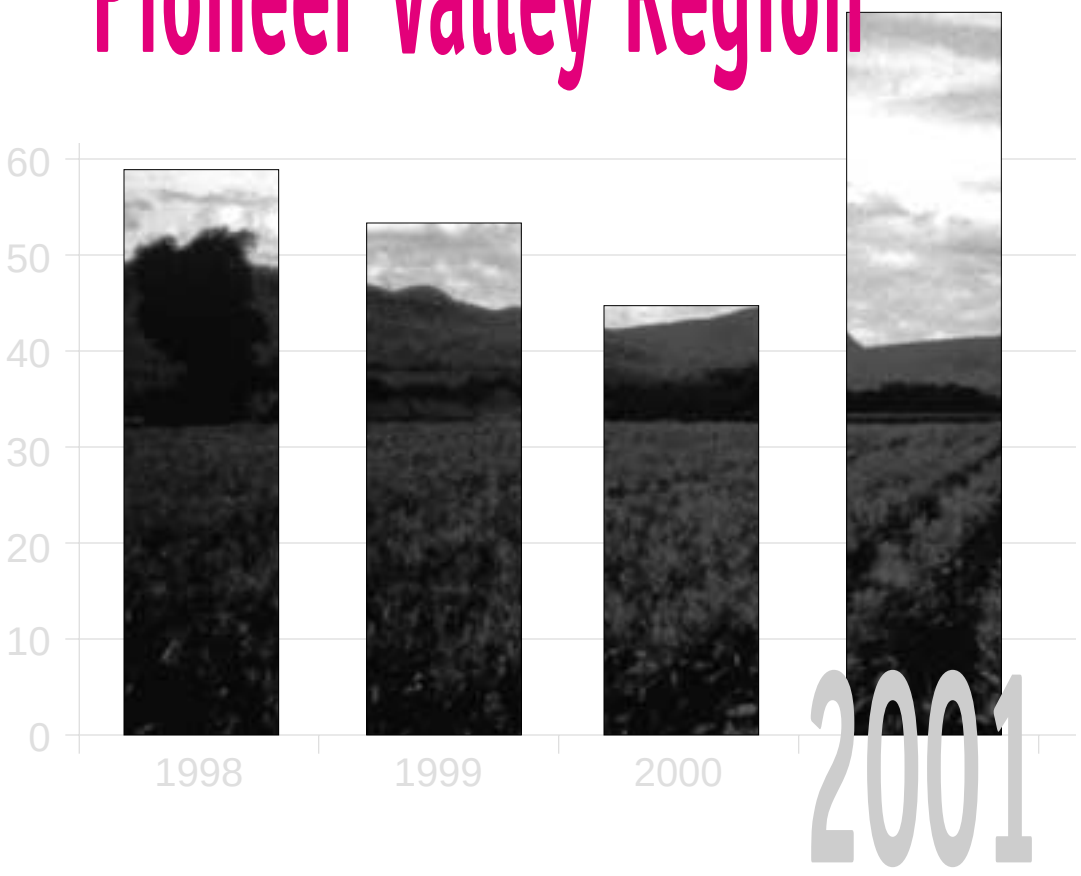
State of the Pioneer Valley Region



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State Of The Pioneer Valley Region: 2001

Prepared by the
Pioneer Valley Planning Commission

March 2001

Acknowledgements

Most of our indicators were developed from data provided by state and federal agencies, whose staff members gave us invaluable assistance. We gratefully acknowledge the generous support of these and many other individuals and organizations, with special thanks to the following people:

Terence FitzSimons	U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards
Tony Zaharias	Massachusetts Department of Environmental Protection, Western Region
John Crisley	Massachusetts Department of Environmental Protection, Recycling Program
Sherry Cardoza	Massachusetts State Police, Crime Reporting Unit
Dora Brown	Massachusetts Department of Revenue, Division of Local Services
Zongli Tang	Massachusetts Institute for Social and Economic Research (MISER)
Rick Wakefield	Massachusetts Division of Employment and Training

This document was produced by the Pioneer Valley Planning Commission with the support of the Federal Highway Administration, the Federal Transit Administration, the Massachusetts Executive Office of Transportation and Construction, the Massachusetts Highway Department, and the U.S. Department of Commerce, Economic Development Administration, Section 203(a) Program.

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The Pioneer Valley Planning Commission

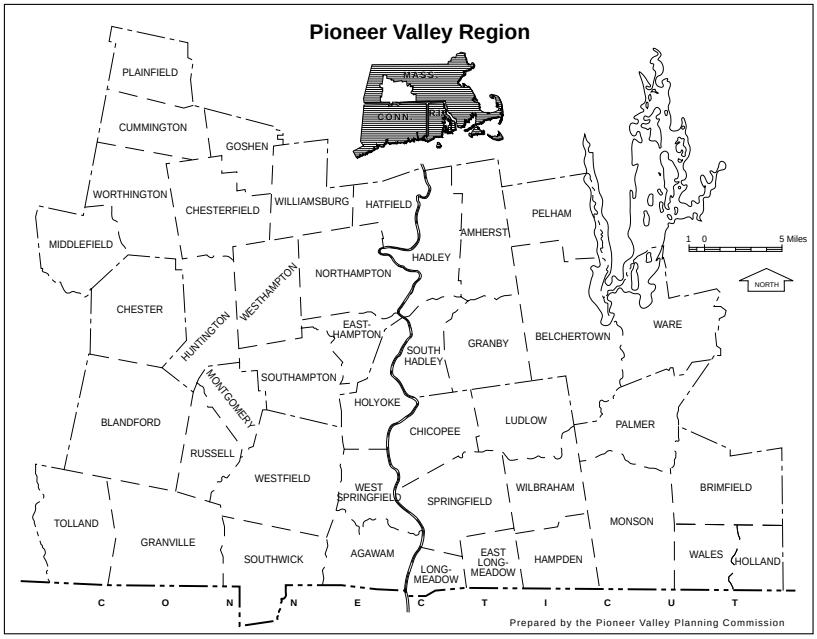
You may have seen us mentioned in news articles. You may have attended a meeting we organized. You may have participated in a survey we conducted. But if you are like most people, you probably don't know much about us—who we are, what we do, why we do it, and where we fit in the public policy picture.

The Pioneer Valley Planning Commission (PVPC) is the designated regional planning body for the Pioneer Valley region. Its focus is both local—for the good of individual communities—and regional—for the good of the area overall. Although PVPC is a public sector agency, it is not a direct arm of the federal or state governments—rather, it's a consortium of local governments that have banded together under provisions of state law to address problems and opportunities that are regional in scope or that are too large for individual cities and towns to resolve on their own. We are the public agency with primary responsibility for increasing communication, cooperation, and coordination among all levels of government as well as the private business and civic sectors in order to benefit the region at large and to improve its residents' quality of life.

A staff of professional planners and other specialists serves as the hub of the commission's work. We advise local officials, business groups, legislators, and state and federal agencies. We do demographic and economic analysis. We provide research and analysis services in economic development, transportation and transit, environment and land use, community and rural development, and many other planning areas. We assist communities by performing traffic counts at busy intersections, writing grant proposals to build senior centers, reviewing zoning regulations governing land uses from residential homes to cell phone towers, and much more. On a broader scale, we promote and encourage regional collaboration among our member communities.

The Region We Serve

The Pioneer Valley region encompasses 43 cities and towns in the Connecticut River Valley in western Massachusetts, an area framed on the west by the Berkshires and on the east by the central uplands. An estimated 602,000 people live in the nearly 1,200-square-mile region, which includes the fourth largest metropolitan area in New England.



The Pioneer Valley s diverse economic base, its renowned academic institutions, and its wealth of natural resources make it a unique and special place to live and work. The Connecticut River, its fertile agricultural valley, and the foothills of the Berkshire Mountains wrap the region in scenic beauty and recreational opportunities. Residents live in downtown areas, suburban neighborhoods, quiet villages, historic areas, and rural homesteads. People work in downtown offices in Springfield, the region s cultural and economic center; in plants and factories in Holyoke and Chicopee, the first planned industrial communities in the nation; in academic halls in Amherst, Northampton, and South Hadley, home to venerable colleges and a flagship university; in tobacco fields in Hadley, where families have worked the land for generations; in distribution centers in Westfield, near the crossroads of two interstate highways; and in offices of Internet service providers scattered throughout the region.

The Pioneer Valley is a region of contrasts, a meeting ground for many cultures, and, above all, the place we call home.

A Note To The Reader

Last year, the Pioneer Valley Planning Commission began an ongoing program to assess factors shaping the quality of life that we experience both as individuals and as members of our communities. First, we identified a set of indicators that measure these factors. Then, to gain a sense of how quality of life in our region may be evolving, we examined patterns of change in these indicators. Tracking data trends for our selected indicators enables us to gain some understanding about how we are shaping the future quality of life in our region.

This year, we continue the effort. Our focus on our region's quality of life—a concept ripe with possibilities—makes our task an ambitious and challenging one, one that requires a broad survey of issues.

What's the point? Ultimately, we would like to see this information inspiring citizens like you to shape the future of their communities for the benefit of both current and future generations. This is an achievable goal. Realistically, it is also a long-range one. A great deal of preparatory work is required before this report could play such an important role in our region that it sparks civic discourse that affects our behavior. Thus, in this, our second edition of the State of the Region Report, our ambition is more modest: we hope this report is a catalyst for discussion about life in the Pioneer Valley region and what we can all do to enhance it.

Where do you come in? In conducting our study and crafting this document, we focused on specific factors that we believe are important to life in the Valley. Our indicators are not necessarily the same indicators you would choose to track. You will likely find yourself amending our indicators, striking out those you consider comparatively unimportant, and writing in your own where you believe something important was overlooked. Please use the citizen feedback form at the end of this report to let us know what you think.

We hope your reactions will instigate a broad discussion wherein citizens articulate what they most love about the Pioneer Valley region and what they wish for its future. As we continue to track life in the region, we will rely on broad-scale public input to shape future editions of the State of the Region Report, making them more relevant to everyone who shares our attachment to the Pioneer Valley and its communities.

About This Report

Any examination of the quality of life is complex and imprecise. There are numerous approaches to measuring and categorizing indicators. Nevertheless, some structure is necessary to perform the analysis and present the findings. Therefore, we categorize the indicators into five major subject areas that group related indicators. These subject areas reflect issues that affect us both individually and collectively.

> **People, Families, and Health**—examines an assortment of issues affecting us in our non-working lives, such as health, poverty, and cultural opportunity.
> **Community Vitality**—explores the strength of community bonds and how these bonds can be sustained over time.
> **Regional Economy**—reviews the performance of the region's economy and the attributes of its greatest asset, the workforce.
> **Getting Around**—examines automobile use patterns, the implications of our dependence on automobiles, and alternative modes of travel.
> **Resource Use and Environmental Quality**—how we use and conserve our natural resources, and how the general public's health, enjoyment, and peace of mind are affected by the quality and benefits those resources provide.

In selecting indicators, we were guided by three principles:

1. We looked for indicators that measured factors important to our lives: health, wealth, mobility, and livability, among others.
2. We restricted the number of indicators we chose to track, making the report easily accessible to a public already overloaded with information choices.
3. We chose indicators according to the limitations of data that was either readily available or that we could derive within practical constraints of our resources.

Finally, we have attached a shorthand rating to each indicator, depending on whether we see trends as improving, declining, stable, or unable to be determined because we lack sufficient data.

What's New in this Report

The 2001 edition of the State of the Region Report maintains the first version's essential structure and spirit, while incorporating some improvements suggested through internal PVPC review and public input.

One significant change is the addition of a fifth category of indicators, *People, Families, and Health*. The section was added to better round out the report by further addressing the issues relating to the human condition. New indicators in this section are *Childcare Facilities Capacity, Low-Weight Births, Deaths from Major Cardiovascular Disease,* and *Culture and Recreation Spending.* This section also contains two indicators previously in the economic section.

You will also see a number of new indicators in other sections. Some indicators are outright additions that expand our analysis to cover other factors that shape the quality of life. In several cases, indicators were added to supplement the insight gained from an existing indicator. Finally, some of last year's indicators were replaced altogether with new ones that were deemed better measures.

Indicators added to expand and strengthen our analysis:

Attendance at Public Library Events
Substance Abuse Cases
Net Domestic Migration
Municipal Debt
Productivity
Relative Productivity
Average Daily Traffic at Key Points
Miles of Dedicated Bike Paths and Lanes
Water Consumption per Resident
Motor Vehicle Fuel Consumption per Resident

Indicators added to supplement or replace previously used indicators:

Voter Registration and Turnout to supplement *Voter Turnout Rate*
Motor Vehicle Injuries to supplement analysis provided by *Motor Vehicle Fatalities*
Public Transportation Ridership Per Service Mile
Acres of Farmland replaces *Protected Open Space,* which is not current nor is systematically being updated
Air Quality Index replaces the single pollution measure *Days Ozone Standard Exceeded*

Another significant change involves the population estimates used in this report. The 2000 report relied heavily upon U.S. Census Bureau estimates. The Massachusetts Institute for Social and Economic Research (MISER) prepared an alternative set of population estimates that PVPC also regularly uses in our work. Because both of these data sets are estimates, neither is perfect—indeed, we believe one set underestimates the region's population and the other overestimates it. Thus, we developed a population estimate that is between the two. We use this estimate to calculate per capita rates for region-wide indicators, such as *Per Capita Income* and *Registered Vehicles Per Resident*.

