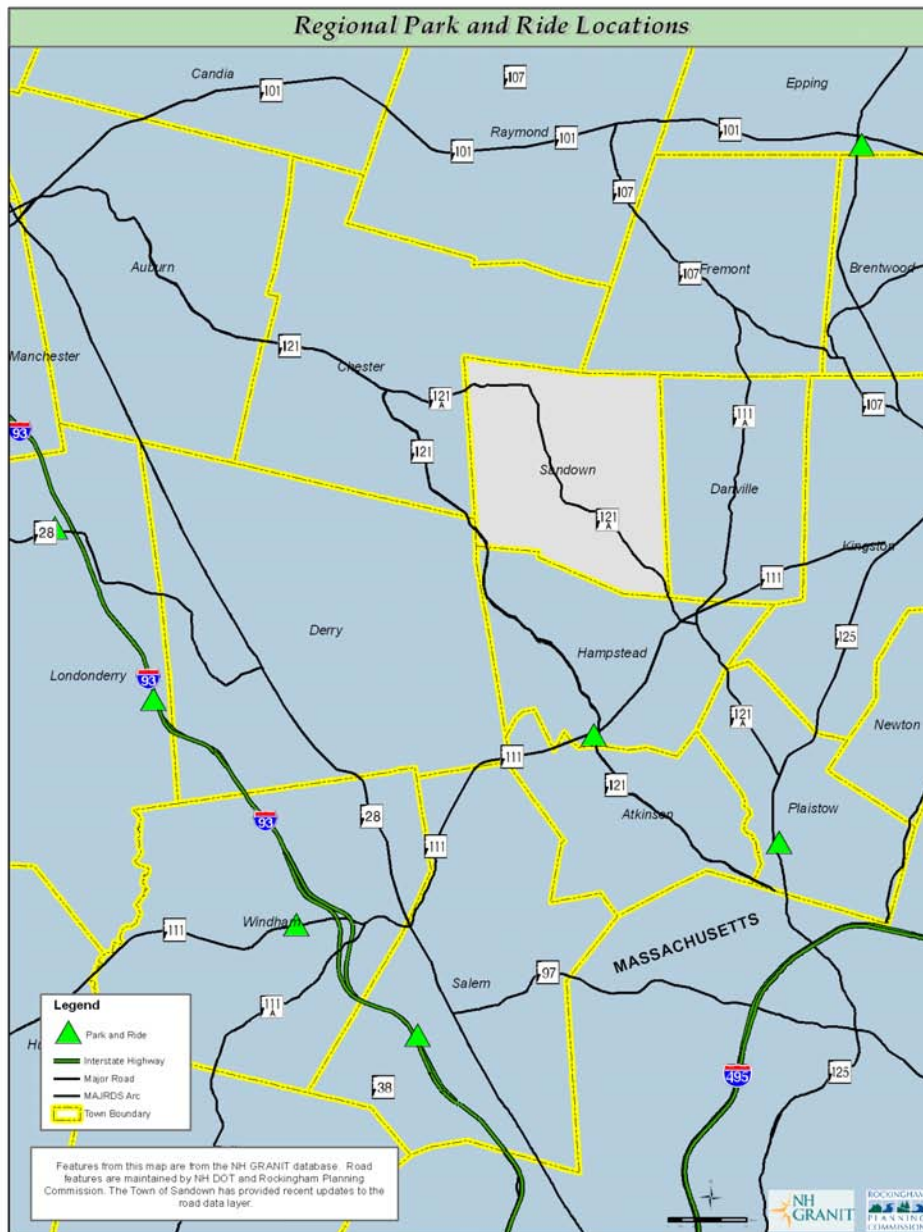


Figure 6-2. Map of park and ride facilities in communities near Sandown.

REGIONAL TRANSPORTATION ASSISTANCE PROGRAMS

Community Caregivers of Greater Derry

On May 12, 1988 members of the founding churches and organizations came together to celebrate the beginning of Community Caregivers of Greater Derry. Their purpose was to create a volunteer network which would provide support and assistance to help people maintain independence in their home environment. Initial funding for the program was received from the Alexander Eastman Foundation.

The purpose defined by our founding members remains the same. Those who receive assistance are the frail, elderly, temporarily or permanently disabled and those individuals recuperating from or dealing with chronic illness. Caregivers covers the towns of Derry, Londonderry, Windham, Sandown, Chester and Hampstead. There is no charge for services. The Alexander Eastman Foundation continues to be a major funding source. Monies are also received through the United Way, towns, churches, membership drive, grants, fundraising efforts and individual donations.

The Caregiver's office, based in Derry, is staffed by five individuals who oversee the client, volunteer and financial operation of the agency. Caregivers has established itself as an integral part of the community to provide, through a volunteer network, support and assistance to help the elderly, disabled and homebound maintain independence in the community and in their home environments. Contact information: 58 East Broadway, Derry, New Hampshire 03038, Phone: (603)432-0877 Fax: (603)432-7041

Lamprey Health Care Senior Transportation Services

Lamprey Health Care offers its patients transportation services at all 3 centers. For their Newmarket and Raymond Centers, the Senior Transportation Program provides transportation services to the elderly and disabled residents of Rockingham County and parts of Strafford Counties. Transportation Services include trips to medical appointments, banks, pharmacies and grocery stores, as well as shopping trips to the local malls, and recreational trips for social outings.

BICYCLE ACCOMMODATIONS

Bicycle use has increased dramatically over the past ten years and is a popular form of transportation. During the Community Profile event, bike lanes were noted as an important consideration for the future, especially along Route 121A. The 12 mile long Rockingham Recreational Trail is available for bicycle use, but conflicts can occur with the motorized vehicles that primarily use this trail. Bicycling provides a low cost alternative for transportation and provides the community's younger population with the ability to travel to local parks and playgrounds.

The addition of bike lanes incorporated into future road widening projects and new road construction should be considered. The addition of bike lanes would create a safe location for bike travel, this is especially important along the heavily traveled Route 121A. Given the fact that this road travels through the heart of the community, providing access to many destinations and neighborhood further supports the need for a bike lane on this key corridor.

NH DOT has noted a number of roads in Sandown as bicycle routes, including NH Route 121, 121A, North Road, Fremont Road and Hampstead Road. This designation could strengthen future applications for Federal CMAQ bike lane construction monies.

SIDEWALKS

Sidewalks do not presently exist in Sandown and are not required when new residential streets are approved and constructed. As noted in the Natural Resource Chapter, the development of a trails plan should be explored. This effort should also review the need for sidewalks in high priority areas within the community. Such locations include areas near schools, recreational facilities and high traffic volume roads. In 2003, the community was awarded Transportation Enhancement (TE) funding for the construction of a sidewalk from the Central School to the Depot (an areas noted as needing sidewalks during the Community Profile event); however these funds were not used to implement the sidewalk project. With the continued growth expected in the community, the need for these facilities will increase.

RAIL

Rail service for the area is presently limited to existing Haverhill, Bradford and Lawrence, MA MBTA stations. The RPC Long Range Transportation Plan notes that other rail options are being explored for region. Funding has been allocated for an extension of service to Plaistow, but is currently on hold while the NH DOT resolves issues with Guilford Transportation related to line capacity (the ability of the rail line to accommodate both freight and passenger train service) and signaling south of Plaistow. Other potential corridors include the Manchester/Lawrence Branch, which would serve Salem, Windham, Derry and most of Londonderry. Also, the potential for a light rail service located in the median of I-93, proposed as part of the corridor widening project is being studied.

LAND USE AND TRANSPORTATION

INTEGRATION OF TRANSPORTATION, LAND USE, NATURAL RESOURCES PLANNING

Transportation planning has evolved to include considerations relating to land use and natural resources, in part due to changes in federal programs such as SAFETEA-LU. However, more than ever communities are recognizing the need to model future growth and development patterns in order to evaluate their potential effects on community resources and capacity. Such evaluation takes into consideration land and resource consumption as a result of land alteration and development, construction of roads and loss of ecosystem values and services (i.e. all the benefits resources provide to the community). The results of this evaluation commonly identify several key areas of concern to many communities:

- Increased burden on municipal services
- Land and resource fragmentation (and loss or degradation)
- Flooding, stormwater and water quality
- Non-point source pollution

The Master Plan is a good place to begin integration of transportation, land use, natural resources planning initiatives by identifying common goals and concerns, and developing recommendations that address multiple objectives.

IMPACTS OF LAND FRAGMENTATION

Fragmentation occurs when large, contiguous parcels of undeveloped land (natural landscapes) are broken up into smaller or non-contiguous tracts of land. This process occurs as large parcels of forested land or farmland are subdivided for residential or commercial development and with the construction of new road systems. Fragmentation occurs hand-in-hand with a sprawling development pattern of unplanned growth which can lead to potential impairments to natural resources, the economy, and community character.

Economic impacts of fragmentation and sprawl include greater municipal costs for maintenance of roads, school bus routes, and fire and safety services as the population covers more land area. Automobile use increases with diffuse development patterns resulting in greater fossil fuel use, and increases in traffic congestion, noise, and pollution when work, residences, and goods and services are separated from one another.

Social impacts of fragmentation and sprawl result in changes to the community. Community culture can change, particularly in small New Hampshire towns where residents once had a close connection to the land through forestry, farming, hunting and fishing, and other recreational activities.

Fragmentation increases flood severity and decreases retention of stormwater as more impervious surfaces such as pavement are added in the course of development. Stormwater is generated by precipitation, surface runoff and snow melt from land, pavements, building rooftops and other impervious surfaces. Pollutants commonly found in stormwater can degrade water quality for public drinking water supplies and for aquatic habitat. Stormwater runoff is also discharged to surface water bodies through overland flow and infiltration to the groundwater table, and as direct discharge to streams, rivers, lakes and ponds, and wetlands.

NON-POINT SOURCE POLLUTION

Non-point source pollution is collected when rainfall, snowmelt, or irrigation runs over land or through the ground, mobilizes pollutants, and deposits them into rivers, lakes, and wetlands or introduces them into the groundwater. These pollutants can include oil, salt and sand from roadways, agricultural chemicals from farmland, sediments from construction sites, crop lands, and eroding streambanks, and nutrients and toxic materials from urban and suburban areas. The impacts of nonpoint source pollutants on surface water and groundwater vary temporally and spatially. However, it is well documented in scientific literature that nonpoint source pollutants at certain concentrations can have harmful effects on drinking water supplies, recreation, fisheries, and wildlife. Although some regulation of non-point source pollution occurs through federal and state programs, the most effective way to prevent and manage non-point source pollution is at the local level, with implementation of development regulations, educational programs and long range community planning.

SUSTAINABLE COMMUNITIES INITIATIVE – A GRANITE STATE FUTURE

In order to accommodate growth in a manner that uses land, tax dollars and resources wisely, land use, natural resource protection and transportation must be considered in a comprehensive framework both from a regulatory perspective and as an integral component of all town initiatives. In 2012, NH's nine regional planning commissions launched a Smart Growth and Sustainable Community initiative called "*A Granite State Future*" – a project funded through the Department of Housing and Urban Development, Department of Transportation and Environmental Protection Agency to guide future development and planning coordinated at the state and regional levels. The NH Office of Energy and Planning (NHOEP) describes "Smart Growth" as opportunities to meet community and regional needs for housing, employment, goods and services, and quality of life through more efficient, creative development. Smart growth is about conserving and making the best use of vital natural and cultural resources while enhancing the choices and opportunities for present and future generations. The principles of Smart Growth include:

Principle #1 - Maintain traditional compact settlement patterns to efficiently use land, resources, and investments in infrastructure.

Principle #2 - Foster the traditional character of downtowns, villages, and neighborhoods by encouraging a human scale of development that is comfortable for pedestrians and conducive to community life.

Principle #3 - Incorporate a mix of uses to provide a variety of housing, employment, shopping, services, and social opportunities for all members of the community.

Principle #4 - Preserve the working landscape by sustaining farm and forest land and other rural resource lands to maintain contiguous tracts of open land and to minimize land use conflicts.

Principle #5 - Provide choices and safety in transportation to create livable, walkable communities that increase accessibility for people of all ages, whether on foot, bicycle, or in motor vehicles.

Principle #6 - Protect environmental quality by minimizing impacts from human activities and planning for and maintaining natural areas that contribute to the health and quality of life of the community.

Principle #7 - Involve the community in planning and implementation to ensure that development retains and enhances the sense of place, traditions, goals, and values of the community.

Principle #8 - Manage growth locally in the New Hampshire tradition, but work with neighboring towns to achieve common goals and address common problems more effectively.

More information about Smart Growth Principles are available on the NHOEP website at <http://www.nh.gov/oep/programs/SmartGrowth/learn/SmartGrowthPrinciples.htm>.

FUTURE TRANSPORTATION NETWORK

The Planning Board feels strongly that an access management plan is needed for NH Route 121A. In recent years the NH DOT has approved several Memorandum of Understanding (MOU) between the Department and individual municipalities. The MOU outlines the roles and responsibilities of the Department and the municipality in the issuance of driveway permits and collaborative preparation of local access management standards that are applied to driveway permits. The MOU offers municipalities a powerful tool to address local access, safety and capacity issues on

both local roads and state highways consistent with the municipality's vision and goals on issues such as availability of transit, bicycle and pedestrian access, future growth and development, and natural resource protection.

RECOMMENDATIONS

1. The Board of Selectmen should appoint a resident of Sandown to the Metropolitan Planning Organization (MPO) of the Rockingham Planning Commission (RPC). Participation in this regional organization will provide Sandown with input into transportation issues impacting their residents and will increase the chances of obtaining transportation funds to address local needs. The Town should stay abreast of issues raised by the RPC and participate as a voice in that forum.
2. In conjunction with the development of a trails plan, potential locations for sidewalks and bike lanes should also be incorporated into this plan. The addition of these pathways should be reviewed during road reconstruction planning and during Planning Board review of new development projects. The Planning Board should consider amending the Site Plan and Subdivision regulations to provide the Board with the authority to require the construction of sidewalks and bike lanes in areas that they should deem appropriate.
3. Sandown should continue to fund specified yearly monies that can be allocated to local road improvements as well as maintenance functions. This commitment to a yearly funding program will enable the Town to address a number of deficient roads as noted in the Road System Improvement Plan. Major work is currently required on Fremont Road, Hale True Road, Little Mill Road, North Road, portions of Odell Road and Stagecoach Road.
4. The Town should consider adopting a road impact fee system to help fund road improvements.
5. The Planning Board, when feasible, should balance the benefits of increased travel options and accessibility to emergency services with maintaining the character of a residential neighborhood and consider residents' opinions about current and future connection options between neighborhoods.
6. Review and analyze the need to upgrade key intersections, which require various levels or upgrading to address irregular geometry and ongoing safety concerns due to topography. These include Route 121A at North Road and Hale True Road; Wells Village Road at Hampstead Road; and Main Street (Route 121A) at Fremont and Depot Roads. Review State Aid options for intersections that involve Route 121A (Lakeview Avenue, Hawkewood, Little Mill/Giordani).
7. Update Hazard Mitigation Plan to include information and recommendations about road flooding issues.
8. Revise road construction and improvement specifications to include address culvert failures.
9. Develop a policy for the town's acceptance of roads.
10. Work with the state and regional organizations to monitor stormwater runoff from roads, other transportation infrastructure and land use and its impact on water quality.

APPENDIX A: Federal Transportation Policy, Planning and Regulations

a. Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

Established in August 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) authorized the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009 (currently in affect per Continuing Resolution by Congress until a new Bill is passed). SAFETEA-LU builds on the foundation established under the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21), supplying the funds and refining the programmatic framework for investments needed to maintain and grow transportation infrastructure. SAFETEA-LU addresses a wide range of transportation system challenges such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment.

SAFETEA-LU retains and increases funding for environmental programs of TEA-21, and adds new programs focused on the environment, including a pilot program for nonmotorized transportation and Safe Routes to School. SAFETEA-LU also includes significant new environmental requirements for the Statewide and Metropolitan Planning process. These include requirements to:

- develop plans in consultation with State, tribal, and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation. Consultation will involve comparison of transportation plans to State and tribal conservation plans or maps, and to inventories of natural or historic resources (if available).
- discuss potential environmental mitigation activities along with potential sites to carry out the activities to be included. The discussion is to be developed in consultation with Federal, State, and tribal wildlife, land management, and regulatory agencies

The following activities are eligible if such activities relate to Surface Transportation:

- Provision of facilities for bicyclists and pedestrians
- Provision of safety and educational activities for bicyclists and pedestrians
- Acquisition of scenic easements and scenic or historic sites
- Scenic or historic highway programs (including the provision of tourist and welcome center facilities)
- Landscaping and other scenic beautification
- Historic preservation
- Rehabilitation and operation of historic transportation buildings, structures or facilities (including historic railroad facilities and canals)
- Preservation of abandoned railway corridors (including the conversion for use as bicycle paths and pedestrian facilities)
- Control and removal of outdoor advertising
- Archaeological planning and research
- Environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity
- Establishment of transportation museums

b. Congestion Mitigation and Air Quality (CMAQ) Program

The 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) established the Congestion Mitigation and Air Quality Program (CMAQ), substantially expanding the focus and purpose of Federal transportation funding and programs to address air quality. CMAQ specifically provides assistance for air quality improvement and congestion mitigation projects in urbanized areas, which have been identified as nonattainment. The program continued under the current Transportation Equity Act for the 21st Century, or TEA-21.

