

Demographic Projections for the Town of Dedham, Massachusetts 2010-2040



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Northeastern University
*Kitty and Michael Dukakis Center
for Urban and Regional Policy*

Dukakis Center Report #2

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Introduction

This is the second report for the Town of Dedham prepared by the Dukakis Center for Urban and Regional Policy at Northeastern University. The first report charted trends in Dedham's population profile; tracked its housing stock, housing production, and home prices; and added detail on these matters for the town's six census tracts.¹ Most of the data for this first report covered the period 1980 to 2010, but some early Census data also informed the conclusions.

The key findings from that report included:

- Dedham's population grew rapidly between 1940 and 1970, but after then declined and continued to do so through 2000. By 2010, Dedham's population was increasing again, but the town had 2,209 fewer residents (-8.2%) than at its 1970 peak of 26,938.
- The average size of a Dedham household declined steadily between 1980 and 2010 from 3.05 persons to 2.56.

- As a result of smaller sized households, the number of households in Dedham continued to increase from 8,291 in 1980 to 9,651 in 2010, despite the decline in population.
- The town's school-age population -- aged 5 to 19 -- declined from nearly a quarter of the total population in 1980 (24.9%) to just 16.4 percent in 1990 and represented only a slightly larger share as late as 2010 (17.2%).
- The proportion of seniors in Dedham -- in this case age 75 or older -- increased steadily from 4.8 percent in 1980 to 10.6 percent in 2010.
- With the youth population declining and the number of older seniors increasing, the number of families as a proportion of all households declined from nearly four-fifths in 1980 (79.3%) to less than two-thirds (65.4%) by 2010. The number of married couples with children households declined from 31.6% to 21.3% over this thirty-year period.
- Median family income (in 2010\$) increased from \$66,552 in 1980 to \$100,561 in 2010. In 2000, median household income in the Town of Dedham was 12 percent higher than in Greater Boston as a whole. By 2010, the premium had increased to 17.5 percent. As such, Dedham has become even more affluent relative to other communities in the region.
- Dedham became somewhat more racially and ethnically diverse. In 1980, nearly 99 percent of the town's population was non-Hispanic white; by 2010, this proportion had declined to 88.4 percent.

- Median home values in Dedham increased from \$177,500 in 1990 to \$223,200. By 2010, the median value was \$388,100 – close to the overall median for Greater Boston as a whole.
- Median gross rent for apartments in Dedham nearly doubled between 1990 and 2010, increasing from \$682 to \$1,320.
- Between 1996 and 2002, there was little new housing construction in Dedham, averaging less than 30 units per year, and all of these were for single-family homes. Between 2003 and 2007, there was a mini-construction boom in town with nearly 850 units being permitted – an average of 170 per year. Unlike past construction, 85 percent of these new units were in multi-family buildings with five or more units. However, once the region’s housing bubble burst, construction ground nearly to a halt with a maximum of 17 units permitted per year between 2008 and 2013.

In summary, by 2010, Dedham’s population remained below its 1970 peak, household size was shrinking as the proportion of married families with children declined and the proportion of older residents increased. Between 1980 and 2010, Dedham became wealthier with household income and housing values increasing and simultaneously became more racially and ethnically diverse. A housing construction boom between 2003 and 2007 provided the town with much needed new housing, particularly apartment dwellings for the town’s increasingly smaller-sized households.

Projecting Dedham's Population 2010-2040

This second report relies on demographic projections for the Greater Boston region recently conducted by the Metropolitan Area Planning Council (MAPC).² The data sources for these projections include *Decennial Census* data from 1990, 2000, and 2010; *American Community Survey* data from 2005 to 2011; fertility and mortality information from the *Massachusetts Community Health Information Profile* (MassCHIP); and housing production information from the *Census Building Permit Survey* database.

To prepare population estimates, MAPC projected birth and death rates as well as interregional and international migration rates based on two scenarios. The *Status Quo* scenario assumes that domestic migration rates continue at the average of the past five to seven years. The *Stronger Region* scenario anticipates that net outmigration from the region continues to slowly decline by 1% per year as a result of stronger economic growth relative to the rest of the nation. The stronger growth presumably helps retain some households in Greater Boston who might otherwise have left and it attracts others to the region to take advantage of expanding job opportunity. As such, the Stronger Region projection yields slightly higher population totals. Since the difference between the two scenarios is quite small for Dedham and projections out to the year 2040 necessarily contain an unknown error that is likely larger than the difference between the two scenarios, this report relies primarily on the Status Quo projections. Adding the Stronger Region projections does not materially change the conclusions we draw from these data.

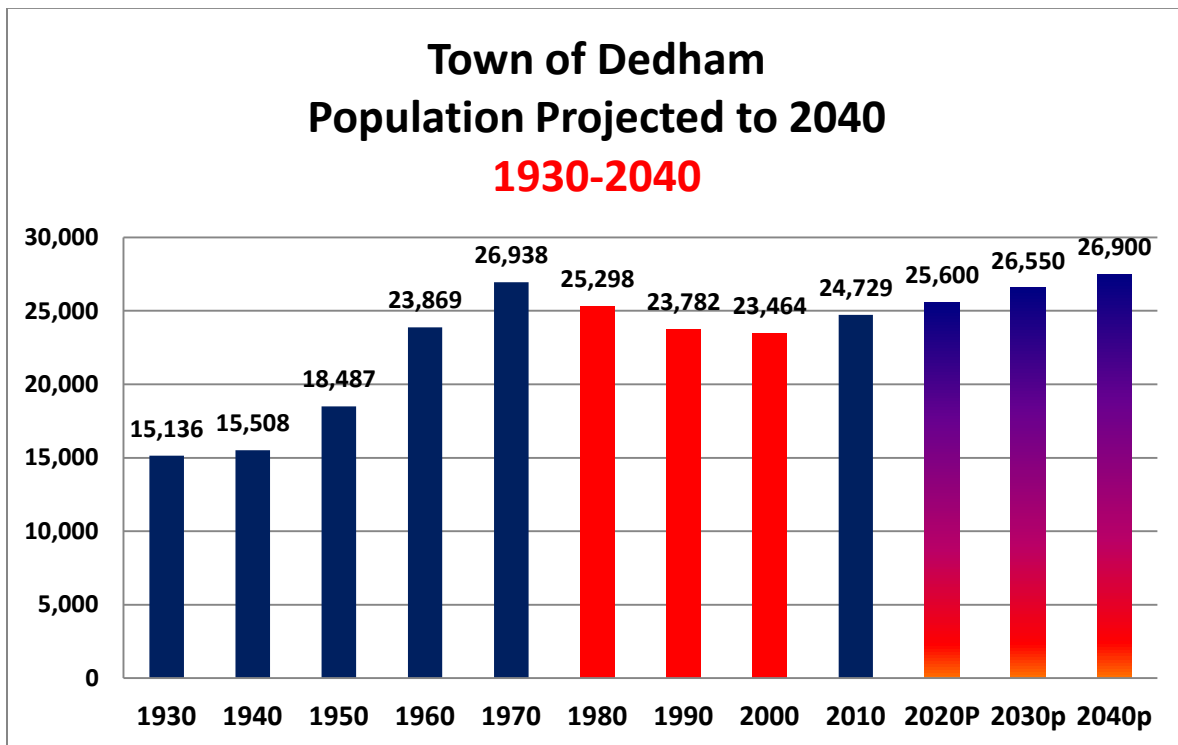
Projected Trends in Dedham's Total Population

According to the MAPC projection, Dedham's population is expected to continue to grow slowly between 2010 and 2040, continuing to reverse the decline the town experienced

between 1970 and 2000.³ As **Figure 1** demonstrates, over the next thirty years, Dedham’s population will expand modestly to over 26,900, equaling its old record set in 1970. This represents nearly a 9 percent increase over 2010 and 15 percent more than in 2000.

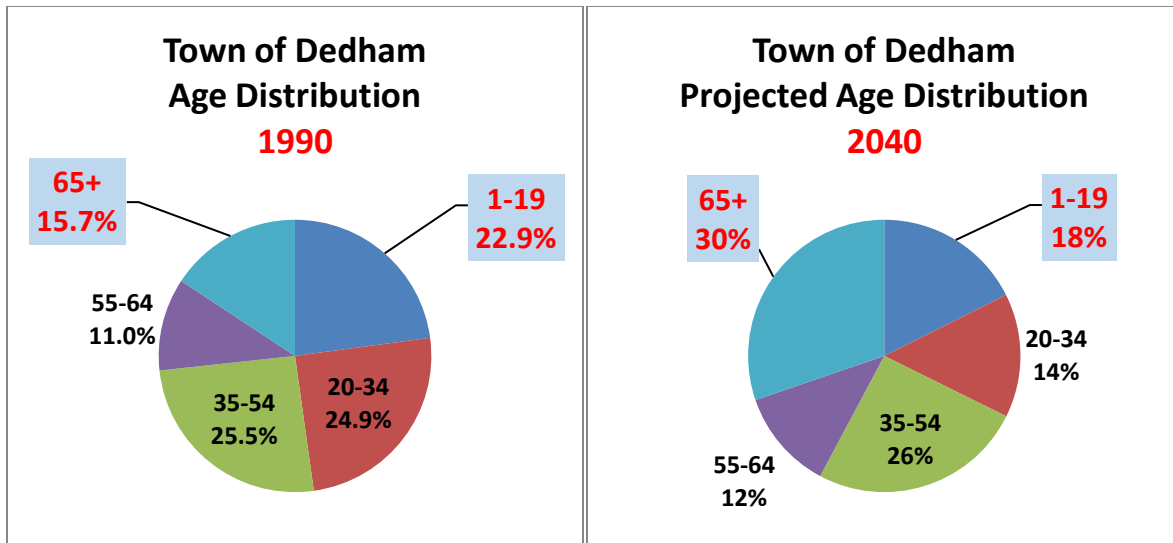
What is by far more important is the change in the projected age composition of the town’s population. It **mirrors what is expected throughout Greater Boston** – a population **growing slowly, but aging rapidly**. As **Figure 2** reveals, back in 1990, nearly 23 percent of Dedham’s population were children and teenagers (age 1-19). By 2040, this proportion is expected to shrink to less than 18 percent. Meanwhile the senior population (age 65+) is expected to nearly double as a proportion of the town’s total population, from less