However, the population estimate we developed reflects only the total population for the entire region. Thus, PVPC's estimate is of no use for population-based indicators that do not apply to the entire population of the region, such as *Size of the Youth Population* and *Public Transportation Ridership Per Resident*. For these indicators, we rely on MISER's population estimates.

Additionally, for certain indicators we added data for earlier years than were reported last year. This expansion means that longer-term trends relating to voting, crime, average driving distances, public transportation ridership, and air quality are examined and graphed for the reader.

Finally, this year we changed the source of data used to measure employment concentrations in the manufacturing and service sectors. The data used last year was derived from the unemployment insurance program. This year we adopted employment data published by the U.S. Bureau of Economic Analysis because it is adjusted to account for certain employment not covered by the unemployment insurance program, such as self-employed persons and certain state and local government employees, among others.

Many Pioneer Valley citizens attended feedback forums and contacted us by telephone and e-mail, offering suggestions and comments for improving the State of the Region Report. These insights helped shape many of the changes in the revised report. Ideally, we would have made a number of other significant changes suggested—for example, adding indicators measuring the proportion of the population covered by health insurance, how responsive citizens find their local government to be, and the number of hours worked necessary to cover basic costs. To our regret, developing such measures for our region requires greater resources than we are currently able to dedicate to this project. Nevertheless, we will keep these and other issues at the top of our "wish list" for future development.

The State of the Pioneer Valley Region—In Summary

The quality of life in the Pioneer Valley region is good and the future is promising. The bonds that form our communities are strong, enabling us to meet the challenges we will face. The number of cultural opportunities is on the rise. Efforts to improve the water quality of the Connecticut River have yielded results. The regional economy, having recovered from the hard economic times of the early 1990s, is poised to continue strong performance. It out-performs the national economy in two important measures, unemployment and productivity of the manufacturing sector.

This is not to say that we have no concerns for the future. Not all households are sharing in the economic prosperity emanating from a strong economy. For example, despite growth in income, poverty rates continue to grow. Our dependence on the automobile is increasing as the region's residents own more cars and drive more miles. This raises concerns about congestion, air quality, and a lack of funding to adequately maintain the roadway infrastructure. Further, urban sprawl continues to be a problem that only exacerbates these concerns.

The table below summarizes our findings. The first box lists indicators whose trends are moving in a direction to enhance the quality of life in the region. This list includes indicators with stable trends that preserve the quality of life in the region. The top right box lists indicators showing changes that diminish the quality of life. The remaining two boxes list indicators whose trends suggest both enhancement and diminishment are occurring, and indicators for which we do not have enough data to determine a trend. Listed with the indicators for which we lack new data are indicators that we excluded from this year's report because they cannot be updated until results from the 2000 census are published.

Quality-of-Life-Enhancing Trends	Quality-of-Life-Diminishing Trends
Childcare Facilities Capacity Deaths from Major Cardiovascular Disease Culture and Recreation Spending Voter Turnout (stable) Attendance at Public Library Events Crime Rate Net Migration Housing Affordability Municipal Debt Unemployment Number of Jobs Average Wage (stable) Per Capita Income High School Dropout Rate Academic Achievement Motor Vehicle Fatalities and Injuries Per Capita Public Transportation Ridership Public Transportation Ridership per Service Mile (stable) Miles of Dedicated Bike Paths and Lanes Water Consumption per Resident Number of Combined Sewer Overflows Air Quality Index	Poverty Rate Low-Weight Births Substance Abuse Cases Size of Youth Population Service Jobs per Manufacturing Job Registered Motor Vehicles per Resident Daily Miles Driven per Resident Average Daily Traffic at Key Points Urban Sprawl Acres of Farmland Motor Vehicle Fuel Consumption per Resident

Mixed Trends	More Data Needed
Household Income Productivity Waste Generation and Recycling	Educational Attainment Brownfield Sites Indicators Not Used This Year: Home Ownership Vehicle Ownership Automobile Use for Commuting Commuting Time

People, Families, and Health

The indicators in this section measure factors that are among the most immediate and personal in how they affect us, our families, and our households. Specifically, the indicators we examine relate to income, health, childcare, and cultural opportunities. By looking closely at these diverse issues, we develop a general understanding that is further expanded in subsequent sections of this report.

What We See

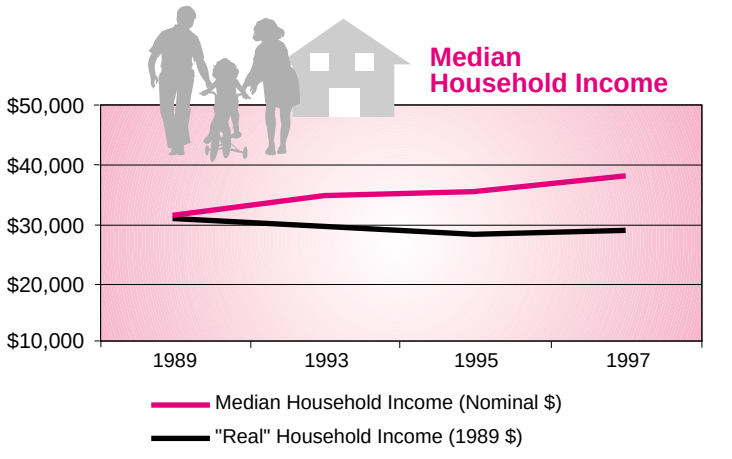
Our examination of the indicators in this section gives us reason for both optimism and concern. The capacity of childcare facilities has grown, deaths from heart disease and stroke are in decline, and life-enriching cultural and recreational opportunities appear to have expanded. Nevertheless, because of their importance, we are troubled by three ongoing trends: the long-term stagnation of median household income, rising poverty rates, and an increasing incidence of low-weight births.

Trends At A Glance

Indicator No.	Indicator	Summary Description	Trend
1	**Median Household Income**	During the most recent years, inflation-adjusted median household income rose slightly, reversing the direction of a decade-long decline.	
2	**Poverty Rate**	The poverty rate continues to climb despite growth in the inflation-adjusted per capita income.	
3	**Childcare Facilities Capacity**	Capacity grew by 5.6 percent during the latest year.	
4	**Low-Weight Births**	The proportion of births that were low-weight rose during the 1990s.	
5	**Deaths from Major Cardiovascular Disease**	During the most recent 5-year period, the death rate decreased by 12.5 percent.	
6	**Culture and Recreation Spending**	The share of local government spending devoted to cultural and recreational programs steadily grew during the 1990s.	

Indicator 1: Median Household Income

How much we earn critically determines our quality of life. To understand how income levels are changing for the average household, we examine changes in the median household income—the point at which half the households have smaller incomes and half have larger incomes. Further, to make this measure more meaningful, we state it in terms that are relative to changes in the cost of living. This is important, because, even if the median income rises, should the cost of living rise even more, the median income level can no longer purchase as many goods and services as before. To convert the median household income to "real dollars" we discount it by the corresponding percent increase of the cost of living (inflation).

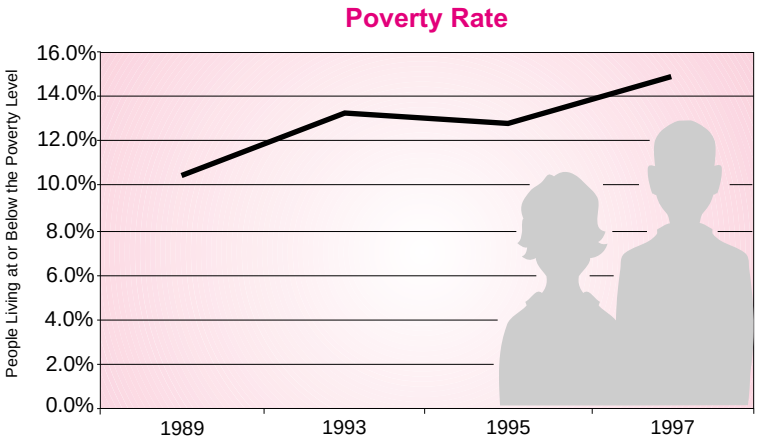


Source: U.S. Bureau of the Census, Small Area Income and Poverty Estimates Program

Despite the growth in our region's median household income (in nominal dollars) throughout the 1990s, the cost of living generally grew even more. Thus, in terms of "real dollars," median household income shrank by $2,414 (in 1989 dollars), or 7.6 percent, from 1989 to 1997. This decline was greatest during the early years of that period. Fortunately, the direction of this trend recently changed. From 1995 through 1997, "real" median household income increased by 1.6 percent. We are eager to see if this growth continues.

Indicator 2: Poverty Rate

It is not unexpected for poverty rates to climb when the cost of living grows faster than incomes. This was the general trend throughout most of last decade. Since 1989, the region's poverty rate has increased by 43.8 percent, from 10.4 to 14.9 percent. Not surprisingly, the increase is more pronounced in Hampden County, which includes the region's urban core cities of Springfield, Chicopee, and Holyoke. From 1989 to 1997, Hampden County's poverty rate grew by 48.2 percent, from 11.2 percent to 16.6 percent.

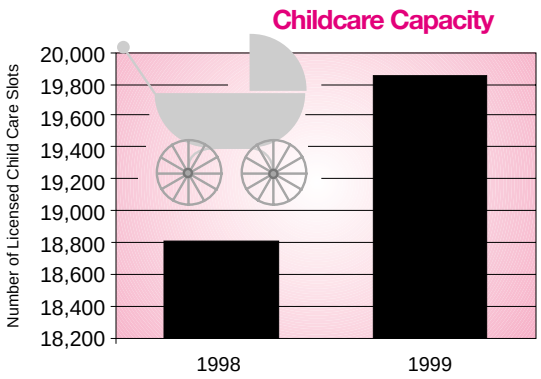


Source: U.S. Bureau of the Census, Small Area Income and Poverty Estimates Program

Peculiarly, even during the period 1995 to 1997 when "real" median household income increased slightly, the poverty rate continued to climb. This does not bode well for many families living in our region. More people are living below the poverty level even as "real dollar" wages and "real dollar" per capita income are rising (see Indicators #19 and #20). This confirms the belief that there is a growing gap between the "haves" and the "have-nots." Clearly, economic integration for the region's most economically needy residents is increasingly elusive, yet a priority concern for the region to address.

Indicator 3: Childcare Facilities Capacity

The reality of family life for most people is that two parents need to earn an income. In fact, the U.S. Bureau of the Census recently reported that in more than half the nation's households both parents are working. Obviously, there is great need for high-quality childcare services.

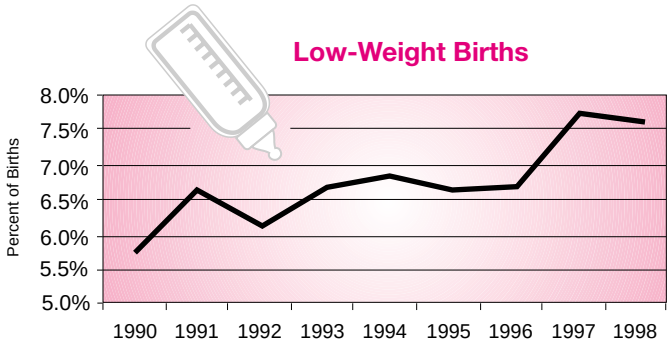


Source: Massachusetts Department of Public Health, MassCHIP

We have two years of data for a new indicator relating to this issue: the total number of children that licensed daycare facilities have the capacity to serve. In the Pioneer Valley region, capacity in licensed daycare facilities grew by 5.6 percent from 1998 to 1999, to 19,847 slots. This is a positive trend that we anticipate will continue. Our analysis is constrained, however, by a lack of data that would enable us to determine if this growth is keeping pace with what we suspect is increasing demand. Given that childcare capacity grew by 7.3 percent across the commonwealth, it is possible that even faster growth is needed.

Indicator 4: Low-Weight Births

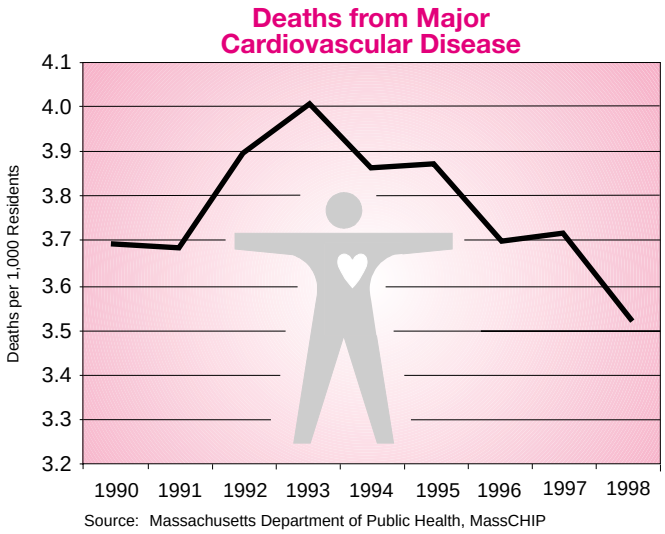
The percent of low-weight births is a direct measure of the degree to which children suffer the pains of poverty. Low-weight births are disproportionately experienced by children born into lower-income households. Thus, as poverty rates rise, a corresponding rise in low-weight birth rates could be assumed. Unfortunately, this has been the case. Low-weight births as a percent of all births steadily climbed since 1990, from 5.8 to 7.5 percent.