Eligible projects or programs for the use of CMAQ funds include those which would result in an air quality benefit and are likely to contribute to the attainment of national ambient air quality standards. Typical items eligible for funding under this category are:

- Alternative "Clean" Fuels: For CMAQ purposes an "alternative" fuel must reduce emissions to be eligible. These fuels can include natural gas, ethanol, methanol, electricity and liquefied propane gas. Under TEA-21, eligibility can even extend to private companies.
- Demand Management: Employer trip reduction programs, transportation management plans, flexible work schedule programs, vehicle restriction programs, etc.
- Education and Outreach: To increase public knowledge of transportation related emissions and opportunities to reduce them.
- Extreme cold start programs.
- Highway/Road: Traffic flow improvements, signalization projects, intersection improvements and construction or dedication of HOV lanes, ITS efforts, etc.
- Inspection/Maintenance Programs: (I/M) and Traffic control measures (TCMs) (not covered by the above categories).
- Other Ride-Share: Vanpool and carpool programs, and parking for shared-ride services, etc.
- Pedestrian/Bicycle: Sidewalks, trails, storage facilities, promotional activities, etc.
- Transit: Construction, equipment or operating expenses for new and improved services for a maximum of three years, parking for transit services, etc.

Additional Community Benefits

Transportation projects focused on air quality improvement and congestion mitigation - such as those funded by CMAQ - have additional benefits to the community. These benefits include:

- Road preservation through reduction in vehicle miles travelled.
- Traffic calming and improved road safety.
- Increased connectivity of the transportation network.
- Enhanced opportunities for safe routes to school programs.
- Reduction of greenhouse gas emissions.
- Support of sustainable and healthy community initiatives.
- Enhanced recreational opportunities.

Some of these additional benefits are identified and quantified in Table ____, a summary of CMAQ projects funded in 2011 in the RPC planning region.

CHAPTER 7

[NATURAL RESOURCES]



Photo credit: ©Lisa L. Sears, Running Creek Design Studio, Sandown, NH

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INTRODUCTION

Natural resources play an important role in Sandown and its natural beauty is often noted as one of its prime features. A key component of the recently completed Community Profile was entitled Working Landscape and Natural Environment. The Statement of Purpose of this group was: Natural resources and historical assets of a community contribute significantly to the quality of life for residents and play an integral part in defining community character. Streams, rivers, walking trails, working farms, forest, clean air, historic buildings and bridges, wildlife and open land help to determine a community's personality and contribute to the everyday pleasures of community life. A sustainable community recognizes the importance of these assets and takes appropriate measures to assure their continuance.

Key assets and issues regarding Sandown's natural resources were discussed by this group and others, noting such issues as: The need to preserving open space and wildlife habitat, walking trails, the Exeter River, development pressure, wetlands, water quality, town forest and access to water bodies. It is clear that the community's natural heritage is a vital component of living in Sandown.

WATER RESOURCES

MAJOR RIVERS, STREAMS AND SURFACE WATERS

The Exeter River travels through the heart of the community and is a major surface water resource in Sandown. A majority of the community is within its watershed, with numerous wetlands and ponds draining to it. This wetland corridor provides a natural path for many forms of wildlife. Fishing and canoeing are common on this water way. A majority of the land area adjoining the Exeter River is designated as floodplain restricting development potential. Refer to the Surface Water Resources map (page 146) which shows the location of wetlands from the National Wetlands Inventory, poorly and very-poorly drained soils, and Areas of Special Flood Hazard (Zone A or the 100 year floodplain and Zone X500 or 500-year floodplain).

A number of ponds exist in Sandown, the largest being Angle Pond, which partially lies in Hampstead. Other ponds include: Phillips Pond, Cub Pond, Lily Pond, Hunt Pond, Showell Pond and Punch Pond. These water bodies provide fishing, swimming and boating opportunities for many residents. Public access is limited to these resources, with boat launching areas available on Angle and Phillips Ponds.

Both Angle and Phillips Ponds have significant residential



development adjoining their shores. Many of the residential lots are older camps, which over time have been converted to year round housing. With the lack of public sewer in Sandown, these waters will have to be monitored regularly to insure pollution levels do not rise to unacceptable levels. In the past Phillips Pond has been closed to swimming periodically due to high bacteria counts.

Public access to water resources and open spaces should always be a priority. Linking these features with a series of walking trails will enable the citizens of Sandown to witness the many features these areas have to offer. A trails plan should be developed that would connect with many of these beautiful locations in the community. The Planning Board should begin negotiating with the development community to obtain trail easements within development projects. This is especially true for developments planned near exiting open space and along the Exeter River.

Long-Term Variable Milfoil Management and Control Plan for Phillips Pond

[Prepared by: New Hampshire Department of Environmental Services (DES), February 2011]

Goals/Objectives of Milfoil Control Actions. The aquatic plant management plan outlines actions to eradicate the infestation of variable milfoil in Phillips Pond (*Myriophyllum heterophyllum*, referred to as “variable milfoil” in this plan) while maintaining native plant communities whenever variable milfoil control actions are being implemented. The plan also addresses early detection activities and preventing further establishment of milfoil as a result of inflow from upstream sources like Lake Winnepesaukee. Refer to the Plan for more detailed information about the current status of milfoil and recommended management options.

Town Support. The town of Sandown has been an advocate for invasive plant prevention and control for a number of years, dating back to the original fanwort and milfoil infestations in the pond. The town has put up substantial funds in the past for invasive plant control, and supports the efforts of the lake association to further reduce milfoil densities in order to achieve an eradication level of control.

Phillips Pond Association Support. Phillips Pond has an active lake association that participates in Weed Watching and volunteer water quality monitoring, and has done so for a number of years. The lake association has individuals that are committed to performing follow-up monitoring for milfoil re-growth and doing what is needed to control the milfoil in the system. The Association is also providing monetary match for this project.

WETLAND SYSTEMS

Wetlands are defined in RSA 482:A2 as “an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.”

Sandown is interspersed with numerous freshwater wetland systems, many adjacent to river’s and their valleys and floodplains, streams and ponds. Other freshwater wetlands are isolated in low lying areas. The Development Constraints Map outlines the location of Sandown’s wetland systems, poorly and very poorly drained soils as identified by the Soils Conservation Service. Many of these wetland areas are linear in shape and connect to the Exeter River or water bodies. These wetland areas play a vital environmental role by removing excess nutrients and recharging groundwater, while also providing areas for wildlife habitat and flood storage.

These low lying areas are protected by both the New Hampshire Department of Environmental Services and by Sandown's Zoning Ordinance Article I, Part B Wetland Conservation District. The Purpose section states that "In the interest of public health, convenience, safety and welfare, the regulations of the District are intended to guide the use of areas of land with standing water or extended periods of high water tables, poorly drained soils or very poorly drained soils to:

- Encourage those uses that can be appropriately and safely located in wetland areas.
- Prevent the destruction of natural wetland which provides flood protection, recharge of groundwater supply and augmentation of stream flow during dry periods.
- Prevent unnecessary or excessive expenses to the Town to provide and maintain essential services and utilities.
- Prevent the development of structures and land uses on natural wetlands which would contribute to pollution of surface and groundwater

The Ordinance requires that a septic tank, leach field, or any other subsurface wastewater disposal system be set back seventy-five (75) horizontal feet from any wetland area. The Ordinance protects vernal pools by requiring a protective buffer having a width of not less than 25 horizontal feet and maintained around the perimeter of any known vernal pool.

AQUIFERS

Aquifers are a valuable community resource and represent areas where, over thousands of years, ground water has collected in significant quantities. The general soil makeup of these areas is typically sand and gravels. The Stratified Aquifer Map shows the extent of these aquifers in Sandown. As with wetlands, the aquifer generally follows low lying areas along rivers valleys and floodplains, streams and water bodies. The largest aquifer in Sandown lies generally in the center of the community, adjacent to Phillips, Hunt, Lily and Showell's Ponds. Other smaller pockets lie to the north and northeast.

Aquifers are rated based upon the amount of water that may be available, its transmissivity. Transmissivity refers to the ability of an aquifer to transmit water, measured quantitatively in feet squared per day. The higher the transmissivity rating, the greater potential an area has to produce high volumes of water for municipal, commercial and industrial uses. The Stratified Aquifer Map outlines three transmissivity ranges: less than 1000, 1000 to 2000, and greater than 2000. A majority of the community is located in the less than 1000 level, with only a small area adjoining Phillips Pond indicating levels ranging from 2000 – 3000. The lack of areas in the community with transmissivity exceeding 2000 indicates the potential for large capacity wells in Sandown is unlikely.

Further detailed and town wide testing would have to be performed in order to determine conclusively that high volume wells are not possible in Sandown. Given this fact, unless outside water lines are brought into the community, a public water supply in Sandown is unlikely. With the total reliance on individual wells for water, current and future lands uses will have to be watched carefully to ensure groundwater resources are not degraded.

Refer to the Stratified Drift Aquifer map (page 144) to view the occurrence of stratified drift aquifers which lie primarily in low lying areas in the south-central area of town adjacent to surface water bodies (ponds, streams, Exeter River corridor).

FEDERAL AND STATE REGULATORY PROGRAMS

Phase II National Pollutant Discharge Elimination System – Ms4 Program

The Phase II National Pollutant Discharge Elimination System (NPDES) is a federally mandated program that is administered by the Environmental Protection Agency and was developed to protect surface and ground water throughout the nation based in the federal Clean Water Act. In 2003, the federal government required operators of certain small municipal separate storm sewer systems (MS4s) to obtain a NPDES permit because their storm water discharges were considered "point sources" of pollution. The Town of Sandown falls into the small MS4 category. Refer to the MS4 Areas (Urban Areas 2010 Census) map (page 135) for the location of lands in Sandown subject to the jurisdiction of the EPA MS4 permit.

All municipalities that operate and maintain a MS4 must design a storm water management program to satisfy applicable Clean Water Act water quality requirements and technology standards. The program must include the development and implementation of best management practices (BMP's) and measurable goals for the following six minimum control measures, including evaluation and reporting efforts:

1. Public Education and Outreach on Stormwater Impacts
2. Public Participation and Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Controls
5. Post-Construction Runoff Controls
6. Pollution Prevention and Good Housekeeping

The Town of Sandown is awaiting release of the 2013 revised MS4 permit to submit their Notice of Intent (NOI) and Stormwater Management Program. Once the NOI is accepted, the town will be obligated to fully comply with the requirements of the permit within the next five years. Each of the above-listed minimum control measures has measurable goals that range from updating and revising regulations, developing new policies and educating the public to mapping the location of the Town's stormwater system and establishing a GPS location for each inlet and outfall. The Town will have 5 years from the effective date of their MS4 permit to demonstrate compliance (or substantial movement toward compliance) with the permit requirements.

Floodplain Management

The Development Constraint Map outlines those areas of the community within the 100 year floodplain. These areas are generally along the Exeter River, Cub Pond and an isolated area along the northern boundary with Chester. Building within a floodplain area is regulated by the Zoning Ordinance, which limits the ability to develop in these sensitive areas. Refer to the Surface Water Resources map (page 140) which shows the location of Areas of Special Flood Hazard - Zone A or the 100 year floodplain and Zone X500 or 500-year floodplain.

The Federal Emergency Management Agency (FEMA) is currently in the process of updating their Flood Insurance Rate Maps (FIRMs) which will be released for review and comment in fall 2013. Using new rainfall and land use, it is expected that in some locations the extent of the 100-year

floodplain may increase due to land development, stormwater management and changes in precipitation.

Shoreland Water Quality Protection Act (SWQPA)

The Shoreland Water Quality Protection Act or SWQPA (RSA 483-B), originally named the Comprehensive Shoreland Protection Act (CSPA), was enacted into law in the 1991 session of the Legislature. The act established minimum standards for the subdivision, use and development of the shorelands along the state's larger water bodies. In April and July of 2008, the act was amended and several changes took effect including limitations on impervious surfaces, new vegetation maintenance requirements and the establishment of a permit requirement for many, but not all, construction, excavation and filling activities within the protected shoreland. During the 2011 legislative session, the CSPA was renamed to the Shoreland Water Quality Protection Act and included changes to the vegetation requirements within the natural woodland and waterfront buffers, the impervious surface limitations and included a new shoreland permit by notification process.

Refer to the Shoreland Water Quality Protection Act (SWQPA) map (page 142) to locate the the following waterbodies in Sandown are subject to the SWQPA: Exeter River (main stem), Phillips Pond, Showell Pond, and Cub Pond.

The protected shoreland extends 250 feet landward (horizontal surveyors line) from the reference line of protected waterbodies. All lakes, ponds and impoundments greater than 10 acres, all 4th order and greater streams and rivers, all designated rivers and river segments under RSA 483 (The Rivers Management & Protection Act) and all waters subject to the ebb and flow of the tide (including tidal marshes, rivers and estuaries). All waterbodies protected under the SWQPA are located on the [Consolidated List of Water Bodies subject to the SWQPA](#). Within the protected shoreland, new construction or construction that modifies the footprint of existing impervious surfaces, using mechanized equipment to either excavate, remove or form a cavity within the ground and filling any areas with rocks, soil, gravel or sand requires a shoreland impact permit. Many low impact activities that propose no greater than 1,500 square feet of total impact area, of which no more than 900 square feet is new impervious area, may qualify for a shoreland permit by notification.

OPEN SPACE

OPEN SPACE LANDS SUMMARY

As outlined on Open Space/Recreation Map (page 134), very few parcels of municipally owned land exist in Sandown, including town forests, recreation and municipal uses the town owns a total of 436 acres. These properties are spread throughout the community, with the downtown area having a few large parcels close to each other, but not consolidated into a mass of adjoining properties. The 34 acre Fremont Road and 19.5 acre on Cranberry Meadow Road are considered Town Forests. The largest town owned open space area is an eighty two acre property fronting on Wells Village Road. Table 7-1 reports the types of town owned property. Refer to the Conservation and Historic Resources map (page 133) to see their distribution throughout town.

Table 7-1 Municipal Property and Conservation Lands

LAND USE/TYPE	LAND AREA
Municipal and School	47.75 acres
Town Forest	223.8 acres
Recreation and Undesignated Conservation Lands	212.2 acres

At this time, 50 percent of the Land Use Change Tax (LUCT) is available for conservation purposes. To date, these funds have not been used to purchase property. The current strong real estate market has made the outright purchase of property in Sandown almost prohibitive. The Zoning Ordinance does allow for cluster developments, which has been used on a limited basis to establish open space areas.

As the community continues to grow, the protection of open space will increase in importance. Sandown is currently a rural community, but if the recent growth trends continue these existing open space areas will vanish with time. A recent publication entitled Saving Special Places, noted that for every \$1.00 of taxes collected from land in residential use, the cost for providing services range from \$1.01 to \$1.17. This is in line with fiscal impact reports conducted on residential properties, which note that single-family home developments are the most costly land uses for communities.

Open space provides numerous benefits to the community including areas for wildlife, walking and hiking, recreation opportunities, and protection of sensitive lands and maintenance of a rural atmosphere. One of the major goals of the Society for the Protection of New Hampshire's Forests in the next decade is to preserve existing, unfragmented open space. The objective is to retain and enlarge substantial masses of open space that have not been developed, either linearly or in clusters, thereby preserving habitat areas for local wildlife and strengthening local ecosystems. Under its program of New Hampshire Everlasting, the Forest Society recommends that New Hampshire towns and cities, where possible, target as a goal 25 percent of their total land area as open space. Taking all of municipal land into consideration, Sandown currently controls only 4 percent of the communities 8,952 acres. To meet this goal, Sandown would have to acquire an additional 2,000 acres. This is an ambitious goal which may never be achieved, but does provide a goal point that the community can strive for.

In March 2000, the Rockingham Regional Planning Commission (RPC) published a Regional Open Space Plan. The plan identifies large areas of undeveloped land, identifies linkages to these areas and provides guidance to protecting these valuable areas. The plan identifies twenty key parcels (totaling over 1,000 acres) noted by the Conservation Commission that warranted protection (refer to Appendix). Although not specific to Sandown, the RPC Open Space Plan provides a sound foundation to guide Sandown in its conservation efforts. The community should prioritize the noted land areas and target conservation efforts to preserve Sandown's most important environmental areas.

Lands in Current Use

The Lands in Current Use Map also notes existing current use properties in Sandown, totaling 3,297 acres on 97 parcels. These parcels cover a third of the town and represent a significant open space asset to the community. These lands have also been the prime target of the development community, with many current use lands being removed from the program over the last few years. The owners of these properties should be approached to inquire about protecting their properties for the long term.

SOILS AND STEEP SLOPES

Soils

As noted previously, the Development Constraints Map outlines those areas of the community that exceed 25% slopes. Areas that exceed this slope are difficult to develop and have poor soil types. A majority of Sandown is relatively flat, with gentle rolling terrain, which makes the community very attractive for development. As is the case throughout New Hampshire, the soils of Sandown are a complex matrix of soil types. Based upon SCS mapping, two very developable soil types dominate the community, with two-thirds of Sandown consisting of the Chatfield-Hollis-Canton complex and the Canton classification. The Chatfield-Hollis-Canton soil type is considered generally well drained, with a depth to seasonally water table exceeding 6 feet. Depth to bedrock can range from 10-20 inches in the Hollis series, to 20 – 40 inches in the Chatfield series and more than 60 inches in the Canton series. Permeability of this mixed soil type is considered moderately rapid. The Canton series is generally classified as being a well drained soil, with a seasonal high water table below six feet, depth to bedrock of more than 60 inches and a permeability rating that is moderately rapid.

Refer to the Soil Potential Ratings map (page 137) to view soil ratings (rated for their development potential) based information from the publication “Soil Potential Ratings for Low Density Development, Rockingham County, New Hampshire (March 1987) and soil ratings from the NH Soil Survey. Most of the lower lying areas in Sandown are rated as having high or very high development potential.

