



## Connecticut Economic Strategic Plan

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**DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT**

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### **Defining Connecticut's Identity**

What comes to mind when you think of Connecticut? Perhaps it's the charming seaport villages that dot the coastline, the rolling country hills lined with stone walls that frame small farms, or the state forests ablaze in countless hues of red, yellow and orange during the peak foliage season.

Or maybe it's the state's celebrated business environment and premier companies that call Connecticut home. Connecticut's story is rich with a long history of innovation and some of the most colorful, creative, daring and pioneering thinkers of our time.

The state turned to manufacturing early on as a means of economic vitality, with iron and brass works popping up on the Connecticut landscape as early as the 1660s. By the late 1700s, Connecticut was a recognized leader in machine tools.

Connecticut's industrial ingenuity and productive capacity made it a pivotal player in the fight for American independence and other wars. The first American warship, the *Oliver Cromwell*, slipped into the waters of Long Island Sound in the prosperous shipbuilding community of Essex in 1775. After the war, Eli Whitney and Simeon North began making firearms with interchangeable parts — generally recognized as the beginning of modern mass production. And by the end of World War I, with Colt's Armory in Hartford, the Remington Arms company in Bridgeport, and the Winchester Repeating Arms Company in New Haven leading the way, 80 percent of Connecticut's manufacturers were making military goods.

While all the manufacturing expertise and innovation was developing, Connecticut was also staking its claim as the nation's insurance capital. Marine insurance, which protected ships and cargoes that sailed to Caribbean ports and fire insurance both got their start here in the late 18<sup>th</sup> century and other types — life, accident, casualty, health — followed during the next century. Although the term insurance capital may be clichéd, Connecticut remains the epicenter of the global insurance industry with 106 insurance companies based here.

Connecticut industry was at the forefront of textiles, precision instruments, hardware, machine tools and electric power generation and distribution. The state that best reflected the spirit of Yankee ingenuity was fueling industrial growth at an incredible pace.

This legacy left its imprint on today's businesses — which are some of the most innovative, productive and dynamic in the world.

These are not mere adjectives that describe Connecticut companies, but also their products and the workers that make them. They speak to a dominance the state has had and continues to have in manufacturing, aerospace, insurance and financial services and now newer cutting-edge industries like bioscience, medical devices, nanotechnology and alternative energy sources. These industries not only define Connecticut's past, but also are signposts pointing the way to our economic future.

Now, Connecticut is home to some of the best and most innovative companies in these sectors. We're headquarters to 11 Fortune 500 and 27 of the top 1,000 — and many others have a significant presence in the state. And international companies more and more are looking to locate their U.S. operations here.

These and other businesses want to know what the future holds. Connecticut's new Economic Strategic Plan articulates a vision and provides the framework for immediate and long-term success.

## **An Economic Strategic Plan**

On July 11, 2007, Governor M. Jodi Rell signed Public Act 07-239 (codified as CGS § 32-1o), culminating months of hard work on a public policy vision for growing the state's economy while preserving and enhancing Connecticut's natural treasures.

To set Governor Rell's vision in motion, the Department of Economic and Community Development (DECD) was required to formulate a plan or roadmap, so state policies will promote Connecticut's industries and help workers successfully innovate and compete in the global economy. A comprehensive, coherent plan ensures more efficient use of scarce resources, improves coordination among those on the front lines of economic and community development and ultimately makes Connecticut a more attractive place for businesses to invest and grow.

Connecticut's Economic Strategic Plan differs from existing plans because it proposes strategies and initiatives with implementation in mind. Of course, sound economic planning starts with an in-depth examination and understanding of all the factors that drive the state's economy, as this plan does. However, all plans are destined for the scrap heap unless they are workable and recommend goals and objectives that are attainable.

Connecticut's strategic plan is just that; it strives to be far-reaching, elucidating and most of all, achievable.

## **The Vision**

Creating a comprehensive strategy that will expand economic prosperity for all citizens of Connecticut requires policymakers to begin at the end — meaning the destination must be decided before the journey commences.

This plan clearly enunciates where Connecticut should be and what it should look like now, in the near future, and far

down the road. It plots a course in five year intervals for 20 years, and it will be updated, refined and analyzed every five years, ensuring that it always reflects the current trends and economic realities Connecticut faces. Connecticut's plan shows a way forward without stifling creativity.

Another key element of the plan is its simplicity. Connecticut's plan need not be complicated, just bold.

Connecticut will have a vibrant, diversified and resilient economy that provides the highest possible quality of life and access to opportunity for all. The state will promote responsible transit-oriented growth, balancing the conservation of existing assets and natural resources with innovative economic development. Connecticut will be identified as a place where families, students, workers, entrepreneurs, companies, government and other organizations come together to enhance its competitive advantage, distinguishing the state as a dynamic place to live, work and relax.

This statement anchors the entire strategic plan, serving as the foundation on which all of the plan's analyses, goals, and strategies are based. It is a shared vision for policymakers, taxpayers, advocates and businesses alike because we recognize that all in Connecticut are stakeholders — all will be affected by the plan in some way.

If the plan is to serve as an economic blueprint for Connecticut's economic future, then it must speak for and to everyone.

To accomplish this, DECD held 10 public forums around the state from November

2007 through January 2008. These forums were a key part of the process because they allowed citizens, businesses and advocacy groups, regional planning organizations and others to have a voice in shaping the future of our state.

## **Creating a Baseline for Connecticut**

Once it was decided where Connecticut should go, we needed to know how to get there.

DECD carefully examined the history of the state's economy to help form a current characterization of the people, industries, labor market and other aspects of the state's economic infrastructure. This perspective identifies Connecticut's strengths that we can build on and weaknesses we must confront.

Next, DECD inventoried Connecticut's factors of economic growth, namely its transportation networks, technology transfer capabilities, higher education system, brownfield redevelopment efforts, housing

and health care delivery. Other areas looked at were state-provided services, which are critical to a healthy workforce, land use policy and the state's emergency preparedness for natural and manmade disasters.

Taxation was examined because of its implications on competitiveness, as well as the availability of capital for sustaining current business operations and for growth. Connecticut's energy costs and supply-demand picture were evaluated because they influence the prosperity of residents and businesses alike. Connecticut is home to a rich panoply of cultural and tourism assets, therefore the department looked at the impact of the tourism industry.

Synthesizing these disparate aspects of what defines Connecticut and its economy is important so policymakers can better understand the challenges we face as the economy restructures and becomes more integrated into the global, knowledge economy.

## **The State's Economic Foundations**

DECD analyzed Connecticut's economic infrastructure — areas like transportation, housing and workforce that provide the underpinnings for economic growth and prosperity. From this, policymakers will be able to accurately gauge Connecticut's strengths and weaknesses in certain fields, evaluate the state's overall health and see how it stacks up with other states.

Many of these areas overlap with Governor Rell's responsible growth initiatives, which have been making tangible progress in recent years. Other areas dovetail with efforts underway in transportation in concert with the Council of Northeast Governors and the Northeast Corridor Improvement Project.

The Office of Responsible Growth is analyzing housing, transportation, and land use issues, as well as improving state, regional and local planning. The Responsible Growth Task Force has assembled an economic development team to help guide the state's future investment decisions, study land use laws, policies and programs, including laws, policies and programs concerning the transfer of development rights.

Brownfield remediation is an important element of economic development and in implementing the state's responsible growth strategies because using these sites allows communities to revitalize their inventory of developable land as job generators, housing, community facilities and open space. DECD's Office of Brownfield Remediation and Development is leading the way to induce the renovation and reuse of these blighted properties for new office, commercial, retail and residential developments.

Housing is another key factor. Communities are spreading out impacting the transportation system, the environment, energy supplies and ultimately the state's quality of life. Programs like HOMEConnecticut offer grants to communities that plan concentrated developments near mass transit options.

On the following pages, major findings of the situational analysis are highlighted. The initiatives address approaches to achieving the vision.

## ***Transportation***

Transportation systems are critical to the overall health of economies.

People need access when traveling to and throughout the state and ease of travel is essential to the productivity of businesses.

Eighty percent of commuters in Connecticut are single-riders in an automobile. They are looking for better options to get to work in the major urban areas, as well as to areas outside of the state.

Connecticut must continue its successful carpooling programs, promote the use of pedestrian walkways and bike paths and expand rail options and bus connections to facilitate a cleaner and less congested commute. All modes of transportation, including roads, rail, air and water, provide economic and user benefits. As the state's transportation system goes, so goes Connecticut's economic future.

### **Key Findings:**

- Connecticut's ports have limited land for cargo storage space and consequently continue to miss opportunities for sea transportation business. Seaports need capital investment to expand storage capacity, and to increase intermodal connections between water, highway and rails.
- The state's maritime advantage is literally eroding as silt collects in deepwater ports. Without dredging,

port channels grow shallower and larger ships cannot safely enter ports to offload goods. Cargo will need to be transported by alternative methods, most likely over highways, thus increasing congestion, maintenance, and pollution.

- Rail ridership between Connecticut towns is increasing and, although it still remains a small percentage of total rail ridership, it represents a growth component that is a priority for the state. Commuter rail service between New Haven through Hartford to Springfield, Massachusetts will improve and sustain the region's vitality and livability.
- In addition to serving commuters along the corridor, the service could provide a connection to Bradley International Airport, existing Metro-North and Shore Line East Commuter Rail in New Haven and links to the proposed New Britain-Hartford Busway.
- It is estimated that Connecticut needs an additional investment of \$120.6 million in one-time capital spending, and about \$30 million in the annual operating budget for its public bus systems.
- The U.S. Department of Transportation reports trucks currently carry approximately 76% of the freight in Connecticut and projects this share to grow to 77.5% by the year 2020. Transportation officials anticipate



trucking will continue to provide the majority of service, regardless of state policies and programs.

- Truck transport of intermodal freight will continue to impact Connecticut because of its small geographic area and close proximity to some of the nation's largest ports, intermodal rail facilities and airports.
- Connecticut ranks 43<sup>rd</sup> in deficient bridges — 32.8% of the state's bridges are deemed structurally deficient or functionally obsolete.

### ***Housing Market and Affordability***

Housing is another key issue because it directly impacts Connecticut's economy and affects the state's ability to attract and retain a skilled labor force — correlating to the state's quality of life and overall vitality.

The relationship between the availability and affordability of housing and economic growth may be less obvious. But business leaders continue to beat the drum for affordable housing because their employees need homes they can afford.

#### **Key Findings:**

- Connecticut's existing supply of housing is constrained, but the cost of producing a unit is high. That's why new developments of large homes are now the norm, instead of new single-family, starter homes being built across the state.
- Increasingly, the market is unable or unwilling to produce housing for those earning between 80 and 120% of area median income — and up to 140 to 150% in high cost areas.
- If housing in this income bracket is not being produced, then the laws of supply and demand dictate that the housing supply diminishes and the scarcity increases prices.
- This brings us to the situation facing Connecticut today. Housing prices and rents have increased faster than wages and the overall supply of housing units has not increased sufficiently to meet the need — especially for those households with income at or below 120% of area median income.
- Without the availability of affordable housing, homeowners will bear a greater burden of taxes in Connecticut and the flight of young adults out-of-state, as well as the retirements of older residents, will continue to adversely affect the labor market.
- Connecticut still has a sizeable special needs population — the elderly, those with disabilities and health issues and abuse victims — which requires affordable and adequate housing throughout the state. This echoes the need for affordable housing, based on the number of low-income families; while renting is becoming a more common option among young adults.

## ***Education***

The state has invested significant resources to make its educational system one of the best in the nation, from early childhood to higher education.

However, the educational system does not completely fulfill the needs of Connecticut businesses, indicating a less than favorable return on this investment. Retention and integration are two areas in which the state's educational system must progress.

Connecticut's educational system is highly fragmented among geographic areas as well as among certain ethnic distinctions. An analysis of educational achievement reveals significant disparities between urban and rural areas as well as between ethnic and income compositions.

### **Key Findings:**

➤ Connecticut's education sector compares favorably with the rest of the nation with an SDE-reported, average, statewide high school graduation rate of 92%, and a high percentage of households that hold at least a bachelor's degree (33.7%). The state ranks 2<sup>nd</sup> in the nation in total spending per enrolled child, 3<sup>rd</sup> in the nation in state spending per enrolled child, and 1<sup>st</sup> in the nation in eighth graders in writing performance. Connecticut enjoys an increasingly competitive private and state university system, including the University of Connecticut.

- However, the state's urban high-school graduation rate is significantly lower than the statewide average.
- Forty percent of the state's high school graduates are academically ready for college, putting Connecticut 4th in the nation. Sixty-two percent of the state's high school graduates enroll in college the fall after they graduate, 13th in the nation.
- Connecticut performs poorly, however, in terms of the educational achievement gap among different demographic and economic categories. Educational achievement is not equally distributed between different income groups, races and geographic areas. However, with investment in charter schools among other things, this gap continues to close.
  - Twelve percent of black 4th graders are proficient in reading, compared to 54% of white students — ranking 41st out of 42 states that had available data.
  - Eighteen percent of Latino 4th graders are proficient in reading, compared to 54% of white students — ranking 40th out of 41 states with available data.
  - The growth in the number of low-income students at Connecticut colleges exceeded the national average over the last five years — 13.3% in

Connecticut compared to 2.5% across the U.S.

### ***Workforce***

Connecticut is renowned for its highly productive workforce, which is largely a result of workers' high level of educational attainment. But maintaining this productivity will be a challenge because researchers point to a marked decline in the level of education for new workers, a trend they expect to continue.

As across the country, labor markets in Connecticut presently are not faring well. In March 2008, Connecticut's nonfarm employment rose by 1%, less growth than a year ago and less than the nation's 1.1% nonfarm employment growth. This chronic problem makes hiring skilled labor more difficult and costly. This is clearly an unfavorable trend, especially given Connecticut's higher and recently raised minimum wage.

Evidenced by census data, it would appear Connecticut isn't a top destination for younger people, which will likely create a shortage of future workers in the state.

Attracting young people to Connecticut will pay dividends in the state's workforce. Of the 17,928 Connecticut public college graduates in 2007, 70%, or 12,471, were employed in Connecticut in the third quarter after graduation and earned an average of about \$40,684 per year.

Connecticut has long had the highest per capita income of any state, but a closer analysis of the data shows that the wealth is limited to small demographic, geographic and industry concentrations. Specifically, the financial services and insurance sector in Fairfield County is skewing the distribution of income and wealth. The challenges that Connecticut faces, such as a transportation system that needs updating, more affordable housing and high energy costs, have been highlighted and in some cases exacerbated by the current recession.

### **Key Findings:**

- Connecticut boasts one of the most highly educated workforces in the nation. The state ranks 23<sup>rd</sup> in educational and health care establishments, 16<sup>th</sup> in employment, and 13<sup>th</sup> in annual payroll among the states in this sector.
- Connecticut has witnessed significant productivity growth in all industrial sectors between 2000 and 2007, particularly in the utility, real estate, information, and management industrial sectors.
- In 2006, Connecticut ranked 3<sup>rd</sup> nationally for the percentage of its population 25 and older with a bachelor's degree or higher.
- But Connecticut is among the nation's 10 oldest states, ranking 8<sup>th</sup> in median age (39). The state's future workforce growth may be stunted unless we can import the labor we need to fill positions

being vacated by the aging workforce and the significant out-migration of the 25- to 44-year-old cohort.

- Connecticut's high-income households — the top 20% — received 51.6% of all the income in the state. The poorest 20% of households in Connecticut had 3.3% of all income in the in the state. This income disparity has been growing over the past several decades.

### ***Healthcare***

Connecticut's healthcare industry is a significant economic driver, consisting of 9,818 establishments, employing 245,242 persons and contributing \$9.8 billion in payroll in 2006. And this sector's employment will likely grow as the population ages.

However, the high cost of healthcare in Connecticut and the nation is a burden for workers and businesses alike and is of significant concern.

Employee contributions to maintain coverage and premiums have been rising. For example, the family premium cost has risen 77% from 2000 to 2006 in Connecticut. The average total employee contribution for family health coverage is \$2,970 per year, almost 16% of the mean annual wage in Connecticut. At the current rate, wages will not be able to keep up with the exponential rise of healthcare costs in Connecticut.

In the Small Business and Entrepreneurship Council's 2009 "Health Care Policy Cost Index," Connecticut ranked poorly based on a number of factors such as imposed mandates on insurers, coverage requirements or taxes to pay for state programs and availability of health savings accounts.

### **Key Findings:**

- Less than 9% of Connecticut's population is uninsured (325,516 people), well under the national average of 15%. Employers cover 61% of the population; Medicare, Medicaid and individuals cover the other 28% of the population.
- Connecticut's workers are above national averages for insurance coverage rates. Accessibility to health insurance coverage is not the issue for Connecticut residents, more so is the rising employee contributions needed to maintain their coverage.
- Connecticut was ranked as the fourth costliest state in terms of healthcare to do business — ranked below only Massachusetts, Washington and Maine as the costliest state for small business healthcare.

### ***Tech Transfer***

Technology transfer refers to a process that facilitates the movement of scientific and technological advancements from the research lab into the marketplace. Technologies are usually developed by researchers

working in universities or large businesses. Other institutions help the individual commercialize the idea into a marketable product.

Connecticut has impressive science and technology resources that include Yale University and the University of Connecticut, as well as major research corporations, financial and insurance companies and manufacturing industries. The infrastructure is in place for development and fruition of new inventions, but there is room for improvement.

#### Key Findings:

- Through technology incubator programs and research parks, Connecticut's universities are now at the forefront of patents and new technologies in Connecticut. The University of Connecticut and Yale University both provide tech transfer services to their students and faculty and have been successful for both parties.
- Working directly with researchers, university programs, along with community colleges and local non-profits with an interest in entrepreneurial and workforce development, have helped Connecticut rank in the top 10 states in the nation under the latest State Technology and Science Index.
- The state is lacking in overall incubator space, early-stage seed funding, as well as the commercialization services

surrounding the universities, relative to comparable states.

- Connecticut needs to provide better early funding, as well as market the availability of services if it wants to see growth in high-tech businesses in the state.

#### ***Taxation***

The fact that most of the cited studies do not rate Connecticut as an attractive state for business is a cause for concern and may drive the perception that the state is not business-friendly.

Because taxes are a highly competitive issue, meaning workers and businesses take taxes into account and vote with their feet in location decisions, Connecticut must find innovative strategies to equalize tax burdens and broaden its tax base for stability and growth.

If Connecticut is to improve its standing in these evaluations, however, targeted reforms toward certain areas, such as reducing a specific top tax rate or expanding the relevant tax base, where Connecticut is ranked low should result in a significant improvement in the state's position, without necessitating a complete overhaul of the entire business tax system.

#### Key Findings:

- Most business rankings suggest that Connecticut places in the mid-range among the 50 states in terms of factors that influence the business climate. The exception is

property taxes, where the state is ranked second to last among the 50 states.

- Connecticut taxpayers pay more taxes on average because they earn more income per capita than taxpayers in other states.
- However, state tax collections divided by personal income provide a useful measure of taxpayers' ability to pay. According to this measure, Connecticut taxpayers' burden is toward the middle of the pack reflecting a modest ability to pay.
- In high-income towns, equalized mill rates tend to be lower than in low-income towns, reflecting greater property values in these towns and the ease with which they can raise the revenue required to support the local budget.

### ***Availability of Capital***

Connecticut companies need infusions of capital from external investors to grow and prosper. Because of limited resources, small and medium-sized companies sometimes have trouble competing with established larger corporations for marketing, exposure, research capacities and capital for growth.

Venture capital source of funds is necessary for the continuation of all of Connecticut's industries, especially the expanding technology and manufacturing sectors due to their high initial start-up costs.

### **Key Findings:**

- With the recent emphasis on green jobs and clean technologies, there are a greater number of graduate students and professors at Connecticut's higher education institutions looking to commercialize their innovations.
- Connecticut is currently one of the leaders in venture capital availability, but such funds must continue to be obtainable and plentiful for start-ups and young firms.

### ***Energy Costs and Supply***

Connecticut lives up to its reputation as an energy-conscious and scientifically progressive state.

Unfortunately, Connecticut is still subject to market swings in energy costs. Because Connecticut has no indigenous petroleum supply, the state is subject to the amount of gas available and the reliance on transportation of fuel supplies. This puts Connecticut in a difficult position, with 52% of households relying on oil for their primary heat energy source.

However, the future is bright with Connecticut having a strong alternative energy research and development sector — as we are leaders in fuel cells, solar energy, and biofuels. This recent boom in research has brought in a new wave of high-tech manufacturing opportunities to the state.

There are currently some barriers to the widespread adaptation of renewable energy — such as the high initial development cost and slow processing time — but with the infusion of capital from the state, small production firms will be able to compete on a national scale sooner than later.

Key Findings:

- The Energy Information Administration reported that in 2006 Connecticut ranked 4<sup>th</sup> highest in the nation in terms of overall energy prices.
- Despite having some of the highest relative energy prices in the nation for motor fuels, heating oil, natural gas, coal and retail electricity, Connecticut ranked 22<sup>nd</sup> in total energy expenditures per person while its per capita energy consumption was less than all but five states in 2007.
- The state consistently ranks in the lower 50<sup>th</sup> percentile in per person consumption for each energy subcategory reflecting the state's energy efficient culture.
- Connecticut must meet federal ozone (smog) standards by June 2010, a challenge that underlines the importance of developing alternative energy sources.
- Connecticut is a critical region in terms of the need for increased electricity supply resources to meet long-term needs. Without the timely addition of new resources, ISO warns the state and the region

will fail to meet established reliability criteria, increasing the need for emergency procedures to operate the system during peak periods, and the possibility of disconnecting customers at peak times.

***Culture and Tourism***

Underscoring the economic impact of the culture and tourism industry, analysis performed in 2004 found the total direct, indirect and induced economic benefits of Connecticut's culture and tourism operations generated \$14.06 billion in gross state product, or 7.6% of the state's total. They contributed \$9.1 billion in personal income (5.74% of state total), 171,023 jobs (10% of state total) and \$1.715 billion in state and local revenue — monetary receipts from state and local taxes and fees — representing 6.9% of the state and local total.

Connecticut invested \$27.7 million in culture and tourism in 2004-05 to leverage \$258 million in net state and local revenue. Another way to consider the impact of culture and tourism state budget allocations is to view each dollar invested and track its rate of return. In this case, for every \$1 invested, the state garnered \$9.30 in state and local revenue, \$507 in gross state product and \$328 in personal income.

With 4.13% of total employment falling in the cultural enterprise category, Connecticut ranks second

only to Rhode Island among the New England states.

Key Findings:

- The region and state budgets are not competitive with other states marketing the same audiences. TIA TravelScope reports that with its \$5.6 million budget for tourism for 2005, Connecticut ranked last among the states of Maryland (\$11 million), New Jersey (\$12.7 million), and Pennsylvania (\$31.8

million). New York City alone spent \$45 million in 2005.

- Connecticut's tourism industry is negatively affected by more than dwindling budgets and increased costs: high volume of traffic on interstates, general lack of awareness of what Connecticut offers, and lack of public transportation to and around the state hinder the growth potential of tourism in Connecticut.



## Connecticut's Competitiveness

The Department of Economic and Community Development examined a broad selection of interdependent measures to determine the state's competitive advantages and disadvantages. Competitiveness is too complex and multifaceted to be judged from a single variable. Therefore, DECD considered workforce quality, education, globalization, energy, housing affordability, workers' compensation, regulations/costs of doing business, taxes and entrepreneurial activity.

DECD's analysis relied on, but was not limited to, the following:

- *The 2008 State New Economy Index*, Kauffman Foundation and the Information Technology and Innovation Foundation, November 2008.
- *2009 State Business Tax Climate Index*, Tax Foundation, October 2008.
- *Benchmarking Connecticut 2006: Determinants of Economic Growth*, Connecticut Economic Resource Center (CERC), 2006.
- *Eighth Annual State Competitiveness Report*, the Beacon Hill Institute, 2008.
- *Grading Places: What Do the Business Climate Rankings Really Tell Us?*, Peter Fisher, Economic Policy Institute, 2005.
- *Small Business Survival Index 2007*, Small Business and Entrepreneurship Council, November 2007.
- *State Technology and Science Index: Enduring Lessons for the Intangible Economy*, the Milken Institute, June 2008.
- *A Talent-Based Strategy to Keep Connecticut Competitive in the 21<sup>st</sup> Century*, Connecticut Office for Workforce Competitiveness, February 2007.
- *Total State and Local Business Taxes: 50-State Estimates for Fiscal Year 2008*, Ernst & Young LLP, January 2009.

## Connecticut's Competitiveness

DECD's mission is to develop and implement strategies to attract and retain businesses and jobs, revitalize neighborhoods and communities, ensure quality housing and foster appropriate development. To do so, it is imperative to periodically assess the state's competitive position, to evaluate Connecticut's economic development challenges and opportunities across a wide array of measures — seeking an unvarnished answer to the question, “How does Connecticut rate?”

This plan provides a competitive analysis of the state drawing on a series of “report cards” that rate states on a variety of measures.

To determine the state's competitive advantages and disadvantages, DECD examines several categories because a broad selection of interdependent measures helps determine competitiveness. The selected measures include workforce quality, education, globalization, energy, housing affordability, workers' compensation, regulations/costs of doing business, and entrepreneurial activity.

The results are often used by businesses to determine their expansion and relocation plans and therefore have significance beyond their analytical prowess.

## ***Workforce Quality***

Across a variety of studies, Connecticut consistently scores high marks on various measures on the quality of its educated and talented workforce.

One determinant is its number of knowledge-based jobs. Connecticut scores near the top here, #2 overall (out of the 50 states, with #1 being the best), according to the Kauffman Foundation's *The 2008 New State Economy Index*.

Multiple indicators within Kauffman's knowledge-based employment category bode well for Connecticut, including:

- Employment in IT occupations: #7
- Share of workforce employed in managerial, professional, and technical occupations: #4
- Education level of workforce: #4
- Average educational attainment of recent immigrants: #5
- Employment in high value-added manufacturing sectors: #2
- Employment in high-wage traded services: #2

The factors above suggest that Connecticut is home to an educated and skilled workforce that is capable of efficiently producing technologically complex, high value-added goods and services.

## ***Education***

Overall, Connecticut scores well in various measures of Connecticut's current educational attainment. However, the educational attainment of the state's future workers may be a potential area of concern.

The Connecticut Office for Workforce Competitiveness (OWC) describes its educational attainment issues and needs in its report titled *A Talent-Based Strategy to Keep Connecticut Competitive in the 21<sup>st</sup> Century*. OWC writes, "Connecticut's future young workers are expected to be less prepared for the 21<sup>st</sup> century careers than those they are replacing in large part because nearly half of our future workforce will be coming out of the state's urban centers where a significant and stubborn achievement gap persists."

### **Workforce at a Glance**

- Employment in IT occupations: #7
- Share of workforce employed in managerial, professional, and technical occupations: #4
- Education level of workforce: #4
- Average educational attainment of recent immigrants: #5
- Employment in high value-added manufacturing sectors: #2
- Employment in high-wage traded services: #2

## Connecticut Job Facts

- U.S. subsidiaries in Connecticut play a vital role in supporting jobs. They now employ 104,900 workers in Connecticut.
- Connecticut is an attractive location for international employers, ranking 17th in the United States in the number of employees supported by U.S. subsidiaries.
- The relative portion of jobs in Connecticut supplied by U.S. subsidiaries remains significant. They provide the livelihood for more than 7% of Connecticut's private-sector workforce.
- Connecticut is tied with South Carolina as 1st in the country in the share of its workforce supported by U.S. subsidiaries.

### ***Globalization — Exports and Foreign Direct Investment (FDI)***

In the global economy, exports are an important indicator of the strength of an economy. Connecticut's past export growth has outpaced the nation. This reflects favorably on the ability of Connecticut industries to produce items in demand around the world. As the world economy becomes increasingly integrated, exports will continue to fuel economic growth in Connecticut and the United States.

Foreign Direct Investment (FDI) is major investment by foreign companies, such as the construction of new plants or ownership of property and equipment, in the United States. FDI is important because it creates new jobs and leads to knowledge exchange and transfer, including the adoption of advanced new technologies and workforce practices. Foreign companies also serve as a source of business leads and as a resource for future foreign investment.

Job growth and foreign investment in plant and equipment in the state reflect the competitiveness of Connecticut's international position. **Both job growth and investment by foreign affiliates in Connecticut outpaced that of the United States.**

In 2006, the latest year of available data, Connecticut tied with South Carolina for first in the largest shares of private industry employment accounted for by majority-owned U.S. affiliates.

### ***Energy***

The cost of electricity is of considerable concern to Connecticut, as several reports rank Connecticut near the bottom in this particular sector.

The energy sector represents a competitive disadvantage for Connecticut. Energy is a component of the cost of doing business in a state, as it factors into the equation of where to locate or expand a business. Therefore, to compensate for high energy costs, a state must offer other assets of high value, such as a highly skilled workforce.

### ***Housing Affordability***

Housing affordability, whether it is via ownership or rental, can be an obstacle to attracting and retaining workers. In a literature review, Connecticut does seem to have a competitive disadvantage in this sector.

### ***Regulations/Costs of Doing Business***

Connecticut has mixed results in this category. The state had the 8<sup>th</sup> highest business costs among the 50 states in 2006, the result of a weighted combination of labor, tax, and energy costs. Additionally, the Milken Institute found that in 2007 Connecticut had the 5<sup>th</sup> highest business costs, a ranking which has been relatively constant since 2004. Conversely, Commercial Property News (CPN)-Nielsen conducted a 50-state ranking to determine the best states for corporations and currently Connecticut ranks first.

Connecticut is at a competitive disadvantage in terms of workers' compensation rates, as an increase to non-wage labor cost represents an increase to the cost of doing business in the state.

### ***Economic Outlook***

In 2009, the American Legislative Exchange Council awarded Connecticut #32 out of 50 in its ALEC-Laffer index, which ranks state based on economic outlook. That's an eight-position improvement over its 2008 score of #40. With #1 being the top score, Connecticut scored fairly well in some of the index's various policy factors, such as: top marginal personal income tax (#17), sales tax burden (#12), and the remaining tax burden (#8). Conversely, the state scored poorly in areas such as property tax burden (#43) and high minimum wage (#44).

### ***Entrepreneurial Activity***

Connecticut received mixed marks in several reports' overall examinations of economic vitality: both high and low —however, within the various sub-indexes of vitality or entrepreneurial climate, the state scored well.

#### ➤ ***Patents***

CFED, CERC, and the Beacon Hill Institute rank Connecticut #9 in terms of the number of patents issued.

OWC expresses concern regarding Connecticut's patent growth, finding that the state is "slipping in the utilization of its research and development base to support innovation... While Connecticut is a leader in absolute patents per worker, growth of patents is lagging well behind the nation — rising only 5 percent in Connecticut compared to 22 percent for the nation from 1996 to 2005." This growth rate may be an area of concern and is an issue to be monitored.

#### ➤ ***Initial Public Offerings***

Connecticut scores well in the number of IPOs offered within the state, as both the Beacon Hill Institute and CFED rank Connecticut #5 in this measure.

IPOs are a competitive advantage for the state, in that it is a sign that “financial markets have embraced entrepreneurial dynamism.”

➤ ***Gazelle Jobs/Fast 500 List***

Another component of the entrepreneurial climate is the number of gazelles, or fast-growing businesses, in a state. Connecticut receives mixed marks here — a #7 from the CERC report, and #23 according to the Kauffman Foundation.

Connecticut ranks #7 in terms of the number of firms it has on such “Fast 500” lists. Such a positive ranking is good for the state, because such “fast” firms “represent a state’s most successful entrepreneurial efforts and hold the most promise for continued growth.” It is a sign of a state’s high-tech industry strength.

➤ ***Business Churn***

The Degree of the state’s business churn, or the number of new start-ups and business failures combined as a share of the total number of businesses in each state, is a competitive disadvantage for Connecticut, as evidenced in several reports examined. Fast employment growth is a

by-product of business churn. Slow churn is an issue of concern because it indicates that innovative businesses are being created elsewhere, along with those high-tech jobs. CERC’s report finds Connecticut to be #44 out of 50, while the Kauffman Foundation ranks the state at #49.

➤ ***R&D***

Connecticut receives mixed marks in the R&D category, depending on the group and the various sub-measures of private, federal or university R&D. For example, the Milken Institute found that Connecticut has made great improvements in its R&D measures, reinforced by Connecticut’s expenditures and policies in areas such as stem cell research, life sciences and biomedicine. On the other hand, Connecticut scores lower when it comes to federal R&D and the number of businesses created via university R&D. The variety of scores makes it difficult to determine whether Connecticut has a definitive competitive advantage in the R&D field. More information is needed to make a conclusive determination.

➤ ***Venture Capital (VC)***

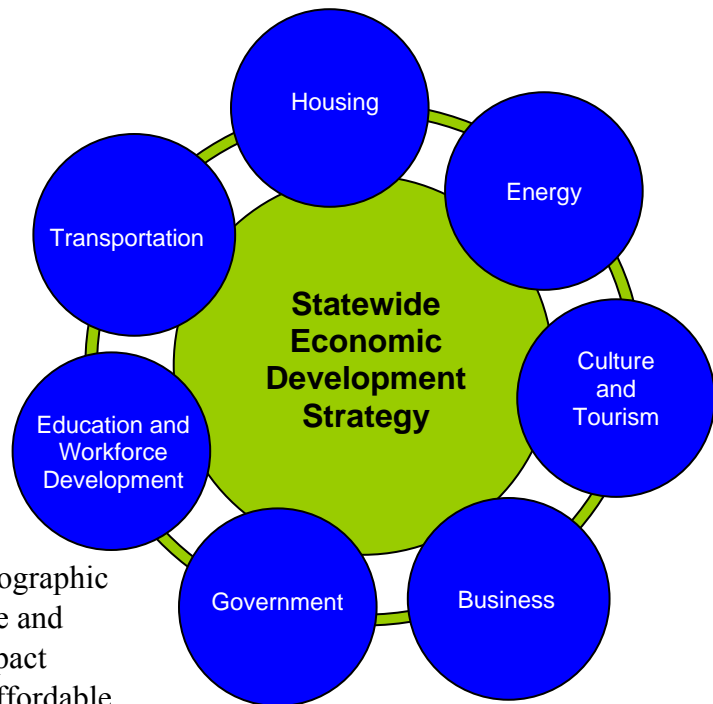
Connecticut scores relatively well in terms of VC, #18 from the Kauffman Foundation.

According to OWC, “Connecticut is not keeping pace in the growth of venture capital— an indicator of investment in high growth potential emerging companies. Venture capital investments in Connecticut from 1996 to 2006 have increased only 56 percent as compared to growth of 115 percent for the entire nation.”

The comparative analysis highlights several factors that impact competitiveness and economic growth. However, it’s important to keep in mind that not every factor has equal weight — strength in one area does not necessarily counteract a weakness in another.

Connecticut holds a competitive advantage in several areas, including an educated workforce, international orientation, patents, IPOs and “Fast 500” companies. In other measures, such as housing affordability, workers’ compensation, energy infrastructure, taxes and business churn, Connecticut may need to refocus its efforts in order to reap greater growth benefits and sustain its current advantages.

## Paths to Economic Progress



The Connecticut depicted by this plan is faced with significant challenges and opportunities in the coming years. Stagnant population and job growth, demographic changes, shifting industrial trends, income and educational disparities that negatively impact healthcare and social services, a lack of affordable housing, high energy costs and transportation needs are just some of the areas on which we must focus. This is a seminal moment for Connecticut.

However, economic growth does not have to rely on increases in population, the number of businesses or income.

Instead, we can dramatically improve the quality of our education system, our workforce, our transportation system and our housing through leveraging our historic Yankee ingenuity and through public-private partnerships. This reduces income inequality while raising the income of all households, reduces the

burden on the state and its municipalities for social services and education expenditures while increasing tax revenues. The Economic Strategic Plan points the way to this development.

The plan's initiatives and the guiding vision are intended to be bold, inspiring and broad so that implementers, now and in the future, are not bound in their actions but have a blueprint to follow that rises above political cycles and ideologies. Sustaining and enhancing Connecticut's competitiveness is the most important outcome, as the wellbeing of Connecticut, its businesses and its families will diminish if it is not.

As part of this process, DECD synthesized separate and distinct visions for housing, transportation, education and workforce development, government, business, culture and tourism and energy.

### **Housing**

Housing opportunities will be affordable, environmentally friendly and available to meet the needs of all our citizens. Housing developments will be clustered around pedestrian-friendly areas, and in close proximity to employment and commercial centers, schools and public transportation. Connecticut will revitalize its urban and regional centers with mixed-use, mixed-income development, providing a safe and clean environment to attract an economically and socially diverse workforce. Connecticut's cities and towns will embrace regional solutions to promote responsible growth, concentrating new housing

developments around established infrastructure.

### **Transportation**

Transportation will be efficient, environmentally friendly and flow in a synchronized manner. Public transportation will be readily accessible; and link regions, people and businesses together. By developing and integrating pedestrian, bicycle, bus, rail, aviation and maritime infrastructure, citizens and businesses can maximize their economic and recreational productivity. Connecticut will leverage its strategic location and deepwater ports, linking New England to New York and destinations beyond.

### **Education and Workforce Development**

Connecticut will attract and retain businesses by maintaining its highly productive and competitive workforce. With lifelong and enriching educational opportunities for all, Connecticut will nurture a diverse and well-educated population, sustaining a dynamic workforce that is adaptable to an evolving world economy. Apprenticeship and internship programs, as well as post-secondary curricula that emphasize the needs of local enterprises and Connecticut's core competencies, will give



students, young adults and senior citizens reason to stay here.

## **Government**

All government entities will foster an environment that improves Connecticut's quality of life, maximizes economic growth, and conserves our natural resources. As this document goes to print, the federal government and every state in the nation have grappled with the impact of the largest recession since the Great Depression. Public sentiment is dictating that governments at all levels must provide only those essential services and must deliver those services as efficiently as possible. Public agencies will be more accessible to the public via the Internet and other media services. Governments will continue to address issues such as income inequality and racial segregation in the state. Government structure will promote inter-municipal cooperation and service sharing to provide cost-effective and efficient solutions to local and regional issues. State government will promote technological advancements and entrepreneurial enterprises to help solve problems of the 21st century.

## **Business**

Connecticut will market a cohesive image in which business costs are low relative to high productivity and quality of life. Businesses will be

able to capitalize on the state's abundant affordable housing, accessible transportation and renowned institutions of higher learning to build a highly-educated workforce. The state will support the private sector and intrastate commerce in a variety of ways. Moreover, Connecticut businesses will invest in and partner with educational institutions to maintain a competitive and innovative edge in the global economy. We will be a state where a combination of talent and technology will position us as a leader in the new economy.

## **Culture and Tourism**

Connecticut will strengthen its brand image as a heritage and cultural vacation destination with myriad activities and natural resources, which include waterfront areas, historic sites, artistic and cultural venues and rural colonial charm. The state will market a cohesive New England character, complementing New York and Boston. Culture and tourism will be a driver of economic growth in the state without burdening existing transportation and environmental infrastructure.

## **Energy**

Energy efficiency programs will offer incentives to help lower operating costs and improve productivity, allowing Connecticut businesses to remain globally competitive and avoid outsourcing

jobs. Connecticut will be a leading exporter of green technology with its competitive advantage in fuel cell and biofuel research. Education initiatives will develop green-collar jobs and promote energy efficient households and businesses.

Alternative fuels like biodiesel will be widely available for residential and transportation uses. State government will set minimum energy efficiency standards and be a model in its choice of energy technology used in state buildings and vehicles.

## **Strategies for a New Economy**

Connecticut is at a crossroads. The workforce is aging, as talented, young workers are leaving the state and population and job growth are stagnating. Like other areas, the state is transitioning from a manufacturing to a service economy. Connecticut has experienced a large and growing income disparity that impacts the need for healthcare and social services. Poor academic performance in urban schools portends a workforce less prepared to fill the shoes of those retiring and those leaving. Nine percent of Connecticut's adults (240,000 people) are functionally illiterate, a troubling statistic that can undermine the next generation's chances for success.

This depiction of Connecticut makes the point that maintaining the status quo has consequences. Economic growth, which can come in various forms, does not necessarily entail more population, businesses or income. Changes can occur from dramatically improving education, workforce, transportation, and housing. Such changes can reduce income inequality while raising the income of all households, and reduce the burden on the state and municipalities for social services and education expenditures while increasing tax revenues. The strategic plan points the way to this development.

To realize the visions for economic development in the preceding pages, DECD has enumerated a set of strategies. These strategies account for Connecticut's tremendous strengths, yet address the many challenges that must be faced. If successful, our children and grandchildren will be left a state whose wealth and well-being are sustainable and secure — a legacy well worth the effort.

The vision for Connecticut's future is articulated in three distinct, yet interrelated public policy arenas in Section III.

## **I. Introduction and Overview**

### **The Purpose of This Report**

Public Act 07-239, Section 4 (now codified as CGS § 32-1o) mandated that the Department of Economic and Community Development (DECD) create an economic strategic plan for the state looking out five, ten, fifteen and twenty years with initiatives that would strengthen Connecticut's industries and workforce and significantly improve its economic performance and competitiveness. The plan consists of three parts: a comprehensive vision, a baseline characterization of the Connecticut economy, and a set of actionable, credible, bold and creative strategies or initiatives.

The vision arose, in large part, from ten public forums conducted around the state from November 2007 through January 2008. DECD synthesized a vision for Connecticut from testimony transcribed at each forum, combined with email and paper documents received subsequently. DECD constructed a baseline characterization from many sources to establish a reference from which we may gauge progress towards achieving the goals manifested in the strategies. Indeed, policy implications arise directly from describing the status quo. HR&A Advisors, Inc. and their team of consultants constructed the initiatives with input from experts, economic development partners, business leaders, and agency heads.

### **A Different Kind of Plan**

The Economic Strategic Plan (ESP) mandated by § 32-1o must take into account several existing plans such as the State Plan of Conservation and Development and the Regional Planning Organizations' Comprehensive Economic Development Strategies (CEDS) among others such as the Transportation Strategy Board initiatives and the Department of Transportation's recent Strategic Long-Range Transportation Plan. In so doing, the ESP complements these plans where possible, but does not substitute for them. The ESP brings together in one document the myriad facts describing Connecticut available in many studies, reports, journal articles, news articles, books and from public data sources such as the Connecticut State Data Center, the Census Bureau, the Bureau of Labor Statistics, the Bureau of Economic Analysis, Connecticut executive agencies, and non-governmental agencies such as Connecticut Voices for Children, the Center for Budget Policy and Priorities, the Tax Foundation and many others.

The ESP differs from existing plans in that it proposes initiatives (strategies) that incorporate the major implementation needs, the necessary implementation steps, potential legislation required, lead agency/organization(s) responsible, challenges to adoption/implementation, costs, and other resources required for implementation. The ESP provides a schedule for implementation, sources of funding and financing structures, and metrics for assessing progress as implementation proceeds. These attributes

differentiate competing strategies and establish credibility by describing the social and economic benefits and costs of each strategy. In addition, § 32-1o mandates that the ESP be updated and revised at least every five years to account for a changing environment.

The ESP is organized as follows: Section I is the introduction and overview. Section II presents a baseline characterization of Connecticut from several perspectives. DECD describes the historical Connecticut economy that naturally leads to a current characterization of the state's people, its labor market and housing market. DECD describes the industrial organization of the state's economy and provides perspective on the industrial strengths of the state on which we may build. Following the introductory sections, DECD describes factors of economic growth, including the state's transportation system; its technology transfer apparatus that bears on the state's competitiveness and higher education infrastructure; its brownfields that often represent historical assets offering opportunity for redevelopment in urban areas; and health care delivery that represents a cost to businesses and individuals and an opportunity to improve productivity via a healthier workforce and school population.

Section III presents the ESP and the guiding vision that is bold, inspiring and broad so that implementers now and in the future are not unnecessarily constrained in their actions but have a roadmap to follow that transcends election cycles and political ideologies. The ESP intendeds to show a way forward without stifling creativity. Indeed, the details of implementation remain to those directly involved and to Connecticut's citizens who will be watching and contributing their energy and creativity to the process.

DECD further interprets the factors of economic growth by characterizing its workforce and education system and the challenges they face as the economy restructures and becomes further integrated into the global 'knowledge' economy. Keys to sustaining a healthy workforce are the social services the state and the private sector provide and their relevant costs. Closely related to transportation and housing is land use policy that largely is determined in the state's 169 municipalities. Of increasing importance is the state's emergency preparedness for natural and manmade disasters. Port security, food security, energy security, and the state's ability to deal with pandemics such as avian flu and natural disasters such as hurricanes and floods are increasingly significant as the climate changes and we become increasingly connected with the world community.

Taxation is an important area for competitiveness and policy analysis. DECD's analysis of the taxes Connecticut residents pay and their spatial and income distribution illuminate this complex subject. Further, the comparative analysis yields some surprising findings and, together with the burden and incidence findings, may suggest policy changes.