Source: Massachusetts Department of Public Health, MassCHIP

Indicator 5: Deaths from Major Cardiovascular Disease

Our cardiovascular fitness is determined, in part, by our lifestyle choices, diet and exercise among them. Thus, to gain some understanding about how healthy our lifestyles are, we track the number of deaths from major cardiovascular disease—these result principally from stroke and heart attack.



Source: Massachusetts Department of Public Health, MassCHIP

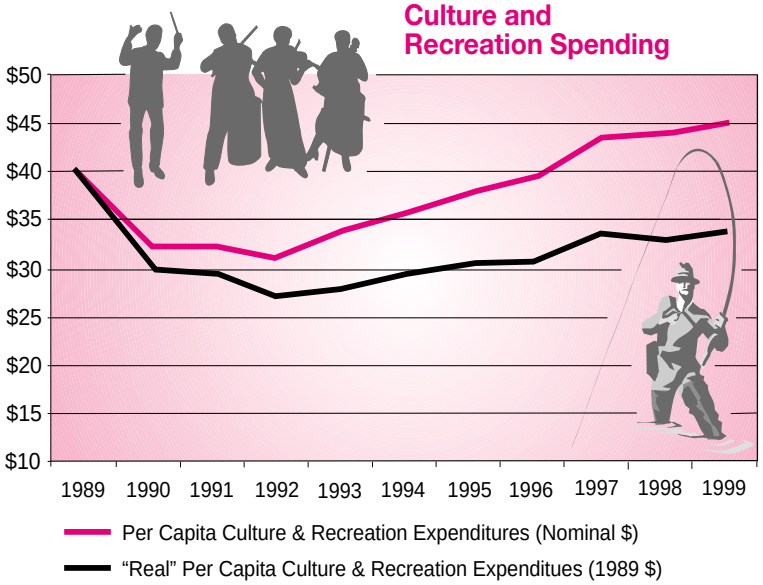
The declining death rate from major cardiovascular disease suggests that the region's residents are making changes that have improved their health. Since 1993, deaths from major cardiovascular disease have steadily declined from 4.0 deaths per 1,000 residents to 3.5 in 1998. This is a substantial five-year decrease averaging 2.6 percent per year.

This indicator has some limitations that need to be highlighted. First, it is distinct from most others in this report because there is a substantial period of time between the development of poor lifestyle habits and the onset of cardiovascular disease, let alone death from such disease. Thus, a recent change in the death rate tells us more about lifestyles 10 to 20 years ago than about how lifestyles changed last year. Second, changes in the death rate are also affected by medical advances.

Indicator 6: Culture and Recreation Spending

To give us insight into the opportunities residents have to participate in and attend life-enriching cultural and recreational activities, we sought out a measure of the number of cultural and recreational events (or attendance at such events), whether provided by the public or the private sector. Unfortunately, we were unsuccessful finding a way to systematically develop such data. Consequently, we have chosen to use a surrogate indicator.

We believe that the amount of money spent by local governments on cultural and recreational programs is a good indicator of trends in the total number of cultural and recreational opportunities available to residents. Certainly, there is a direct correlation: the more a municipal government spends, in general, the more activities and opportunities are created. Further, we believe there is also an indirect correlation: the more spending by local government, which citizens eventually approve, suggests that there is greater demand for cultural and recreational activities than if less was spent. Therefore, we expect that this greater demand is also met by greater opportunity provided by non-governmental bodies.



Source: Massachusetts Department of Revenue, Division of Local Services, Municipal Data Bank; Pioneer Valley Planning Commission

Our data suggests that the number of cultural and recreational opportunities has grown. The opportunities provided by municipalities is on the rise. After a decline during the lean years of the early 1990s, per capita spending on cultural and recreational programs by the region's municipal governments has steadily increased to the point where, in "real dollars," spending exceeded the 1990 level by 10.0 percent, though the high spending of 1989 remains 17.9 percent greater.

Community Vitality

Community vitality is, admittedly, a difficult concept to measure—but it would be hard to find anyone to disavow its reality. By community vitality, we mean what you may have heard referred to as "social capital"— social conditions bonding individuals into a community and enabling them to function as a cohesive unit to improve their lives. Our findings are reported in two subsections: "Sense of Community" and "Sustaining Our Communities."

Social bonds are essential not only to a community's vitality but also to its citizens' quality of life. As a community, we can more effectively face and overcome social and civic problems than we can on our own, as individuals. The stronger our community bonds, the greater our capacity to deal effectively with the important issues that challenge us and constrain our quality of life. Further, this increased capacity leads to even greater improvement to our quality of life. After a community effectively meets a challenge, it gains confidence, which empowers community members to rise to even greater challenges.

Equally important to a community's vitality is its ability to sustain itself and its bonds into the future. Future sustainability requires a balanced population base—one that provides leaders for today as well as for tomorrow; one that provides a workforce to power the economy that eventually finances community and governmental activities; one that provides ample opportunity to earn the income necessary to live in the community. Future sustainability also requires the capacity for self-government.

What We See

With respect to community vitality, our communities are in relatively good shape. The sense of community that bonds residents is strong. This is suggested by stable voter turnout, greater participation in community events, and declining crime rates. Additionally, it seems that our communities are improving their ability to sustain these bonds. Despite communities losing some important segments of their population base, there has been a substantial slowdown in the out-migration of people. Further, housing is increasingly more affordable and local governments are in good fiscal condition.

Trends At A Glance

Indicator No.	Indicator	Summary Description	Trend
7	**Voter Turnout**	The number of people voting in elections has remained fairly constant. (Note: Presidential election turnouts are regularly higher than for state elections.)	
8	**Public Library Attendance**	While this data is available from a limited number of communities, their attendance levels are rising steadily. This suggests greater social interaction.	
9	**Crime Rates**	Throughout the 1990s, crime rates have fluctuated. The decade ended with declining rates.	
10	**Substance Abuse Cases**	The number of substance abuse cases rose throughout most of the 1990s, including the largest increase occurring in 1998, the last year we have data for.	
11	**Size of Youth Population**	The size of the youth population has gradually declined since 1993.	
12	**Net Domestic Migration**	While our region continues to lose residents to other parts of the state and country, the out-migration has been declining steadily.	

Trends At A Glance (cont'd)

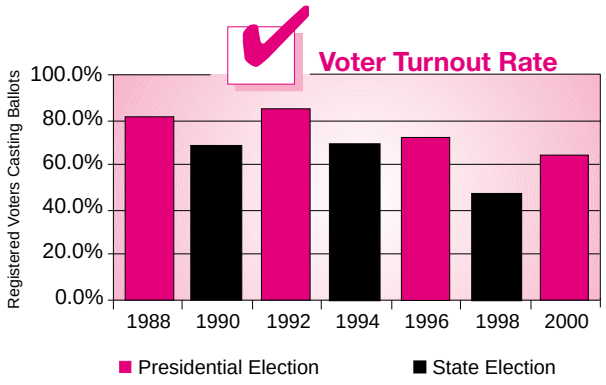
Indicator No.	Indicator	Summary Description	Trend
13	**Housing Affordability**	Housing prices relative to household incomes declined during the past decade.	
14	**Municipal Debt**	Municipal debt remains below 40 percent of the debt limit and the proportion of general fund expenditures used to pay off debt declined to pre-1990 levels.	

Sense of Community

Even though there is no direct measure of how strong the sense of community is, we examine surrogates that measure the amount of engagement in community activity (voter turnout and attendance at public library events) and alienation (crime rates and substance abuse cases).

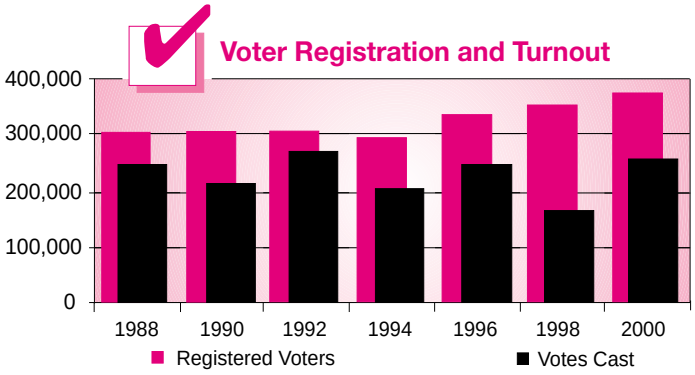
Indicator 7: Voter Turnout

By voting, people are showing that they believe that they can shape their community. For most people, this act also suggests that they perceive theirs as a community worth participating in. An examination of voter turnout data leads us to believe that community bonds in the Pioneer Valley region are stable.



Source: Secretary of the Commonwealth of Massachusetts, Manual for the General Court

In last year's report, the indicator we presented was the percent of registered voters casting ballots. If you examined nothing else, the trend of this rate suggests waning community ties. However, the decline in turnout rate is not a result of less participation but of more registered voters. Aside from a peak in the 1992 presidential election, the number of votes cast in presidential elections from 1988 to 2000 has remained virtually unchanged.



Source: Secretary of the Commonwealth of Massachusetts, Manual for the General Court

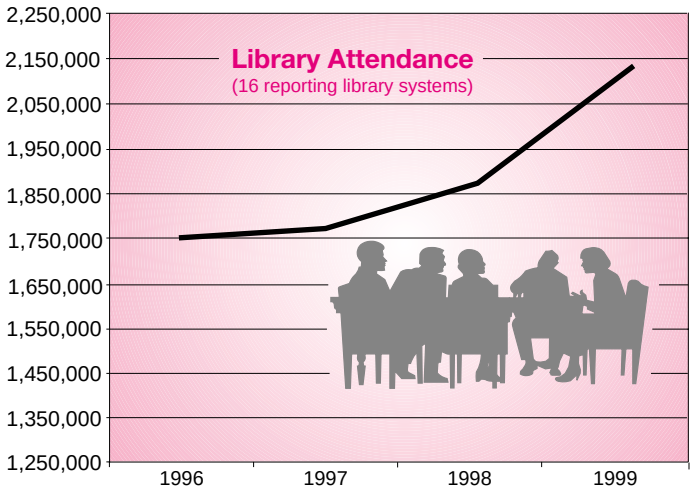
An argument could be made that the decline in the number of votes cast in state (non-presidential) elections suggests a drop in community bonds. However, the higher number of votes cast in 1990 and 1994 reflects that voters saw the issues as more salient than usual. The 1990 gubernatorial election was exciting; in 1994, there were a hotly contested U.S. Senate race and several high-profile initiatives included on the ballot.

All this data raises a curious question: why the recent climb in the number of registered voters? The most likely explanation is increased ease of registration due to passage of the 1994 "motor voter" bill, allowing a citizen to register to vote while getting a new driver's license.

Indicator 8: Public Library Attendance

To add to our understanding of how strong community bonds are, we sought another measure of participation in community activities. Little data of this nature is available. Yet, we were able to find a telling indicator that, though imperfect, does provide insight. This new indicator is the attendance at public libraries and it suggests increasing levels of community engagement. During the period 1996 through 1999, attendance at public libraries rose by 20.9 percent, or 6.5 percent annually. This suggests increasing participation in events that bring community members together and strengthens community bonds.

This indicator has limitations that need to be noted for the reader. First, this attendance data includes both the number of people attending events held at libraries and those visiting the library to borrow books and other items. Ideally, we would exclude those going to libraries to borrow books because they are not participating in a community event. However, the inclusion of borrowers is a minimal problem because their numbers seemingly have been stable. Circulation has fluctuated by only 1 to 2 percent per year. Thus, the greater fluctuations of our indicator results primarily from changes in the number of people attending special events at the libraries.



Source: Massachusetts Library and Information Network

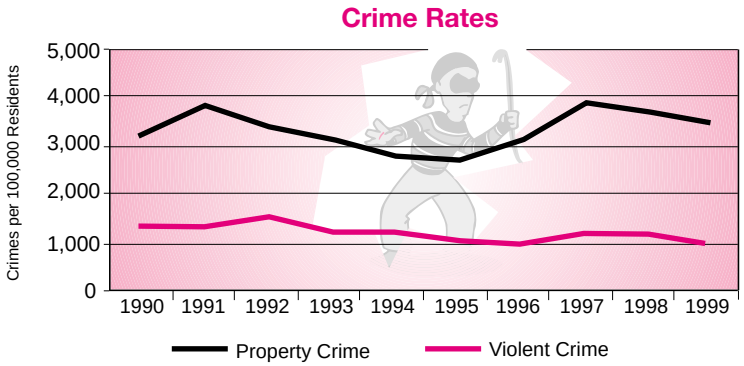
Another limitation of this indicator is that, because library attendance data reporting is spotty, we were limited to reporting data from the 16 municipalities that consistently reported data. Consistent year-to-year reporting is important because it enables us to examine the trends in attendance. Fortunately, one of the 16 reporting municipalities is Springfield, the region's largest city (nearly three times the size of the next largest), thereby offsetting this limitation.