Topography And Steep Slopes

The USGS topographic map (7.5 minute quadrangle) for Sandown shows point specific elevations and general topography based on 10 foot contour intervals. Notable topographic features include: Mardens Hill (410 feet), Great Hill (430 feet), King Hill (440 feet), Hoyt Hill (480 feet), Walnut Hill (550 feet), Butman Hill (480 feet), Eastman Hill (440 feet), Chestnut Hill (360 feet) and French Hill (360 feet). These highest features are separated by extensive low-lying floodplains of the Exeter River and its tributaries and numerous ponds.

WILDLIFE AND HABITAT

PURPOSE

The purposes for protecting wildlife and their habitat are to:

- A. Preserve habitat to sustain viable wildlife populations and biodiversity.
- B. Protect and maintain healthy ecosystems.
- C. Provide for open spaces of adequate proportions.
- D. Protect the public benefits of habitat protection, including flood control, water recharge, carbon sequestration, pollutant removal, and recreation.

Wildlife and wildlife habitat serve important ecological functions while also benefiting the public. Important ecological services are often provided by particular wildlife habitats, which may serve as buffers to streams, act as flood retention areas, provide carbon sequestration, filter environmental contaminants, and be source areas for drinking water supplies. Diversity of plant and animal life contributes to the versatility and long-term health of the food supply and the ecosystem as a whole. Protecting wildlife and their habitat also contributes to the rural character of New Hampshire, as hunting, fishing, and wildlife watching are long-standing features of the culture and attract tourism to a rural area. Habitat protection can occur at multiple levels: state-wide, regional, and community master planning and development approval. Habitat protection can be accomplished with regulatory, market-based or voluntary measures.

Rationale for Protection of Wildlife

With population growth and the expansion of developed and urbanized areas, wildlife and their habitat continue to be adversely impacted at the species, population, habitat, parcel and regional scales by a wide variety of activities including: landscape alteration and degradation; habitat conversion; habitat fragmentation (roads and trails, subdivision of large unfragmented blocks); hydrologic regime alteration; invasion by exotic species; and erosion and sedimentation.

As reported in the NH climate Action Plan, regional air and water quality issues scored among the most threatening problems for wildlife, both in terms of broad cumulative degradation and intense localized impacts. These impacts are primarily human induced, resulting from how we use and manage our land air and water resources. Proper municipal planning is a critical component to successful implementation wildlife and habitat conservation measures.

Public Benefits of Natural Resource Conservation

Conserving land to protect wildlife and their habitat serves multiple goals within a community and provides the following public benefits:

- Supports of resource based tourism economy
- Protects farms and agricultural lands
- Promotes sustainable development patterns
- Protects environmental resources (surface water, groundwater, aquifers, air, forests)
- Provides recreational and educational opportunities

Land and wildlife habitat conservation practices further shape the landscape of a community by:

- Helping maintain the rural character of a community,
- Creating more centralized, dense development patterns in exchange for conserving open space for habitat,
- Creating more efficient municipal service areas, and
- Providing aesthetic and recreational benefits by preventing degradation of the environment (water quality, flood mitigation, climate attenuation).

ECOLOGY AND WILDLIFE

Sensitive Natural Communities

The New Hampshire Natural Heritage Bureau inventories threatened or rare plant and animal environments throughout the state. Only a few rare natural communities and threatened plant species exist in Sandown. The natural communities of concern are the White Cedar Basin Swamp, the Acidic Seepage Swamp and the Dry Hardwood Forest, all of which are located predominately in Hampstead, west of Angle Pond. A rare plant species named Climbing Hempweed has been found in Phillips Pond.

APPROPRIATE CIRCUMSTANCES AND CONTEXT

Scales of Implementation

Ideally, protection of wildlife habitat begins at the largest scale appropriate for prevalent species in the region. This scale is determined through study of the range of the particular animal and the extent of its habitat across a multi-state and/or a multi-regional area. In order to coordinate across political boundaries and biological boundaries, most municipalities rely on either:

- a coordinated approach with neighboring municipalities, or
- a regional approach that acknowledges cross-boundary considerations such as geographic extent of critical habitats, existing land uses, and other natural resource and infrastructure limitations.

NH Wildlife Action Plan

The New Hampshire Wildlife Action Plan, which was mandated and funded by the federal government, identifies statewide strategies for identifying, restoring and maintaining critical habitats and populations of nongame species of conservation and management concern. The plan is a proactive effort to define and implement a strategy that will help keep species off rare species lists by protecting their populations and critical habitats. Use of this state-wide data can facilitate coordination among municipalities and within regions. Refer to Part E State Studies and Technical Resources for a summary of the New Hampshire Wildlife Action Plan. Refer to the NH Fish & Game Wildlife Action Plan map (page 145) to view habitat and wildlife resources. The highest ranked habitats in Sandown are located adjacent to ponds, large wetland complexes and riparian corridors.

Local Protection Strategies

At the municipal level, protection occurs often on a town wide basis through various land preservation methods, regulations and voluntary stewardship. Municipal protection strategies can be expanded and refined by using local wildlife habitat mapping and inventories for both town wide

and parcel based approaches, including both publicly and privately owned properties. Most municipal wildlife protection starts in the master planning process when areas are identified for protection through the use of natural resource inventories and maps, protection goals are defined, and recommendations are developed to implement these goals.

Priority wildlife and habitat areas can then be protected through stewardship of private lands, voluntary conservation, land acquisition, zoning ordinances and site development regulations. These strategies are described in greater detail in the table below.

Table 7-2. Wildlife habitat and land protection strategies and their benefits

PROTECTION STRATEGY	BENEFIT	\$ EXPENDED*
<i>Land Acquisition</i> <i>(by towns, land trusts, state or others)</i>	Purchase of land at fair market value or as a bargain sale where the difference between fair market value and sale price becomes a tax-deductible donation; Benefits include public access, and leveraging property value for securing funding future acquisitions	High
<i>Purchase of Easements/ Development Rights</i>	Growth management tool; retain development density and tax base if rights transferred to growth areas	High
<i>Regulatory Protection</i>	Preservation of public resources and their functions and values to the community; federal, state and local implementation	Low/No
<i>Land Use Regulations</i>	Adoption of an incentive based Conservation Subdivision ordinance can provide large tracts of open space lands as part of development approval	Low/No
<i>Voluntary Protection and Conservation Easements</i>	Voluntary conservation easements involving donation of development rights; Private stewardship and management; public access permitted in some cases	Low/No
<i>Land and Resource Management</i>	Fosters public participation and stewardship	Low/No
<i>Transfer of Development Rights</i>	Voluntary transfer of development rights from designated open space areas to designated growth areas that allow greater development density	Low/No

* **\$ Expended** refers to the use of municipal and/or public funds to implement a specific land protection strategy (i.e. use of Land Use Change Tax contributions, bonds, and other municipal funding sources).

To narrow the focus of interest, towns may wish to focus their efforts on a particular wildlife species and/or habitat type by:

- identifying local or regional interests and areas of significance, or
- using information in New Hampshire's Wildlife Action Plan for species and habitats identified as rare, threatened, or endangered.

Towns may also wish to address existing or potential future impacts of development by adopting strategies to address those impacts, such as regulations to protect sensitive areas (i.e. limits for allowable tree clearing for new development, requiring vegetated buffers from streams or protecting riparian areas).

NH's Enabling Statutes

Several state statutes enable towns to implement protective strategies, land use planning and zoning for the purpose of environmental protection. Protection of wildlife is referenced and or supported in the following state laws which are implemented at state and local levels:

Implementation by Municipal Planning Board

Master Plan; Purpose and Description - RSA 674:2: This section states that a master plan may include the following section: (subpart (d)) "a natural resources section which identifies and inventories any critical or sensitive areas or resources, not only those in the local community, but also those shared with abutting communities. This section provides a factual basis for any land development regulations that may be enacted to protect natural areas."

Subdivision Regulations. RSA 674:36II(l) and (m): This section gives the planning board the authority to adopt subdivision regulations which "provide for efficient and compact subdivision development that promotes retention and public usage of open space and wildlife habitat, by allowing for village plan alternative subdivision" and "require innovative land use controls on lands when supported by the master plan."

Site Plan Regulations - RSA 674:43 and 674:44: These sections give the planning board authority to adopt site plan review regulations which "provide for the safe and attractive development or change or expansion of use and guard against such conditions as would involve damage or injury to health, safety, or prosperity" including environmental considerations, and "require innovative land use controls on lands when supported by the master plan."

Implementation by Zoning Amendments (require approval by governing body and/or town vote)

Innovative Land Use Controls - RSA 674:21: This section allows a municipality to adopt innovative land use controls when supported by the master plan including ordinances that address land use and development, environmental characteristics zoning and site-level design. Although not specifically defined, this provision gives planning boards the authority to adopt an innovative land use control based upon the environmental characteristics as shown in a local or regional natural resources mapping and inventory project. Examples of environmental characteristics could include aquifers, wetlands, unfragmented forest blocks, or specific habitat types such as grasslands or forest types.

Village Plan Alternative Subdivision - RSA 674:21: This section defines village plan alternative as “an optional land use control and subdivision regulation to provide a means of promoting a more efficient and cost effective method of land development. The village plan alternative’s purpose is to encourage the preservation of open space and more efficient use of land.”

Implementation by State and Municipalities

Comprehensive Shoreland Protection Act - RSA 483-B:2: This section states that the standards set forth in the chapter shall serve to “protect fish spawning grounds, aquatic life, and bird and other wildlife habitats” and “promote wildlife habitat, scenic beauty, and scientific study.”

Implementation by State and River Local Advisory Committees (with municipal representation)

Rivers Management and Protection Program - RSA 483:6: This section provides a process for any New Hampshire organization or resident to nominate a river or segment of a river for protection by submitting a description of the river and its values and characteristics, including “an assessment of fisheries ... vegetation, and ... wildlife and provides standards for classification and management of rivers.” Following designation, a Local Advisory Committee is formed, consisting of representatives from all communities through which the river flows.

MUNICIPAL AND COMMUNITY PLANNING ACTIONS

Municipal Action - Writing a Wildlife Conservation Plan

The purpose of creating a municipal wildlife conservation plan is to:

- Identify and describe the most important species, resources and habitat types
- Promote conservation of these resources and natural features
- Guide municipal and private voluntary land conservation planning
- Document conservation priorities and recommended policies in a municipal master plan
- Suggest regulatory protection for some features and resources

A Wildlife Conservation Plan can help coordinate various strategies implemented by a municipality including land preservation methods, regulations and voluntary stewardship, guide collaborative efforts to preserve land wildlife habitat, and ensure uniform protection of wildlife habitat on a regional basis. Such a plan can inform others engaged in wildlife and habitat protection by identifying common goals and issues of concern and facilitating cooperative efforts.

The NH Wildlife Action Plan (NHWAP) and maps (showing highest ranked habitats and supporting habitats) can serve as the initial planning tool and database for developing a municipal wildlife conservation plan as well as other technical resources and data available for the region and the town.

The NH WAP maps are based on habitat models that rely heavily on predicting the possible location a particular habitat. Therefore, the WAP habitat maps should be used as an initial planning tool. Where more detailed maps are necessary, field verification is advised to verify the data and refine the location of specific habitat types and species.

Refer to Part E *State and Regional Studies and Technical Resources* section for more information about the NHWAP and additional resources.

Results of the Exeter River Bio-Inventory Study for Danville, Fremont and Sandown (funded through the I-93 CTAP) can supplement the NHWAP database and the U.S. Fish and Wildlife, National Wetlands Inventory with local field observations and photo interpretation data.

Municipal and/or Voluntary Action - Habitat Sensitive Site Design and Development Practices

Habitat sensitive site design and development practices are an effective method for ensuring consistent long-term protection of crucial habitats. These practices may be used as:

1. An educational tool for citizens and developers to encourage voluntary practices for habitat sensitive site design.
2. A guide for planning boards, zoning boards and conservation commissions in reviewing applications, they can be particularly helpful in encouraging voluntary alternative site designs and development practices in the early stages of project development and site design.
3. Elements of a performance based zoning ordinances that award density bonuses or require compliance as a condition of site plan or subdivision approval.
4. Standards for development of a conservation subdivision ordinance or amendments to existing open space ordinances to protect sensitive wildlife habitat and corridors through open space preservation.

The following practices can significantly enhance the protection of wildlife habitat at the site level and contribute to the protection of habitat at the watershed and regional level by:

1. Maintaining the ability of ecological systems to provide ecosystem functions necessary to maintain wildlife habitat and the multiple benefits to wildlife and humans provided by such habitat.
2. Maintaining large unfragmented habitat blocks that contain locally and regionally important habitats (i.e. meadows, forests and riparian areas).
3. Connecting habitat types and facilitating wildlife movement through corridors and connections between large unfragmented blocks.
4. Protecting wildlife from the negative impacts of development, not only negative impacts to the habitat itself, but also to animal behavior and life cycle activities.
5. Requiring site-specific habitat assessment and site design considerations to minimize or eliminate the negative impacts of development.

Voluntary Action - Encouraging Land Conservation and Stewardship

Volunteer participation by willing and engaged land owners can protect wildlife by:

1. Protecting important resources with non-regulatory methods through stewardship and voluntary protection and management.
2. Promoting education, outreach and leadership by example to instill in-depth knowledge of where these resources are (or potentially are) in your town and what is necessary to protect them.

3. Holding pre-application meetings with applicants as part of the current site plan review and subdivision application process.
4. Providing resource protection and management recommendations for properties prior to any approvals (or construction).

STATEWIDE STUDIES AND TECHNICAL RESOURCES

New Hampshire Wildlife Action Plan

In 2005, the New Hampshire Fish and Game Department together with [partners in the conservation community](#) created the state's first Wildlife Action Plan (WAP). The plan, which was mandated and funded by the federal government through the State Wildlife Grants program, provides New Hampshire decision-makers with important tools for restoring and maintaining critical habitats and populations of the state's species of conservation and management concern. The plan is a pro-active effort to define and implement a strategy that will help keep species off of rare species lists by ensuring protection of viable populations and essential habitat. In 2013, the NH WAP was updated to include narrative descriptions of potential impacts to wildlife due to future climate change.

The WAP identifies risks that common among species and habitats and suggests strategies to address these risks. Rapid urban development in many parts of the state was identified as the most potent risk to our wildlife, devastating the health of many terrestrial, wetland, and aquatic populations and irreversibly fragmenting their habitats. Urban development is outpacing land protection. The Plan offers recommendations to help communities integrate wildlife habitat conservation into decisions about development. These recommendations are:

- Provide public and private entities at all levels in the urban development and planning communities with information and assistance, including conservation science, maps, and mitigation guidelines to encourage sustainable development in sensitive wildlife areas.
- Consider proactive strategies such as landowner incentives and voluntary land protection
- Promote the inclusion of wildlife in structured risk assessments by agencies engaged in energy, transportation, and industrial development projects
- Promote regional and national policies and funding that improve air and water quality for New Hampshire's wildlife and people (identified among the most threatening problems for wildlife, both in terms of broad cumulative degradation and intense localized impacts).

Some habitats have been degraded to the point that wildlife species associated with them will be lost without human intervention. To maintain biodiversity and landscape integrity the following actions are recommended:

- Guide management and restoration of rare and declining plants, animals, habitats, and natural communities
- Address human and ecological issues that threaten

In 2010, the statewide WAP habitat map was updated to include soils data in Belknap and Merrimack Counties that previously did not have this digitized data, three more years of rare wildlife and plant communities data, grasslands less than 25 acres, shrub-lands and openings incorporated into forests, and wildlife data that reflects the 2008 revised state Threatened and Endangered Species List and the 2008 revised Species of Special Concern List.

New Hampshire's biodiversity with strategies such as population management, habitat management and, when necessary, regulatory protection

The Wildlife Action Plan includes several tools to assist communities with integrating wildlife habitat conservation into decisions about land use. These tools are described below.

Maps of Highest Ranked Wildlife Habitats

An important first step in planning for statewide wildlife protection is mapping the distribution of habitats across the state. Showing habitats on a map statewide was a high priority of New Hampshire's Wildlife Action Plan. Using Geographic Information Systems (GIS) data, New Hampshire Fish and Game (NHFG) biologists developed models of habitat. While it was not possible to go everywhere in the state to locate specific habitats, it is possible to predict where habitats would be, based on known information. This known information included soils, elevation, climate, landforms, broad vegetative classes, and data from the NH Natural Heritage Bureau about natural communities. Based on this data, NHFG predicted the type of vegetation that would grow at that particular location.

The NH Land Cover data, which shows locations of various categories of developed and undeveloped land, was also used as well as the National Wetlands Inventory data for wetlands.

Habitat Types and Species Profiles

The New Hampshire landscape is rich with habitats for fish and wildlife -- from granite peaks, forests, and wetlands to grasslands, coastal islands, and nearly a thousand lakes and ponds. The Wildlife Action Plan (WAP) and habitat maps identify 19 different habitat types -- some of them common and some extremely rare in the state. All New Hampshire lands and waters correspond to one or more of the habitats described in the plan. The habitats were mapped using digital technology to be easily accessible by various users to plan habitat protection or restoration, research, or many other activities related to wildlife and habitat related.

NH Wildlife Sightings On-Line Database

The NH Wildlife Sightings Database is a web-based tool for sharing wildlife sightings online directly with NH Fish and Game. The NH Fish and Game (NHFG) created the database in order to gather more information on the distribution of wildlife species across NH, a goal of the New Hampshire Wildlife Action Plan. Collecting observations from landowners, recreationists, birders, hunters and fishermen, foresters, and general wildlife enthusiasts gathers potentially useful information that supplements existing wildlife databases and may even provide locations where future surveys may be conducted. Each observation submitted to the database is reviewed carefully by NHFG biologists for accuracy before any data is released for public use. Submission of photos, while not required, are encouraged to help biologists confirm observations with a higher level of accuracy.

