

## Section 1. “Barnstable County Model” Senior/Elder Population Projections

### Projection Model Overview:

The Barnstable County Senior/Elder Population Projection Model is a mathematical model utilized by local researchers to project the size and make-up of future senior/elder populations on Cape Cod. The Model produces projections of the age 55+ population at 5-year intervals from 2005 to the year 2035. The age groups and age ranges projected include:

Age Groups;

Ages 55 – 64 years,  
Ages 65 – 74 years, and  
Ages 75 – 84 years.

Age Ranges;

Age 55+,  
Age 60+,  
Age 65+,  
Age 75+, and  
Age 85+.

Race and gender projections are not provided.

### Model Assumptions:

Several key assumptions are fundamental to this implementation of the Barnstable County Senior/-Elder Population Projection Model. In order to fully appreciate the range of alternative population projections provided by the Model, an understanding of these assumptions is necessary.

**Assumption #1:** The 5-year age group Census 2000 population counts for Barnstable County, Massachusetts are accurate and those counts included all permanent, year-round residents of the County. This assumption is very likely untrue, and especially suspect in the case of Cape Cod’s Hispanic/Latino, non-English-speaking, and recent immigrant populations which appear to have been severely undercounted by Census 2000.

**Assumption #2:** For purposes of this implementation of the Model, the official Barnstable County death rates published by the Massachusetts Department of Public Health are considered suspect due to questionable death rate denominators. Thus, these rates are not employed in this implementation of the Model. In place of Barnstable County death rates, the average of age-specific death rates for two comparable Massachusetts counties have been substituted.\*\*

**Assumption #3:** Since net migration rates are not available for Barnstable County, rates derived from analysis of the past 20 years (1980-1999) of Barnstable County US Census statistics have been substituted for the missing net migration data.

\* Two Massachusetts counties (Essex and Hampshire) share comparable household income and educational attainment levels with Barnstable County. Since it is known that income and education are strong correlates to an individual’s health condition, access to health care insurance, and ability to afford necessary medical care, it is assumed that longevity (life expectancy) and thus, death rates are also correlated with these income and education variables.

### Senior/Elder Population Projections To 2035: (from "Barnstable County" Model)

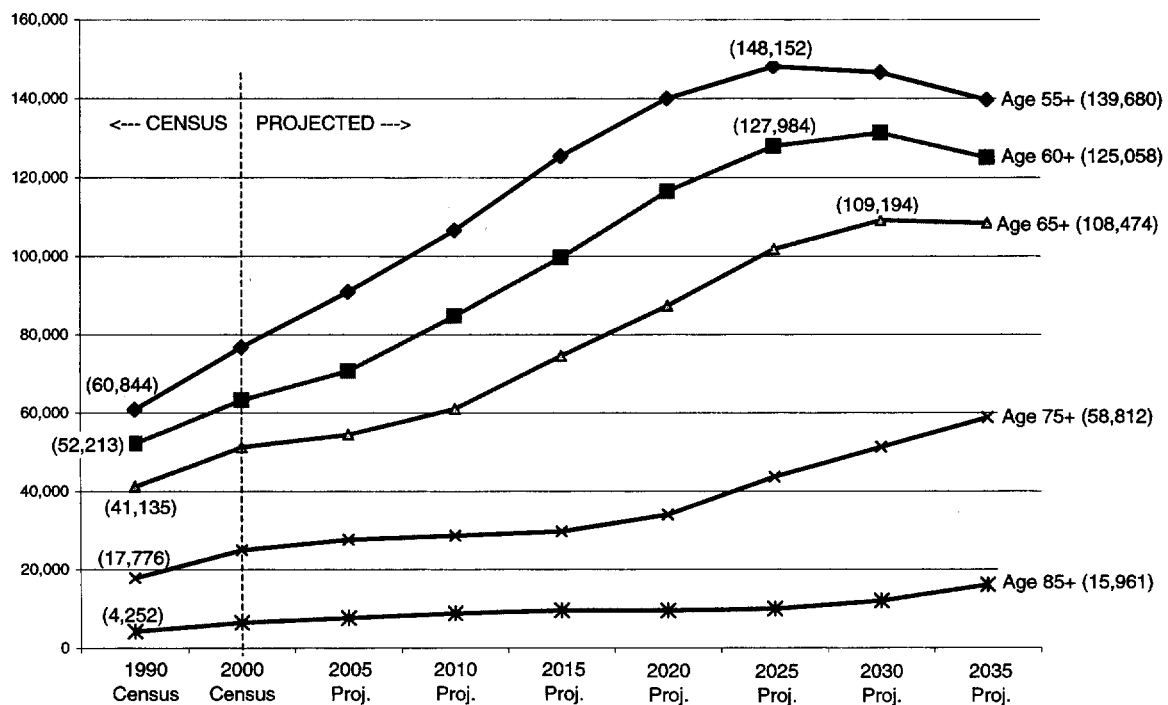
The locally developed ("Barnstable County") model has been used to produce three sets of projections—a Low Series, a Middle Series, and a High Series out to the year 2035. Tables 1.1, 1.2, and 1.3 provide these projected senior/elder population counts by age group and age range.

