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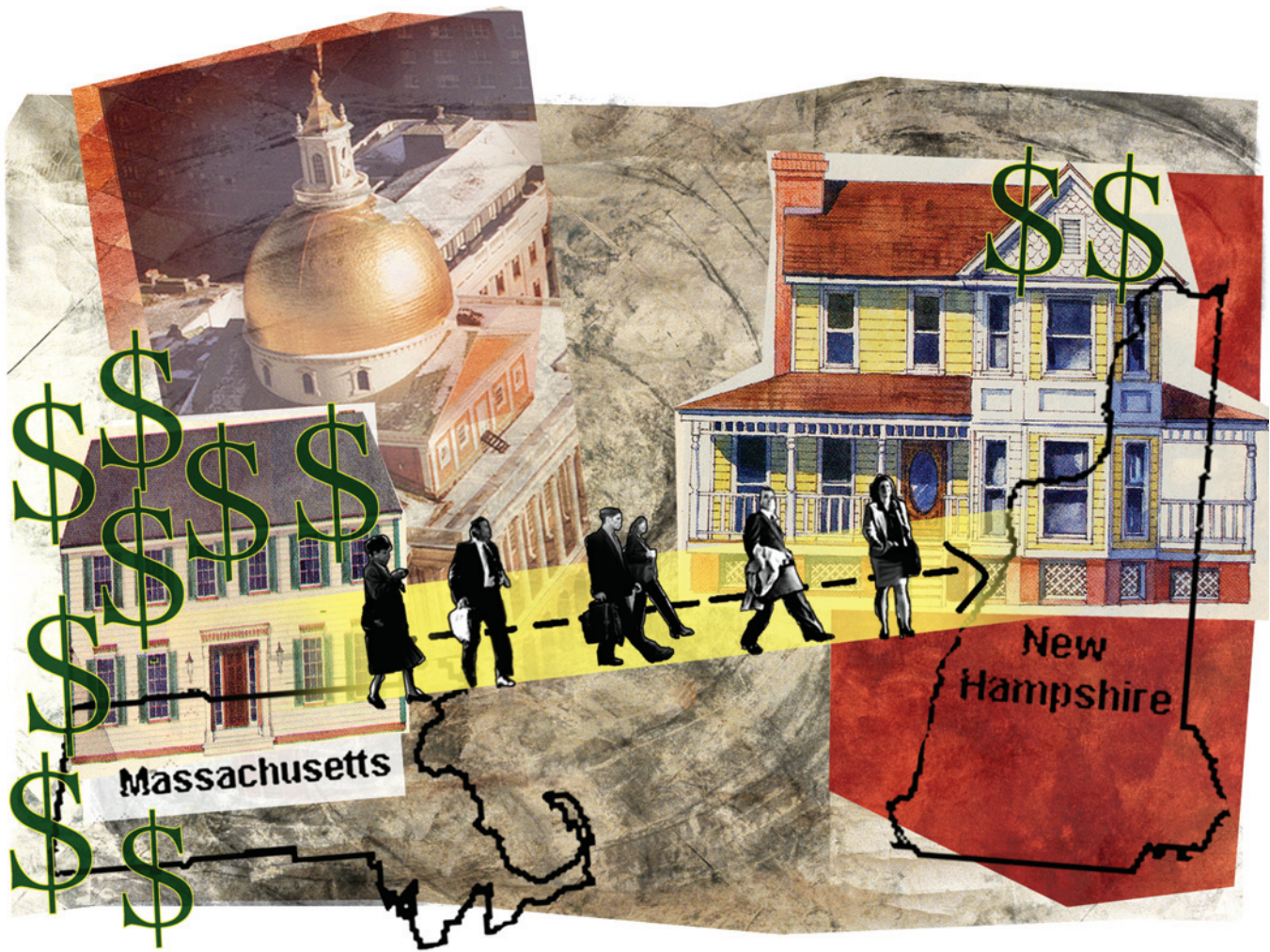


Illustration by Naomi Shea

POPULATION CHANGE, HOUSING, AND LOCAL FINANCE

ROBERT A. NAKOSTEEN AND JAMES R. PALMA

There is broad agreement that affordable housing is one of the most pressing problems facing the Commonwealth. Attracting a qualified labor force to the state is challenging, since housing prices are high and rising quickly. One important aspect of increasing the supply of housing in Massachusetts is the role played by municipal governments. In a sense, all housing development decisions in the state start at the municipal level. Many municipalities are reluctant to approve significant new housing projects because of their fear that the costs generated by new housing will outstrip the tax revenues generated. In fact, the relationship between costs and revenues is not so clear-cut and deserves more consideration.