Figure 1



Source: MAPC Projection Data

Figure 2

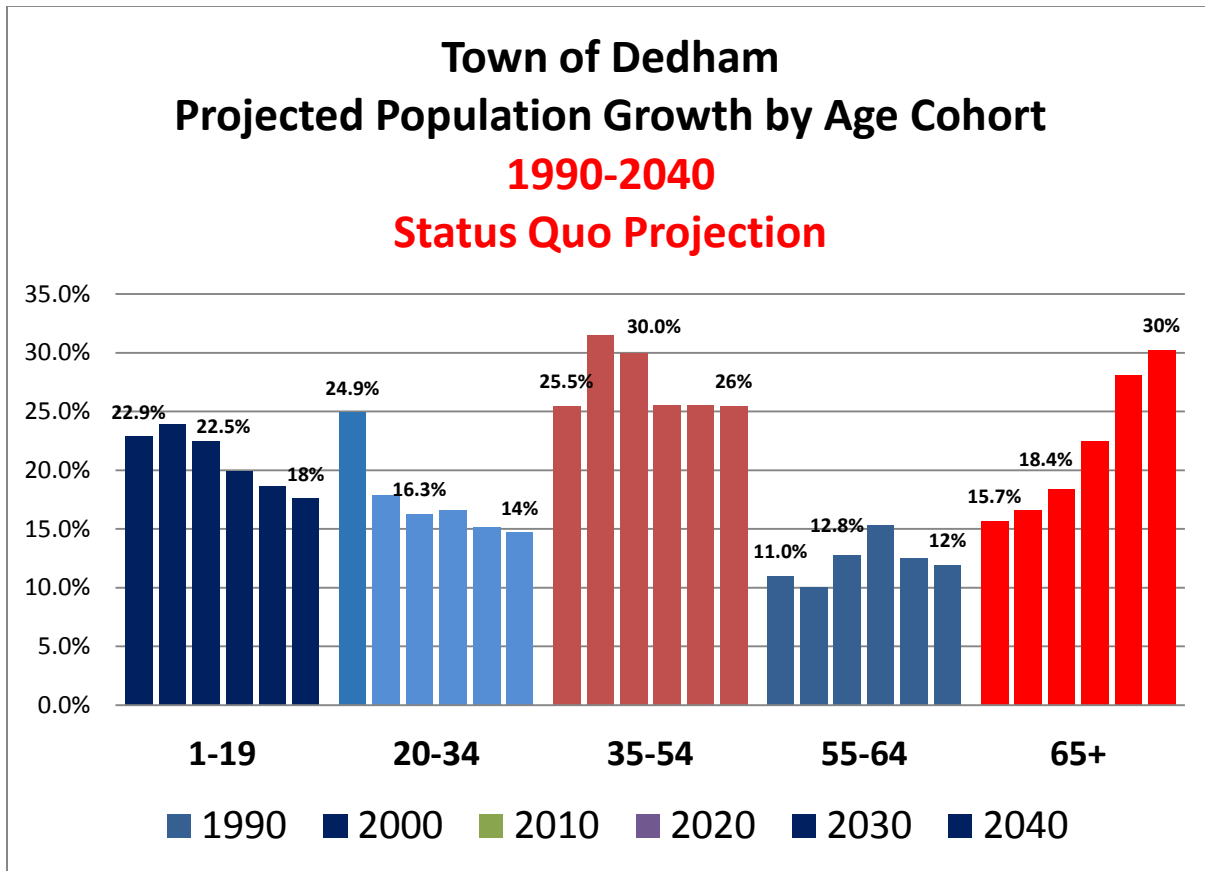


Source: Computed from MAPC Projection Data

than 16 percent to more than 30 percent. This is due to the aging of the immense baby boom generation.

Figure 3 provides a more complete depiction of these population trends. The share of Dedham's population comprised of youth (age 1-19) and young prime age individuals (age 20-34) is expected to drop from 38.8 percent in 2010 to 32 percent in 2040 – a drop of nearly 7 percentage points. Older prime age individuals (age 35-54 and 55-64 combined) are expected to decline by nearly 5 percentage points to 38 percent of the total 2040 population. ALL of this decline will be offset by those who will be 65 or older as this population increases from 18.4 percent to at least 30 percent of Dedham's residents. One could call this a demographic revolution and it is similar to what will occur throughout Greater Boston.

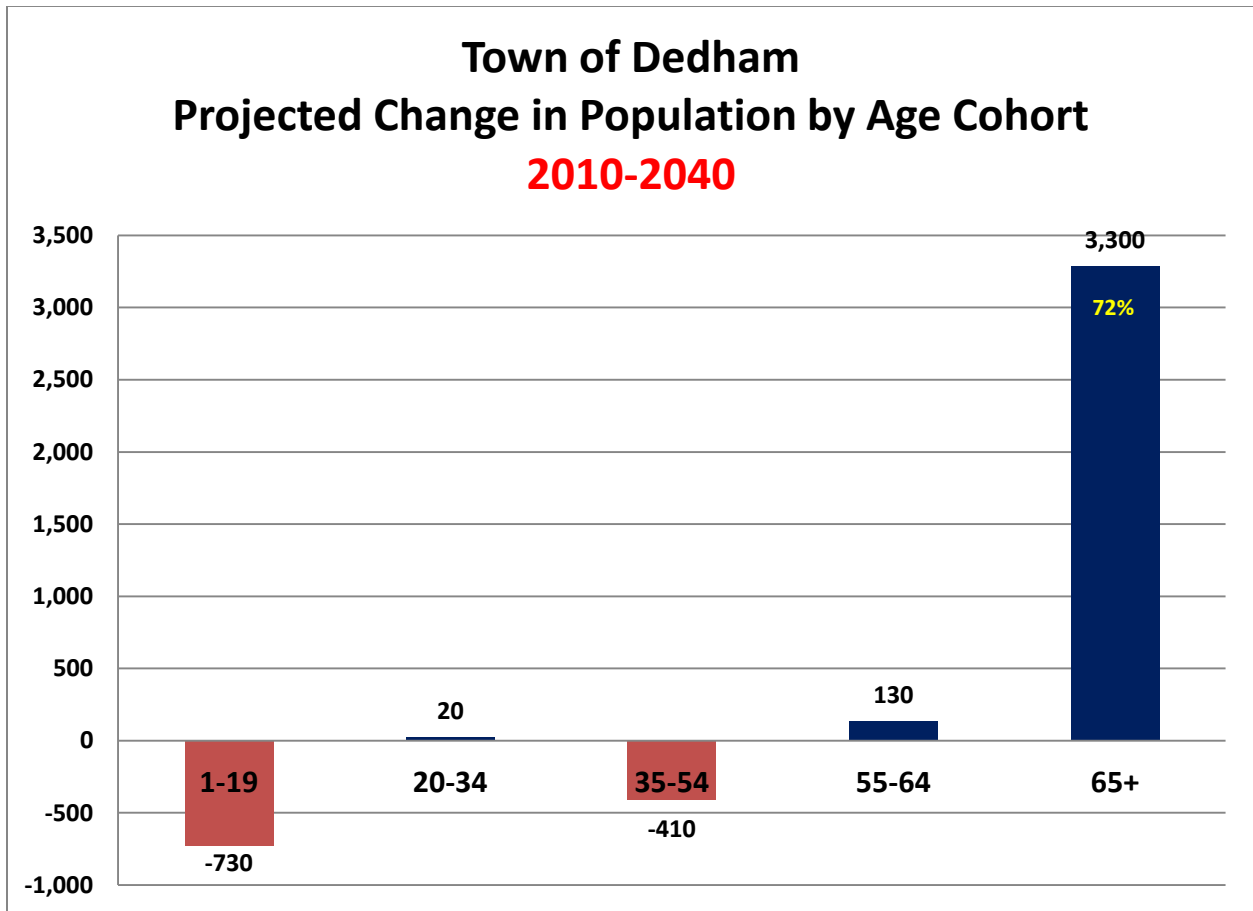
Figure 3



Source: Computed from MAPC Projection Data

Figure 4 makes this expected demographic revolution even more apparent. In absolute terms, the MAPC projection suggests that there will be **730 fewer children and teenagers living in Dedham by 2040 relative to 2010**. The number of young prime age individuals (age 20-34) will remain essentially unchanged. The number of older prime age workers (age 35-54 + age 55-64) will decline marginally -- by fewer than 300. Meanwhile, the **number of senior citizens 65 and older will increase by nearly 3,300 -- by 72 percent** -- as Dedham's relatively young population of today ages over the course of the next thirty years with little increase in the size of the cohorts who follow them.