The availability of capital for sustaining current business operations and for growth of households and businesses is as important as the proximity to markets and our quality of life. In addition, our entrepreneurs thrive to the extent that they are able to obtain

investment in the early stages of their ventures. This is more important today as Connecticut has historically depended on innovation to create wealth and needs to nurture young firms as they look to grow in the state. Small firms are the engines of employment growth and their success relates strongly to technology transfer and the superiority of our institutions of higher learning.

Connecticut's energy costs and supply-demand picture influence the prosperity of residents and firms alike. With the highest electricity costs in the contiguous states, Connecticut is immediately at a competitive disadvantage with respect to its peers and competitors for workers and firms. Understanding the state's energy supply and demand from generation, transmission, distribution, and end use helps policymakers and the public make informed choices.

Connecticut is home to a rich panoply of cultural and tourism assets. From its unique historic and heritage venues, to its theaters, playhouses, galleries, and museums, Connecticut residents and businesses benefit as do visitors who come to our state. Connecticut's culture and tourism business represents \$10 billion in new state gross domestic product and enriches the lives of all who live here and those who visit. Unfortunately, these assets are a well-kept secret as Connecticut's marketing pales in comparison to peer and competitor states.

The report provides a competitive analysis of the state drawing on a compendium of 'report cards' that rate states on a variety of metrics. Individuals and firms use these metrics to calibrate their expansion and relocation plans and therefore they may have significance beyond their analytical utility. This analysis offers avenues for potential further study and illumination as Connecticut is increasingly in competition with other states and regions to sustain its wealth.

Our intent is to paint a recognizable picture from the billions of facts that describe Connecticut. The perspectives are demographics, transportation, workforce/education, housing, culture and tourism, government structure including taxes, regulations, organization and land use, industrial organization and occupational profile, and energy. We omit the physical environmental characteristics from the narrative and refer to Connecticut's 'New England character' as a recognizable and valuable attribute. These perspectives assemble facts into a coherent and recognizable portrait of Connecticut such that we may use it as a reference from which to depart and measure progress towards a different state of affairs. The characterizations are neutral and purely descriptive however, there are policy implications that emerge.

## **Data Limitations**

While there is much data employed in this report to describe the landscape of Connecticut, there is rarely sufficient data available at the desired time and with the desired temporal and spatial granularity to satisfy the researcher's needs. Most data appears with a lag that is in some cases up to two years (for example, state GDP). Important employment data is fortunately available monthly as are inflation and price index data. While exchange rate and stock market prices are almost real time, they are not useful for the tasks at hand.

The most complete census data appears decennially while the American Community Survey data appears annually but represents a smaller sample. This is a frequent tradeoff: frequency and sample size that relate directly to the cost of collection. DECD makes use of the most recent data available at the time of writing that in some cases was updated (and changed significantly) during the course of the writing, review and revision process. All data sources are listed with their source tables, charts and graphs. The authors' calculations that produce new data are noted where they occur.

The events of 2008 and to date in 2009 make reporting and describing the status quo difficult and unrealistic. The U.S. and Connecticut economies have undergone such dramatic changes in the past twelve months and are still undergoing significant changes that it is difficult to describe what was, given what is and what is likely to be. The economies of the state and nation are struggling on several fronts, and we do not know when we will hit bottom or how deep the trough will be for the current recession. We do know that the U.S. and the Connecticut economies will not be the same as significant industry restructuring is taking place. This has employment, output, and tax implications that arise from the new industrial structure and the evolving occupational profile of the state. Nevertheless, we cannot wait for the next economic equilibrium (that is, historic trend growth) to assess the status quo, so we use the data we accessed when needed and in many cases the relationships we describe are stable (such as children per household). We are mindful of trends that may or may not continue; nevertheless, we proceed as if certain trends will continue and certain projections will likely materialize. We therefore present our analysis with these caveats in mind and understand that some things may (and have) change(d) significantly.

## The Situation

Connecticut is at a crossroad.<sup>1</sup> We have a population with a larger cohort of older workers (measured as a share of population) than other parts of the country. We face significant out-migration of young workers and we face a paucity of indigenous, talented, young workers. We have stagnant population and job growth in the state (white and black fertility rates are less than replacement, while Hispanics rates slightly exceed replacement). Connecticut, like other regions, has seen a transition from manufacturing to services measured as a share of the workforce or state GDP. This transition carries with it a transition to relatively lower-paying jobs and less revenue for state coffers. The state has experienced large and growing income disparity that has negative consequences with respect to the need for healthcare and social services. Low-income households are not typically high academic achievers and as they increase in proportion to middle- and high-income households, the average K-12 academic achievement may decline (school enrollments in many areas are declining implying a smaller indigenous workforce pool as well). Poor academic performance in our urban schools portends a workforce less prepared to fill the shoes of those retiring and those leaving. Relatively high dropout rates in the state's urban areas may portend an increase in crime and the need for increased social and health services. Nine percent of Connecticut's adults (240,000 people) are functionally illiterate, a troubling statistic that can undermine the next generation's chances for success.

Connecticut's housing is largely unaffordable. Affordability is relative yet firms continue to cite the lack of affordability as a deterrent to attracting and retaining a high-quality workforce. While progress has been made in this area, impediments—both financial and institutional—inhibit the ability to create sufficient supply. Brownfields offer potential development sites near established infrastructure yet many are untouched and perhaps untouchable.

The dearth of intrastate mass transit makes dependence on cars a necessity and the daily, extreme congestion in southwest Connecticut is one result. The lack of commuter rail from New Haven to New London promotes automobile use on Interstate 95 and the lack of commuter rail from New Haven to Springfield and the five college area beyond thwarts further development of the 'knowledge corridor'. Transit-oriented development is thus stymied although progress is occurring (in Meriden and Naugatuck).

Connecticut's energy costs are among the highest in the nation. On the one hand, this encourages efficiency (and Connecticut residents are efficient energy users). On the other, high energy costs discourage business expansion and in fact lead to out-migration (the Franklin Mushroom Farm is one example).

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<sup>1</sup> See the Plan of Conservation and Development, <http://www.ct.gov/opm/cwp/view.asp?A=2990&Q=385378>, page 9.

The recent collapse of the financial, insurance and real estate (FIRE) industry in the state portends long-term structural change and significantly less resources with which the state may address the issues raised above. The restructuring of the transportation (automobile) industry may have consequences for Connecticut suppliers. The potential ‘streamlining’ of the defense establishment in concert with the eponymous action of the military may have economic consequences for Connecticut suppliers.

Connecticut has 169 towns and 154 school districts. Education represents the lion’s share of town budgets. Property taxes are towns’ only source of revenue other than state transfers that are significant in some cases (80% of Bridgeport’s school budget arrives from intergovernmental transfers). Many towns have their own public safety, public works, public health, and public education systems. It seems as if there is redundancy if only because of the replication of similar services in small geographic areas. Connecticut occupies 4,845 square miles, 698 square miles (14.4%) of which are covered by water. This means that the average town occupies 24.5 square miles of land (Hartford occupies 17.5 square miles). There are counties in the U.S. larger than the state of Connecticut that administer and develop regional assets such as transportation systems, educational systems, and public works systems and so on with a concomitantly larger tax base. For two disparate examples, Florida has 67 school districts, one per county or one for each 809.7 square miles (of dry land area), while Pennsylvania has 505 districts or one for every 86.3 square miles. Connecticut is in competition with these and similar regions for workforce and businesses.

The point of this narrative is that maintaining the status quo has consequences, not all of which are pleasant. Economic growth does not necessarily entail large increases in population or firms or income. That is extensive development. We prefer intensive development that dramatically improves the quality of our education system, our workforce, our transportation system, and our housing through leveraging our historic Yankee ingenuity and through (new) public-private partnerships. Such intensive development reduces income inequality while raising the income of all households. This development in turn reduces the burden on the state and its municipalities for social services and education expenditures while increasing tax revenues. The ESP intends to point the way to this development.



## II. BASELINE CHARACTERIZATION OF CONNECTICUT

### A. Connecticut's Economy

#### A Historic Overview

In 1614, Adriaen Block, a Dutch explorer, sailed up the Connecticut River and landed at what is now the City of Hartford. Shortly thereafter, the Dutch established the first European colony in Connecticut. The English followed suit in the 1630s establishing several separate colonies along the Connecticut River and the Connecticut shoreline. In 1662, a royal charter consolidated these separate colonies into a crown colony of England. Connecticut became the 5<sup>th</sup> U.S. state in 1788.

For its original colonists, Connecticut proved to be a place abundant in natural resources, but lacking accessible agricultural land. As such, colonial Connecticut turned to manufacturing as a means of economic vitality and growth. Iron and brass works appeared in Connecticut as early as the 1660s and by the late 1700s Connecticut was widely recognized as a leader in machine tools.<sup>1</sup> *“When Connecticut was still a colony, her factories were already important enough to draw angry complaints from competitors in England. Connecticut metal buttons were replacing the imported product and were providing the start of Connecticut’s great brass industry.”*<sup>2</sup>

Connecticut quickly became known for its “industrial ingenuity” and productive capacity. During the American Revolutionary War, Connecticut played a significant part in arming the Revolutionary Army. The first American warship, the *Oliver Cromwell*, was built in Essex<sup>3</sup> and the Salisbury Furnace<sup>4</sup> iron works produced 42% of the cannons used by Washington’s Army.

After the American Revolutionary War, Connecticut remained at the forefront of arms manufacturing and innovation. Early in the 19th century, Eli Whitney and Simeon North began making firearms with interchangeable parts—generally recognized as the beginning of modern mass production. This innovation allowed Whitney and North to exceed the production of all other U.S. firearms makers of the time securing them the first official firearms contract from the United States Government (footnotes 1 and 3).

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<sup>1</sup> Harris, Patricia and Lyon, David, Connecticut: The Spirit of America, Harry N. Abrams, Inc. Publishers, New York, 2000.

<sup>2</sup> Connecticut State Library Web Site, [www.cslib.org/history.htm](http://www.cslib.org/history.htm), Connecticut History, 2009.

<sup>3</sup> Faude, Wilson H and Friedland, Joan W., Connecticut’s Firsts, Peregrine Press, Connecticut, 1985.

<sup>4</sup> Carter, John, The Arsenal of the Revolution: The Salisbury Cannon, Associated Content, 2009, [www.associatedcontent.com](http://www.associatedcontent.com).

Continuing in that tradition, Colt's Armory in Hartford, the Remington Arms company in Bridgeport, and the Winchester Repeating Arms Company in New Haven were three of several arms manufacturers that prospered on the back of conflict. By the end of World War I, 80% of Connecticut's manufacturers were making military goods.

Arms were not the only products coming out of Connecticut in the 1800s. Connecticut industry was also at the forefront of textiles, precision instruments, hardware, machine tools, and electric power generation and distribution.

Jeremiah Wadsworth built the first woolen mill in America in Hartford in 1788 and in 1794, Eli Whitney, the father of modern manufacturing, invented the cotton gin, revolutionizing the American textile industry by making the use of cotton for textiles affordable. In 1810, Connecticut was home to the nation's first silk mill in Mansfield that produced the first manufactured silk thread in 1819. Other important Connecticut contributions to the textile industry were the introduction of elastic webbing produced by the Russell Manufacturing Company in Middletown in 1841 and the invention of the sewing machine in 1846 by Elias Howe (footnote 3 for all points in this paragraph).

The manufacture of precision instruments in Connecticut dates back to the colonial times when the "first clockmaker of record in America was Thomas Nash, an early settler of New Haven in 1638."<sup>5</sup> Timekeeping innovations continued to stream from Connecticut entrepreneurs. In 1793, the self-winding clock was perfected in Litchfield (footnote 3) and by 1800, Eli Terry had systematized clock production (footnote 5) using standardized, mass produced interchangeable parts and was producing clocks in hitherto unforeseen quantities. "Virtually every major [clock manufacturer] in existence at the end of the nineteenth century could trace its descent from... early Connecticut-based establishments." Watch making followed a similar path in the state. "The earliest production of watches in some volume is accorded to Thomas Haftand of Norwich, Connecticut" and "between 1836 and 1841 James and Henry Pitkin of East Hartford, Connecticut, made perhaps 800 movements, using the most elaborate tools known in America up to that time." Just as important, watch making "helped establish and carry forward a new standard of accuracy in American metalworking" (footnote 5).

Other notable advances in the production of precision instruments include the invention of the profile late in 1819 by Thomas Blanchard of Middlebury and the production of the first commercially manufactured gyroscope in 1857. The Blake Brothers of Westville began manufacturing the first mortised locks in 1835 and the first American nut and bolt factory was established in 1840 in Southington. In 1893, the Hartford electric light company was the first utility company to transmit three-phase alternating current over a

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<sup>5</sup> Uselding, Paul, *Clock and Watch Industry*, U.S. History Encyclopedia/Answers.Com, [http://www.answers.com/topic/clock-and-watch-industry#copyrights\\_ans](http://www.answers.com/topic/clock-and-watch-industry#copyrights_ans), 2006.

long distance and in 1901, it was the first utility company in America to install a steam-driven turbine (this paragraph references footnote 3).

Connecticut's history of innovation includes many world-changing achievements. "Through the years, Connecticut industrial genius has given the world such varied inventions as vulcanized rubber, friction matches, sewing machines, steamboats, safety fuses, lollipops, cork screws, mechanical calculators, portable typewriters, the first ice-making machine, can openers, the tape measure, the vacuum cleaner, cylindrical locks, the first color television, the helicopter, the first submarine and the first nuclear-powered submarine and the first artificial heart, and 'game changing' innovations such as mass production and standardized interchangeable parts and the first factory town in America, planned and established in Seymour." This paragraph references footnote two.

Throughout Connecticut's history, innovation spread within and among its industries. Employing the concept of standardized interchangeable parts and mass production, pioneered by Eli Whitney and Simeon North and first brought to large-scale operation by Samuel Colt and Elisha Root, the Pratt & Whitney Machine Tool Company, established in Hartford in 1860, began manufacturing guns and gun making machinery.<sup>6</sup> The company's manufacturing process was not the only idea borrowed from Colt. Their workforce was largely composed of Colt-trained machinists. The company went on to produce primarily precision machine tools and measurement instruments, until 1925, when "Frederick B. Rentschler approached Pratt & Whitney for funding and a location to build his new aircraft engine." In 1929, "Frederick Rentschler, ended his association with Pratt & Whitney Machine Tool and formed United Aircraft and Transport Corporation, the predecessor to today's United Technologies. His agreement allowed Rentschler to carry the name with him to his new corporation."<sup>7</sup> The Pratt & Whitney Machine Tool Company now known as the Pratt & Whitney Measurement Systems, Inc. continues to produce precision measuring instruments in Bloomfield, Connecticut.

From 1934 until 1975 the United Aircraft and Transport Corporation, composed of Pratt & Whitney Aircraft, Hamilton Standard (now Hamilton Sundstrand) and Sikorsky Aircraft, concentrated on aerospace and defense.<sup>8</sup> The company changed its name to the United Technologies Corporation in 1975 and began its transformation into a multi-industry conglomerate by acquiring the Otis Elevator Company in 1976 (footnote 8). The company further diversified through the acquisition of other businesses including, Carrier Refrigeration, Chubb Security, Rocketdyne, and Kidde and through the creation of new businesses such as International Fuel Cell (now UTC Power) (footnote 8). Just as Colt-trained machinists went on to spawn or fuel new businesses in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, UTC-trained machinists and engineers have gone on to create new businesses

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<sup>6</sup> Pratt & Whitney History, [www.prattandwhitney.com/history.htm](http://www.prattandwhitney.com/history.htm), 2009.

<sup>7</sup> History of Pratt & Whitney, [www.stocklobster.com](http://www.stocklobster.com), 2009.

<sup>8</sup> [www.utc.com](http://www.utc.com)

throughout the state, not only in the aerospace industry but other industries such as precision manufacturing, composite materials, and medical instruments and devices.

Connecticut is not only known for its manufacturing expertise and innovation. Marine insurance, the great-grandfather of modern forms of insurance, had its start in Connecticut with coverage for ships and cargoes that sailed from the state's ports to the Caribbean. Fire insurance got its formal start in 1794; other types—life, accident, casualty, health—followed during the next century. The nation's first insurance company incorporated in 1795 as the Mutual Assurance Company of the City of Norwich.<sup>9</sup>

The first half of the 19<sup>th</sup> century saw the creation of numerous insurance businesses and by the middle of that century Connecticut cemented its position as the nation's insurance capital. In 1810, the Hartford Fire Insurance Company was incorporated (footnote 9). The Mutual Insurance Company of Hartford was founded in 1831 (footnote 9) and the Connecticut Mutual Life Insurance Company, the first life insurance company, chartered in Connecticut began in 1846 (footnote 9). In 1851 the Phoenix Mutual Life Insurance Company started (under another name) (footnote 9) in Hartford and the Aetna Life Insurance Company started, also in Hartford, in 1853 (footnote 9). In 1864, the Travelers Insurance Company issued its first policy (footnote 9) and in 1865, the Connecticut General Life Insurance Company was founded (footnote 9). Much has changed in the business of insuring risk since the industry's humble beginnings in the U.S. in 1795; however, Connecticut remains the epicenter of the global insurance industry. Currently there are 106 insurance companies based in Connecticut (footnote 1).

Connecticut is a model of ingenuity and inventiveness. Notable examples mentioned are the first cotton gin patented by Eli Whitney (1846) and the first revolver made by Samuel Colt (1836). Further, Connecticut innovators created the first pay telephone and telephone exchange (1877), opened the first public art museum in America—the Wadsworth Atheneum (1842), flew the first successful helicopter in the Western Hemisphere designed by Igor Sikorsky (1939), designed and built the first nuclear submarine launched in New London (1954), and in 1982, Stamford native Robert Jarvik invented the world's first artificial heart.<sup>10</sup>

These 'firsts' underscore that "Connecticut has nearly unmatched production skills, that have made it a world leader in manufacturing, insurance, financial services and space technology. Since colonial times Connecticut's industrial genius has produced such varied inventions as brass buttons, vulcanized rubber, steamboats, safety fuses, cork screws, calculators, clocks and locks. Connecticut's manufacturing industry continues to be highly diversified. Jet engines, helicopters and nuclear submarines still give the state

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<sup>9</sup> Connecticut Timeline of State History, State House Girls, [www.shgresources.com](http://www.shgresources.com), 2009.

<sup>10</sup> "Connecticut's Historical Firsts," <http://www.ct.gov/ctportal/cwp/view.asp?a=843&q=246434>.

pre-eminence in transportation equipment – the state’s single largest merchandise export” (footnote 10).

Yet Connecticut, as do many other manufacturing states, faces a decades-old decline in manufacturing employment due primarily to significantly improved productivity of the manufacturing workforce. In addition, jobs in firms such as Pratt & Whitney not directly related to producing gas turbines have been outsourced to IT, accounting, security, food service, and other non-core-function entities. Even so, as Connecticut has diversified its industry structure to become less reliant on defense-related work for example, it has seen the share of manufacturing employment and value added (industry gross domestic product) decline in the state’s labor force and state GDP respectively. In fact, the growth of Connecticut’s Native American Tribal Nations operations during the 1990s absorbed much of the labor liberated from manufacturing and contributed to the diversification of the state’s labor force.

In the chapters that follow, we detail the industrial structure of the state, its transportation systems, its education systems and workforce characteristics, its cultural and tourism assets, its energy profile, its tax system and distribution of burden and incidence, and its housing characteristics and needs.

### Connecticut's Industrial Composition

#### Introduction

This chapter characterizes the state's industrial organization by employment, establishments, exports, and certain of its historic developments to illustrate its industrial evolution. In addition, we profile Connecticut's occupations, its entrepreneurial character, and its women- and minority-owned businesses.

As we describe above, Connecticut is a model of ingenuity and inventiveness. Notable examples are the first cotton gin patented by Eli Whitney (1846), the first revolver made by Samuel Colt (1836), the first pay telephone and telephone exchange (1877), the first public art museum in America—the Wadsworth Atheneum (1842), the first successful helicopter in the Western Hemisphere designed by Igor Sikorsky (1939), the first nuclear submarine launched in New London (1954), and the world's first artificial heart invented by Stamford native Dr. Robert K. Jarvik (1982).<sup>1</sup>

These 'firsts' underscore that "Connecticut has nearly unmatched production skills, that have made it a world leader in manufacturing. Since colonial times, Connecticut's industrial genius has produced such varied inventions as brass buttons, vulcanized rubber, steamboats, safety fuses, cork screws, calculators, clocks and locks. Connecticut's manufacturing industry continues to be highly diversified. Jet engines, helicopters and nuclear submarines still give the state pre-eminence in transportation equipment – the state's single largest merchandise export" (footnote 1).

Yet, Connecticut's loss of manufacturing jobs continues a decades-old trend evident in the nation and around the world. Manufacturing's share of Connecticut employment declined from 63% of payroll employment in 1945 to less than 15% of total employment in 2000.<sup>2</sup> In 2007, manufacturing accounted for 11.6% of total non-farm employment (based on the employer survey) in Connecticut.<sup>3</sup> Connecticut's November 2008 manufacturing employment stood at 187,700, its lowest level since reporting began in 1939.<sup>4</sup> However, at the same time, the output of manufacturers increased in inflation-adjusted (real) terms. This means Connecticut achieved increases in manufacturing

<sup>1</sup> "Connecticut's Historical Firsts," <http://www.ct.gov/ctportal/cwp/view.asp?a=843&q=246434>.

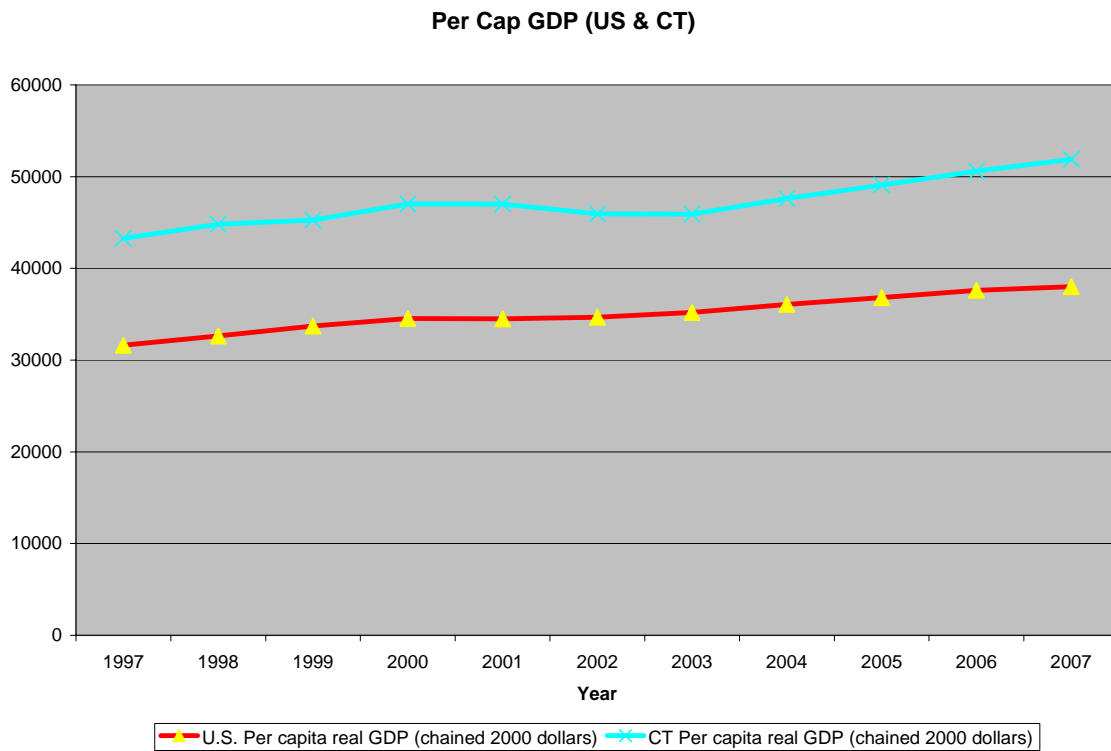
<sup>2</sup> Lanza, Steven P. "Teaching Old Dogs New Tricks: Does Job Retraining Work? Is it Worth the Cost?" *The Connecticut Economy* (Summer 2004), p. 6. In 2006, manufacturing accounted for just 12% of total non-farm employment in Connecticut.

<sup>3</sup> Connecticut Business and Industry Association. *2007 Survey of Current and Future Manufacturing Jobs in Connecticut*. p. 2. <http://www.cbia.com/newsroom/surveys/2007/manufacturingjobssurvey07.pdf>.

<sup>4</sup> Bureau of Labor Statistics, State and Area Employment. Note that from 1939 through 2002 the Standard Industrial Classification System (SIC) was in effect. In March 2003, the North American Industrial Classification System came into use. However, at the two-digit level of aggregation, there is not much difference in the two series.

output by gains in productivity. State Gross Domestic Product (SGDP) per worker quintupled from \$21,638 in 1977 to \$116,653 in 2006.<sup>5</sup> Figure 1 shows the recent trend in real per capita GDP for Connecticut and the nation. It is significant that since 2003, Connecticut's average productivity is growing faster than that of the nation.

**Figure 1: Recent Trends of U.S. and Connecticut Average Productivity**



Source: Bureau of Labor Statistics

Connecticut's workforce is highly skilled in metalworking, electronics, and plastics. This contributed significantly to the state's standard of living—the quality of life that has attracted, over the years, corporations such as Xerox, G.E., Uniroyal, G.T.E., Olin, Champion International, and a variety of insurance firms—life, accident, casualty, and health (there were once 106 insurance companies in Connecticut). As a share of SGDP, finance and insurance is twice the national finance and insurance share of national GDP.<sup>6</sup> Although agriculture is no longer a large contributor to Connecticut's economy, farming is important, notably dairy, poultry, forestry, nursery, tobacco, vegetables, and fruit (footnote 1). Connecticut, for example has more chickens per square mile than any state in the nation.<sup>7</sup> The egg industry is among the top agricultural businesses in the state, and

<sup>5</sup> CERC (2007) *The Connecticut Economic Review*. Based on a calculation of output divided by the labor force. [http://www.ct.gov/ecd/lib/ecd/nu\\_eco\\_review/nueconreview06.pdf](http://www.ct.gov/ecd/lib/ecd/nu_eco_review/nueconreview06.pdf).

<sup>6</sup> Bureau of Economic Analysis.

<sup>7</sup> Regan, W. Michael and Mark Prisloe (2003). "The Economic Impact of Avian Influenza on Connecticut's Egg Industry," June, [http://www.ct.gov/ecd/lib/ecd/cts\\_egg\\_industry\\_eia\\_6.20.03.pdf](http://www.ct.gov/ecd/lib/ecd/cts_egg_industry_eia_6.20.03.pdf).

along with Maine, Connecticut controls the egg market of New England.<sup>8</sup> Connecticut agriculture represents more than \$2.2 billion in revenue and employs more than 228,000 part-time, full-time, and seasonal workers.<sup>9</sup> The Connecticut's Blue Point oyster harvested from Long Island Sound has won international acclaim by oyster connoisseurs as "the world's premium oyster."<sup>10</sup>

Connecticut's competitiveness manifests in numerous ways. The state is most competitive relative to other states as follows: Connecticut ranks first among the states in per capita income with a 2006 figure of \$43,518, compared to \$31,667 nationally – 37% higher than the national average. Connecticut's comparative per capita income advantage has existed each year since 1986.<sup>11</sup> Connecticut is a wealthy state as indicated by the real (inflation-adjusted) median household income of \$63,422 that is 30% higher than the national average (\$48,451). This places Connecticut third highest (behind Maryland and New Jersey) in median household income,<sup>12</sup> and second in per capita SGDP (Delaware's first rank is an artifact of the large number of corporations registered though not present there).

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<sup>8</sup> Environmental Organizers Network, "Battery Farming in Connecticut," <http://www.wesleyan.edu/wsa/warn/eon/connecticut/index.html>

<sup>9</sup> Connecticut Department of Agriculture. <http://www.ctagcluster.com/pages/aboutINDEX.html>.

<sup>10</sup> Working the Land: Farm News and Features. "Shellfish Farming Across Generations." <http://www.workingtheland.com/feature-best-oysters071007.htm>

<sup>11</sup> U.S. Bureau of Economic Analysis (BEA). Department of Commerce. Table SA-04. "Per Capita Personal Income."

<sup>12</sup> U.S. Census. "Median Household Income (In 2006 Inflation-Adjusted Dollars): 2006 *American Community Survey* (ACS)."



**Table 1: Per Capita Real GDP by State**

Per Capita Real GDP by State, 2007*							
States with the highest per capita				States with the lowest per capita			
	Per capita real GDP by state (chained (2000) dollars)	Rank in the U.S.	Percent of the U.S.		Per capita real GDP by state (chained (2000) dollars)	Rank in the U.S.	Percent of the U.S.
<b>United States</b>	<b>38,020</b>	<b>.....</b>	<b>100</b>	<b>United States</b>	<b>38,020</b>	<b>.....</b>	<b>100</b>
Delaware	56,496	1	149	Kentucky	30,364	41	80
Connecticut	51,911	2	137	Maine	30,282	42	80
New York	49,038	3	129	Idaho	29,843	43	78
Massachusetts	47,351	4	125	Alabama	29,603	44	78
New Jersey	45,052	5	118	Oklahoma	29,470	45	78
Alaska	44,807	6	118	South Carolina	28,894	46	76
California	42,376	7	111	Montana	28,201	47	74
Virginia	41,617	8	109	Arkansas	27,781	48	73
Minnesota	41,353	9	109	West Virginia	24,929	49	66
Colorado	40,805	10	107	Mississippi	24,477	50	64

\* Advance Estimates  
Source: U.S. Bureau of Economic Analysis

Source: [http://www.bea.gov/newsreleases/regional/gdp\\_state/gsp\\_newsrelease.htm](http://www.bea.gov/newsreleases/regional/gdp_state/gsp_newsrelease.htm)

Despite declines in the 1990s, Connecticut ranks tenth in federal defense spending (prime contract awards by place of performance) in 2006, down from fifth in 2005.<sup>13</sup>

Connecticut ties with California and Vermont in leading the states in energy efficiency.<sup>14</sup>

Connecticut ranks among the top ten states in the following areas:

- livability;<sup>15</sup>
- worker value added;
- per capita SGDP, worker productivity;
- number of *Fortune* 500 companies;
- per capita personal income;
- per capita income growth;
- college attainment;
- pupil-student ratio;
- percent of households with a computer and computer access;
- industry research and development share of GSP;
- average annual patents per million;
- availability of financial capital;
- graduate students in science or engineering; and,
- median household net worth<sup>16</sup>

<sup>13</sup> U.S. Department of Defense Directorate for Information (DIOR). "Geographic Statistics: DoD Prime Contract Awards by State: 2006." [http://siadapp.dmdc.osd.mil/procurement/historical\\_reports/geographic/geostat.html](http://siadapp.dmdc.osd.mil/procurement/historical_reports/geographic/geostat.html).

<sup>14</sup> American Council for an Energy-Efficiency Economy, "The State Energy Efficiency Scorecard for 2006." [http://apps1.eere.energy.gov/states/state\\_news\\_detail.cfm/news\\_id=11008/state=VT](http://apps1.eere.energy.gov/states/state_news_detail.cfm/news_id=11008/state=VT).

<sup>15</sup> See Morgan Quitno Press ranking of the states, Connecticut: (2003-2007). <http://www.infoplease.com/ipa/A0921975.html>

However, in a world of increasing global competition, Connecticut ranks 14<sup>th</sup> among the states in per capita exports. Likewise, Connecticut has the following impediments or ranks the “worst in”:

- homeownership among minorities (43.1 percent versus 74.5 percent among whites) places Connecticut 43rd out of 51 states and the District of Columbia—making it one of the most inequitable in the nation in this category; (footnote 15).
- 10th highest level of average mortgage debt in the country (\$151,914); (footnote 15).
- 37<sup>th</sup> in employment growth;
- weakened infrastructure (bridge deficiencies, highway performance), (footnote 14);
- 47<sup>th</sup> in federal share of R&D as a percent of GSP; and,
- 50<sup>th</sup> in student “achievement gap” (disparity in gender, race, ethnicity, status); worsening income inequality (footnote 15).

Connecticut has a well-educated, highly skilled, and productive labor force that ranks the state 2<sup>nd</sup> only to Delaware in per capita state GDP (Table 1).

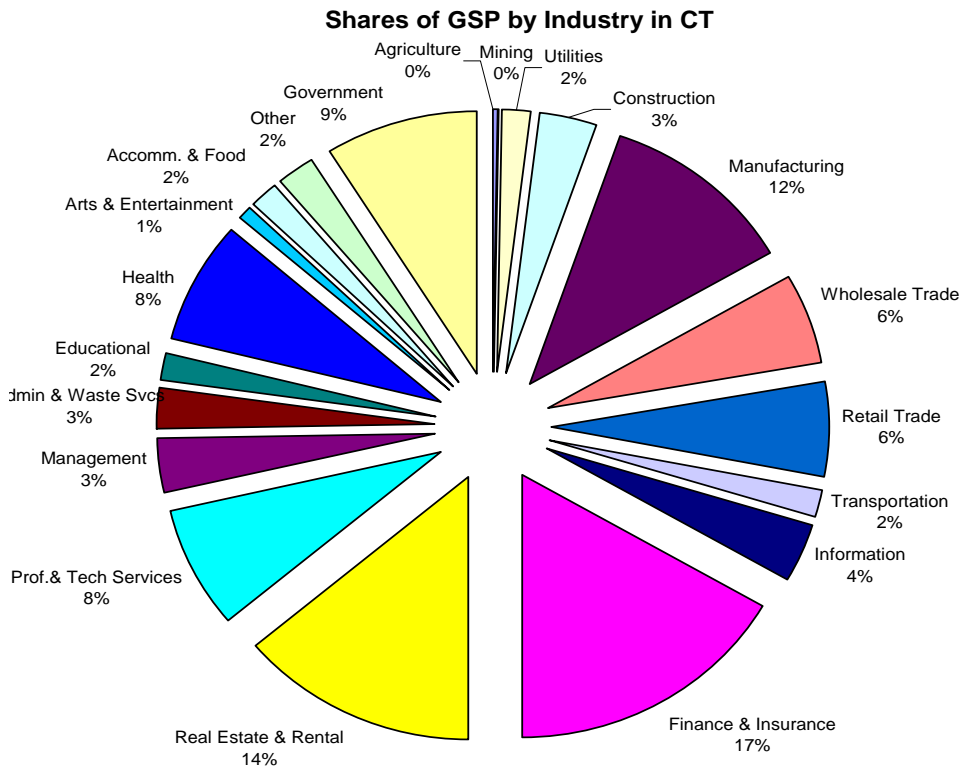
Figure 1 shows the industrial composition of Connecticut’s economy. In 2007, the Finance and Insurance share of SGDP (16.5%) was more than twice its share of the nation’s GDP (8.0%).<sup>17</sup> Finance and Insurance is the largest industry in terms of contribution to SGDP, followed by Real Estate and Rental, Manufacturing, Professional and Technical Services, Education, and Health Care.

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<sup>16</sup> Voices for Children. *Connecticut Family Asset Scorecard, 2007-2008: Executive Summary*, December 2007, p. 3, <http://www.ctkidslink.org/publications/econ07familyassetscorecardes.pdf>.

<sup>17</sup> Bureau of Economic Analysis. “Gross Domestic Product by State,” 2007, <http://www.bea.gov/regional/gsp/action.cfm>

**Figure 1: Connecticut Shares of GDP (2007)**



Source: Bureau of Economic Analysis

### **Finance and Insurance**

Connecticut’s Finance and Insurance industry has the largest share of SGDP of any state, and employs 122,600 workers that makes Connecticut 13th among the states in employment for this industry. Connecticut ranks 29<sup>th</sup> in the number of establishments, and 13th in payroll for this industry. Finance and Insurance are part of the broader category, Financial Activities, employing 144,600 workers in 2007. Connecticut gained jobs at an annual rate of 0.2% and in 2007 had the highest employment level for that industry in the last decade, up from 137,000 in 1998.

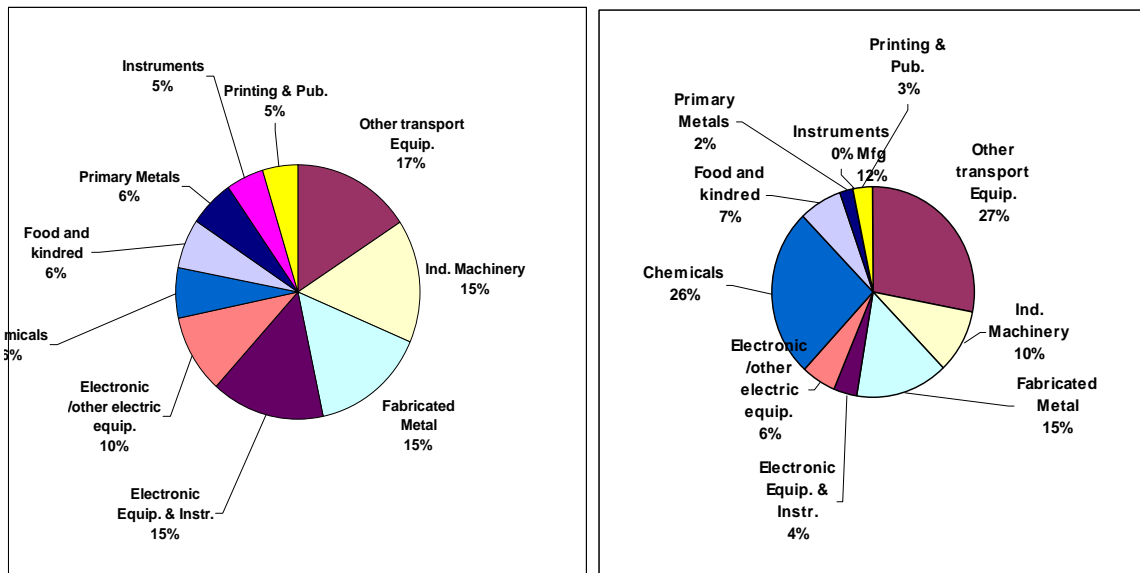
### **Manufacturing**

Manufacturing has historically been a backbone of the Connecticut economy. In 1855, the Hartford-based Samuel Colt factory was the largest arms manufacturing facility in the world. From nineteenth-century watch making and typewriters to modern day aerospace,

machine tools, submarines and pharmaceutical products, many Connecticut manufacturers are world leaders in their industries.

In the last half of the twentieth century, manufacturing experienced a major national and global structural shift that is ongoing. In 1963, manufacturing in Connecticut was 39.7% of SGDP. In 1977, manufacturing constituted 29.8% of SGDP while manufacturing employment in Connecticut constituted 12.7%.<sup>18</sup> Figure 2 shows the shifting share of each subsector's contribution to SGDP between 1977 and 2007.<sup>19</sup>

**Figure 2: Changing Shares of Manufacturing (1977-2007)**



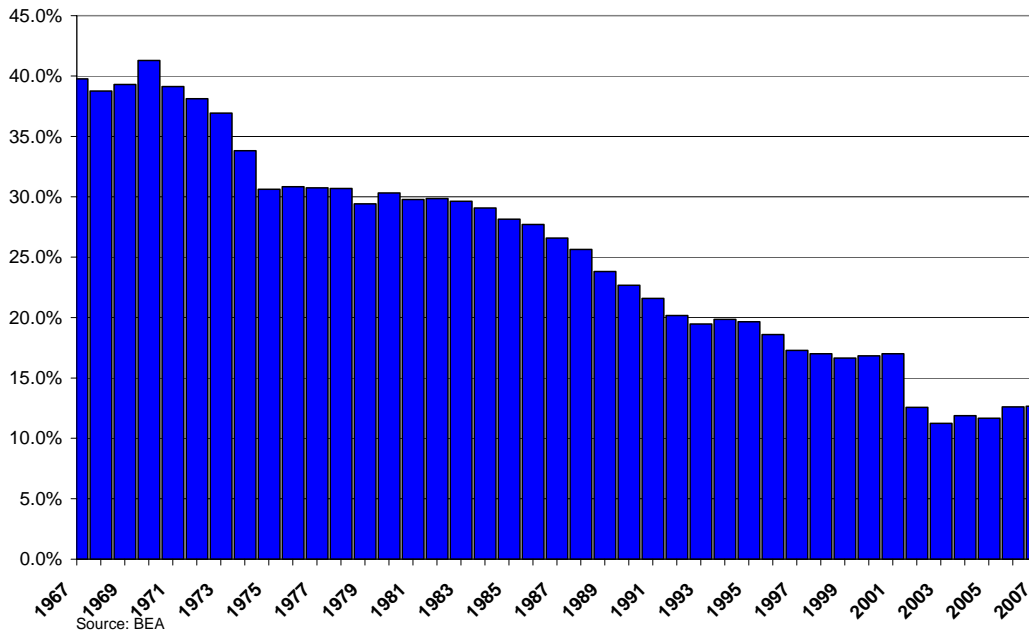
Source: Bureau of Economic Analysis

Manufacturing output in Connecticut, measured by its value added more than tripled from \$8.8 billion in 1977 to \$25 billion in 2006 (in nominal dollars). In that same period, the manufacturing share of SGDP more than halved from 29.8% to 12% as the state moved into services (Figure 3). Meanwhile, manufacturing employment in Connecticut declined precipitously from 406,700 jobs in 1977 to 226,700 jobs in 2001 and to 180,500 jobs in February 2009.

<sup>18</sup> Almeida, Beth (1997). "Are Good Jobs Flying Away? U.S. Aircraft Engine Manufacturing and Sustainable Prosperity," Working Paper No. 206, August 1997, <http://www.levy.org/pubs/wp206.pdf>.

<sup>19</sup> U.S. Bureau of the Census, *2006 County Business Patterns*. Released June 2008). [http://factfinder.census.gov/servlet/IQRTTable?\\_bm=y&-ds\\_name=CB0600A1&-NAICS2002=531&-lang=en](http://factfinder.census.gov/servlet/IQRTTable?_bm=y&-ds_name=CB0600A1&-NAICS2002=531&-lang=en)

**Figure 3: Connecticut's Manufacturing Share of State GDP**



Global economic growth helped expand Connecticut's transportation equipment industry value added from 17% to 27% of the state's GDP from 1997 through 2007. Primary metal production is one-third of what it was in 1977 as the industry relocated to lower-wage economies. Similarly, electronics and other electrical equipment shrank from 15% to 4% from 1997 through 2007. The share occupied by chemicals, including pharmaceuticals more than doubled from 1997 through 2007 as the state's highly educated workforce focused on research and development and firms seeking such employees expanded. There must be high value added output if firms are willing to pay Connecticut's generally higher wages required for the state's generally higher cost of living (footnote 15).

### **Real Estate, Rental and Leasing**

Connecticut's Real Estate sector makes up 14% of state GDP, after Finance and Insurance in 2007. This sector contains 2,957 firms employing 16,408 people earning \$822 million. Among the states, Connecticut ranks 30<sup>th</sup> in the number of Real Estate establishments, 33<sup>rd</sup> in employment, and 30<sup>th</sup> in terms of annual payroll (footnote 18).

Along with the large national real estate companies in Connecticut there are "scores of independent commercial real estate firms with intimate knowledge of their markets ... clustered primarily around the Cities of Hartford, New Haven, New London, Middletown, Waterbury, Bridgeport and Stamford. ... Connecticut's residential real

estate market is best described as mature.”<sup>20</sup> Realtors handled sales of more than 54,000 existing homes annually during the past decade at an average price ranging from \$244,900 in Norwich-New London to \$439,300 in Bridgeport-Stamford-Norwalk in the first quarter of 2008.

Rental and leasing services include 649 firms employing about 7,500 people. The industry pays wages averaging \$46,716 (as of 2006), up 6.8% from the previous year.<sup>21</sup>

### **Professional and Technical Services**

Professional and Technical Services represented eight percent of SGDP in 2006. Connecticut ranked 25<sup>th</sup> in terms of the number of establishments in this sector. It ranks 22<sup>nd</sup> in employment, and 20<sup>th</sup> in annual payroll (footnote 16). Services that make up this sector include architecture, engineering, legal, advertising, consulting, business services, and other specializations that may require certification by the state.

Richard Urban describes some of the professions as follows:

Many of the nation’s largest law firms have offices in Connecticut, and hundreds of local firms complement the broad range of disciplines. Law firms employ more than 15,000 people with a total payroll of nearly \$800 million (see Urban’s footnote 16, p. 256).

The Big Four national accounting firms are well established in Connecticut, representing the largest firms in the state as measured by the number of certified public accountants on their Connecticut staffs. ... Accounting, bookkeeping, tax preparation, and payroll services employ more than 12,000 people in the state, with a payroll of more than \$500 million. ... The state boasts a strong accounting community, with membership in the Connecticut Society of Certified Public Accountants numbering 6,200.