The NH Wildlife Sightings On-Line Database provides the following tools and information:

- Report observations of some wildlife species (see the website for a list).
- Use a mapping tool to identify the location of an observation.
- Upload photographs to allow wildlife professionals to verify your species identifications.
- View town distribution maps for wildlife species.

- Track wildlife observations for a particular area over time.

Participants in NH Wildlife Sightings On-Line Database must obey all local, state, and federal laws while collecting wildlife location data. Observers are strongly encouraged to get landowner permission before going onto private property. To get started, go to <http://nhwildlifesightings.unh.edu/> and click on Request an Account.

NH Climate Action Plan

In 2008, Governor Lynch created the Climate Change Policy Task Force to develop the New Hampshire Climate Action Plan. The Plan aims at achieving the greatest feasible reductions in greenhouse gas emissions and protecting natural resources and the environment while also providing the greatest possible long-term economic benefits to the citizens of New Hampshire. It is envisioned that with participation from all communities, the New Hampshire Climate Action Plan will benefit the economy, increase state and regional energy security, and improve overall environmental quality. The Plan recommends 67 specific actions, including the following to goals relating to natural resources and environment protection:

- Protect natural resources to maintain the amount of carbon sequestered.
- Develop an integrated education, outreach and training program.
- Adapt to existing and potential climate change impacts.

There are many significant implications of climate change for New Hampshire's ecosystems and wildlife populations. Many species are already stressed by land-use changes, pollution, invasive species, and habitat loss and fragmentation. These changes to land, air and water in combination with changes in climate result in greater overall stressors and impacts. These combined impacts can reduce the health of ecosystems and species and their ability to successfully adapt to climate change. By conserving large unfragmented blocks of lands, ecosystems and habitats remain intact and more able to recover from frequent severe environmental changes resulting from events such as storms, droughts and land and water degradation. Effective conservation of ecosystems and habitats requires knowledge of the current location of plants, animals and natural communities as well as where they might be located in the future based on predicted environmental and landscape conditions.

Adaptation refers to adjustments in ecological and human systems – comprised of interactions of land, water and air - in response to actual or expected climatic changes that effect their extent, function or productivity.

Fragmentation of ecosystems by roads, buildings, and other land alterations presents obstacles to potential species migration and adaptation. Future climate adaptation strategies may require the preservation of wildlife corridors between protected areas to serve as stepping stones to ensure that species can continue to move to and from habitats required for food, shelter and reproduction. Protecting New Hampshire's ecosystems and wildlife requires evaluating strategies that:

- Plan for development and growth while avoiding large unfragmented natural areas.
- Develop a system of protected natural areas to preserve ecosystems and provide wildlife corridors.

REGIONAL STUDIES AND TECHNICAL RESOURCES

The Land Conservation Plan for New Hampshire's Coastal Watersheds

New Hampshire's coastal watersheds comprise 990 square miles and 46 towns, containing exceptional and irreplaceable natural, cultural, recreational and scenic resources. The State of New Hampshire, through the NH Coastal Program and the NH Estuaries Project (now the Piscataqua Region Estuaries Partnership), developed a comprehensive, science-based land conservation plan to support a regional approach to setting land conservation priorities and strategies to protect these resources. *The Land Conservation Plan for New Hampshire's Coastal Watersheds (2006)* was developed in partnership with The Nature Conservancy, Society for the Protection of New Hampshire Forests, Rockingham Planning Commission, and Strafford Regional Planning Commission, with substantial funding support provided by the New Hampshire Charitable Foundation's Piscataqua Region.

The plan identifies 75 Conservation Focus Areas within the coastal watersheds as the most important lands to retain for conserving living resources and water quality. These highest priority areas - which include Core Focus Areas and their Supporting Landscapes - were based on consideration and distribution of the following resources: 1) large unfragmented forest blocks; 2) intact floodplains and riparian zones; 3) high quality stream networks and small watersheds; 4) irreplaceable coastal and estuarine features; 5) significant fish and wildlife habitats; 6) critical habitat supporting rare species and exemplary natural communities; and 7) important connectivity zones.

Implementation Strategies

An important component to the plan's implementation strategy is to provide guidance and tools to limit the impacts of development that does occur in Conservation Focus Areas, with the goal of maintaining important conservation values. A total of 190,300 acres, or slightly more than one-third of the land and water in the coastal watersheds, are identified as Conservation Focus Areas. Of this total, only 41,387 acres or about 22 percent are currently protected, leaving approximately 150,000 acres for which some form of protection is still needed. The plan recommends that a three part strategy be implemented to protect and minimize development impacts in unprotected portions of the Conservation Focus Areas:

1. Adoption and use of the plan at state, regional, and local levels to establish the policy framework for land conservation in the coastal watersheds.
2. Protection of land through conservation easements or land acquisition, especially in the Core Focus Areas.
3. Implementation of the plan's model zoning ordinance - the Coastal Watersheds Land Conservation Overlay District (COD) - developed as a tool intended to help guide development in these especially sensitive areas. The primary goal of the COD is to accommodate development within Conservation Focus Areas in such a way that minimize harmful impacts and maintains, to the extent possible, the ecological functions and natural services provided by these areas.

Refer to Appendix B1 of *The Land Conservation Plan for New Hampshire's Coastal Watersheds* available online at <http://www.rpc-nh.org/coastal-conservation.htm>

CTAP Open Space Reports

The I-93 Community Technical Assistance Program (CTAP) was developed in cooperation with the State of New Hampshire's Department of Transportation, Office of Energy and Planning, Department of Environmental Services, and the Regional Planning Commissions to provide planning assistance to the 26 I-93 corridor communities expected to experience additional growth that may result from the I-93 expansion project. One such planning effort was to produce open space reports for the towns to identify and prioritize the most valuable lands for preservation based on their natural resource features and public benefits they provide or the "green infrastructure".

Table 7-3. Parcels in the green infrastructure identified for preservation as open space

DANVILLE	PRIORITY RANKING	ACRES
<i>35 percent of total town area</i>	High Priority Parcels (58)	1,315.7
	Medium Priority Parcels (103)	1,340.3
	<i>Total (161 parcels)</i>	<i>2,656</i>
FREMONT	PRIORITY RANKING	ACRES
<i>25 percent of total town area</i>	High Priority Parcels (49)	1,810.5
	Medium Priority Parcels (5)	133.4
	Low Priority Parcels (34)	775.5
	<i>Total (88 parcels)</i>	<i>2,719.4</i>
SANDOWN	LANDS OF CONSERVATION PRIORITY	
<i>39 percent of total town area</i>	Priority Parcels (167)	<i>3,596</i>
Total Priority Parcels = 416		<i>Total Acres = 8,971</i>

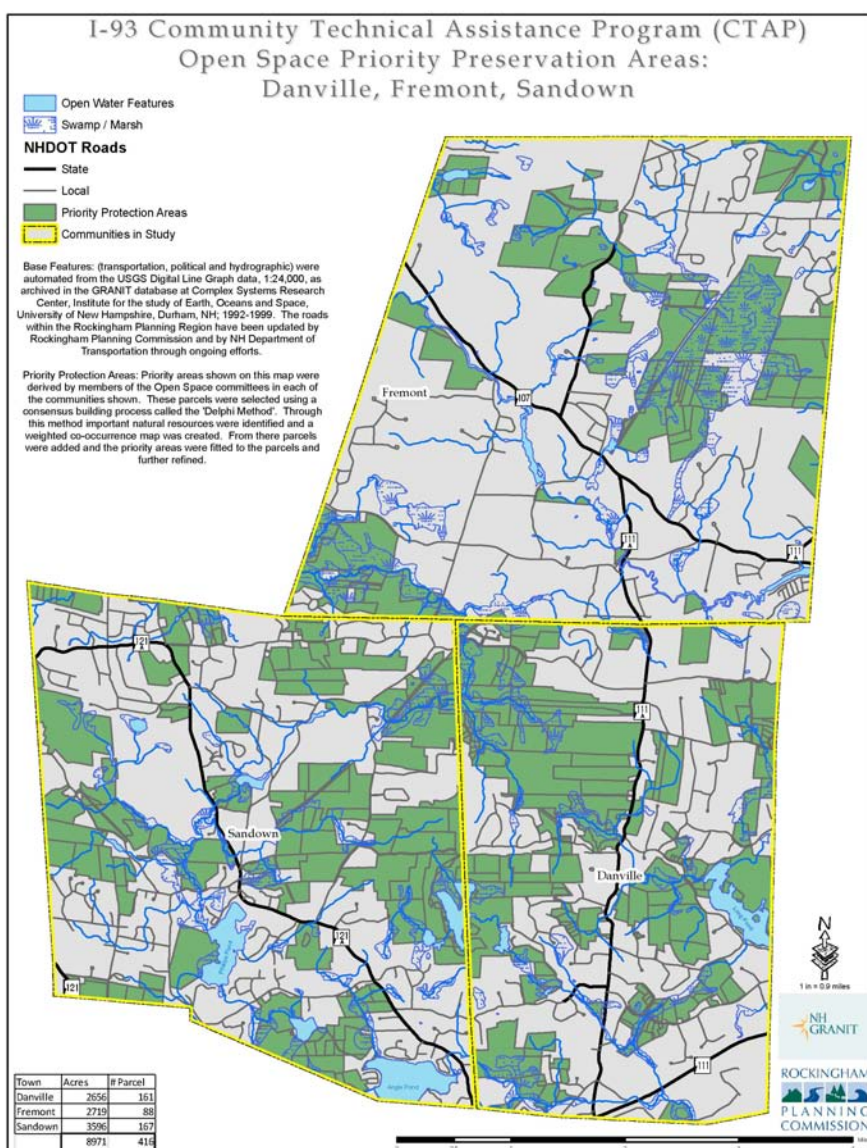
In the Rockingham Planning Commission region, Open Space Reports have been completed for the towns of Windham, Salem, Danville, Fremont and Sandown. These reports and maps are available to the public at the Planning Office in each community's Town Hall. Collectively, these reports and the open space preservation maps for each community provide a regional perspective on the location of valuable resources and wildlife habitat, and how they might best be preserved through open space land acquisition and preservation efforts by these towns. The maps also may inform where future land preservation efforts may be conducted collaboratively to benefit the shared wildlife and habitat preservation goals of these towns. Following is a summary of statistics from these reports.

Danville - At their January 24th meeting, the Danville Board of Selectman acting as the Open Space Task Force accepted the final draft of the Open Space Report, and forwarded the document to the Planning Board and Conservation Commission for review and consideration. RPC will present the final document to the Planning Board at a hearing in either February or March 2011.

Fremont - In October 2010, the Fremont Planning Board adopted the Fremont Open Space Report as a subsection to the town's Master Plan. The report and maps are available to the public at the Planning Office in Town Hall.

Sandown - With assistance from the Rockingham Planning Commission, the Sandown Conservation Commission acting as the Open Space Task Force completed their final review of the draft Open Space Report in February 2011, and forward the document to the Planning Board for adoption as part of the master plan.

Figure 7-1. Green infrastructure priority preservation areas for Danville, Fremont and Sandown



SPOTLIGHT ON THE EXETER RIVER WATERSHED

The Exeter River watershed is located in southeastern New Hampshire and spans fifteen towns in Rockingham County. The watershed area is approximately 109 square miles, comprising 67,700 acres of the 695,040 acre Piscataqua and Great Bay coastal watershed in New Hampshire. The Exeter River headwaters are found in the Towns of Raymond and Chester, and the main stem flows in an easterly direction for approximately 32 miles before terminating over the Great Falls in Exeter into the tidal zone of the Squamscott River which outlets to the Great Bay.

Figure 7-2. Map of the Exeter River and towns located in the watershed



STATISTICS FOR THE EXETER RIVER AND WATERSHED	
Watershed Area	67,700 acres (fresh water)
Mainstem Length	33 miles
Drainage Basin	126 square miles
Forested Land	67 percent
Developed Land	16 percent
Farmland	6 percent
Water and Barren Land	6 percent
Wetlands	3 percent

Source: Exeter River Local Advisory Committee

The Exeter River is one of fifteen rivers in New Hampshire designated for greater protection of outstanding natural and cultural resources under the New Hampshire Rivers Management and Protection Act. The Lower Exeter River is also the municipal drinking water source for the Town of Exeter. The watershed contains some of the fastest growing towns in New Hampshire, which has led to increased development pressure which has affected the ecological health of the river in recent years. Increases in impervious cover, forest fragmentation, and ground water withdrawals accompanying this growth have led to heightened concerns about the protection of the river's water quality and quantity and health of the river's aquatic resources.

In response to these environmental concerns, the New Hampshire Department of Environmental Services (NHDES), the Exeter River Local Advisory Committee (ERLAC), and other stakeholder groups have made the Exeter River watershed a priority for protection and restoration efforts.

Refer to the following sections for descriptions of watershed studies and initiatives in the Exeter River watershed.

Exeter River Geomorphic Assessment and Watershed Based Plans

The technical information in the Exeter River Geomorphic Assessment and Watershed Based Plans of the Lower Exeter River and Middle Exeter River– and the recommended restoration projects - can be used to enhance local and regional efforts to protect and preserve valuable wildlife habitat within the Exeter River corridor.

Fluvial geomorphology is the study of how running water shapes the landforms on the Earth's surface. ***Fluvial erosion*** is the wearing away of a river channel bed and banks by the action of water. ***Fluvial erosion hazard zones*** are those areas where active fluvial process are occurring and will likely occur in the future (i.e. channel changes and migration within the floodplain or river valley).

Fordway Brook, Upper Exeter River, Dudley-Bloody Brook, and Lower Exeter River (2009)
Bear Creek Environmental, LLC and Fitzgerald Environmental Associates, LLC

The 2009 Exeter River Geomorphic Assessment and Watershed Plan focuses on geomorphic assessments of four subwatersheds of the Exeter River - Fordway Brook, Upper Exeter River, Dudley-Bloody Brook, and the Lower Exeter River. Field data was collected for a total of 48.4 river miles of the Middle Exeter River. The main objectives of this study are to assess fluvial geomorphic and habitat conditions in the four subwatersheds and develop a watershed-based restoration and protection plan for Exeter River stakeholders. A planning strategy based in fluvial geomorphic science was chosen because it provides a holistic, watershed-scale approach to identifying the stressors on river ecosystem health. This science provides communities, planners and resource managers the ability to predict stable and unstable river reaches, and recommendations which can help avoid public and private property damage over the long term. NHDES and the Exeter River Local Advisory Committee (ERLAC) intend to use the results of this study to guide future restoration efforts and educate the larger community in the watershed about the importance of protecting the Exeter River. An implementation schedule has been developed to focus financial resources on high priority restoration projects.

Middle Exeter River (2010)

Bear Creek Environmental, LLC and Fitzgerald Environmental Associates, LLC

The 2010 Middle River Exeter River Geomorphic Assessment and Watershed Plan focuses on the middle section of the Exeter River main stem from the Raymond/Fremont town line downstream to the confluence of the Little River in Brentwood. A total of 12.5 river miles of the Middle Exeter River watershed were assessed through field data collection and mapping.

The Middle Exeter River Geomorphic Assessment provides site and watershed-specific recommendations for restoration and protection actions. The river corridor planning team has identified 20 potential protection and restoration projects that could successfully restore portions of the Middle Exeter River subwatershed. These projects have been identified as high, moderate or low priority based on their effectiveness and feasibility.

The NHDES staff will work in the future with ERLAC, Rockingham Planning Commission, and watershed communities in the study area to develop an implementation plan and schedule to address actions recommended in the plan. Future restoration and protection projects will be selected on the basis of local capacity, funding availability and environmental benefit.

Exeter River Local Advisory Committee

In 1995, a group of watershed residents were successful in enrolling the Exeter River in the State of New Hampshire's Rivers Management and Protection Program. This program is administered by the New Hampshire Department of Environmental Services and its purpose is to "ensure the continued viability of New Hampshire's rivers as valued economic and social assets for the benefit of present and future generations." The Exeter River Local Advisory Committee, known as ERLAC, was established in 1996 to oversee the development and implementation of a river management plan. Committee members are residents from watershed communities working to protect and maintain the river's natural character.

ERLAC completed the Exeter River Corridor and Watershed Management Plan in 1999 and since that time has designed many public education and outreach programs to increase awareness of the natural resources in the watershed. Each May, in time for the annual migration of Alewives from the Atlantic Ocean to their spawning grounds in the Exeter River, ERLAC holds the Exeter River Alewife Festival, a day-long celebration of the river and its watershed. ERLAC meets monthly and committee members are sought to represent each of the ten watershed communities. For more information, please contact: ERLAC, c/o Rockingham Planning Commission, 156 Water Street, Exeter, NH 03833.

Exeter River Bio-Inventory Study

The Exeter River Bio-Inventory Study was completed by West Environmental, Inc. in January 2011 with collaborative grant project funds from the I-93 Community Technical Assistance Program (CTAP). The Exeter River Bio-Inventory study was one of four tasks in a collaborative project between the towns of Danville, Fremont and Sandown to document resources in the Exeter River

corridor and develop technical and planning tools to address wildlife and habitat protection within the three towns. Other project tasks included completion of this draft Master Plan Wildlife and Habitat Chapter, completion of an Open Space Report for Sandown, and providing outreach on the collaborative project within the three towns.

Summary of the Study and Findings

The floodplain of the Exeter River in Danville, Fremont and Sandown supports a wide variety of wetland plant communities that protect and enhance water quality of the River filtering surface water and trapping and attenuating pollutants and sediments. Red Maple Forested Swamps, Oxbow Marshes, Buttonbush Swamps and Vernal Pools, can be found in floodplains and these wetlands provide critical habitat for several rare and endangered plant and wildlife species. Habitat for wood turtle, State endangered Blanding's turtle, and spotted turtle is present in these wetlands. Habitat also exists for rare bird species including sedge wren, American and least bittern, pied-billed grebe and American black duck. Mapping and inventorying these habitats will help to provide these three towns the important planning tools. The information collected from this project can be used in future grant requests and to prioritize habitat and water quality protection.