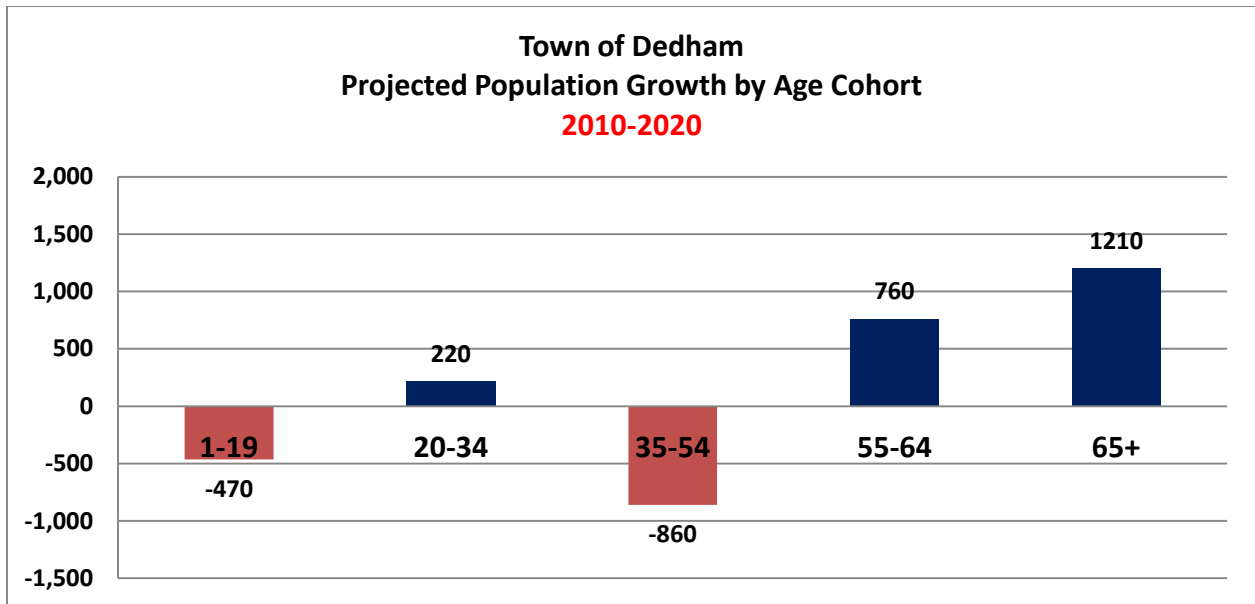
Figure 4



Source: Computed from MAPC Projection Data

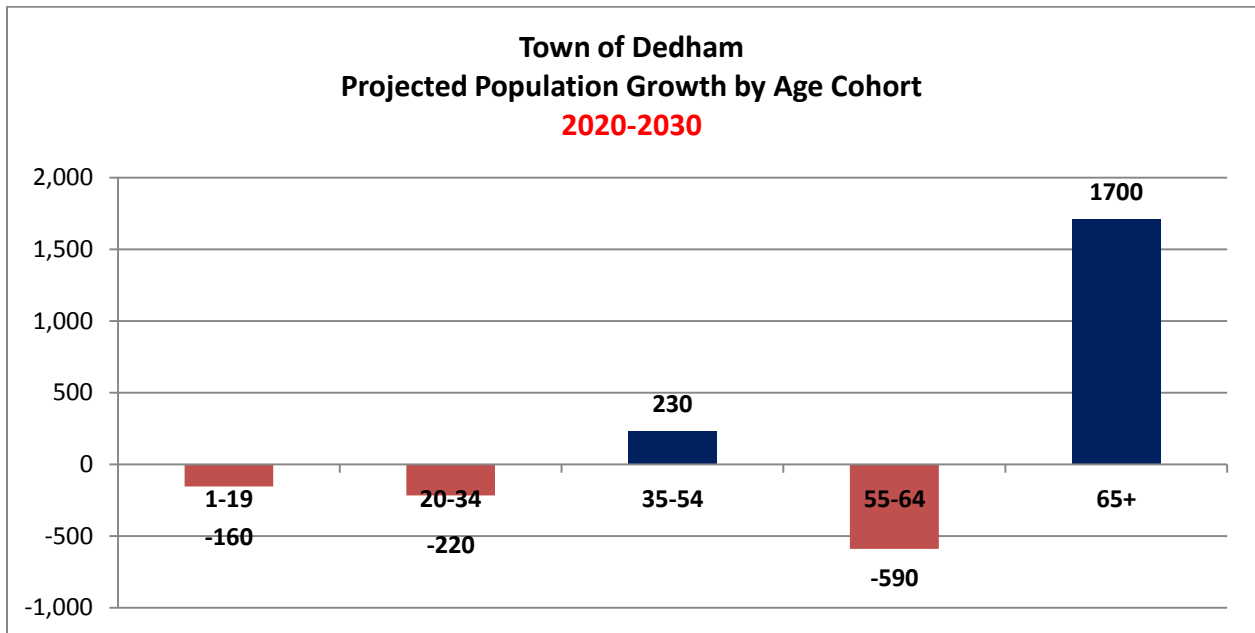
The increase in the senior population can be traced through the decades as demonstrated in **Figures 5A-5C**.

Figure 5A



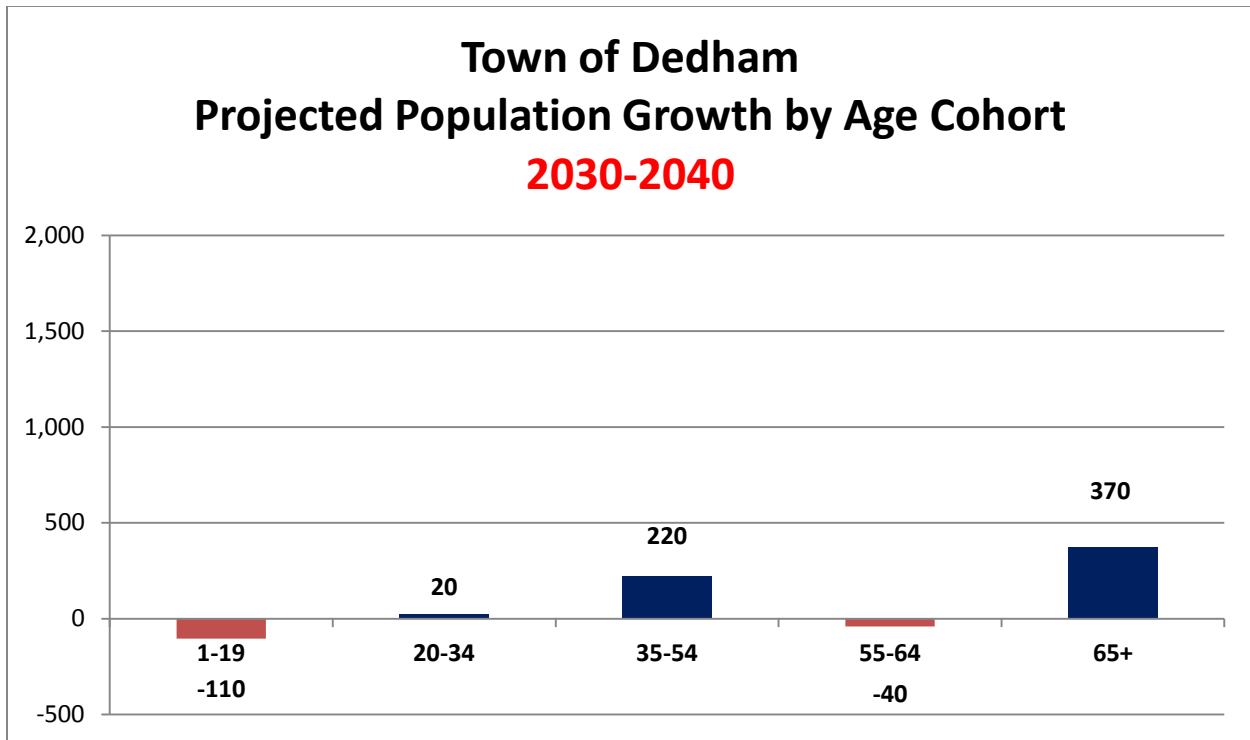
Source: Computed from MAPC Projection Data

Figure 5B



Source: Computed from MAPC Projection Data

Figure 5C



Source: Computed from MAPC Projection Data

According to these projections, the number of children and teenagers in Dedham will continue to decline each decade between 2010 and 2040.

While there will be an increase of approximately 220 young prime age residents between 2010 and 2020, an equal number will be lost in the following decade with virtually no change between 2030 and 2040.