Price, Population, and Vacancies

The pattern of housing-price increases across the Commonwealth is striking. In a single year—from the first quarter of 2002 to the same quarter of 2003—the average selling price of a detached single-family house jumped from \$309,807 to \$358,334. That is an increase of 15.7 percent—and it was during a recession. While Greater Boston’s increase was at roughly the state average (15.3 percent), the Southeast region saw housing prices swell 34.9 percent. On Cape Cod, the number was 27.6 percent. Only in the western part of the state, in the Pioneer Valley and Berkshire Regions, was the increase in the single digits.

The interplay between population and household growth and the increase in actual numbers of housing units explains much of this phenomenon. According to the U.S. Bureau of the Census, the population of the Commonwealth grew 5.5 percent between 1990 and 2000, compared to 13 percent for the nation as a whole.¹ The number of households² in Massachusetts increased almost 9 percent, versus 15 percent nationally. This might be expected to create a similar increase in housing units, but it did not. The number of housing units in Massachusetts increased only 6 percent between 1990 and 2000, while the nation saw growth of just over 13 percent, roughly equal to the national rate of population growth. If housing-unit growth had matched new-household growth from 1990 to 2000, Massachusetts would have added over 70,000 more housing units than it did.

Many new households occupied previously vacant units. In 1990, the vacancy rate for housing in Massachusetts was 10 percent in total, with a 1.7 percent “owned” vacancy rate and a 6.9 percent “rented” vacancy rate. In 2000, the rate was 6.8 percent of all housing, with rental housing

Detached Single-Family Home Sales Average Selling Price

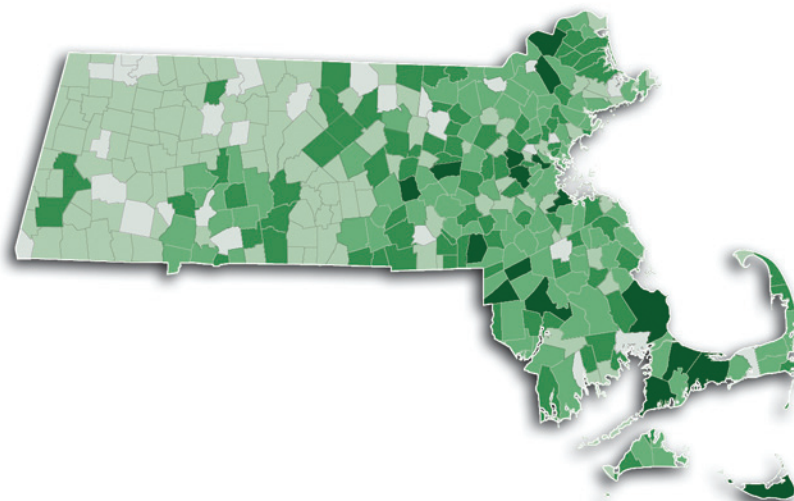
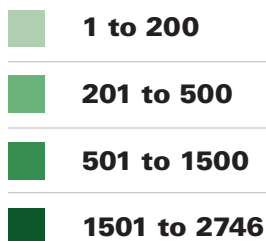
	Q1 02	Q1 03	Percent Change
Cape Cod	\$321,696	\$410,376	27.6
Central	\$244,894	\$279,124	14.0
Greater Boston	\$441,060	\$508,354	15.3
Northeast	\$330,216	\$372,283	12.7
Southeast	\$197,289	\$266,131	34.9
South Shore	\$286,541	\$331,997	15.9
West	\$168,394	\$179,373	6.5
Statewide	\$309,807	\$358,334	15.7

Source: Massachusetts Association of Realtors

reporting 3.5 percent vacancy and owner-occupied housing reporting a vacancy rate of less than one percent.³

