

Demographics



Introduction

Examining the demographic shifts that have been experienced in Berlin during the recent decades helps to inform the Master Plan and identify issues that need to be addressed. This analysis also highlights the characteristics of Berlin's existing resident population, characteristics that must be considered as new initiatives are developed for the City. It also helps to forecast the potential demographic composition of the City in the future.

It is no longer possible to accurately project future trends by simply looking to the past and carrying those statistics forward into the future. Communities are more dynamic and things happen more rapidly than in the past. This has been true in Berlin for some time. Other difficulties related to estimating the future population size and characteristics involve critical global issues (energy supply, climate change, economics, etc.) and the many resulting unknowns that can impact a community. It is more important that the community identify the most significant emerging trends that the City is likely to be facing, and the existing trends that still have not be adequately addressed.

The following chapter presents demographic information related to Berlin's residents, and identifies trends that the City needs to consider as it plans for the future.

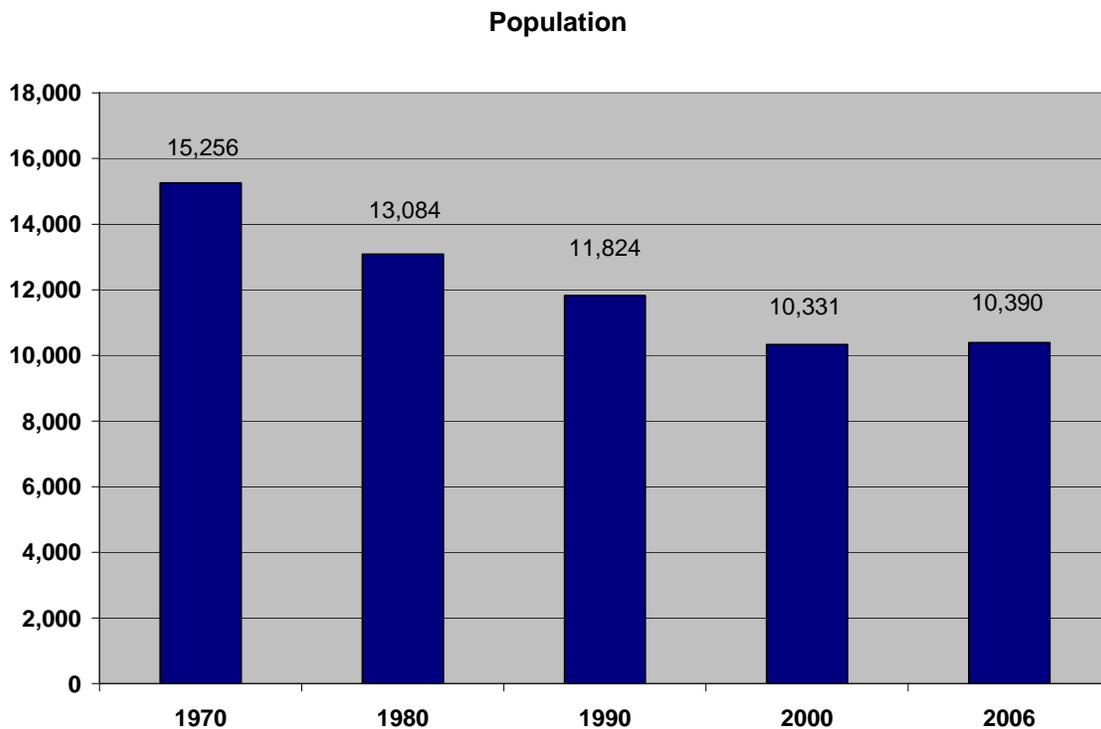
Summary of Findings

- Berlin's population has started to stabilize with the development of the State Prison, and is expected to increase slightly during the next decade.
- An aging population will present new challenges for the City, but may also present new opportunities for support services and housing to meet the needs of an older population.
- Shrinking household sizes may result in the need for additional units within Berlin.
- The school population has stabilized, but long term projections have not been calculated for this population.
- While there has been progress in educational attainment overall, income levels and educational attainment in Berlin are still lower than the County and the State.
- Higher unemployment and poverty levels have been experienced in Berlin
- Berlin continues to be a City with rich cultural diversity.