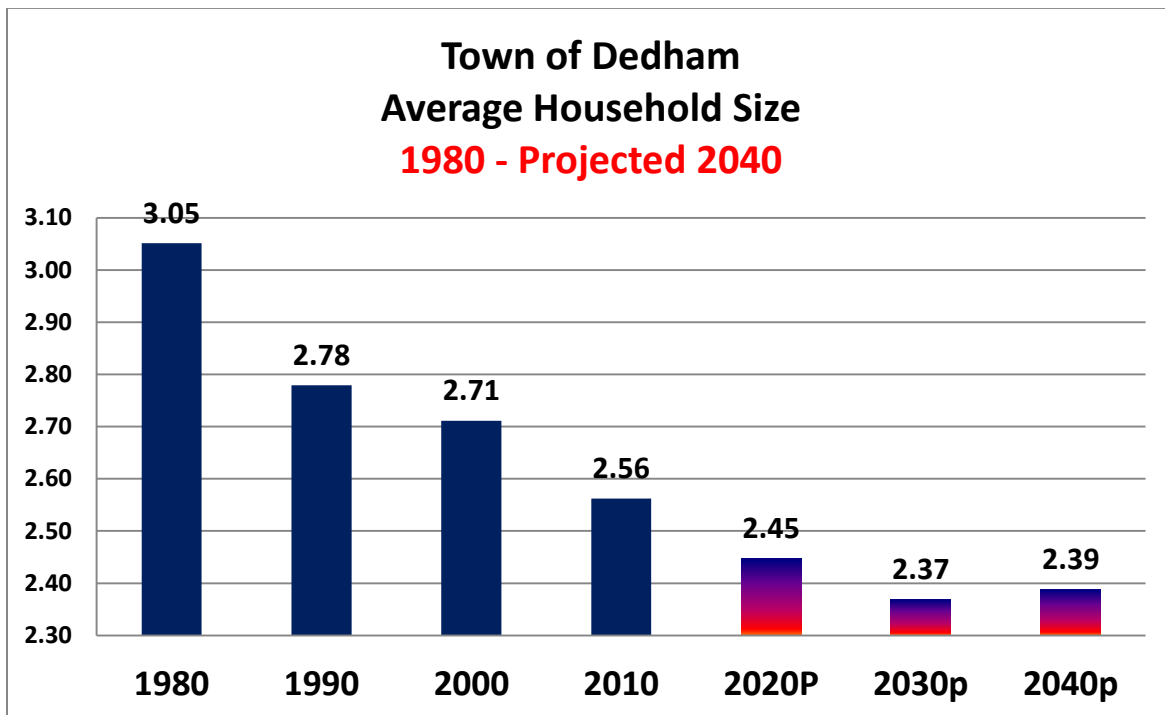
A loss of older prime age residents (age 35-54) between 2010 and 2020 gives way to an increase in this cohort between 2020 and 2040. Just the opposite is true for the 55-64 year old cohort. It is projected to experience an increase of approximately 760 between 2010 and 2020 before declining by 530 over the ensuing two decades.

In each decade, those 65+ increase their numbers -- first by 1,200, then by 1,700, and finally by about 370 -- in the final decade of this thirty year projection.

Household Size

The number of projected households can defy the trend in population as it is conditioned by changes in the average size of households. As we saw in our previous report, the average household in Dedham had 3.05 members in 1980. By 2010, after a continual decline over three decades, average household size was down to 2.56. The MAPC projection suggests that this trend toward smaller households will continue, but at a slower pace. As **Figure 6** reveals, the average household will contain less than 2.4 members by 2030 and will stabilize at that level.

Figure 6

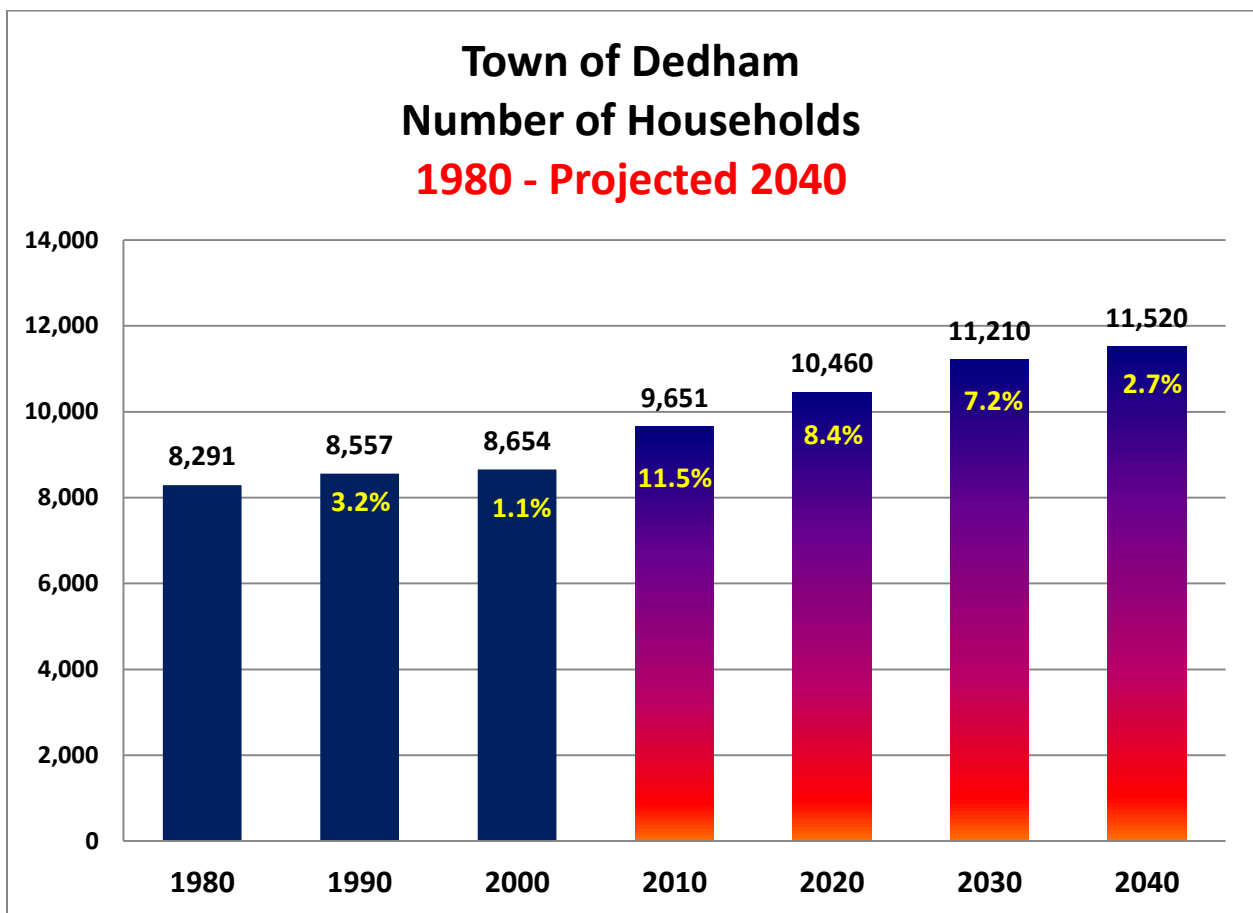


Source: Computed from MAPC Projection Data

Projected Household Growth in Dedham

As **Figure 7** demonstrates, the number of households in Dedham grew from decade to decade from 1980 to 2010. The MAPC projections suggest that this growth in households will continue through 2040. By then, Dedham can expect to have more than 11,500 households, an increase of 19 percent over the 2010 level. Because of the decline in household size, this compares with a 2010-2040 population increase of only 11 percent.