This study included mapping and evaluating wetlands within the FEMA mapped floodplain of the Exeter River in the three towns, field data collection to verify plant communities and wildlife habitats, preparation of final report with maps and data, and presentations of the report and its findings to the three towns at public meetings in January 2011.

Overall reach of Exeter River within Study Area – approximately 15 miles and almost half of the rivers reach. Most of the study area in Danville and Sandown represents the headwaters of the Exeter River and therefore is critical to the overall health of the river.

Total Study Area 1882.27 acres Study reaches include:

Sandown	5 miles
Danville	1 mile and tributaries
Fremont	south reach 2 miles and north reach 7 miles

Note: Portions of the FEMA mapped floodplain in these towns do not contribute to the Exeter River and in some cases is not part of its watershed.

Copies of the Exeter River Bio-Inventory Study are available at the Rockingham Planning Commission and on its website, and the town Halls of Danville, Fremont and Sandown.

RECOMMENDATIONS FOR WILDLIFE AND HABITAT PRESERVATION

Following are recommendations offered by the Sandown Conservation Commissions:

1. Encourage implementation of Low Impact Development practices to enhance stormwater management for water quality benefits and reduced land disturbance.
2. Evaluate existing Open Space Development ordinance (Article II, Part D) for inclusion of incentives to protect wildlife and habitat.
3. Support protection of riparian habitats and upland wildlife corridors.
4. Encourage improved stewardship and management of wildlife habitat.
5. Recommend development of standards for placement of time of year restrictions for certain types of development activities in Site Plan Review Regulations and Subdivision Regulations.

6. Encourage use of the NH Wildlife Sightings On-line Database by residents as a way to increase community participation in wildlife and habitat protection.

STRATEGIES FOR PROTECTION OF OPEN SPACE

Chapter Five of the Regional Open Space Plan notes a host of options that are available to protect land. A few are noted below.

1. Conservation easements and restrictions can be an effective and low cost option to preserve open space. With this tool, development of the property is restricted, but passive uses are allowed. These easements can be donated or purchased, which can significantly stretch scarce conservation funds.
2. The bonding for outright purchase of property is one of the most expensive preservation methods. Although this option is often the most expensive option for a community, the municipal costs (schools, roads, fire and police) of allowing the property to be subdivided for residential development are significantly higher over time.
3. Created by the legislature in May 2000, the Land and Community Heritage Commission (LCHIP) is designed to help communities conserve New Hampshire's most important natural, cultural, and historic resources. The program provides matching grants to municipalities and non-profit organizations to help save locally determined open spaces and historic sites. State agencies are not eligible to receive funding from LCHIP. LCHIP is flexible and designed to support local efforts by providing up to 50% of the cost of a conservation or preservation project. The program can assist communities to purchase land for conservation purposes, protect land with a conservation easement, or support the stewardship of already protected resources. Funds for this program were severely cut in 2003 and competition for this limited resource will be significant.
4. Limited Development – In lieu of developing a parcel to its maximum potential, this conservation option consists of developing a portion of the property, while preserving a majority of the land as protected open space. This technique is a useful tool that allows an owner to gain some financial benefit from development, while preserving land as well.
5. Open Space Development Ordinance – This option to preserve open space has been used in Sandown on a limited basis.

RECOMMENDATIONS

1. Increase the percentage of Use Change Tax monies that is available to preserve open space from 50% to 100%. These funds should be seen as a ‘bonus’ to the community and used aggressively to preserve land. This revenue source is typically not anticipated and their diversion to open space funding will save the community from future municipal service demands.
2. The Conservation Commission should undertake a Forest Management Plan on key town owned property.
3. As noted in the 1995 Master Plan, the size and exact boundaries of many town properties are in doubt and an effort should be made to survey the most sensitive of these sites.
4. The Town and State should continue to monitor the water quality of the community’s ponds.
5. A community wide trails-sidewalk-bike path plan should be developed. Key open space areas should be linked by trails. In conjunction with this effort, the Planning Board should begin to negotiate pedestrian access easements on key parcels of property; this is especially true for developments proposed along the Exeter River.
6. With the community relying solely on wells for its water supply, the Planning Board should insure that the Zoning Ordinance continues to provide adequate ground water protection measures to preserve this valuable resource.
7. Given the importance of open space to the community, Sandown should strive to preserve 25% of the town’s land area. As a part of this effort, the Conservation Commission should develop and maintain a priority list of land areas or specific parcels that have unique or critical natural resource values (such as those noted in the Regional Open Space Plan), including areas that are contiguous to or provide linkage to existing conservation lands.
8. Using the recently published RPC Open Space Plan for guidance, prioritize lands for conservation and protection.
9. Continue to comply with National Pollutant Discharge Elimination System (NPDES) Phase II requirements.
10. The Town should join the Regional Planning Commission, which will provide numerous planning support services to the community.
11. Given the low yield aquifers within the community, the Planning Board should consider amending the Zoning Ordinance to prohibit the pumping of ground water for bottling.

CONSERVATION COMMISSION RECOMMENDATIONS

1. Work with landowners to protect land abutting surface water resources from development to insure adequate water supply, wildlife habitat and recreational opportunities.
2. Continue the Town's involvement in the Exeter River Local Advisory Committee to consider the implementation of the Exeter River Corridor and Watershed Management Plan (1999) recommendations.
3. Work with the Exeter River Local Advisor Committee to conduct an annual reconnaissance of the River to identify threats to water quality and wildlife habitat and review recreational opportunities.
4. Provide public education regarding Nonpoint Source Pollution (NPS) prevention practices near water resources to minimize pollution. Educate septic system owners on the proper maintenance of systems by providing information on the local cable channel, public notices and direct mailing.
5. Develop and implement a water conservation education program to inform residents of actions they can take to reduce water consumption in and around the home.
6. The Conservation Commission should maintain a comprehensive GIS data base inventory on natural resources in Sandown.
7. The Town should maintain an active and adequately funded land conservation program to ensure resources are available to protect critical natural resources.

CHAPTER 8

[BUILDOUT ANALYSIS]



Photo credit: ©Lisa L. Sears, Running Creek Design Studio, Sandown, NH

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WHAT IS A BUILDOUT?

A buildout is a tool that provides estimates of future development based on different scenarios. A buildout can analyze existing adopted municipal zoning policy and alternative scenario testing potential testing of various land use regulations, open space planning and density and/or lot sizing development scenarios. A buildout can consist of one or more scenarios. Comparing various scenarios allows municipalities to test and compare the effects and consequences of various scenarios. Changing setbacks, densities, and building restrictions can significantly alter a buildout, allowing evaluation of the effectiveness and viability of changes to the zoning code and other development parameters. Questions that can be answered by a buildout scenario testing include: Where do I want my community to be at buildout? How much open space will there be? What will the traffic patterns look like? What will the quality of our environmental resources be like? Where will people live and what will the development patterns look like?

A Buildout is not a prediction of what will occur. It is a planning tool to allow community decision makers to understand the impacts of growth under a set of land use rules. A buildout project can be a community empowerment tool to help people make the best long-term planning decisions.

2004 BUILDOUT ANALYSIS

In an effort to develop an understanding of the potential impact of future residential development in Sandown, a Buildout Analysis was undertaken in 2004 to provide a projected estimate as to the number of new homes that could be built on undeveloped or underdeveloped parcels throughout the community. In determining the quantity of potential new development, the following assumptions were applied:

- All vacant land would be developed under the Town's existing Land Use regulations;
- All future development would be single-family homes;
- The number of buildable acres on each parcel was based upon the Development Consultants Map and local knowledge; and
- All homes would be served with on-site septic and wells.

The analysis determined that an additional 900 +/- single-family homes could be built in the community under existing zoning and land use regulations. In addition, 292 +/- undeveloped "lots of record" have been approved by the Planning Board, resulting in an estimated 1,200 +/- additional new homes.

The 2000 Census notes that owner occupied households equate to 3.05 persons per unit, which would result in an additional 3,660 people in the community. In the School Impact Fee Update written by Planning Consultant Bruce Mayberry in 2002, an estimated school age enrollment of 0.658 per dwelling was used to project the number of future school children. Using this estimate, an additional 790 school children can be expected from these 1,200 homes. The 2000 Census also estimated that each owner occupied home has 2.22 vehicles, which equates to 2,664 additional vehicles in the community. Traffic projections for single-family homes typically estimate that each home will generate 10 vehicle trips per day (5 in and 5 out). Given this estimate, these new homes will generate an additional 12,000 vehicle trips onto the local road network.

2009 I-93 COMMUNITY TECHNICAL ASSISTANCE PROGRAM BUILDOUT ANALYSIS

As part of the I-93 Community Technical Assistance Program (CTAP), the Rockingham Planning Commission completed a Buildout Analysis in 2009. The CTAP program and Buildout reports were part of a five-year initiative designed to assist communities that will be affected by the rebuilding of I-93. The buildout analysis is designed to allow a community to assess their future needs and help them reduce any negative consequences from the increased development pressure that could result from widening of I-93. The Community Specified scenarios in this report do not necessarily represent official policy goals or a plan for the community, but are merely a test of alternative growth scenarios. Refer to the 2006-2009 CTAP Buildout Results map (page 140) for the development scenarios modeled.

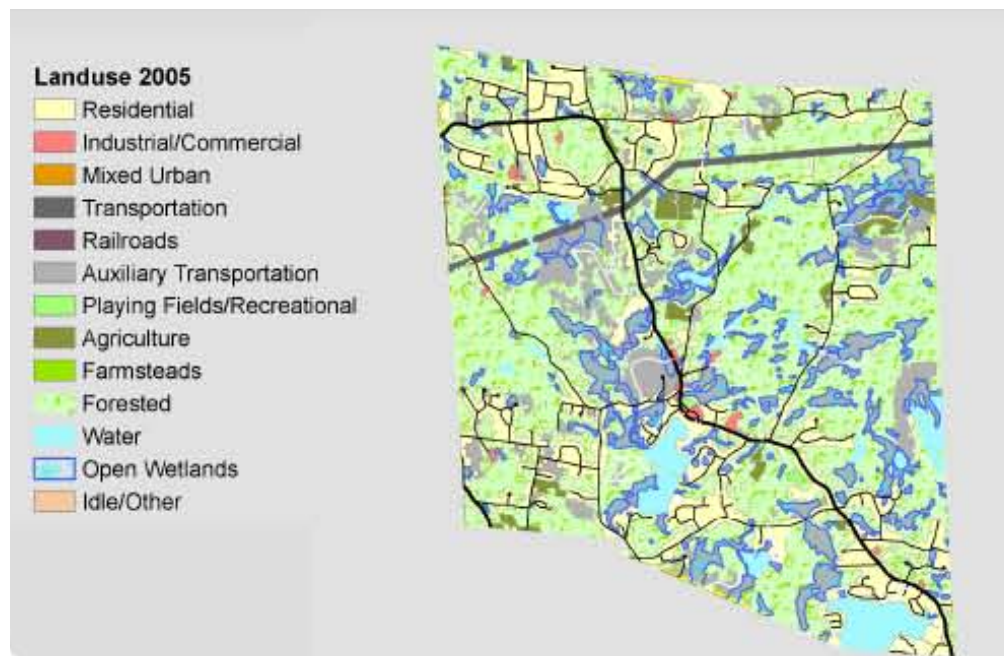
The CTAP buildout contains three scenarios: base, standard alternative (“smart growth”), and community alternative. The buildout method allows for the potential testing of alternative land use regulation, open space planning and major development scenarios. The base buildout analysis estimates maximum growth that would likely occur in a community under their current land use regulations and zoning. The standard alternative buildout analysis estimates maximum growth that would likely occur in a community applying the smart growth principles whereby development is concentrated in town centers and accessible to public water and sewer systems if available.

It is difficult to predict how soon Sandown will be built out. The economy, development trends and the availability of land all factor into the pace of development. It is clear that Sandown will remain an attractive community within which to live given its location and quality of life. Over the past few years Sandown has averaged approximately 30 new homes per year. If we assume this trend continues and that all of the community’s vacant land is developed, then it can be estimated that Sandown will be built out in approximately 20 years. Statistics from the CTAP Buildout are reported below in Table 8-1.

Table 8-1. 2010 CTAP Buildout Analysis Results

Category	Indicator	Units	Current	Base Buildout	Percent Change	Standard Alternative Scenario	Percent Change
Land Use Buildout	Developed Residential Acres	Acres	2,181	5,205	139%	4,909	125%
	Developed Non-Residential Acres	Acres	61	117	93%	145	138%
	Residential Dwelling Units	Units (du)	2,712	4,467	65%	4,465	65%
	Commercial Floor Area	Sq. ft.	221,430	488,103	120%	1,142,107	416%

Figure 8-1. The Existing Land Use Map is one data layer in the base buildout.



CHAPTER 9

[EXISTING & FUTURE LAND USE]



Photo credit: ©Lisa L. Sears, Running Creek Design Studio, Sandown, NH

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Refer to the following maps in the Master Plan Map Set for information about land use, development patterns and land cover: 2010 Land Use (page 130), 2010 Aerial Photo (page 129) and Composite Tax Map (page 132).

EXISTING LAND USE

As a rural community close to the I-93 corridor and Boston Metropolitan area, the existing land uses in Sandown are predominately single family residential homes. This can be clearly seen on the Existing Land Use Map. These residential uses predominate in the northern and southern areas of Sandown, with a majority of the community's undeveloped land located in the central portion of the community. A number of these remaining open lands have been subdivided and approved for additional residential development. Table 9-1 provides a detailed breakdown of the various land uses in Sandown from 1962 to 2010.

Table 9-1 Historic and Existing Land Uses

TOTAL AREA	1962	1974	1998	2005	2010
Agriculture	499.4	369.4	171.1	187.8	188.9
Forested	7,528.3	7,323.0	6,251.8	4,531.1	4,367.4
Industrial/Commercial	25.7	21.6	33.1	55.9	55.6
Mixed Urban/Municipal	--	--	6.3	4.9	4.9
Wetlands	244.0	276.7	187.5	948.9	948.8
Recreation	--	--	--	10.0	12.2
Residential	311.0	571.1	1,686.9	2,081.1	2,178.0
Transportation	76.3	89.4	137.2	162.0	177.9
Utilities	--	--	--	129.5	129.5
Water	329.8	335.4	378.5	426.6	426.6
Idle/Vacant	217.1	245.2	379.4	693.8	742.0
Conservation/Town Land					

Note: Years 1962, 1974 and 1998 were compiled with slightly different methodology than years 2005 and 2010. Classification of wetlands was improved between 1998 and 2005. Due to lesser quality aerial photos many wetlands were classified as 'Forested' prior to 2005.

The land and water area of Sandown totals 14.5 square miles or 9,280 acres. The most notable change in land use from 1962 to 2010 was the increase in residential use comprising 3.4 percent in 1962, 6.2 percent in 1974, 18.2 percent in 1998, 22.4 percent in 2005, and 23.5 percent in 2010. As of 2010, 47 percent of the town is forested, 14.8 percent is wetlands or water, 3.3 percent is transportation/roads and utilities, 2.0 percent is agriculture, and 0.6 percent is industrial and commercial.

The small percentage of non-residential land uses places a tremendous amount of pressure on residential properties to fund municipal expenditures and services. Providing additional opportunities for non-residential land uses can provide a source of positive tax revenue to Sandown, reducing the high tax burden that currently exists on residential property owners.

Municipal uses, conservation lands, recreational uses and town-owned properties equal only 4.2% of the community's total land area. As noted in the Natural Resource Chapter, Open Space Plan and further highlighted in Table 9-1, the lack of protected open space in the community is clearly

evident. This lack of protected land is currently being masked by the fact that 37.75% of the community is undeveloped. As these wooded areas are developed, this lack of protected open space will become more and more noticeable. Additional effort is needed in the community to protect the community's remaining open space. The Community Profile highlighted Sandown's rural character as one of the community's leading assets and maintaining that asset will require significant additional effort on the part of the community.

FUTURE LAND USE

A public visioning session - conducted on February 7, 2012 as part of the Master Plan update - identified the following as priority issues in the community: 1) retaining the small town New England character, and 2) lack of a defined and functional town center. Additional concerns noted at this session were: absence of a "vision and development plan" for town center; access and pedestrian safety issues on Route 121A; need for sidewalks and lighting; and improved vehicle and pedestrian circulation and parking in the town center.

In 2012, the Planning Board submitted several grant proposals to: 1) develop a vision and concept plan to facilitate growth within the Village Center zoning district, including incentives for private investment, prioritization of municipal investments, and possible zoning amendment recommendations; 2) develop access management recommendations for Route 121A; 3) develop recommendations to guide future land use, growth and development patterns, and nature resource protection; and 4) ensure that these initiatives are guided by a consistent framework and completed in a collaborative manner that incorporates extensive municipal and public participation. The proposed land use, transportation and environmental study would result in development of maps and detailed analysis of future land use and development patterns and trends, and natural resource protection in residentially zoned areas, which represent the largest potential growth area in the community. This analysis would use "scenario planning" in which different land use, resource protection and growth patterns will be evaluated for their impact on the infrastructure, ecosystem services/function, municipal services and costs to the community.

Sandown has experienced rapid growth and development in recent decades, as illustrated by the following population trends statistics.

YEAR	1960	1970	1980	1990	2000	2010
Sandown	366	741	2,057	4,060	5,143	5,986

The Buildout Analysis completed in 2010 as part of the I-93 Community Technical Assistance program projects a 65% increase in population, a 139% increase in residentially developed lands (an additional 3,024 acres) and 65% increase in number of residential dwelling units. Under current zoning and land development regulations, the level of growth remaining could have a significant effect on the local transportation network, development pattern and environment of the town.