Population Trends

Berlin has experienced a wave of population loss since 1970. This is the second such decline in population in Berlin in the 1900s. The first occurred from approximately 1930 to 1950 after peaking at a population of 20,018. Since 2000 the City has seen the population stabilize somewhat and projections for the future are that the population may actually increase slightly. The population in the City of Berlin has stabilized since 2000, reversing a long term decline that can be traced to the 1950s. In fact, the population has actually increased slightly because of the inmates that are now being held at the State Prison and are counted as part of the year-round population. Figure 1 illustrates Berlin's population change from 1970 to 2006.

Figure 1



Source: U.S. Census, NH Office of Energy and Planning

The loss of population experienced in Berlin has been more severe than that of Coos County as a whole. Berlin accounts for 31 percent of the population in Coos County, down from 38 percent of the County in 1990. Thus, Berlin represents most of the population loss experienced in the County from 1990 to 2000. During this same time period the State of New Hampshire experienced continued population growth. The majority of this increase took place in southern and central regions of the state.

Table 1 illustrates the different rates of population change experienced at the city, county and state levels. Since the year 2000 the city and the county have experienced some growth in population. Most of this growth, however, was absorbed in the other communities throughout the county.

Table 1 Berlin Population Change from 1990 to 2006

	1990	2000	% Change 90-00	2006	% Change 00-06
Berlin	11,824	10,331	-13%	10,390	0.5%
Coos County	34,693	32,936	-5%	34,112	3.5%
New Hampshire	1,109,117	1,235,550	11%	1,315,000	6%

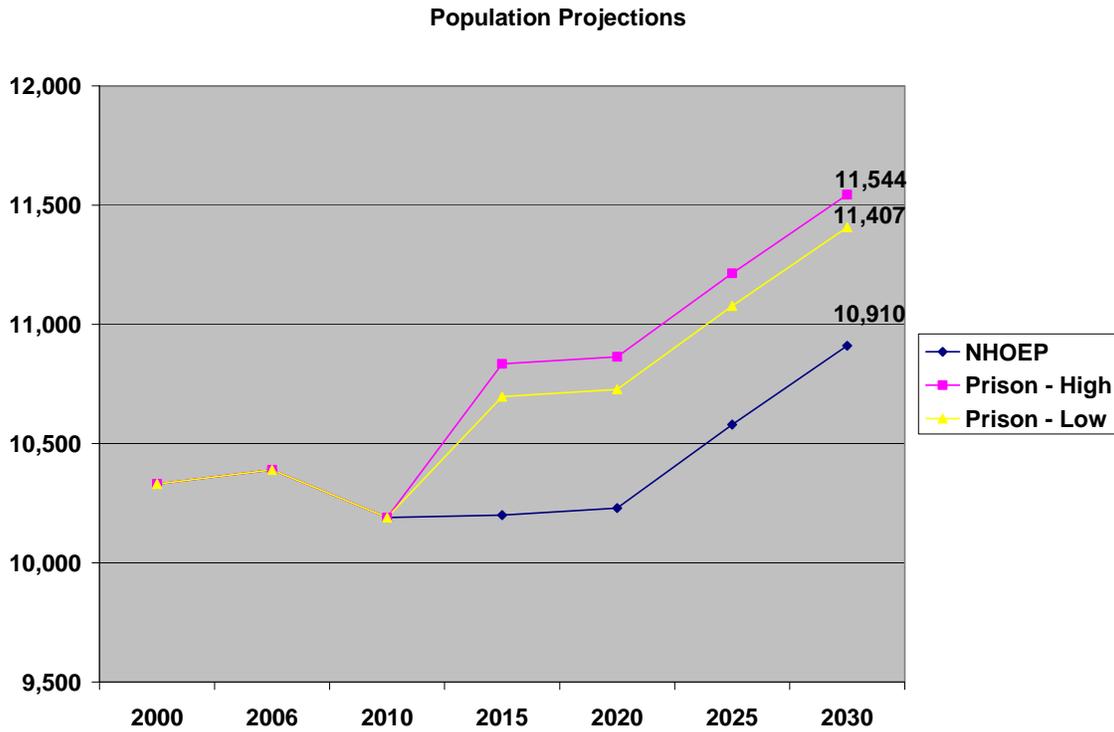
Source: U.S. Census

Calculating population projections in Berlin is challenging due to the many economic characteristics of the City that make it respond differently than the county or state. Mill closings and new facilities such as the prisons have a significant impact on the number of jobs in the City, and can easily push the population into growth or decline.