Figure 7



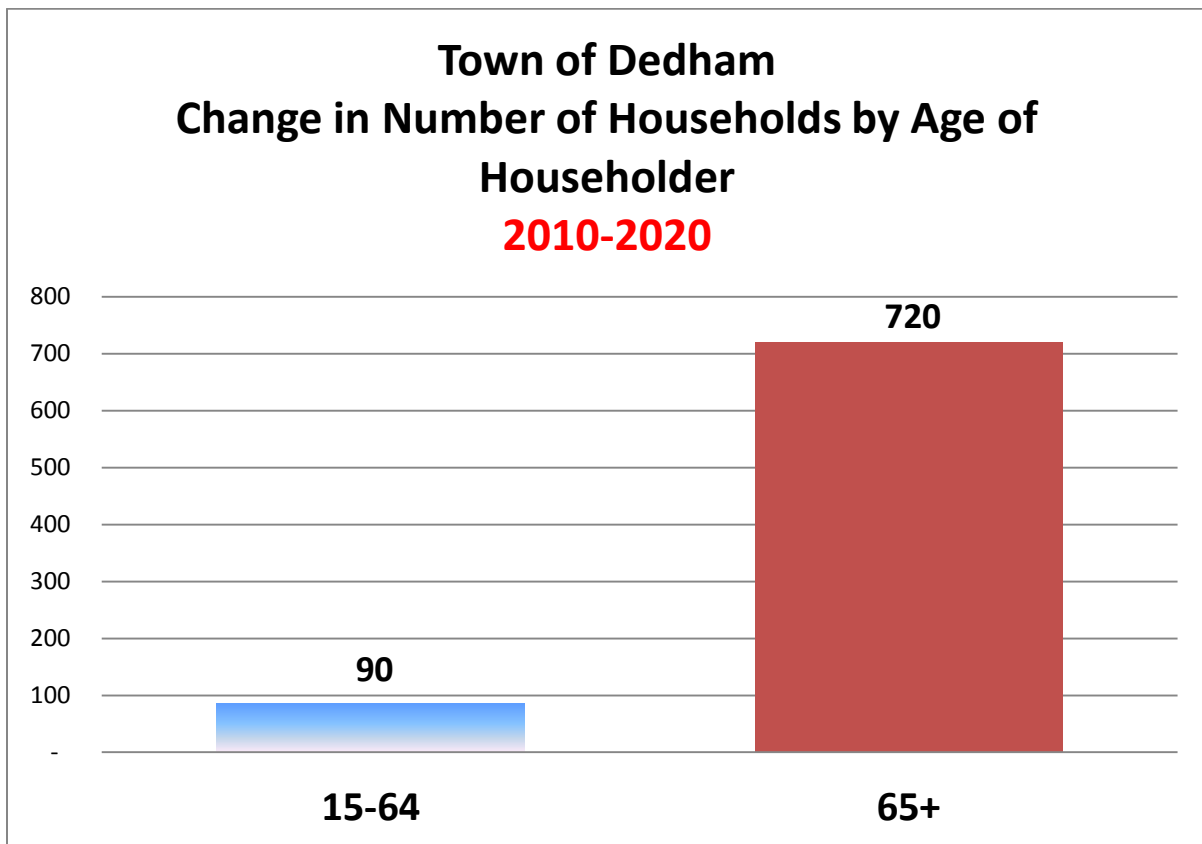
Source: MAPC Projection Data

Between 2000 and 2010, household growth in Dedham accelerated, increasing by 11.5 percent after growing by less than one-tenth this rate in the previous decade. Over the

next decade ending in 2020, MAPC projects that the number of households will increase by another 8.4 percent. But as household size stabilizes, the increase in the number of households will slow to a projected growth rate of 7.2 percent between 2020 and 2030 and then just 2.7 percent between 2030 and 2040.

The overwhelming share of household growth will take place among older residents. As **Figure 8** indicates, the projection suggests that between 2010 and 2020, there will be 720 additional households where the head of household is age 65 or older. The projection suggests an addition of only 90 households headed by a younger householder.

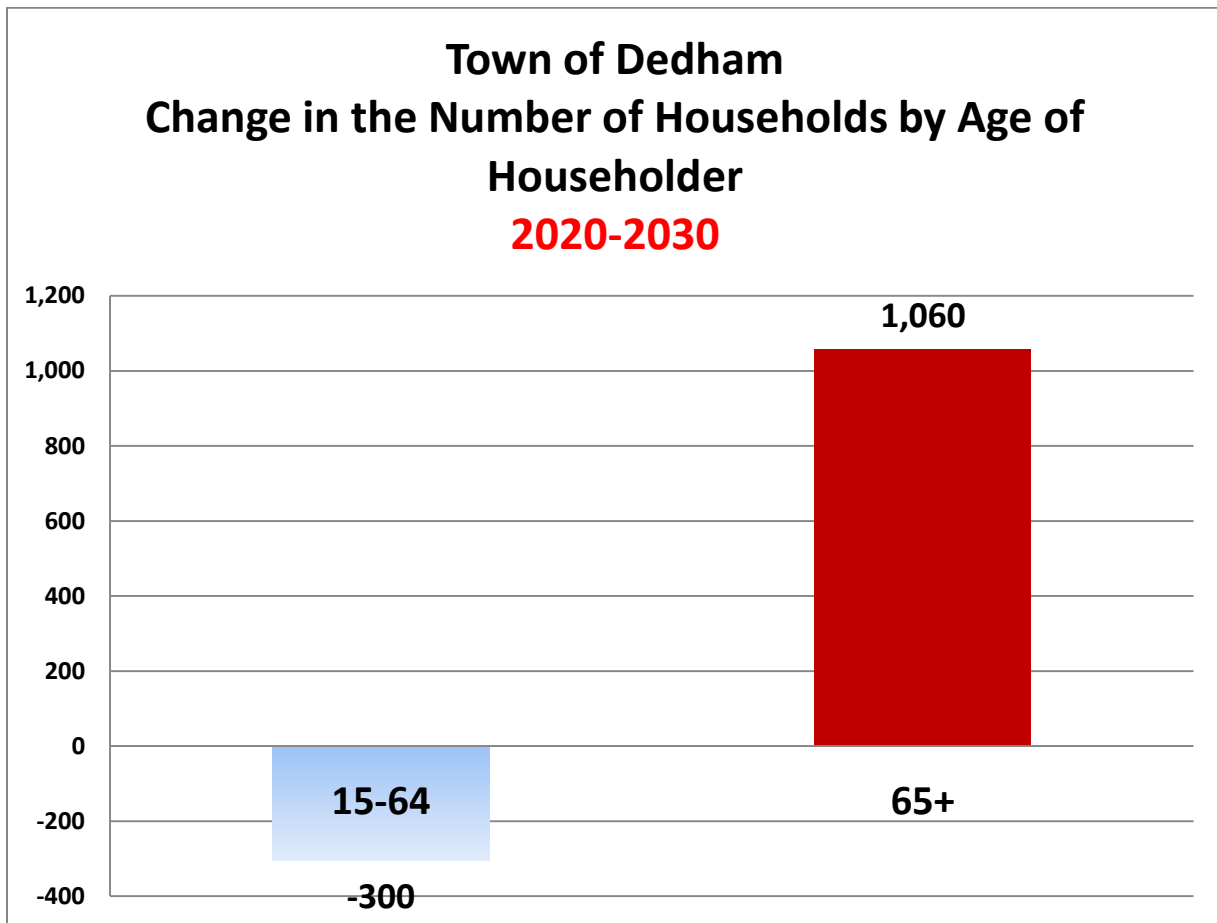
Figure 8



Source: Computed from MAPC Projection Data

As **Figure 9** reveals, the shift to older households is projected to accelerate between 2020 and 2030. During that decade, the number of senior households will increase by more than 1,000 while the number of young households is expected to actually decline by 300.

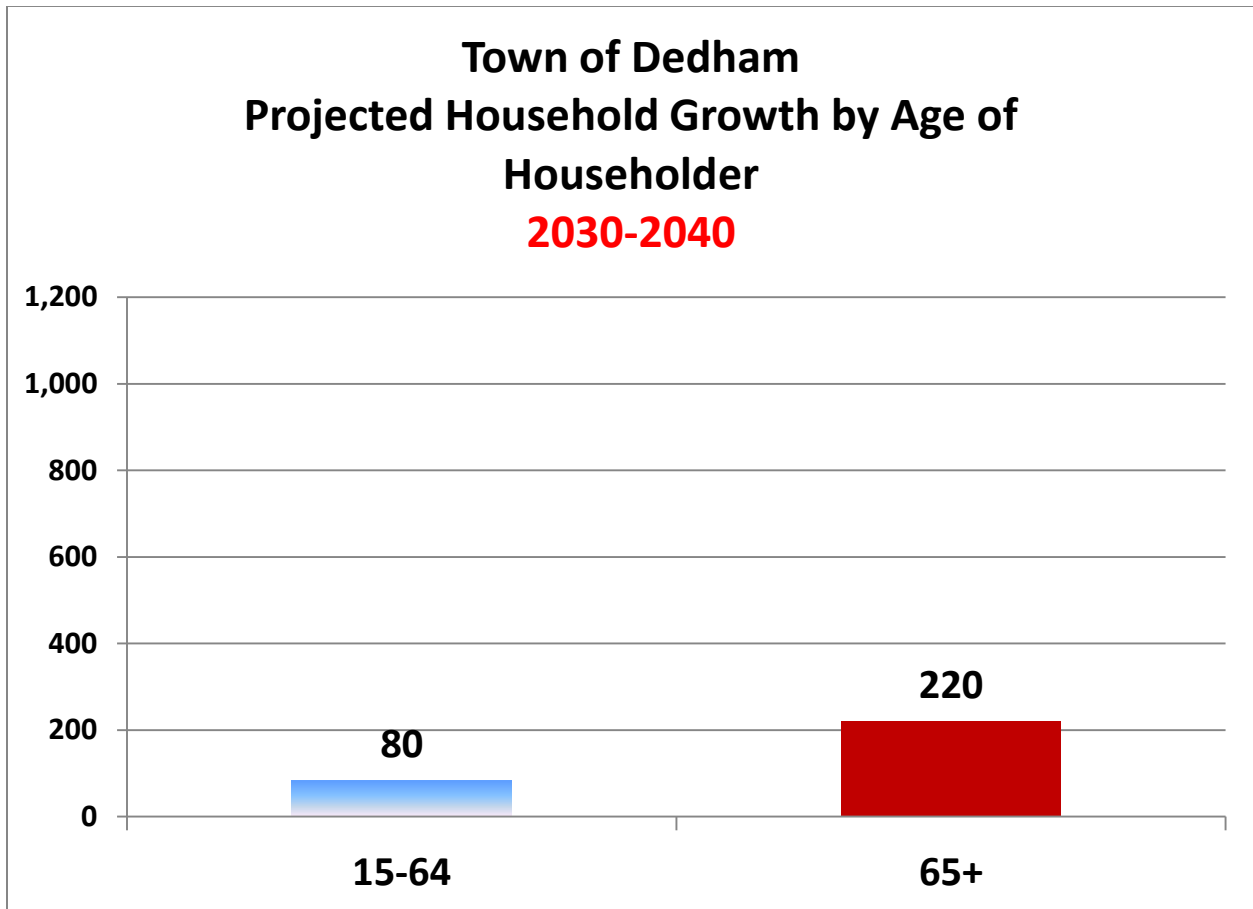
Figure 9



Source: Computed from MAPC Projection Data

In the following decade, total household growth slows dramatically according to the projection with only 80 additional households with a householder under age 65 and just 220 additional older households.