Figures 1.1, 1.2, and 1.3 illustrate the three different age range projection alternatives beginning with 1990 Census counts.

**Table 1.1 Projections of Barnstable County Senior/Elder Population Counts: By Age Group and Age Range For The Period 2005 – 2035, LOW-Series.** Data Source: Barnstable County Senior/Elder Population Projection Model, Scenario A.3.1.

	1990	2000	2005	2010	2015	2020	2025	2030	2035
<b>Age Group:</b>	<b>Census</b>	<b>Census</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
55-64	19,709	25,508	36,416	45,541	50,847	52,585	46,329	37,443	31,207
65-74	23,359	26,357	26,829	32,441	44,854	53,410	58,141	57,886	49,662
75-84	13,524	18,461	19,987	19,838	20,188	24,493	33,780	39,406	42,851
<b>Age Range:</b>									
55+	60,844	76,773	90,893	106,588	125,417	140,001	148,152	146,638	139,680
60+	52,213	63,249	70,708	84,755	99,712	116,490	127,984	131,304	125,058
65+	41,135	51,265	54,477	61,047	74,569	87,417	101,823	109,194	108,474
75+	17,776	24,908	27,648	28,607	29,715	34,007	43,682	51,308	58,812
85+	4,252	6,447	7,660	8,769	9,527	9,514	9,902	11,903	15,961