Despite these constraints, we confidently find that more people are partaking in community activities being held at our region's libraries.

Indicator 9: Crime Rates

Besides their routine use as a public safety measure, crime rates also indicate how cohesive a community is. The more residents sharing a sense of community, the fewer people will violate society's norms. Committing a crime is one way to violate social norms. Thus, if the crime rate is declining, more people are likely to be sharing in this heightened sense of community.

This appears to be the case in the Pioneer Valley region. From 1997 to 1999, both property and violent crime rates noticeably dropped. During 1999, the rate of property crime decreased by 5.2 percent and violent crime by a dramatic 25.2 percent. Besides revealing a dramatic decline in the violent crime rate, the 1999 rate is also the lowest of the decade.



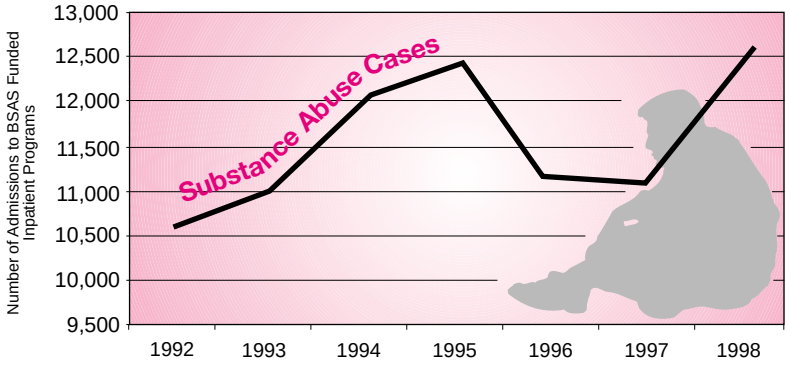
Source: Massachusetts State Police, Crime Reporting Unit;
Pioneer Valley Planning Commission

Recent trends in property crimes also suggest strengthening community bonds. The property crime rate decreased during 1998 and 1999. Yet, the rate remains higher than the rate for the years from 1993 to 1996. Nevertheless, overall crime rates are declining, suggesting that fewer people are feeling disenfranchised from their communities and that bonds are strengthening.

Indicator 10: Substance Abuse Cases

We examine the number of admissions resulting from substance abuse as another way to understand trends in the number of people not engaged actively in their communities. Certainly, not all substance abusers are disengaged from the happenings of the community, but this is generally the case with the vast majority who are hospitalized because of drug abuse. The data is troubling. While other indicators suggest strengthening community bonds, this indicator suggests that, for a portion of our regional community, there is a substantial sense of disenfranchisement.

On average, during the 1990s, substance abuse admissions climbed by 2.9 percent annually. Although 1996 and 1997 admissions were dramatically fewer than those occurring during the preceding two years, this trend was unhappily reversed in 1998 when admissions climbed by 14.1 percent.



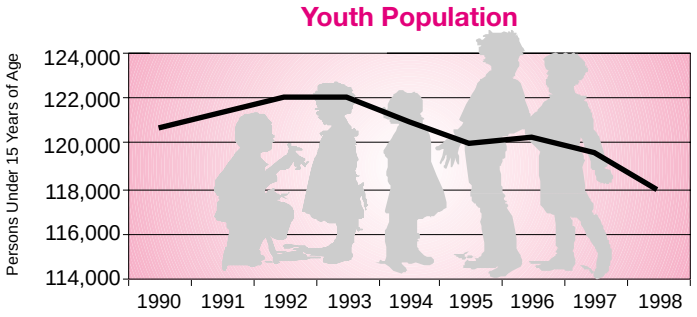
Source: Massachusetts Department of Public Health, MassCHIP

Sustaining Our Communities

To gain insight into the capacity of our communities to sustain themselves, we examine indicators that measure important segments of their population base and how affordable it is for people to live in one of our communities. Further, we examine the fiscal capacity of local government, which is an indicator that relates to one important aspect determining the future capacity to effectively govern.

Indicator 11: Size of Youth Population

Youth are important to the future of our communities. They grow to assume the roles that keep our communities functioning. They are the future workforce and leaders. Thus, we are somewhat troubled by the decline in the size of our region's youth population. Overall during the 1990s, the population of those under 15 years old has decreased by 2.5 percent, or 0.3 percent annually. (Note: we use this age cutoff because it includes only children who are dependents and it excludes the influx of the transient college student population, most of whom we expect to leave the region following graduation.)



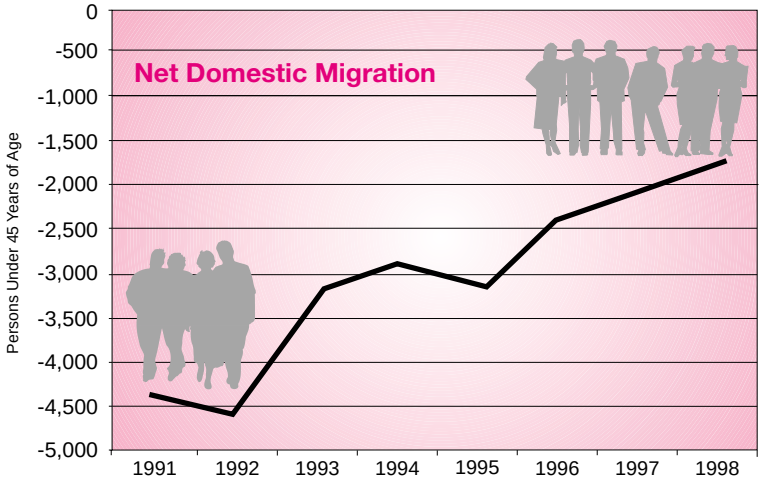
Source: Massachusetts Institue for Social and Economic Research (MISER)

These findings are based on population estimates developed by the Massachusetts Institute for Social and Economic Research (MISER). The reader likely would be interested to know that the U.S. Bureau of the Census's population estimates contradict these and find that the youth population has grown by 0.4 percent per year. However, because MISER's estimates were derived from an estimation model constructed specifically for Massachusetts, we favor using MISER's estimates.

Indicator 12: Net Domestic Migration

Another segment of the population important to sustaining our communities includes those people under 45 years old. This group includes both the people who constitute the future workforce and those whom will raise the children to sustain our population base. We are interested in the extent to which this population segment fluctuates from people moving into or out of the region.

Throughout the 1990s, our region has experienced net out-migration among this segment of the Pioneer Valley's population—that is, more people are moving to other parts of the state or country than are coming to our region from those places. Consistent out-migration can be a problem for the future of our communities. However, despite the recent out-migration, the

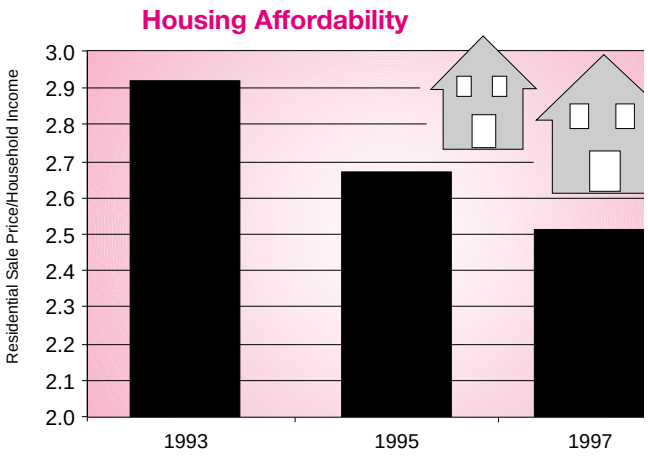


Source: Massachusetts Institute for Social and Economic Research (MISER)

exodus has slowed. In 1992, the net out-migration was 4,604. By the 1998, this out-migration declined by 62.1 percent, to 1,743. This trend buoys our optimism about the future of our communities.

Indicator 13: Housing Affordability

The extent to which housing is affordable matters greatly to any community. Obviously housing is a basic human need; moreover, it is the most significant expenditure that people face. If someone is unable to purchase a home, their financial and, possibly, emotional commitment to their community will be limited. Fortunately, on average, our region's housing has become more affordable. Further, we expect that housing is not just more affordable on average but is becoming affordable to many more people at all income levels.



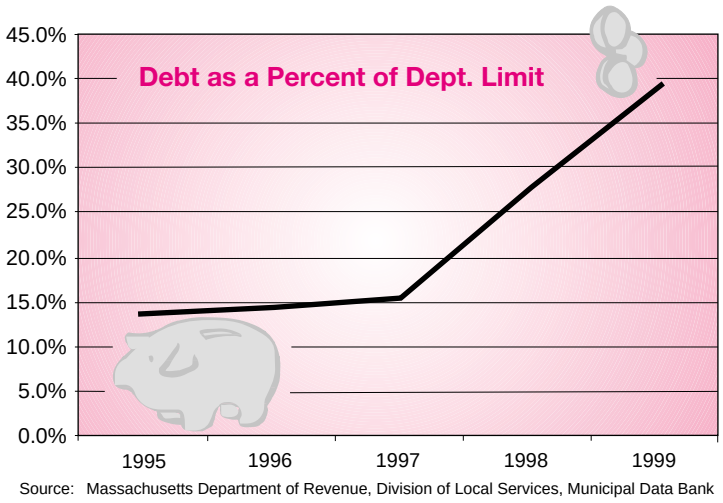
Source: U.S. Bureau of the Census, Small Area Income and Poverty Estimates Program; The Warren Group; Pioneer Valley Planning Commission

From 1993 to 1997, housing increasingly became more affordable. In 1993, the median price of a home was 2.9 times greater than the median household income. By 1995, this ratio was under 2.7, and by 1997, it was down to 2.5. This is a 14 percent decrease in the relative cost of a home. We are optimistic that this trend in the average affordability of housing is resulting in an increase in home ownership. Future publication of results from the 2000 federal census will show whether or not this is the case.

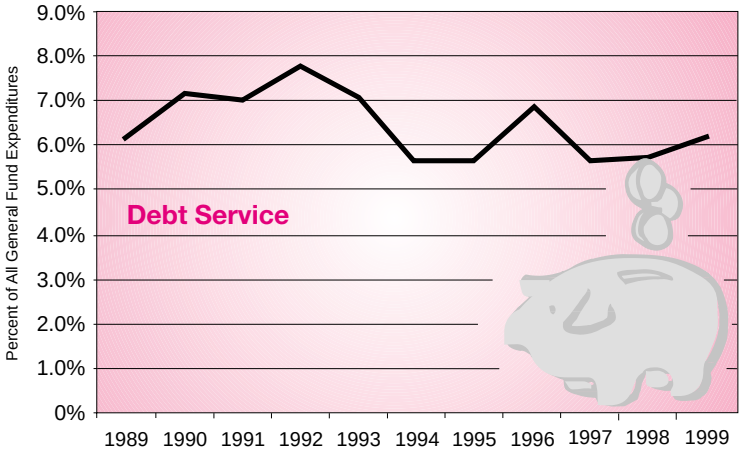
Indicator 14: Municipal Debt

Self-governance is an important part of a community's functioning and sustainability. Governing requires resources to implement policies and programs. Thus, we examine the fiscal capacity of our local governments, specifically, the amount of debt incurred by municipalities. Though debt comes with a negative stigma, it is an important tool that can enable a community to accomplish things that it could not using only current revenue. Thus, the important issue is whether debt is being managed wisely.

Proposition 2 ½ limits the amount of debt that can be incurred by Massachusetts municipalities. While the amount of debt incurred by the cities and towns of our region has grown markedly (184 percent) since 1995, the amount of debt remains below 40 percent of the debt limit. Despite the growth in debt, the fact that it is at only 39 percent of the debt limit suggests that debt is being managed wisely.



Source: Massachusetts Department of Revenue, Division of Local Services, Municipal Data Bank



Source: Massachusetts Department of Revenue, Division of Local Services, Municipal Data Bank

This conclusion is further substantiated by trends in the proportion of general fund expenditures used to pay off debt. Debt service's share of total general fund expenditures now (6.3 percent in fiscal year 1999) is virtually identical to what it was in fiscal year 1989 (6.2 percent). During the intervening years the proportion has varied, but always within a reasonable range. Even in the early 1990s, a period of high interest rates and economic hardship for our region, debt service climbed only to 7.7 percent.

Regional Economy

The performance of our regional economy is important to our material well being. At the same time, economic opportunity is not simply about meeting material needs and wants. Because employment demands the greatest commitment of our time each day, most people seek more from their work than just a paycheck. Thus, we assume that a strong economy is one that gives people better alternatives leading to richer work lives.

To aid our presentation, we report our findings in two sub-sections: "Employment, Productivity, and Income" and "The Workforce." The first sub-section focuses on the overall performance of the economy. It examines employment patterns, the shift towards a service sector economy, productivity of our workforce, and income and wage levels.

The second sub-section, "The Workforce," examines the endowments that our workforce possesses. While available data on workforce skills is limited, this examination is important because it is the workforce that truly powers the region's economy.

What We See

After undergoing painful structural change brought on by the recession of the early 1990s, the regional economy is performing well. Unemployment is low and job growth is occurring. In part, this performance can be expected because of the buoying effect that strong national and state economies can have on a region. Our interest lies in understanding the strengths and weaknesses of our economy that will help determine future performance even after these larger economies no longer buoy ours. Therefore, we examine indicators to better understand if our current prosperity hides problems. While to some extent this is the case, our economy gives us reason for much optimism about the future.