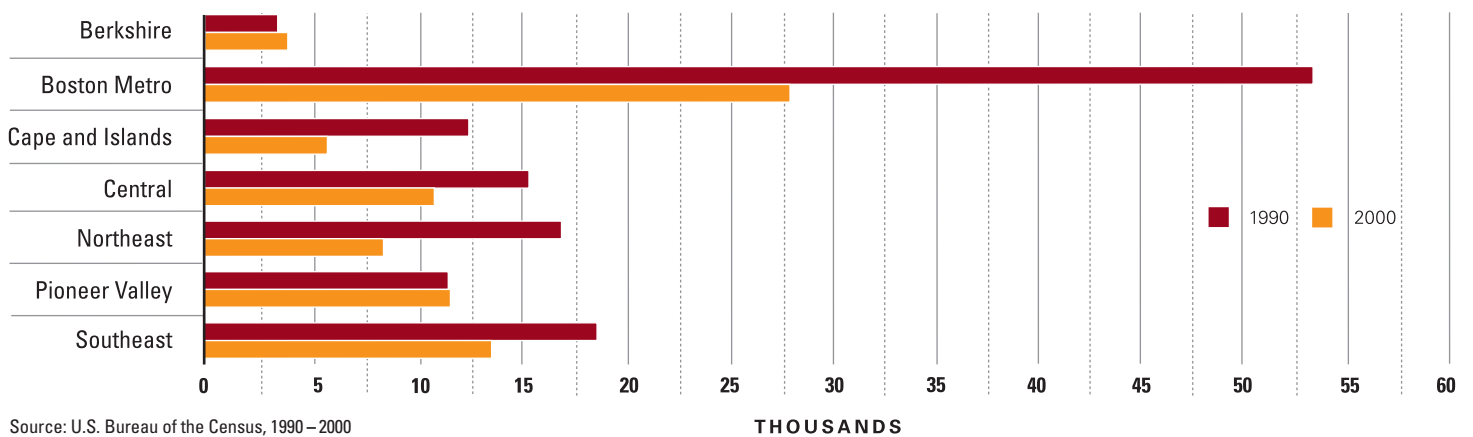
These data can also be examined regionally. By virtue of its sheer magnitude, the Boston metropolitan area had the largest number of vacancies in both 1990 and 2000. However, as the Boston housing market tightened—especially during the last half of the decade—nonseasonal vacancies dropped precipitously, from over 50,000 to under 30,000. In fact, only the Berkshire Region saw nonseasonal vacancies increase during the decade. In the Pioneer Valley Region, total nonseasonal vacancies were virtually unchanged. All other regions—Boston Metro, the Cape and Islands, and Central, Northeast, and Southeast Regions—experienced declines in nonseasonal housing vacancies.

Number of New Housing Units by Town, 1990–2000



Source: D&B MarketPlace

Nonseasonal Vacant Housing Units by Region, 1990–2000



Source: U.S. Bureau of the Census, 1990–2000

Out-Migration Weakens the Workforce

Over the past ten years, there has been a notable out-migration of people from Massachusetts to other states, most notably to other New England states.⁴ While definitive data on the reasons for this movement are hard to obtain, many researchers believe that people are moving partly because of the tight housing market and the subsequent high cost of housing in Massachusetts.

The IRS tracks migration using tax return data. These data show that almost 119,000 people left the Common-

wealth in 2000, including 26,000 to neighboring New England states. Over 93,000 moved out of New England entirely.⁵ Relocation patterns suggest that reasons for out-migration may include more affordable housing, better job opportunities, and retirement.

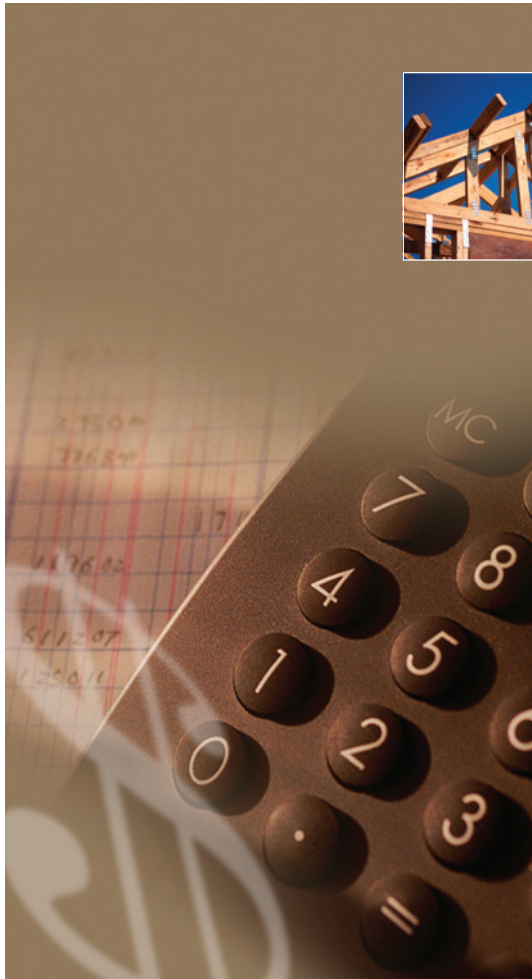
Major trends within New England include migration from the Boston Metro and Northeast regions to Southern New Hampshire and Southern Maine, from the Southeast Region to Rhode Island, and from Central and Western Massachusetts to Northern Connecticut. Of the top five