Construction companies alone generate \$4.6 billion in annual income and employ 60,000 people. Another 23,000 are employed by architectural and engineering firms to provide one-stop shopping (footnote 31).

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<sup>20</sup> Urban, Richard (2002). *Connecticut: Chartered for Progress*, Cherbo Publishing Group, Inc., p. 261.

<sup>21</sup> Connecticut Department of Labor data, as analyzed by CT Voices for Children, <http://www.ctkidslink.org/publications/SOWCT2007fullreport.pdf>.

## Education

Connecticut boasts one of the most highly educated workforces in the nation. The Educational Services industry, representing eight percent of SGDP employs 59,255 workers in 1,222 institutions, with an annual payroll of \$213.2 million. The state ranks 23<sup>rd</sup> in educational and health care establishments, 16<sup>th</sup> in employment, and 13<sup>th</sup> in annual payroll among the states in this sector (footnote 15).

Success in grade school begins with readiness to learn and continues with timely advancement. Connecticut in recent years has maintained its rank as one of the “smartest” states because of high scores on math and reading tests (footnote 14). However, as expressed by the State Board of Education, “...the most urgent issue of our time: high academic achievement of **all** students in reading, writing, mathematics and science. ... We must be bold and focused if we are to close the large and unacceptable gaps in achievement, resources and opportunities for students in Connecticut.”<sup>22</sup>

Connecticut’s education sector compares favorably with the rest of the nation with an average statewide high school graduation rate of 92%,<sup>23</sup> a high percentage of households that hold at least a bachelor’s degree (33.7%).<sup>24</sup> The state ranks 2<sup>nd</sup> in the nation in total spending per enrolled child, 3<sup>rd</sup> in the nation in state spending per enrolled child,<sup>25</sup> 1<sup>st</sup> in the nation in eighth graders in writing performance,<sup>26</sup> and has an increasingly competitive University of Connecticut.

However, these favorable statistics must be counterbalanced by those on urban high school drop out rates that approach 68%<sup>27</sup> and an adult literacy rate of 91% (that is, more than 240,000 or 9% of Connecticut adults lack the most basic reading skills).<sup>28</sup>

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<sup>22</sup> State Board of Education (2007). *Comprehensive Plan for Elementary, Secondary, Vocational, Career and Adult Education: A Superior Education for Connecticut’s 21st Century Learners: Five Year Comprehensive Plan for Education 2006-2011*, p. 9, [http://www.sde.ct.gov/sde/lib/sde/pdf/commish/comp\\_pln06-11.pdf](http://www.sde.ct.gov/sde/lib/sde/pdf/commish/comp_pln06-11.pdf)

<sup>23</sup> Connecticut Department of Education, 2008, [http://www.csde.state.ct.us/public/cedar/cedar/grads/grad\\_rate\\_2002\\_07.htm](http://www.csde.state.ct.us/public/cedar/cedar/grads/grad_rate_2002_07.htm). But see pages 301-302 below for different and less attractive statistics.

<sup>24</sup> U.S. Bureau of the Census, *American Community Survey* 2007.

<sup>25</sup> National Institute for Early Education Research (NIEER) (2008). “Governor Rell: Study Ranks Connecticut Among Top States for Early Childhood Education,” Press release. March 22, 2008. <http://www.ct.gov/governorrell/cwp/view.asp?Q=412168&A=3293&pp=12&n=1>

<sup>26</sup> Becker, Arielle Levin (2008). “Connecticut 8th Graders No. 1 in Writing Performance.” *The Hartford Courant*. April 3, 2008. <http://www.cea.org/newsinfo/inthenews/ct-8th-graders-tops-in-writing.cfm>

<sup>27</sup> Hartford’s 2005 official graduation rate was 72.3% while the Education Week’s Research Center for its Diplomas Count project found the rate to be 38.6%. Several other high schools were in the 40-50% range in the Diplomas Count project. See

[http://www.conncan.org/matriarch/MultiPiecePage.asp\\_Q\\_PageID\\_E\\_217\\_A\\_PageName\\_E\\_NewsReleaseJune0508](http://www.conncan.org/matriarch/MultiPiecePage.asp_Q_PageID_E_217_A_PageName_E_NewsReleaseJune0508).

<sup>28</sup> Hartford Courant, January 9, 2009 reporting on literacy estimates released by the National Center for Education Statistics. [http://mobile.courant.com/inf/infomo;jsessionid=A55BC3BE80B6D28141D6.1368?view=latest\\_connecticut\\_news\\_item&feed:a=courant\\_1min&feed:c=latestconnecticut&feed:i=44432660&nopaging=1](http://mobile.courant.com/inf/infomo;jsessionid=A55BC3BE80B6D28141D6.1368?view=latest_connecticut_news_item&feed:a=courant_1min&feed:c=latestconnecticut&feed:i=44432660&nopaging=1)

## Health Care

Connecticut's Health Care industry consisted of 9,818 establishments, employed 245,242 persons, and had \$9.8 billion in payroll in 2006. It is likely this sector's employment will grow as the population ages. Salient aspects of the Connecticut health care system are:

- The cost and availability of medical malpractice insurance;
- Improving the health and productivity of Connecticut residents along with increasing the number of graduates in health care occupations;<sup>29</sup>
- Lack of access to care because health insurance is lacking;
- Deficits in health care quality that pose a serious threat in Connecticut (footnote 24);
- Health spending comprises about 26% of the total state budget; (footnote 24);
- The need to consider the health care of the workforce and immigrants as well as residents; and
- An aging population and increasingly unhealthy lifestyles adding to consumer demand for new medical treatments, more intensive diagnostic testing, greater staffing, and the practice of defensive medicine.

## Other Industries and Location Quotients

Figure 2 (above) shows manufacturing industries' contributions to SGDP and Appendix A provides details. Table 2 shows employment growth of key industries relative to peer states with Connecticut leading in Education and Health Services, Leisure and Hospitality, and Native American operations.

Connecticut does not lead in job growth in any of these industries. With the exception of New York, Connecticut has slower job growth in the construction industry than its peer states. Connecticut is the only state that shows a small decline in job growth in the retail sector. Despite a 22% increase in employment in professional and business services, Connecticut's growth in this sector lags behind that in peer states.

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<sup>29</sup> Business Council of Fairfield County (2006). "Connecticut Health Scorecard: Executive Summary," <http://www.businessfairfield.com/webpdf/CTHealthCareCrisis.pdf>



**Table 2: Connecticut Employment Growth Relative to Peer States**

<b>Employment Change 1990-2007</b>	<b>CT</b>	<b>MA</b>	<b>PA</b>	<b>NJ</b>	<b>NY</b>	<b>RI</b>
Natural Resources and Mining	-22%	0%	-23%	-47%	-7%	50%
Construction	10%	38%	16%	16%	9%	20%
Manufacturing	-36%	-39%	-31%	-41%	-44%	-47%
Wholesale Trade	-6%	-4%	7%	2%	-13%	1%
Retail Trade	-3%	0%	3%	7%	4%	2%
Transportation and Utilities	7%	5%	31%	6%	-9%	15%
Information	-9%	1%	-2%	-19%	-7%	5%
Financial Activities	-6%	5%	2%	17%	-6%	30%
Professional and Business Services	22%	41%	54%	39%	32%	32%
Education and Health Services	46%	36%	45%	60%	49%	44%
Leisure and Hospitality	26%	27%	30%	26%	22%	44%
Other Services	12%	23%	22%	37%	31%	44%
Government	18%	27%	6%	12%	2%	4%

Source: BLS

Another measure of industrial organization is the industry’s “location quotient” (LQ) that indicates the intensity or concentration of an industry in a state or region relative to another region (e.g., Connecticut compared with the U.S.). An LQ greater than one suggests a higher concentration of a given industry in a state compared to the U.S. LQs may be based on employment or value added (industry GDP).

Appendix B displays LQs for NAICS industries based on the intensity of value added (SGDP) in each industry. The finance and insurance sectors, notably insurance carriers, funds, trusts, and other financial vehicles have the largest LQs as might be expected because Hartford is nicknamed the “Insurance Capital of the World.” Stamford in Fairfield County is a top-five city in the U.S. in terms of concentration of Fortune 1000 headquarters, and the largest (in terms of employment) financial district outside of New York. Companies include G.E. Capital, Pitney Bowes, Clairrol, Xerox, UBS, Hyperion Software, and Diageo, which is the world’s largest distillery of beer, wine, and spirits such as Guinness, Beaulieu and Sterling wines, Smirnoff, Johnnie Walker, Captain Morgan, and Tanqueray.

Appendix C displays industry LQs based on employment intensity. The LQs for several Connecticut industries based on employment exceed one in sectors such as finance and insurance, and services in general, durable goods, fabricated metals, machinery, transportation equipment, aerospace products, and motor vehicle parts (e.g. bearings), among others. Note the significance of the finance and insurance industry’s components.

Ground transit, arts, gambling (amusement and recreation), and personal services have a higher concentration of employment in Connecticut than in the U.S.

### **Women- and Minority-Owned Businesses**

Women- and minority-owned business ownership is another way in which to characterize the state's economy. Using the most recently available Census of Business Owners (2002), DECD compiled the direct employment impact of women- and minority-owned businesses in Connecticut.

If data was unavailable due to disclosure restrictions or reporting errors, we made conservative employment estimates. Our assumptions are:

- In several sectors, the number of firms in the Census survey was higher than the corresponding number of employees for those firms. The reason that the number of firms in the Census survey exceeds the number of employees is that it does not report proprietors or partners of unincorporated businesses in its employee count. We correct for this in the manner listed below.
- Each firm has at least one employee; therefore when the number of firms was available but the corresponding employment was listed as zero or unavailable, we assumed employees in the sector equals the number of firms.
- When an employment range appeared instead of an actual number (due to disclosure restrictions), we used the minimum value of the range for the number of employees for firms in a NAICS sector. The exception was if the number of firms was greater than the minimum value of the employment range; in that case we assumed the number of employees equals the number of firms. When neither the number of firms nor employees were available for a sector because the data did not meet publication standards, we conservatively assumed two firms and two employees, unless it was possible to calculate either number based on elimination.

Because some women who own businesses are in addition minority group members, their businesses are included in both the female-owned business survey data and the minority-owned business survey data from the Census. To avoid double counting and thus over-estimating the impact of these businesses, DECD removes employment estimates of female, minority-owned businesses from that of total minority-owned businesses for each sector. Table 3 shows that women- and minority-owned businesses represented 36.6% of all businesses in Connecticut and 4.7% of Connecticut's payroll in 2002. The share of total non-farm employment for women- and minority-owned businesses in Connecticut in 2002 was 8.2%. These statistics suggest that while a substantial portion of the state's businesses are women- and minority-owned, they employ a disproportionately smaller share of workers and are lower paid.

**Table 3: Women- and Minority-Owned Businesses in Connecticut, 2002**

	All Business in CT	Women-owned Businesses	Minority- owned Businesses	Total Women- and Minority- Owned	Minority % of All Businesses in CT
Total Firms	301,671	82,118	28,262	110,380	36.6%
Payroll*	\$66,374,672,000	\$2,395,572,000	\$718,198,000	\$3,113,770,000	4.7%
Employment*	1,664,900	109,544	27,393	136,937	8.2%

\*Conservative estimates due to incomplete data and the dated Economic Census 2002

Table 4 shows the jobs in sectors in which women- and minority-owned businesses excel. These statistics show that among the largest industries (in employment terms) with businesses owned by women are healthcare and social assistance as well as professional, administrative and support services, retail trade, and other services. Predominantly, minority-owned businesses are in accommodations and food services, retail trade, professional services, construction and healthcare. It is interesting to note that manufacturing is among the top ten industries with women- or minority-owned business.

**Table 4: Jobs in Women- and Minority-Owned Businesses by Major Sector, 2002**

<b>Women-owned businesses</b>		<b>Minority-owned businesses</b> (minus minority women-owned businesses to avoid double counting)	
	<b>Employees</b>		<b>Employees</b>
Healthcare, social assistance	14,642	Accommodation, food services	6,770
Professional services	13,938	Retail trade	2,974
Administrative and support services	12,676	Professional services	2,669
Retail trade	11,939	Construction	2,415
Other services	10,210	Healthcare, social assistance	2,272
Real estate, and rental and leasing	7,876	Other services	2,131
	6,946	Administrative and support services	1,910
Manufacturing	6,946	Transportation	1,490
Construction	5,946	Manufacturing	1,200
Accommodation, food services	5,452	Real estate, and rental and leasing	959
	5,449	Arts, entertainment and recreation	756
Wholesale trade	5,449	Wholesale trade	722
Arts, entertainment and recreation	4,519	Finance and insurance	495
Educational services	3,108	Information	272
Finance and insurance	2,487	Forestry and agriculture	169
Transportation	2,026	Educational services	128
Information	1,750	Industries not classified	46
Management of companies	375	Utilities	13
Forestry and agriculture	111	Mining	2
Industries not classified	52	Management of companies	-
Mining	22	Total	27,393
Utilities	20		
Total	109,544		

## **The Self-Employed in Connecticut**

The state's labor force consists of persons who meet the definition of "employed," meaning they did any work for pay or profit during a given household survey week, including part-time, temporary work, as well as regular full-time, year-round employment plus all non-farm and farm employment, unpaid family workers, the unemployed (those actively seeking work), and the self-employed, or "non-employers".

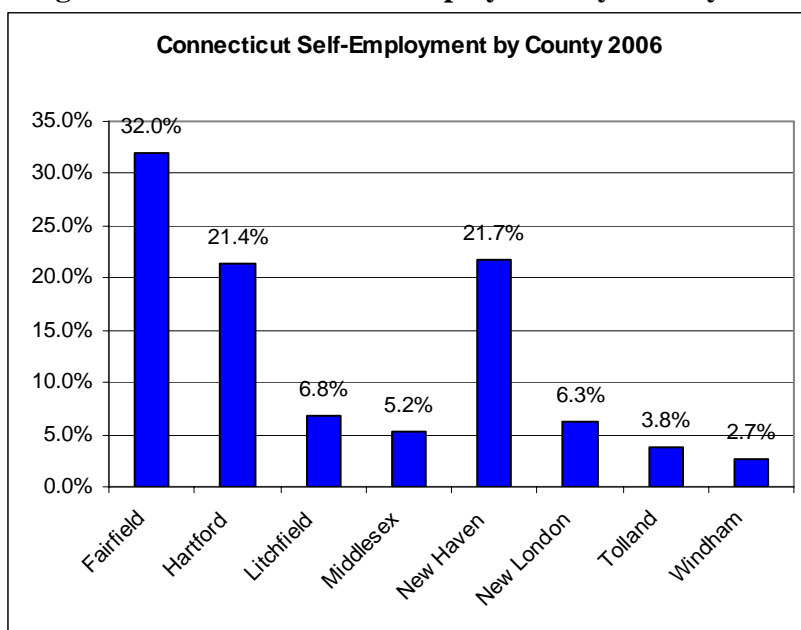
The latter class of workers may include any form of business organization (proprietorship, partnership, or corporation) that has no paid employees, has annual business receipts of \$1,000 or more (\$1 or more in the construction industries), and is subject to federal income taxes.<sup>30</sup> Most non-employers are self-employed individuals operating small, unincorporated businesses, which may or may not be the owner's principal source of income. Professionals such as doctors (not employed by a hospital or institution) and lawyers (if not employed by a legal firm) could be non-employers if they run their practices without paid help. Non-employer statistics originate from tax return information of the Internal Revenue Service.

Connecticut's self-employed numbered 228,082 in 2002, when they represented 12.8% of the labor force; they increased by 11.4% to 253,992, and comprised 13.9% of the labor force in 2006. Figure 4 displays each county's self-employment share of total employment. Fairfield and New Haven have the largest shares of self-employed persons and Windham has the least number of self-employed persons.

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<sup>30</sup> U.S. Census. "Labor Force Statistics from the Current Population Survey," U.S. DOL Website: [http://www.bls.gov/cps/cps\\_htgm.htm](http://www.bls.gov/cps/cps_htgm.htm)

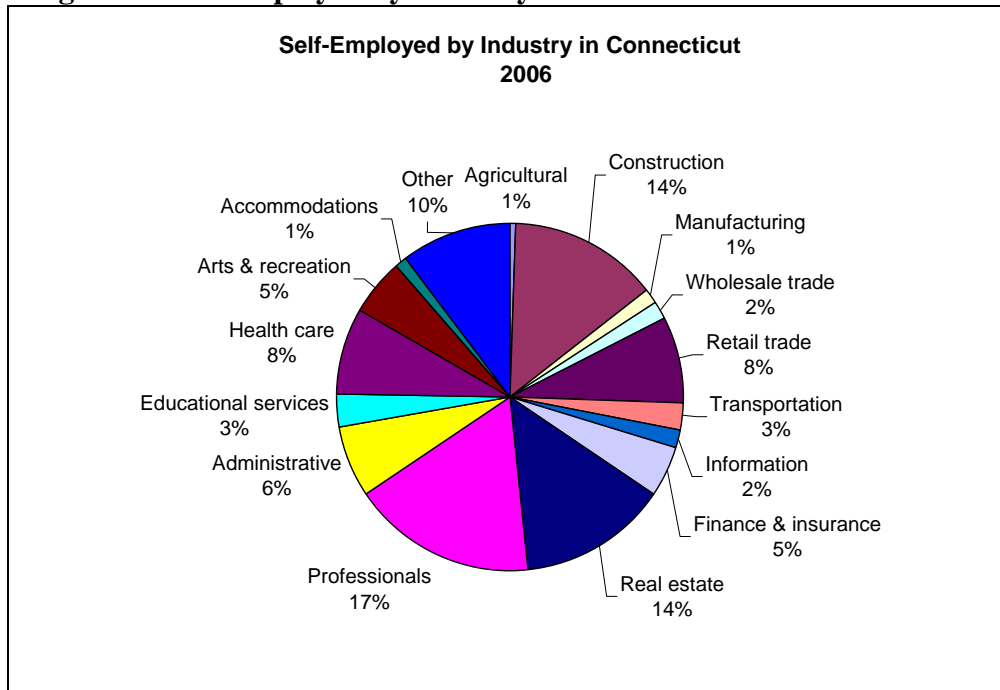
**Figure 4: Connecticut Self-Employment by County**



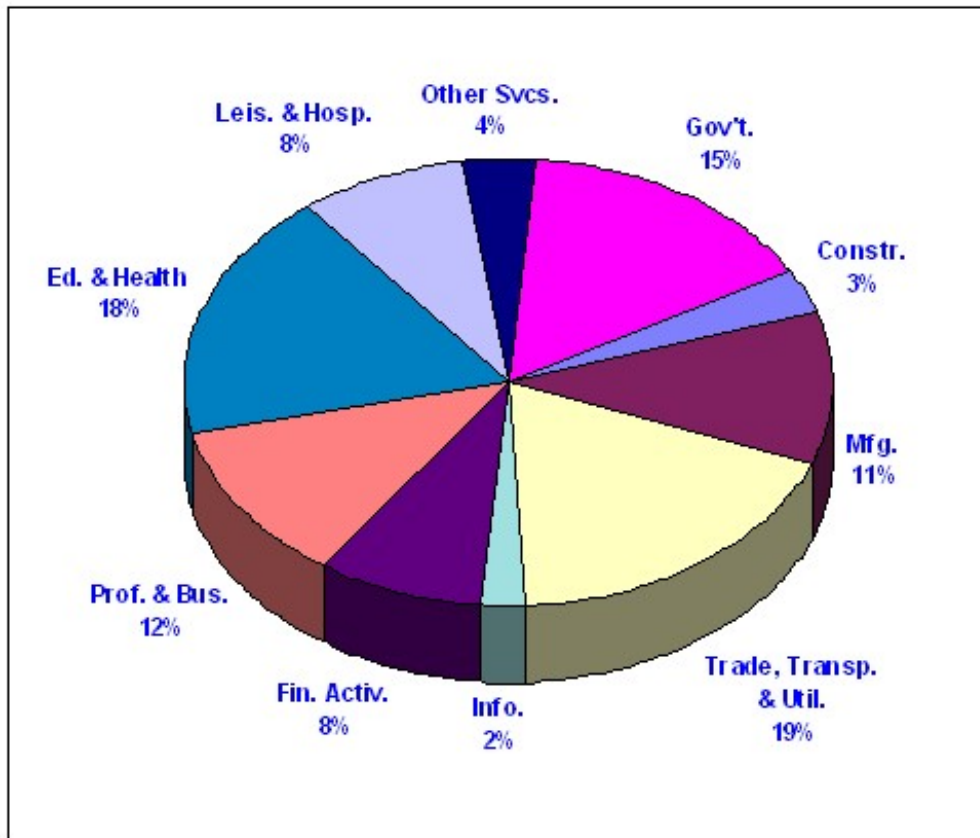
Source: U.S. Census

The self-employed work in most industries appearing in the NAICS taxonomy. Figure 5 represents the distribution of employment among the self-employed. The shares differ noticeably from the payroll employment shares of statewide employment (Figure 6) because self-employers are more significant in some industries such as construction (17%) and professionals (14%) than they are among payroll employees where finance and insurance are more prevalent. Manufacturing contains 11% of non-farm employment, but only one percent of self-employment, among other easily observed differences.

**Figure 5: Self-Employed by Industry**



**Figure 6: Connecticut Statewide Non-farm Employment by Industry**



Source: CT DOL, Feb. 2009

## Foreign Direct Investment (FDI) and Exports

In the global economy, exports are an important indicator of the strength of a state's economy. Connecticut's recent export growth has outpaced that of the nation. This reflects favorably on the ability of Connecticut industries to produce items in demand around the world. According to the World Institute for Strategic Economic Research (WISER), Connecticut exports were \$12.2 billion in 2006.<sup>31</sup> This represents a 26.3% gain from the \$9.7 billion in exports recorded in 2005 while U.S. exports increased by 14.7% in this period. This continues a trend: in 1996, Connecticut exports were \$6.1 billion; in 2006, Connecticut exports more than doubled, increasing 100.63% to \$12.2 billion. By comparison, U.S. exports in the same period grew 66.5%.

In 2006, Connecticut's top major export commodities were industrial machinery including computers, aircraft, spacecraft, and parts; optical, photo, medical and surgical instruments; and electric machinery, sound equipment, TV equipment, and plastics and articles thereof. The top five commodities combined accounted for 73.4% of total export value in 2006. Among the top five, industrial machinery, including computers, accounted for 43% of state export value in 2006. Canada continues to be Connecticut's top export destination. France, Germany, the United Kingdom, and Singapore rounded out the state's top five export partners in 2006. The export values of the combined top five countries accounted for 49.4% of state total export value in 2006.

As the world economy becomes increasingly integrated, exports will continue to fuel economic growth in Connecticut and the United States. Connecticut exports were 6% of the state economy measured by state GDP, up from 5% in 2005 and averaged 5.06% of Connecticut's economy from 1997 to 2006, while nationally they averaged 7.45%.<sup>32</sup> Connecticut is slowly increasing the portion of its economy attributable to exports; however, it needs to accelerate the increase in the value of these exports in order to keep pace with the share at the national level.

Connecticut's export composition has remained stable. In 2006, industrial machinery, including computers, aircraft, spacecraft and parts thereof, optical, photographic and other instruments, electrical machinery, and plastics ranked as Connecticut's top five export commodities. Industrial machinery led in 2006 export value of \$5.3 billion, a 39% increase from \$3.8 billion in 2005. With the exception of special classification provisions and optical, photographic, medical, and surgical instruments, the remainder of Connecticut's top ten export commodities experienced growth between 2005 and 2006. The top ten exports accounted for about 83% of total export values in 2006.

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<sup>31</sup> WISER and U.S. Bureau of Economic Analysis.

<sup>32</sup> Connecticut Department of Economic and Community Development, *Annual Report for Fiscal Year 2006-2007*, p. 55.



Connecticut's international trading partners exhibit consistency over the years. In 2006, Canada was the number one destination for Connecticut exports. Connecticut's exports to Canada increased 14.9% in 2006 to \$1.9 billion, up from \$1.7 billion in 2005. In 2006, 15.8% of Connecticut's exports were destined for Canada, compared to 22.2% of all U.S. exports to Canada. The balance of Connecticut's top ten export destinations were France, Germany, the United Kingdom, Singapore, Mexico, Japan, Switzerland, the Netherlands, and Korea. The top ten countries' export values account for 71% of total export values in 2006. Among the state's top ten trading partners, countries experiencing the largest growth were Singapore, Switzerland, and Korea at 240.6%, 160.8%, and 122.1%.

Employment and investment by foreign affiliates located in the state measure the strength of a state's international sector. The Bureau of Economic Analysis (BEA) defines a foreign U.S. affiliate as a U.S.-located business enterprise in which a single foreign investor owns at least 10% of the voting securities or the equivalent. Likewise, a majority-owned U.S. affiliate is one in which a foreign direct investor owns more than 50%.<sup>33</sup>

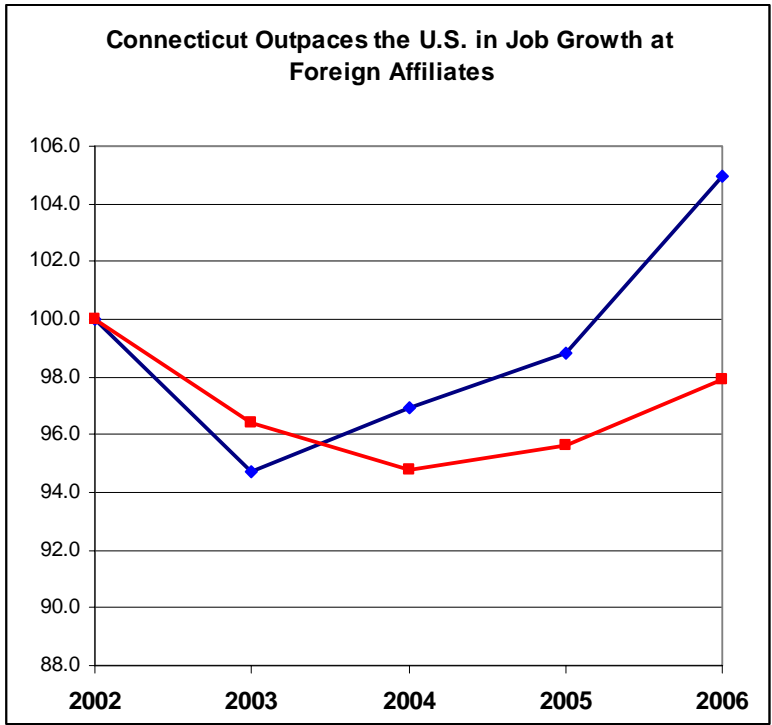
Job growth and foreign investment in plant and equipment in the state reflect the competitiveness of Connecticut's international position. Both job growth and investment by foreign affiliates in Connecticut outpaced that of the U.S. (Figure 7; the top line represents Connecticut). By 2003, Connecticut was among the top five states for shares of private-industry employment accounted for by majority-owned U.S. affiliates. Employment shares were highest in South Carolina (8.4%), followed by Hawaii (7.8%), New Hampshire (7.7%), Connecticut (7.3%) and Delaware (7.3%).<sup>34</sup> Figure 8 shows the five states with the largest shares of FDI employment.

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<sup>33</sup> U.S. Department of Commerce, Bureau of Economic Analysis. *Foreign Direct Investment in the U.S.: Financial and Operating Data for U.S. Affiliates of Foreign Multinational Companies* "International Economic Accounts - Entity Classifications." Retrieved March 16, 2009.

<sup>34</sup> Anderson, Thomas. "U.S. Affiliates of Foreign Companies Operations in 2006." *Survey of Current Business*. August 2008. p. 192. Retrieved March 16, 2009.

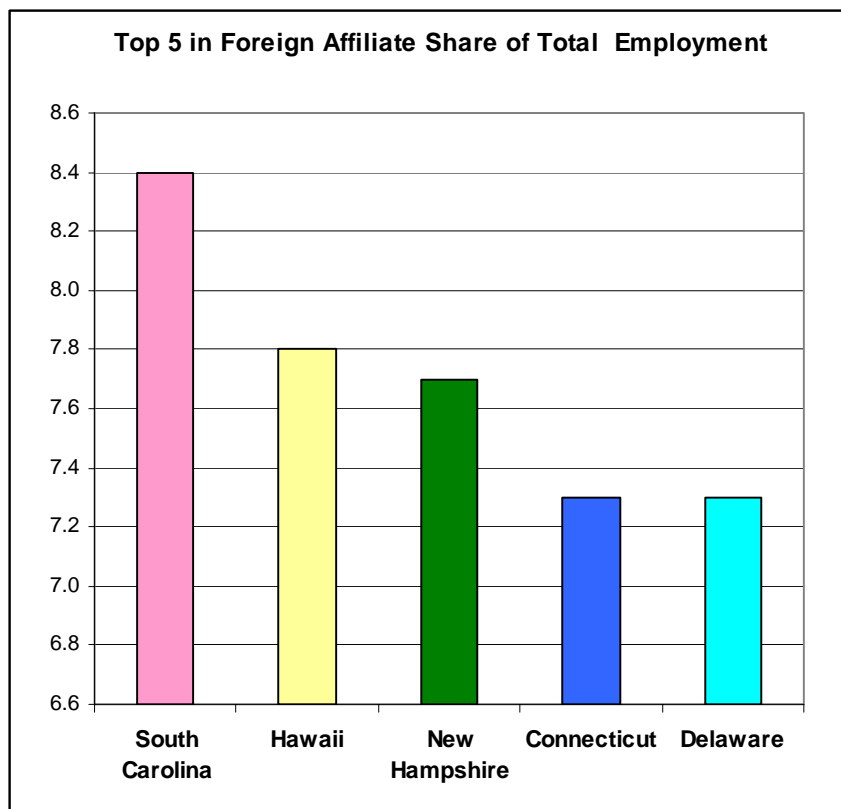
**Figure 7: FDI Job Growth in Connecticut versus the U.S.**



Source: Author's calculation based on BEA data.

In 2006, the latest year of available state-level foreign affiliate data, Connecticut tied with South Carolina in first place for the largest shares of private industry employment accounted for by majority-owned U.S. affiliates (footnote 32, p.193).

**Figure 8: Top Five States in Shares of FDI Employment**



Source: Author's calculation based on BEA data.

Interestingly, manufacturing accounted for nearly half of total investment outlays by foreign companies in 2007. Connecticut demonstrated strong international competitiveness in the global market in terms of capital investment in plant and equipment by foreign affiliates. These are positive developments and indicate a strengthening of the Connecticut economy's global competitiveness.

### **Occupational Analysis**

The occupations that make up Connecticut's industries reveal other aspects of its economy. Appendices D and E answer the following questions: 1) what are the fastest growing occupations? and 2) what occupations have the most openings? Data maintained and analyzed by the Connecticut Labor Department (DOL) provide answers. The occupations occur in several sectors and the data contained here are from the DOL's Website "Occupations in Demand."<sup>35</sup>

<sup>35</sup> <http://www.ctdol.state.ct.us/lmi/misc/occsindemand.htm>.

Registered Nurses, Accountants and Auditors, Nursing Aides, Orderlies and Attendants, Computer Software Engineers, and Elementary School Teachers (except special education) have the largest expected change in the number of positions between 2006 and 2016. Therefore, the health care industry will have some of the greatest need for new employees over the next ten years (see Appendix D).

The most plentiful job openings will be for Cashiers, Retail Salespersons, Waiters and Waitresses, Customer Service Representatives, and Registered Nurses. This indicates the relative importance of retail, and eating and drinking places in the Connecticut economy (see Appendix E).

### **Cluster Analysis<sup>36</sup>**

Since Connecticut's Industry Cluster Initiative began in 1997, business, government, education, and civic sectors have collaborated in unexpected ways. In doing so, they have accelerated a cluster development process that has deep roots in Connecticut's history. The nine formal clusters operating today are:

- Aerospace Components Manufacturers;
- Agriculture;
- BioScience;
- Insurance and Financial Services;
- Maritime;
- Metal Manufacturing;
- Plastics;
- Software and Information Technology; and
- Tourism.

Over the past ten years, DECD has invested approximately \$17 million in the Industry Cluster Initiative. This has been matched by the private sector through cash and in-kind investments (capital, real estate, equity, loans, and grants). The Industry Cluster Initiative leveraged more than \$23 million in federal funds and \$8 million in other public and foundation funds (footnote 32). In addition, DECD estimates that Connecticut Innovation's investment of \$33 million into the BioScience Facilities Fund generated about \$40 million in related private investments (footnote 32).

More than 180 CEOs actively lead different cluster boards, resulting in initiatives that benefit thousands of companies and hundreds of thousands of workers in every part of the state. Appendix F summarizes the direct economic impact of Connecticut's clusters measured by their employment and number of establishments. The data are based on the

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<sup>36</sup> The Governor's Council (2004). "Partnership for Growth II: A Competitiveness Agenda for Connecticut," [http://www.youbelonginct.com/pupload/PforGreport\\_web.pdf](http://www.youbelonginct.com/pupload/PforGreport_web.pdf).

NAICS taxonomy of the industries that comprise each cluster as defined by the Connecticut Department of Labor (DOL) in conjunction with DECD in April 2005.

**APPENDIX A: Connecticut Gross Domestic Product (\$ nominal millions)**

**CONNECTICUT State GDP (nominal \$ millions)**

<b>Industry</b>	<b>2006</b>		<b>2006</b>
<b>Total Gross Domestic Product by State</b>	<b>204,964</b>		
<b>Private industries</b>	186,772	<b>Information</b>	8,160
<b>Agriculture, forestry, fishing, and hunting</b>	333	Publishing including software	1,794
Crop and animal production (Farms)	276	Motion picture and sound recording industries	134
Forestry, fishing, and related activities	57	Broadcasting and telecommunications	5,289
<b>Mining</b>	134	Information and data processing services	944
Oil and gas extraction	(L)	<b>Finance and insurance</b>	34,086
Mining, except oil and gas	130	Federal Reserve banks, credit intermediation	7,548
Support activities for mining	4	Securities, commodity contracts, investments	9,544
<b>Utilities</b>	3,825	Insurance carriers and related activities	15,247
<b>Construction</b>	6,803	Funds, trusts, and other financial vehicles	1,747
<b>Manufacturing</b>	25,849	<b>Real estate and rental and leasing</b>	27,653
<b>Durable goods</b>	16,284	Real estate	25,847
Wood product manufacturing	116	Rental and leasing services	1,806
Nonmetallic mineral product mfg	205	<b>Professional and technical services</b>	14,862
Primary metal manufacturing	480	Legal services	2,381
Fabricated metal product manufacturing	3,272	Computer systems design and related	2,809
Machinery manufacturing	2,129	Other professional, scientific and technical	9,672
Computer and electronic product mfg	773	<b>Mgmt of companies and enterprises</b>	6,159
Electrical equip. & appliance mfg.	1,223	<b>Administrative and waste services</b>	5,471
Motor vehicle, body, trailer, and parts mfg	380	Administrative and support services	4,766
Other transportation equipment mfg	6,170	Waste management and remediation services	705
Furniture and related product mfg	206	<b>Educational services</b>	3,036
Miscellaneous manufacturing	1,330	<b>Health care and social assistance</b>	15,176
<b>Nondurable goods</b>	9,565	Ambulatory health care services	7,473
Food product manufacturing	1,550	Hos. & nursing, residential care facilities	6,226
Textile and textile product mills	142	Social assistance	1,477
Apparel manufacturing	95	<b>Arts, entertainment, and recreation</b>	1,855
Paper manufacturing	603	Performing arts, museums, and related	699
Printing and related support activities	665	Amusement, gambling, and recreation	1,156

Petroleum and coal products mfg	68	Accommodation and food services	3,678
Chemical manufacturing	5,737	Accommodation	766
Plastics and rubber products mfg	706	Food services and drinking places	2,912
<b>Wholesale trade</b>	10,888	Other services, except government	4,058
<b>Retail trade</b>	11,376	<b>Government</b>	18,191
<b>Transport.&amp; warehousing</b>	3,369	Federal civilian	2,113
Air transportation	222	Federal military	1,049
Rail transportation	7	State and local	15,029
Water transportation	189		
Truck transportation	711		
Transit and ground passenger transportation	568		
Pipeline transportation	37		
Other transportation and support activities	1,089		
Warehousing and storage	547		

NAICS Industry detail is based on the 1997 North American Industry Classification System (NAICS).

(D) Not shown in order to avoid the disclosure of confidential information; estimates are included in higher level totals.

(L) Less than \$500,000 in nominal or real GDP by state.

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

Last updated: Thursday, June 05, 2008.

**APPENDIX B: Connecticut Location Quotients based on 2006 State GDP**

<b>Industry Gross Domestic Product or value Added</b>	<b>LQ</b>
Total Gross Domestic Product by State	<b>0.97</b>
Private industries	
Agriculture, forestry, fishing, and hunting	<b>0.16</b>
Crop and animal production (Farms)	<b>0.17</b>
Forestry, fishing, and related activities	<b>0.11</b>
Mining	<b>0.03</b>
Oil and gas extraction	<b>n/a</b>
Mining, except oil and gas	<b>0.18</b>
Support activities for mining	<b>0.00</b>
Utilities	<b>0.84</b>
Construction	<b>0.65</b>
Manufacturing	<b>1.00</b>
Durable goods	<b>1.10</b>
Wood product manufacturing	<b>0.19</b>
Nonmetallic mineral product manufacturing	<b>0.22</b>
Primary metal manufacturing	<b>0.45</b>
Fabricated metal product manufacturing	<b>1.49</b>
Machinery manufacturing	<b>1.03</b>
Computer and electronic product manufacturing	<b>0.33</b>
Electrical equipment and appliance manufacturing	<b>1.63</b>
Motor vehicle, body, trailer, and parts manufacturing	<b>0.23</b>
Other transportation equipment manufacturing	<b>4.08</b>
Furniture and related product manufacturing	<b>0.39</b>
Miscellaneous manufacturing	<b>1.14</b>
Nondurable goods	<b>0.86</b>
Food product manufacturing	<b>0.58</b>
Textile and textile product mills	<b>0.44</b>
Apparel manufacturing	<b>0.35</b>
Paper manufacturing	<b>0.69</b>
Printing and related support activities	<b>0.86</b>
Petroleum and coal products manufacturing	<b>0.05</b>
Chemical manufacturing	<b>1.60</b>
Plastics and rubber products manufacturing	<b>0.59</b>
Wholesale trade	<b>0.85</b>
Retail trade	<b>0.80</b>
Transportation and warehousing, excluding Postal Service	<b>0.52</b>
Air transportation	<b>0.27</b>
Rail transportation	<b>0.01</b>
Water transportation	<b>1.14</b>



Truck transportation	<b>0.34</b>
Transit and ground passenger transportation	<b>1.88</b>
Pipeline transportation	<b>0.20</b>
Other transportation and support activities	<b>0.67</b>
Warehousing and storage	<b>0.88</b>
Information	<b>0.82</b>
Publishing including software	<b>0.71</b>
Motion picture and sound recording industries	<b>0.19</b>
Broadcasting and telecommunications	<b>0.94</b>
Information and data processing services	<b>0.82</b>
Finance and insurance	<b>1.86</b>
Federal Reserve banks, credit intermediation and related	<b>0.79</b>
Securities, commodity contracts, investments	<b>2.62</b>
Insurance carriers and related activities	<b>3.25</b>
Funds, trusts, and other financial vehicles	<b>4.12</b>
Real estate and rental and leasing	<b>0.99</b>
Real estate	<b>0.99</b>
Rental and leasing services and lessors of intangible assets	<b>1.02</b>
Professional and technical services	<b>0.96</b>
Legal services	<b>0.76</b>
Computer systems design and related services	<b>1.15</b>
Other professional, scientific and technical services	<b>0.98</b>
Management of companies and enterprises	<b>1.52</b>
Administrative and waste services	<b>0.83</b>
Administrative and support services	<b>0.79</b>
Waste management and remediation services	<b>1.23</b>
Educational services	<b>1.50</b>
Health care and social assistance	<b>1.01</b>
Ambulatory health care services	<b>0.96</b>
Hospitals and nursing and residential care facilities	<b>1.04</b>
Social assistance	<b>1.13</b>
Arts, entertainment, and recreation	<b>0.88</b>
Performing arts, museums, and related activities	<b>0.69</b>
Amusement, gambling, and recreation	<b>1.05</b>
Accommodation and food services	<b>0.62</b>
Accommodation	<b>0.41</b>
Food services and drinking places	<b>0.72</b>
Other services, except government	<b>0.81</b>
Government	<b>0.70</b>
Federal civilian	<b>0.44</b>
Federal military	<b>0.40</b>

State and local	<b>0.80</b>
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Source: BEA

## APPENDIX C: Connecticut Location Quotients based on Employment

<b>Connecticut – Statewide: Current Employment Statistics</b>			
<b>All Employees - 2007 (000's) [Not Seasonally Adjusted]</b>			
	<b>Location</b>	<b>CT</b>	<b>U.S.</b>
<b>Industry Title</b>	<b>Quotient</b>	<b>Annual Average</b>	<b>Annual Average</b>
<b>Total Nonfarm</b>		<b>1,697.6</b>	<b>137,618.1</b>
Goods Producing	<b>0.95</b>	260.6	22,221.0
Service Providing	<b>1.25</b>	1,437.0	93,196.8
Natural Res, Mining and Construction	<b>7.76</b>	69.2	722.6
Manufacturing	<b>1.12</b>	191.4	13,882.6
Durable Goods	<b>1.33</b>	144.5	8,815.7
Fabricated Metal	<b>1.73</b>	33.3	1,563.4
Machinery Mfg	<b>1.24</b>	18.2	1,188.1
Computers and Electronics	<b>0.90</b>	14.1	1,272.0
Transportation Equipment	<b>2.07</b>	43.6	1,710.7
Aerospace Products	<b>5.06</b>	44.6	714.2
Motor Vehicle and Parts	<b>3.71</b>	45.6	996.6
Miscellaneous Mfg	<b>1.50</b>	11.9	641.0
Nondurable Goods	<b>0.75</b>	46.9	5,066.9
Chemical Mfg	<b>1.48</b>	15.7	862.7
Trade, Transportation and Utilities	<b>0.95</b>	311.4	26,604.8
Wholesale Trade	<b>0.91</b>	68.0	6,027.9
Wholesalers, Durable Goods	<b>0.82</b>	31.7	3,130.3
Wholesalers, Nondurable Goods	<b>0.87</b>	22.3	2,068.7
Wholesale Electronics	<b>1.38</b>	14.1	828.9
Retail Trade	<b>1.00</b>	191.1	15,487.3
Motor Vehicle and Parts	<b>0.93</b>	22.0	1,913.3
Building Materials	<b>1.02</b>	16.4	1,305.8
Food and Beverage Stores	<b>1.19</b>	41.9	2,847.6
Health and Personal Care Stores	<b>1.14</b>	13.9	988.7
Clothing and Accessory Stores	<b>1.19</b>	22.0	1,496.4
General Merchandise	<b>0.69</b>	25.5	2,985.2
Trans, Warehousing, and Utilities	<b>0.94</b>	52.4	4,536.3
Utilities	<b>1.20</b>	8.2	553.3
Transport and Warehousing	<b>0.79</b>	44.2	4,536.3
Truck Transportation	<b>0.40</b>	7.2	1,441.7
Transit and Ground Transportation	<b>2.31</b>	11.7	410.1
Couriers and Messengers	<b>0.99</b>	7.1	581.4
Information	<b>1.03</b>	38.5	3,028.9
Telecommunications	<b>1.03</b>	13.1	1,028.7
Financial Activities	<b>1.41</b>	144.6	8,309.6
Finance and Insurance	<b>1.63</b>	123.5	6,147.2
Credit Intermediation	<b>0.88</b>	31.3	2,882.0
Depository Credit Intermediation	<b>0.93</b>	20.9	1,822.6
Nondepository Credit Intermediation	<b>0.64</b>	8.3	1,059.4

Securities, Commodities and Other Invest	<b>2.11</b>	22.1	848.2
Insurance Carriers and Related Activities	<b>2.29</b>	65.3	2,308.0
Funds, Trusts and Other Ins*	<b>4.43</b>	4.8	87.9
Real Estate, Rental and Leasing	<b>0.79</b>	21.1	2,162.2
Professional and Business Services	<b>0.93</b>	205.9	17,965.8
Professional, Scientific and Tech Services	<b>0.98</b>	92.2	7,663.7
Legal Services	<b>1.00</b>	14.5	1,177.0
Accounting, Tax, and Payroll Serv	<b>0.90</b>	10.5	948.3
Architectural, Engineering and Related	<b>0.73</b>	13.0	1,436.0
Computer Systems Design	<b>1.29</b>	21.6	1,360.0
Mgt, Scientific and Tech Consulting	<b>0.95</b>	11.2	951.9
Management of Companies	<b>1.10</b>	25.1	1,844.9
Admin and Support and Waste Mgt	<b>0.89</b>	88.6	8,100.3
Employment Services	<b>0.72</b>	32.0	3,604.7
Services to Buildings	<b>1.17</b>	26.7	1,851.3
Education and Health	<b>1.27</b>	287.7	18,326.8
Educational Services	<b>1.51</b>	54.9	2,949.8
Health Care and Social Assistance	<b>1.23</b>	232.8	15,377.0
Offices of Physicians	<b>1.11</b>	30.2	2,204.1
Hospitals	<b>1.04</b>	58.0	4,517.1
Nursing and Residential Care	<b>1.62</b>	59.0	2,951.8
Social Assistance	<b>1.36</b>	40.8	2,430.2
Child Day Care	<b>1.32</b>	13.8	848.4
Leisure and Hospitality	<b>0.82</b>	135.6	13,470.1
Arts, Entertainment and Recreation	<b>1.01</b>	24.6	1,978.1
Amusement, Gambling and Recreation	<b>1.02</b>	18.0	1,436.0
Accommodation and Food Services	<b>0.78</b>	111.0	11,492.1
Accommodations	<b>0.53</b>	12.1	1,856.2
Food Services and Drinking Places	<b>0.83</b>	99.0	9,635.9
Other Services	<b>0.95</b>	64.3	5,490.8
Repair and Maintenance	<b>0.95</b>	14.7	1,256.8
Personal and Laundry	<b>1.22</b>	19.6	1,305.0
Religious, Grantmaking Civic and Professional	<b>0.83</b>	30.1	2,928.9
Government	<b>0.91</b>	249.0	22,200.3
Federal Government	<b>0.58</b>	19.6	2,726.5
State and Local Government	<b>0.95</b>	229.4	19,473.8

Note: All data benchmarked to March 2007.