Since 1995, there has been sustained growth in the number of jobs. Unemployment rates this low have not been seen in decades. Our region's manufacturing sector is more efficient than is the nation's. Per capita income has grown faster than the cost of living. And, even though some people are concerned that our future workforce may not have the skills needed in the new economy, rising academic achievement suggests otherwise.

Still, we have some concerns about the structure of the economy. While our region's manufacturing sector is more productive than the nation's, across all sectors our economy is less productive. Further, like the nation, our region is shifting more towards a service economy as the manufacturing sector shrinks. And our concentration of jobs in the service sector is higher than in the national economy, 34.1 versus 28.6 percent.

Trends At A Glance

Indicator No.	Indicator	Summary Description	Trend
15	**Unemployment**	Yet again, in the latest year, the jobless rate dipped below levels that anyone had even pondered seriously several years ago.	
16	**Number of Jobs**	Job growth continues for yet another year.	
17	**Service Jobs per Manufacturing Job**	Similar to national trends, an increasingly greater proportion of employment is in the service sector and less is in the manufacturing sector.	

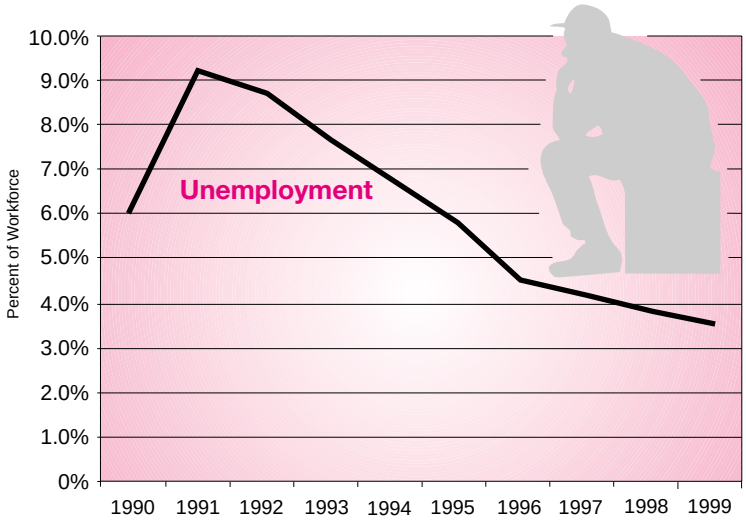
Trends At A Glance (cont'd)

Indicator No.	Indicator	Summary Description	Trend
18	**Productivity**	Overall, the regional economy has gotten more efficient as has its manufacturing sector. However, relative to the U.S., productivity has declined for the entire economy. Conversely, the region's manufacturing sector remains more efficient than the nation's.	
19	**Average Wage**	The average wage increased by slightly more than the inflation rate. Thus, the "real dollar" average wage has remained stable.	
20	**Per Capita Income**	"Real" per capita income grew modestly.	
21	**Educational Attainment**	Relatively low attainment rates indicate that the region struggles to retain the college-educated, who are vital to the workforce.	
22	**High School Dropout Rate**	During the late 1990s, the region's high schools have improved their ability to retain and graduate students.	
23	**Academic Achievement**	Though average MCAS scores have been stagnant, educational performance has improved. The proportion of students earning advanced and proficient scores has climbed, while a smaller percentage are failing the exams.	

Employment, Productivity, and Income

Indicator 15: Unemployment

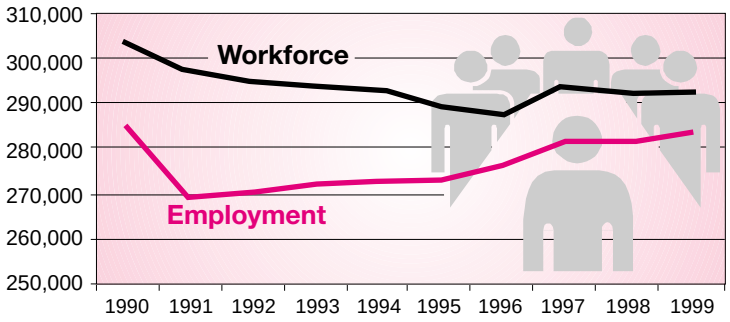
A clear indication of our region's thriving economy is its eighth consecutive year of declining unemployment rates. 1998's robust rate of 3.8 percent dropped to an unheralded 3.6 percent in 1999, markedly lower than last decade's highest rate of 9.3 percent in 1991. Though the statewide rate was even lower (3.2 percent), our region's unemployment rate was lower than the national rate of 4.2 percent. This is undeniably good news. However, it is the result of costs this region paid earlier this decade: losses of population and workforce.



Source: Massachusetts Division of Employment and Training, Local Area Unemployment Statistics

Indicator 16: Number of Jobs

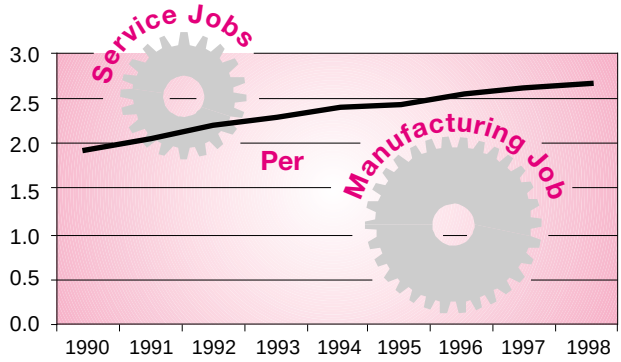
To a substantial extent the region's low unemployment rate is the result of a shrunken workforce rather than job growth. While there are, in fact, currently more jobs than in 1991, the recessionary low point, there continue to be fewer jobs now than in 1990—3,758 fewer of them (1.3 percent)—when unemployment was at 6.0 percent. Since 1990, the workforce shrank by 3.8 percent. Fortunately, we have recovered from the structural shock of a substantially shrinking workforce and have had sustained strong job growth since 1995.



Source: Massachusetts Division of Employment and Training, Local Area Unemployment Statistics

Indicator 17: Service Jobs per Manufacturing Job

The number of jobs in the service sector for each manufacturing sector job tells us a great deal about our economy. Manufacturing jobs offer higher pay than service sector jobs. Also, manufacturing has a greater multiplier effect on the overall economy than does any other industry sector. This means that the addition of manufacturing jobs creates more jobs in other sectors than the addition of jobs in any other sector. The multiplier effect occurs because new manufacturing workers and greater manufacturing activity leads to additional demand for goods and services that are provided by other industry sectors. Additionally, as Mass Insight explains, "Manufacturing continues to provide a route for those without extensive post-secondary education to achieve middle-class incomes, and to open up further opportunities for themselves and their children."



Source: U.S. Bureau of Economic Analysis, Regional Economic Information System

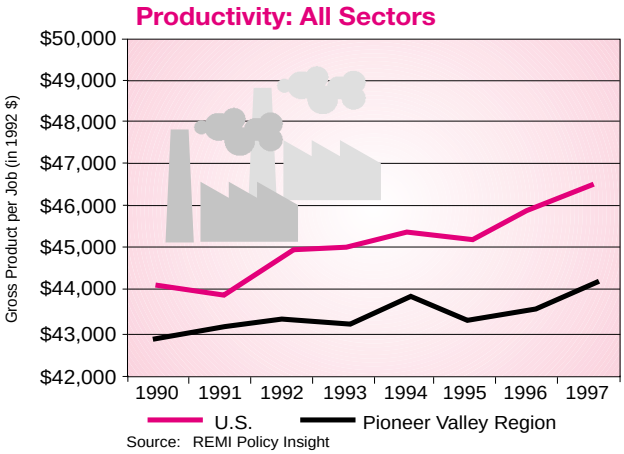
Like most of the nation, the Pioneer Valley region is experiencing an increasing shift from manufacturing to service sector jobs. In 1998, there were 2.7 service sector jobs for every manufacturing job in the region. Now, service sector jobs constitute 34.1 percent of all jobs in the Pioneer Valley region. Also, these jobs account for only 29.5 percent of earnings.

While it raises some concern, this shift toward more concentration in the service sector is neither unexpected nor necessarily bad news for the region. First, because the Pioneer Valley's economy exists within and is shaped by the national economy, it will naturally experience the pervasive national trend toward service sector jobs. Second, because manufacturing is more efficient and less labor-intensive than in the past, it is reasonable to expect the number of manufacturing jobs in the region to drop (as the next indicator illustrates).

Indicator 18: Productivity

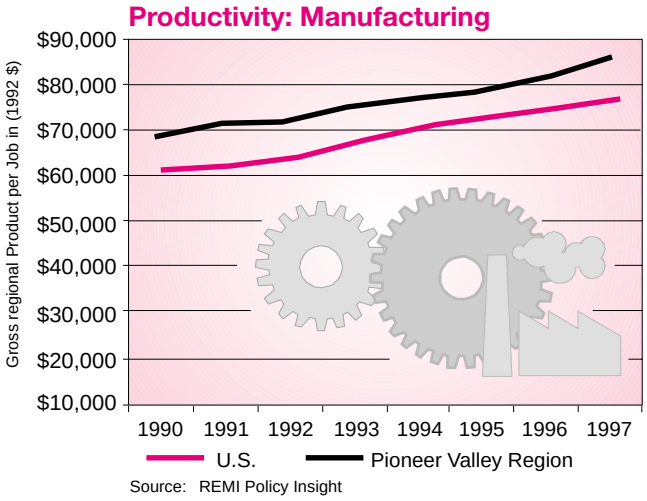
We hear constantly about the new economy and the gains in productivity this economy brings. This discussion spurred us to examine productivity in this year's report. Our findings are mixed.

Our region is experiencing greater productivity; that is, since 1990 the per-job amount of gross regional product has climbed 3.4 percent, or 0.5 percent annually (in 1992 dollars). In the manufacturing sector productivity gains have been even greater. During the same period, manufacturing productivity increased by 23.7 percent, or 3.1 percent annually.



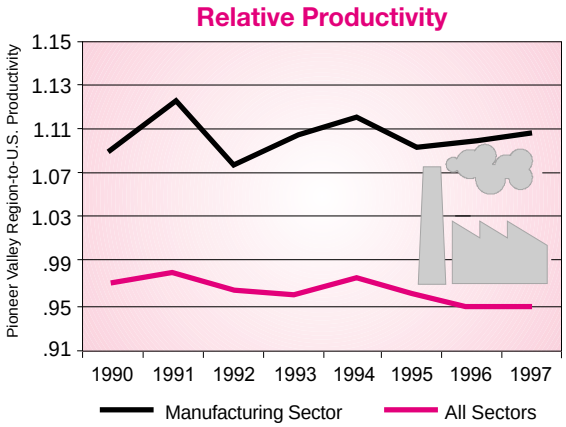
Source: REMI Policy Insight

Even though the overall regional economy has grown more efficient, relative to the national economy, its productivity declined. In 1990, the gross regional product per job in the Pioneer Valley region was 97 percent of what it was for the United States. By 1997, the region's productivity was only 95 percent of the nation's. While our relative productivity declined minimally (2.1 percent over the period and 0.3 percent annually), this decline is something that we need to closely monitor in the future.



Source: REMI Policy Insight

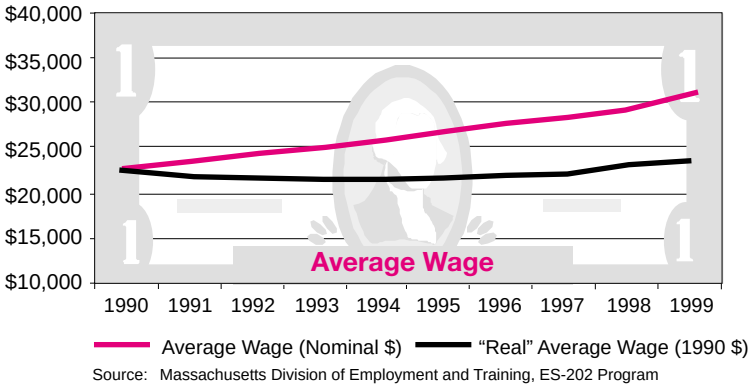
Further examination of our manufacturing sector gives reason for more optimism. During the 1990s, not only has our region's manufacturing sector become increasingly efficient, it has also become more efficient relative to the nation's manufacturing sector. Our region's manufacturing output per employee grew from 109 percent of the U.S. rate in 1990, to 110 percent in 1997.