VILLAGE CENTER

Concept Planning

The Planning Board has discussed development of a Vision and Concept Plan for a new Village Center zoning district, using a series of public input and visioning/design sessions. Located south of the existing Business district, the Village Center area would encompass municipal facilities including

the town hall, police and fire stations, elementary school, library, and historic train depot. With the aid of detailed graphic illustrations, the Planning Board would like to secure funding to test specific development scenarios, zoning, form based code approaches, site design criteria, and land development types to evaluate their efficacy in achieving a unified town center. From this process a Vision and Concept Plan could be produced, including recommendations for possible amendments to zoning and land development and subdivision regulations.

Many small town communities in New England are known for having a clearly defined “town center”, which often includes a town common or park, churches, shops and municipal buildings. This focal point in the community often shapes a town’s image in a very positive manner. Although Sandown lacks a bandstand and a town common, many of the traditional uses associated with a New England village are present in the town’s center and with careful planning a more cohesive village can be created. In addition, the construction of a community focal point (such as a bandstand) would enhance the downtown appearance and provide the community with a place to gather for special events and significant holiday celebrations. A number of locations near Town Hall may be appropriate and a community “barn raising” event could be held to construct a bandstand, bringing together the many resources that exist in Sandown. The addition of sidewalks will also assist in creating a pedestrian friendly village area.

Zoning Changes

The Business district is a narrow strip of land situated in the geographic center of the community and aligned with Route 121A the major local transportation route, offering limited development potential given its size and zoning restrictions. The location of this zone should be reviewed and the boundaries potentially changed to encourage additional “small” non-residential development in the community and to alleviate several split-zoned parcels that currently exist. Single family homes should be discouraged in this area, creating a greater incentive to encourage a highest use of the property and reduce the loss of the commercial property to residential uses. To implement some of the ideas noted in the Housing Chapter, multi-family uses along with affordable housing initiatives could be incorporated into the new Village Center. Creating a consolidated environment that allows for higher residential density closer to municipal services (Town Hall, school, library, recreational uses) is a sound planning practice. These multi family units could be located on parcels by themselves or incorporated into mixed-use developments containing both residential and commercial uses.

TRANSPORTATION AND ROAD NETWORK

The 2005 and 2012 Community Surveys identified a desire by many residents to improve transportation opportunities and access management while also improving the aesthetic and functional quality of Route 121A and safety at its major intersections with local roads. In Sandown, Route 121A is the primary northwest-southeast roadway and state highway through town, providing access to almost all of the commercial development in the community, as well as to nearly all residential arterial and collector roads. The local road system has expanded with lack of connectivity between the residential neighborhoods and without consideration to the importance of Route 121A as a primary transportation corridor through the town.

In the Transportation Chapter, the Planning Board recommends evaluating future connections between local roadways that might improve safety and increase efficiency, as well as preserve capacity of the Route 121A corridor, and amendments to zoning and land development regulations

to require these connections for future developments. Given the remaining growth potential in the town, this information could yield valuable information for developing a coordinated approach to land use policies, transportation strategies and a village center concept plan that accommodates growth and preserves the rural character the town desires.

Access Management Plan and MOU for Route 121A

The Planning Board will evaluate existing conditions along Route 121A with respect to access points, intersection function, traffic volumes and safety for the purpose of developing access management standards for Route 121A. The Planning Board will arrange discussions with the NH Department of Transportation to create an Access Management Memorandum of Understanding based on these standards. When adopted, the MOU will serve as a guiding document for issue of both state and local driveway and access permits for Route 107A in Sandown and provide a uniform policy and communication framework for coordinating state permits with Site Plan Review and Subdivision approvals by the Planning Board. [Note the NHDOT has adopted such MOU's with the municipalities of Rochester, Lee, Northwood and Seabrook.]

RURAL COMMUNITY AND GROWTH ISSUES

Maintaining a rural character is a high priority for the community and a main focus point at the Community Profile, along with the pace of recent residential growth. This rural atmosphere is one of the main reasons many of the community's residents moved to Sandown. Given the key southern location of Sandown, the demand for additional residential development will likely continue, further converting remaining natural and open spaces to a developed suburban landscape. Aside from buying land outright for conservation, a number of options are available to assist communities in preserving their rural character.

- Create incentives and encourage open space cluster development of residential properties: Although the zoning ordinance allows cluster developments, this option is not often used. This regulation should be reviewed to determine how this form of residential use could be used more often.
- Increase front lot setbacks along existing town roadways, along with a requirement that a tree buffer be maintained along the property frontage.
- Require common driveways to service proposed lots along exiting town roads, reducing tree clearing for multiple driveway entrances.
- Allow for reduced frontage requirements and common driveways in exchange for preserving open space along the lots frontage. With access provided by common driveways, access is focused on one location and vegetation is maintained along the lots frontage.
- Require mandatory phasing of subdivisions. Depending on the size of a project, the number of lots that can be built on in a given year would be limited. This approach can reduce large spikes in population and associated community related impacts.
- Building Permit Limitation. This option was used by Sandown for five years during the 1990's to control growth and was extremely controversial. Significant community discussion and research should occur before this option is considered again as a growth control option.
- RSA 231:157 – Scenic Road Designation. The Planning Board and Conservation Commission should assess the community's rural roadways and determine if these roadways deserve the protective measures provided for in this state law. Tree lined streets enhance a community's rural atmosphere and when appropriate, should be preserved.

RECOMMENDATIONS

1. Evaluate further the potential effects of future growth on the local transportation network, development patterns and environment/natural resources.
2. Explore zoning changes to encourage the development of a village center including higher density bonuses to encourage more commercial development.

CHAPTER 10

[ENERGY]



Photo credit: ©Lisa L. Sears, Running Creek Design Studio, Sandown, NH

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INTRODUCTION

PURPOSE

The purpose of this Chapter is to provide guidance and tools, identify strategies and actions, and provide a vision for achieving energy efficiency, conservation, sustainable growth and development in Sandown. The interconnected relationship between rising costs of energy and the environmental and economic implications of climate change have raised concerns about what communities can do to protect their future interests. Reduction in energy consumption provides both economic and societal benefits including reduced energy costs, reduced greenhouse gas emissions resulting in improved air quality. Energy efficiency and conservation strategies should target all municipal and private facilities, infrastructure and systems that use energy such as buildings, homes, transportation, lighting, water, waste management, emergency services, public spaces and recreation.

Ultimately, implementation of sustainable development practices can help provide a balance between environmental protection, economic benefits, and equity in the community. This can be achieved by removing obstacles from planning and regulation, creating opportunities for energy efficiency and renewable energy generation.

WHAT IS ENERGY EFFICIENCY AND CONSERVATION

Energy efficiency and conservation focuses on one main objective - reducing overall energy consumption across all sectors thus reducing energy costs and environmental pollutants.

Communities can achieve reductions in energy consumption by addressing the following:

- Efficiency for both existing and new buildings
- Community awareness and participation
- Transportation systems, choices and alternatives
- Access to clean fuel choices
- Street and outdoor lighting
- Recycling, composting and reuse programs
- Consumerism of local products and services
- School and classroom education programs

RATIONALE FOR ENERGY EFFICIENCY AND CONSERVATION

Cost and Efficiency

Statewide trends in energy consumption, translated to the regional level, reveal that the average resident in New Hampshire consumes 9% more energy in 2004 than they did in 1990. From 1990 to 2004, the major economic sectors experienced growth: commercial by 74%, transportation by 50%, and residential by 26%. However, in 2004, the residential sector was the second largest energy consumer exceeded only slightly by the transportation sector. Petroleum was by far the highest consumptive fuel source across all sectors, followed by nuclear power, an electric power fuel source.

Alterations to our climate could result in adaptive changes or decline in certain sectors of the regional economy, including winter tourism, agriculture, maple syrup production, coastal real estate values (due to sea level rise and increase in storm intensity), and health costs associated with respiratory health and heat related illnesses.

Land Use and Planning

The infrastructure for energy use and delivery can influence land use decisions about where growth occurs and where we live, work and play. NH State law encourages energy efficient patterns of development through zoning that does not unreasonably limit development of alternative and renewable sources of energy. Reductions in energy consumption can also be achieved through implementation of conservation measures, smart growth, and development of alternative transportation systems. These concepts are described in the table below.

Table 10-1. Summary of implementation strategies to reduce energy consumption

Conservation Measures	<ul style="list-style-type: none">▪ Energy efficiency in buildings, fixtures and infrastructure▪ Behavioral changes including trip consolidation, ride sharing, reduction in lighting and appliance use, efficiency in equipment and other purchases
Smart Growth	<p>Smart Growth Principles:</p> <ul style="list-style-type: none">▪ Incorporate a mix of uses to provide a variety of housing, employment, shopping, services, and social opportunities for all members of the community.▪ Preserve working landscape by sustaining farm and forest land and other rural resource lands to maintain contiguous tracts of open land and to minimize land use conflicts.▪ Provide choices and safety in transportation to create livable, walkable communities that increase accessibility for people of all ages, whether on foot, bicycle, or in motor vehicles.▪ Protect environmental quality by minimizing impacts from human activities and planning for and maintaining natural areas that contribute to the health and quality of life of communities.▪ Involve the community in planning and implementation to ensure that development retains and enhances the sense of place, traditions, goals, and values of the community.▪ Manage growth respecting the local community tradition, but work with neighboring towns to achieve common goals and address common problems more effectively.
Alternative Transportation	<ul style="list-style-type: none">▪ Public transit including buses, vanpools, rideshare programs, and park and ride facilities▪ Accommodations for bicycles and pedestrians▪ Promote and participate in regional collaboration to improve transit system.

THE SANDOWN ENERGY COMMISSION

INTRODUCTION TO NH LOCAL ENERGY COMMISSIONS

In 2010, Sandown was one of 163 municipalities that passed the New Hampshire Climate Change Resolution that calls on the federal government to prioritize climate change policy and enables the formation of a local energy Commission (LEC) to address energy efficiency and conservation, emission reductions, and other energy related issues. The generation and use of energy and

emissions from energy use - whether for our homes, businesses, transportation or recreation - has a very significant impact on our environment, and the health and welfare of the community. Local energy Commissions are an important way to help inform decisions makers and residents about how to advance cost-effective strategies that save energy, reduce costs and help protect the environment. Through new initiatives and strong policies, the community with assistance from the LEC can move toward a more sustainable and clean energy future.

MISSION STATEMENT AND ROLE

Mission Statement

The mission of the Sandown Energy Commission (SEC) is to promote energy conservation, energy efficiency, and explore other ways to reduce energy expenditures for residents and taxpayers, businesses, and municipal operations, thus reducing energy costs and carbon emissions while improving the quality of living in our community.

Role of the Energy Commission

The role of the Sandown Energy Commission is to:





- Provide information to the Board of Selectmen about strategies and improvements to increase the energy efficiency of municipal facilities.
- Report to the Board of Selectmen on energy usage for municipal facilities on an annual basis and as requested.
- Coordinate with boards, commissions, schools and other organizations to promote and implement voluntary energy efficiency and conservation measures in the community.
- Advise the Planning Board on regulatory and planning strategies relating to energy efficiency and conservation.

The Sandown Energy Commission meets monthly or more frequently depending upon availability of members and need. The meetings are noticed at Town Hall, Post Office and Town Web site and open to the public. An agenda is developed for each meeting to guide discussion and inform the public of the activities of the Commission. The Commission keeps minutes of their meetings, which are available on the Town of Sandown's website at www.sandown.us and at the Town Clerk's Office in the Town Hall.

GOALS OF THE SANDOWN ENERGY COMMISSION

The Sandown Energy Commission has identified the following general short term and long term goals relating to energy efficiency, use and conservation.

Table 10-2. General, short term and long term goals of the Sandown Energy Commission

General Goals	Short Term Goals (1 year)	Long Term Goals (2or more years)
<p><i>Reduce overall energy use, and emissions throughout the community</i></p> 	<ul style="list-style-type: none"> ▪ Complete an energy inventory for municipal buildings and infrastructure and report findings to the Board of Selectmen ▪ Audit buildings with highest *EUI and identify potential municipal building energy improvement project(s) ▪ Evaluate and reduce municipal street lighting costs ▪ Encourage community participation in energy savings. ▪ Present samples of energy efficient development ordinances and regulations to the Planning Board. 	<ul style="list-style-type: none"> ▪ Complete an evaluation of energy use and savings resulting from improvements to municipal buildings and infrastructure ▪ Establish budget/funding process for municipal projects ▪ Identify outside funding sources for energy efficiency projects ▪ Complete an evaluation of energy use and savings resulting from improvements to street lighting ▪ Help pass zoning ordinances that incent developers and home builders to put in energy efficient homes and developments.
<p><i>Provide outreach and raise awareness in the community about energy use, conservation and emissions</i></p> 	<ul style="list-style-type: none"> ▪ Conduct an annual Energy Fair ▪ Develop speaker series in conjunction with library ▪ Develop graphic reporting community progress 	<ul style="list-style-type: none"> ▪ Reduce residential and commercial energy use, conservation, and emissions ▪ Develop energy project partnerships with schools
<p><i>Annual Energy Use Reduction Progress Report</i></p> 	<ul style="list-style-type: none"> ▪ Complete an annual evaluation of energy use and savings resulting from improvements 	<ul style="list-style-type: none"> ▪ Complete an evaluation of energy use and savings resulting from improvements in the community, as a whole
<p><i>Increase community participation on the LEC</i></p> 	<ul style="list-style-type: none"> ▪ Increase LEC membership ▪ Develop partnerships with area energy companies 	<ul style="list-style-type: none"> ▪ Conduct ongoing outreach to residents regarding LEC activities and events

EUI = Energy Use Intensity expressed in KBTU's per square foot of building space; KBTU = thousand British Thermal Units

ENERGY INVENTORY AND AUDITS

Municipal Inventory

In 2010, the Sandown Energy Commission completed an energy inventory which included data on energy use and energy costs for all municipal buildings (see details below) as well as municipal street lighting and vehicle fleet. The town has 9 vehicles used by the Fire Department and 4 vehicles used by the Police Department. The town has 13 street lights.

Table 10-3. Inventory of municipal buildings and facilities

Municipal Building	Date Constructed	Total Area (square feet)
Town Hall	1936	7,563
Main Fire Station	1980	4,088
Secondary Fire Station	1948	1,000
Police Station	1990	1,600
Town Highway Dept. garage	1984	2,180
Depot Museum	1883	1,024
Recreation Building	2009	4,800
Library	1991	3,762
Transfer Station	1983	160
<i>Total square footage</i>	--	<i>27,177</i>

SANDOWN ENERGY COMMISSION PARTNERS

The Sandown Energy Commission has identified the following energy partners in the town:

- Sandown Board of Selectmen
- Sandown Fire Department
- Sandown Police Department
- Sandown Library
- Public Service of New Hampshire
- New Hampshire Electric Coop
- Clean Air-Cool Planet
- NH House and Senate
- Waste Management
- Area Communities
- Rockingham Planning Commission

The Sandown Energy Commission has gained support from the following:

- Board of Selectmen
- Planning Board
- Conservation Commission
- The Rockingham Planning Commission

The Sandown Energy Commission hopes to partner in the future with energy industry professionals to provide information and outreach on energy issues for the community, including: energy

providers, builders, architects, manufacturers, researchers, and state and federal agencies, and nonprofit organizations.

ENERGY RELATED ISSUES IN THE COMMUNITY

The Sandown Energy Commission has identified the following issues relating to energy consumption and use in the community.

Issue 1: Increased commute to work distances for many residents resulting in high vehicle miles travelled per person or household.

Issue 2: Lack of public transportation and alternative transportation options.

Issue 3: Balance high standard of living and median income with societal and environmental benefit of energy conservation.

Issue 4: Low participation in recycling and composting throughout the community.

SANDOWN ENERGY COMMISSION FINDINGS

The Sandown Energy Commission has identified the following findings relating to energy efficiency, use and conservation.

1. Town buildings could benefit from general weatherization and, in some cases, improvements to heating and or cooling systems.
2. The Town currently uses a manual system for tracking municipal facilities energy usage and costs for budgetary planning only.
3. The Town currently has no policy, regulatory measures or voluntary incentives, beyond the minimum state standards to ensure energy efficiency for new and existing residential and municipal construction.
4. The Town does not include in the Capital Improvement Plan (CIP) funds for implementation of energy efficiency and conservation measures, including improvements to municipal buildings and infrastructure or to purchase energy efficient equipment and vehicles.
5. Residents and business owners are typically not aware of initiatives, events and opportunities to learn about and implement energy efficiency and conservation measures in their homes and businesses.
6. Community members currently are not allowed to “repurpose” items dropped off at the recycling/transfer station. (Many communities allow residents to take reusable items that are dropped off at the transfer stations for their own personal use.)
7. The town does not have a subdivision and site review process to assist in the integration of energy saving measures into the building process.