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\* includes all of these below

5251 Insurance and Employee Benefit Funds

52511 Pension Funds

52512 Health and Welfare Funds

52519 Other Insurance Funds

5259 Other Investment Pools and Funds

52591 Open-End Investment Funds

52592 Trusts, Estates, and Agency Accounts

52593 Real Estate Investment Trusts



## APPENDIX D: Top Occupations Requiring Postsecondary Education in Connecticut 2006 – 2016 by Level Change

Occupational Title	Employment		Change		Annual Openings	Avg. Ann. Salary
	2006	2016	Net	Percent		
Registered Nurses	32,840	38,560	5,720	17.40%	1,114	\$68,594
Accountants and Auditors	21,400	24,460	3,060	14.30%	683	\$70,540
Nursing Aides, Orderlies, and Attendants	24,660	27,590	2,930	11.90%	513	\$30,157
Computer Software Engineers, Applications	7,000	9,540	2,540	36.40%	356	\$88,211
Elementary School Teachers, Except Special Education	18,550	20,570	2,020	10.90%	608	\$63,097
Computer Systems Analysts	9,630	11,580	1,950	20.20%	450	\$83,514
Financial Analysts	6,440	8,250	1,810	28.10%	218	\$101,011
Network Systems and Data Communications Analysts	3,120	4,490	1,370	43.70%	200	\$74,962
Hairdressers, Hairstylists, and Cosmetologists	11,150	12,460	1,310	11.70%	264	\$30,495
Management Analysts	10,870	12,010	1,140	10.50%	300	\$87,114
Securities, Commodities, Financial Services Sales Agents	7,010	8,130	1,120	16.00%	292	\$149,536
Licensed Practical and Licensed Vocational Nurses	8,020	9,070	1,050	13.10%	324	\$52,248
Middle School Teachers, Except Special and Voc. Ed.	10,380	11,300	920	8.80%	318	\$64,933
Preschool Teachers, Except Special Education	7,140	8,040	900	12.70%	209	\$29,821
Financial Managers	10,150	11,010	860	8.50%	234	\$112,497
Rehabilitation Counselors	4,370	5,220	850	19.40%	172	\$41,562
Network and Computer Systems Administrators	4,190	5,030	840	20.00%	180	\$73,619
Automotive Service Technicians and Mechanics	10,370	11,190	820	7.90%	290	\$42,853
Computer Software Engineers, Systems Software	3,660	4,410	750	20.40%	128	\$88,508
Personal Financial Advisors	2,650	3,390	740	27.70%	98	\$109,882
Computer Support Specialists	7,630	8,340	710	9.30%	307	\$52,453
Lawyers	10,710	11,390	680	6.40%	271	\$121,652
Postsecondary Teachers, All Other	3,680	4,370	690	18.60%	130	\$83,596
Paralegals and Legal Assistants	4,680	5,350	670	14.20%	129	\$49,274
Fitness Trainers and Aerobics Instructors	3,970	4,620	650	16.60%	140	\$44,195
Mental Health and Substance Abuse Social Workers	2,640	3,280	640	24.40%	120	\$49,120
Dental Hygienists	3,160	3,790	630	19.80%	123	\$70,973
Insurance Sales Agents	8,000	8,600	600	7.50%	234	\$75,877
Industrial Engineers	3,290	3,890	600	18.20%	139	\$79,002
Physical Therapists	3,200	3,780	580	18.30%	98	\$73,844
Mental Health Counselors	2,010	2,600	590	29.00%	98	\$41,993
Social and Community Service Managers	2,780	3,340	560	20.10%	109	\$61,300
Pharmacists	2,760	3,280	520	18.80%	100	\$104,444
Child, Family, and School Social Workers	5,200	5,700	500	9.70%	160	\$59,826
Special Education Teachers, Preschool, Kindergarten, Elem.	3,110	3,610	500	16.10%	119	\$63,559
Computer and Information Systems Managers	4,630	5,090	460	10.10%	122	\$116,497
Market Research Analysts	3,330	3,790	460	13.90%	69	\$70,388
Medical and Public Health Social Workers	2,220	2,680	460	20.80%	93	\$56,955
Secondary School Teachers, Except Special and Voc. Ed.	13,000	13,440	440	3.40%	432	\$64,902
Database Administrators	1,920	2,360	440	23.20%	66	\$77,495
Construction Managers	3,500	3,940	440	12.70%	98	\$100,364
Radiologic Technologists and Technicians	2,970	3,410	440	14.70%	84	\$59,836
Substance Abuse and Behavioral Disorder Counselors	1,210	1,640	430	35.50%	67	\$42,249
Veterinary Technologists and Technicians	1,030	1,460	430	41.30%	75	\$35,697
Public Relations Specialists	3,250	3,680	430	13.10%	68	\$58,821
Health Specialties Teachers, PS	2,490	2,890	400	16.20%	82	\$63,815
Employment, Recruitment, and Placement Specialists	2,970	3,370	400	13.50%	104	\$63,423
Property, Real Estate, and Community Association Managers	2,870	3,260	390	13.50%	79	\$65,874
Training and Development Specialists	3,040	3,430	390	12.60%	104	\$59,013
Medical and Health Services Managers	3,690	4,070	380	10.30%	107	\$99,718
Cost Estimators	2,760	3,140	380	13.50%	94	\$64,982
Sales Managers	4,470	4,830	360	7.90%	134	\$113,513
Manicurists and Pedicurists	1,770	2,120	350	19.70%	53	\$23,701
Emergency Medical Technicians and Paramedics	2,800	3,150	350	12.30%	67	\$36,579
Veterinarians	1,060	1,400	340	31.20%	54	\$113,868
Civil Engineers	3,300	3,630	330	9.90%	120	\$73,937
Clinical, Counseling, and School Psychologists	2,950	3,270	320	11.10%	78	\$75,987
Medical Scientists, Except Epidemiologists	1,750	2,060	310	17.90%	85	\$88,857

Note: Annual Job Openings refer to the expected number of new workers needed. All data benchmarked to March 2007. From Labor Market Information Home Page | Department of Labor Home Page <http://www.ctdol.state.ct.us/lmi/misc/occsindemand.htm>.

**APPENDIX E: Occupations with Largest Number of Openings 2006-2016**

<b>Occupational Title</b>	<b>Employment</b>		<b>Change</b>		<b>Annual Openings</b>	<b>Avg. Ann. Salary</b>
	<b>2006</b>	<b>2016</b>	<b>Net</b>	<b>Percent</b>		
Cashiers	47,520	47,570	53	0.1%	2,265	\$20,777
Retail Salespersons	51,690	58,310	6,614	12.8%	2,253	\$27,955
Waiters and Waitresses	26,930	30,180	3,249	12.1%	1,788	\$21,611
Customer Service Representatives	30,930	36,800	5,874	19.0%	1,448	\$38,083
Registered Nurses	32,840	38,560	5,722	17.4%	1,114	\$68,594
Janitors and Cleaners, Exc. Maids, Housekeeping Cleaners	32,300	35,540	3,238	10.0%	942	\$27,800
Office Clerks, General	33,540	36,150	2,611	7.8%	876	\$31,166
Food Preparation Workers	14,370	16,680	2,307	16.1%	730	\$22,892
Bookkeeping, Accounting, and Auditing Clerks	27,540	30,370	2,838	10.3%	715	\$39,953
Combined Food Preparation, Serving Workers, incl. Fast Food	18,410	22,060	3,649	19.8%	714	\$20,053
Accountants and Auditors	21,400	24,460	3,057	14.3%	683	\$70,540
Laborers and Freight, Stock, and Material Movers, Hand	19,580	19,630	53	0.3%	632	\$28,052
Sales Representatives, Exc. Technical, Scientific Products	20,860	22,530	1,672	8.0%	627	\$71,736
Executive Secretaries and Administrative Assistants	23,750	26,110	2,360	9.9%	614	\$45,502
Elementary School Teachers, Except Special Education	18,550	20,570	2,029	10.9%	608	\$63,097
Child Care Workers	14,690	16,540	1,850	12.6%	607	\$23,127
Counter Attendants, Cafeteria, Concession, Coffee Shop	7,080	7,900	822	11.6%	573	\$20,022
Receptionists and Information Clerks	14,720	16,720	2,003	13.6%	560	\$29,653

Supervisors of Retail Sales Workers	18,800	20,080	1,277	6.8%	522	\$41,685
Nursing Aides, Orderlies, and Attendants	24,660	27,590	2,924	11.9%	513	\$30,157
Teacher Assistants	23,290	24,540	1,245	5.3%	504	\$27,380
Stock Clerks and Order Fillers	21,220	19,910	-1,303	-6.1%	504	\$26,097
General and Operations Managers	19,850	19,660	-192	-1.0%	479	\$121,358
Computer Systems Analysts	9,630	11,580	1,948	20.2%	450	\$83,514
Supervisors of Office and Administrative Support Workers	19,850	20,100	246	1.2%	435	\$51,725
Maids and Housekeeping Cleaners	14,380	16,000	1,617	11.2%	433	\$23,916
Secondary School Teachers, Except Special and Voc. Ed.	13,000	13,440	446	3.4%	432	\$64,902
Secretaries, Except Legal, Medical, and Executive	26,350	25,830	-514	-2.0%	420	\$35,284
Landscaping and Groundskeeping Workers	14,620	16,820	2,200	15.1%	413	\$29,501
Truck Drivers, Heavy and Tractor-Trailer	14,660	16,010	1,350	9.2%	395	\$42,672
Home Health Aides	10,590	13,280	2,694	25.4%	364	\$28,404
Computer Software Engineers, Applications	7,000	9,540	2,543	36.4%	356	\$88,211
Security Guards	12,210	13,250	1,038	8.5%	352	\$27,708
Tellers	5,900	6,660	762	12.9%	334	\$27,477
Truck Drivers, Light or Delivery Services	13,290	14,190	898	6.8%	326	\$32,114
Bartenders	6,310	7,260	956	15.2%	325	\$23,424
Licensed Practical and Licensed Vocational Nurses	8,020	9,070	1,050	13.1%	324	\$52,248
Personal and Home Care Aides	6,340	8,450	2,109	33.2%	319	\$22,051
Middle School Teachers, Except Special and Voc.	10,380	11,300	912	8.8%	318	\$64,933



Ed.

Computer Support Specialists	7,630	8,340	709	9.3%	307	\$52,453
Management Analysts	10,870	12,010	1,138	10.5%	300	\$87,114
Dishwashers	5,600	6,260	661	11.8%	295	\$20,320
Securities, Commodities, Financial Services Sales Agents	7,010	8,130	1,120	16.0%	292	\$149,536
Automotive Service Technicians and Mechanics	10,370	11,190	823	7.9%	290	\$42,853
Cooks, Restaurant	7,050	7,990	932	13.2%	284	\$27,872
Electricians	8,330	9,020	692	8.3%	283	\$53,908
Lawyers	10,710	11,390	684	6.4%	271	\$121,652
Hairdressers, Hairstylists, and Cosmetologists	11,150	12,460	1,307	11.7%	264	\$30,495
Carpenters	12,550	13,440	890	7.1%	259	\$48,438
Police and Sheriff's Patrol Officers	7,410	7,970	561	7.6%	254	\$56,768
Business Operations Specialists, All Other	9,310	10,830	1,525	16.4%	253	\$64,982
Shipping, Receiving, and Traffic Clerks	9,510	9,680	170	1.8%	245	\$31,431
Team Assemblers	11,330	11,320	-1	0.0%	235	\$29,825
Financial Managers	10,150	11,010	864	8.5%	234	\$112,497
Insurance Sales Agents	8,000	8,600	602	7.5%	234	\$75,877
Social and Human Service Assistants	8,350	9,670	1,322	15.8%	229	\$40,968
Managers, All Other	8,220	8,850	636	7.7%	228	\$92,201
Financial Analysts	6,440	8,250	1,809	28.1%	218	\$101,011
Medical Assistants	4,990	6,520	1,529	30.7%	215	\$33,487
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	2,660	2,980	319	12.0%	214	\$21,641
Cooks, Fast Food	5,370	6,010	648	12.1%	210	\$21,580
Preschool Teachers, Except Special Education	7,140	8,040	905	12.7%	209	\$29,821
Cleaners of Vehicles and	4,240	4,670	432	10.2%	205	\$23,980

Equipment

Dining Room and Cafeteria Attendants and Bartender Helpers	3,790	4,250	459	12.1%	205	\$20,063
Counter and Rental Clerks	3,730	4,300	575	15.4%	200	\$26,609
Network Systems and Data Communications Analysts	3,120	4,490	1,364	43.7%	200	\$74,962

Source: Connecticut DoL, September 2006, "Connecticut Occupations in Demand."

## APPENDIX F: Connecticut Industry Clusters 2006

NAICS Code	Jobs	# Estab.
<b>Agriculture</b>		
<b>TOTAL</b>	<b>72,858</b>	<b>3,429</b>
11 Agriculture, Forestry, Fishing, and Hunting	325	83
311 Food Manufacturing	8,227	277
312120 Breweries	10	1
312130 Wineries	50	8
312140 Distilleries	0	0
3122 Tobacco Manufacturing	50	2
3253 Pesticide, Fertilizer, and other Agricultural Chemical Manufacturing	6,109	143
4244 Grocery and Related Product Wholesalers	10,598	347
4245 Farm Product Raw Material Merchant Wholesalers	175	23
4248 Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers	2,637	55
424910 Farm Supplies Merchant Wholesalers	325	42
424930 Nursery and Florist Merchant Wholesalers	534	51
424940 Tobacco and Tobacco Product Merchant Wholesalers	1,750	20
445 Food and Beverage Stores	41,083	2,198
453110 Florists	1,310	262
<b>Bioscience</b>		
<b>TOTAL</b>	<b>43,361</b>	<b>1,633</b>
3254 Pharmaceutical and Medicine Manufacturing	789	17
334510 Electromedical and Electrotherapeutic Apparatus Manufacturing	527	13
334516 Analytical Laboratory Instrument Manufacturing	821	13
334517 Irradiation Apparatus Manufacturing	325	4
3391 Medical Equipment and Supplies Manufacturing	6,752	171
423450 Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	1,484	92
423460 Ophthalmic Goods Merchant Wholesalers	175	12
446110 Pharmacies and Drug Stores	13,428	499
446130 Optical Goods Stores	966	185
541710 Research and Development in the Physical, Engineering, and Life Sciences	10,712	187
541940 Veterinary Services	3,843	322
6215 Medical and Diagnostic Laboratories	4,328	135

NAICS Code		Jobs	# Estab.
<b>Insurance and Financial Services</b>			
<b>TOTAL</b>		<b>185,316</b>	<b>9,307</b>
522	Credit Intermediation and Related Activities	39,138	2,499
523	Securities, Commodity Contracts, and other Fin. Invests. and Related Activities	48,406	1,685
524	Insurance Carriers and Related Activities	81,189	2,145
525	Funds, Trusts, and Other Financial Vehicles	175	21
531	Real Estate	16,408	2,957
<b>Maritime</b>			
<b>TOTAL</b>		<b>9,863</b>	<b>226</b>
3366	Ship and Boat Building	7,500	17
4831	Deep Sea, Coastal, and Great Lakes Water Transportation	566	22
4832	Inland Water Transportation	83	5
4883	Support Activities for Water Transportation	341	31
4885	Freight Transportation Arrangement	1,373	151
<b>Metal Manufacturing</b>			
<b>TOTAL</b>		<b>57,310</b>	<b>2,097</b>
331	Primary Metal Manufacturing	3,968	84
332	Fabricated Metal Product Manufacturing	31,767	1,289
333	Machinery Manufacturing	18,401	506
337124	Metal Household Furniture Manufacturing	453	61
33991	Jewelry and Silverware Manufacturing	325	20
423510	Metal Service Centers and other Metal Merchant Wholesalers	2,396	137
<b>Plastics</b>			
<b>TOTAL</b>		<b>8,072</b>	<b>184</b>
325211	Plastics Material and Resin Manufacturing	750	10
3261	Plastics Product Manufacturing	7,312	173
326220	Rubber and Plastics Hoses and Belting Manufacturing	10	1

NAICS Code		Jobs	# Estab.
<b>Software and Information Technology</b>			
	<b>TOTAL</b>	<b>34,906</b>	<b>2,309</b>
3341	Computer and Peripheral Equipment Manufacturing	390	31
3344	Semiconductor and other Electronic Component Manufacturing	4,496	110
334611	Software Reproducing	39	3
334613	Magnetic and Optical Recording Media Manufacturing		
423430	Computer and Computer Peripheral Equipment and Software Merchant Wholesalers	3,446	164
425110	Business to Business Electronic Markets	175	4
443120	Computer and Software Stores (retail)	1,750	1,12
454111	Electronic Shopping	1,750	94
454112	Electronic Auctions	10	4
5112	Software Publishers	2,800	130
518	Internet Service Providers, Web Search Portals, and Data Processing Services	4,367	277
5415	Computer Systems Design and Related Services	15,513	1,345
611420	Computer Training	170	35
<b>Tourism Industry</b>			
	<b>TOTAL</b>	<b>62,421</b>	<b>2,602</b>
71	Arts, Entertainment, and Recreation	22,924	1,664
7211	Traveler Accommodation	33,297	381
7212	RV (Recreational Vehicle) Parks and Recreational Camps	325	51
481111	Scheduled Passenger Air Transportation	1,147	19
481211	Nonscheduled Chartered Passenger Air Transportation	325	30
482111	Line-Haul Railroads		
487	Scenic and Sightseeing Transportation	60	19
532111	Passenger Car Rental	1,043	79
532292	Recreational Goods Rental	89	12
561510	Travel Agencies	1,906	265
561520	Tour Operators	577	31
561591	Convention and Visitors' Bureaus	46	8
561599	All other Travel Arrangement and Reservation Services	682	43

Source: U.S. Census, CPB 2006 <http://www.census.gov/epcd/cbp/index.html>. Industries: DECD, DOL, Others

## Demographics of Connecticut

### Population Growth and Distribution

Table 1 in the appendix to this chapter displays historical population estimates for Connecticut's 169 towns. One observes that several municipalities have gained population while others both large and small have lost population (for example, Hartford, Bridgeport, and Norfolk). This is likely a continuing consequence of the urban populations' flight to suburbia as well as the aging and out-migration of young people. Retired persons who remain in the state may move to retirement communities as they downsize and economize on operational costs. Other retirees leave for warmer climes. Young people between the ages of 25 and 44 leave for many reasons but anecdotal evidence points to Connecticut's cost of living (housing, energy, and taxes) and the availability of abundant job opportunities elsewhere as important reasons.

Table 2 presents historical population estimates and growth rates for Connecticut's eight counties. We report estimates for the year 1990 from Census and for 2000 and 2007 from the Connecticut Department of Public Health. The data shows that Hartford County grew at the slowest rate, while Tolland County grew at the fastest rate. Middlesex and Windham Counties had relatively high growth rates as well. Windham County's relatively high population growth rate may be related to the growth of Native American Tribal operations in New London County that itself grew relatively slowly.

<b>County</b>	<b>1990</b>	<b>2000</b>	<b>2007</b>	<b>Period-to-Period Avg. Growth Rate</b>	<b>Overall Growth Rate 1990-2007</b>
Fairfield	827,645	884,109	895,015	4.03%	8.14%
Hartford	851,783	858,026	876,824	1.46%	2.94%
Litchfield	174,092	182,388	188,273	4.00%	8.15%
Middlesex	143,196	155,224	164,150	7.08%	14.63%
New Haven	804,219	824,714	845,494	2.53%	5.13%
New London	254,957	259,326	267,376	2.41%	4.87%
Tolland	128,699	136,552	148,139	7.29%	15.11%
Windham	102,525	109,210	117,038	6.84%	14.16%

Source: 1990 US Census, 2000 and 2007 Connecticut Department of Public Health.

## Ethnic Composition

Table 3 shows the ethnic composition of each Connecticut county. Urban counties such as Fairfield, Hartford, and New Haven contain a larger share of Connecticut's non-white population.

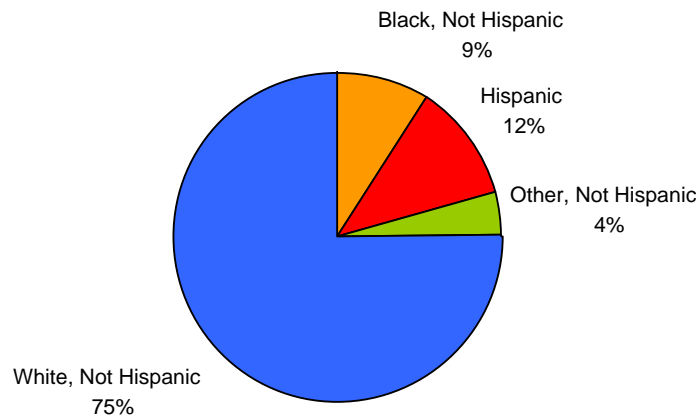
<b>Table 3: Connecticut Population by County and Race/Ethnicity for 1990, 2000, and 2007</b>				
		<b>1990</b>	<b>2000</b>	<b>2007</b>
<b>Fairfield</b>	Black, Not Hispanic	75,056	86,410	87,827
	Hispanic	69,465	100,154	133,198
	Other, Not Hispanic	18,693	38,924	46,751
	White, Not Hispanic	648,672	639,103	620,371
<b>Hartford</b>	Black, Not Hispanic	79,106	94,693	102,978
	Hispanic	69,613	93,156	117,533
	Other, Not Hispanic	14,947	28,809	34,493
	White, Not Hispanic	343,330	614,044	608,996
<b>Litchfield</b>	Black, Not Hispanic	1,486	1,565	1,992
	Hispanic	1,820	2,672	6,745
	Other, Not Hispanic	1,675	4,287	3,103
	White, Not Hispanic	166,663	171,167	173,758
<b>Middlesex</b>	Black, Not Hispanic	5,170	6,109	6,651
	Hispanic	2,598	3,232	6,441
	Other, Not Hispanic	1,612	3,822	4,923
	White, Not Hispanic	127,777	135,681	143,934
<b>New Haven</b>	Black, Not Hispanic	75,148	88,675	97,897
	Hispanic	49,161	77,067	107,913
	Other, Not Hispanic	11,497	26,228	35,131
	White, Not Hispanic	642,688	604,364	593,866
<b>New London</b>	Black, Not Hispanic	10,123	12,215	13,428
	Hispanic	7,633	10,328	16,915
	Other, Not Hispanic	4,424	10,152	12,008
	White, Not Hispanic	219,184	214,531	217,362
<b>Tolland</b>	Black, Not Hispanic	1,442	1,663	3,787
	Hispanic	1,688	1,931	5,308
	Other, Not Hispanic	2,138	4,007	5,001
	White, Not Hispanic	112,651	117,710	131,861
<b>Windham</b>	Black, Not Hispanic	826	1,282	1,852
	Hispanic	4,039	3,575	9,322
	Other, Not Hispanic	1,102	2,835	1,153
	White, Not Hispanic	93,631	94,606	102,309
<b>Connecticut</b>	Total Population	2,865,058	3,294,997	3,454,807

Black, Not Hispanic	248,357	292,612	316,412
Hispanic	206,017	292,115	403,375
Other, Not Hispanic	56,088	119,064	142,563
White, Not Hispanic	2,354,596	2,591,206	2,592,457

Source: 1990 and 2000 CT State Data Center, 2007 ACS

Chart 1 shows that in 2007, 75% of Connecticut’s population was white while 25% consisted of other races and ethnicities. The racial and ethnic categories in Table 3 are not exhaustive and therefore the county totals in Table 3 are smaller than those in Table 2.

**Chart 1: 2007 Ethnic Composition of Connecticut**



Source: 2007 ACS

**Age Distribution**

Tables 4, 5, and 6 show Connecticut’s age distribution for 1990, 2000, and 2008 respectively. The baby boomers (people born between 1946 and 1964) account for a significant part of the population in these years, while 20-29 year olds are leaving the state, ostensibly to avoid the high cost of living and find jobs elsewhere. Part of the explanation of the increasing share of the population occupied by older people is that they are aging in place and are not being replaced by sufficient numbers of young people. This is because the fertility rate of white females is about 1.8 and that of African-Americans is about 2.0 (still less than replacement, which is 2.1 births per woman), while the fertility rate for Hispanics is 2.2 (source Connecticut State Data Center).



**Table 4: 1990 Connecticut Age Distribution by County**

	Fairfield County	Hartford County	Litchfield County	Middlesex County	New Haven County	New London County	Tolland County	Windham County
Total Population	827,646	851,782	174,092	143,197	804,223	254,956	128,703	102,522
Age 0 - 4	6.9%	6.8%	6.9%	6.7%	7.0%	7.4%	6.8%	7.4%
Age 5 - 9	6.1%	6.3%	6.7%	6.1%	6.3%	6.7%	6.4%	7.5%
Age 10 - 14	5.9%	5.9%	6.1%	5.6%	5.9%	6.0%	5.8%	6.9%
Age 15 - 19	6.2%	6.4%	6.1%	6.5%	6.4%	6.6%	8.2%	7.0%
Age 20 - 24	7.0%	7.6%	6.2%	7.3%	7.8%	8.8%	11.6%	7.8%
Age 25 - 34	17.1%	17.9%	16.8%	18.3%	18.0%	19.3%	17.7%	17.6%
Age 35 - 44	15.7%	15.3%	17.1%	16.9%	15.1%	14.9%	16.6%	15.2%
Age 45 - 54	12.0%	10.6%	11.4%	11.1%	10.1%	9.9%	10.7%	10.2%
Age 55 - 64	9.8%	9.2%	8.7%	8.5%	8.7%	8.4%	7.3%	7.8%
Age 65 - 74	7.7%	8.1%	7.9%	7.3%	8.4%	7.0%	5.4%	7.0%
Age 75 - 84	4.2%	4.5%	4.7%	4.3%	4.8%	3.7%	2.8%	4.1%
Age 85+	1.4%	1.5%	1.5%	1.5%	1.6%	1.2%	0.8%	1.5%
Median Age	35.5	34.5	35.7	34.8	34.2	32.4	31.6	32.6

Source: CERC Datafinder 1990 Census

**Table 5: 2000 Connecticut Age Distribution by County**

	Fairfield County	Hartford County	Litchfield County	Middlesex County	New Haven County	New London County	Tolland County	Windham County
Total Population	882,567	857,183	182,193	155,071	824,008	259,088	136,364	109,091
Age 0 - 4	7.3%	6.4%	5.9%	6.2%	6.4%	6.3%	5.9%	6.1%
Age 5 - 9	7.6%	7.1%	7.1%	6.7%	7.0%	7.1%	6.5%	7.1%
Age 10 - 14	7.1%	7.1%	7.6%	6.5%	7.1%	7.1%	6.9%	7.5%
Age 15 - 19	5.8%	6.4%	6.0%	6.0%	6.6%	6.5%	8.3%	7.6%
Age 20 - 24	4.9%	5.4%	3.8%	5.0%	6.0%	6.0%	8.3%	6.4%
Age 25 - 34	13.4%	13.1%	11.6%	13.2%	13.6%	13.6%	12.9%	13.1%
Age 35 - 44	17.5%	16.6%	18.1%	17.9%	16.3%	17.6%	17.8%	17.2%
Age 45 - 54	14.0%	14.1%	15.8%	15.3%	13.7%	13.9%	14.5%	14.1%
Age 55 - 64	9.2%	9.1%	9.9%	9.5%	8.7%	8.9%	8.7%	8.6%
Age 65 - 74	6.8%	7.1%	7.0%	6.7%	6.8%	6.7%	5.4%	6.1%
Age 75 - 84	4.7%	5.5%	5.3%	4.9%	5.6%	4.7%	3.6%	4.5%
Age 85+	1.8%	2.0%	2.0%	2.0%	2.1%	1.6%	1.2%	1.8%
Median Age	37.3	37.7	39.6	38.5	37	37	35.7	36.3

Source: CERC Datafinder 2000 Census

**Table 6: 2008 Connecticut Age Distribution by County**

	Fairfield County	Hartford County	Litchfield County	Middlesex County	New Haven County	New London County	Tolland County	Windham County
Total Population	903,586	881,904	192,380	162,398	857,312	269,732	154,406	119,053
Age 0 - 4	6.3%	6.0%	5.0%	6.3%	5.9%	5.3%	5.4%	5.8%
Age 5 - 9	6.7%	5.9%	5.5%	5.5%	6.2%	6.0%	5.1%	5.4%
Age 10 - 14	7.2%	6.6%	6.3%	6.2%	6.5%	6.5%	5.7%	6.2%
Age 15 - 19	7.0%	6.9%	6.6%	6.5%	6.9%	6.8%	8.1%	7.5%
Age 20 - 24	6.1%	6.5%	5.8%	6.0%	6.9%	6.2%	10.5%	7.1%
Age 25 - 34	10.2%	11.7%	10.8%	11.2%	12.6%	12.6%	12.9%	14.3%
Age 35 - 44	14.9%	14.3%	14.1%	14.9%	14.3%	15.1%	13.6%	14.4%
Age 45 - 54	16.2%	15.6%	17.6%	16.7%	15.2%	16.6%	15.9%	15.7%
Age 55 - 64	12.0%	12.1%	13.6%	12.3%	11.6%	11.3%	11.5%	11.1%
Age 65 - 74	6.9%	6.9%	7.7%	7.6%	6.8%	6.8%	6.3%	6.6%
Age 75 - 84	4.4%	5.0%	4.3%	4.8%	4.8%	4.7%	3.6%	4.1%
Age 85+	2.2%	2.5%	2.7%	2.2%	2.5%	2.1%	1.5%	1.8%
Median Age	39.82	39.76	42.61	41.07	38.77	39.79	36.99	37.9

Source: CERC Datafinder 2008

## Income Distribution

Table 7 shows the income distribution of Connecticut for 2008 for its eight counties. Fairfield County residents have the highest average household income and Windham County residents have the lowest average household income.<sup>1</sup>

<b>Table 7: 2008 Connecticut Income Distribution by County</b>								
	Fairfield County	Hartford County	Litchfield County	Middlesex County	New Haven County	New London County	Tolland County	Windham County
Total Households	326,398	338,086	76,049	66,941	321,391	104,906	54,567	44,712
<b>Household Income</b>								
\$ 0 - \$9,999	5.2%	6.5%	3.9%	3.4%	6.9%	5.1%	3.9%	6.3%
\$ 10,000 - \$19,999	6.0%	7.8%	6.8%	6.2%	8.5%	7.0%	5.8%	9.2%
\$ 20,000 - \$29,999	6.4%	8.2%	7.7%	7.0%	8.8%	8.6%	6.3%	10.0%
\$ 30,000 - \$39,999	6.8%	8.8%	7.9%	7.4%	8.6%	9.2%	7.4%	9.8%
\$ 40,000 - \$49,999	7.1%	8.7%	8.3%	8.1%	8.8%	9.4%	8.3%	9.5%
\$ 50,000 - \$59,999	6.5%	7.7%	7.6%	7.6%	7.9%	8.8%	8.1%	9.4%
\$ 60,000 - \$74,999	8.8%	10.2%	11.3%	11.0%	10.4%	11.6%	11.4%	12.1%
\$ 75,000 - \$99,999	12.1%	14.0%	15.8%	15.7%	13.8%	15.4%	16.1%	14.7%
\$100,000 - \$124,999	9.6%	10.0%	11.2%	12.1%	9.8%	9.9%	12.4%	8.9%
\$125,000 - \$149,999	7.1%	6.2%	7.2%	8.1%	6.0%	5.8%	8.1%	4.4%
\$150,000 +	24.5%	11.9%	12.3%	13.4%	10.6%	9.2%	12.2%	5.7%
Average Household Income	\$130,074	\$81,768	\$89,157	\$85,890	\$76,041	\$78,540	\$87,686	\$67,561
Median Household Income	\$81,058	\$63,239	\$70,291	\$74,132	\$60,718	\$62,230	\$73,510	\$54,859
Per Capita Income	\$48,024	\$32,340	\$35,904	\$36,468	\$29,467	\$32,209	\$32,578	\$26,380

Source: CERC Datafinder 2008

According to Hero (2009),<sup>2</sup> Connecticut has an income equality problem. In addition to having the second most unequal household income distribution in the country, Connecticut has had the greatest *growth* in household income inequality over the past several decades. Connecticut's highest-income households — the top 5% — received a quarter (24.9%) of all the income in the state. The poorest 20% of Connecticut's households received 3.3% of all income in the state.

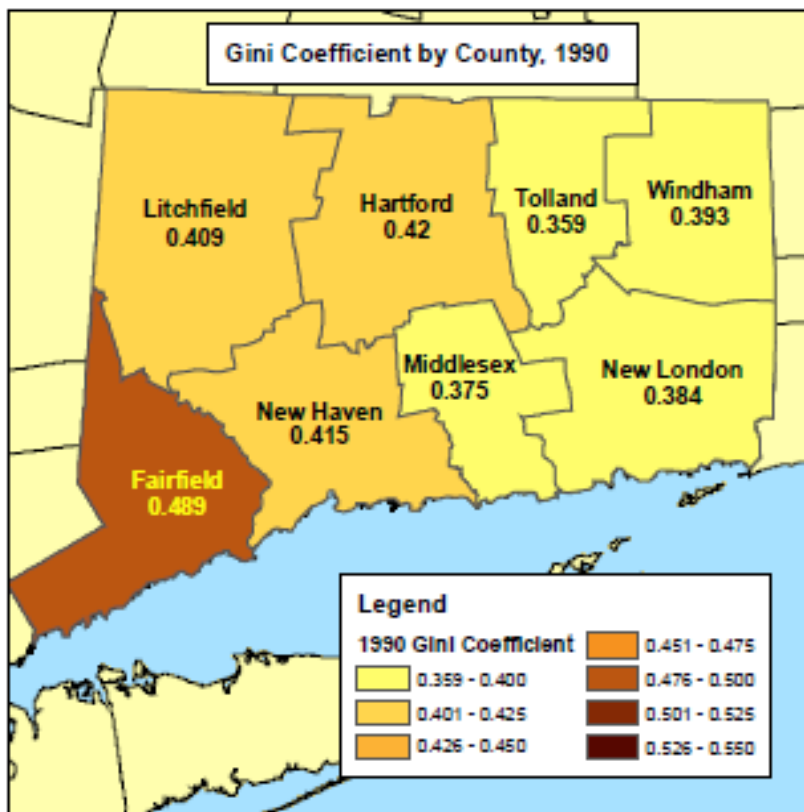
One measure of inequality is the Gini Coefficient. The Gini Coefficient ranges from 0 to 1, where 0 indicates perfect equality (a proportional distribution of income), and 1

<sup>1</sup> Connecticut Voices for Children, <http://www.ctkidslink.org>

<sup>2</sup> Hero, Joachim (2009). "Connecticut Leads the Nation in Multiple Measure of Income Inequality: 2007" Connecticut Voices for Children, February.

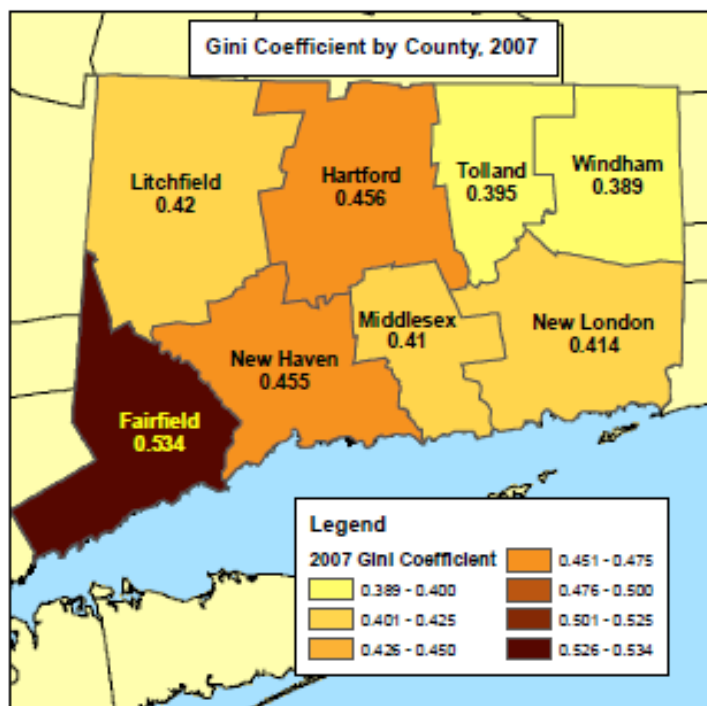
indicates perfect inequality (where one person has all the income and no one else has any). The Connecticut Gini Coefficient is 0.481, the only state with a higher Gini Coefficient is New York and the national Gini Coefficient is 0.464. The following maps show the Gini Coefficients for each Connecticut county in 1990 and 2000 (footnote 2). Unfortunately, the Gini Coefficients have been growing in seven of the eight counties. This is a problem, as research shows that income inequality negatively impacts health, economic opportunities, and quality of life. Children who grow up in poverty have poorer health, higher rates of learning disabilities and developmental delays, and poorer school achievement. They also are far more likely to be unemployed as adults than children who were not poor. This extends the income gap between Connecticut’s high and low earners into future generations (footnote 2).

**Figure 1: Connecticut’s Gini Coefficient by County, 1990**



Source: Connecticut Voices for Children

**Figure 2: Connecticut's Gini Coefficient by County, 2007**



Source: Connecticut Voices for Children

## Poverty

Connecticut has one of the lowest poverty rates in the nation. In 2007, the U.S. Census Current Population Survey ranked Connecticut 7<sup>th</sup> for states with the lowest poverty rates, with 8.9% of its population being poor defined by Census poverty thresholds. Table 8 shows the number of Connecticut families below the poverty threshold and accounts for the number of children under 18 in the family.

<b>Table 8: Connecticut Families Living in Poverty</b>										
		<b>Number of related children under 18 years</b>								
		None	One	Two	Three	Four	Five	Six	Seven	Eight or more
<b>Families in poverty</b>										
<b>Below poverty level</b>										
One person	10,189	10,189	-	-	-	-	-	-	-	-
Under 65	7,971	7,971	-	-	-	-	-	-	-	-
65+	2,218	2,218	-	-	-	-	-	-	-	-
Two people	2,796	1,487	1,310	-	-	-	-	-	-	-
Householder under 65	2,267	1,005	1,263	-	-	-	-	-	-	-
Householder 65+	529	482	47	-	-	-	-	-	-	-
Three people	1,699	224	527	947	-	-	-	-	-	-
Four people	1,464	67	160	614	624	-	-	-	-	-
Five people	946	12	66	146	466	256	-	-	-	-
Six people	398	2	10	21	72	217	77	-	-	-
Seven people	187	1	4	5	30	44	74	28	-	-
Eight people	67	-	-	-	3	17	17	21	8	-
Nine or more people	65	-	-	-	2	7	12	15	19	10

Source: 2007 U.S. Census Current Population Survey (CPS)

## Homelessness

HUD defines a “homeless” person is an individual who lacks a fixed, regular, and adequate nighttime residence; an individual who has a primary nighttime residence that is supervised by a publicly- or privately-operated shelter designed to provide temporary living accommodations; an institution that provides a temporary residence for individuals intended to be institutionalized; or, a public or private place not designed for, or ordinarily used as, regular sleeping accommodations for human beings. This definition of homelessness does not include individuals imprisoned or detained pursuant to an act of Congress or state law.

In accordance with HUD guidelines, Connecticut conducted its first ever “point-in-time” count of the sheltered and unsheltered homeless populations on the night of January 30,

2007. In the final report *Connecticut Counts 2007*,<sup>3</sup> volunteers counted 3,325 homeless households. In accounting for the homeless sheltered population, *Connecticut Counts 2007* does not incorporate into the results residents of transitional housing programs that are not specifically designated for homeless people. For example, residents of mental health, substance abuse, and child welfare programs counted only if the program specifically serves homeless people.

Authors of the report emphasize that one should not interpret the final count as a representation of the full scope of homelessness, but the study is important as a baseline measure to compare the effectiveness of future initiatives to end homelessness. In fact, the Connecticut Coalition to End Homelessness and the Reaching Home Campaign (both sponsors of *CT Counts 2007*) prefer to give the public a more holistic perspective. They estimate that in a given 12-month period, approximately 33,000 individuals (including 13,000 children) in Connecticut experience homelessness to varying degrees. This figure encompasses those who are struggling on the brink of losing their homes in addition to those that experience homelessness.

The results indicate that just over two-thirds of sheltered adults in families were between ages 22 and 39, compared to the majority of sheltered single adults (57%) who were between 40 and 59 years old. Interestingly, 72% of sheltered single adults are male, whereas 83% of sheltered adults in families are female. This suggests that most homeless women belong to families as single mothers. Similar trends prevail in the unsheltered population, where 80% of single adults are male and 74% of adults in families are female.

To better trace the roots of homelessness, surveyors interviewed the homeless about the primary reason for leaving their last permanent residence. The results appear in Table 9.

The Department of Social Services has historically reported the leading causes of homelessness as alcohol/drug abuse, unemployment, and insufficient income. Across all groups in the *CT Counts 2007* survey, “rent problems” was the number one reason cited as the cause of homelessness. Although rather vague, the reason “rent problems” refers to a household’s failure to make periodic housing payments. This failure could be attributed to a number of financial or housing problems such as a lack of affordable housing supply in Connecticut. In addition to forces in the housing market, rent problems could be caused by personal issues such as substance abuse or unemployment. Another popular choice for respondents was the “other” category, which could also be interpreted in a number of ways, not the least of which could be a problem with alcohol or other drug abuse. At the same time, chemical dependency may trigger several of the above scenarios—especially family/friend conflict, eviction, or hospitalization. Among single adults, a striking 13% of sheltered and 14% of unsheltered persons left their place of

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<sup>3</sup> See <http://www.ctreachinghome.org/pointintimereport07.pdf>.

permanent residence to go to jail, and once released were forced into poverty and homelessness. It is common for de-incarcerated persons to have difficulty finding a job and an affordable housing unit after they are released; many eventually return to jail.

<b>Table 9: Reason Left Last Residence</b>								
	<b>Sheltered</b>				<b>Unsheltered</b>			
	<b>Single Adults</b>	<b>%</b>	<b>Adults in Families</b>	<b>%</b>	<b>Single Adults</b>	<b>%</b>	<b>Adults in Families</b>	<b>%</b>
Rent Problems	518	24%	139	31%	180	25%	11	29%
Evicted for a reason other than rent problems	248	12%	60	13%	99	14%	2	5%
Conflict with family or friends	396	19%	83	19%	120	17%	5	13%
Overcrowding	47	2%	22	5%	18	3%	1	3%
Domestic Violence	72	3%	73	16%	28	4%	5	13%
Went to prison or jail	271	13%	22	5%	101	14%	1	3%
Went into the hospital	105	5%	0	0%	4	1%	0	0%
Housing condemned	20	1%	9	2%	8	1%	1	3%
Fire	11	1%	6	1%	6	1%	0	0%
Other	619	29%	97	22%	136	19%	4	11%
Unknown	148	7%	16	4%	134	19%	13	34%

Source: CT Counts 2007

The survey volunteers inquired where the homeless have slept in the last 30 days. Respondents were given the opportunity to list more than one location. Their responses appear in Table 10.