The New Hampshire Office of Energy and Planning calculates population projections for all New Hampshire communities based on a community's historical share of its' respective county's growth. The principal assumption with this projection method is that community's population change trends, relative to the county in which it is located, will remain about the same in the future as it has in the past. However there are important limits and exceptions to this assumption. This process also takes input from the Regional Planning Agencies to ensure that other significant factors are also considered. In the case of Berlin the proposed federal prison was not considered as a variable when the projections were last calculated.

Figure 2 illustrates the population projections produced by the New Hampshire Office of Energy and Planning compared to two projections for additional population related to the federal prison project. The *Housing and Regional Conditions Analysis* report provided some basic information on the anticipated range of new employees and their family members. The report indicates that somewhere between 743 and 947 persons are likely to relocate to the area when the federal prison opens. This accounts for new staff and their families. The majority of these new persons are likely to reside in one of the five Androscoggin Valley towns (Berlin, Gorham, Milan, Randolph, and Shelburne). Berlin currently represents approximately 67 percent of the total existing population in this five town area so this percentage was used to estimate the potential population growth that Berlin may experience under either estimate. These projections are represented on Figure 2 as both high and low estimates.

Figure 2



Source: U.S. Census, NH Office of Energy and Planning, Housing and Regional Conditions Analysis

Natural Increase and Migration

In the previous Master Plan there was an analysis of the rate of natural change (births minus deaths) and the loss of population experienced in the 1980s. At that time there was a natural decrease (more deaths than births) of about 119 persons, and an out migration of 1,047 persons which is very similar to the trends that continued in the 1990s. Table 2 illustrates the natural rate of population change Berlin experienced through births and deaths, the overall population decrease experienced, and the finding that 1,059 persons migrated out of Berlin to live elsewhere.

Table 2 Berlin Out Migration

Births (1990-2000)	1,092	
Deaths (1990 - 2000)	1,526	
	-434	Natural Change
<hr/>		
1990 Population	11,824	
2000 Population	10,331	
	1,493	Population Loss
<hr/>		
Population Loss in 1990s	1,493	
Natural Change	-434	
	1,059	Net Out Migration

Source: NH Department of Health and Human Services

From 2000 to 2006 Berlin experienced a rate of natural change of -357 persons because the number of deaths once again exceeded the number of births. This was consistent with the trend experienced in the 1990s, but overall the City experienced an increase in population with over 400 new residents which statistically compensated for the loss of residents from the natural decrease. This increase in residents is largely due to the 557 inmates that are now held at the State Prison. This suggests that, although there was still a continued net out migration of persons from 2000 to 2006, it was at a slower rate than during the previous decade.

Household Size

Berlin has experienced a decrease in the number of persons per household. The combination of population loss and an increase in older residents, combined with the nationwide trend of an increase in the number of single-parent households, has resulted in a corresponding impact on household size. Currently the average household in Berlin is comprised of 2.22 persons. As household sizes decrease there may be some loss of population density in the developed areas of the community, and the cost of services will potentially increase on a per unit basis.

Table 3 Average Household Size in Berlin, 2000

Location	Average Household Size 2000
Berlin	2.22
New Hampshire	2.53
United States	2.59

Source: U.S. Census

As shown in Table 3, the average household size in Berlin, 2.22 persons, is smaller than the County, New Hampshire, and U.S. averages. A reduction in household size is being experienced nationally for many reasons including an increase in the divorce rate, lower fertility rates, and an increase in the number of seniors.