DEVELOPING AND GROWING WITH EFFICIENCY

OPPORTUNITIES FOR IMPLEMENTATION

Regulatory Measures

Zoning and Ordinances

Many communities are leading by example by adopting innovative zoning and ordinances that promote energy efficiency and sustainable development such as:

- Alternative energy systems (solar, geothermal, wind)
- Mixed use development
- Minimum performance-based building standards
- Conservation subdivisions (60 percent and greater open space)
- Open space and agricultural zones (land preservation and low density)

Subdivision and Site Plan Review Regulations - Commercial

Subdivision and site plan review regulations can require specific site design elements that achieve energy efficiency and conservation at the site and lot level. Such elements include:

- Maximize benefits of solar heating through building orientation and window placement
- Orient buildings to reduce wind loads
- Maximize benefits of passive cooling with landscaping to provide shading and wind breaks
- Use of native and drought tolerant species to reduce resource demand for maintenance

Voluntary Incentives

Voluntary incentives can be incorporated into development requirements including subdivision and site plan review regulations. Examples include:

- Density bonuses for subdivisions that incorporate renewable energy and energy efficient designs and infrastructure
- Zoning that permits renewable energy systems through an expedited review process and adherence to certain site design standards
- Tax credits for installation of renewable energy and energy efficient design and infrastructure
- Maximize benefits of solar heating through building orientation and window placement
- Orient buildings to reduce wind loads
- Maximize benefits of passive cooling with landscaping to provide shading and wind breaks
- Use of native and drought tolerant species to reduce resource demand for maintenance
 - Encourage Low Impact Development ordinances

Redevelopment and Infill

Reuse of the built environment helps renew and maintain vibrant communities by generating new economic opportunities, while preserving resources and open space. Restoring idled or abandoned or underutilized property to productive uses that provide services, jobs and housing (including supportive language for accessory apartment structures to meet the requirements of workforce housing) in the community can increase land values and property tax revenues and improve quality of life.

Energy Efficiency in New Construction

Sustainable practices are aimed at guiding how new development is constructed to attain energy efficiency and conservation, and to promote use of sustainable materials and energy.

- Performance based standards and building codes will ensure that all new buildings are constructed to a minimum efficiency level, for example using LEED standards or EPA Energy Star standards.
- Construction standards can ensure energy efficiency, use of products that provide long term durability, and use of sustainable and recycled materials (including salvaged, refurbished or reused materials).
- Site design techniques that take advantage of sun exposure, differences in microclimate, and landscaping reduce a development's energy demand and overall energy consumption.

Energy efficient planning principles and provisions to allow for renewable energy generation should be implemented through subdivision and site plan review regulations, zoning ordinances and building codes.

Transportation, Land Use and Environmental Planning

In order to achieve energy efficiency and sustainable growth and development, Sandown will need to integrate its long-term transportation, land use and environmental planning initiatives. This may include an audit of existing zoning, ordinances and regulations to determine whether the goals of this chapter are being implemented adequately and consistently across transportation, land use and environmental planning. In addition, the town's ongoing participation in the Rockingham Planning Commission's Metropolitan Planning Organization (MPO) will be essential to meeting the future transportation and transit needs of the community.

COMMUNITY ENERGY NEEDS FOR THE FUTURE

The NH Office of Energy and Planning (NHOEP) estimates that the population of Sandown to increase by 20 percent to 7,790 residents by 2030. Considering this projected population increase, Sandown might benefit from an evaluation of community energy needs for the future. This may include analysis of existing growth and development patterns, build-out scenarios under current zoning (provided by the Rockingham Planning Commission), and current energy supply sources. Sandown may also consider what its role will be in addressing the goals of the New Hampshire Climate Action Plan, and whether the town will adopt a commitment to achieving these goals. Sandown would benefit from a review of existing zoning and planning procedures aimed at eliminating regulatory roadblocks to renewable energy installations within the town.

Table 10-4. Historic population and population projections to 2030 for Sandown

US Census Data		NHOEP (estimated)	NHOEP (projections)				
1990	2000	2009	2010	2015	2020	2025	2030
4,060	5,143	6,001	6,070	6,360	6,610	6,860	7,090

SUSTAINABLE GROWTH AND DEVELOPMENT

WHAT IS SUSTAINABILITY?

Sustainability is the ability to provide for present needs without damaging the ability of future generations to provide for themselves. The primary philosophy of sustainable growth and development is that new development and redevelopment can be done in such a way that they provide environmental, economic, and quality of life benefits to all members of the community. Without proper attention to the affects of unmanaged growth, communities are at risk of exhausting their environment of what makes them unique and desirable places to live, work and visit.

There are several indicators of “sustainability” and *a sustainable community is one that is consistent with all of these*. Indicators of sustainability are summarized in the table below.

Table 10-5. Indicators of sustainability

Sector	Indicators of Sustainability
Environment	Conservation Development Water Resource Protection Sustainable and Natural Landscapes Community Character Historic Preservation Green Infrastructure
Economy	Energy Efficiency and Conservation Renewable and Alternative Energy Recycling and Reuse of Materials Livable Communities Green Building
Equity	Housing Choices Transportation and Mobility Access/Options Open Space, Parks and Recreation

RATIONALE FOR SUSTAINABLE DEVELOPMENT

The built environment has a profound impact on our natural environment, economy, health and productivity. Sustainable development is a pattern of resource use that aims to meet the needs of the community today and protect its needs of the future, while preserving the environment. Sustainable development ties together concern for the carrying capacity of natural systems with the social challenges facing individuals and communities. Communities can achieve sustainable development by integrating land use and resource based strategies with economic development approaches that benefit the local environment and quality of life.

In the United States, buildings alone account for:

- 72% of electricity consumption
- 39% of energy use
- 14% of potable water consumption
- 38% of total carbon dioxide (CO₂) emissions
- 40% of raw materials use
- 30% of waste output (136 million tons annually)

Sustainable development provides a framework under which communities can use resources efficiently, create efficient infrastructures, protect and enhance quality of life, and create new businesses to strengthen their economies. Fostering sustainable approaches to community development helps strengthen the capacity of communities to take integrated action toward improving environmental, social, and economic conditions.

PLANNING FOR SUSTAINABLE GROWTH AND DEVELOPMENT

Planning for sustainability promotes responsible development and includes the following processes, practices, and outcomes.¹

Planning Processes

- Making planning decisions in a holistic and fully-informed manner that involves all segments of the community and the public and private sectors.
- Educating all age groups to raise public understanding of and regard for the future consequences of past and current planning decisions and ultimately change human behavior.

Planning Practices

- Developing a future-oriented vision, looking beyond current needs and recognizes environmental limits to human development.
- Advancing projects and activities that promote economic development that: efficiently and equitably distribute resources, services and goods; minimize, reuse and recycle waste; and protect natural resources.
- Foster a widely accepted ethic of stewardship that strongly encourages individuals and organizations to take full responsibility for the economic, environmental, and social consequences of actions, and balances individual needs with environment and public welfare.
- Take leadership in implementation of local, regional and state policies and engage in inter-municipal and regional initiatives that support sustainability.

Planning Outcomes

- Local and regional development patterns that expand choice and opportunity for all persons.
- Resilient, diverse, and self-sufficient local economies that meet the needs of residents and build on the unique characteristics of the community whenever possible.
- Communities with a healthy environment and social climate that function in balance with natural ecosystems and allow individuals to lead healthy, productive and enjoyable lives.

¹ American Planning Association, *Policy Guide on Planning and Sustainability* (2000)

SUSTAINABLE DEVELOPMENT PRINCIPLES AND PRACTICES

Sustainable Principles

Sustainable development principles cut across all dimensions of sustainability: environmental, economic and societal.

Table 10-6. Summary of sustainable principles and practices

<i>Principles</i>	<i>Sectors</i>	<i>Practices</i>
Efficient use and production of alternative energy	WATER	<i>Indoor</i> Water Conservation Water Efficient Appliances and Fixtures Water Budget
Efficient use of water and other water resources		<i>Outdoor</i> Pervious Materials Xeriscape Greywater Irrigation Harvested Rainwater
Protect quality of the air, water, land and other natural resources		
Reduce waste, pollution and environmental degradation		
Protect human health and safety	ENERGY	<i>Construction</i> Passive Solar Design Solar Hot Water, Heating and Cooling Systems Photovoltaic Systems Programmable Thermostats
Minimize impacts on local and worldwide ecosystems		<i>Outdoor</i> Energy Efficient Lighting and Landscaping
	BUILDING MATERIALS	Reduce, Reuse, Recycle Purchase local and regional materials
	SOLID WASTE	Recycling and Compost Systems Construction Waste Recycling

Many communities have discovered that traditional approaches to planning and development are creating, rather than solving, societal and environmental problems. Where traditional approaches can lead to congestion, sprawl, pollution and resource overconsumption, sustainable development offers real, lasting solutions that will strengthen communities in the future.

Sustainable Practices

Sustainable practices are aimed at guiding how new development is constructed to attain energy efficiency and conservation, and to promote use of sustainable materials and energy.

- Performance based standards and building codes will ensure that all new buildings are constructed to a minimum efficiency level, for example using LEED standards or EPA Energy Star standards.
- Construction standards can ensure energy efficiency, use of products that provide long term durability, and use of sustainable and recycled materials (including salvaged, refurbished or reused materials).
- Site design techniques that take advantage of sun exposure, differences in microclimate, and landscaping reduce a development's energy demand and overall energy consumption.

- Energy efficient planning principles and provisions to allow for renewable energy generation can be implemented through subdivision and site plan review regulations, zoning ordinances and building codes.
- Incentives in the form of tax credits, deferments, deductions or abatements can help lessen the initial cost burden of investing in energy efficient systems.

Energy Conservation and Renewable Energy

Energy is central to sustainable development efforts. It affects all aspects of development -- social, economic, and environmental -- including livelihoods, access to water, agricultural productivity, health, population levels, and education. Energy efficient design and planning techniques can be used in constructing housing and non-residential developments, prescribing density limits, integrating land uses, and designing transportation systems and infrastructure.

Environment

Ecologists recognize that there may be limits to sustainable growth and offer the alternative of a “steady state economy” in order to address environmental concerns such as resource consumption, energy production, and land conservation.

Building Efficiency

Green building practices offer an opportunity to create environmentally-sound and resource-efficient buildings by using an integrated approach to design and efficiency. Green buildings promote resource conservation, including energy efficiency, renewable energy, and water conservation features; consider environmental impacts and waste minimization; create a healthy and comfortable environment; reduce operation and maintenance costs; and address issues such as historical preservation, access to public transportation and other community infrastructure systems. The entire life-cycle of a building and its components is considered, as well as the economic and environmental impact and performance.

RECOMMENDATIONS

The goals of the following recommendations are to achieve energy efficiency and conservation, and foster sustainable growth in the community.

1. Municipal Building Standards. Newly constructed, renovated or expanded municipal facilities must meet energy efficiency standards. For example, U.S. Green Building Council, Leadership in Energy and Environmental Design (LEED) building rating system or other building performance based system.
2. Minimum Thresholds for Private Development. Implement energy efficiency standards for residential and non-residential development. For example, U.S. Green Building Council, Leadership in Energy and Environmental Design (LEED) building rating system, standards similar to the Town of Epping Energy Efficiency and Sustainable Design zoning ordinance, or other building performance based system.
3. Green Building Education. Develop local incentives for and provide outreach and information about implementation of renewable energy systems in the community.

4. Pedestrian and Bicycle Use. Develop a planning policy to make Sandown a “walkable and bikeable” community by establishing neighborhood connectivity and pedestrian and bicycle accommodations.
5. Open Space Access. Develop a policy and local incentives to encourage preservation of open space and public access to open space to promote alternative transportation and multiple users.
6. Community Energy Policy. Develop an energy policy and long-range plan for the Town of Sandown. The Plan should incorporate budgetary provisions on the town’s Community Improvement Plan (CIP) and be consistent with the goals of the Master Plan.
7. Transportation. Continue participation in the Rockingham Planning Commission’s Metropolitan Planning Organization (MPO).
8. Community Outreach and Education. Provide opportunities for residents and business owners to learn about energy efficiency and conservation measures.

CHAPTER 11

[RECOMMENDATIONS]



Photo credit: ©Lisa L. Sears, Running Creek Design Studio, Sandown, NH

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CHAPTER 1 – COMMUNITY VISION

1. The Planning Board should consider proposing an amendment to the Cluster regulation to allow for the construction of attached housing units (townhome and/or garden style).
2. Consider allowing the conversion of large, older homes into apartment buildings. The character of the buildings would be maintained and the limited apartment supply could be expanded.
3. The Planning Board should consider allowing for the construction of duplexes on smaller lots.
4. The Planning Board should consider proposing an amendment to the Zoning Ordinance to create an inclusionary zoning provision that would allow for the creation of Workforce Housing. Density bonuses could be provided to help offset the costs associated with creating these housing units. To keep the units affordable, the management of them could be transferred to a non-profit housing group who would prescreen owners and manage future sales of these units.
5. In an effort to create more of a town center environment, areas close to the town center should be considered for this type of higher density residential zoning.
6. The Planning Board has begun a process of evaluating the merits of zoning ordinance changes in the cluster housing ordinance as well as other high density housing options (work force housing). This review will include public meetings, resident participation, along with landowners, developers and other organizations with interest and expertise in this area.

CHAPTER 2 - POPULATION

No recommendations for this chapter.

CHAPTER 3 - HOUSING

1. Consider allowing the conversion of large, older homes into apartment buildings. The character of the buildings would be maintained and the limited apartment supply could be expanded.
2. The Planning Board should consider allowing for the construction of duplexes on smaller lots.
3. In an effort to create more of a town center environment, areas close to the town center should be considered for this type of higher density residential zoning.

CHAPTER 4 - COMMUNITY FACILITIES

SCHOOL DEPARTMENT

1. Enrollments at both the Regional Middle School and High School are approaching building capacity. These enrollment figures will have to be watched carefully over the next few years. If enrollment growth continues at the Middle and High School levels, preliminary studies should be undertaken to review how the matter should be addressed.
2. Discussions are currently taking place in at the state level could result in kindergarten becoming a mandatory requirement. A decision such as this would impact Sandown immediately. Adequate classroom capacity does exist in Sandown to accommodate additional students, but the special needs associated with a kindergarten program would all have to be evaluated and addressed. The 2000 Census Report notes that there were 57 kindergarten aged children in Sandown in 1999.
3. Consideration should be given to provide additional parking at the Sandown North Elementary School. During school functions, parking is a significant issue. In addition, bus and parent pickup conflicts are significant.
4. As noted in the 1995 Master Plan, the Timberlane Regional High School continues to have parking shortage problems. As more and more students drive to school, this problem will only worsen. Efforts should be made to address this matter.
5. Additional sports related demands that can be seen include the need for an additional baseball field and youth football practice field. In addition, lacrosse has become popular in the District, placing further demands on field space at the Middle and High School fields. The Sandown Central Elementary school playing field has fallen into disrepair. Grass is sparse and lacks maintenance. A review of this field by the School Board should be undertaken by a professional who is knowledgeable in turf management, to assess what actions need to be taken to bring this field up to an acceptable standard.
6. The District's Superintendent's Office should perform a careful review of its student enrollment projections and develop a reliable quantitative analysis that can be relied upon for future planning purposes.
7. The District's communities should forward residential building permit data to the SAU Office in order to inform the District of the areas growth trends.
8. The SAU Office should meet with area planning boards in order to open lines of communication, increase interaction and share trends and data.

POLICE DEPARTMENT

1. The overriding need for the Police Department at this time is a new Police Station. The Department is currently working with the University of New Hampshire to develop a building design that meets its needs. Firm cost estimates have not been determined at this time. The Police Station should remain a top priority in the Town's Capital Improvement Plan. In addition, a site for the Station should be selected and agreed upon, which will assist in garnering community support for this project. The need for this facility was noted in the Community Forum, along with the need to adequately fund emergency departments in the community.

FIRE DEPARTMENT

1. Major short term capital requirements include the immediate need for a new, 1,000 gallon attack pumper. This truck is expected to cost \$300,000.
2. Another potential future cost is the possibility that the current fire analog radio system may be replaced with a digital system. Under the Homeland Security Act, a review of this system is now under way. A grant award may provide for up to five radio systems, but with a forty man Department, this change in systems could cost over \$100,000. This proposal is still in the discussion stage, but Rockingham Dispatch believes this change could occur within the next 5 to 10 years.
3. Future paid staff demands will be dependant upon the ability to maintain a sound volunteer Department and the level of demands placed upon the Service. At this time the Department is well staffed by dedicated community volunteers.

HIGHWAY DEPARTMENT

1. The Highway Departments greatest need is the addition of running water (well) and a bathroom located inside the Department's building. This was a noted deficiency in the 1995 Master Plan and the need still exists today. Recently, the well drilling for this effort has been donated. The well pump and associated plumbing is still in need.
2. With the increased demands placed upon the Highway Department, the Road Agent believes another full-time employee would be extremely helpful to his Department. This position would require a commercial driver's license, which would give the Department greater flexibility and reduce the need to hire outside help.
3. The Department should be adequately staffed and funded to insure proper maintenance of the community's roads is maintained.
4. The Road Agent and Board of Selectmen should investigate, review and analyze the lease/purchase equipment needs of the Department.
5. The Planning Board should investigate the need for road impact fees to assist in offsetting the costs of improvements necessary to accommodate growth.

SANITATION

1. Continue to review and analyze the costs associated with operating the Department. This would include review options to control costs and seek alternative sanitation solutions.

TOWN HALL

1. With the growing population, administrative space needs and public meeting space at the Town Hall must be addressed immediately. A space needs committee should be formed to review the scope of the problem and determine potential costs. This analysis would include a review of the adequacy of the existing Town Hall and cost/benefit's analysis of renovating or building a new facility. In the event construction of a new Town Hall is considered, site selection options should be reviewed and reuse of the existing Town Hall needs to be discussed.
2. Appropriate monies should be set aside each year in a capital reserve account to address general maintenance issues with town buildings.
3. Continue negotiations with Sandown's cable provider to have key municipal meetings broadcast to the citizens of the community. This should be a prime issue when the community renegotiates its contract with the cable provider.
4. Work with the SAU Office to coordinate and simplify the use of school facilities for town related activities.