How Accurate Are the Cost Projections?

The University of Massachusetts Donahue Institute recently completed a study with the Citizens' Housing and Planning Association (CHAPA), examining the methods used by Massachusetts municipalities to measure the fiscal impacts of new housing construction.

Fiscal impact analyses usually measure three factors that affect municipal budgeting: the estimated population that will occupy the new housing (for school-age children and in total), the cost per person for services to the new population, and the cost to provide education to the school-age residents in the new housing. These costs are then compared to the benefit of new taxes and fees that would be generated by the new residents and properties. Each of these pieces of the fiscal puzzle was tested to see if the methods used to estimate them were accurate.

Current population forecasting methods generally depend on tables published in the "bible" of fiscal impact analysis: *The New Practitioner's Guide to Fiscal Impact Analysis*, by Robert Burchell, et al. This book was written in the mid-1980s and contains population data extracted from the 1980 U.S.

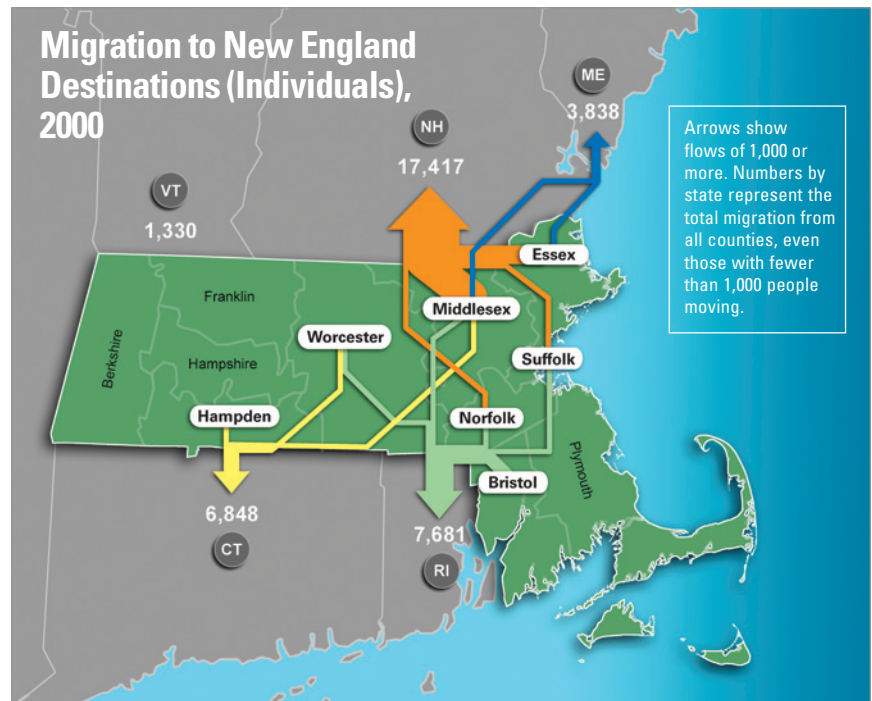


destination states, two are immediate neighbors. The top 20 destinations include the other five New England states, with New Hampshire being the most popular. Outside of New England, major destinations include many Florida counties, Southern California, and New York City and its surrounding areas.

While we do not know at this point who has left the state or who is contemplating doing so, previous migration research has been very consistent in finding that young, better-skilled people are most likely to leave. Domestic migrants (distinguished from international migrants), generally in their twenties and thirties, have higher education and income characteristics than the overall population. As our economy triggers an outflow of migrants due to labor market conditions, it is likely that we will be losing the best-educated members of our young labor force.