The number of married-couple family households dropped significantly during the 1990s while single-parent family households increased, and the number of non-family households in Berlin remained fairly stable. As the number of seniors continues to increase in the future there may be an increase in the number of single person households creating a further shift in this distribution, and an increased demand for smaller housing units.

Table 4 Persons per Household in Berlin

Households and Families	1990	2000	Change
Total Households	4,943	4,555	-7.8%
Persons per Household	2.35	2.22	-5.5%
Family Households	3,287	2,902	-11.7%
Persons per Family Household	2.95	2.74	-7.0%
Married-Couple Family Hh	2,698	2,213	-18.0%
Single-Parent Family Hh	589	689	17.0%
Non-Family Households*	1,656	1,653	-0.2%
Persons per Non-Family Hh	1.16	1.32	13.7%

*Includes Single Person Households

Source: U.S. Census

Population Distribution

Distribution of Residents by Age

According to the 2000 Census, the median age in New Hampshire is increasing. In Berlin the median age of the total population was 42.5 in 2000. Table 5 shows the median age, as of 2000, is 37.1 years in New Hampshire, and the median age in the U.S. is 35.3.

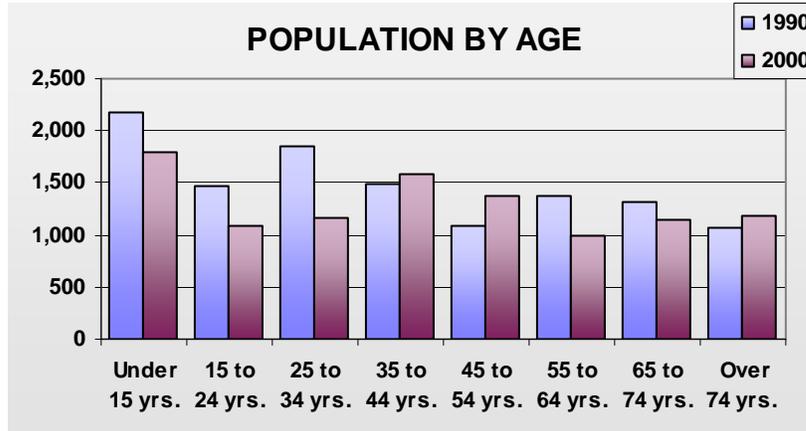
Table 5 Berlin Median Age

Place	Median Age 2000
Berlin	42.5
New Hampshire	37.1
United States	35.3

Source: U.S.Census

Overall Berlin’s population is getting older, and an aging population will impact the community differently over time. Often an aging population will require elderly services from the community, smaller housing units, and assisted care facilities. Figure 3 and Table 6 show the current distribution of Berlin residents by age.

Figure 3 Berlin Population by Age



Source: U.S. Census

Between 1990 and 2000 Berlin experienced a loss of residents under the age of 35, and an increase in the number of residents between 35 and 54 years of age and over the age of 74 years of age. Approximately 23 percent of the population in Berlin is now 65 and over. This age group now accounts for a higher percentage of the smaller overall population in Berlin.

Table 6 Percent of Berlin Population by Age Group

	1990		2000	
Under 15 yrs.	2,180	18%	1,793	17%
15 to 24 yrs.	1,478	13%	1,083	10%
25 to 34 yrs.	1,847	16%	1,157	11%
35 to 44 yrs.	1,491	13%	1,585	15%
45 to 54 yrs.	1,086	9%	1,380	13%
55 to 64 yrs.	1,368	12%	997	10%
65 to 74 yrs.	1,312	11%	1,144	11%
Over 74 yrs.	1,062	9%	1,192	12%

Source: U.S.Census

As more Berlin residents age and retire, the demand for services for seniors in the community will be increasing, perhaps significantly. This may create a market for additional housing types as well with smaller units and maintenance services provided.

According to the U.S. Census, the 2000 Census was the first time in the history of the Census that the 65 and over population did not grow faster than the total population, and yet in Berlin it did. Nationally the explanation for this is that the relatively low birth rates in the late 1920s and early 1930s meant that less people reached their 65th birthday in time for the 2000 Census. Locally, as more Berlin residents retire and become elderly, the demand for services for seniors in the community will be increasing, perhaps significantly. This may create a market for additional housing types as well with smaller units and maintenance services provided.