Source: REMI Policy Insight

Indicator 19: Average Wage

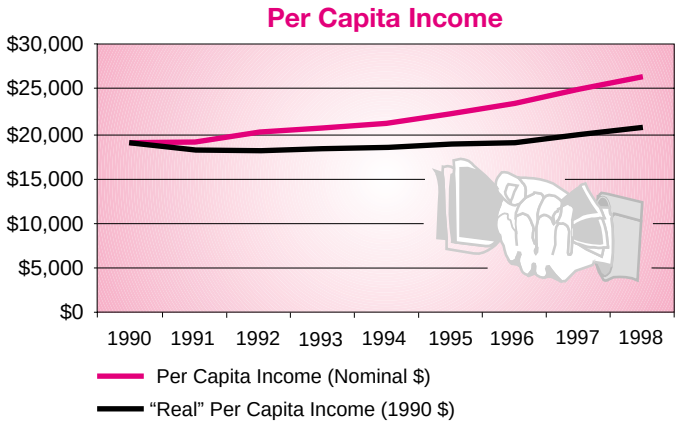
Average wages earned by Pioneer Valley residents from 1990 to 1999 rose by 34 percent, 3.3 percent annually. However, in terms of "real" dollars—those adjusted to remove the effect of inflation—we find that the average wage climbed only 5.3 percent, or 0.6 percent annually.



Source: Massachusetts Division of Employment and Training, ES-202 Program

Indicator 20: Per Capita Income

Per capita income rose faster than the average wage. During the early and mid-1990s, "real" per capita income changed minimally from year to year—first declining then slowly rebounding. During the most recent two years for which data exists, 1997 and 1998, per capita income climbed by 3.4 percent and 3.0 percent, respectively. Since 1990, it has climbed seven percent overall (0.8 percent annually). This reflects greater growth in non-wage income, such as investment income.



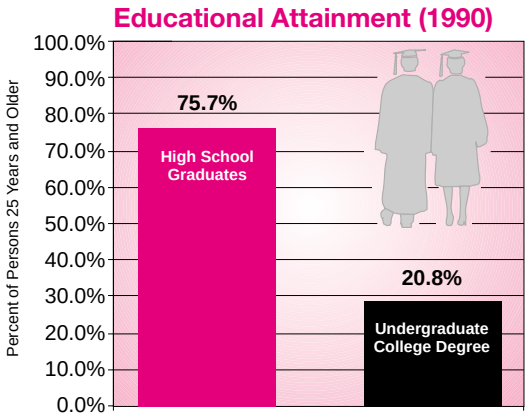
Source: U.S. Bureau of Economic Analysis, Regional Economic Information System; Pioneer Valley Planning Commission

The Workforce

If we want a balanced picture of our region's economic prospects, we must consider the power behind the wheel: the people who do the work. Without an adequate supply of skilled labor, the economic machine will struggle to compete in our increasingly high-technology global economy. We examine the endowments of both the current workforce (educational attainment) and future workforce (high school drop out rate and MCAS scores).

Indicator 21: Educational Attainment

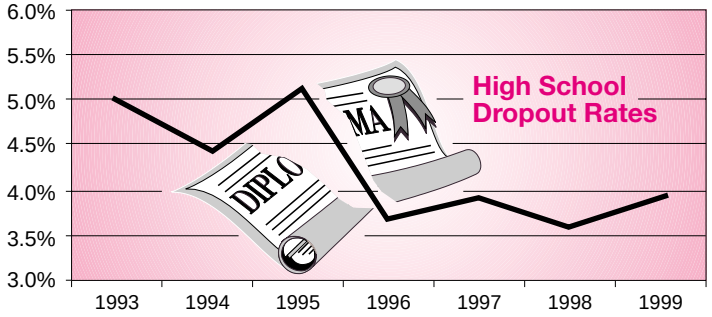
Our region's relatively low educational attainment rate, despite an abundance of higher education institutions, demonstrates the Pioneer Valley's struggle to retain those college-educated persons who possess the skills critical for an information-based economy to thrive. While 75.7 percent of the population (25 years and older) are high school graduates, only 20.8 percent are college graduates, which is indistinguishable from the national rate of 20.3 percent. Given our rich endowment of higher education institutions, this rate is lower than expected. Further, the percent of college graduates residing in the region is significantly lower than the statewide rate of 27.2 percent. Consequently, retaining more of the college graduates the region produces each year must be a high priority. The data we base these findings on are old (1990), and may be dated, which we will not know until publication of results from the 2000 census.



Source: U.S. Bureau of the Census, 1990 U.S. Census of Population

Indicator 22: High School Dropout Rate

In today's economy, a high school education is the minimum requirement to participate effectively in the economy. High school is where we learn the fundamentals of written and verbal communication, strengthen our mathematical skills, and are introduced to the sciences, staples of our increasingly technology-driven economy.

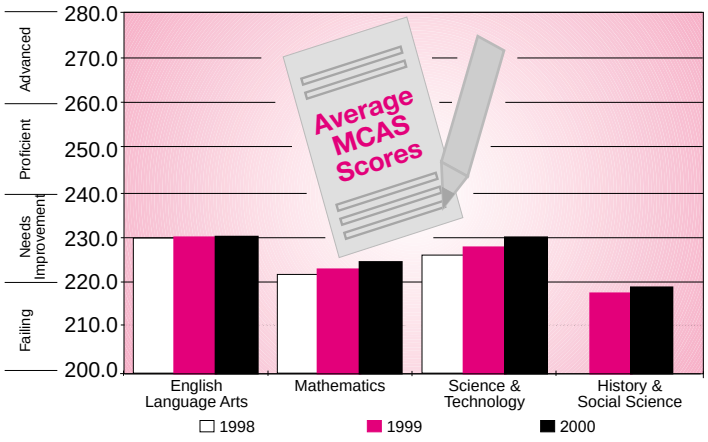


Source: Massachusetts Department of Education

Given high school's importance, it is encouraging to note that dropout rates of high school students (ninth through twelfth graders) are nearly one-fifth lower than they were in 1993. At the beginning of this period, five percent of ninth through twelfth graders dropped out of school. Since 1996, this rate has remained at or below four percent.

Indicator 23: Academic Achievement

Now that the Massachusetts Comprehensive Assessment System (MCAS) exam has been administered three times, we can begin making inferences about the meaning of the results—the test is no longer as new and unknown a commodity. The MCAS exam tests basic skills in English language arts, mathematics, and science and technology among fourth, eighth, and tenth graders. Eighth graders are also tested in history and social science. By examining MCAS scores, we gain some measure of the academic performance of our region's students. This is an indicator of the skills that our future workforce will bring to the labor market.

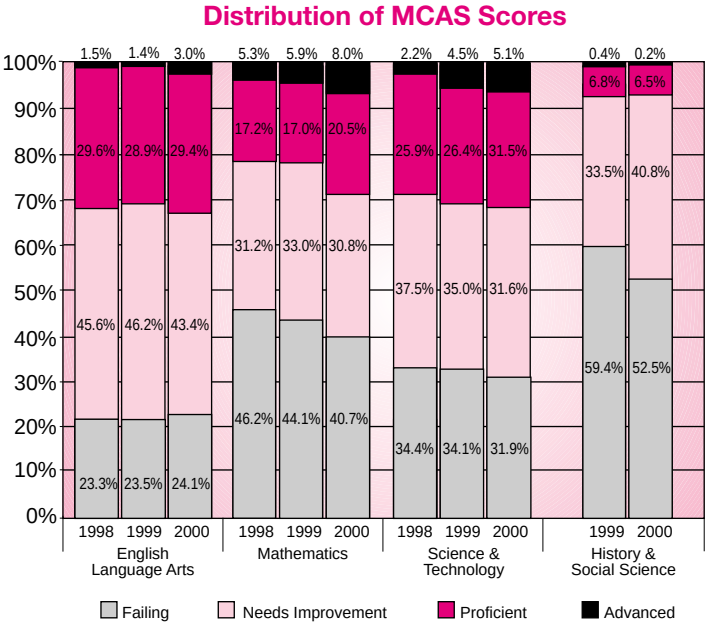


Source: Massachusetts Department of Education

Note: Scores are an average for Grades 4, 8, and 10 combined.

For each of the three years, the average MCAS scores for our region have been relatively constant. In no subject have average scores differed by even three points out of a total of 280. This is not unexpected, because improvements that result from any reforms arising from the test will take more time to manifest. Unfortunately, the average score in three of the four subject areas is "needs improvement." The average score for the fourth subject area, history and social science, was "failing."

Yet, as weak as these scores may appear, there are reasons for optimism. By examining the distribution of scores—the percentage of students scoring in each category—we found that substantial gains in academic achievement have been made. A greater proportion of students is performing at the "advanced" level in the three primary subject areas. More are also performing at the "proficient" level in the math and in the science and technology sections. Additionally, fewer students are failing in three of the four sections forming the MCAS exam.



Source: Massachusetts Department of Education

Getting Around

Transportation issues critically affect our quality of life. Automobiles are a great convenience. But individual gains in mobility and independence come at a cost to the region's residents collectively. Too many drivers with the same goals lead to congested roads, lost time, and high stress levels. If you are among those who regularly travel the Valley's most congested corridors (such as Route 9 in Hadley, Route 5 in West Springfield, and Route 20 in Westfield), you are well acquainted with the problems and delays that such congestion can impose on our daily lives.

Additionally, our great reliance on automobiles necessitates substantial public expenditures to build and maintain the infrastructure that automobiles require.

Further, transportation patterns strongly shape our environment. We know that the effects of rising automobile use and growing numbers of heavy-emission sport utility vehicles are harming the region's air quality. Runoff from roads caused by rain and melting snow releases pollutants into our soil and groundwater.

In two subsections, we examine our region's heavy dependence on automobiles ("Reliance on Automobiles") as well as alternative modes of transport, principally public transportation ("Automobile Alternatives").

What We See

It appears that our heavy reliance on automobiles is growing. We own more vehicles and drive more miles than just a few years ago. These are early indications that our region is setting itself up for greater congestion, but we hasten to add that significant congestion is limited to specific locations and highway corridors where heavy automobile use and land use patterns don't mix well.

It seems paradoxical that, while automobile dependence is on the rise, so is public transportation use. Yet increasing public transportation use is not enough to reverse the growing dependence on our vehicles.

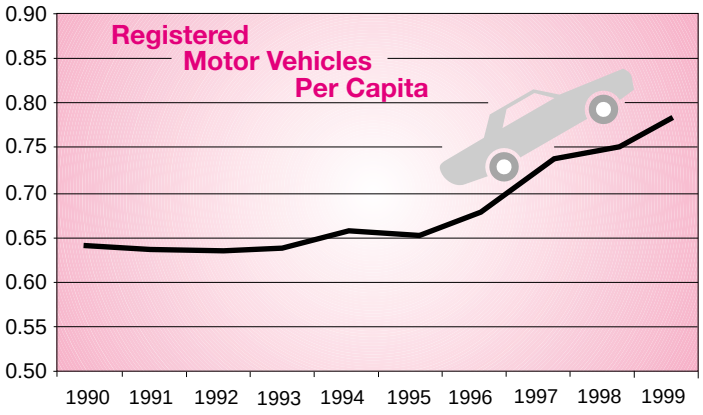
Trends At A Glance

Indicator No.	Indicator	Summary Description	Trend
24	**Registered Vehicles per Resident**	During the 1990s, the number of motor vehicles per resident has grown by nearly 22 percent.	
25	**Daily Miles Driven per Resident**	Similarly, the average distance that we drive has continuously climbed during the 1990s.	
26	**Average Daily Traffic at Key Points**	Measured at a variety of points, average daily traffic has grown in our region.	
27	**Motor Vehicle Fatalities and Injuries**	Both the fatality and injury rates have declined despite the greater reliance on automobiles.	
28	**Per Capita Public Transportation Ridership**	Overall, for several years the public transportation ridership rate has climbed.	
29	**Public Transportation Ridership per Service Mile**	Ridership per service mile has been fairly stable throughout the 1990s.	
30	**Miles of Dedicated Bike Paths and Lanes**	After several years of no change in the amount of paths and lanes, during the past couple of years the region's inventory has grown.	

Reliance on Automobiles

Indicator 24: Registered Vehicles per Resident

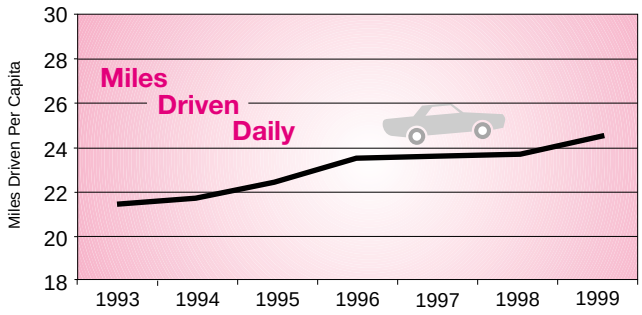
Our dependence on our cars continues to grow. During the 1990s, the number of registered vehicles (personal use types) per capita grew by 21.9 percent, from 0.64 in 1990 to 0.78 in 1999. This trend necessitates increased road use, which demands ever greater public investment to maintain and improve our regionwide highway and bridge infrastructure. What is troubling is that this increase occurred while the size of the population remained stable.



Source: Mass. Registry of Motor Vehicles; Pioneer Valley Planning Commission

Indicator 25: Daily Miles Driven per Capita

Another indication of our region's growing automobile dependence is the average number of miles that we drive our vehicles every day. Since 1993, this has risen by 12.9 percent, or 2.0 percent annually.