LIBRARY

1. As noted in the 1995 Master Plan, handicapped accessibility remains an issue for access to the basement.
2. The Library's circulation and visit rates should continue to be monitored to insure the Library can meet the needs of the community. If growth continues, an expanded or new facility may be required within five years. A full review of the existing site's ability to accommodate an expansion will have to be undertaken. A new location for the Library may also have to be reviewed.

CHAPTER 5 - RECREATION

1. With the rapid increase in enrollments for T-Ball and Little League, plans should begin to review the need for, location and cost of a new field. One option that should be further explored is rebuilding the lower field at Miller Park (which is currently not used for baseball). A 10 to 15 foot elevation change exists between home plate and the outfield, which makes this field unsuitable for baseball. The cost of this option should be weighed against constructing a new field at another location in town, possible Snow Lane. This project is currently in the Capital Improvement Plan.
2. The existing baseball field located at Central Elementary School should be upgraded. Regrading, loam, seed, new backstop and benches are all necessary. This effort should be coordinated through the Timberlane Regional School Board.
3. With the high usage of Miller Park, permanent handicapped accessible rest room facilities, along with a septic system, should be constructed at this key site.
4. With the growing popularity of the summer recreational program, a permanent home for this popular program is needed. This activity is currently operating at the Miller Park site and is heavily dependent on the weather. The Town Hall is used during inclement weather, but with the popularity of the program growing, space issues are developing. A plan for a 30 x 40 recreational building (community center) has been developed. The building would have bathroom facilities, office space for the Recreation Department; along with a multi-use play area for basketball and other activities. The recreational area at Riverbend could accommodate this facility.
5. The need for a community center was well supported during the Community Forum and was rated with as a High Impact/High Feasibility proposal. It was also noted as a Key Issue for Now and the Future.
7. The Planning Board should continue to require the development community to provide recreational facilities as part of the subdivision plan review process. There is a direct link between the demand for additional recreational opportunities and a growing residential population.
8. The Planning Board should investigate the use of impact fees to assist in paying for recreational facilities in Sandown.
9. With the continued aging of the population, activities for all ages should be explored and expanded.
10. Boating access to both Angle Pond and Phillips Lake should be studied to review options to expand parking opportunities near these boat ramp locations. The Phillips Lake boat ramp should be improved. Adequate access to other public waters in the community should be explored.

11. As the community grows, future recreational areas should be decentralized and spread throughout the community (neighborhood parks). This will provide recreational opportunities to people that is close to home or a short bike ride away.
12. Other recreational opportunities should be explored in the community, such as hockey, tennis and soccer.
13. An effort should be made to provide some form of public access to all of Sandown's public waters. This could include trails, canoe put-ins, and boat ramps.
14. The Recreation Commission should coordinate with the Conservation Commission to devise a town wide trails plan.
15. Monitor the parking demands associated with the Rockingham Trail to determine if access points are being overly utilized.

CHAPTER 6 - TRANSPORTATION

1. The Board of Selectmen should appoint a resident of Sandown to the Metropolitan Planning Organization. Participation in this regional organization will provide Sandown with input into transportation issues impacting their residents and will increase the chances of obtaining transportation funds to address local needs. The Town should also join the Regional Planning Commission.
2. In conjunction with the development of a trails plan, potential locations for sidewalks and bike lanes should also be incorporated into this plan. The addition of these pathways should be reviewed during road reconstruction planning and during Planning Board review of new development projects. The Planning Board should consider amending the Site Plan and Subdivision regulations to provide the Board with the authority to require the construction of sidewalks and bike lanes in areas that they should deem appropriate.
3. Sandown should fund specified yearly monies that can be allocated to local road improvements as well as maintenance functions. This commitment to a yearly funding program will enable the Town to address a number of deficient roads as noted in the Road System Improvement Plan. Major work is currently required on Fremont Road, Hale True Road, Little Mill Road, North Road, portions of Odell Road and Stagecoach Road.
4. The Town should consider adopting a road impact fee system to help fund road improvements.
5. The Planning Board, when feasible, should require that subdivisions connect to or provide the ability in the future, adjoining residential developments to maximize travel options.
6. Review and analyze the need to upgrade three key intersections, which require various levels of upgrading to address irregular geometry. These include Route 121A at North and Hale True Roads, Wells Village Road & Hampstead Road, and Main Street (Route 121A) and Fremont and Depot Roads. Review State Aid options for the two intersections that involve Route 121.

CHAPTER 7 - NATURAL RESOURCES

1. Increase the percentage of Use Change Tax monies that is available to preserve open space from 50% to 100%. These funds should be seen as a 'bonus' to the community and used aggressively to preserve land. This revenue source is typically not anticipated and their diversion to open space funding will save the community from future municipal service demands.

2. The Conservation Commission should undertake a Forest Management Plan on key town owned property.
3. As noted in the 1995 Master Plan, the size and exact boundaries of many town properties are in doubt and an effort should be made to survey the most sensitive of these sites.
4. The Town and State should continue to monitor the water quality of the community's ponds.
5. A community wide trails-sidewalk-bike path plan should be developed. Key open space areas should be linked by trails. In conjunction with this effort, the Planning Board should begin to negotiate pedestrian access easements on key parcels of property; this is especially true for developments proposed along the Exeter River.
6. With the community relying solely on wells for its water supply, the Planning Board should insure that the Zoning Ordinance continues to provide adequate ground water protection measures to preserve this valuable resource.
7. Given the importance of open space to the community, Sandown should strive to preserve 25% of the town's land area. As a part of this effort, the Conservation Commission should develop and maintain a priority list of land areas or specific parcels that have unique or critical natural resource values (such as those noted in the Regional Open Space Plan), including areas that are contiguous to or provide linkage to existing conservation lands.
8. Using the recently published RPC Open Space Plan for guidance, prioritize lands for conservation and protection.
9. Continue to comply with National Pollutant Discharge Elimination System (NPDES) Phase II requirements.
10. The Town should join the Regional Planning Commission, which will provide numerous planning support services to the community.
11. Given the low yield aquifers within the community, the Planning Board should consider amending the Zoning Ordinance to prohibit the pumping of ground water for bottling.

CONSERVATION COMMISSION RECOMMENDATIONS

1. Work with landowners to protect land abutting surface water resources from development to insure adequate water supply, wildlife habitat and recreational opportunities.
2. Continue the Town's involvement in the Exeter River Local Advisory Committee to consider the implementation of the Exeter River Corridor and Watershed Management Plan (1999) recommendations.
3. Work with the Exeter River Local Advisor Committee to conduct an annual reconnaissance of the River to identify threats to water quality and wildlife habitat and review recreational opportunities.
4. Provide public education regarding Nonpoint Source Pollution (NPS) prevention practices near water resources to minimize pollution. Educate septic system owners on the proper maintenance of systems by providing information on the local cable channel, public notices and direct mailing.
5. Develop and implement a water conservation education program to inform residents of actions they can take to reduce water consumption in and around the home.
6. The Conservation Commission should maintain a comprehensive GIS data base inventory on natural resources in Sandown.
7. The Town should maintain an active and adequately funded land conservation program to ensure resources are available to protect critical natural resources.

CHAPTER 8 – BUILDOUT ANALYSIS

No recommendations for this Chapter.

CHAPTER 9 - EXISTING AND FUTURE LAND USE

1. Evaluate further the potential effects of future growth on the local transportation network, development patterns and environment/natural resources.
2. Explore zoning changes to encourage the development of a village center including higher density bonuses to encourage more commercial development.

CHAPTER 10 – ENERGY

1. Municipal Building Standards. Newly constructed, renovated or expanded municipal facilities must meet energy efficiency standards. For example, U.S. Green Building Council, Leadership in Energy and Environmental Design (LEED) building rating system or other building performance based system.
2. Minimum Thresholds for Private Development. Implement energy efficiency standards for residential and non-residential development. For example, U.S. Green Building Council, Leadership in Energy and Environmental Design (LEED) building rating system, standards similar to the Town of Epping Energy Efficiency and Sustainable Design zoning ordinance, or other building performance based system.
3. Green Building Education. Develop local incentives for and provide outreach and information about implementation of renewable energy systems in the community.
4. Pedestrian and Bicycle Use. Develop a planning policy to make Sandown a “walkable and bikeable” community by establishing neighborhood connectivity and pedestrian and bicycle accommodations.
5. Open Space Access. Develop a policy and local incentives to encourage preservation of open space and public access to open space to promote alternative transportation and multiple users.
6. Community Energy Policy. Develop an energy policy and long-range plan for the Town of Sandown. The Plan should incorporate budgetary provisions on the town’s Community Improvement Plan (CIP) and be consistent with the goals of the Master Plan.
7. Transportation. Continue participation in the Rockingham Planning Commission’s Metropolitan Planning Organization (MPO).
8. Community Outreach and Education. Provide opportunities for residents and business owners to learn about energy efficiency and conservation measures.

APPENDIX 1

Historic Resources (from the 1995 master plan)

Sandown originally occupied the Northwest corner of Hampton, one of New Hampshire's four original towns. This was a part of the territory set off in 1694 to form the town of Kingstown (Kingston). Which also comprised the present day towns of Danville and East Kingston^[8].

Sandown's first known settlers arrived in the 1730's. The names of early settlers included Tucker, Huse, Graves, Wells, Hoog, Bond, Dow, Hebbard, Colby, Straw, Kid, Chase, Pressey, Clough and Cordy^[9]. Sandown was set off from Kingston in 1756, taking its name from a village on the Isle of Wight in the Irish Sea^[10].

Sandown's economy during the 18th and 19th centuries was based primarily on agriculture and logging. The population peaked at 635 at the time of the Revolution. Thereafter declining steadily dropping as low as 229 during the Great Depression of the 1930's^[11].

The first significant decrease in population occurred in the early 1890's, primarily due to the lure of better farmland in the Midwest. Later in the 19th century, New England's factories continued to draw Sandown's youth away from the family farm.

During the Late 1800's many local families supplemented farm income with profits from local cottage industries. In 1875 for example, Fogg's New Hampshire Gazetteer reported the production of 120,000 pairs of shoes in Sandown, mostly from stock brought in from Haverhill and Lynn^[12].

The arrival of the railroad in 1874 no doubt encouraged and bolstered these cottage industries. The railroad also played an important role in local agriculture, for it provided a quick and dependable means to transport Sandown's vegetables and dairy products to markets in Merrimack Valley mill towns.

Sandown is fortunate in that historical resources from every period of its history are found throughout town. A windshield survey (see Map 4) noted ten Georgian style eighteenth century houses, mostly in good repair. Nineteenth century houses included three in the Federal Style (c. 1800 – 1830), seventeen in the Greek Revival style (c. 1830 – 1880), and nine Victorians (c. 1850 – 1905). Of particular note are the c. 1775 Edwards (Georgian style) on North Road; the c/ 1750 Tammany House (Georgian) on Fremont Road; the c. 1830 Rev. McGregor/Sonabend House (Greek Revival) on Odell Road; and the c. 1830 Amelia Leiss House (18th Century Cape) on Main Street^[13].

Geographical dispersion of Sandown's pre-1900 structures indicate that the town has always been a rural agricultural community with no significant population centers. The preponderance of Greek Revival style buildings suggests a local economy that was prosperous and relatively stable during the middle of the nineteenth century.

The 1774 Meeting House is unquestionably Sandown's premiere historic resource. Greek Revival style, unusual features include early Gothic Revival details above the doors, and c. 1910 Queen Ann style colored glass windows. In 1994 the Sandown Meeting House underwent substantial repairs.

The 1873 railroad depot, recently entered in the National Register of Historical Places, represents a fine example of the Stick style. The Stick style enjoyed much popularity in New England during the 1870's. The style takes its name from the use of decorative timbers on the building's exterior.

Sandown has numerous early graveyards. These include the Center Cemetery (1764), North side Cemetery (North Road: 1780's), the Chase Cemetery (near Hampstead: 1760's) and at least half a dozen family graveyards. Other cultural resources worth noting are numerous mill sites (see Sandown, N.H. 1756-1981 by Mathew Thomas) and a 1799 milestone along Route 121 near Chase Road.

Much of the history is captured in the book entitled "A View From The Meeting House Hill" by Richard Holmes.

Recommendations:

1. The Sandown Meeting House is listed on the National Register of Historic Places. It appears to be eligible for National Historic Landmark status, the federal government's highest level of recognition. Particular attention should be paid to the care and maintenance of a building so important in the nation's architectural history.
2. In a town whose economy once revolved around agriculture, little recognizable farmland remains. Particularly in the vicinity of Chase Road, Schoolhouse Road, Tenney Road, Sargent Road, and North Road, the Zoning Ordinance should encourage agriculture, and lot density residential use and/or carefully review cluster developments. Although cluster zoning is often employed to preserve open space, it is equally well suited to preserve areas of historic importance.

Georgian Style 1720-1800

Of Italian Renaissance derivation, this style gained popularity in England and America in the early 1700's at the beginning of the reign of George I. and lasted through the reigns of his successors George II and George III, hence its designation "Georgian".

This style is characterized by massive size, balanced design, heavy classical ornamentation, and large central chimney. Some post 1750 Georgian houses have two chimneys and a hall in the center. Although a gable roof is typical, buildings of this style were often built with hip and gambrel roofs. Common variation of this basic house form were 1 ½ story Capes, Saltboxes, Half houses, and Three-quarter houses.

The windshield survey records ten surviving Georgian era houses in Sandown at scattered locations. The scattered distribution suggests an agriculturally based economy in the 18th century. The small number of survivors indicates a very small population, of that most 18th century dwellings in Sandown were simply not of lasting quality. The absence of any concentration of Georgian structures in the Town center suggests that the present center developed after 1800.

All of Sandown's surviving Georgian style houses are rather restrained and conservative in their use of architectural ornament. Such outward austerity is typical of rural N.H. in sharp contrast to the

flamboyance of wealthy merchants in coastal ports. Sandown's architecture seems to reflect the prevailing Yankee ethic that material success could be had but not flaunted.

Federal Style 1790-1830

So called because it appeared in America in the decades following the Revolution, the Federal style reflected the new nations deliberate rejection of things Georgian, a symbolic gesture which was meant to affirm cultural as well as political independence from England. The style itself ironically came from England. It was inspired by then-recent archeological discoveries which revealed the true proportions of ancient Roman domestic architecture.

The Federal style is a refinement of Georgian, producing a lighter, delicate, more graceful effect. It has a symmetrical window arrangement and a prominent entrance, often with a semi-circular fanlight above, and sidelights extending halfway to floor level. Federal style houses often have twin end-placed chimneys, and occasionally four. In urban areas, these houses were typically built three stories in height with a lot pitched gable or hip roof and ornamental balustrade. In rural areas, Federal style ornament was often simply applied to the exterior of the traditional two-story, five bay colonial farmhouse.

There are few Federal style houses in Sandown. The survey located only three. The small number of Federal style buildings and their scattered distribution again suggest an agricultural economy, a small population, and slow growth during the Federal era.

Local residents appear to have been uninterested in emulating the architectural fashions of their neighbors in Portsmouth and Newburyport. Sandown continued to be a town of modest, self-sufficient farms during this period, relatively unaffected by the booming trade of the coastal towns or the fledgling industry of southern New England.

Greek Revival 1828-1860

Motivated by an admiration for the courage of the Greeks in their war of independence from Turkey (1821 – 1829) many Americans began to build houses that resembled or at least suggested the temples of Athens. Americans in general perceived their country as a bastion of democratic ideals in an undemocratic world, thus they enthusiastically emulated the architecture of the Western World's first democracy.

Greek revival houses generally have the gable end (3 bays: a door and 2 windows) facing the street, in contrast to the typical 5 bay street façade (a door and 4 windows) of earlier houses. An early 19th century carpenter, set in the ways of colonial building tradition, could satisfy a request for an up-to-date Greek by simply turning an old style house ninety degrees so that the narrow end faced the street.

Other common Greek features included full sidelights framing the main entry, pedimented gable, pedimented or rectangular lintels, and thin chimney stacks in no particular location. The last mentioned feature reflects the advance of heating technology from hearth to stove.

The survey found some 17 examples of the Greek Revival scattered throughout Sandown. It was during this era (1825 – 1860) that the town center began to take shape. This sudden upsurge in building obviously signals a parallel growth in the local economy, which permitted local residents to

improve the quality of their dwellings. This economic growth, however, was apparently not substantial enough to bring an increase in population.

Victorian

The style is characterized by heavy projecting eaves with decorative brackets, bay windows, balconies, and heavy bracketed door hoods. Round-headed Roman windows are common. Most window sashes consist of one (pane) over one (pane), or two over two. In this style's most common local manifestation, Victorian details were simply affixed to an otherwise Greek façade.

Although Victorian detailing appears on perhaps half of the older housing stock of Merrimack Valley mill cities from Manchester down to Haverhill, the Victorian impact in Sandown is negligible, as the survey identified only nine examples in town.

REFERENCES

- ^[1] OEM, 2002 Population Projections
- ^[2] NH Housing Finance Authority
- ^[3] Source: NH Housing Finance Authority, Low Income = 80% of area median income and Very Low Income = 60% of area median income.
- ^[4] NH Housing Finance Authority
- ^[5] Plaistow elementary enrollment includes preschool figures, Danville added preschool in 2002.
- ^[6] NH Department of Transportation
- ^[7] NH Department of Transportation
- ^[8] Population of N.H., State Planning and Development Commission: Concord, 1946.
- ^[9] History of Rockingham County by Charles Hazlett, Philadelphia, 1872.
- ^[10] Sandown, N.H. 1756-1981 by Matthew Sandy Thomas.
- ^[11] Population of N.H.
- ^[12] A Long Deep Furrow by Howard S. Russell. University Press of New England: Hanover, 1976.
- ^[13] Dates provided by Mathew Thomas, Sandown, N.H. 1756-1981; names provided by Bertha Deveau.

CHAPTER 12

[MAPS]



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