Table 7 shows the overall change in school enrollment over the past sixteen years.

Table 7 Berlin Public School Enrollment 1991-2007

Year	Total Berlin Enrollment	Tuited from Other Towns	% Tuited from Other Towns
1991	1,876	164	8.6%
2009	1,429	127	8.9%

Source: 1992 Master Plan, Berlin School District

In 1968 there were 2,200 students enrolled in Berlin’s schools. By 1983 this number was reduced to 1,925 students. The number of children in Berlin’s schools decreased by 447 during the past eighteen years. Part of this decrease is due to a reduction in the number of students tuited in from surrounding communities. The remainder is the result of the population loss experienced in Berlin since 1990, which has largely resulted in a reduction of persons under the age of twenty-four. Although the surrounding communities saw slight population growth during the past eighteen years, they also experienced a reduction in the number of children in their communities. This is consistent with national trends, as people are having fewer and fewer children.

Enrollment projections for the School District are based on enrollment historically, and the number of births that lead to enrollment in the 1st grade. The projections for Berlin’s school aged population are anticipating similar enrollment levels for the 2009/2010 school year, but have not been projected for a longer period of time into the future. It is important to note that most New Hampshire communities are starting to experience a leveling off or even a net decrease in enrollment. If the number of children continues to fall and the number of seniors continues to climb in Berlin, there may be opportunities to use some of the school facilities to provide services to seniors as well. This could also create opportunities for the young and old of Berlin to interact, and to benefit from contact with each other.

Distribution of Residents by Gender

In the year 2000 the US Census reported that Berlin’s population distribution by gender was 48% male (4,922) and 52% female (5,409). This appears to be a fairly balanced

distribution considering that Coos County also has a population distribution of 49% male and 51% female.

Distribution of Residents by Place of Birth and Race

Berlin’s population is still composed largely of New Hampshire natives, and less than 5 percent of Berlin’s residents were born in another country. Table 8 displays the shift by place of birth from 1990 to 2000. During the 1990s many of the City’s newest residents appear to have come from other states in the U.S. with the largest group coming from elsewhere in the Northeast.

Table 8 Berlin Residents Place of Birth

Place of Birth	1990 Census		2000 Census	
Universe: Total Population				
Total:	11,820		10,331	
United States Native	11,040	93.4%	9,858	95.4%
New Hampshire Native	9,187	77.7%	7,823	75.7%
Born in Different State	1,766	14.9%	1,965	19.0%
Northeast	1,459	12.3%	1,553	15.0%
Midwest	47	0.4%	87	0.8%
South	144	1.2%	213	2.1%
West	116	1.0%	112	1.1%
Native Born Outside US	87	0.7%	70	0.7%
Foreign Born	780	6.6%	473	4.6%
Naturalized Citizen			345	3.3%
Not a Citizen			128	1.2%

Source: 1990 Census, 2000 Census

Berlin’s population distribution by race is very similar to New Hampshire as a whole with most residents being identified as white. However, this does not reflect the degree of cultural diversity that exists within the City. Berlin has been known for its large French-Canadian population, but also includes residents with a wide variety of ancestry including Polish, German, Russian, Scandinavian, and Irish to name a few. This is especially important in Berlin because of its rich history of cultural diversity, and the presence of a wider range of cultures is likely in the future. This will present new opportunities for the City to celebrate its cultural diversity, and experience new perspectives and customs.

Table 9 Berlin Population by Race

	1990		2000	
White	11,712	99.1%	10,150	98.2%
Black	15	0.1%	19	0.2%
American Indian	21	0.2%	24	0.2%
Asian & Pacific Is.	57	0.5%	39	0.4%
Other*	19	0.2%	99	1.0%
Total Population	11,824		10,331	
Hispanic	61	0.5%	68	0.7%

* Other includes population of 2 or more races for 2000
Source: U.S. Census

Income Levels and Poverty

The number of people from Berlin in the labor force in the year 2006 was 4,708. An additional 237 people were classified as unemployed in 2006, and the unemployment rate for Berlin was 5 percent. This is a lower unemployment rate than the 6.3 percent reported a decade before in 1996. The reason for this is unclear, considering the closing of the Mill, but it may reflect the loss of working residents since the Mill closure. The unemployment rate in Berlin is still much higher than the New Hampshire unemployment rate of 2.8 percent.