It should not be surprising that the sheltered population displayed a strong preference for either an emergency shelter or some type of transitional housing in the 30 days prior to the survey. Those unsheltered remained in the same condition or opted to stay with relatives or friends rather than enter into an emergency or transitional shelter. Difficulty arises when one attempts to analyze the precise fraction of households that resided in



each of the above locations as seemingly over 100% of the sample population responded because each household could identify more than one location.

<b>Table 10: Where Slept in Last 30 Days</b>								
	<b>Sheltered</b>				<b>Unsheltered</b>			
	<b>Single Adults</b>	<b>%</b>	<b>Adults in Families</b>	<b>%</b>	<b>Single Adults</b>	<b>%</b>	<b>Adults in Families</b>	<b>%</b>
Non-housing*	103	5%	4	1%	389	55%	11	29%
Emergency Shelter	1147	54%	211	47%	164	23%	4	11%
Transitional Housing for Homeless Persons	454	21%	167	38%	2	0%	2	5%
Psychiatric Facility	18	1%	2	1%	2	0%	0	0%
Substance Abuse Treatment Facility	141	7%	6	1%	16	2%	0	0%
Hospital	78	4%	2	1%	24	3%	1	3%
Jail/prison	49	2%	2	1%	24	3%	0	0%
Domestic Violence Situation	20	1%	16	4%	4	1%	3	8%
Living with Relative or Friend	201	10%	55	12%	180	25%	11	29%
Rental Housing, Own Apartment or House	125	6%	46	10%	22	3%	1	3%
Hotel or motel	47	2%	7	2%	39	6%	2	5%
Other	110	5%	10	2%	65	9%	4	11%
Unknown	96	5%	7	2%	95	13%	12	32%

\*Non-housing includes street, park, car, bus, station, parking garage, campground, woods, abandoned building, etc.

Source: CT Counts 2007

A regularly reported measure of homelessness in Connecticut comes from the Department of Social Services' *Annual Homeless Shelter Demographic Report*. The latest report states that from October 2006 to September 2007, 13,779 people used available emergency shelters in the state. However, in the same period, these shelters had to turn away people 34,026 times. The three cities with the highest "turned away" rates among reporting shelters were New Haven, East Hartford, and Hartford; all turn-aways number in the thousands annually.

Of the total number of homeless clients served by homeless shelters from 2006-2007, 9,904 (72%) were single. There were 1,284 (9.3%) families that stayed in homeless shelters, and those families included 2,295 (16.7%) homeless children.

An accurate record of the chronically homeless is difficult to realize even with the best survey methodologies. *CT Counts 2007* surveyed those persons who have been without a permanent residence for various lengths of time. If respondents indicated that this period was greater than three years, researchers categorized them as "chronically homeless."

The results convey that an alarming 52% of unsheltered single adults were chronically homeless. The second highest rate (36%) occurred with sheltered single adults. It is important to note that single homeless adults also reported a high incidence of disability—be it mental, physical, or developmental. A high percentage, 40% of sheltered and 45% of unsheltered single adults, cited that they had some type of health condition that limits their ability to work, get around, care for themselves, or otherwise care for their needs. Further, 41% of sheltered and 26% of unsheltered adults were in need of mental health services at the time of the count. If disabled persons are systematically prone to long periods of homelessness, it suggests that current services may be insufficient and that the public and private sectors should expand the supply of supportive services and living accommodations for them. Table 11 displays the distribution of sheltered and unsheltered subpopulations. The largest group of sheltered people is chronic substance abusers, while the second largest group is severely mentally ill.

<b>Table 11: Homeless Populations and Subpopulations in Connecticut</b>				
<b>Household Type</b>	<b>Sheltered</b>		<b>Unsheltered</b>	<b>Total</b>
	<b>Emergency Shelter</b>	<b>Traditional Housing</b>		
Persons in Individual Households	1,941	1,060	503	3,504
Persons in Family Households with Children	899	558	214	1,671
Total Homeless Persons in Households	2,840	1,618	717	5,175
<b>Subpopulation Type</b>				
<b>Subpopulation Type</b>	<b>Sheltered</b>		<b>Unsheltered*</b>	<b>Total</b>
Chronically Homeless	980		333	1,313
Severely Mentally Ill	1,310		169	1,479
Chronic Substance Abuse	1,701		221	1,922
Veterans	361		24	385
Persons with HIV or AIDS	226		33	259
Victims of Domestic Violence	387		29	416
Unaccompanied Youth less than 18 Years	360		7	367

\*Provision of information on unsheltered homeless subpopulations was optional in the 2006 CoC application.

Source: Continuum of Care 2006

The Continuum of Care, a HUD-sponsored program, is a community-based, long-range plan that addresses the needs of homeless persons in order to help them reach maximum self-sufficiency. The plan, developed through collaboration with a broad cross section of the community, is based on a thorough assessment of homeless needs and resources. HUD recommends the Continuum of Care as a comprehensive and strategic approach to addressing homelessness. The application process for Continuum of Care funding includes an estimate of homeless populations and subpopulations for each state. One aspect of the Continuum of Care program is that it funds housing-related projects designed to serve the homeless population. Table 12 shows the funding awards received by Connecticut homeless housing programs in 2006.

<b>Program Component</b>	<b># of Projects</b>	<b>New Projects</b>	<b>Renewal Projects</b>	<b>Total</b>	<b>% of State Award</b>
Permanent Supportive Housing	71	\$2,698,804	\$13,249,512	\$15,948,316	71%
Transitional Housing	24	\$0	\$5,428,338	\$5,428,338	24%
Supportive Services Only	4	\$0	\$737,077	\$737,077	3%
Homeless Management Information Systems (HMIS)	6	\$23,045	\$310,165	\$333,210	1%
<b>Grand Total</b>	105	\$2,721,849	\$19,725,092	\$22,446,941	100%

Source: Continuum of Care 2006

From October 2005 to September 2006, the DSS reports that about 36.2% of the clients served in Connecticut shelters were white. Black or African American and Hispanic individuals were the second and third highest concentrations with 35.3% and 25.9% shares respectively. As a percentage of the total population within each race, African-Americans and Hispanics displayed disproportionately greater need. Whereas CERC estimated the white population to be nearly 3 million in 2006, the black and Hispanic populations each fall under 450,000 persons. Relative to population size, 1.49% of African-Americans and 0.91% of Hispanics were homeless, while a much smaller percentage was whites. In sum, eight times as many African-Americans and five times as many Hispanics than whites experienced homelessness. Similar trends were uncovered in the point-in-time figures we display in Table 13.

<b>Race/Ethnicity of Head of Household</b>	<b>Sheltered</b>		<b>Unsheltered</b>	
	<b>Single Adults</b>	<b>Adults in Families</b>	<b>Single Adults</b>	<b>Adults in Families</b>
Black or African American	28%	39%	19%	16%
White	52%	37%	49%	39%
Hispanic/Latino	18%	29%	14%	26%
Other or Unknown	18%	23%	29%	53%

Source: CT Counts 2007

As in other parts of the survey, respondents were able to check off any category in which they fit.

The *Connecticut Counts 2007* final report as well as the DSS annual report reveals that the state mimics certain national demographic trends with regard to the homeless population: most are single adults, half of whom have a behavioral health disability and half of whom have been homeless for longer than one year. Singles are mostly male, and

aging. Families are younger, have much lower levels of disability, and are homeless for shorter periods. Of those not yet homeless, at risk populations are families living below the federal poverty levels, individuals released from correctional institutions, women and children leaving domestic abuse shelters, people suffering from severe mental health or substance abuse problems, and young people no longer age-eligible for foster care or those leaving the juvenile justice system.

While shelters do not provide a solution to homelessness, they are crucial to a well-functioning society. Many of the homeless are in need of mental health services, substance abuse services, self-care assistance, HIV/AIDS treatment, and range of other types of counseling. Increasing the number of facilities that cater to these needs while at the same time providing temporary, dependable residence, is one major avenue to address the problem of homelessness.

### **Incarceration**

The Connecticut Department of Correction's 2008 Annual Report states that there were 19,413 people incarcerated in the 18 Connecticut facilities. The number of admissions for the 2007/2008 fiscal year was 34,541 and the number of releases for the same period was 34,016. The average age for males is 33 and the average age for females is 34. Ten inmates are on death row, with the last execution being in 2005. Table 14 displays the demographic composition of the incarcerated population by gender, race/ethnicity, and age in Connecticut for 2002, 2003, and 2004. The data show that the largest subpopulation is African-American and overwhelmingly male. Most inmates are between the ages of 19 and 45 that are usually the most productive years of one's life.

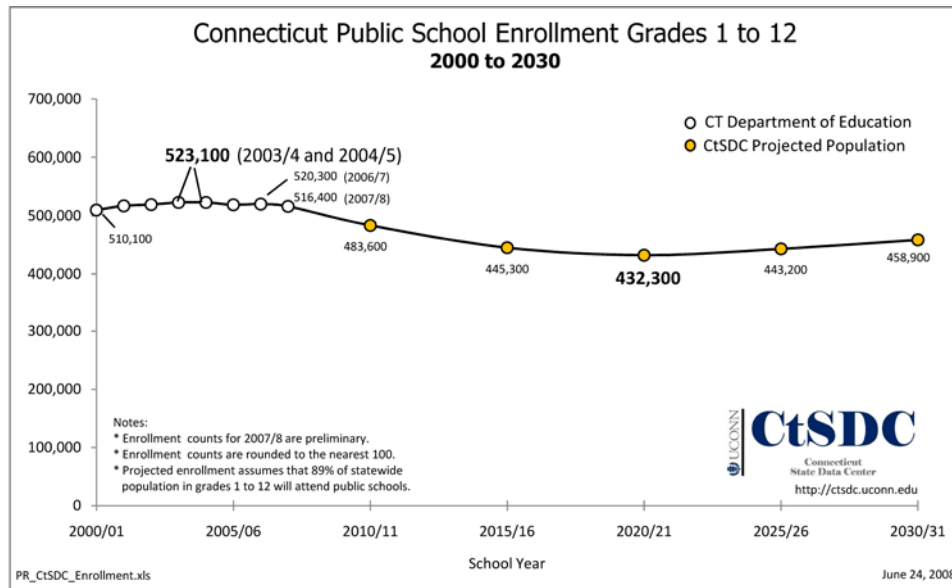
<b>Table 14: Connecticut's Incarcerated Population</b>				
		<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>Total</b>		17,999	19,216	18,523
<b>Gender</b>				
	Male	16,760	17,786	17,150
	Female	1,239	1,430	1,373
<b>Race/Ethnicity</b>				
	Black	8,221	8,618	8,134
	White	4,867	5,409	5,208
	Hispanic	4,792	5,060	5,017
	Other	119	129	164
<b>Age</b>				
	Below 16	11	14	24
	16-18	739	752	639
	19-20	1,295	1,301	1,151
	21	770	816	703
	22-24	2,324	2,485	2,370
	25-27	1,897	2,144	2,189
	28-30	1,813	1,804	1,807
	31-35	3,032	3,172	2,963
	36-45	4,441	4,848	4,698
	46-60	1,511	1,710	1,803
	Above 60	166	170	176

Source: CT Consolidated Plan for Housing and Community Development 2005-2009

## Student Population

The Connecticut State Data Center (CtSDC) created Chart 2 to show the past, present, and future of Connecticut's public school enrollment rate for grades 1 to 12. Chart 2 suggests a 17% decrease in the enrollment rate from the 2007/08 school year through 2020/21. From October 2006 through October 2007, 131 school districts (67%) experienced reduced enrollment or it was unchanged. For the same period, enrollment for the state as a whole dropped by 4,000 (0.7%). The CtSDC projects that enrollment will decline by 100,000 in grades 1 through 12 by 2020; however, it projects a net gain of 6% in K-12 population in the urban core and urban periphery from 2000 through 2030.

**Chart 2: Connecticut School Enrollment Past, Present and Projected**



**Educational Attainment**

In addition to the age distribution of a region’s population, educational attainment measures the quality of training of the underlying population, and speaks to the overall quality of the labor force and the likelihood that high value-added and technology-focused job opportunities will be attracted to the area. Table 15 displays educational attainment levels by county, grouped into three major categories: less than high school (grades K-12), high school or more (high school graduate and any form of college schooling), and bachelor’s degree or higher.

**Table 15: Connecticut Educational Attainment**

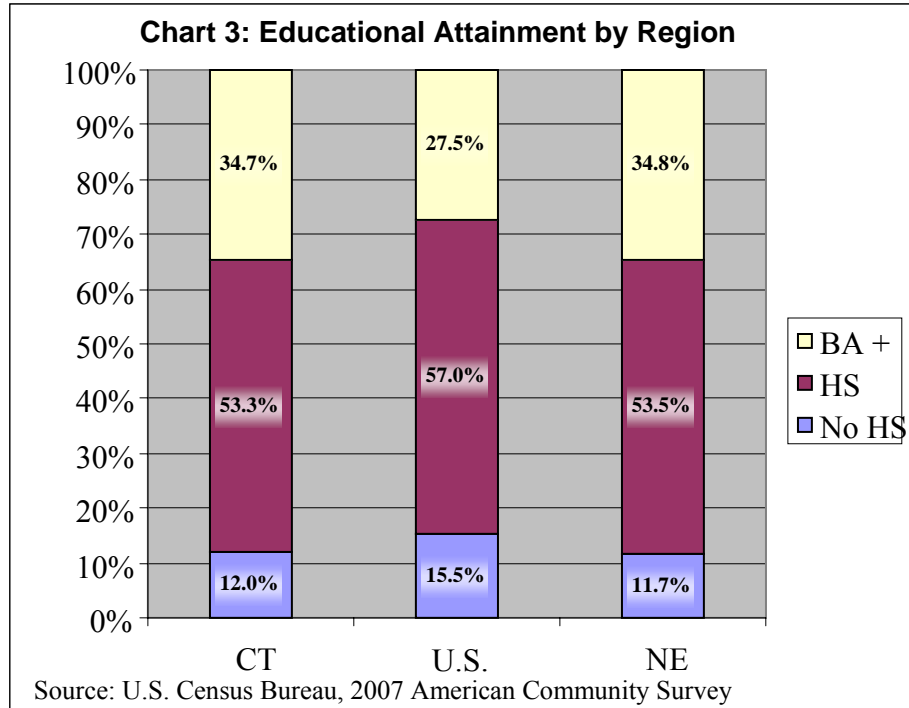
	Connecticut	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham
Population Age 25 Years and Over	2,359,568	596,640	594,121	64,424	113,537	567,591	181,845	93,843	78,690
Less than 9 <sup>th</sup> Grade	4.6%	4.9%	5.3%	3.6%	3.0%	5.0%	3.6%	1.6%	5.2%
Grades 9-12	7.4%	7.0%	8.2%	5.1%	5.3%	7.9%	7.2%	4.8%	10.4%
<b>High School or more</b>	<b>88.2%</b>	<b>88.0%</b>	<b>86.5%</b>	<b>91.4%</b>	<b>91.8%</b>	<b>87.1%</b>	<b>89.3%</b>	<b>93.6%</b>	<b>84.5%</b>
High School Graduate	29.5%	24.9%	29.1%	31.7%	30.1%	31.7%	33.5%	27.5%	38.6%
Some College, No Degree	16.5%	14.4%	15.8%	18.5%	17.7%	17.4%	18.8%	17.7%	17.5%
Associate Degree	7.5%	6.0%	8.1%	8.6%	8.1%	7.4%	7.9%	9.8%	7.5%
<b>Bachelor's Degree or more</b>	<b>34.7%</b>	<b>42.7%</b>	<b>33.5%</b>	<b>32.6%</b>	<b>35.9%</b>	<b>30.6%</b>	<b>29.1%</b>	<b>38.6%</b>	<b>20.9%</b>
Bachelor's Degree	19.3%	24.1%	19.2%	20.2%	19.0%	16.2%	15.2%	20.9%	12.1%
Graduate or Prof. Degree	15.4%	18.6%	14.3%	12.4%	16.9%	14.4%	13.9%	17.7%	8.8%

Source: U.S. Census Bureau, 2007 American Community Survey

While the range of attainment for high school education is relatively uniform—all counties are within 4.5 percentage points of the 89% mark—the population share for attainment of college degrees varies more widely with Fairfield County’s populace who attain postsecondary degrees at two times the rate of residents in Windham County.

Chart 3 compares 2007 educational attainment levels on a regional scale, evaluating Connecticut (CT), New England (NE), and the United States. The level of educational attainment in Connecticut and New England exceeds the national average. Relative to the United States, Connecticut and New England have larger shares of their populations holding bachelor level or higher degrees.





## HIV/AIDS

HIV/AIDS continues to be a major concern in Connecticut. The disease first appeared in the state during the early 1980s, and the number of HIV/AIDS cases continues to rise despite a slowing rate of growth. As of 2008, the Connecticut Department of Public Health reported there were 10,860 persons living with HIV/AIDS (PLWHA). However, this number is almost certainly an underestimate of actual HIV/AIDS cases in the state because HIV reporting was not required prior to 2002 and some PLWHA are not aware of their infection. Table 16 provides a sense of the trend in HIV/AIDS cases in Connecticut over the last year.

**Table 16: Trends in HIV/AIDS Cases**

<b>Year</b>	<b>Reported AIDS</b>	<b>Reported HIV</b>	<b>Deaths</b>	<b>Prevalent HIV AIDS</b>
1998	642	4	309	5,977
1999	580	3	315	6,378
2000	580	4	303	6,791
2001	553	3	288	7,164
2002	592	253	284	7,880
2003	688	253	270	8,497
2004	671	266	295	9,025
2005	569	732	253	9,478
2006	508	767	223	9,957
2007	418	772	219	10,426
2008	358	387	16	10,860

Source: CT Dept. Public Health 2008

The PLWHA population in Connecticut is concentrated in the three largest urban areas in the state: Hartford, New Haven, and Bridgeport. These three cities contain 4,998 PLHWA, which is 46% of the total PLWHA population in Connecticut. Table 17 provides specific numbers of PLWHA in selected Connecticut cities.

**Table 17: PLWHA in Selected Cities**

<b>Town of Residence</b>	<b>People Living with HIV/AIDS</b>
Bloomfield	77
Bridgeport	1,343
Bristol	89
Danbury	225
East Hartford	205
East Haven	69
Greenwich	69
Hamden	125
Hartford	2,075
Manchester	93
Meriden	218
Middletown	153
Milford	64
New Britain	404
New Haven	1,580
New London	192
Norwalk	352
Norwich	145
Stamford	543
Stratford	98
Torrington	64
Wallingford	64
Waterbury	701
West Hartford	79
West Haven	197
Windham	120
Other Towns	1,516
<b>Total (Statewide)</b>	<b>10,860</b>

Source: CT Dept. of Public Health 2008

## Trends and Projections

### Aging Population

As the state's population ages in place, young talent is not replenishing those retiring—the birth rate is below replacement and young adults continue to leave the state. Within twenty-two years (from 2000-2030), 374,534 more people (totaling 817,719) will be 65 years of age and older.<sup>4</sup> This is an increase of 75% from 2000. The troubling part is that this group will balloon from 14% of the overall state population in 2000, to 22% in 2030. There will be a larger number of people in the over 65 category, as well as a higher percentage of our population. In this same period—as the current 30 to 64 year olds move into the next age range—the 20-29 year olds are not staying in Connecticut to keep the relative shares constant.

The problem is two-fold: 85% of businesses surveyed in 2007 said that they have no strategy in place to offset the impending retirement of the baby-boomer generation,<sup>5</sup> and there is a talent shortage already. With the loss of this generation of employees goes a deep-rooted institutional knowledge that will take years for new workers to replace. Some ways firms have tackled this problem is to offer flextime to retirement age workers in order to keep them until they find replacements, or keep them on a short-term basis to teach the new wave of workers.<sup>6</sup>

There are only two ways to reverse this trend: rely solely on immigrants coming into the state or focus on keeping recent high school and college graduates in Connecticut. The future of the state hinges on whether thousands of young people will launch their educations, their graduate studies, and their careers in New England.<sup>7</sup> Moreover, it is crucial to find entry-level jobs that offer sufficient pay and upward mobility to entice young Connecticut students to stay. Without a steady wage and the ability to earn higher pay, graduates and other young adults are leaving the state due to the high cost of living that includes housing, energy and taxes among others.<sup>8</sup> Policies to stimulate more entry-level, non-service jobs are imperative to stem the tide of the graying Connecticut workforce.

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<sup>4</sup> Connecticut State Data Center. *CtSDC: 2010 to 2030 Population Projections – State-Wide Stand-Alone*.

<<http://ctsdc.uconn.edu/Projections.html>>

<sup>5</sup> Boston.com – HR Center. *Aging workforce a challenge for most firms in the regions, NEHRA survey says*.

Boston.com, HR Center. <<http://www.boston.com/jobs/nehra/072307.shtml>>

<sup>6</sup> Business Wire, *The New England Council releases studies on Connecticut's aging workforce*. 29 March 2007.

<[http://www.businesswire.com/portal/site/google/?ndmViewId=news\\_view&newsId=20070329005770&newsLang=en](http://www.businesswire.com/portal/site/google/?ndmViewId=news_view&newsId=20070329005770&newsLang=en)>

<sup>7</sup> Coelen, Stephen and Joseph Berger. *New England 2020: A forecast of educational attainment and its implications for the workforce of New England state*. [http://www.nmefdn.org/uploads/NE\\_2020\\_FR.pdf](http://www.nmefdn.org/uploads/NE_2020_FR.pdf).

<sup>8</sup> The Connecticut Business and Industry Association surveys have documented this phenomenon.

## Migration

As the demographics of Connecticut change, minorities will assume a larger role in the future workforce. By 2012, 40% of young workers in Connecticut will be minorities; while by 2020, 50% of young workers in Connecticut will be minorities (footnote 6). The growing role for minorities should allow more opportunity for jobs and prosperity in the near future. However, high school graduation rates among working age (25-64) Hispanics in Connecticut is 70.1%, compared to 85.6% for blacks and 94.6% of whites.<sup>9</sup>

This trend continues in post-secondary education as well. There is an 18% gap between whites and minorities in the percentage of 25- to 64-year-olds with a bachelor's degree or higher in Connecticut, which is one of the largest gaps in the United States. Among the same population, 13% of Hispanics, and 16% of blacks, the largest minority populations in Connecticut, have a bachelor's degree or higher, compared with 41% of whites.<sup>10</sup> Moreover, 40% of the Hispanic population that began college completed it with a four-year degree compared to 56% of the white population (footnote 6).

This is a disturbing trend considering Connecticut's workforce will rely increasingly on minority groups to fill its ranks in the future. Educational policies need to reflect diversity in the workforce and embrace the changing demographics of our state. It is important to allow access to all citizens looking for a proper education. Although Connecticut's most available jobs over the next ten years require just on-the-job training, high-paying, stable jobs are available to those with some post-high school education.

Over a third (34%) of Connecticut's job openings in the next ten years require post-secondary education, while 38% require short-term on-the-job training.<sup>11</sup> However, the difference in average wage for those occupations requiring only short-term on-the-job training (most notably cashiers, retail salespersons and wait-staff) and those occupations requiring post-secondary education (such as registered nurses, accountants and lawyers) is close to \$20 per hour (footnote 11). The incentive to pursue higher education is clear, yet there is still a gap in Connecticut minority achievement.

Since 2000, Connecticut has lost a higher percentage of its 25- to 34-year-old population than any other state in the nation. The state's population for that age cohort declined by 10.8% from 2000 to 2007 (Chart 4). The U.S. Census Bureau projects this lower percentage of working-age residents to continue through 2030.

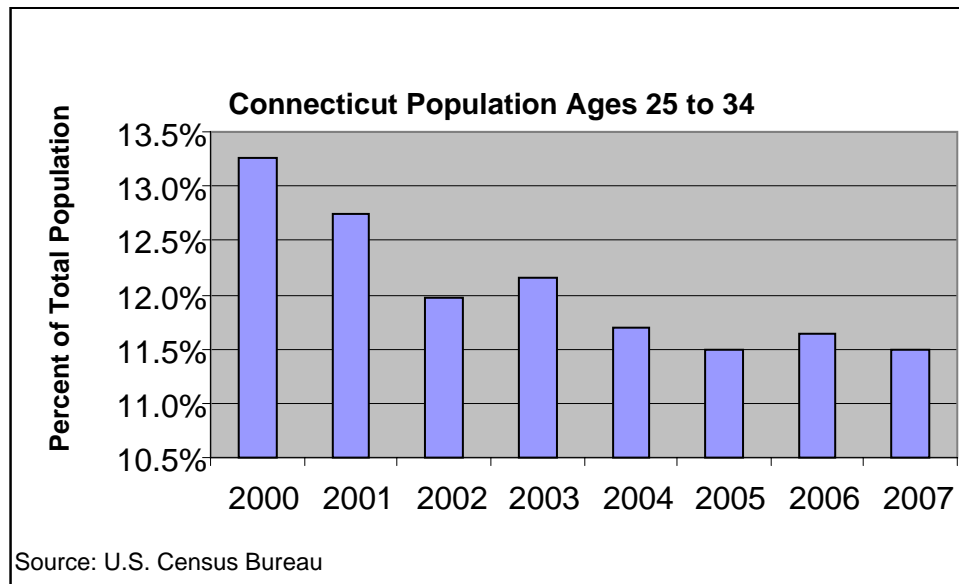
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<sup>9</sup> US Census Bureau. *American Community Survey Public Use Microdata Sample*, [http://factfinder.census.gov/home/en/acs\\_pums\\_2007\\_3yr.html](http://factfinder.census.gov/home/en/acs_pums_2007_3yr.html).

<sup>10</sup> The National Center for Public Policy and Higher Education. *Measuring Up 2008*. [http://measuringup2008.highereducation.org/print/state\\_reports/long/CT.pdf](http://measuringup2008.highereducation.org/print/state_reports/long/CT.pdf).

<sup>11</sup> Connecticut Department of Labor – Labor Market Information. *Connecticut Job Outlook by Training Level 2006-2016*. [http://www.ctdol.state.ct.us/lmi/pubs/soaring\\_2006-16.pdf](http://www.ctdol.state.ct.us/lmi/pubs/soaring_2006-16.pdf).

**Chart 4: The Brain Drain**



Maintaining a healthy proportion of working-age residents is critical to any state. Members of that group make an important contribution to the regional tax base, which helps support older and younger members of the population and the social and educational services they require.

A possible factor contributing to the loss of young workers includes Connecticut's relatively high housing prices. From 2000 to 2007, the median home sales price in Connecticut rose by 73.6%, and the median gross rent in the state increased by 26.8%. Many of Connecticut's younger working residents may have been drawn to other states with lower costs of living.<sup>12</sup>

## **SUMMARY**

The State of Connecticut's population is growing slowly, but the workforce that Connecticut needs is moving away. Since the 1990 census, the urban population has moved into suburbia, baby boomers are retiring and moving to warmer climates, minority immigrant rates are rising, and young people (ages 25-44) are leaving in record numbers because the cost of living is too expensive. The largest generation in 1990 (ages 25-34) is still the largest generation in 2007 (ages 45-54); businesses will be struggling for workers once this generation moves on. Connecticut is on pace with New England educational attainment percentages and ahead of the nation's averages, but a focus on increasing these shares is paramount for the future of the state.

<sup>12</sup> Presentation by Peter Francese, February 15, 2008 at the CBIA Outlook Conference.

**Appendix: Population Changes (Levels) by Town 1990, 2000, 2007**

<b>Table 1: Connecticut Population Estimates by Town for 1990, 2000, and 2007</b>							
<b>Town</b>	<b>1990</b>	<b>2000</b>	<b>2007</b>	<b>Town</b>	<b>1990</b>	<b>2000</b>	<b>2007</b>
Andover	2,540	3,036	3,181	Franklin	1,810	1,835	1,891
Ansonia	18,403	18,554	18,550	Glastonbury	27,901	31,876	33,169
Ashford	3,765	4,098	4,453	Goshen	2,329	2,697	3,168
Avon	13,937	15,832	17,333	Granby	9,369	10,347	11,215
Barkhamsted	3,369	3,494	3,665	Greenwich	58,441	61,101	61,871
Beacon Falls	5,083	5,246	5,770	Griswold	10,384	10,807	11,390
Berlin	16,787	18,215	20,254	Groton	45,144	39,907	42,324
Bethany	4,608	5,040	5,566	Guilford	19,848	21,398	22,373
Bethel	17,541	18,067	18,514	Haddam	6,769	7,157	7,800
Bethlehem	3,071	3,422	3,549	Hamden	52,434	56,913	57,698
Bloomfield	19,483	19,587	20,693	Hampton	1,578	1,758	2,118
Bolton	4,575	5,017	5,116	Hartford	139,739	121,578	124,563
Bozrah	2,297	2,357	2,444	Hartland	1,866	2,012	2,077
Branford	27,603	28,683	28,984	Harwinton	5,228	5,283	5,564
Bridgeport	141,686	139,529	136,695	Hebron	7,079	8,610	9,232
Bridgewater	1,654	1,824	1,884	Kent	2,918	2,858	2,952
Bristol	60,640	60,062	60,911	Killingly	15,889	16,472	17,710
Brookfield	14,113	15,664	16,413	Killingworth	4,814	6,018	6,443
Brooklyn	6,681	7,173	7,886	Lebanon	6,041	6,907	7,354
Burlington	7,026	8,190	9,143	Ledyard	14,913	14,687	15,097
Canaan	1,057	1,081	1,094	Lisbon	3,790	4,069	4,205
Canterbury	4,467	4,692	5,100	Litchfield	8,365	8,316	8,671
Canton	8,268	8,840	10,086	Lyme	1,949	2,016	2,076
Chaplin	2,048	2,250	2,528	Madison	15,485	17,858	18,793
Cheshire	25,684	28,543	28,833	Manchester	51,618	54,740	55,857
Chester	3,417	3,743	3,834	Mansfield	21,103	20,720	24,884
Clinton	12,767	13,094	13,578	Marlborough	5,535	5,709	6,351
Colchester	10,980	14,551	15,495	Meriden	59,479	58,244	59,225
Colebrook	1,365	1,471	1,529	Middlebury	6,145	6,451	7,252
Columbia	4,510	4,971	5,331	Middlefield	3,925	4,203	4,248
Cornwall	1,414	1,434	1,480	Middletown	42,762	43,167	47,778
Coventry	10,063	11,504	12,192	Milford	49,938	52,305	55,445
Cromwell	12,286	12,871	13,552	Monroe	16,896	19,247	19,402
Danbury	65,585	74,848	79,226	Montville	16,673	18,546	19,744
Darien	18,196	19,607	20,246	Morris	2,039	2,301	2,345
Deep River	4,332	4,610	4,673	Naugatuck	30,625	30,989	31,931
Derby	12,199	12,391	12,434	New Britain	75,491	71,538	70,664
Durham	5,732	6,627	7,397	New Canaan	17,864	19,395	19,890

East Granby	4,302	4,745	5,122	New Fairfield	12,911	13,953	14,100
East Haddam	6,676	8,333	8,852	New Hartford	5,769	6,088	6,736
East Hampton	10,428	13,352	12,548	New Haven	130,474	123,626	123,932
East Hartford	50,452	49,575	48,697	New London	28,540	25,671	25,923
East Haven	26,144	28,189	28,632	New Milford	23,629	27,121	28,439
East Lyme	15,340	18,118	18,690	Newington	29,208	29,306	29,619
East Windsor	10,081	9,818	10,617	Newtown	20,779	25,031	26,790
Eastford	1,314	1,618	1,789	Norfolk	2,060	1,660	1,652
Easton	6,303	7,272	7,366	North Branford	12,996	13,906	14,406
Ellington	11,197	12,921	14,426	North Canaan	3,284	3,350	3,352
Enfield	45,532	45,212	45,011	North Haven	22,247	23,035	24,002
Essex	5,904	6,505	6,753	North Stonington	4,884	4,991	5,212
Fairfield	53,418	57,340	57,548	Norwalk	78,331	82,951	83,456
Farmington	20,608	23,641	25,084	Norwich	37,391	36,117	36,432

<b>Town</b>	<b>1990</b>	<b>2000</b>	<b>2007</b>	<b>Town</b>	<b>1990</b>	<b>2000</b>	<b>2007</b>
Old Lyme	6,535	7,406	7,384	Stratford	49,389	49,976	49,015
Old Saybrook	9,552	10,367	10,539	Suffield	11,427	13,552	15,104
Orange	12,830	13,233	13,813	Thomaston	6,947	7,503	7,818
Oxford	8,685	9,821	12,527	Thompson	8,668	8,878	9,231
Plainfield	14,363	14,619	15,450	Tolland	11,001	13,146	14,631
Plainville	17,392	17,328	17,193	Torrington	33,687	35,202	35,451
Plymouth	11,822	11,634	12,011	Trumbull	32,016	34,243	34,752
Pomfret	3,102	3,798	4,165	Union	612	693	751
Portland	8,418	8,732	9,537	Vernon	29,841	28,063	29,620
Preston	5,006	4,688	4,902	Voluntown	2,113	2,528	2,612
Prospect	7,775	8,707	9,273	Wallingford	40,822	43,026	44,679
Putnam	9,031	9,002	9,292	Warren	1,226	1,254	1,384
Redding	7,927	8,270	8,840	Washington	3,905	3,596	3,671
Ridgefield	20,919	23,643	23,872	Waterbury	108,961	107,271	107,174
Rocky Hill	16,554	17,966	18,808	Waterford	17,930	19,152	18,775
Roxbury	1,825	2,136	2,319	Watertown	20,456	21,661	22,128
Salem	3,310	3,858	4,102	West Hartford	60,110	63,589	60,486
Salisbury	4,090	3,977	3,987	West Haven	54,021	52,360	52,676
Scotland	1,215	1,556	1,725	Westbrook	5,414	6,292	6,618
Seymour	14,288	15,454	16,240	Weston	8,648	10,037	10,200
Sharon	2,928	2,968	3,022	Westport	24,410	25,749	26,508
Shelton	35,418	38,101	40,011	Wethersfield	25,651	26,271	25,781
Sherman	2,809	3,827	4,110	Willington	5,979	5,959	6,139
Simsbury	22,023	23,234	23,659	Wilton	15,989	17,633	17,715
Somers	9,108	10,417	10,850	Winchester	11,524	10,664	10,748
South Windsor	22,090	24,412	25,940	Windham	22,039	22,857	23,678



Southbury	15,818	18,567	19,678	Windsor	27,817	28,237	28,754
Southington	38,518	39,728	42,142	Windsor Locks	12,358	12,043	12,491
Sprague	3,008	2,971	2,981	Wolcott	13,700	15,215	16,407
Stafford	11,091	11,307	11,786	Woodbridge	7,924	8,983	9,201
Stamford	108,056	117,083	118,475	Woodbury	8,131	9,198	9,654
Sterling	2,357	3,099	3,725	Woodstock	6,008	7,221	8,188
Stonington	16,919	17,906	18,343				

Source: 1990 and 2000 US Census, 2007 Connecticut Department of Public Health

## **B. Factors of Economic Growth**

### **Housing Market and Housing Affordability**

#### **Housing and the Economy**

##### **Overview**

The role of housing or rather the role of housing construction and maintenance as an economic driver is well understood and recognized. Construction activity is economic activity—goods and materials are produced, sold, and purchased and jobs are created—and the largest portion of most people’s personal consumption is related to housing.

The National Association of Home Builders (NAHB) estimates that for every 100 single family homes built in a “typical U.S. metropolitan area,” \$16 million in local income and \$1.8 million in taxes and other revenue for local governments are generated, and 284 local jobs are created.<sup>1</sup> These are “one-year impacts that include both the direct and indirect impact of the construction activity itself and the impact of local residents who earn money from the construction activity spending part of it within the local area” (footnote 1). These same 100 units will also generate \$3.2 million in local income, \$648,000 in taxes and other revenue for local governments, and 63 local jobs annually.

NAHB also estimates that “the one-year local impacts” of building 100 multifamily units in the “typical U.S. metropolitan area include, \$7 million in local income, \$710,000 in taxes and other revenue for local governments, and 133 local jobs” (one year impacts) (footnote 1). These same 100 units will also generate “\$3.2 million in local income, \$461,000 in taxes and other revenue for local governments, and 52 local jobs” (footnote 1).

As illustrated above, housing contributes to economic output in two ways: 1) new construction, remodeling, and real estate transaction fees; and 2) personal consumption of housing related goods and services (e.g. furniture, appliances, house cleaning, lawn care, etc.).

Home building and housing services account for approximately 15.24% of Connecticut’s gross domestic product<sup>2</sup> – about \$31 billion annually.

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<sup>1</sup> “The Local Impact of Home Building in a Typical Metropolitan Area Income, Jobs, and Taxes Generated,” National Association of Home Builders, October 2005.

<sup>2</sup> Housing’s Contribution to Gross State Product: In-Depth Analysis, National Association of Home Builders September 6, 2005, Natalia Simiavskaia, Ph.D.

At fifteen percent of the state's economy, it is clear that housing is an important economic driver, however, equally important is the role housing plays as a facilitator of economic growth.

Above all else, to operate, businesses need people. Even the most automated factories have workers, and workers need a place to live. This simple, but often overlooked relationship was not lost on Samuel Colt. Colt, who understood that affordable, quality housing was an absolute necessity in attracting skilled workers "built a community surrounding the [Colt] factory that included housing, gardens, and a social hall and library."<sup>3</sup>

Times have, of course, changed. In Colt's day it was in the best interest of businesses to safeguard their large fixed investments (factories) and maintain their skilled workforce by investing in workforce housing. In today's global economy however, businesses are highly mobile and fixed investments are not as fixed as they once were; instead of investing in housing for their workers, companies locate where workforce housing is readily available. Mobility is not just true for businesses. Today's workforce is equally mobile. Advances in communications technology (the internet, email, cell phones, etc.) and the availability, diversity, and relatively low cost of transportation have made it possible for long-distance relationships to be maintained in a highly personal and near "real-time" way.

This new mobility does not change the fact that available and affordable housing are an absolute necessity for economic growth. What changes is "who" needs to make the investment. The reality is that neither businesses nor workers have to make the investment because they can relocate to where the housing is both available and affordable.

### **Housing as a Facilitator of Economic Growth**

The relationship between the availability and affordability of housing and economic growth is fairly simple. In order for businesses to grow, they need skilled workers. As more workers move into a region, demand for housing increases.

Basic economic theory tells us that the quantity demanded rises as prices fall and that the quantity supplied rises as prices rise. When the quantity supplied exceeds the quantity demanded prices tend to fall and, conversely, when the quantity demanded exceeds the quantity supplied prices tend to rise.

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<sup>3</sup> Coltsville Special Resource Study, U.S. Department of the Interior, National Park Service, [www.coltsvillestudy.org](http://www.coltsvillestudy.org), September 20, 2005

Further, the willingness of a producer to produce a good diminishes as the price the market is willing to pay for that good approaches the cost of producing and selling that good.

### **Affordability and Employment Growth**

Section 8-39a of the Connecticut General Statutes (CGS) defines “Affordable Housing” as housing for which persons and families pay 30% or less of their annual income, where such income is less than or equal to the area median income for the municipality in which such housing is located, as determined by the United States Department of Housing and Urban Development (HUD).

In practical terms this means that for renters, rent plus utilities and any common charges paid by the tenant should not exceed 30% of their gross income and for homeowners, mortgage payments (principal and interest), plus property taxes due, private mortgage insurance (PMI), homeowners insurance, and utilities should not exceed 30% of their gross income.

The federal government, through HUD, the U.S. Census Bureau, and the Rural Housing Service (RHS), also considers annual housing costs (including utility payments) to be “affordable” if they do not exceed 30% of a family’s annual income.

Affordability is also relative, relative not only to what a household can afford, but to what it can get for its money – “value” – and, generally speaking, households seek to maximize “value” and obtain the most housing they can afford. Therefore, according to the aforementioned definitions, housing can be affordable or unaffordable at any level of income.

The term “affordable housing” has most often been associated with “public” or “subsidized” housing for persons with incomes at or below 80% (low-income), 50% (very low-income), or 30% (extremely low-income) of a given area’s median income (AMI)/median family income (MFI)—housing the private sector (aka the “market”) is unable or unwilling to produce without some form of subsidy.

Increasingly, housing that the market is unable or unwilling to produce, without some form of subsidy, includes housing that is traditionally for those with incomes between 80% and 120% (and up to 140-150% in high cost areas) of AMI/MFI.

If housing that is affordable to households with incomes between 80% and 120% of AMI/FMI is not being produced, then the availability of existing housing in that price range diminishes. In keeping with the economic laws of supply and demand, scarcity increases prices.

This brings us to the situation facing Connecticut today. Housing prices and rents have increased faster than wages, and the overall supply of housing units has not increased sufficiently to meet the need—especially for those households with income at or below 120% of AMI/MFI.

These trends have great economic consequences for the state’s economy and its prospects for future economic growth.

In their paper entitled “Sustaining the Mass Economy: Housing Costs, Population Dynamics, and Employment,”<sup>4</sup> Bluestone et al. show that there is a clear and significant statistical link between housing costs and net migration and employment growth. Based on this finding they conclude that “...to support employment growth and reduce out-migration, particularly of young workers, we need to find ways to increase the supply of housing so as to reduce the rate of price and rent appreciation” (footnote 4).

Another effect of high housing costs is that workers are forced to seek housing in lower cost areas, causing them to live farther from their places of employment. This leads to longer commute times. Rising fuel costs and limited mass transit options may make commuting difficult or even impossible and/or erode any costs savings that accrue from relocating.

In their paper entitled “The Effects of Housing Prices, Wages and Commuting Time on Joint Residential and Job Location Choices,” So, Orazem, and Otto (2001) show that “housing choices of where to live and work involve trade-offs between wages, commuting time and living costs” (footnote 4) and that the probability of choosing the commuting option is negatively related to the commuting distance [and commuting time], with the probability going to zero when the one-way commute approaches one hour ” (footnote 4). Factors such as the childcare needs and the level of education of an individual serve to shorten the one-hour tolerance. Child care needs can make commuting more costly and onerous because “coordinating childcare and job responsibilities is complicated when they are located 30 minutes apart” (footnote 4) and the level of one’s education is both correlated to the value one puts on the time spent commuting and is “positively related to the ease of obtaining information on job openings across labor markets” (footnote 4). This strongly suggests that the young, skilled workers which Connecticut is desperate to attract are highly discouraged from coming to Connecticut by long commutes.

Another aspect of workers relocating from higher cost to lower cost areas is that, as noted by the Washington State Housing Partnership, “the spillover of housing demand from

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<sup>4</sup> Sustaining the Mass Economy: Housing Costs, Population Dynamics, and Employment, Barry Bluestone, et al, Northeastern University, prepared for the Boston Federal Reserve/Rappaport Institute for Greater Boston Conference on *Housing and the Economy in Greater Boston: Trends, Impacts and Potential Responses*, May 22, 2006.

high income, job-rich areas to more affordable areas,” causes a ripple effect, “because those affordable areas are tied to their own job base, [and] the rising prices caused by spillover demand push workers in a previously affordable area out, and they, in turn spill over to the next most affordable area.”<sup>5</sup>

Housing costs in Connecticut are high and have increased sharply over the past several years in great part because the supply of existing housing is constrained. As noted above, scarcity increases prices. High housing costs encourage out-migration and discourage in-migration. High housing costs lengthen commutation distances and commutation time, which in turn puts upward pressure on wages and further encourages out-migration. As Bluestone states “...if we are to support employment growth and reduce out-migration, particularly of young workers, we need to find ways to increase the supply of housing so as to reduce the rate of price and rent appreciation.”<sup>6</sup> Increasing the supply of housing clearly appears to be a major part of the solving both Connecticut’s housing cost and employment growth problems.

If the answer is simply building more housing units why aren’t they being built? If the demand for more housing truly exists, wouldn’t the market be reacting to fill the need? As stated earlier, the willingness of a producer to produce a good diminishes as the price the market is willing to pay for that good approaches the cost of producing and selling that good. The cost of producing a unit of housing in Connecticut is high. The largest fixed cost for a housing producer is the cost of land, which in Connecticut is very expensive. The same size building lot can accommodate numerous types and sizes of housing. Producers will naturally put their resources toward those endeavors that provide the greatest return. Therefore, after making a sizable investment in a plot of land, a market driven producer of housing will seek to maximize their return by producing the size and type of housing that a) will have the highest profit margin and b) can be produced the fastest (because time is money). The Washington State Housing Partnership notes that homebuilders “still operate from the rule of thumb that the final price of a house should be between three and four times the price of the finished building lot.”<sup>7</sup>

## **Affordable Housing and Wages**

An issue often raised when discussing the affordability of housing in Connecticut is the concept of a “living wage.” The fact that Connecticut is, relative to many other states, an expensive state in which to live is indisputable. Connecticut is at the end of the energy

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<sup>5</sup> Jobs and Housing: “Can’t Have One Without the . . . Other”, The Housing Partnership in association with the Washington Association of Realtors, December, 2005

<sup>6</sup> Sustaining the Mass Economy: Housing Costs, Population Dynamics, and Employment, Barry Bluestone, et al, Northeastern University, prepared for the Boston Federal Reserve/Rappaport Institute for Greater Boston Conference on *Housing and the Economy in Greater Boston: Trends, Impacts and Potential Responses*, May 22, 2006

<sup>7</sup> Jobs and Housing: “Can’t Have One Without the . . . Other”, The Housing Partnership in association with the Washington Association of Realtors, December, 2005

pipeline and has little indigenous power generation, making energy in Connecticut more expensive than in other states. Demand for housing far exceeds supply that drives up the cost of housing across the board. To address the issue of housing affordability, some have called for the institution of a standard wage equivalent to the level of compensation needed to ensure residents pay no more than 30% of their earnings on housing. Though the goal of this effort is laudable as a solution to the affordability issue, it is not so simple because it does not get to the root of the problem, but merely attempts to address one of the consequences of the actual problem.