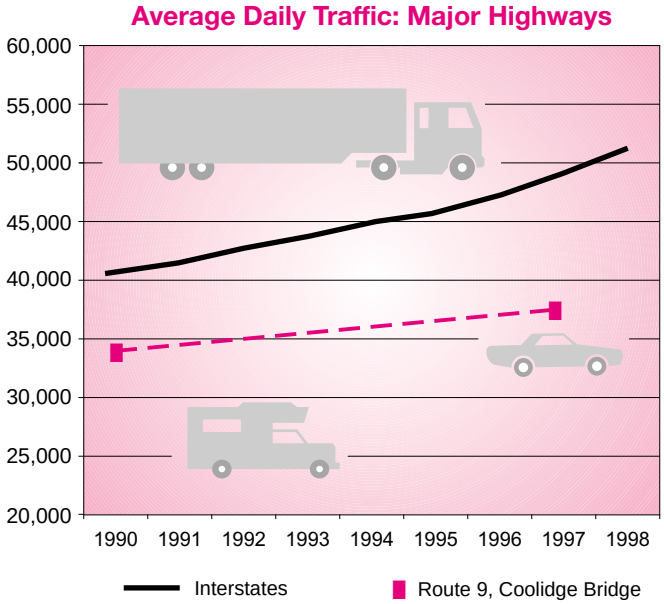


Source: Federal Highway Administration, Highway Performance Monitoring System; Pioneer Valley Planning Commission

Indicator 26: Average Daily Traffic at Key Points

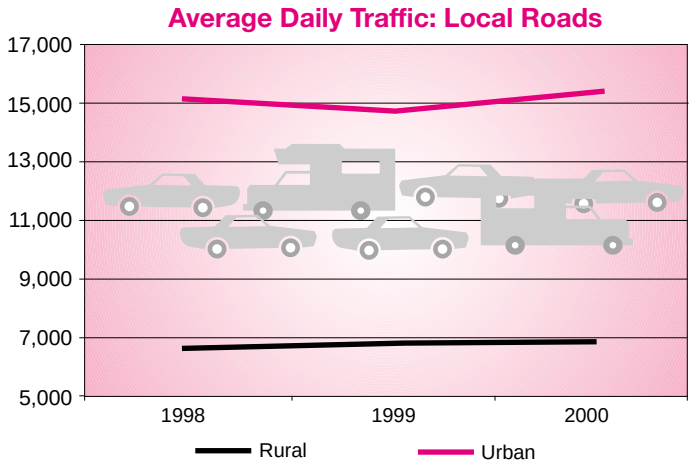
To develop a better sense of traffic congestion trends in the region, we are now regularly tracking traffic volume at specific locations. While this data is valuable, we admit that as an indicator of region-wide traffic congestion it is limited. Traffic congestion is location-dependent, and a regional average does not adequately depict the experience in the most congested areas. Nevertheless, this data provides us some insight into regional trends and helps us understand the extent to which traffic congestion has increased.

Traffic volumes on the Massachusetts Turnpike (Interstate 90) and on Interstate 91 have risen steadily. From 1990 to 1998, the average daily traffic count is up 26.6 percent. Similarly, the Route 9 Coolidge Bridge experienced a growth of 11.6 percent, from 1990 to 1997, in average daily traffic volume.



Source: Pioneer Valley Planning Commission

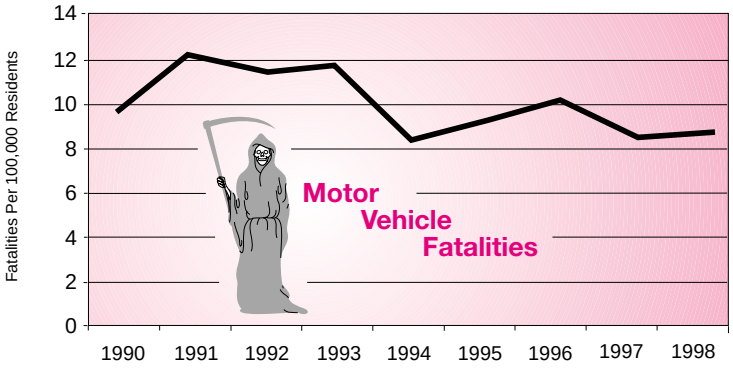
Additionally, beginning three years ago, PVPC has regularly tracked traffic in four additional sites, two urban and two rural. Compared to 1998 levels, traffic volumes are up 3.2 percent on the rural roads and 4.5 percent on the urban roads. While this data was derived from a very small number of traffic counting locations, if they are at all representative of the region, these trends mean greater demand on our roadway infrastructure and a greater threat to our air quality.



Source: Pioneer Valley Planning Commission

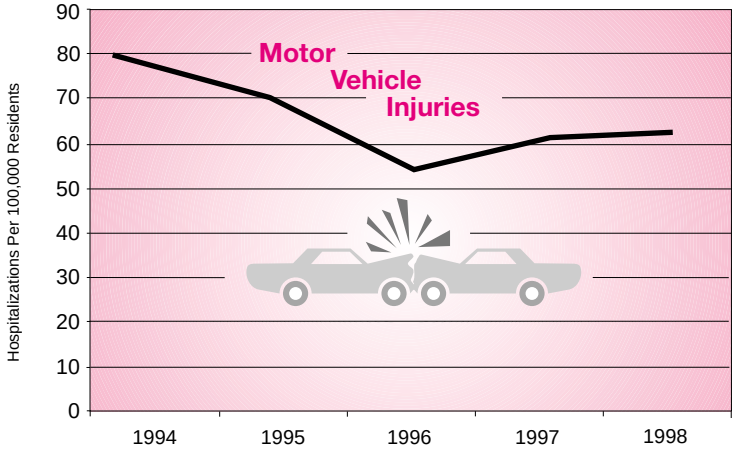
Indicator 27: Motor Vehicle Fatalities and Injuries

Another price we pay for the freedom given us by the automobile is that these heavy steel machines can injure and even kill. During the period 1990 through 1998, the number of fatalities per 100,000 residents has varied between 8.5 and 12.1. Fortunately, in recent years the fatality rate has been on the low end of this range, a rate of 8.5 in 1997 and 9.0 in 1998. While the fatality rate increased by 5.7 percent in 1998, this single-year increase hardly constitutes a trend. A more meaningful trend is that the fatality rates for the last two years are among the lowest experienced during the 1990s.



Source: Massachusetts Department of Public Health, MassChip; Pioneer Valley Planning Commission

Data on injuries stemming from motor vehicle accidents is available for fewer years. What this data shows is even more promising. From 1994 to 1996, while the fatality rate climbed, hospital admissions for injuries stemming from auto accidents declined by over 20 percent. These trends are interesting because they suggest that, despite our increasing use of automobiles, safety seems to be improving.

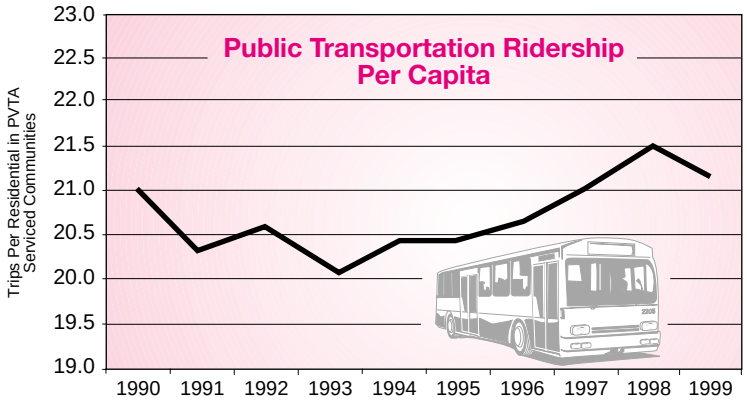


Source: Massachusetts Department of Public Health, Uniform Hospital Discharge Data Set, MA Health Care Finance and Policy 1994-1998; Pioneer Valley Planning Commission

Automobile Alternatives

Indicator 28: Per Capita Public Transportation Ridership

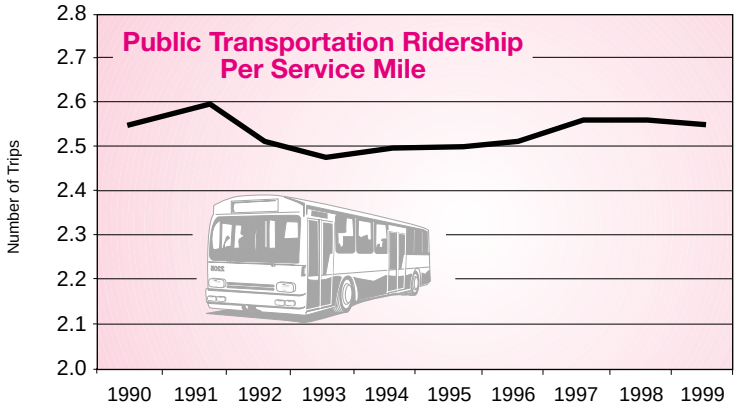
From 1993 through 1998, per capita ridership on the Pioneer Valley Transit Authority (PVTA) bus system steadily increased. In 1993, there were 20.1 trips per resident in PVTA-served communities, rising to 21.5 trips in 1998—an overall increase of seven percent. Interestingly, this has occurred as our use of the automobile is also on the rise.



Source: Pioneer Valley Transit Authority, Annual Reports; Massachusetts Institute for Social and Economic Research

Indicator 29: Public Transportation Ridership per Service Mile

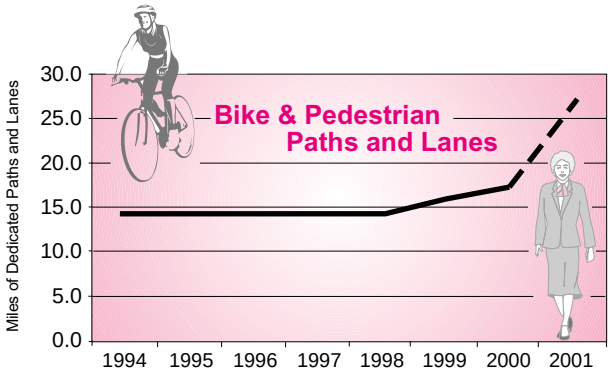
In part, the increase in per capita ridership is the result of added bus routes, but that is only part of the picture. Ridership per service mile is also up, indicating that PVTA is more effectively reaching its customers.



Source: Pioneer Valley Transit Authority, Annual Reports

Indicator 30: Miles of Dedicated Bike Paths and Lanes

For those with short commutes, another alternative to the automobile is the bicycle. While New England's weather makes it difficult to regularly commute by bike year-round, during portions of the year this is a viable option for those living close enough to their workplaces. While the number of miles of dedicated bike paths and lanes (shared-use bike and pedestrian trails and painted bike lanes in roadways) is modest, our region is dramatically increasing these assets. From 1998 to 2000, the miles of dedicated paths and lanes rose by 26.2 percent, or 3.8 miles. By the end of 2001, mileage will have increased by 85.9 percent to 27 miles.



Source: Pioneer Valley Planning Commission

Resource Use and Environmental Quality

How we utilize resources and the condition of our environment shapes our lives greatly, affecting our health, government spending, and our quality of life. To understand these issues, we examine land use patterns, water consumption, and fuel consumption. We also track waste generation and recycling, which are measures of the demands we place on our landfills and our air (through incineration). Also among our indicators is our region's air quality index.

What We See

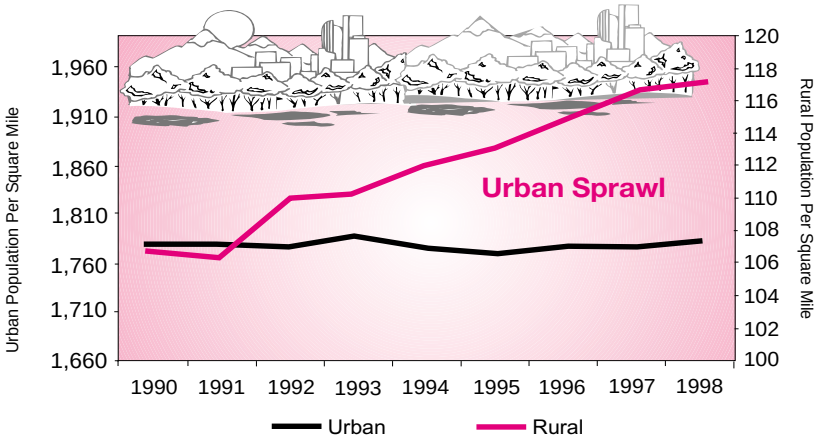
An important asset, our region's physical environment, is what attracts people to the Pioneer Valley. In some ways, our region's communities have made great gains in protecting this asset. For example, our municipalities have continued the impressive reduction in the number of combined sewer overflows. Yet, other forces threaten to diminish the quality of our physical environment, most notably urban sprawl. Consequently, our view of the future is complex where we expect to see continued actions that both enhance and diminish the Pioneer Valley region's natural beauty.