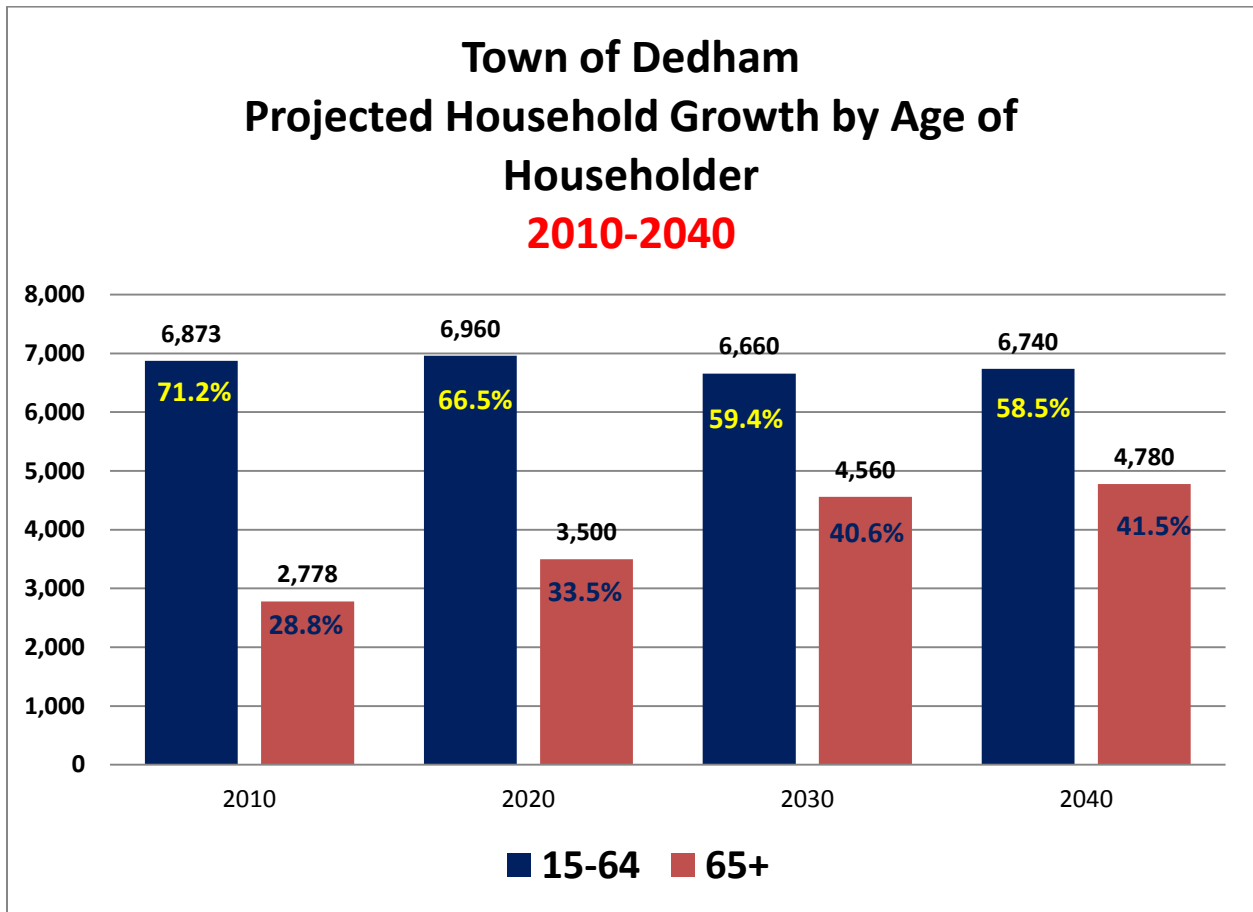
Figure 10



Source: Computed from MAPC Projection Data

All of these household data are summarized in **Figure 11**. Essentially, between 2010 and 2040, the number of households headed by someone under the age of 65 is projected to remain about constant or decline slightly while the number of older households will expand by 2,000. *In 2010, older Dedham households accounted for less than 29 percent of all households. By 2040, they are expected to account for close to 42 percent. If this projection holds, the demographic profile of Dedham will be fundamentally altered over the next three decades and most of this shift will occur by 2030.*

Figure 11

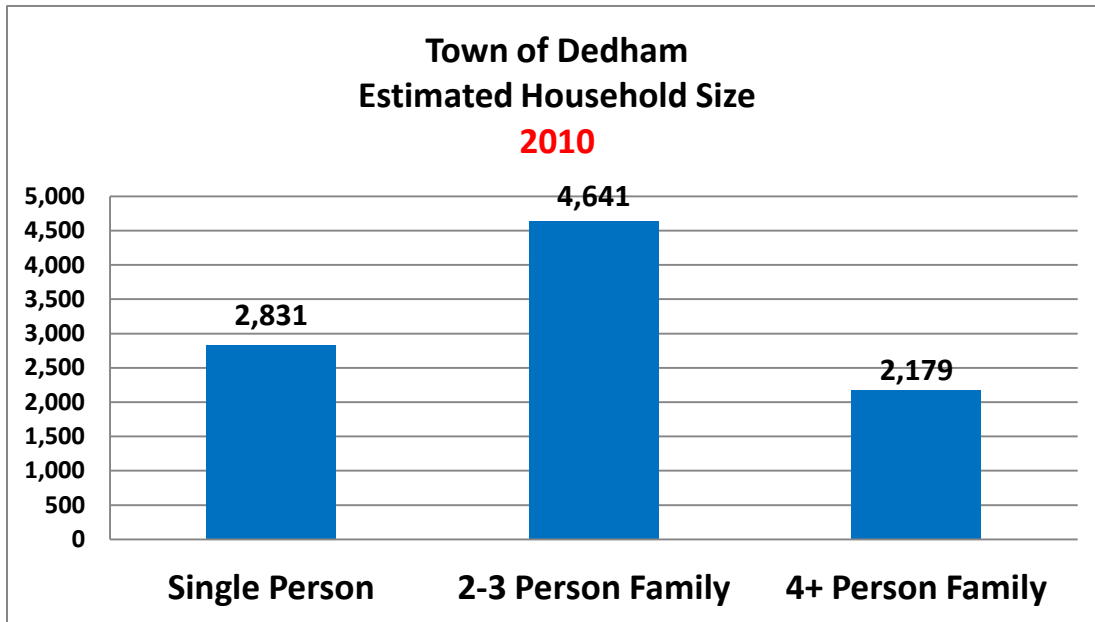


Source: Computed from MAPC Projection Data

Size of Households

As the demographic profile of Dedham changes over time, household size will change as well. **Figure 12** provides an estimate of how many households in town contained a single person, 2-3 people, or 4 persons or more in 2010. About 29 percent of all households (2,831) had a single resident. About half (48% - 4,641) had 2-3 residents while 23 percent of households (2,179) contained 4 or more persons.