Since 1999, the state has published a self-sufficiency standard known as a “living wage.” A self-sufficiency standard varies by household composition and geographic location. Therefore, the amount of money a family needs to be economically self-sufficient depends on family size and composition, the age of family dependents and where the family lives. For example, according to the most recent OPM/OWC report, “The Self-Sufficiency Standard For Connecticut” (written pursuant to C.G.S. Section 4-66e)<sup>8</sup>, a single adult in Hartford with no children needs to earn \$7.00 per hour to meet basic needs whereas an adult with a pre-school child will need to earn \$15 per hour. With two children, that single adult would need to earn \$21 per hour. In a two-adult household with two children, each adult would need to earn \$11.25 per hour. In Stamford, the hourly wages for the aforementioned households range from \$10.91 per hour to \$29 per hour for a single wage earner and \$15.18 per hour for dual wage earners with two pre-school aged children. The calculation of a living wage does not end with determining what a family’s expenses are. Connecticut and the federal government provide low- and moderate-income families with significant subsidies to lower the wage required to meet the family’s economic needs. The bottom line is that promulgating a single wage standard can be misleading and the application of a policy such as this could exacerbate the problems it seeks to remedy.

### **Meeting the Challenge of Affordable Housing and Economic Growth in Connecticut**

There is no question a critical lack of quality affordable housing exists in Connecticut. Equally, it cannot be disputed that this lack of quality affordable housing has a negative effect on the state’s economy and is constraining job creation. It is our contention, however, that the affordability problem is more one of critical disequilibria between supply and demand than the individual’s economic ability to afford housing. The former directly influences/dictates the latter and as such the approach to remedying the affordability problem should be rooted in expanding the supply of quality affordable housing in Connecticut and not in overt manipulation of wage rates and/or the labor market. This “philosophy” is reflected in the state’s *Consolidated Plan for Housing and Community Development* and *State Long-Range Housing Plan*. As stated above,

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<sup>8</sup> <http://www.wowonline.org/ourprograms/fess/state-resources/SSS/The%20Self-Sufficiency%20Standard%20for%20Connecticut%201999.pdf>

nurturing economic growth requires a comprehensive and holistic approach. The affordability of housing is but one of several interconnected factors that form the foundation from which economic growth can occur. Other factors include transportation and education systems, healthcare access, energy, and the preservation and support of the state's culture and arts assets.

## **General Characteristics of Connecticut's Housing Market**

### **Housing Supply: Trends and Current Picture**

Housing supply is defined as the total available supply of housing units; the physical structures including apartments, condominiums, mobile homes, single- and multiple-household detached units.

Housing stock is the inventory of both occupied housing units and available vacant housing units. Housing units are classified as either renter or owner occupied. It is important to analyze the composition of the housing stock, the number of units available, to calculate vacancy rates. These rates are useful for making projections about the availability of housing and identifying how housing supply will meet demand in future years. For example, low vacancy rates may indicate a small number of available units to meet existing demand. Because vacant units are not always available units (e.g. seasonal or migratory homes), it is important to note that in this analysis, vacant units refer only to available housing units.

### **Current Household Trends**

The most basic way to capture the statewide demand for housing is to profile current homeowners in the state. Table 1 provides the total number of households in each Connecticut county, and also gives a clear demographic picture of housing demand by family type.



<b>Table 1: Household Types</b>						
<b>State/ County</b>	<b>Total Households</b>	<b>Family - married couple</b>	<b>Family - male householder, no wife present</b>	<b>Family - female householder, no husband present</b>	<b>Householder living alone</b>	<b>Householder not living alone</b>
Connecticut	1,320,714	673,742	51,621	160,108	356,145	79,098
Fairfield	323,848	174,915	11,768	36,973	82,773	17,419
Hartford	337,162	160,169	13,804	46,906	97,979	18,304
Litchfield	73,732	41,583	2,407	6,929	19,440	3,373
Middlesex	64,770	34,934	2,487	5,201	17,733	4,415
New Haven	321,203	155,395	12,536	43,784	88,413	21,075
New London	102,995	52,945	4,286	10,955	27,993	6,816
Tolland	53,377	31,446	2,208	3,950	10,655	5,118
Windham	43,627	22,355	2,125	5,410	11,159	2,578

Source: ACS 2007

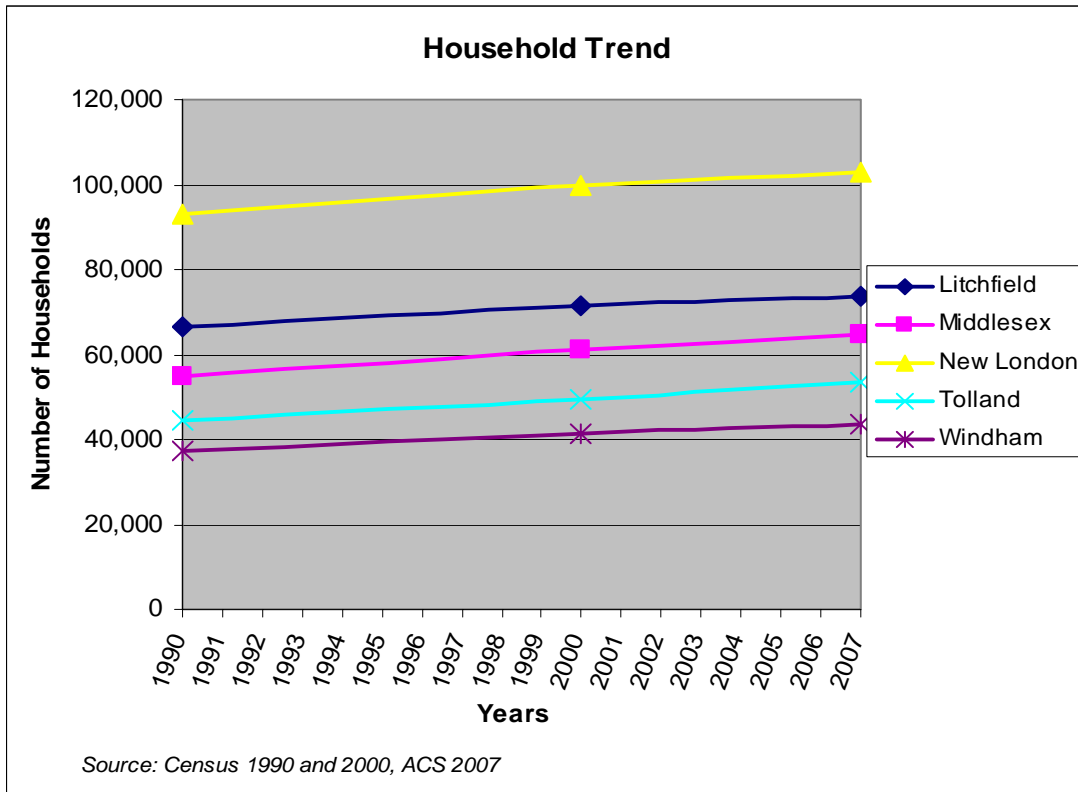
Differentiating between age cohorts is an important part of analyzing housing demand in Connecticut, a state which struggles to retain its young workforce population. Table 2 provides a percentage breakdown by age of householders in Connecticut.

<b>Table 2: Age of Householder</b>			
<b>Age Group</b>	<b>Total</b>	<b>Owner</b>	<b>Renter</b>
Under 35 years	16.71%	10.17%	31.98%
35 to 44 years	21.19%	21.19%	21.19%
45 to 54 years	23.18%	25.36%	18.08%
55 to 64 years	17.49%	20.18%	11.19%
65 to 74 years	10.41%	11.68%	7.44%
75 to 84 years	7.68%	8.37%	6.09%
85 years and over	3.34%	3.04%	4.03%

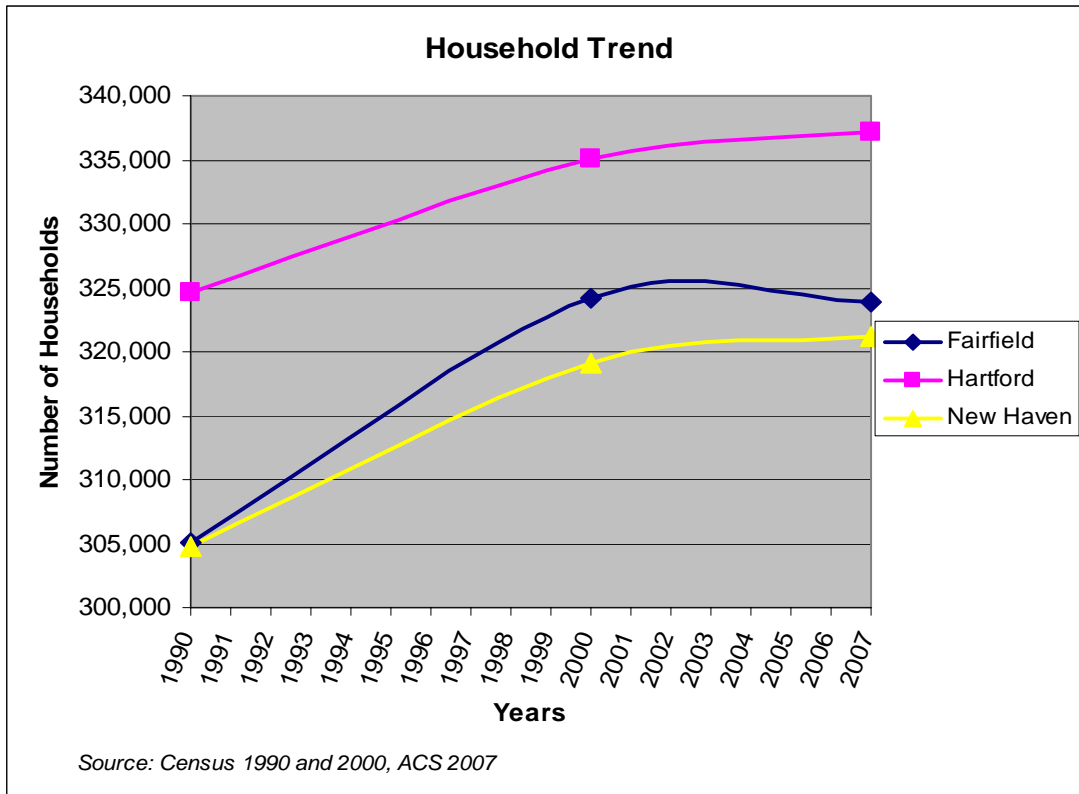
Source: ACS 2007

Charts 1 and 2 show household growth for each county from 1990 to 2007. Each county experienced positive growth over this period. The most significant growth occurred in the more urban counties of Connecticut: New Haven, Fairfield, and Hartford. For these three counties, the less drastic growth after 2000 should be noted.

**Chart 1: Household Trend by County (a)**



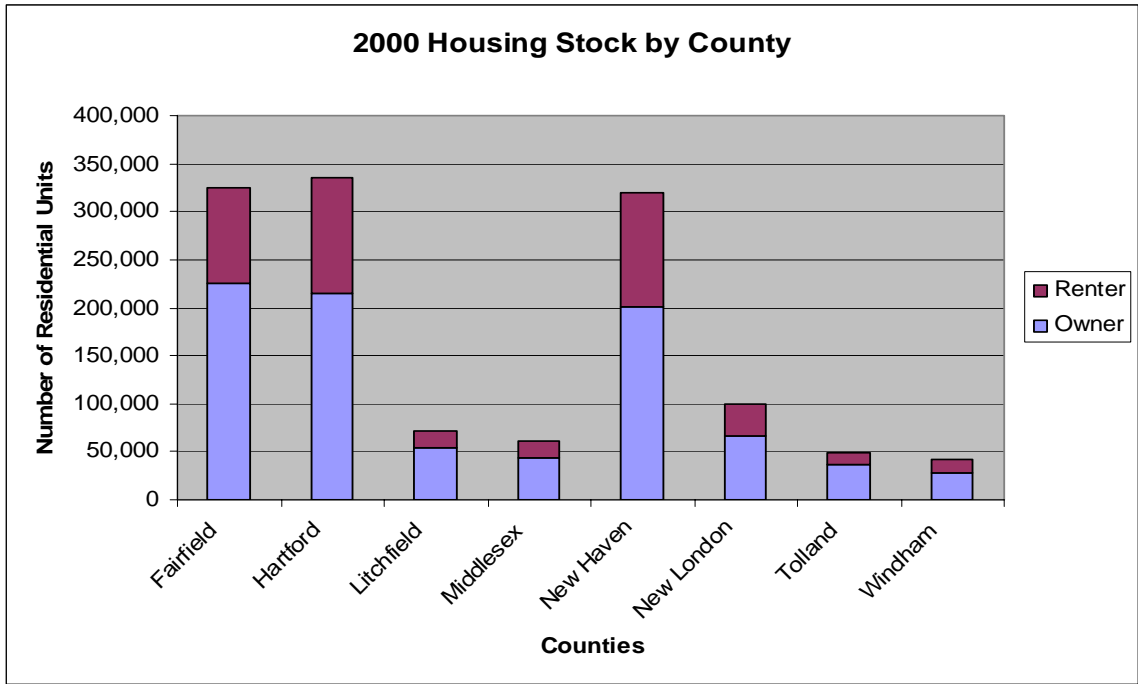
**Chart 2: Household Trend by County (b)**



### **Current Housing Stock**

At the county level, there is some differentiation in housing stock trends. Hartford, Fairfield, and New Haven counties show decreasing growth in their overall stock relative to other counties in which growth remained constant. Chart 3 shows the ownership/rental breakdown for the 2000 baseline year. The bottom section of the bar denotes homeownership and the top section of the bar represents rentals.

**Chart 3: 2000 County Housing Stock by Ownership and Rental**



Source: Census 2000

Table 3 indicates that in 2007, Hartford, New Haven, and Fairfield Counties had the largest number of housing units according to DECD, and had the largest populations according to the U.S. Census.<sup>9</sup>

State/County	Population	Housing Units
Fairfield	895,015	350,632
Hartford	876,824	367,078
Litchfield	188,273	83,596
Middlesex	164,150	72,351
New Haven	845,494	351,139
New London	267,376	117,422
Tolland	148,139	56,299
Windham	117,038	47,165
Connecticut	3,502,309	1,445,682

Source: U.S. Census, DECD

Table 4 shows the communities with the fastest growing housing stock between 2002 and 2007. Oxford showed the largest increase, and four of the ten towns with the fastest

<sup>9</sup> 2007 is the most recent year of data available from the American Community Survey (ACS) at the time of this writing.

growing housing stock are in rural Windham County. Conversely, Table 5 shows the ten communities with the slowest growing housing stock over this same period. New Britain was the single city to experience a net loss of housing stock during this period.

<b>Table 4: Ten Towns/Cities Fastest Growing Housing Stock 2002-07</b>			
<b>Place/Town</b>	<b>2002</b>	<b>2007</b>	<b>Percent Change</b>
Connecticut	1,401,802	1,445,682	3.1%
Oxford	3,612	4,392	21.6%
Sterling	1,238	1,441	16.4%
Hampton	734	842	14.7%
Goshen	1,560	1,769	13.4%
East Hampton	4,582	5,174	12.9%
Middlebury	2,589	2,880	11.2%
Canton	3,815	4,194	9.9%
Chaplin	927	1,017	9.7%
Brooklyn	2,806	3,066	9.3%
Ellington	5,639	6,158	9.2%

Source: DECD

<b>Table 5: Ten Towns/Cities Fastest Growing Housing Stock 2002-07</b>			
<b>Place/Town</b>	<b>2002</b>	<b>2007</b>	<b>Percent Change</b>
Connecticut	1,401,802	1,445,682	3.1%
Derby	5,603	5,634	0.6%
Hamden	23,675	23,797	0.5%
West Haven	22199	22302	0.5%
Westport	10,074	10,118	0.4%
Wethersfield	11,497	11,547	0.4%
Wilton	6,132	6,155	0.4%
East Hartford	21,265	21,331	0.3%
New Haven	52,849	52,903	0.1%
New Canaan	7,165	7,166	0.0%
New Britain	31,124	31,113	0.0%

Source: DECD

From 1990 to the present, population has grown slowly but continuously. The Connecticut State Data Center projects slow growth to continue in future years. In contrast to historical population data, employment has experienced drastic and cyclical fluctuations in growth.

Connecticut's housing inventory experienced modest growth in recent years. At the end of 2007, Connecticut had an estimated housing inventory of 1,445,682 units compared to 1,399,819 units in 2000, an increase of 3.3%. Among those units, 87% are in urban areas and 13% are in rural areas. The median size of Connecticut housing units is 5.6 rooms.

Tables 6 and 7 provide detail on the state's housing inventory. This inventory includes both single and multi-family units.

<b>Table 6: Connecticut Housing Inventory</b>				
	<b>2006</b>	<b>2007</b>	<b>Net Gain</b>	<b>Growth Rate</b>
One Unit	932,000	936,376	4,376	0.5%
Two Units	120,115	120,285	170	0.1%
Three and Four Units	126,882	126,931	49	0.0%
Five or more Units	248,039	249,924	1,885	0.8%
Other Units	12,185	12,166	-19	-0.2%
Demolitions	1,509	1,285	-224	-14.8%
<b>Total Inventory</b>	<b>1,439,221</b>	<b>1,445,682</b>	<b>6,461</b>	<b>0.4%</b>

Source: DECD

<b>Table 7: Size of Housing Units</b>		
<b>Rooms</b>	<b># of Units</b>	<b>Percent</b>
1-3 Rooms	190,956	13.27%
4-5 Rooms	491,395	34.16%
6-7 Rooms	458,583	31.88%
8 Rooms or more	297,614	20.69%
<b>Total</b>	<b>1,438,548</b>	<b>100.00%</b>
<b>Median (# rooms)</b>		
	5.6	---

Source: 2007 American Community Survey

The most recent housing permit data from the U.S. Census Bureau reveals a net gain of 3,758 units to the state's housing stock in 2008. Table 8 provides a breakdown of permit activity by county.

<b>Table 8: 2008 Housing Permits by County and by Type</b>							
<b>Permit-issuing State/County</b>	<b>Total Units</b>	<b>1 Unit</b>	<b>2 Unit</b>	<b>3 and 4 Units</b>	<b>5 Units or More</b>	<b>Demolitions</b>	<b>Net Gain</b>
Connecticut	5,220	3,139	170	41	1,870	1,462	3,758
Fairfield	1,814	713	40	10	1,051	640	1,174
Hartford	1,039	686	68	9	276	129	910
Litchfield	261	249	8	4	0	43	218
Middlesex	355	215	4	3	133	44	311
New Haven	920	615	8	12	285	314	606
New London	363	308	28	3	24	216	147
Tolland	297	197	4	0	96	54	243
Windham	171	156	10	0	5	22	149

Source: U.S. Census Bureau

Table 9 presents an analysis of statewide housing trends with specific classifications of availability. Availability of housing is a critical component of the housing stock's ability to satisfy current demand and support future growth in population. On an average annual basis, the number of vacant units declined for both rental and ownership units between 1990 and 2000. Homeownership units are defined as condominiums, mobile, manufactured, single- and multiple-household detached residences.

<b>Table 9: Housing Vacancy</b>					
<b>Connecticut</b>	<b>1990</b>	<b>2000</b>	<b>2007</b>	<b>Change 1990 to 2000</b>	<b>Change 2000 to 2007</b>
Total Vacant Units	46,547	34,880	44,429	-11,667	9,549
Total Stock Occupied or Available	1,277,026	1,336,550	1,365,143	59,524	28,593
Vacancy Rate Total	3.6%	2.6%	3.3%		

Source: Census 1990 and 2000, ACS 2007

Table 10 shows vacant properties as classified by Census.

<b>Table 10: Housing Stock Classifications</b>					
<b>Classification</b>	<b>1990</b>	<b>2000</b>	<b>2007</b>	<b>Avg. Annual Change 1990 to 2000</b>	<b>Avg. Annual Change 2000 to 2007</b>
Vacant for Sale Units	13,927	9,305	12,533	-462	461
Vacant for Rent Units	31,211	25,575	31,896	-564	903
Vacant-Rented/Sold & Awaiting Occupancy	8,620	6,320	12,282	-230	852
Vacant-Occasional Use, Seasonal, Migratory	20,475	23,517	22,773	304	-106
Other Vacant Units	14,729	19,588	38,350	486	2,680
Total Vacant/Seasonal/Occasional Use Units	90,371	84,305	117,834	-607	4,790
Total Housing Units	1,320,850	1,385,975	1,438,548	6,513	7,510

Source: Census 1990 and 2000, ACS 2007

Table 11 shows the total housing stock for the state. Between 2000 and 2007, the number of ownership housing units increased and the number of rental housing units declined. During the 1990s, there was a net increase of 59,524 in total available units. Of this total, there was a net increase of 3,307 units in the rental-housing inventory. During 2000-2007, there was a decrease of 29,745 rental units. This loss is partially due to rental units being converted to owner-occupied units. This trend is the result of more credit becoming available after 2001 for renters to purchase units. Growth in the overall housing stock slowed in the most recent period.

<b>Table 11: Total Housing Stock Statewide</b>					
<b>Housing Supply Available for Year-Round Occupancy</b>	<b>1990</b>	<b>2000</b>	<b>2007</b>	<b>Change 1990 to 2000</b>	<b>Change 2000 to 2007</b>
Total Ownership Stock Except Sold but Not Occupied	822,817	879,034	937,372	56,217	58,338
Total Rental Units Except Rented but Not Occupied	454,209	457,516	427,771	3,307	-29,745
Total Stock Occupied or Available	1,277,026	1,336,550	1,365,143	59,524	28,593

Source: Census 1990 and 2000, ACS 2007

Connecticut vacancy rates are low compared to the national level. More than 91% of Connecticut's housing units are occupied (of these by owners 70% and by renters 30%). This implies a vacancy rate of 8.2%, as seen in Table 12; the nationwide vacancy rate is 12.1%.



<b>Table 12: Housing Occupancy 2007</b>		
	<b>Number</b>	<b>Percent</b>
Total Housing Units	1,438,548	
Occupied Units	1,320,714	91.8%
Vacant Units	117,834	8.2%
Housing Tenure	1,320,714	
Owner Occupied	924,839	70.0%
Renter Occupied	395,875	30.0%

Source: ACS 2007

### Rental Housing

Table 13 shows the number of vacant units in relation to the total number of rental units available and the Census calculated vacancy rate. Despite the significant decline in the rental stock from 2000 to 2007, vacancy rates increased from the previous period due to the increase in number of vacant units.

<b>Table 13: Number of Vacant Units in Relation to the Total Number of Rental Units</b>					
	<b>1990</b>	<b>2000</b>	<b>2007</b>	<b>Change 1990 to 2000</b>	<b>Change 2000 to 2007</b>
<b>Statewide Rental Units</b>					
Vacant for Rent Units	31,211	25,575	31,896	-5,636	6,321
Total Rental Units Except Rented but Not Occupied	454,209	457,516	427,771	3,307	-29,745
Vacancy Rate – Rental	6.9%	5.6%	7.5%		

Source: Census 1990 and 2000, ACS 2007

### Owned Housing

Table 14 shows vacancy rates of housing stock for ownership units significantly declined from the period 1990 to 2000, but rebounded slightly from 2000 to 2007.

<b>Table 14: Vacancy Rates of Housing Stock for Ownership Units</b>					
	<b>1990</b>	<b>2000</b>	<b>2007</b>	<b>Change 1990 to 2000</b>	<b>Change 2000 to 2007</b>
<b>Connecticut</b>					
Vacant for Sale Units	15,336	9,305	12,533	-6,031	3,228
Total Ownership Stock Except Sold but Not Occ.	822,817	879,034	937,372	56,217	58,338
Vacancy Rate Ownership	1.9%	1.1%	1.3%		

Source: Census 1990 and 2000, ACS 2007

## Categories of Persons Affected

### Elderly

Table 15 gives information on elderly Connecticut citizens (60 and older) who owned homes in 2007. Table 16 provides the same information for elderly renters in Connecticut.

<b>Table 15: Elderly Homeowners in Connecticut</b>				
<b>State/County</b>	<b>Householder 60 to 64 years</b>	<b>Householder 65 to 74 years</b>	<b>Householder 75 to 84 years</b>	<b>Householder 85 years and over</b>
Connecticut	85,323	108,009	77,394	28,149
Fairfield	20,392	27,583	19,982	6,209
Hartford	20,870	27,606	20,279	6,861
Litchfield	5,677	6,592	3,806	1,999
Middlesex	5,021	5,420	3,240	2,243
New Haven	19,815	23,979	18,551	7,270
New London	6,709	8,894	7,012	1,823
Tolland	3,753	4,951	2,448	725
Windham	3,086	2,984	2,076	1,019

Source: ACS 2007

<b>Table 16: Elderly Renters in Connecticut</b>				
<b>State/County</b>	<b>Householder 60 to 64 years</b>	<b>Householder 65 to 74 years</b>	<b>Householder 75 to 84 years</b>	<b>Householder 85 years and over</b>
Connecticut	18,427	29,464	24,090	15,944
Fairfield	5,482	8,843	4,749	2,599
Hartford	5,587	8,309	7,567	4,584
Litchfield	766	1,568	1,284	923
Middlesex	993	700	881	1,264
New Haven	4,161	7,784	5,737	4,631
New London	408	1,449	1,993	1,145
Tolland	499	279	916	328
Windham	531	532	963	470

Source: ACS 2007

The elderly population faces many challenges; the greatest is living independently and on a fixed income after retirement. This demographic is typically income-constrained, yet is forced to absorb increases in taxes, housing prices, and medical care costs. Demographic projections predict an astronomical increase in the elderly population in decades to come.

The Connecticut State Data Center predicts a 72% increase in the population age 65 and older, compared to a 3% *decline* in the population ages 20-64 from 2005 to 2030.

**Table 17: Connecticut Population by Age, 2000 to 2030**

Age Group	2000	2005	2010	2015	2020	2025	2030
0 to 19 years	925,558	926,612	878,168	834,008	823,779	838,039	852,449
20 to 39 years	925,291	870,281	879,774	935,526	975,026	964,563	922,308
40 to 59 years	954,478	1,052,055	1,058,910	1,005,474	921,528	873,358	886,622
60 to 64 years	132,517	171,042	211,032	227,381	255,203	253,727	223,302
65+ years	470,185	474,935	506,202	571,496	647,238	740,303	817,719
Total	3,408,029	3,494,925	3,534,086	3,573,885	3,622,774	3,669,990	3,702,400

Source: CT State Data Center

Some citizens in the elderly population have more serious housing concerns as a result of long-term health problems. In the Comprehensive Housing Affordability Strategy (CHAS) published by the U.S. Department of Housing and Urban Development (HUD), elderly citizens who have mobility or self-care limitations are separated out from the rest of the elderly population. The CHAS tabulation defines households in this group as meeting one or both of the following criteria:

- One or more persons has a long-lasting condition that substantially limits one or more basic physical activity, such as walking, climbing stairs, reaching, lifting, or carrying
- One or more persons has a physical, mental, or emotional condition lasting more than 6 months that creates difficulty with dressing, bathing, or getting around inside the home

CHAS data also distinguishes between elderly households (one or more member is 62 to 74 years old) and extra elderly households (one or more member is 75 years or older). Table 18 provides CHAS data on elderly households with mobility or self-care limitations, separated by income level.

<b>Table 18: Elderly Citizens with Mobility &amp; Self-Care Limitations</b>						
<b>Income Thresholds</b>	<b>Total Renters</b>	<b>Extra Elderly Renters</b>	<b>Elderly Renters</b>	<b>Total Owners</b>	<b>Extra Elderly Owners</b>	<b>Elderly Owners</b>
Household Income <30% MFI	34,565	10,100	6,570	14,040	7,480	2,760
Household Income 30%-50% MFI	16,050	5,025	2,670	17,100	8,680	3,765
Household Income 50%-80% MFI	12,465	2,715	1,550	21,880	7,705	4,325
Household Income >80% MFI	15,270	2,520	1,525	68,465	11,435	10,560

Source: CHAS 2000

### **Persons with Disabilities**

Persons with disabilities may be afflicted with several physical, mental, and/or developmental conditions that constrain their possibilities for obtaining suitable housing. The disabled may require a single level home, special equipment to aid them in carrying out daily functions, or even a regular home nurse or family member to care for them. The disabled population also has varying levels of financial independence. Tables 19, 20 and 21 present the most recent number of physically disabled persons or who have a serious mental illness. These figures do not include persons who are homeless or institutionalized.

<b>Table 19: Population with Any Disability by Age</b>				
<b>Age</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Percent of Noninstitutionalized Population</b>
5 to 15 years	18,155	8,447	26,602	0.82%
16 to 20 years	9,921	5,390	15,311	0.47%
21 to 64 years	101,248	109,050	210,298	6.52%
65 to 74 years	23,971	29,344	53,315	1.65%
75 years and older	36,773	69,121	105,894	3.28%
<b>Total</b>	<b>190,068</b>	<b>221,352</b>	<b>411,420</b>	<b>12.75%</b>

Source: ACS 2007

Table 20 displays statewide and county data for citizens with any physical disabilities.

<b>Table 20: Persons with Physical Disabilities</b>				
<b>State/County</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Percent of Noninstitutionalized Population</b>
Connecticut	101,232	147,244	248,476	7.70%
Fairfield	21,265	30,667	51,932	1.61%
Hartford	28,625	41,835	70,460	2.18%
Litchfield	5,827	7,828	13,655	0.42%
Middlesex	5,119	5,824	10,943	0.34%
New Haven	22,699	38,692	61,391	1.90%
New London	10,527	11,206	21,733	0.67%
Tolland	3,465	4,956	8,421	0.26%
Windham	3,705	6,236	9,941	0.31%

Source: ACS 2007

Table 21 displays statewide and county data for citizens with any mental disabilities.

<b>Table 21: Persons with Mental Disabilities</b>				
<b>State/County</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Percent of Noninstitutionalized Population</b>
Connecticut	74,644	78,785	153,429	4.75%
Fairfield	16,058	15,044	31,102	0.96%
Hartford	21,502	22,537	44,039	1.36%
Litchfield	3,779	3,898	7,677	0.24%
Middlesex	3,300	3,272	6,572	0.20%
New Haven	16,491	21,586	38,077	1.18%
New London	7,572	7,274	14,846	0.46%
Tolland	2,615	2,148	4,763	0.15%
Windham	3,327	3,026	6,353	0.20%

Source: ACS 2007

One indicator of the large housing demand for persons with mental disabilities is the amount of temporary or mixed-use housing options available. The Department of Mental Health and Addiction Services (DMHAS) reports that there are 1,389 units of permanent, scattered site housing for persons with mental disabilities. That unit count is scheduled to increase to 1,415 by July 1, 2009. In addition to permanent housing, DMHAS provides temporary housing and financial assistance to persons with mental disabilities.

DMHAS, in partnership with other state agencies (DSS, OPM, DECD, and CHFA), has developed more than 400 units of supportive housing over the last two decades. Supportive housing is permanent, affordable housing linked to health, mental health, employment, and other supportive services. Supportive housing is a proven, cost-effective way to end homelessness for people with low income, as it provides chronically homeless people with a way out of expensive emergency public services and back into their own homes and communities.

### **Persons with HIV/AIDS and Their Families**

HIV/AIDS continues to be a concern in Connecticut. The disease was first reported in the state during the early 1980s, and the number of HIV/AIDS cases continues to rise, though at a slowing rate. As of 2008, the number of persons living with HIV/AIDS (PLWHA) was reported by the Connecticut Department of Public Health to be 10,860 people. However, this number is almost certainly an underestimate of actual HIV/AIDS cases in the state considering the fact that HIV reporting was not required prior to 2002, and that some PLWHA are not aware of their infection. Table 22 gives a sense of the trend in HIV/AIDS cases in Connecticut over the last decade.

<b>Table 22: Trends in HIV/AIDS Cases</b>				
<b>Year</b>	<b>Reported AIDS</b>	<b>Reported HIV</b>	<b>Deaths</b>	<b>Prevalent HIV AIDS</b>
1998	642	4	309	5,977
1999	580	3	315	6,378
2000	580	4	303	6,791
2001	553	3	288	7,164
2002	592	253	284	7,880
2003	688	253	270	8,497
2004	671	266	295	9,025
2005	569	732	253	9,478
2006	508	767	223	9,957
2007	418	772	219	10,426
2008	358	387	16	10,860

Source: CT Dept. Public Health 2008

The PLWHA population in Connecticut is extremely concentrated in the state's three largest urban areas: Hartford, New Haven, and Bridgeport. These three cities contain 4,998 citizens living with HIV/AIDS, which is 46% of the total PLWHA population in Connecticut. Table 23 provides specific numbers of PLWHA in selected Connecticut cities.

<b>Table 23: PLWHA in Selected Cities</b>	
<b>Town of Residence</b>	<b>People Living with HIV/AIDS</b>
Bloomfield	77
Bridgeport	1,343
Bristol	89
Danbury	225
East Hartford	205
East Haven	69
Greenwich	69
Hamden	125
Hartford	2,075
Manchester	93
Meriden	218
Middletown	153
Milford	64
New Britain	404
New Haven	1,580
New London	192
Norwalk	352
Norwich	145
Stamford	543
Stratford	98
Torrington	64
Wallingford	64
Waterbury	701
West Hartford	79
West Haven	197
Windham	120
Other Towns	1,516
<b>Total (Statewide)</b>	<b>10,860</b>

Source: CT Dept. of Public Health 2008

## Housing Conditions

### Statewide

Table 24 shows that Connecticut has a large inventory of older housing (built prior to 1980). This can be problematic for statewide housing conditions; the oldest housing stock may not have the improvements and amenities expected in today's market. The older units may lack complete plumbing or kitchen facilities for example. In 2007, approximately half of Connecticut's homes (49.7%) were between 28 and 67 years old. Almost one quarter of Connecticut's homes (24.3%) were at least 68 years old. Another 25.9% of Connecticut's homes are relatively new, having been built between 1980 and 2007.

<b>Table 24: Age of Housing Stock</b>		
<b>Year</b>	<b>Number</b>	<b>Percentage</b>
1939 and earlier	349,953	24.3%
1940-1959	328,332	22.8%
1960-1979	387,329	26.9%
1980-1999	290,289	20.2%
2000 or later	82,645	5.7%
<b>State Total</b>	<b>1,438,548</b>	

Source: 2007 ACS

Table 25, which shows the year housing units were built for each county, further reinforces the fact that a disproportionately large share of Connecticut's housing units were built in 1939 or earlier.

<b>Table 25: Year Structure Built</b>									
<b>State/County</b>	<b>2005 or later</b>	<b>2000 - 2004</b>	<b>1990 - 1999</b>	<b>1980 - 1989</b>	<b>1970 - 1979</b>	<b>1960 - 1969</b>	<b>1950 - 1959</b>	<b>1940 - 1949</b>	<b>1939 or earlier</b>
<b>Connecticut</b>	23,733	58,912	108,614	181,675	196,036	191,293	219,097	109,235	349,953
<b>Fairfield</b>	6,737	14,149	23,401	37,391	47,905	51,844	58,835	31,805	78,431
<b>Hartford</b>	4,022	13,425	23,088	45,828	45,747	50,040	62,032	31,357	88,225
<b>Litchfield</b>	1,395	3,904	8,394	12,037	12,441	8,318	8,966	5,764	22,002
<b>Middlesex</b>	1,374	4,247	9,101	9,882	10,906	9,988	8,250	3,542	14,898
<b>New Haven</b>	5,198	11,426	24,395	44,549	47,779	41,310	55,757	25,821	93,112
<b>New London</b>	3,232	5,531	9,782	17,298	16,202	14,667	13,288	5,580	30,987
<b>Tolland</b>	931	3,414	6,193	8,117	8,544	9,688	8,010	2,946	8,168
<b>Windham</b>	844	2,816	4,260	6,573	6,512	5,438	3,959	2,420	14,130

Source: 2007 ACS



## Housing Cost

### Statewide and County Costs

The American Community Survey (ACS) data shows that in 2007, occupied housing units in Connecticut totaled 1,320,714; one half of them were owner-occupied with mortgages. Nineteen percent of the units carried no mortgages and the remaining units were renter-occupied. Of the homeowners with mortgages, 25.1% carried monthly mortgages between \$1,500 and \$1,999, while 48.6% of owners were burdened with mortgages of \$2,000 or more per month (see Table 26). A household paying \$2,000 per month for principal and interest payments would need an annual income of \$80,000 to not exceed 30% of gross income.

<b>Table 26: Mortgage Status and Selected Monthly Owner Costs</b>		
	<b># Units</b>	<b>% Share</b>
<b>Housing Units with a Mortgage</b>	664,729	
Less than \$499	4,406	0.7%
\$500 to \$999	42,657	6.4%
\$1,000 to \$1,499	128,237	19.3%
\$1,500 to \$1,999	166,563	25.1%
\$2,000 or more	322,866	48.6%
<b>Median Monthly Mortgage Cost</b>	<b>\$1,971</b>	

Source: 2007 ACS

Table 27 shows that 93.6% of homeowners without a mortgage have housing-related costs of \$400 or more each month.

<b>Table 27: No Mortgage and Selected Monthly Owner Costs</b>		
	<b># Units</b>	<b>% Share</b>
<b>Housing Units without a Mortgage</b>	<b>260,110</b>	
Less than \$100	900	0.3%
\$100 to \$199	1,288	0.5%
\$200 to \$299	4,396	1.7%
\$300 to \$399	10,012	3.8%
\$400 or more	243,514	93.6%
<b>Median Monthly Housing Cost without a Mortgage</b>	<b>\$ 716</b>	

Source: 2007 ACS

The median monthly housing cost was \$1,971 for mortgaged owners, \$716 for non-mortgaged owners, and \$931 for renters, according to the 2007 ACS. Table 28 shows that 47.5% of renters in Connecticut spent 30% or more of their household income on housing.

<b>Table 28: Gross Rent as a % of Household Income</b>		
	<b># of Households</b>	<b>% Share</b>
Less than 15.0 percent	47,132	11.9%
15.0 to 19.9 percent	45,921	11.6%
20.0 to 24.9 percent	47,818	12.1%
25.0 to 29.9 percent	44,269	11.2%
30.0 to 34.9 percent	35,642	9.0%
35.0 percent or more	152,430	38.5%
Not computed	22,663	5.7%
<b>Total Number of Renter-Occupied Households</b>	<b>395,875</b>	

Source: 2007 ACS

Table 29 shows the distribution of existing single-family home sales for Connecticut by the number of bedrooms as well as median and mean sales price for 2007 on a quarterly basis.

<b>Table 29: Existing Single-Family Home Sales by Number of Bedrooms</b>					
<b>Quarter</b>	<b>2 or fewer Bedrooms</b>	<b>3 Bedrooms</b>	<b>4 or more Bedrooms</b>	<b>Median Price</b>	<b>Mean Price</b>
2007.Q1	10.5	50.3	39.2	\$ 318,800	\$ 360,200
2007.Q2	9.7	49.2	41.0	\$ 348,900	\$ 381,700
2007.Q3	10.6	49.0	40.4	\$ 328,200	\$ 365,600
2007.Q4*	11.4	50.2	38.4	\$ 303,400	\$ 350,300
* Preliminary					

Source: Connecticut Association of Realtors

Table 30 indicates total sales of single-family homes, condos, and co-ops<sup>1</sup> for Connecticut and its counties during 2007.

Table 30: Unit Volume Total Sales: Single-Family, Condominium and Co-Ops by County									
Quarter	Connecticut	Fairfield	New Haven	New London	Middlesex	Litchfield	Hartford	Tolland	Windham
2007.Q1	14,200	5,100	1,900	2,000	1,100	200	3,300	500	100
2007.Q2	19,300	6,700	2,300	1,800	1,700	600	4,900	1,300	100
2007.Q3	19,400	7,000	2,600	1,800	1,600	800	4,700	800	100
2007.Q4*	12,900	4,700	1,500	1,400	1,000	400	3,300	500	100
*Preliminary									

Source: Connecticut Association of REALTORS

Table 31 shows the median and mean home sales prices of existing single-family homes (not including condos or co-ops) in Connecticut and its counties in 2006 and 2007. The communities with the highest housing sales prices are primarily located in Fairfield County.

Table 31: Price of Existing Single-Family Home Sales by County									
	Connecticut	Fairfield	New Haven	New London	Middlesex	Litchfield	Hartford	Tolland	Windham
<b>Median</b>									
2006	\$315,300	\$498,400	\$281,700	\$264,000	\$341,300	\$247,500	\$253,500	\$264,800	\$200,600
2007	\$331,800	\$515,400	\$277,000	\$267,700	\$342,200	\$244,400	\$259,300	\$270,300	\$216,100
<b>Mean (Average)</b>									
2006	\$356,800	\$464,300	\$313,600	\$297,500	\$369,900	\$290,500	\$288,900	\$287,800	\$210,200
2007	\$368,300	\$468,132	\$308,377	\$301,007	\$369,159	\$288,525	\$297,321	\$292,219	\$234,722

Source: Connecticut Association of REALTORS

<sup>10</sup> A co-op is a housing community that is jointly owned and managed by those who live in it. Each member buys shares in this community, attends regular meetings to discuss maintenance, social events, or other community matters, and helps run the co-op. Members can participate in specific committees or be on the board. *Source: about.com: Apartment Living/Rental.*

Table 32 tracks the changes in median home prices for Connecticut broken out by number of bedrooms from 2006 to 2007. Only the four-bedroom class showed an increase, at 4.3%. The three-bedroom class showed the greatest decrease at 1.1%.

<b>Table 32: Existing Single-Family Home Median Sales Prices by Number of Bedrooms</b>			
	<b>2 or Fewer Bedrooms</b>	<b>3 Bedrooms</b>	<b>4 or More Bedrooms</b>
2006	211,900	279,400	455,400
2007	211,300	276,400	475,200
% Change 2006 to 2007	-0.3%	-1.1%	4.3%

Source: Connecticut Association of REALTORS

### Median and Mean Home Sales Prices

As used in this section, the median sales price is the midpoint-selling price—half the homes sell for less, and the other half sell for more. The National Association of Realtors (NAR) generally believes that median price is the more accurate of the two, as using it reduces the probability of an outlier heavily skewing the results.

**Table 33: Median Housing Prices in U.S. and CT**

<b>Place</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2000-07 % change</b>	<b>2006-07 % change</b>
CT	\$ 178,063	\$ 181,563	\$ 195,838	\$ 221,288	\$ 236,559	\$ 271,500	\$ 298,900	\$ 309,200	73.6%	3.4%
U.S.	\$ 124,176	\$ 128,203	\$ 135,480	\$ 143,515	\$ 151,366	\$ 167,500	\$ 185,200	\$ 194,300	56.5%	4.9%

Source: 2007 ACS

Housing prices continue to rise. Table 33 shows that in Connecticut, the median sales price of a home increased to \$309,200 in 2007, a 73.6% increase from \$178,063 in 2000 and a 3.4% increase from \$298,900 in 2006. In comparison, the U.S. median homes sales price increased 56.5% from 2000 to 2007 and experienced a 4.9% increase from \$185,200 in 2006 to \$194,300 in 2007.

Median gross rents are increasing and vary significantly across regions of the state. Table 34 below compares median gross rents between Connecticut and the United States. From 2000 to 2007, Connecticut rental rates increased 26.8%, outpacing the national gross rent growth rate of 21.6%.

<b>Table 34: Median Gross Rent in CT and U.S.</b>										
<b>Place</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2000-07% Change</b>	<b>2006-07% Change</b>
CT	\$ 734	\$ 748	\$ 741	\$ 766	\$ 811	\$ 839	\$ 886	\$ 931	26.8%	5.1%
U.S.	\$ 649	\$ 669	\$ 668	\$ 679	\$ 694	\$ 728	\$ 763	\$ 789	21.6%	3.4%

Source: 2007 ACS

Table 35 shows percentage distribution of sales broken out by number of bedrooms for Connecticut and its counties at the end of 2007.