According to the Census figures, New Hampshire, and New England as a region, has higher income levels than the United States average. However, the median household income in Berlin is \$29,647 compared to \$49,467 for New Hampshire. Table 10 illustrates the household income figures for Berlin. These figures are the most recent available and pre-date the mill closings in Groveton and the pending curtailment of operations in Gorham.

Table 10 Berlin Households by Household Income

Berlin Household Income	1990 Households		2000 Households	
Less than \$10,000	1,087	22%	677	15%
\$10,000 to \$14,999	531	11%	494	11%
\$15,000 to \$24,999	871	17%	770	17%
\$25,000 to \$34,999	753	15%	671	15%
\$35,000 to \$49,999	1,063	21%	853	19%
\$50,000 to \$74,999	547	11%	776	17%
\$75,000 to \$99,999	94	2%	185	4%
\$100,000 to \$149,999	27	1%	107	2%
Greater than \$150,000	13	0%	22	0%
Median HH Income	\$25,040		\$29,647	

Source: 1990 and 2000 U.S. Census

Berlin experienced a lower increase in median household income from 1990 to 2000 than the county, state, or nation.

Table 11 Berlin Median Household Income 1990 – 2000

Area	Median Household Income 1990	Median Household Income 2000	Percent Increase from 1990-2000
Berlin	\$25,040	\$29,647	18%
Coos County	\$25,897	\$33,593	30%
New Hampshire	\$36,379	\$49,467	36%
United States	\$30,056	\$41,994	40%

Source: U.S. Census

Table 12 Individuals Living Below the Poverty Level in Berlin

	1990 Population with Income Below Poverty Level			2000 Population with Income Below Poverty Level		
	% Berlin	% Coos	% NH	% Berlin	% Coos	% NH
Individuals	11.0%	10.1%	6.4%	12.4%	10.0%	6.5%
Under 5 yrs.	20.2%	15.6%	8.5%	22.4%	16.1%	9.1%
5 to 17 yrs.	10.8%	10.8%	7.0%	12.1%	10.6%	7.4%
18 to 64 yrs.	8.6%	8.0%	5.4%	11.6%	8.6%	5.9%
65 to 74 yrs.	13.9%	12.9%	7.7%	10.4%	11.3%	5.6%
75 yrs. & Over	17.5%	18.7%	13.9%	14.6%	13.8%	9.2%

Source: Census 1990

Source: Census 2000

In Berlin 1,249 persons were categorized as living below the poverty level in 2000. The poverty level is calculated by the U.S. Census by assigning an income amount to each family based on what is required to support that family considering the number and age of its members. If a person is not living with anyone related by birth, marriage, or adoption, then the person's own income is compared with his or her poverty threshold. The total number of people below the poverty level is the sum of people in families and the number of unrelated individuals with incomes below the poverty level during a twelve month period.

In 2000 12.4 percent of the Berlin population was considered to be living below the poverty level. This is nearly twice the New Hampshire average of 6.8 percent, and exactly the same as the national average of 12.4 percent. The 2000 poverty rate for Berlin climbed slightly percentage wise from the 1990 rate of 11 percent of the population.

Another indication of poverty levels in Berlin is the number of students that are now receiving free or reduced lunch at school. Table 13 shows the overall increase in the percent of students receiving this assistance.

Table 13 Percent of Students Receiving Free and Reduced Lunch

School Name	2007/2008	2008/2009
Bartlett Elementary School	57.46%	55.08%
Brown Elementary School	53.77%	55.62%
Hillside Elementary School	49.83%	48.84%
Berlin Junior High School	41.63%	46.26%
Berlin Senior High School	34.21%	32.21%

Source: City of Berlin

The total number of unduplicated welfare cases granted assistance during the 2006-2007 fiscal year were ninety-four of which sixty-seven were living in Berlin for over a year and twenty-seven lived in Berlin less than a year. Of those twenty-seven, eleven had lived in Berlin for less than thirty days when they came in, applied for and received assistance. The total assistance equaled \$59,049.