**Figure 1.1 Barnstable County Senior/Elder Population Counts Per "Barnstable County Model": LOW-Series Projections**



Data Source(s): US Census Bureau and Barnstable County Dept. of Human Services

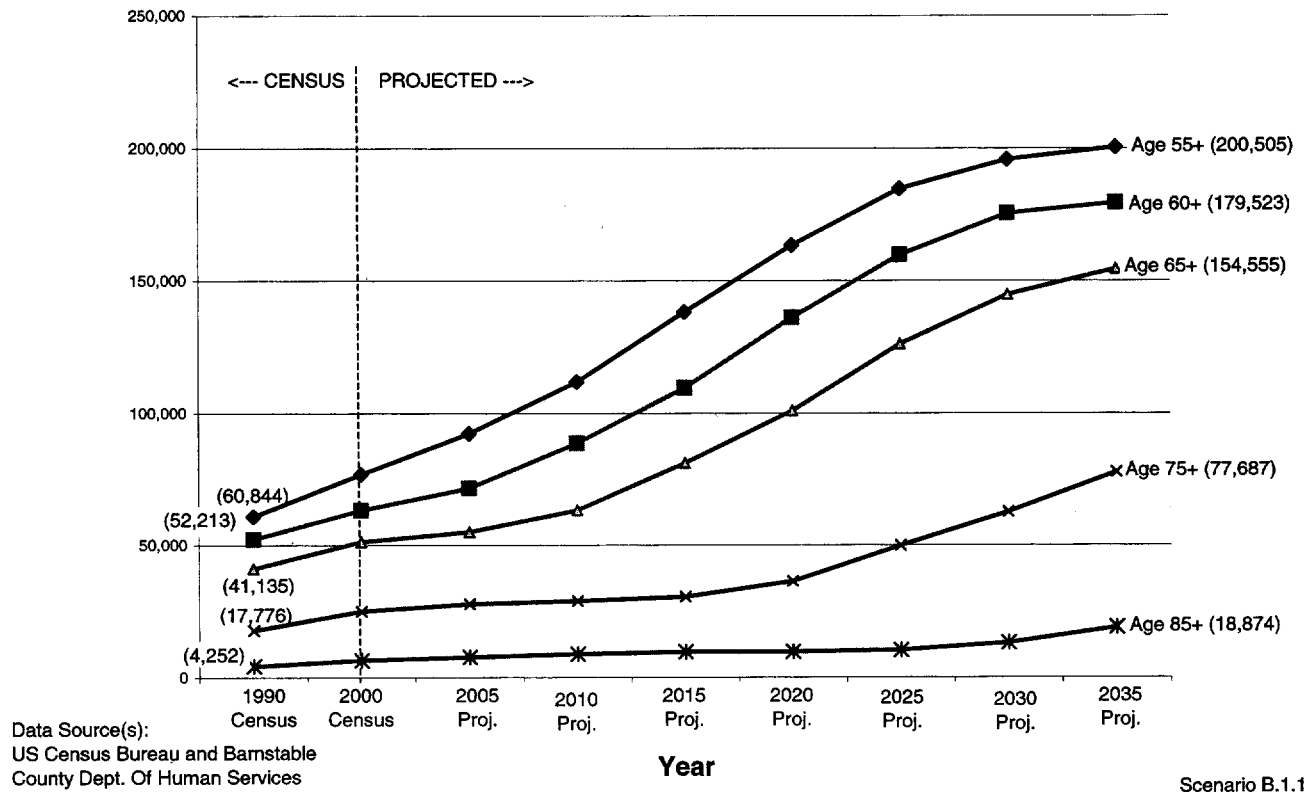
Year

Scenario A.3.1

**Table 1.2 Projections of Barnstable County Senior/Elder Population Counts: By Age Group and Age Range For The Period 2005 – 2035, MIDDLE-Series.** Data Source: Barnstable County Senior/Elder Population Projection Model, Scenario B.1.1.

	1990	2000	2005	2010	2015	2020	2025	2030	2035
<b>Age Group:</b>	<b>Census</b>	<b>Census</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>	<b>Proj.</b>
55-64	19,709	25,508	37,337	48,635	57,066	62,549	58,660	50,997	45,950
65-74	23,359	26,357	27,268	34,379	50,652	64,616	76,316	82,249	76,868
75-84	13,524	18,461	20,034	20,025	20,894	26,663	39,490	49,529	58,814
<b>Age Range:</b>									
55+	60,844	76,773	92,313	111,825	138,197	163,477	184,781	195,828	200,505
60+	52,213	63,249	71,595	88,650	109,611	136,057	159,816	175,510	179,523
65+	41,135	51,265	54,976	63,190	81,131	100,928	126,121	144,831	154,555
75+	17,776	24,908	27,707	28,811	30,479	36,311	49,805	62,581	77,687
85+	4,252	6,447	7,673	8,785	9,585	9,648	10,314	13,052	18,874

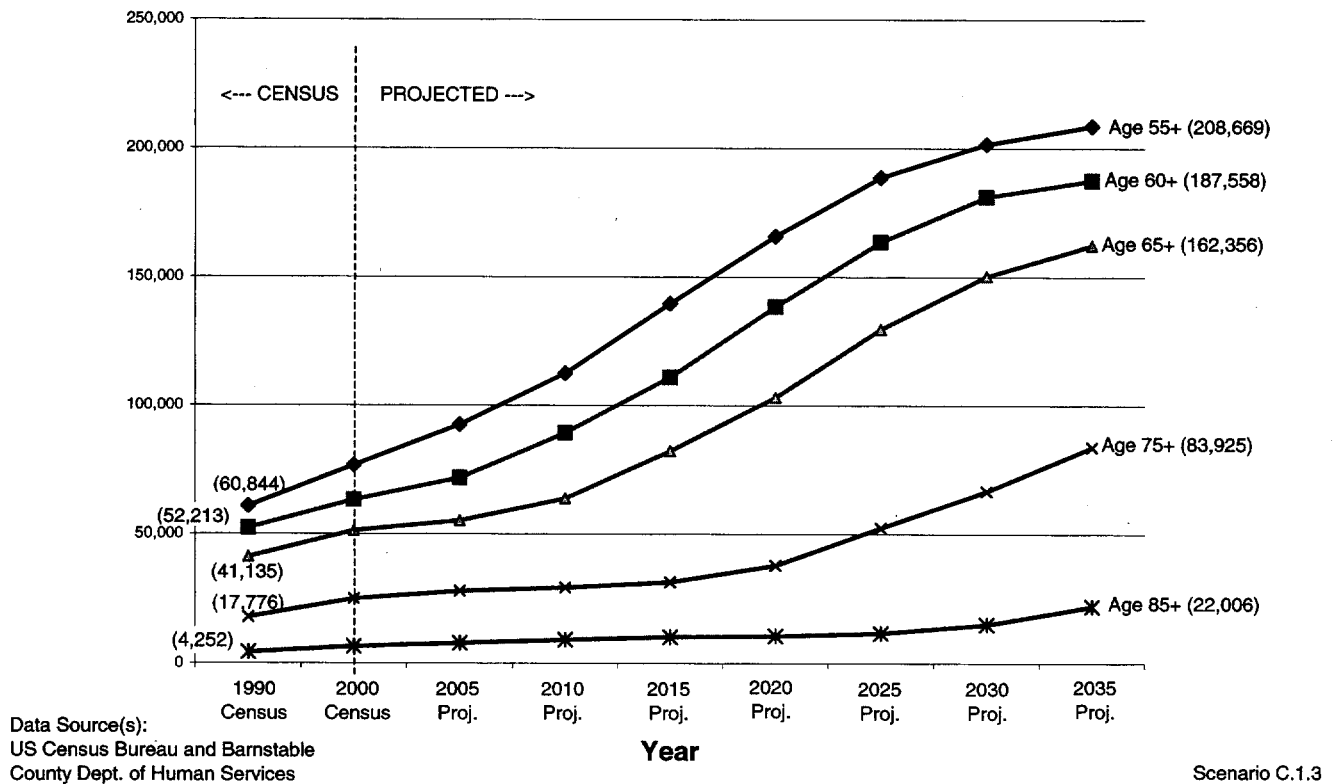
**Figure 1.2 Barnstable County Senior/Elder Population Counts Per "Barnstable County Model": MIDDLE-Series Projections**