<b>Table 35: Unit Volume Existing Single Family Home Sales by Number of Bedrooms for Connecticut and Counties by Percentage Distribution*</b>					
<b>State/County</b>	<b>2 or Fewer Bedrooms</b>	<b>3 Bedrooms</b>	<b>4 or more Bedrooms</b>	<b>Median Price</b>	<b>Mean Price</b>
Fairfield	10.7	40.4	49.0	\$ 498,700	\$ 458,400
Hartford	9.0	54.2	36.8	\$ 252,000	\$ 291,400
Litchfield	10.8	60.0	29.2	\$ 231,800	\$ 279,700
Middlesex	15.7	48.6	35.8	\$ 328,500	\$ 355,000
New Haven	13.6	57.7	28.7	\$ 255,500	\$ 286,700
New London	14.9	57.0	28.0	\$ 252,400	\$ 284,300
Tolland	7.5	53.5	39.0	\$ 264,200	\$ 284,300
Windham	14.0	66.0	20.0	\$ 210,000	\$ 227,300
Connecticut	11.4	50.2	38.4	\$ 303,400	\$ 350,300

\*Numbers are preliminary

Source: Connecticut Home Sales Report 2007 Q4

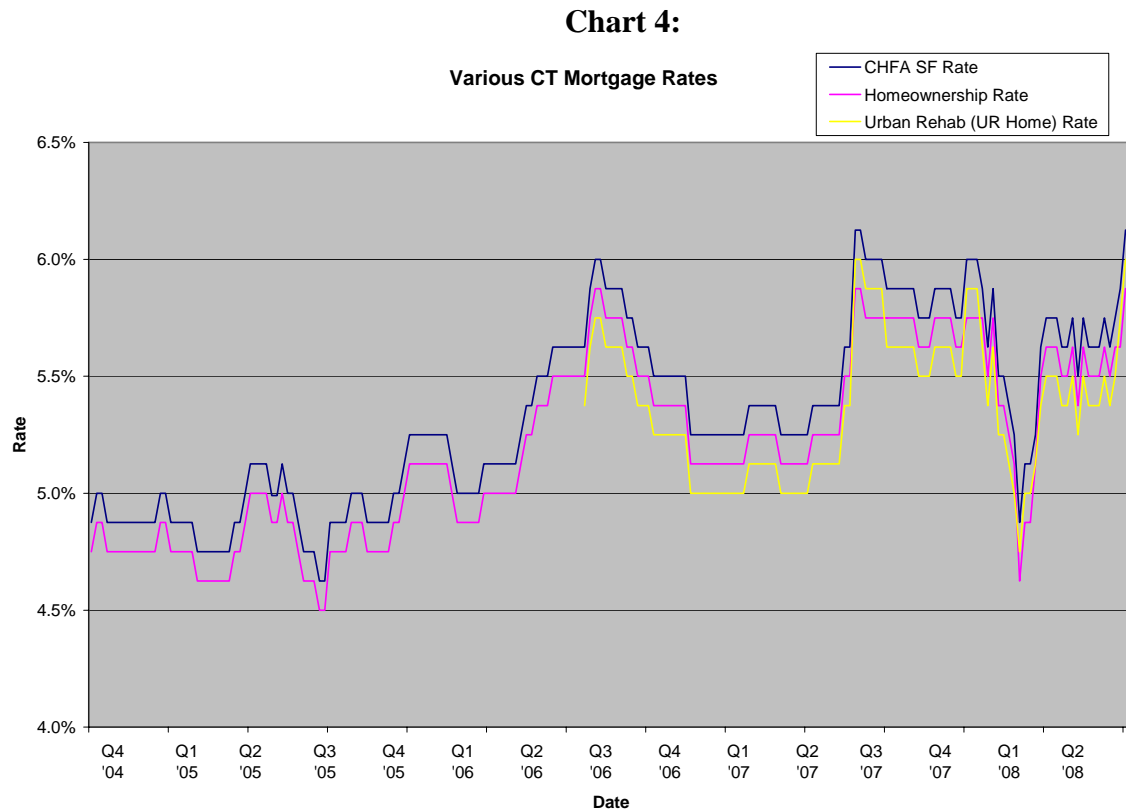
Table 36 shows median home prices for Connecticut and its counties broken out by bedroom size.

<b>Table 36: Unit Volume Median Sales Price of Existing Single Family Home Sales by Number of Bedrooms for Connecticut and Counties*</b>			
<b>State/County</b>	<b>2 or Fewer Bedrooms</b>	<b>3 Bedrooms</b>	<b>4 or More Bedrooms</b>
Fairfield	281,000	372,400	663,400
Hartford	181,700	232,000	354,500
Litchfield	163,300	225,000	355,600
Middlesex	219,100	312,200	436,800
New Haven	204,400	244,900	348,400
New London	180,000	246,000	330,600
Tolland	150,000	252,700	313,800
Windham	152,400	210,700	250,000
Connecticut	206,300	267,500	464,500
*Numbers are preliminary			

Source: Connecticut Home Sales Report 2007 Q4

## Mortgage Rates – Past Several Years

Chart 4 depicts trends for various program mortgage rates in Connecticut.



Source: CHFA 2008

## Subprime Mortgage Crisis

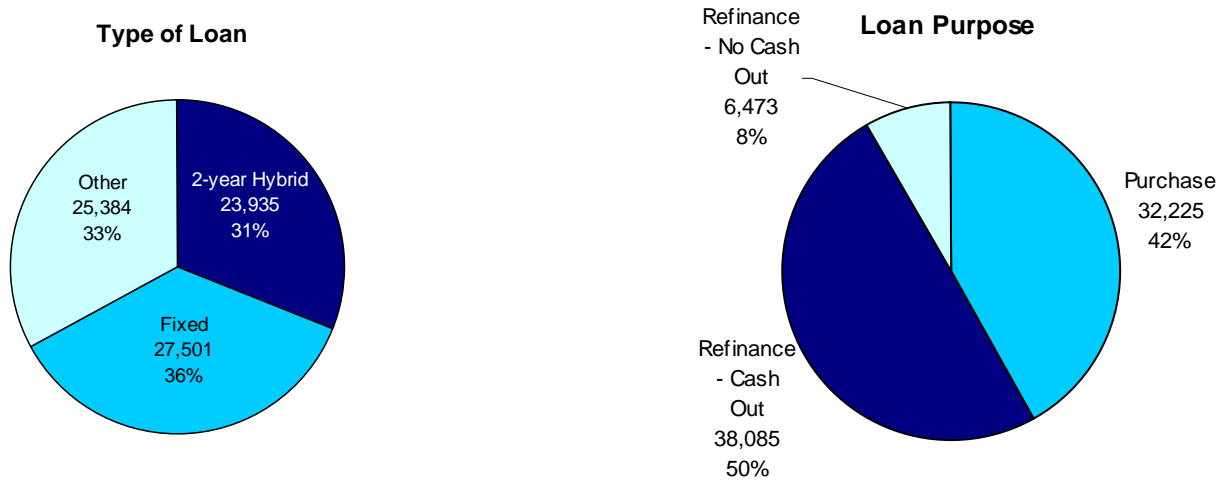
The need for affordable housing in Connecticut has been exacerbated by the subprime crisis which has prompted higher mortgage costs, delinquencies, and foreclosures for some homeowners. In some cases the demand for rental housing has become even higher as homeowners lose their homes and are forced back into the rental market. In addition, subprime mortgages can also affect owners of multi-family homes and their tenants.

In Connecticut, most subprime loans were originated between 2004 and 2006. During 2007, about 9,200 subprime loans were originated which is considerably less than the previous year when about 40,000 loans were originated. By the end of 2007, there were approximately 76,800 active subprime loans in Connecticut.

## Loan Types and Purposes

About a third of the active subprime loans in Connecticut are two-year hybrids. The majority of people used their subprime loan to refinance a home and take cash out for other purposes.

**Chart 5: Loan Type and Purpose**



Source: First American Loan Performance, December 2007

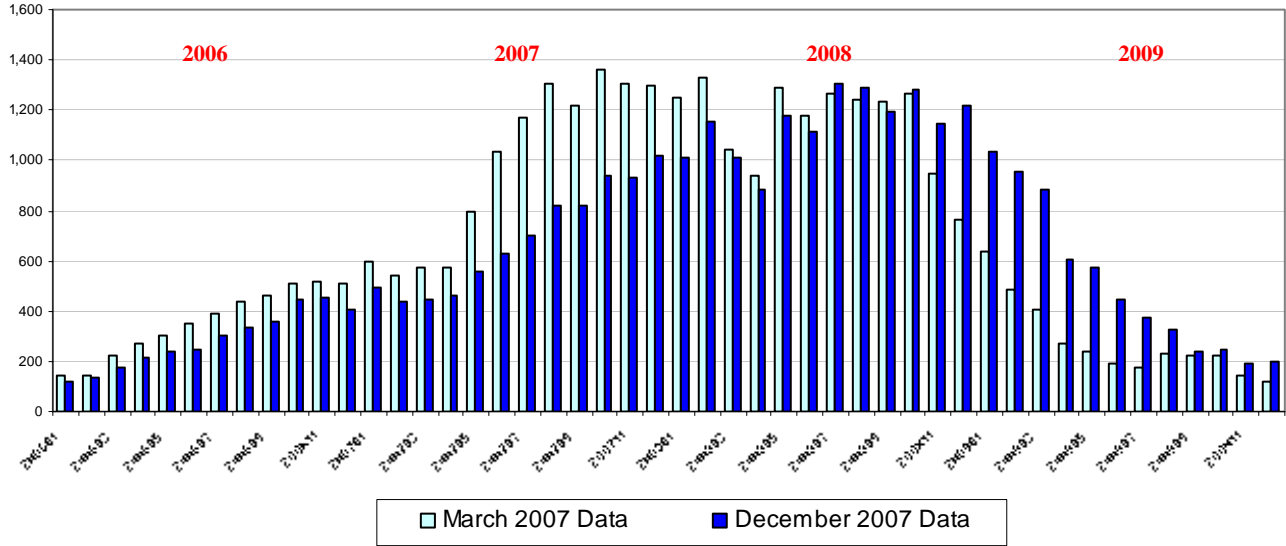
## Timing of Resets for Subprime Loans

Two-year hybrid loans are loans that have a fixed rate for two years and then reset to another rate in their third year. Many of these loans will continue to reset through 2008 and into the first quarter of 2009. Previous data indicated that most of these loans would be resetting through 2008. Updated date indicates that there will be more resets over a longer period.



## Chart 6: Interest Rate Resets

Timing of Interest Rate Resets  
March 2007 Data vs. December 2007 Data

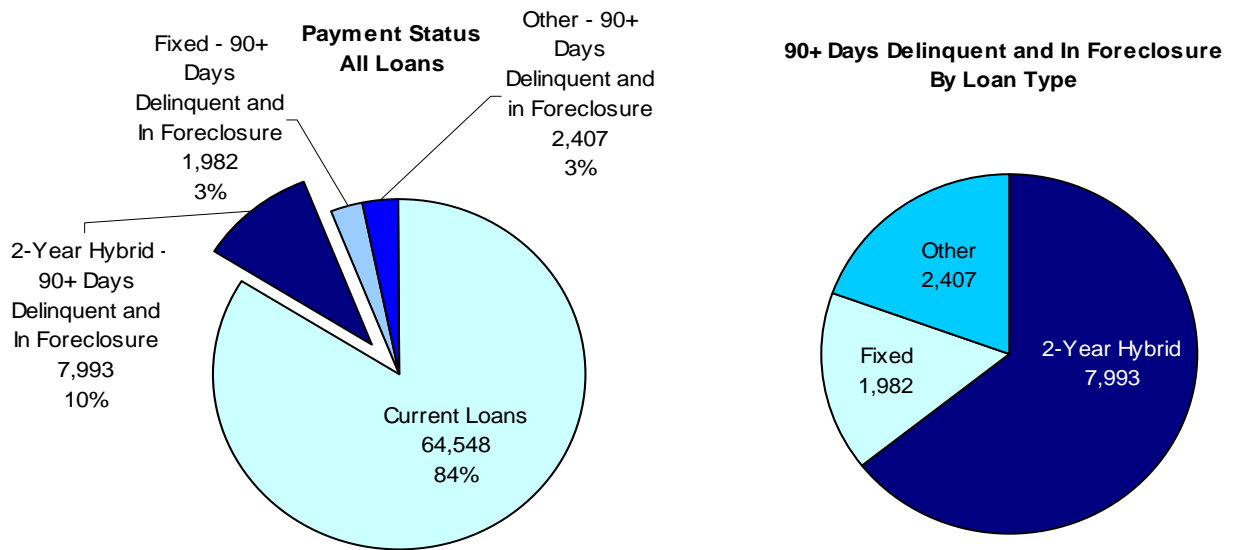


Source: First American Loan Performance, December 2007

## Subprime Delinquencies and Foreclosures

About 15% of all subprime loans in Connecticut were seriously delinquent as of December 2007. Though only about 31% of all subprime loans are 2-year adjustable loans, these loans represented most of the seriously delinquent subprime loans in Connecticut.

### Chart 7: Payment Status and Delinquent Loans

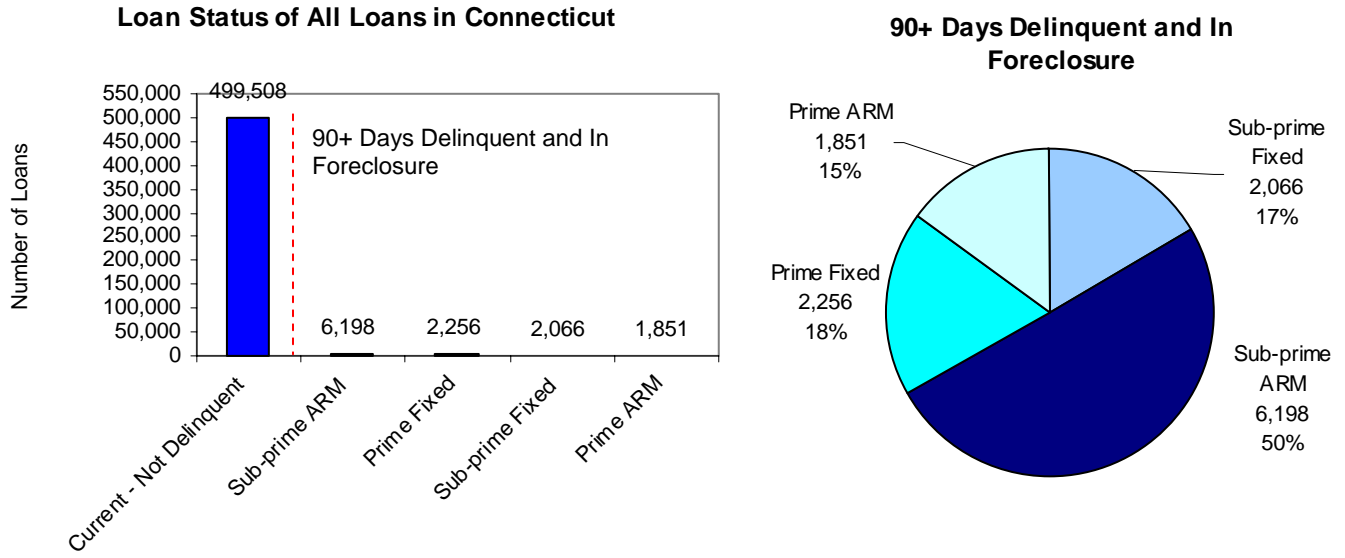


Source: First American Loan Performance, December 2007

### Prime and Subprime Delinquencies and Foreclosures

Considering the full range of active loans in Connecticut, including prime and subprime loans, delinquencies and foreclosures are a small part of the whole and are concentrated mainly in the adjustable rate subprime loans. Though subprime adjustable rate mortgages are 6 % of all active loans in Connecticut, they represent 45% of all seriously delinquent loans. The table on the following page shows how Connecticut’s seriously delinquent loan experience compares with other states.

### Chart 8: Loan Status and Delinquent Loans



Source: Mortgage Banker's National Delinquency Survey, 4Q 2007

**Table 37: Status of All Loans – United States, 4Q 2006 v. 4Q 2007**

4Q 2006				4Q 2007			
Rank	State	# Loans	% Seriously Delinquent	Rank	State	# Loans	% Seriously Delinquent
	<b>United States</b>	<b>43,481,836</b>	<b>2.21</b>		<b>United States</b>	<b>45,987,858</b>	<b>3.62</b>
1	Mississippi	231,951	5.30	1	Michigan	1,535,931	5.93
2	Ohio	1,434,657	5.12	2	Ohio	1,548,184	5.89
3	Louisiana	434,554	4.98	3	Indiana	880,951	5.57
4	Indiana	798,270	4.70	4	Mississippi	255,726	5.28
5	Michigan	1,517,299	4.17	5	Florida	3,585,614	5.19
6	Kentucky	413,675	3.13	6	Nevada	574,507	5.01
7	Georgia	1,554,568	2.97	7	Louisiana	479,735	4.09
8	Tennessee	808,857	2.92	8	Illinois	1,739,977	3.98
9	Pennsylvania	1,467,455	2.90	9	Georgia	1,690,823	3.97
10	Oklahoma	395,211	2.88	10	Rhode Island	141,797	3.90
11	Texas	2,903,440	2.85	11	Kentucky	446,646	3.86
12	South Carolina	612,660	2.75	12	California	5,956,487	3.83
13	Alabama	558,508	2.63	13	Alabama	616,958	3.73
14	Illinois	1,677,856	2.56	14	Tennessee	876,268	3.54
15	West Virginia	122,382	2.43	15	Maine	144,679	3.50
16	Colorado	990,505	2.41	16	Oklahoma	434,425	3.39
17	Iowa	343,381	2.35	17	Minnesota	925,044	3.39
18	Kansas	319,709	2.31	18	Wisconsin	622,755	3.38
19	North Carolina	1,319,967	2.31	19	Pennsylvania	1,558,949	3.34
20	Missouri	844,864	2.26	20	South Carolina	664,545	3.28
21	Arkansas	285,972	2.20	21	New Hampshire	203,666	3.24
22	Nebraska	205,010	2.19	22	Massachusetts	845,027	3.17
23	Wisconsin	567,488	2.18	23	Texas	3,148,587	3.16
24	Maine	132,716	2.11	24	New Jersey	1,292,704	3.10
25	Minnesota	897,375	1.97	25	Iowa	349,510	3.09
26	New York	2,027,327	1.92	26	Colorado	1,040,260	3.08
27	Rhode Island	135,426	1.82	27	Arizona	1,239,336	3.07
28	Massachusetts	797,615	1.74	28	Missouri	900,184	3.04
29	New Jersey	1,226,097	1.74	29	New York	2,052,243	3.02
30	Delaware	152,843	1.73	30	West Virginia	133,388	3.00
31	Florida	3,342,330	1.55	31	Delaware	178,768	2.95
32	Nevada	527,868	1.52	32	Kansas	340,925	2.84
33	New Mexico	242,963	1.49	33	Arkansas	311,869	2.71
<b>34</b>	<b>Connecticut</b>	<b>525,657</b>	<b>1.47</b>	34	North	1,414,575	2.62

					Carolina		
35	South Dakota	77,974	1.41	35	Nebraska	211,685	2.60
36	New Hampshire	188,313	1.41	36	Maryland	1,082,308	2.54
37	Utah	409,757	1.26	<b>37</b>	<b>Connecticut</b>	<b>545,765</b>	<b>2.53</b>
38	Vermont	60,575	1.21	38	Virginia	1,425,934	2.13
39	Maryland	1,048,196	1.19	39	District of Columbia	94,969	2.07
40	California	5,589,325	1.06	40	Vermont	67,201	2.00
41	District of Columbia	92,270	1.02	41	New Mexico	261,005	1.90
42	North Dakota	51,043	0.97	42	South Dakota	85,487	1.83
43	Idaho	250,574	0.95	43	Hawaii	185,177	1.73
44	Virginia	1,367,043	0.94	44	Idaho	268,029	1.60
45	Washington	1,153,256	0.90	45	Utah	444,645	1.58
46	Montana	128,554	0.88	46	Montana	138,354	1.53
47	Alaska	89,824	0.87	47	Washington	1,212,018	1.39
48	Arizona	1,128,660	0.85	48	North Dakota	65,065	1.37
49	Wyoming	67,189	0.78	49	Wyoming	70,888	1.36
50	Oregon	612,049	0.76	50	Oregon	649,826	1.32
51	Hawaii	171,716	0.66	51	Alaska	93,811	1.21

Source: Mortgage Banker's National Delinquency Survey

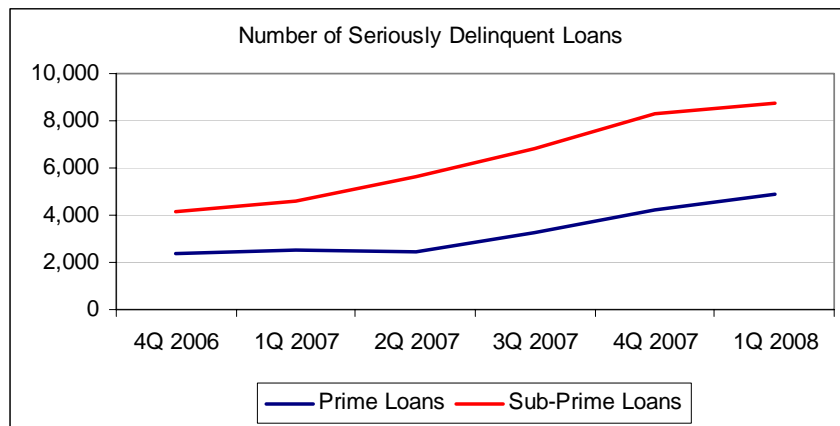
## Connecticut Foreclosure Trends

Although foreclosures in Connecticut are at lower levels than in many other states, foreclosures are increasing. According to The Mortgage Banker's National Delinquency Survey, the total number of foreclosures has almost doubled over the past 18 months.

<b>Table 38: Number of Loans 90+ Days Delinquent and in Foreclosure</b>						
	<b>4Q 2006</b>	<b>1Q 2007</b>	<b>2Q 2007</b>	<b>3Q 2007</b>	<b>4Q 2007</b>	<b>1Q 2008</b>
Prime Loans	2,363	2,538	2,457	3,274	4,205	4,857
Subprime Loans	4,171	4,573	5,616	6,842	8,267	8,753
Total (including FHA and VA Loans)	7,684	8,093	9,107	11,213	13,718	14,931

Source: Mortgage Banker's National Delinquency Survey

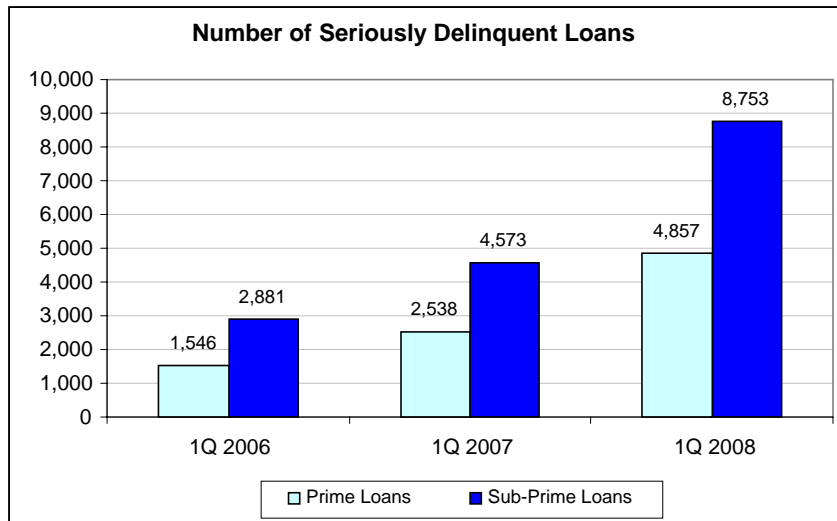
**Chart 9: Seriously Delinquent Loans, 4Q 2006 – 1Q 2008**



Source: Mortgage Banker's National Delinquency Survey

When looking at the number of seriously delinquent loans from the same quarter over a three year period, the increase in the number of seriously delinquent loans becomes apparent.

**Chart 10: Seriously Delinquent Loans, 1Q 2006 – 1Q 2008**



Source: Mortgage Banker's National Delinquency Survey

## Housing Needs

### Families Needing Housing Assistance

#### Low-Income Households

Table 39 shows the income distribution of households by household size, measured by number of persons.

<b>Table 39: 2000 Household Income Distribution by Household Size</b>						
<b>2000 Area Median Family Income</b>	<b>Household Size by Number of Persons</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Under 30% AMI (Extremely Low-Income)	9,445	51,247	56,622	46,208	13,941	3,189
31-50% AMI (Very Low-Income)	5,318	30,237	55,094	55,253	15,320	3,282
51-80% AMI (Low-Income)	3,798	30,540	70,028	73,920	21,572	5,279
81-120% AMI (Moderate Income)	2,961	25,678	70,047	105,314	41,244	8,388

Source: Census 2000 interpolation by DECD

In Table 40, HUD defines the various low-income levels at the specific percentages of AMI. The percentage of low-income renters (88.5%) is higher than that of owners (58.6%).

<b>Table 40: 2000 Income Distribution by AMI and Homeownership</b>			
<b>Income Group</b>	<b>Homeowners</b>	<b>Renters</b>	<b>Total</b>
Under 30% AMI (Extremely Low-Income)	77,635	136,839	214,474
31-50% AMI (Very Low-Income)	86,474	84,797	171,271
51-80% AMI (Low-Income)	225,502	230,590	456,092
81-120% AMI (Moderate Income)	284,503	151,553	436,056
All Homeowners	869,742	431,928	1,301,670

Source: Census 2000



<b>Table 41: Households with Less Than 100% of AMI, Adjusted for Family Size</b>					
	<b>Total Number of Households</b>	<b>Less Than 25% AMI</b>	<b>25% - 50% AMI</b>	<b>51% - 80% AMI</b>	<b>81% - 100% AMI</b>
1 Person Households	359,647	80,320	85,361	73,722	36,558
2 Person Households	427,724	24,194	51,055	74,496	48,007
3 Person Households	214,508	13,777	22,353	33,926	23,756
4 Person Households	201,234	9,807	16,005	28,989	23,114
5 Person Households	85,062	4,545	9,590	12,625	10,701
6 Person Households	23,553	1,742	2,495	4,551	3,332
7 Person Households	7,630	579	1,032	1,624	1,114
8 Person Households	2,768	304	460	511	189

Source: ACS 2007

### Single Persons

Table 42 shows the number of single householders living in each county.

<b>Table 42: Single Householders</b>		
<b>State/County</b>	<b>Householder Living Alone</b>	<b>Householder not Living Alone</b>
Connecticut	356,145	79,098
Fairfield	82,773	17,419
Hartford	97,979	18,304
Litchfield	19,440	3,373
Middlesex	17,733	4,415
New Haven	88,413	21,075
New London	27,993	6,816
Tolland	10,655	5,118
Windham	11,159	2,578

Source: ACS 2007

### Large Families

As defined by HUD, a large family is a household that has five or more people. Table 43 shows the number of large families in Connecticut.

<b>State/County</b>	<b>5 Person Household</b>	<b>6 Person Household</b>	<b>7 or More Person Household</b>
Connecticut	83,250	25,010	11,383
Fairfield	24,175	7,198	3,517
Hartford	21,156	6,039	2,653
Litchfield	4,713	1,199	325
Middlesex	2,383	1,009	293
New Haven	20,080	5,818	3,030
New London	5,044	2,371	984
Tolland	3,158	470	138
Windham	2,541	906	443

Source: ACS 2007

### **Overcrowded Households**

A household is considered overcrowded when the ratio of occupants to rooms exceeds one. For example, a house with six inhabitants and five rooms is considered overcrowded because there is more than one person per room. Table 44 shows overcrowding in each of Connecticut county by tenure (homeowner and renter). The number of overcrowded households is given, with the corresponding percentage of overcrowded households in the county. Fairfield County has the highest percentage of total overcrowding. The counties with the least amount of overcrowding are Tolland and Windham. The rental households in Fairfield, Hartford, and New Haven counties have significantly higher levels and percentages of overcrowding compared to owner-occupied households.

<b>State/County</b>	<b>Owners</b>		<b>Renters</b>		<b>Total</b>	
	<b>Overcrowded</b>	<b>%</b>	<b>Overcrowded</b>	<b>%</b>	<b>Overcrowded</b>	<b>%</b>
Connecticut	8,094	0.6%	14,532	1.1%	22,626	1.7%
Fairfield	3,139	1.0%	4,859	1.5%	7,998	2.5%
Hartford	1,566	0.5%	3,932	1.2%	5,498	1.6%
Litchfield	471	0.6%	184	0.2%	655	0.9%
Middlesex	375	0.6%	338	0.5%	713	1.1%
New Haven	1,569	0.5%	4,265	1.3%	5,834	1.8%
New London	728	0.7%	647	0.6%	1,375	1.3%
Tolland	58	0.1%	166	0.3%	224	0.4%
Windham	188	0.4%	141	0.3%	329	0.8%

Source: ACS 2007

## Lead-Based Paint Hazards

HUD requires the state to estimate the number of housing units with lead-based paint hazards—especially those inhabited by low- and moderate-income families. As accurate records are not kept that would provide a comprehensive evaluation of the overall status of lead hazards by household income, answering HUD’s ultimate question is difficult. All that can be done at this point is to examine the potentially hazardous housing stock, locate what local statistics are available, and infer from regional trends.

The 2001 *National Survey of Lead and Allergens in Housing* concludes that 43% (plus or minus 12%) of housing units in the Northeast built before 1978 are likely to have significant lead-based paint hazards. This region has the highest incidence of lead-based paint in the country. Data specific to Connecticut is unavailable, although the data on the state’s inventory of pre-1978 housing can be taken from the 2000 U.S. Census, which revealed a total of 1,083,485 pre-1978 units. It can be extrapolated from the national survey that 465,898 units (43%) are likely to be affected. The Centers for Disease Control and Prevention (CDC) reports that although lead-based paint was available for use in residential housing units as late as 1978, it was used more extensively in pre-1950 housing and contained a higher concentration of lead. This is compounded by the fact that older housing is more likely to be deteriorated and therefore contain flakes of lead-based paint hazards. Connecticut’s pre-1950 residential stock is comprised of 459,188 units, or 32.3% of the total state housing stock.

However, the fact that a home has “significant” lead-based paint hazards does not necessarily mean that members of such households will develop serious health problems. By far, the largest segment of the population that is affected by lead-based paint is that of children under the age of six. Children can easily ingest chipped lead-based paint and toxic dust particles through normal hand-to-mouth contact. Excess lead in a child’s body is very harmful to both physical and mental development. In Connecticut, the most detailed statistics concerning the prevalence of lead-based paint hazards come from the Department of Public Health (DPH), which annually publishes the results from confirmed blood lead-level tests of children under age six by town. Table 45 appears in the DPH 2007 report and lists the 15 towns with the highest incidence of child lead poisoning. Only three towns (Fairfield, Stamford, and Norwalk) have incomes above the state median household income as estimated by the Connecticut Economic Resource Center (CERC) for 2008. The data therefore suggests a negative correlation between lead poisoning and income level, although the actual income levels of specific households with lead-poisoned children are not available.

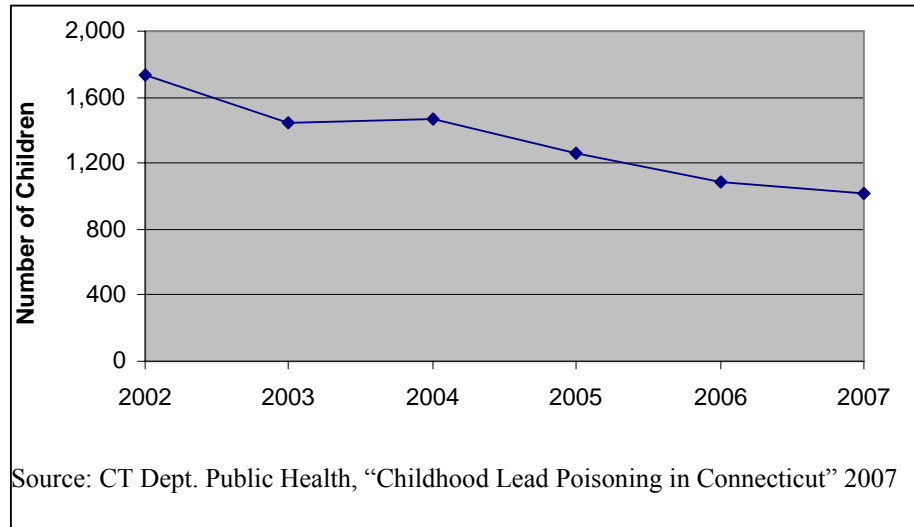
<b>Table 45: Children Under Six with Confirmed High Blood Lead Levels</b>					
<b>Location</b>	<b>Number of Children with Confirmed Test</b>	<b>Cumulative Statistics</b>			
		<b>≥ 10 µg/dL*</b>		<b>≥20 µg/dL</b>	
		<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
Bridgeport	6,131	185	3	34	0.6
Bristol	1,100	9	0.8	4	0.4
Danbury	1,667	10	0.6	1	0.1
East Hartford	1,157	9	0.8	0	0
Fairfield	1,238	3	0.2	0	0
Hamden	1,025	6	0.6	0	0
Hartford	5,560	120	2.2	22	0.4
Meriden	2,016	53	2.6	9	0.4
New Britain	3,032	44	1.5	11	0.4
New Haven	4,283	202	4.7	40	0.9
Norwalk	2,708	20	0.7	6	0.2
Stamford	2,993	20	0.7	7	0.2
Stratford	1,156	6	0.5	1	0.1
Waterbury	4,204	69	1.6	14	0.3
West Haven	1,174	19	1.6	3	0.3
Connecticut	71,627	1,020	1.4	208	0.3

\* µg/dL = micrograms/deciliter (micrograms of lead per deciliter of blood)

Source: CT Dept. of Public Health, Childhood Lead Poisoning in Connecticut 2007 Report

Time series data taken from the DPH report shows that fewer children experience lead poisoning, perhaps due to increasing efforts to raise awareness and widespread publication of feasible safety precautions. The number of children who were screened and confirmed to have high blood-lead levels decreased from 1,733 in 2002 to 1,020 in 2007. This implies that the number of homes with significant lead-based paint hazards is likewise shrinking.

**Chart 11: Number of Children Under Six with High Blood Lead Levels**



HUD’s Comprehensive Housing Affordability Strategy (CHAS) data (Table 46) provides insight into the scope of households at risk for exposure to lead-based paint hazards by documenting those housing units with children under the age of six by tenure, year structure built, and household income level. Although this data is dated, we display it here to illustrate how updated versions of the same data may be used.

The lowest income households in homes that were built before 1949 and have children under age six are most susceptible to the dangers of lead poisoning. Combining renter households with children under age six (8,690) and owner households with children under age six (1,220) in this category totals 9,910. Other households at risk tend to have low income and/or old age that numbers 72,540 households, as indicated by the figures in bold. Of these, 39,030 are owner households, and 43,420 are renter households.

Household Income	Tenure	Year Structure Built			Total
		1960-1979	1950-1959	Pre-1949	
<30% MFI	Owner	955	590	1,220	2,765
	Renter	6,750	3,745	8,690	19,185
30.1-50% MFI	Owner	1,815	1,235	2,255	5,305
	Renter	5,825	2,565	6,900	15,290
>50% MFI	Owner	36,590	22,180	32,775	91,545
	Renter	12,440	5,570	14,770	32,780
Total		64,375	35,885	66,610	166,870

Source: 2000 CHAS data tables A14A and A14B

In Connecticut, most communities have not established a Registry of Lead-Safe Housing. If such registries did exist statewide, they would provide an overview of how many pre-1978 units are relatively unsafe or at least worthy of investigation.

### Substandard Housing Conditions

An important indicator of housing conditions is the number of housing units that have complete plumbing and kitchen facilities. Table 47 shows the number of occupied and unoccupied housing units that lack complete plumbing and kitchen facilities in Connecticut. There are more units in the state without kitchen facilities than units without plumbing facilities.

<b>Table 47: Units Lacking Plumbing or Kitchen Facilities</b>					
<b>State/County</b>	<b>Total Units</b>	<b>Units Lacking Complete Plumbing Facilities</b>		<b>Units Lacking Complete Kitchen Facilities</b>	
		<b># Units</b>	<b>%</b>	<b># Units</b>	<b>%</b>
Connecticut	1,438,548	12,042	0.84%	14,359	1.00%
Fairfield	350,498	2,547	0.73%	3,606	1.03%
Hartford	363,764	3,210	0.88%	3,377	0.93%
Litchfield	83,221	780	0.94%	1,128	1.36%
Middlesex	72,188	489	0.68%	441	0.61%
New Haven	349,347	2,578	0.74%	3,880	1.11%
New London	116,567	1,309	1.12%	1,030	0.88%
Tolland	56,011	233	0.42%	273	0.49%
Windham	46,952	896	1.91%	624	1.33%

Source: ACS 2007

When one considers occupied housing units exclusively, the statewide percentage of units lacking complete plumbing facilities drops by more than half its original value. The data for occupied housing units shows the percentage of units lacking complete kitchen facilities declined by nearly two-thirds of its original value. These declines show that a disproportionate number of units lacking plumbing or kitchen facilities are vacant, which implies that housing condition is an important determinant of homeownership. The data shown in suggest that a disproportionate number of units in substandard housing condition are vacant, and that improving housing conditions across the state would result in a decrease in the vacancy rate.

<b>Table 48: Occupied Units Lacking Plumbing or Kitchen Facilities</b>					
<b>State/County</b>	<b>Total Occupied Units</b>	<b>Occupied Units Lacking Complete Plumbing Facilities</b>		<b>Occupied Units Lacking Complete Kitchen Facilities</b>	
		<b># Units</b>	<b>%</b>	<b># Units</b>	<b>%</b>
Connecticut	1,320,714	5,316	0.40%	4,851	0.37%
Fairfield	323,848	919	0.28%	1,123	0.35%
Hartford	337,162	1,912	0.57%	1,427	0.42%
Litchfield	73,732	449	0.61%	435	0.59%
Middlesex	64,770	265	0.41%	122	0.19%
New Haven	321,203	796	0.25%	1,165	0.36%
New London	102,995	306	0.30%	185	0.18%
Tolland	53,377	67	0.13%	107	0.20%
Windham	43,627	602	1.38%	287	0.66%

Source: ACS 2007

## Homeless Needs

HUD defines a “homeless” person as an individual who lacks a fixed, regular, and adequate nighttime residence; an individual who has a primary nighttime residence that is supervised by a publicly or privately operated shelter designed to provide temporary living accommodations; an institution that provides a temporary residence for individuals intended to be institutionalized; or, a public or private place not designed for, or ordinarily used as, regular sleeping accommodations for human beings. This definition of homeless does not include individuals who are lawfully imprisoned or detained.

In accordance with HUD guidelines for proper homeless survey techniques, Connecticut conducted its second annual “point-in-time” count of the sheltered and unsheltered homeless populations on January 30, 2008. The findings from this event are revealed in the *Connecticut Counts 2008* report. According to the publication, volunteers counted a total of 3,444 homeless households. In accounting for the homeless sheltered population, *CT Counts 2008* does not incorporate residents of transitional housing programs that are not specifically designated for homeless people into their results. For example, residents of mental health, substance abuse, and child welfare programs were only counted if the program specifically serves homeless people.

The count is important as a baseline measure to compare the effectiveness of future initiatives to end homelessness. The Reaching Home Campaign (a sponsor of *CT Counts*) estimates that in 2001, approximately 33,000 individuals (including 13,000 children) in Connecticut experienced homelessness to varying degrees. This figure encompasses

those who are struggling on the brink of losing their homes in addition to those that experience homelessness.

The results indicate that two-thirds of sheltered adults in families were between ages 22 and 39, but among sheltered single adults, the majority, 59%, were between 40 and 59 years old. Interestingly, 72% of sheltered single adults are male, whereas 87% of sheltered adults in families are female. This suggests that most homeless women belong to families as single mothers. Similar trends exist in the unsheltered population, where 73% of single adults are male and 62% of adults in families are female.

To trace the roots of homelessness, surveyors interviewed the homeless about the primary reason for leaving their last permanent residence. The results appear in Table 49.

<b>Table 49: Reason Left Last Residence</b>								
	<b>Sheltered</b>				<b>Unsheltered</b>			
	<b>Single Adults</b>	<b>%</b>	<b>Adults in Families</b>	<b>%</b>	<b>Single Adults</b>	<b>%</b>	<b>Adults in Families</b>	<b>%</b>
Rent Problems	611	27%	137	29%	74	13%	4	50%
Evicted for a reason other than rent problems	265	12%	63	13%	40	7%	0	0%
Conflict with family or friends	443	20%	111	23%	31	5%	0	0%
Overcrowding	48	2%	41	9%	10	2%	0	0%
Domestic Violence	95	4%	109	23%	8	1%	0	0%
Went to prison or jail	235	10%	5	1%	40	7%	0	0%
Went into the hospital	97	4%	4	1%	2	0%	0	0%
Housing condemned	43	2%	7	1%	3	1%	0	0%
Fire	14	1%	6	1%	2	0%	0	0%
Other	451	20%	69	14%	56	10%	1	12%
Unknown	305	14%	32	7%	362	61%	3	38%

Source: CT Counts 2008

The Department of Social Services (DSS) has historically reported the leading causes of homelessness as alcohol/drug abuse, unemployment, and insufficient income. Across all groups in the *CT Counts 2007* survey, “rent problems” was the number one reason cited



as the cause of homelessness. Although rather vague, the reason “rent problems” refers to a household’s failure to make periodic housing payments. This failure could be attributed to a number of financial or housing problems such as a lack of affordable housing supply in Connecticut. In addition to forces in the housing market, rent problems could be caused by personal issues such as substance abuse or unemployment.

Additional prevalent choices for respondents were the “conflict with family or friends” and “other” categories. “Other” could comprise a number of factors, including a problem with alcohol or drug abuse, and chemical dependency may also trigger several of the aforementioned scenarios—especially family/friend conflict, eviction, or hospitalization. Among single adults, 10% of sheltered and 7% of unsheltered persons left their place of permanent residence to go to jail, and once released were forced into poverty and homelessness. It is common for de-incarcerated persons to have difficulty finding a job and an affordable housing unit after they are released; many eventually return to jail.

The volunteers also inquired where the homeless have slept in the last 30 days. Respondents were given the opportunity to list more than one location. Their responses appear in Table 50.

<b>Table 50: Where Slept in Last 30 Days</b>								
	<b>Sheltered</b>				<b>Unsheltered</b>			
	<b>Single Adults</b>	<b>%</b>	<b>Adults in Families</b>	<b>%</b>	<b>Single Adults</b>	<b>%</b>	<b>Adults in Families</b>	<b>%</b>
Non-housing*	85	4	2	0	203	34	3	38
Emergency Shelter	1244	55	197	42	23	4	0	0
Transitional Housing for Homeless Persons	576	26	213	45	0	0	0	0
Psychiatric Facility	32	1	0	0	0	0	0	0
Substance Abuse Treatment Facility	85	4	11	2	5	1	0	0
Hospital	42	2	1	0	3	1	0	0
Jail/prison	35	2	1	0	10	2	0	0
Domestic Violence Situation	18	1	28	6	2	0	0	0
Living with Relative/Friend	192	9	33	7	66	11	2	25
Rental Housing, Own Apartment or House	91	4	47	10	0	0	0	0
Hotel or motel	31	1	4	1	5	1	2	25
Foster Care	0	0	0	0	0	0	0	0
Other	56	2	17	3	16	3	1	12
Unknown	189	8	13	3	344	58	3	38
*Non-housing includes street, park, car, bus station, parking garage, campground, woods, abandoned building, etc.								

Source: CT Counts 2008

It should not be surprising that the sheltered population displayed a strong preference for either an emergency shelter or some type of transitional housing in the 30 days previous to the survey. Those unsheltered had remained in the same condition or opted to stay in a hotel or with relatives and friends rather than enter into an emergency or transitional shelter. Difficulty arises when an attempt is made to analyze the exact percent of households who resided in each of the above locations as seemingly over 100% of the sample population responded because each household could identify more than one location.

A regular measure of homelessness in Connecticut comes from the DSS *Annual Homeless Shelter Demographic Report*. The latest report states that from October 2006 to September 2007, 13,779 people used available emergency shelters in the state. However, in the same time period, these shelters had to turn away people 34,026 times. The three cities with the highest “turned away” rates among reporting shelters were New Haven, East Hartford, and Hartford; all number in the thousands annually.

Of the total number of homeless clients served by homeless shelters from 2006-2007, 9,904 (72%) of them were single. There were 1,284 (9.3%) families that stayed in homeless shelters, and those families included 2,295 (16.7%) homeless children.