As the Massachusetts workforce ages, the ability of regions to accommodate younger workers and their families becomes an increasingly critical economic issue. Throughout Massachusetts, high-tech and manufacturing businesses rely on younger workers to fill job ranks. Without a steady influx of new talent, these industries face

a declining labor force. Other fields—including teaching, nursing, and public safety—all rely on young workers to balance attrition due to retirements. Regions across the state are already experiencing serious shortages of nurses, and teacher shortages have, increasingly, become a



Source: Internal Revenue Service; author's calculations

decennial census. In addition to being based on out-of-date data, the tables are not specific to individual states or counties but are regional tables for various sections of the country.

For this study, a new population-forecasting table was created using 1990 census data specific to Massachusetts and was compared to the standard data tables. An analysis of the comparison showed that the population in new single-family homes was being overestimated in many cases, mostly for school-age children. In addition, analysis of other tables that separate population data into income levels, owner-occupied vs. renter-occupied housing, and state subregions revealed that population forecasting is often more complex and community specific than is implied by conventional practice.

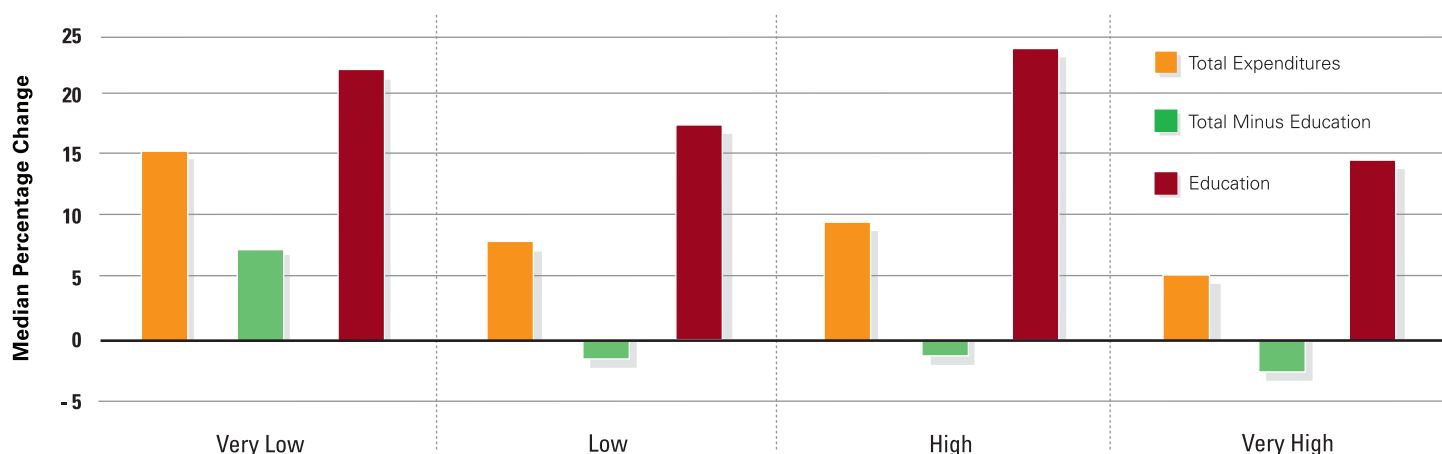
The usual method for estimating costs for all services other than education provided to new residents apportions these costs on a per-capita (average cost) basis. These per-person costs are assumed to be fixed, and cost increases are assumed to be linear. An analysis of the costs of providing these services to residents over time found that there was actually great variation in the costs per person from town to town. In addition, while the general trend was for the cost per capita of providing services to rise over time, costs rose less in towns with higher population growth rates. In other words, the standard cost estimating model can overestimate the cost of providing services to new residents.

Finally, the standard fiscal impact model assumes that education costs rise with the addition of new school-children, and that the increase is equal to the average cost per pupil in the school system. A more accurate approach, though also more analytically demanding, would be to assess marginal costs, especially in light of excess school capacity in those cases where it exists.

The planning implications of these findings are important. First, the initial overestimation of new population by the forecasting model makes new development seem more expensive than it may be. Second, the lack of stability in per-capita costs makes forecasting the cost of new growth difficult at best. Because education costs are the largest share of municipal expenditures in almost every city and town in Massachusetts, any overestimation of school-age children—and/or their impact on the cost of providing education—would make new development seem considerably more expensive. Finally, and perhaps most important, many benefits are not calculated in standard fiscal impact models, such as the buying power of new households and the income, sales, and payroll taxes that new households generate. Unfortunately, none of these benefits accrue to the municipality, so there is no incentive at the local level to take account of them.