Figure 12

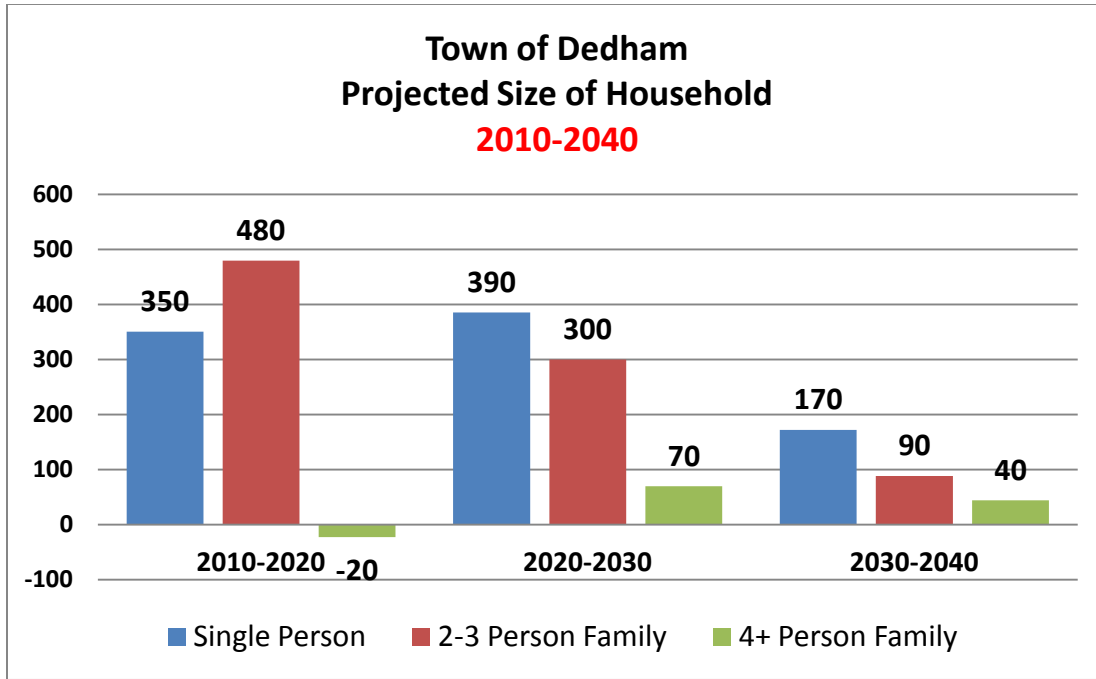


Source: Computed from MAPC Projection Data

Figure 13 provides estimates of the projected change in households by household size between 2010 and 2040. Note that between 2010 and 2020, the projection indicates a slight decline in the number of larger households with all of the net increase in households comprised of single persons or small families. During this decade, the largest number of new households will be those with 2-3 persons. In the two following decade (2020-2030 and 2030-2040), the largest number of new households will have just a single resident, as **Figure 14** reveals. Half of these additional households will be older persons, many of whom are likely to be widows or widowers.

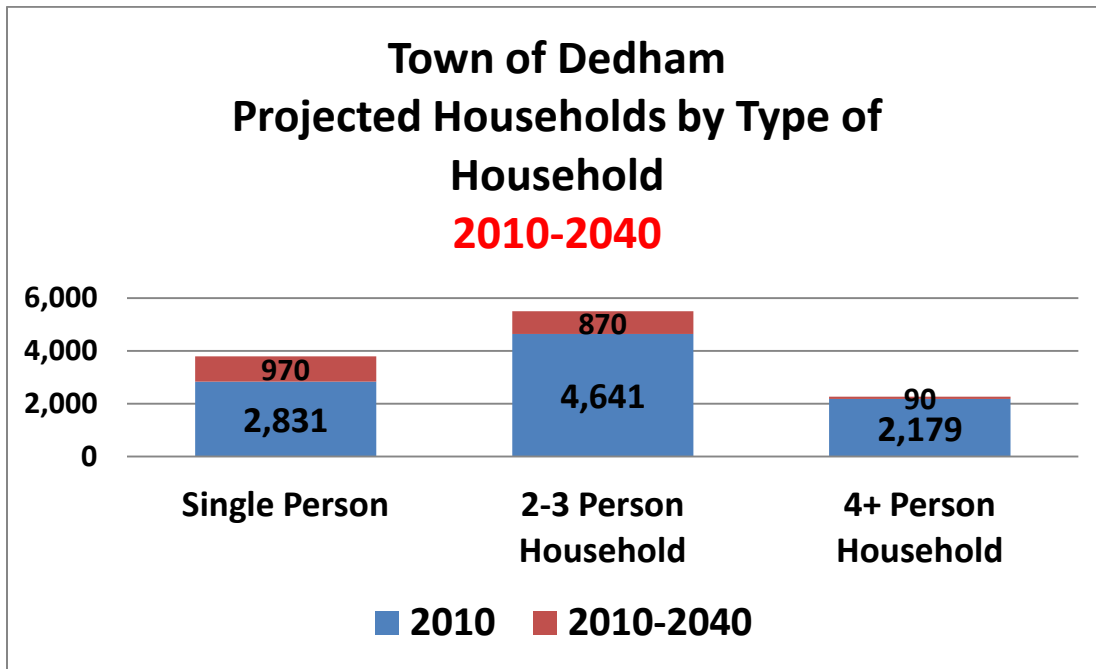
If this projection holds true, Dedham will have nearly 35 percent more single person households by 2040; 19 percent more small family households; but just 4 percent more 4+ person families.

Figure 13



Source: Computed from MAPC Projection Data

Figure 14



Source: Computed from MAPC Projection Data

Projection Variance

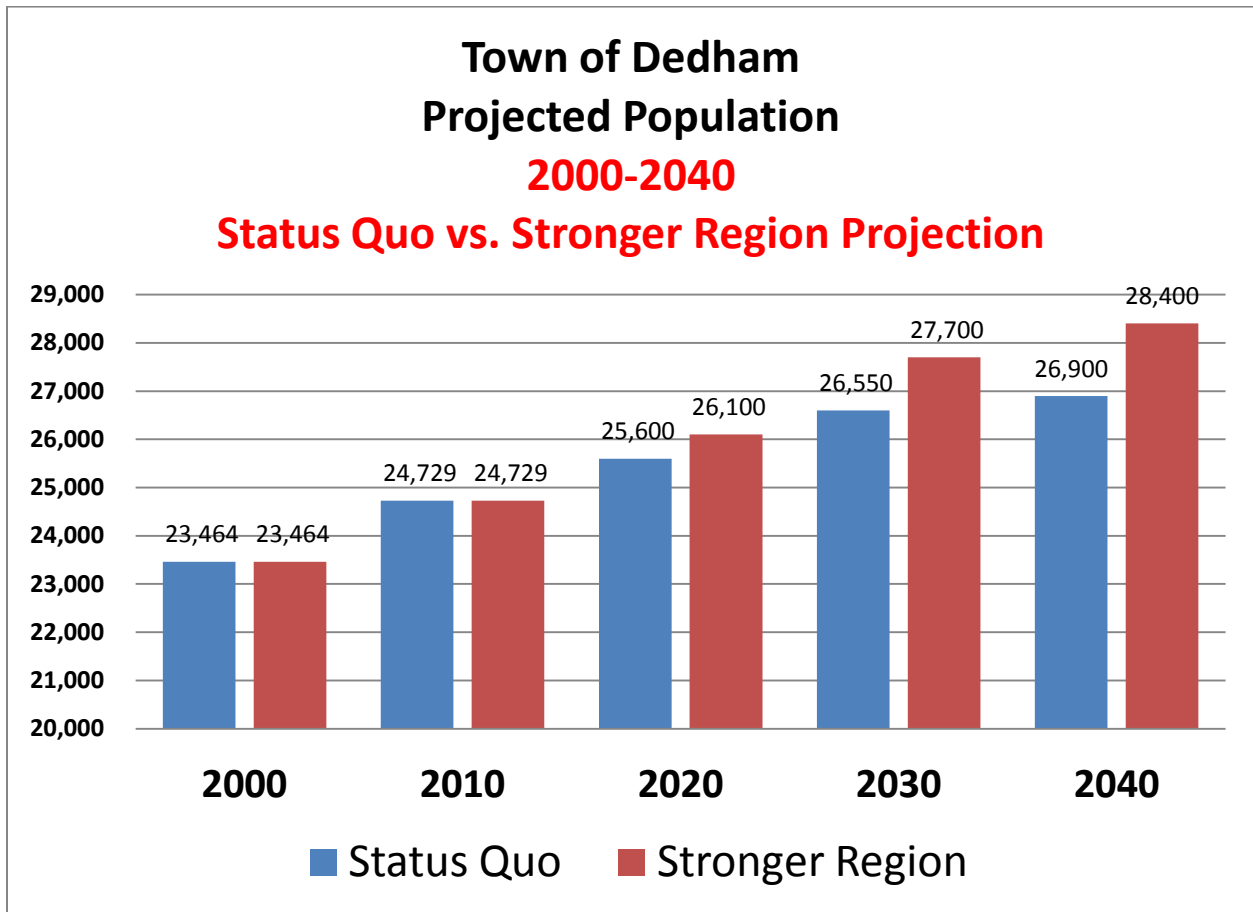
All projections are obviously subject to forecast error. In the case of these population and household projections, changes in birthrates could affect the number of children in Dedham in 2020 and beyond. Lower death rates could affect the number of older residents. The same is true of changes in in- and out-migration rates which are influenced by many factors including changes in immigration policy and the relative strength of the Greater Boston economy. If job opportunity increases in the region faster than other places, the number of out-migrants will likely contract and the number of in-migrants will expand.

As mentioned in the introduction, MAPC produced two sets of projections, one based on a “status quo” (SQ) economy, the other based on a “stronger region” (SR) economy. According to MAPC, the *Status Quo* scenario is based on a continuation of existing rates of births, deaths, migration, and housing occupancy. The *Stronger Region* scenario explores how changing trends might result in higher population growth, greater housing demand, and a substantially larger workforce.⁴ The key elements of the Stronger Region scenario include:

- Increased attraction and retention of people within the region, especially young adults
- A slightly greater preference for urban living among younger households
- Continued declines in affinity for single family homes among younger and older cohorts

All of the previous figures in this report reflect Status Quo projections. **Figure 15** demonstrates the Dedham population projection under the Stronger Region projection vs. the Status Quo. By 2020, the SR projected population suggests an additional 500 residents in Dedham. By 2030, a stronger regional economy adds another 1,100 people to the town’s population relative to the SQ projection. By 2040, the difference is 1,500.