Trends At A Glance

Indicator No.	Indicator	Summary Description	Trend
31	**Urban Sprawl**	Urban sprawl continues to be a problem as population density in non-urban areas grew by 9.6 percent from 1990 to 1998.	
32	**Acres of Farmland**	Though important to our region's identity, the amount of farmland has decreased by nearly 20 percent in ten years.	
33	**Water Consumption**	Over three years, per capita water consumption decreased by 3.1 percent.	
34	**Motor Vehicle Fuel Consumption**	In five years, fuel consumption per resident has grown by over 12 percent.	
35	**Waste Generation and Recycling**	Both the amount of waste generated and recycled has declined. The resulting stagnant recycling rate remains below the state's goal of 46 percent.	
36	**Number of Combined Sewer Overflows**	The number of pollution-causing CSOs has declined substantially during the 1990s. The trend continued last year.	
37	**Air Quality Index**	During the 1990s, the number of days of healthy air quality has steadily increased.	
38	**Brownfield Sites**	There are 518 brownfield sites in the inventory that PVPC continues to develop and improve.	

Indicator 31: Urban Sprawl

Despite the stable size of population in the Pioneer Valley region, urban sprawl continues to occur and to threaten the region's landscape and livability. During the 1990s, rural population density increased by 9.6 percent—that's 10.3 more persons per square mile. This reflects the region's overall low density and decentralized pattern of land use, with the more outlying rural towns experiencing double-digit population growth during the 1990s as more and more residents move from urban and suburban locations around the region.

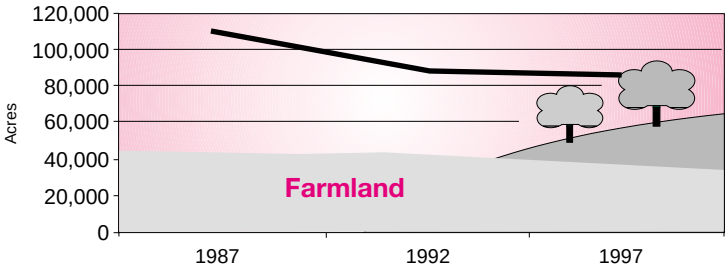


Source: Pioneer Valley Planning Commission; Massachusetts Institute for Social and Economic Research (MISER)

Unconstrained sprawl hurts both the region's landscape and its cities—open space is consumed by new residential and commercial development; urban areas suffer economic decline and social decay when they are abandoned. Currently, PVPC is participating in a statewide project designed to measure the amount of land that could be lost to sprawl in specific communities across the commonwealth. We plan to incorporate the resulting information into future editions of the State of the Region Report.

Indicator 32: Acres of Farmland

While most of the region's population lives in urban areas, a sentiment common among many is that they would like to preserve much of the Pioneer Valley region's remaining agricultural characteristics. In part, this seems to be an issue of identity that persists from our region's more agricultural past and that distinguishes us from the eastern portion of the state. Additionally, the desire to preserve farmland (and open space) could well be fueled by urban sprawl. Whatever the reasons, preserving this land is important to the people of this region.

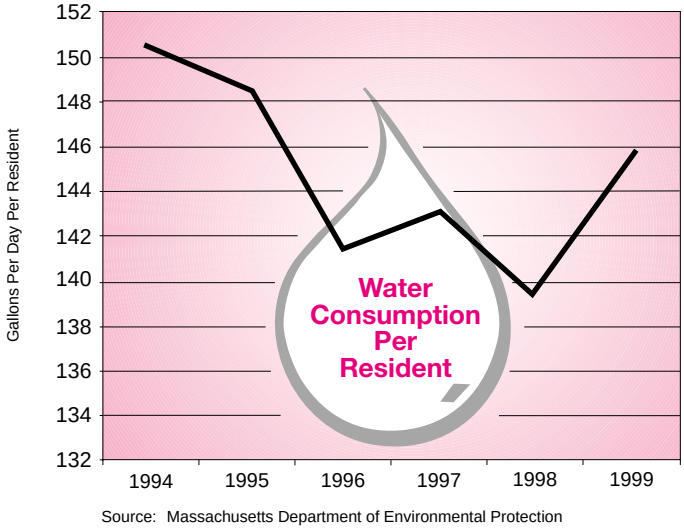


Source: U.S. Bureau of the Census and U.S. Dept. of Agriculture, Agricultural Census

During the ten years from 1987 to 1997, the total acres of farmland decreased by nearly 20 percent. However, most of that decline occurred between 1987 and 1992. From 1992 to 1997, only 1.6 percent of farmland was lost.

Indicator 33: Water Consumption

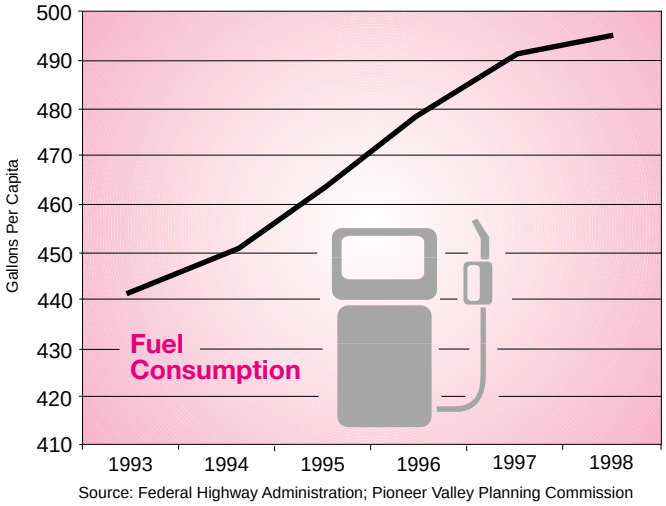
Even though our public water systems are providing more water, we appear to be consuming it more prudently. The growth in water production is driven by the expansion of service to more households. Compared to 1994, we consume 3.1 percent less water per person.



Source: Massachusetts Department of Environmental Protection

Indicator 34: Motor Vehicle Fuel Consumption

The amount of fuel that residents consume to power our cars, SUVs, and trucks continues to climb. In 1993, we consumed 440 gallons per resident. By 1998, our consumption increased to 494 gallons per resident, an increase of 12.2 percent, 2.3 percent annually.

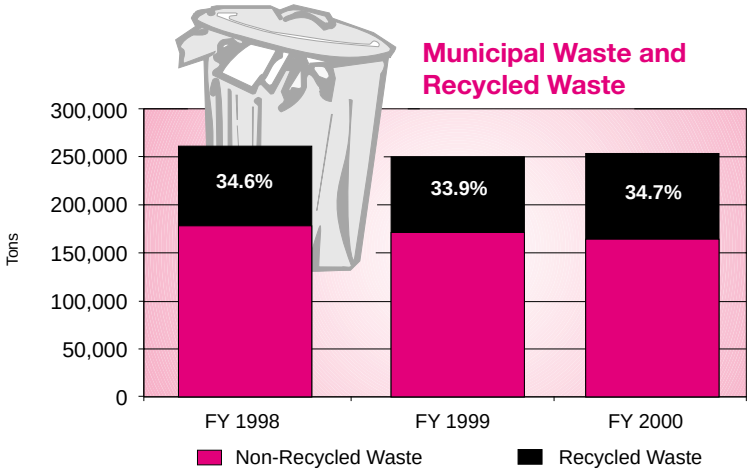


Source: Federal Highway Administration; Pioneer Valley Planning Commission

Indicator 35: Waste Creation and Recycling

The amount of waste generated and the portion of that which is recycled has a major impact on resource use. The mere fact that waste is generated means that some of our finite resources have been consumed. Additionally, what is waste must be disposed of, either in one of the region's limited number of landfills or incinerated; each method has its own problems. Further, the rate at which we recycle our waste determines our ability to mitigate our waste problem.

With regard to waste generation and recycling, the trends are mixed. The amount of waste generated is less than in earlier years, falling by 2.4 percent in three years. Despite this good news, the amount of waste we recycle also decreased by nearly the same rate, 2.2 percent. Plus, our stagnant recycling rate—the percentage of all waste that is recycled—remains below the commonwealth's target of 46 percent.



Source: Massachusetts Department of Environmental Protection, Municipal Waste Reduction Program

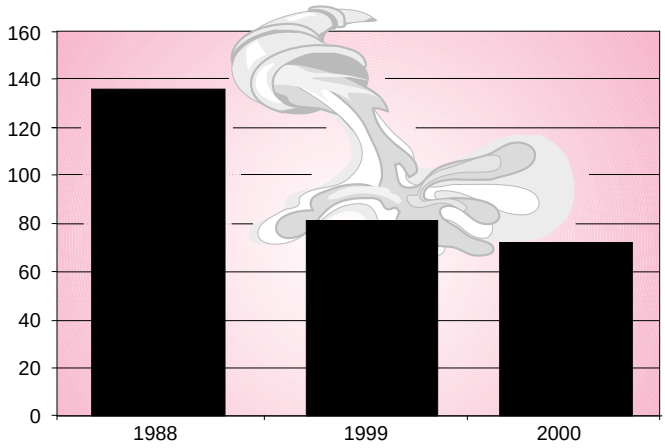
Indicator 36: Number of Combined Sewer Overflows

In 1988, there were 134 known combined sewer overflows (CSOs) along the lower Connecticut River and its major tributaries, sending up to 59 million gallons of raw sewage into this portion of the river with every typical rainstorm or period of snowmelt. This situation exists because many of our region's urban core communities have older sewer systems that combine sanitary and stormwater lines. With every big rainstorm, torrents of stormwater overload sewer pipes and treatment facilities, raising bacterial levels and other pollutants in the river above acceptable federal levels.

Over the past decade, many Pioneer Valley communities have made substantial progress toward eliminating these environmental hazards. As of 1999, the number of CSOs found below the Holyoke Dam had dropped to 81, a 40 percent reduction. And impressively, by 2000, the number of CSOs further declined to 71. Despite this improvement, it's because of pollution tied to CSOs that the lower Connecticut River does not meet federally mandated Class B (fishable and swimmable) water quality standards below the Holyoke Dam and remains under federal mandate to do so. This is a

complex and expensive proposition that is currently estimated at more than $400 million to correct. But it is one that the region is committed to solving, provided that federal and state financial assistance is made available to our region's CSO communities.

Number of CSO Sites in Springfield Area

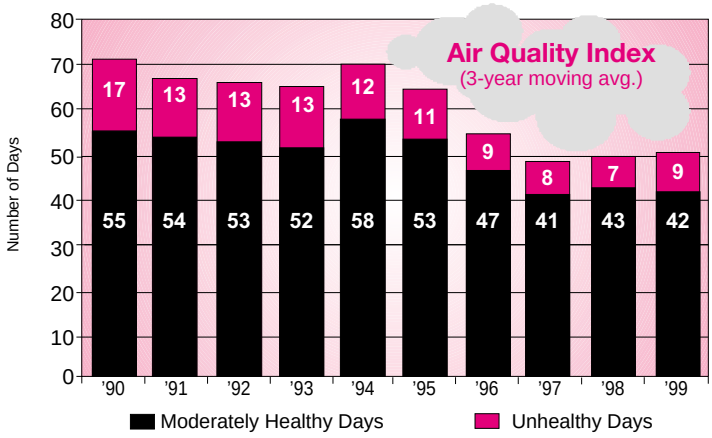


Source: Pioneer Valley Planning Commission, based upon information obtained from U.S. Environmental Protection Agency, Region 1 Office and Municipal Public Works Superintendents

Indicator 37: Air Quality Index

The U.S. Environmental Protection Agency's Air Quality Index (AQI) measures air quality as it relates to several pollutants, such as ozone, carbon monoxide, and fine particulate matter. We use the AQI as our indicator for overall air quality. Further, because air quality is greatly influenced by weather, we report this indicator in three-year moving averages. This will mute the effect of particularly hot or cool summers on the index. Additionally, the EPA recently established more stringent air quality standards (e.g. 8-hour ozone standard). We report the AQI restated to the new standards for prior years.

During the 1990s, air quality has been improving. Early in the decade, the number of unhealthy (classified as both "unhealthy" and "severely unhealthy") days per year was in the double digits. During the latter part of the decade, the number of unhealthy days has consistently been lower. Additionally, the number of moderately healthy days has also been lower during the later half of the 1990s.



Source: U.S. Environmental Protection Agency

Note: The numbers of days are an average for a three- year period ending with the stated year.

Indicator 38: Brownfield Sites

Brownfield sites are abandoned, idled, vacant, or underutilized former industrial and commercial sites whose redevelopment is limited by environmental contamination, be it real or simply perceived. Because of concern over their environmental conditions and the associated legal and financial liability, finding new owners to redevelop brownfields is a challenge. Thus, by discouraging redevelopment, brownfields frequently push new development onto previously underdeveloped land. The resulting increase in developed land means that brownfields remain idle and more of our finite open space is lost.

For the past couple of years, PVPC has been developing an inventory of our region's brownfield sites using information obtained from federal, state, and municipal sources. At present, there are 518 brownfield sites. Of these, 54 are significant in that they have been identified by local officials as being the most important to redevelop.

Readers comparing the number of brownfields reported this year to that reported last year will notice a significant drop. However, the two numbers are not comparable. They differ in that during the past year we have obtained additional information enabling us to determine that many sites reported as brownfields in reality did not meet the definition of a brownfield.

Citizen Feedback Form

Did this report discuss issues you find important to the quality of your life?
Yes___ No____

Which of the indicators included in this report are the most important to you? Please list them in order of importance, with the most important first.

1. _____
2. _____
3. _____
4. _____
5. _____

What additional indicators would you have liked to see included in this report?

1. _____
2. _____
3. _____
4. _____
5. _____

What is your overall impression of this report?

Additional comments:

Please return form to: Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089