Change in Per-Capita Municipal Expenditures, 1990 – 2000 by Quartiles of Population Growth

The fastest- and slowest-growing quartiles are represented, along with their median population change and change in median per-capita expenditures. There is a negative correlation between population growth and the growth in per-capita expenditures. The pattern holds true even when only municipal expenditures on K through 12 education are considered.



Source: U.S. Bureau of the Census, 1990–2000; Massachusetts Department of Revenue; author's calculations

concern.⁶ But in spite of the need to encourage young workers to stay in Massachusetts, housing in many parts of the state is unaffordable to them and their families.

This strongly suggests that the standard models relied upon by cities and towns to estimate the fiscal impact of development may be systematically overestimating these costs in many communities.

Population and Municipal Expenditures

Virtually all new housing construction in Massachusetts is controlled and regulated at the local level. Within the confines of state law, municipalities have the right to adopt zoning and subdivision regulations as they see fit and to issue or deny building permits and subdivision certifications. Local governments often act to restrict housing development because of the perception that the costs of providing services to new residents exceeds the additional tax revenues. There is a sense that the benefits of new housing are statewide, while most of the costs are borne locally.

In fact, there is not a lock-step relationship between population change and municipal expenditure change. This is demonstrated dramatically in the accompanying graph,

in which the Commonwealth's 351 towns and cities are categorized by population growth during the decade ending in the year 2000.

Our analysis indicates that, for many Massachusetts communities, population growth associated with new housing is not inevitably followed by increased demand for services and higher municipal costs; many of our fastest-growing communities experienced the slowest growth in per capita tax burden during the 1990s. In fact, there seems to be little correlation between increases in per capita costs and increases in population, and municipal services are generally increasing in cost regardless of growth. This strongly suggests that the standard models relied on by cities and towns to estimate the fiscal impact of development may be systematically overestimating these costs in many communities.

In many cases, growth can save money by spreading fixed costs across a larger number of taxpayers.


The fiscal landscape for Massachusetts is difficult to decipher, as the Massachusetts Education Reform Act and Proposition 2½ make growth-driven outcomes hard to distinguish from policy-driven outcomes. Even so, it is hard to argue that growth automatically costs towns money. In many cases, growth can save money by spreading fixed costs across a larger number of taxpayers. However, our data may also suggest that growth can squeeze municipal

budgets and make certain mandated expenditure areas, such as education, take precedence over others, such as public works.

Given that all municipalities have different priorities, histories, population mixes, and expenses, the only reliable way to forecast the effect of growth on a city or town is to analyze the specific data available for that town. Given the critical social need for and economic importance of housing development in Massachusetts, it is clear that a more accurate understanding of the true fiscal impacts of housing development is worth pursuing.

Conclusion

The Commonwealth's young, middle-income families need to be able to afford houses that provide both adequate shelter and a certain level of consumer satisfaction, or they are more likely to look elsewhere. The more people we lose from our stagnating workforce, the less able we will be to attract new businesses and retain those that are already here. Massachusetts may be left with a population that is insufficient to maintain its place as a highly educated, technically sophisticated innovator in the world economy.

Given the need for new housing, it is critically important that municipalities measure the costs and benefits of housing development accurately. In developing a rational, statewide housing strategy, such an accurate assessment is fundamental. 

¹ <http://quickfacts.census.gov/qfd/states/25000.html>

² According to Michael Lavin in his book *Understanding the Census*, a household consists of a person or persons living in an occupied housing unit no matter what their relationship to one another.

³ U.S. Bureau of the Census, 1990 and 2000 decennial census of population and housing.

⁴ These data are taken from a June 2002 article in *Massachusetts Benchmarks*, analyzing migration patterns from 2000 through 2001 using data from the Internal Revenue Service (IRS).

⁵ During the same period, 166,000 people moved into the state, according to the IRS.

⁶ A statement by David P. Driscoll, Massachusetts Commissioner of Education, "On Teacher Shortages," August 15, 2001. Massachusetts Department of Education, 2001 News Archive. www.doe.mass.edu/news/archive01

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