Figure 15



Source: Computed from MAPC Projection Data

Of course, it is possible that Dedham will experience even less population growth than the Status Quo projection. This could occur under a number of scenarios.

- The regional economy could grow slower than expected, leading to greater out-migration of workforce-aged cohorts and less in-migration from other regions.
- Immigration into the region and into Dedham could be lower if immigration regulations are tightened.

- Dedham residents, particularly aging Baby Boomers could choose to move out of Dedham in larger numbers, seeking warmer climates or seeking more appropriate housing available outside of Dedham.

As such, these projections must be taken with a note of caution. The further out we go in our projections, the more likely a range of factors will condition the future to differ from these projected values. What is unlikely to differ from these projections, however, is the aging of Dedham's population. This is virtually inevitable.

Potential Implications of Dedham's Demographic Revolution

Dedham will hardly be alone in experiencing such a demographic revolution over the next three decades. What will happen in Dedham reflects similar trends throughout most of the communities in Greater Boston. All of them will have to plan for demographic change which will affect most aspects of town life.

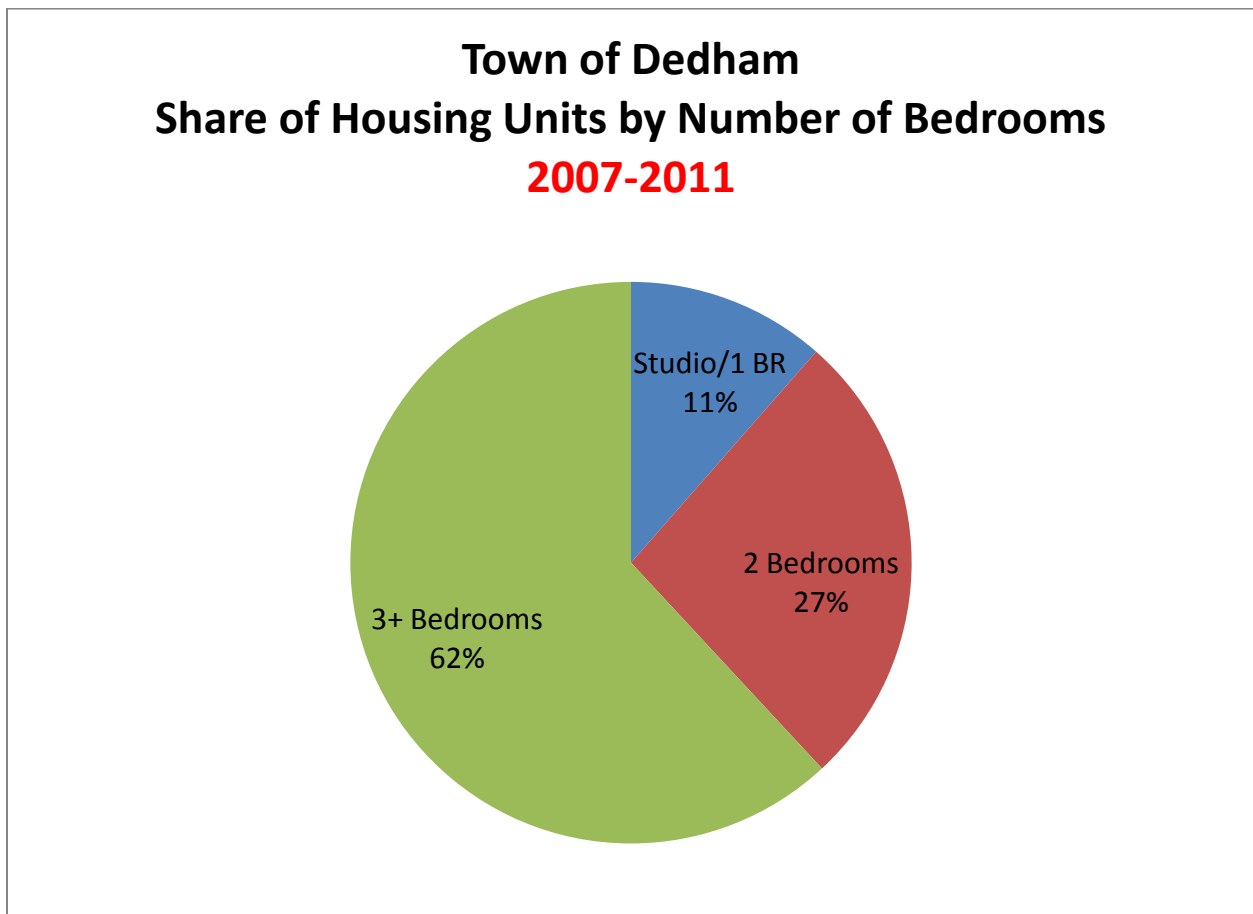
Housing

Over the next three decades, the aging of the Dedham population will likely affect the housing choices of current residents. Empty-nesters may find it desirable to "age in place" in Dedham, but not necessarily in their current homes. As the Baby Boomers age further, many are expected to end up as single person households. They, too, may wish to stay in town but downsize from their existing homes. Moreover, younger families may become smaller as they delay childbearing and opt for fewer children. This will also affect housing demand.

As **Figure 16** reveals, the current housing stock in Dedham is overwhelming comprised of larger homes with three or more bedrooms. More than three-fifths (6,211) of the current stock of 10,033 housing units in town contain three or more bedrooms with studio apartments and 1-bedroom units accounting for only 11 percent (1,150 units) of the town's

housing stock.⁵ According to the projection found previously in Figure 14, we expect 910 additional single person households in **Dedham by 2040**. If the projection holds true and single person households opt for **smaller housing units**, this will likely require nearly a **doubling of studio and 1-bedroom apartments in** town. If such housing is not developed, it is possible that older Dedham residents will seek more appropriate housing in other communities.

Figure 16



Source: *American FactFinder* – 2007-2011 American Community Survey

Moreover, with a projected increase of only 90 households with four or more persons through 2040, it appears there will be little need for the construction of additional larger single-family homes – and certainly fewer per decade than the 623 constructed between 2000 and 2010.⁶ The projected increase of 870 smaller households with two-to-three persons may also increase demand for 2-bedroom housing units of which today there are about 2,670. If all of these additional smaller households were to opt for such units, there would be a need for increasing such a housing stock by nearly a *third*.

Transportation

Along with the need for smaller housing units for an aging population, Dedham might also wish to consider the transportation needs of their older residents. Of the projected addition of 2,900 residents 65 and older by 2030, the MAPC expects more than 1,350 of these to be age 75 plus and 600 to be 85 or older. Many of these older residents may choose to **abandon their private automobiles and seek public transit**. While private taxi service may be adequate to fill their needs, Dedham might consider developing a public van service to supplement this mode of transit.

Social Services

A range of social services may also need to be expanded to serve this population. This could include skilled nursing, financial planning, and age-appropriate recreational services.

Public Schools

These projections suggest that the school-age population in Dedham will decrease over the next two decades. In 2010, there were **5,570 residents aged 1-19**. By 2030, we project this age cohort will be down to **about 4,950** – a decline of 620. Between 2030 and 2040, this young cohort is expected to decline by another 100 or so. As such, it appears that

Dedham will not need to substantially increase its investment in public school construction beyond plans for renovation or to adjust for the number of students in each grade or across schools.

Tax Revenue and Economic Development

Finally, Dedham should begin to consider what impact its changing demographics might have on the town's tax base. With its age profile shifting toward older residents, it is possible that it will be difficult to maintain the town's residential property tax base as its senior citizens downsize their housing and find themselves increasingly living on fixed incomes. Raising revenue through Prop 2 ½ overrides may also become more difficult politically.

In this case, the town may become more dependent on its commercial and industrial tax base. With little additional local aid forthcoming from the Commonwealth and little federal aid, Massachusetts towns and cities will increasingly find themselves "on their own." Municipalities will find themselves competing for business investment. In this case, Dedham may wish to seek ways to become more attractive to business development.

Conclusions

While projections always must be taken with a grain of salt, the projections here reflect the best data available at this time. They suggest that Dedham should begin planning for a very different demographic future than its demographic present. The aging of its population with its smaller household size will require new thinking about housing, transportation, social services, and the town's economic base. While there is time for careful planning for this demographic transition, there is no time like the present to begin.

ENDNOTES

¹ Chase Billingham and Barry Bluestone, “Demographic Trends and Housing in the Town of Dedham, Massachusetts,” *The Kitty and Michael Dukakis Center for Urban and Regional Policy*, October 1, 2013.

² See Tim Reardon and Meghna Dutta, “Population Change and Housing Demand Projections for Metro Boston: Regional Projections and Provisional Municipal Forecasts,” *Metropolitan Area Planning Council*, October 9, 2013.

³ While MAPC produced projections for the entire Greater Boston region out to 2040, its projections for each municipality were generated only through 2030. To project Dedham’s population to 2040, we assumed that Dedham’s population growth rate between 2030 and 2040 would be identical to that of the region as a whole.

⁴ See Reardon and Dutta, *op. cit.*, p. 1.

⁵ Housing unit data for Dedham for the period 2007-2011 are available from American FactFinder provided by the U.S. Census Bureau.
http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml

⁶ See Chase Billingham and Barry Bluestone, *op. cit.*, Figure 13, p. 38.