**Table 1.3 Projections of Barnstable County Senior/Elder Population Counts: By Age Group and Age Range For The Period 2005 – 2035, HIGH-Series.** Data Source: Barnstable County Senior/Elder Population Projection Model, Scenario C.1.3.

	1990	2000	2005	2010	2015	2020	2025	2030	2035
<b>Age Group:</b>	<b>Census</b>	<b>Census</b>	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.
55-64	19,709	25,508	37,357	48,704	57,206	62,784	58,962	51,334	46,313
65-74	23,359	26,357	27,309	34,506	50,973	65,244	77,293	83,622	78,431
75-84	13,524	18,461	20,114	20,234	21,268	27,346	40,826	51,721	61,919
<b>Age Range:</b>									
55+	60,844	76,773	92,543	112,507	139,581	165,878	188,626	201,605	208,669
60+	52,213	63,249	71,817	89,307	110,940	138,381	163,563	181,186	187,558
65+	41,135	51,265	55,186	63,803	82,375	103,094	129,664	150,270	162,356
75+	17,776	24,908	27,877	29,297	31,402	37,850	52,371	66,649	83,925
85+	4,252	6,447	7,764	9,063	10,134	10,504	11,546	14,928	22,006

**Figure 1.3 Barnstable County Senior/Elder Population Counts Per "Barnstable County Model": HIGH-Series Projections**



## Definitions of Population Count Projection Series:

### **Low-Series:** (see Figure 1.1)

This senior/elder population count projection is based upon the assumption that recent (1980-1999) net migration rates of seniors/elders to Cape Cod is not sustainable, and that rate will drop off over the next 30 years by about 60%. That is, the net migration of seniors/elders to Cape Cod will have decreased in a linear fashion at about 11% per five-year period from the year 2000 until Also, senior/elder deaths rates over the 30-year period 2005-2035 will hold steady at rates estimated for the period 1980-1998. In other words, the rates of senior/elder net migration will decrease and there will be no changes in the death rates senior/elder death rates over the next 30 years.

### **Middle-Series:** (see Figure 1.2)

This senior/elder population count projection is based upon the assumption that recent (1980-1999) net migration rates of seniors/elders to Cape Cod will be sustained and that the death rates estimated for the period 1980-1999 will continue over the next thirty years. In other words, there will be no changes in the rates of senior/elder net migration or senior/elder death rates over the next 30 years.

### **High-Series:** (see Figure 1.3)

This senior/elder population count projection is based upon the assumption that recent (1980-1999) net migration rates of seniors/elders to Cape Cod will be sustained and that the death rates will drop off in the next 30 years by about 5%. That is, the estimated death rates for the period 1980-1998 will have decreased in a linear fashion at just under 1% per five-year period from the year 2000 until In other words, there will be no changes in the rate of senior/-elder net migration and Cape Cod senior/elder residents will be living longer in future decades.

## Components of Senior/Elder Population Change:

### **Senior/Elder Net Migration:** (from the “Barnstable County Model”)

Since at least the 1950s, there has been a positive flow of new residents age 55+ onto Cape Cod. That senior/elder migration is expected to continue unabated for decades. Projections from the “Barnstable County Senior/Elder Population Projection Model” show that during the year 2005, over 1,500 persons age 55 or older can be expected to take up new permanent residence on Cape Cod. This equates to about four (4) senior/elder migrants per day, year-round.

### **Senior/Elder Mortality:** (from the “Barnstable County Model”)

Historically, almost all (90%+) deaths of Cape Codders are of persons age 55 or older. Projections from the “Barnstable County Senior/Elder Population Projection Model” show that during the year 2005, over 2,900 persons age 55+ can be expected to pass away. This equates to about eight (8) senior/elder deaths per day, year-round.

Thus, these senior/elder net-migration and mortality data show that currently, in-migrants “replenish” the senior/elder (age 55+) population at about a 1-for-2 rate (1 person in-migrates for every two persons who pass away). These newcomers combine with younger Cape Codders ( “Baby Boomers” who are aging into their senior/elder years), to produce the predicted rapidly increasing senior/elder population.