In the 2005 Fiscal Year the Welfare Department assisted one hundred families and individuals. Fifty-three lived in Berlin more than one year and forty-seven had lived in Berlin less than one year. Seventy-one of these one hundred had never before applied with the City for assistance in the past. The total assistance equaled \$39,601.33

Educational Attainment

Overall educational attainment in Berlin increased from 1990 to 2000. More Berlin residents are identified as High School graduates (72.6%), and although the number of residents completing a Bachelors Degree or higher dropped slightly (6.7%) an increasing number completed some college courses or an Associate Degree. This is very encouraging in light of the decrease in population that was also experienced during this time period. Table 14 represents the changes in educational attainment experienced in Berlin during the 1990s.

Table 14 Educational Attainment in Berlin

Educational Attainment	1990		2000	
	Number	Percent	Number	Percent
Population 25 years and over	8,174	100%	7,445	100%
Less than 9th Grade	1,414	17.3%	938	12.6%
9th to 12th Grade, no Diploma	1,490	18.2%	1,100	14.8%
High School Graduate	3,304	40.4%	2,987	40.1%
Some College, No Degree	831	10.2%	1,316	17.7%
Associate Degree	552	6.8%	608	8.2%
Bachelor's Degree	398	4.9%	339	4.6%
Graduate or Professional Degree	185	2.3%	157	2.1%
Percent of High School Graduate or Higher		64.5%		72.6%
Percent of Bachelor's Degree or Higher		7.1%		6.7%

Source: U.S. Census

Compared to Coos County and New Hampshire, Berlin has a lower level of educational attainment.

Table 15 Percent of Graduates and Higher Education

	Berlin	Coos County	New Hampshire
High School Graduate or Higher	72.6%	77%	87%
Bachelor's Degree or Higher	6.7%	11.9%	29%

Source: U.S. Census

Incoming Federal Prison Employees

According to the *Housing and Regional Conditions* analysis prepared for the U.S. Department of Justice the region will experience an increase in population and some demographic shifts when the new federal prison employees and their families enter the area in 2010. The facility is likely to employ 314 new employees, and 90 percent (280) of the new employees will be coming from outside of Berlin and the surrounding communities.

Based on the typical household size of federal prison employees elsewhere, it is estimated that 947 persons will be relocating within commuting distance of the Berlin facility. Approximately 48.5 percent of these individuals are projected to be 18 years of age or younger. The majority of the remaining persons will likely be between 31 and 65 years of age. It is likely that this influx of new employees will also provide some additional cultural diversity within the City, and opportunities to boost housing and economic activity.

Land Use Implications and Potential Actions

Land Use Implications

Berlin's population has a direct impact on the character and function of the community. Here are a few items to consider related to the demographics of the residents in Berlin.

1. Berlin's aging population may place a different demand on city services in the future.
2. Berlin's schools may be impacted in the future by decreasing enrollment and rising per capita costs of education if the current trends in New Hampshire continue.
3. There is an opportunity to reuse the existing housing stock to accommodate a greater range of housing units that meet the needs of smaller households, households at a range of income levels, and the elderly (such as senior housing facilities and accessory apartments).

Potential Actions

There are an array of possible actions the City may want to consider pursuing as it evaluates the demographics of the population in Berlin and the related land use implications. This section will be used to identify the specific actions for Berlin to take upon completion of the master plan.

- 1) **Begin to plan for services that will be required by a larger elderly population.** This may include transportation, housing, access to healthcare, and other support services.
- 2) Ensure that Berlin's regulations **provide opportunities for a diverse mix of housing unit types** that can accommodate the changing composition of Berlin's households. This should include provisions for accessory apartments, smaller units, artist live-work space, opportunities for higher densities in some areas, and other techniques.
- 3) **Update this chapter with 2010 Census data** when it is available.