An accurate record of the chronically homeless is difficult to come by even with the best of survey methodologies. *CT Counts 2008* surveyed those persons who have been without a permanent residence for various lengths of time. If respondents indicated that this period was greater than one year, or that homelessness occurred at least four times in the past three years, they were categorized as “chronically homeless.” The results convey that an alarming 51% of unsheltered adults and 32% of sheltered adults were chronically homeless. It is important to note that single homeless adults also reported a high incidence of disability—be it mental, physical, or developmental. A high percentage, 41% of sheltered and 50% of unsheltered single adults, reported having some type of health condition that limits their ability to work, get around, and care for self or otherwise take care of their needs. Expanding the supply of supportive services and living accommodations for this population could reduce the rate of homelessness among disabled adults.

During FY 2006-07, DSS utilized various homeless assistance programs to support 45 emergency shelters with a total of 1,777 beds, serving more than 14,663 adults and children, plus six programs that provide advocacy, housing, and health services.

The Continuum of Care, a program sponsored by HUD, is a community-based, long-range plan that addresses the needs of homeless persons in order to help them reach maximum self-sufficiency. The program developed through collaboration with a broad cross section of the community and is based on a thorough assessment of homeless needs and resources. HUD recommends the Continuum of Care as a comprehensive and strategic approach to addressing homelessness. The application process for Continuum of Care funding includes an estimate of homeless populations and subpopulations for each state.

<b>Table 51: Homeless Populations and Subpopulations in CT</b>				
<b>Household Type</b>	<b>Sheltered</b>		<b>Unsheltered</b>	<b>Total</b>
	<b>Emergency Shelter</b>	<b>Transitional Housing</b>		
Persons in Households without Children	1,631	825	717	3,173
Persons in Households with Children	631	584	94	1,309
Total Homeless Persons in Households	2,262	1,409	811	4,482
<b>Subpopulation Type</b>				
<b>Subpopulation Type</b>	<b>Sheltered</b>		<b>Unsheltered</b>	<b>Total</b>
Chronically Homeless	596		427	1,023
Severely Mentally Ill	1,241		209	1,450
Chronic Substance Abuse	1,495		420	1,915
Veterans	330		106	436
Persons with HIV or AIDS	185		31	216
Victims of Domestic Violence	225		79	304
Unaccompanied Youth less than 18 Years	41		9	50

Source: Continuum of Care 2007

The Continuum of Care Program funds housing-related projects designed to serve the homeless population. Table 52 shows the funding awards received by Connecticut homeless housing programs in 2007.

<b>Table 52: Continuum of Care Funding Awards by Program Component</b>					
<b>Program Component</b>	<b># of Projects</b>	<b>New Projects</b>	<b>Renewal Projects</b>	<b>Total</b>	<b>% of State Award</b>
Permanent Supportive Housing	86	\$ 1,893,152	\$16,178,518	\$ 18,071,670	73%
Transitional Housing	24	\$ 0	\$ 5,418,333	\$ 5,418,333	22%
Supportive Services Only	4	\$ 0	\$ 737,077	\$ 737,077	3%
Homeless Management Information Systems (HMIS)	6	\$ 63,358	\$ 309,858	\$ 373,216	2%
<b>Grand Total</b>	<b>120</b>	<b>\$ 1,956,510</b>	<b>\$ 22,643,786</b>	<b>\$ 24,600,296</b>	<b>100%</b>

Source: Continuum of Care 2007

Table 53 depicts homelessness by race from the *CT Counts 2008* survey, which reveals disproportionately greater rates of homelessness among African-Americans and Hispanics. The 2007 ACS reports whites, Hispanics, and African-Americans as making up 74%, 10.9%, and 9% of the state's population, respectively.

<b>Table 53: Homelessness by Race</b>				
<b>Race/Ethnicity of Head of Household</b>	<b>Sheltered</b>		<b>Unsheltered</b>	
	<b>Single Adults</b>	<b>Adults in Families</b>	<b>Single Adults</b>	<b>Adults in Families</b>
American Indian or Alaska Native	2%	1%	1%	0%
Asian	1%	0%	0%	0%
Black or African American	31%	38%	9%	25%
Hispanic/Latino (any race)	17%	28%	7%	0%
White	43%	36%	28%	50%
Other or Unknown	17%	19%	59%	50%

Source: CT Counts 2008

As in other parts of the survey, respondents could check off any and all categories in which they fit. The data of homelessness by race/ethnicity is unfortunately more difficult to analyze.

The *Connecticut Counts 2008* final report reveals that the state mimics certain national demographic trends with regard to the homeless population: most are single adults, half of whom have a behavioral health disability and half of whom have been homeless for longer than one year. Singles are also mostly male, and aging. Families are younger, have much lower levels of disability, and are homeless for shorter periods. Of those not yet homeless, at-risk populations include families living below the federal poverty guidelines, individuals released from correctional institutions, women and children leaving domestic abuse shelters, people suffering from severe mental health or substance abuse problems, and young people no longer age-eligible for foster care or those leaving the juvenile justice system.

While shelters do not provide a solution to homelessness, they are crucial to a well-functioning society. Many homeless people need mental health services, substance abuse services, self-care assistance, HIV/AIDS treatment, and a range of other types of counseling. Increasing the number of facilities that serve these needs while at the same time providing temporary, dependable residence, is one major avenue to address the problem of homelessness.

## **Other Special Needs**

### **Populations with Other Special Needs**

Connecticut also has a population of residents that are not homeless, but have special needs that may require service-enriched housing. This section estimates the number of people living in Connecticut that are elderly, frail elderly, persons with physical or mental disabilities, and domestic violence victims.

#### **Elderly**

Elderly refers to people age 62 and older. The 2007 ACS reported 572,456 elderly residents in Connecticut. This is 16.3% of Connecticut's total population. Some elderly persons require special adjustments, such as wheelchair-accessible entryways and single-level units. It is imperative that Connecticut pay special attention to elderly households that need modest, affordable living arrangements.

#### **Frail Elderly**

HUD, DECD, and ACS have varying definitions for "frail elderly." HUD defines frail elderly as people age 62 and older who have limitations in three or more life activities such as bathing, dressing, and housekeeping. DECD's Congregate Housing program has a separate definition for this population group—persons age 62 and over who have limitations in one or more life activities. The ACS questionnaire asks about two limiting activities. From the data collected by ACS, there were 31,710 frail elderly residents in Connecticut.

#### **Persons with Disabilities**

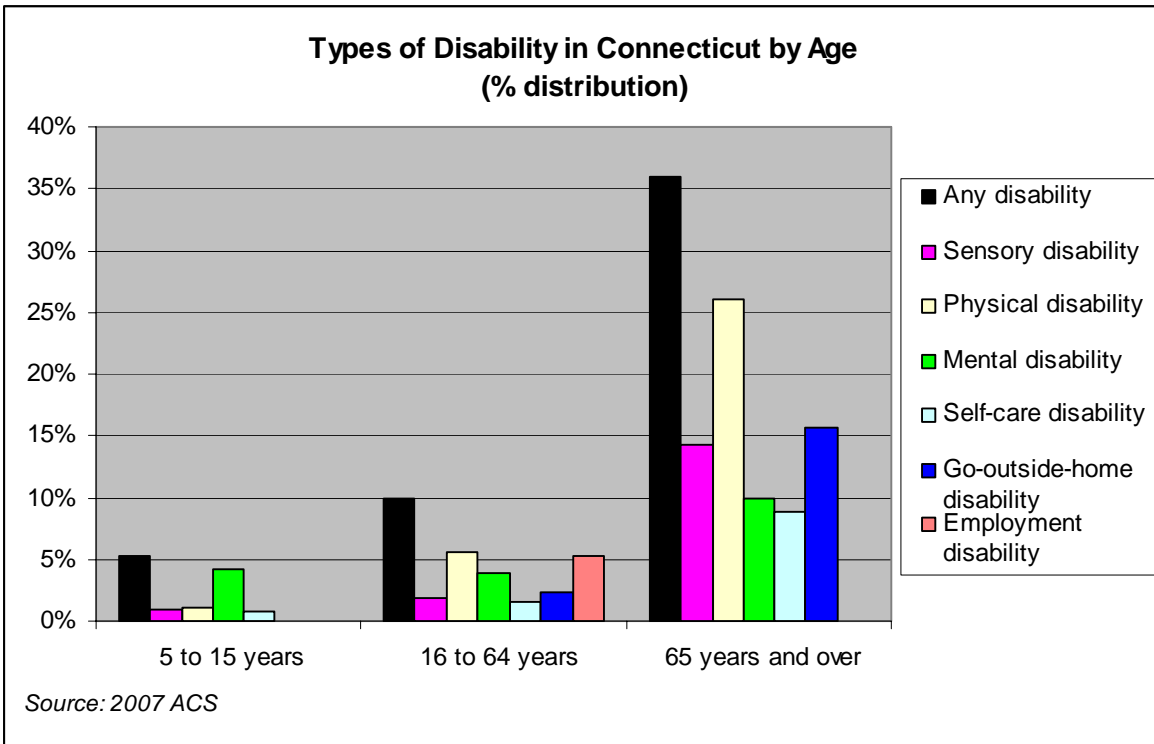
Persons with disabilities may have one or more physical, mental, and/or developmental conditions that constrain their possibilities for obtaining suitable housing. The disabled may require a single level home, special equipment to aid them in carrying out daily functions, or even a regular home nurse or family member to care for them. If their special needs are not met, many may become homeless. Financially, some are more independent than others. Table 54 indicates the most recent number of persons who are physically disabled or have a serious mental illness. These figures do not include those who are homeless or institutionalized.

<b>Table 54: Disabled Population in Connecticut</b>			
	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Physically Disabled</b>			
5-15 years	3,905	1,738	5,643
16-20 years	1,052	883	1,935
21-64 years	54,920	70,444	125,364
65-74 years	16,105	22,647	38,752
75+ years	25,250	51,532	76,782
Totals	101,232	147,244	248,476
<b>Mentally Disabled</b>			
5-15 years	14,866	6,319	21,185
16-20 years	7,439	3,804	11,243
21-64 years	35,467	41,539	77,006
65-74 years	5,157	7,086	12,243
75+ years	11,715	20,037	31,752
Totals	74,644	78,785	153,429

Source: ACS 2007

The state's estimated number of physically disabled persons in 2007 was 248,476. Likewise the mentally disabled numbered 153,429. The severity of each disability varies. This data is difficult to assimilate into housing need calculations because there may be households with more than one disabled member or individuals with both a mental and a physical disability. Individuals who are homeless *and* disabled are not included in these totals. Chart 12 provides a percentage breakdown of the various types disabilities facing some state residents.

**Chart 12: Types of Disability by Age**



### **Domestic Violence Victims**

According to the American Institute on Domestic Violence, 85-95% of nationwide domestic violence victims are female. Those persons who are victims of domestic violence are forced to turn outside of the home for shelter, safety, and support. Connecticut’s lack of affordable housing seriously reduces the level of independence and mobility that abused women desperately need to uproot from their current situation. Often victims will have poor credit, rental, and employment histories as a result of their abuse. These factors further complicate the process of securing them new housing opportunities.

The 2008 National Census of Domestic Violence Services surveyed 16 out of 18 local domestic violence programs in Connecticut. It provides a snapshot of the adults and children served during one 24-hour period (September 17th). One hundred and sixty-one victims of domestic violence received housing services, while 441 adults and children sought non-residential advocacy and services such as individual counseling, legal advocacy, and children’s support groups.

For fiscal year 2007-08, the Connecticut Coalition Against Domestic Violence sheltered 1,772 persons. There were 2,012 persons that requested shelter, but did not stay. Over 32% of people did not stay because of a lack of beds. Of the 2,012 people that needed a



safe place to stay, 1,252 persons were referred to other domestic violence shelters or homeless shelters. The CCADV is just starting to collect statistics on the living situation of domestic violence victims after they seek assistance from the CCADV. After living in a shelter, 81 victims have returned back to the previous abusive living situation. The leading reason is a lack of affordable housing. It is clear that Connecticut needs to expand its stock of transitional housing for victims of domestic violence and their children.

### Persons with Alcohol or Other Drug Addiction

Table 55 shows alcohol and drug use trends in Connecticut for 2005 and 2006. The rate for substance dependence or abuse was higher in Connecticut than it is nationally. Additionally, the rates of persons needing but not receiving treatment for illicit drug problems or alcohol problems in Connecticut were 2.8% and 7.9%, respectively. Those numbers also exceed the national statistics of 2.5% and 7.3%, respectively.

<b>Table 55: Percentages Reporting Past Year Alcohol or Drug Dependence and Abuse</b>				
	<b>Total</b>	<b>Age Group</b>		
	<b>12 Years or Older</b>	<b>12-17 Years</b>	<b>18-25 Years</b>	<b>26 Years or Older</b>
<b><i>Illicit Drug Dependence or Abuse*</i></b>				
Connecticut	3.14	5.62	12.01	1.45
United States	2.83	4.65	8.14	1.66
<b><i>Alcohol Dependence or Abuse</i></b>				
Connecticut	8.48	5.94	23.07	6.57
United States	7.66	5.45	17.58	6.22
<b><i>Alcohol or Illicit Drug Dependence or Abuse*</i></b>				
Connecticut	10.09	9.06	28.64	7.38
United States	9.16	8.04	21.55	7.15
* Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.				

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005 and 2006

## **Facilities and Services for Populations with Other Special Needs**

### **Assisting Non-Homeless Persons Who Require Supportive Housing**

The state of Connecticut offers various types of service-enriched housing (including supportive housing). The Department of Developmental Services (DDS) offers service-enriched housing to persons within the DDS system. As of March 2008, the total number of people receiving services from DDS was 15,193 and of the total, 5,649 people are enrolled in service-enriched housing. The number of DDS persons living in a campus style facility, the Southbury Training School or DDS Centers, is 770. Community Living Assignments (CLA), also known as group homes, house 3,163 persons. Community Training Homes are also supportive housing options for 395 DDS participants. Some persons receiving services from DDS are also involved with housing support from other state agencies. The Department of Mental Health and Addiction Services, the Department of Correction, and the Department of Children and Families provided housing support for 120 people. There were 419 people receiving housing support from Connecticut's elderly programs. One hundred and eleven people were in residential schools and 113 people were in other service-enriched housing programs while receiving DDS services.

The number of domestic violence victims who are not homeless but in need of special housing services is difficult to estimate. If they are not homeless, they may be still tolerating their abusive environment as silent victims.

### **Ensuring Persons Returning from Mental and Physical Health Institutions Receive Appropriate Supportive Housing**

Numerous state programs offer service-enriched housing and supportive services for persons recovering from mental and physical health problems:

DMHAS provides several programs that cater to this target population. The Connecticut Mental Health Center, a collaborative endeavor of DMHAS and Yale University's Department of Psychiatry, has several social integration services that are designed to foster the recovery and community re-integration of the center's patients.

Shelter Plus Care, a HUD-funded rental assistance program administered by DMHAS, is designed to provide housing and supportive services to an estimated 940 persons per year who are homeless and disabled.

The DMHAS Housing Assistance Fund Program provides rental assistance in the form of monthly housing subsidy payments to persons with psychiatric disorders on a temporary basis as they wait for permanent subsidies.

DMHAS also has a General Assistance Recovery Supports Program (GA RSP), which is committed to helping State-Administered General Assistance (SAGA) recipients meet their basic needs. GA RSP promotes recovery, independence, employment, self-sufficiency, and stability by offering recovery support services including recovery housing, independent housing, bus passes, and personal care items.

The Bureau of Rehabilitation Services, a division of DSS, has a mission of creating opportunities that allow individuals with disabilities to live and work independently. The Bureau offers a variety of programs to assist individuals with significant physical and mental disabilities.

## **Future Housing Production and Preservation Needs**

### **Overview**

#### **Purpose of Analysis**

The availability and affordability of housing in Connecticut is critical for sustained economic growth and development. A detailed analysis of supply and demand trends in the Connecticut housing market and an estimate of the level of housing production needed to sustain economic growth in the state are essential for the development of growth policies and strategies. The following analysis of Connecticut's housing market and the state's demographic and employment characteristics, conducted by DECD and the Connecticut Housing Finance Authority (CHFA), explores the relationship between employment growth, demographic trends, and the availability and affordability of housing. The results of this analysis estimate the housing production level needed to adequately meet the estimated growing demand over the next five, ten, fifteen, and twenty years.

The purpose of this analysis is to articulate the aforementioned relationship between housing availability and affordability and sustained economic growth and to establish a baseline and methodology from which reliable estimates of future housing supply and demand can be produced, and further, from which future housing production need can be deduced.

#### **Analytical Approach**

The analysis at the heart of this study is based on the results of a housing supply and demand model (hereinafter, the model), adapted by DECD and refined jointly by DECD and CHFA. This model is based on "the Mayberry Model"<sup>11</sup> created by Bruce Mayberry and the New Hampshire Housing and Finance Authority for the State of New Hampshire. The basic framework of the Mayberry model was adapted for use with Connecticut counties using demographic and employment data from the 1990 and 2000 Census, the 2006 American Community Survey (ACS) data, employment data from the REMI Policy Insight model and the Connecticut Department of Labor, and population data from the Connecticut State Data Center (for further details about the specific functioning of the model and its contents, please see the Appendix).

The analysis conducted for this report consists of a baseline assessment, a housing supply and demand forecast, and an estimate of production need. The baseline assessment and housing supply and demand forecast are both composed of demographic, housing stock,

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<sup>11</sup> "New Hampshire Housing Needs Study," Bruce C. Mayberry, July 2003, [http://www.nhhfa.org/rl\\_docs/housingdata/housing\\_needs\\_assessment/HousingNeedsModel.xls](http://www.nhhfa.org/rl_docs/housingdata/housing_needs_assessment/HousingNeedsModel.xls)

and cost burden trends, each of which is segmented at the state and county level. The estimated production need for housing units is further segmented by economic, demographic, and geographic characteristics in order address affordability issues. The period for this analysis is based on five-year projected intervals in order to be consistent with historical and projected data.

For the purposes of this report, DECD defines housing demand as the demand for all housing units (physical structures including condos, single- and multiple-household detached units, and apartments); affordable housing demand as that portion of housing demand for which annual costs (mortgage or rent payments) do not exceed 30% of an area's median income (AMI); housing supply as the total available supply of housing units (physical structures); housing production need as the differential between existing housing supply and housing demand; and affordable housing production as that portion of the housing production need for which annual costs do not exceed 30% of an area's median income (AMI), adjusted for household size.

### **Analysis Limitations**

The model used in this analysis for housing supply and demand forecasts production and need estimates, creates relationships between employment, demographic, and housing trends to construct a housing baseline. The baseline does not identify current housing shortages or affordability issues relative to the population. Therefore, projections of production need are based on historic ratios that maintain the current relationships, not necessarily correct them. However, the model can be updated and adapted to account for a variety of scenarios to specifically address current issues in the housing market such as affordability and availability. The model assumes that Connecticut's economy will continue to grow, if slowly, and in the same geographic areas in which growth has occurred in the recent past.

## **Housing Trends Baseline**

### **Overview**

The housing baseline summary consists of current demographic, economic, employment, housing stock, and cost burden data. This provides a starting point that identifies existing housing supply and demand trends in Connecticut and its counties. Demographic and employment trends provide a baseline from which future projections are made. Changes in the demographic and employment data are a catalyst for changes in housing needs. Household classifications of the population by ownership and rental allow for a more accurate description of the current housing market. The analysis of the housing stock as a baseline indicator of overall supply sheds light on the market's ability to meet existing demand. An analysis of baseline cost burden data, for this initial model, is used to identify demographic and economic trends in the population.

From the change in the baseline housing stock, future housing need can be forecasted. Housing analysis is performed at the state and county levels to be consistent with the data sources available.

### **Demographic Trends and Current Picture**

#### **Statewide**

Homeowner classification (renter or owner) specifies the different types of housing need at the baseline level. Statewide trends in the number of homeowners and renters are indicators of housing demand. Table 56 shows the statewide changes in the population and housing classifications. The average annual growth in the number of households slowed during the period 2000-2006 relative to the period 1990-2000. Those households categorized as renters declined annually by 3,989 in the period 2000-2006. This is inconsistent with the growth of total homeowners. The increase in Connecticut's homeownership rate from 2000 to 2006, 66.8% to 69.3%, and the subsequent decline in the rental rate from 33.2% to 30.7% indicate that an increasing number of people were purchasing homes during this period. The latter period also coincides with a time of extravagantly high subprime mortgage originations in the state.<sup>12</sup> During this time frame, Connecticut lost a large percentage of its renter population who were residents aged 25-34 years.

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<sup>12</sup> Subprime Mortgage Task Force Update, Connecticut Subprime Mortgage Taskforce, <http://www.chfa.org/mainpages/SubprimeMortgageTaskForceActivitiesReport6-26-08.pdf>, June 26, 2008

<b>Table 56: Household Ownership Classifications</b>					
<b>Classification</b>	<b>1990</b>	<b>2000</b>	<b>2006</b>	<b>Avg. Annual Change 1990 to 2000</b>	<b>Avg. Annual Change 2000 to 2006</b>
Households	1,230,479	1,301,670	1,329,151	7,119	4,580
Owners	807,481	869,729	921,144	6,225	8,569
Renters	422,998	431,941	408,007	894	-3,989
Ownership percentage of Total	65.6%	66.8%	69.3%		
Rental percentage of Total	34.4%	33.2%	30.7%		

Source: Census 1990 and 2000, ACS 2006

The relationship between employment and working residents for a given area is used to identify housing demand. From 1990-2000, the state witnessed a decrease of over 28,000 working residents, although there was an increase in the state's total population. Only three counties (Fairfield, Hartford, and New Haven) actually experienced a decline in the number of their working residents during that period. Between 2000 and 2006, there was an increase of working residents, and another smaller increase in total population.

The ratios in Table 57 project the need for housing based on employment projections. There is a positive correlation between growth in employment and demand for housing, the extent of which depends on the ratio of employment to population and housing. In order for the state to sustain the growth of business, there is a critical need for housing.

<b>Table 57: Relationship of Household to Workers and Private Sector Jobs</b>			
<b>Relationship of Households to Workers and Private Sector Jobs Statewide ratio of:</b>	<b>1990</b>	<b>2000</b>	<b>2006</b>
Households to working residents	0.74	0.79	0.78
Number of working residents per household	1.36	1.26	1.29
CT private sector covered employment (in-state jobs) per Household	1.10	1.12	1.04

Source: Census 1990 and 2000, ACS 2006

## By County

Employment changes in a specific county affect demographic trends in adjacent counties. Therefore, these spillover effects need to be accounted for by the commuting patterns of the population exhibiting this relationship between employment and the number of working residents in surrounding counties. Table 58 shows the commuting patterns of county residents relevant to employment in other counties. Working residents create demand for housing in the county in which they reside as opposed to the county in which they work.

**Table 58: 2000 Commuting Patterns – Number of Workers Commuting Across CT Counties**

<i>From:</i>	<i>Counties Traveling To:</i>								
	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham	Outside State
Fairfield	335,375	2,145	3,034	465	21,895	249	179	55	54,736
Hartford	2,669	350,790	3,544	11,080	16,940	2,069	4,710	679	10,098
Litchfield	11,459	13,595	51,500	540	12,715	49	64	0	3,625
Middlesex	1,160	19,225	193	41,635	12,830	3,875	409	108	726
New Haven	50,970	21,414	8,970	8,564	290,105	1,365	355	63	5,254
New London	415	7,089	14	4,910	1,634	107,230	999	3,180	3,520
Tolland	254	35,090	79	1,268	1,265	1,485	26,765	2,944	1,950
Windham	99	3,819	24	385	330	8,190	4,290	30,830	5,799

Source: Connecticut Department of Labor



## Housing Supply and Demand Forecast

### Overview

DECD makes housing supply and demand projections from baseline indicators. The supply and demand framework has a historical basis from which housing production can be estimated. This analysis uses 2015 and 2025 as short- and long-term reporting years as these years coincide with available data sources.

### Forecasted Demand vs. Actual Supply of New Housing in Connecticut

Table 59 compares estimated demand projections for housing based on projected employment growth to actual production that occurred for 2006. Actual production data was compiled from Census residential permit data. A side-by-side comparison for each county reveals discrepancies useful for identifying housing need. In Fairfield and New Haven counties actual 2006 production<sup>13</sup> was below forecasted production need. If we assume that housing production will not meet the demand in these counties, one can assume that the market will not meet the demand for housing. In the other counties production surpassed demand resulting in a housing surplus for that year.

<b>Table 59: Estimated Demand Projections for Housing</b>		
	<b>Forecasted Growth in Annual Residential Housing Needs 2006-2010</b>	<b>Total Residential Permits</b>
<b>State/County</b>	<b>Employment Based Estimate</b>	<b>2006</b>
Fairfield	2,608	1,939
Hartford	1,961	2,305
Litchfield	22	541
Middlesex	241	634
New Haven	2,339	1,654
New London	866	1,006
Tolland	170	699
Windham	157	458
Connecticut	8,364	9,236

Source: 2006 Census data, CT Housing Model

<sup>13</sup> We use permits as a proxy for production.

## Demographic Forecast (Estimated)

Employment and population growth at both the state and county level increases the demand for housing. Employment projections are subject to great fluctuation as a result of changing economic conditions, thus we analyze production results for a range of different scenarios. Population projections are typically more consistent, but are still subject to economic conditions.

### Statewide

Table 60 shows Connecticut State Data Center population projections, which were used to generate a forecast of housing demand. The population projections are made on five-year intervals with respect to household population, group quarters population, and total population. The group quarters population refers to people living in an institution, college dormitory, or shelter.

<b>Table 60: Statewide Population Projections</b>			
	<b>2010</b>	<b>2015</b>	<b>2025</b>
Household Population	3,393,184	3,436,658	3,538,655
Group Quarters Population	127,472	127,472	127,472
Total State Population	3,520,656	3,564,130	3,666,127

Source: Connecticut State Data Center

REMI Policy Insight model projections of county-level employment were incorporated into the model. Employment data has a direct effect on population and the subsequent need for housing.

Employment data has a direct effect on population and the subsequent need for housing. For the period covering 2006 to 2015, Connecticut's employment growth is projected to be 0.78%. In Table 61, various employment scenarios generate a range of production needs for the state to account for the effects of a changing economic environment. Lower than expected employment projections will reduce the need for housing production.

<b>Table 61: Production Need Based on Different Employment Scenarios</b>				
<b>Employment Growth Assumptions</b>		<b>Total Annual Production Need</b>		
<b>Annual Growth Rate</b>	<b>Annual Employment Growth</b>	<b>Owner</b>	<b>Renter</b>	<b>Total</b>
1.08%	18,859	9,048	3,992	12,637
0.78%	13,457	6,220	2,744	8,604
0.48%	8,182	3,542	1,576	4,798
0.18%	3,032	886	410	1,016

Source: CT Housing Supply and Demand Model

Table 62 shows the statewide estimates of population for the year 2015 from each of the three methodologies. From the population projections, the model estimates total households that are further categorized as renters or owners. At the state level, employment projections are larger than population projections, a trend that is consistent with historical data. The difference in population is the result of the distinct methodological approaches from which to estimate demand for housing.

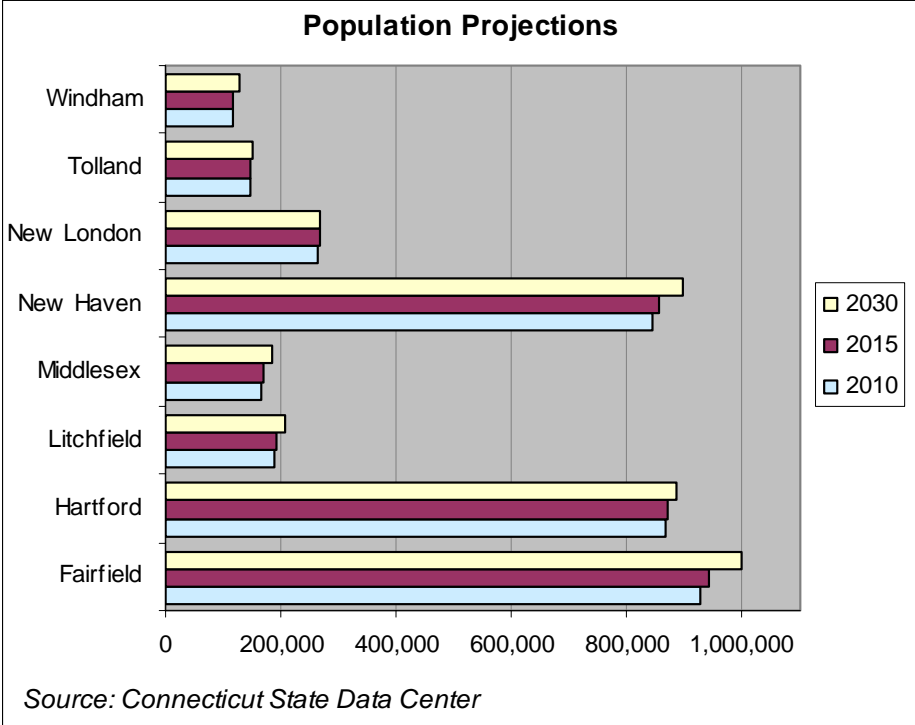
<b>Table 62: Statewide Population Estimates Based on Three Projection Methods</b>			
<b>Statewide Total</b>	<b>2015 – State Employment Projection</b>	<b>2015 – County Employment Projection</b>	<b>2015 – Population Projection</b>
Total Population	3,577,326	3,581,780	3,564,130
Households	1,383,940	1,383,345	1,376,182
Owners	958,402	958,030	954,288
Renters	425,538	425,314	421,894

Source: CT Housing Supply and Demand Model

### **By County**

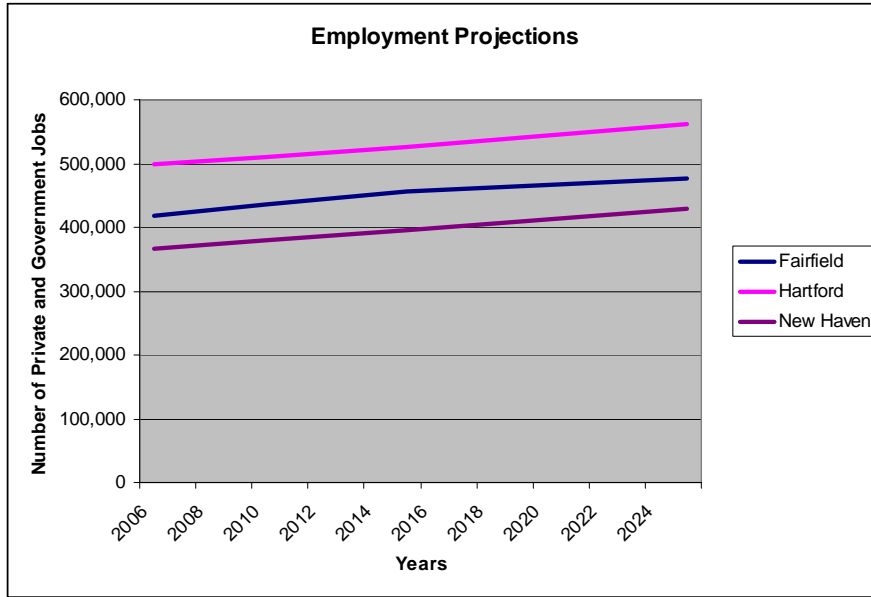
Chart 13 shows population projections for the years 2010, 2015, and 2030 for each Connecticut county. These projections are used for annual, short-term, and long-term reporting at the county and state level. This data is a key component for estimating housing production in future years, and shows where population pressure will be most significant. Fairfield and New Haven are expected to have the greatest growth in population. The other counties will continue to grow, but at a slower rate.

**Chart 13: Country-Level Population Projections in 5-Year Intervals**



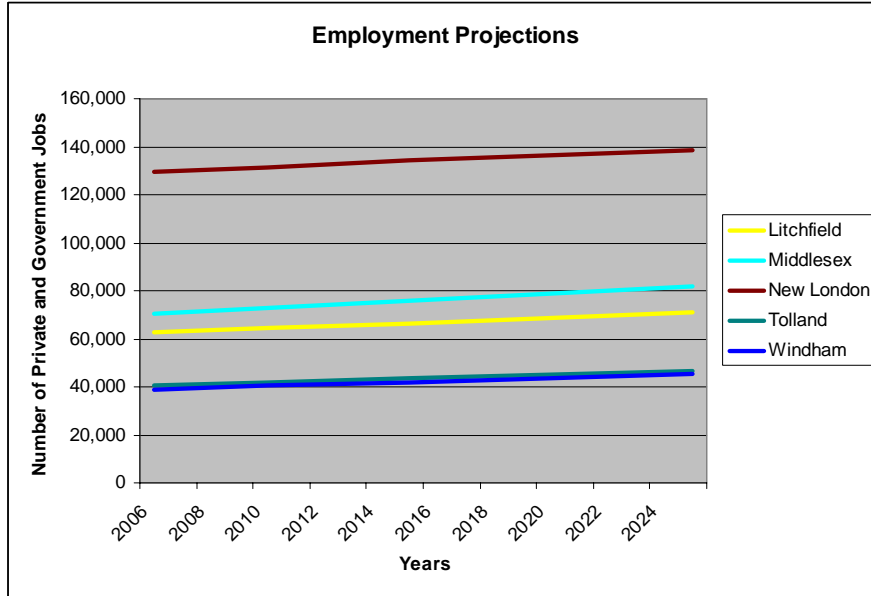
The following charts show employment growth and levels by county. Connecticut’s employment is greatest in Fairfield, Hartford, and New Haven counties. The continual growth in employment in these counties reflects urbanization trends in employment and demography.

**Chart 14: County-Level Employment (a)**



Source: CT Housing Supply and Demand Model

**Chart 15: County-Level Employment (b)**



Source: CT Housing Supply and Demand Model

## Housing Stock Forecast

The term housing stock refers to the total number of residential units both occupied and available to inhabit. This analysis identifies the number of future housing units needed based on three approaches; two are based on employment growth and the other is based on population growth. Historically, average household size in Connecticut has been relatively stable. With the Census/ACS data gathered from 1990, 2000, and 2006, the deviation from the mean was small. We maintain the assumption of a stable, average household through 2015.

### Statewide

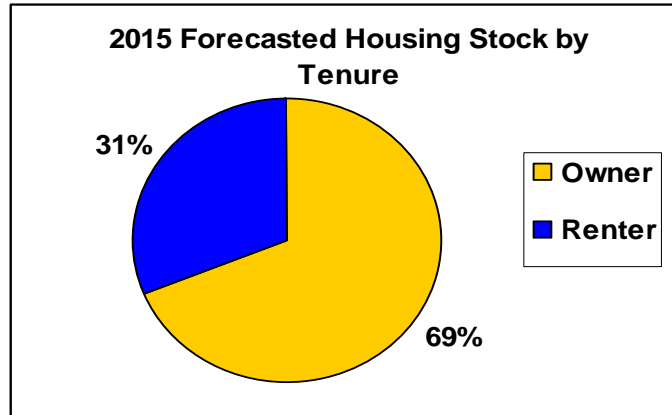
Table 63 reports the projected housing stock for 2015 suggesting a range of 1,435,231 to 1,443,236 units. Population projections are generally more conservative than employment projections, thus housing production projections based on population are lower than those using employment. It is important to understand that housing production estimates reported vary as a result of multiple methodologies.

<b>Table 63: Connecticut Housing Stock Forecasted for 2015</b>			
	<b>State Total Housing Supply – 2015 Estimates for Resident Population</b>		
	<b>Employment-Driven: Maintain 2006 Share of State Employment</b>	<b>Employment-Driven: Capture Share of Employment Growth Equal to 2000-2006 Share</b>	<b>Population-Driven: CT State Data Center Projections</b>
Owner	988,850	988,472	984,673
Renter	454,386	454,151	450,559
Total	1,443,236	1,442,623	1,435,231

Source: CT Housing Supply and Demand Model

Chart 16 shows the distribution for the total housing stock for 2015 in Connecticut. Owned households units account for 69% and rental units account for 31% of the forecasted units in 2015.

**Chart 16: Ownership Proportions for State Projected Housing Stock**



Source: CT Housing Supply and Demand Model

## By County

Table 64 shows the forecasted housing stock by county. The three methods used forecast the expected housing stock for 2015 by ownership.

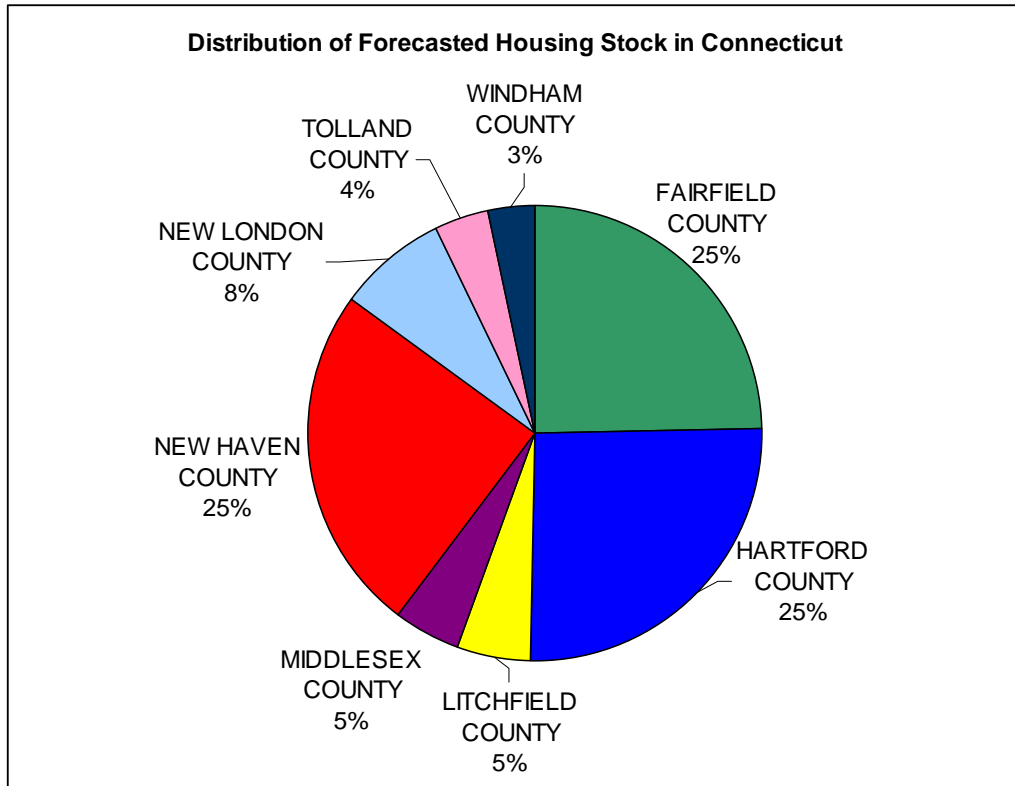
<b>Table 64: Forecasted Connecticut Counties Housing Stock for 2015</b>				
<b>County</b>		<b>2015 Housing Supply Estimates for Resident Population</b>		
		<b>Employment-Driven: Maintain 2006 Share of State Employment</b>	<b>Employment-Driven: Capture Share of Employment Growth Equal to 2000-2006 Share</b>	<b>Population-Driven: CT State Data Center Projections</b>
Fairfield	Owner	248,214	251,590	255,977
	Renter	103,905	105,318	107,154
	Total	352,120	356,908	363,131
Hartford	Owner	246,074	242,774	235,407
	Renter	125,435	123,754	120,000
	Total	371,509	366,528	355,408
Litchfield	Owner	59,190	58,550	62,184
	Renter	17,845	17,652	18,747
	Total	77,035	76,202	80,932
Middlesex	Owner	50,973	50,949	52,976
	Renter	18,641	18,632	19,374
	Total	69,614	69,582	72,350
New Haven	Owner	229,390	230,514	225,443
	Renter	125,446	126,060	123,288
	Total	354,836	356,574	348,731
New London	Owner	80,020	79,138	76,519
	Renter	35,767	35,372	34,202
	Total	115,786	114,510	110,721
Tolland	Owner	42,486	42,184	42,991
	Renter	13,798	13,700	13,962
	Total	56,283	55,884	56,952
Windham	Owner	32,503	32,772	33,176
	Renter	13,550	13,663	13,831
	Total	46,053	46,435	47,007

Source: CT Housing Supply and Demand Model



Chart 17 represents the distribution of the projected 2015 housing stock in Connecticut. The urbanized counties of Connecticut—Fairfield, Hartford and New Haven—are projected to have 75% of the state’s 2015 housing stock.

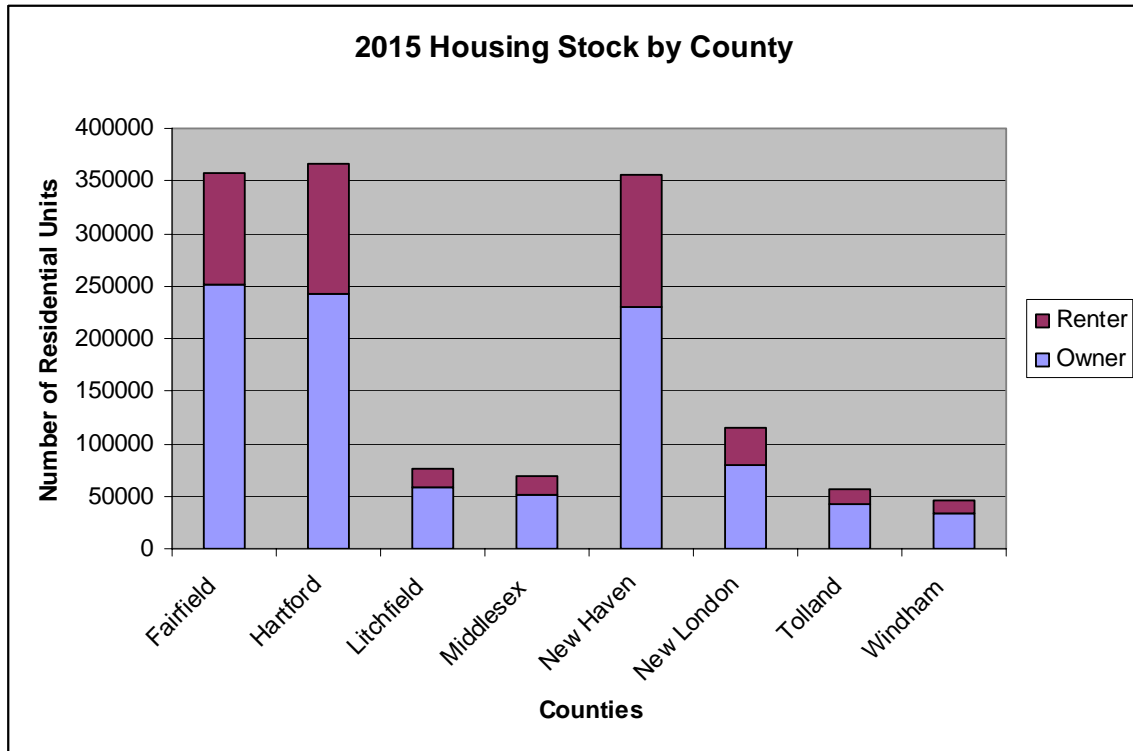
**Chart 17: Connecticut Counties Distribution of Housing Stock for 2015**



Source: CT Housing Supply and Demand Model

Chart 18 shows the distribution by units by ownership for each county. The lower section of the bar denotes homeownership forecasts and the upper section of the bar shows renter forecasts.

**Chart 18: Ownership of Forecasted Housing Stock for 2015 by County**



Source: CT Housing Supply and Demand Model

**Production Need**

Net production need is calculated as the difference between the future and existing stock, or the number of units that need to be added to the housing supply in order to meet future housing demand.

## Short-Term Detailed Analysis

### Statewide

Table 65 shows the distribution of net housing production needed at the county level for 2015. The net amount is the difference between the projected housing supply needed and the existing stock. Net production is differentiated by owner-occupied and rental housing needed to meet demand in each county. The rightmost table columns (A, B, and C) are further computations from the model that show the annual production needed to meet the projected 2015 housing need. Columns A and B contain the employment-driven methodologies and column C represents the population-driven methodology. For example, the population-driven projection suggests 52,183 homeownership units will need to be created to meet 2015 need. During the 2006-2015 period, each year 5,798 homeownership units should be created to stay on track to meet the 2015 need. Overall, the state will need approximately 67,888 to 75,893 additional housing units (owner-occupied and rental) by 2015 to meet the growing needs. Each year between 2006 and 2015, 7,543 to 8,433 housing units will need to be created. Then in 2015, the housing need should be met and the market would be at equilibrium.

<b>Table 65: State Net Production Need for 2015</b>						
	<i>Net Production Need 2000-2015</i>			<b>Average Annual Production Potential 2006-2015</b>		
	<b>Employment-Driven: Maintain 2006 Share of State Employment (A)</b>	<b>Employment-Driven: Capture Share of Employment Growth Equal to 2000-2006 Share (B)</b>	<b>Population-Driven: CT State Data Center Projections (C)</b>	(A)	(B)	(C)
Owner	56,360	55,982	52,183	6,262	6,220	5,798
Renter	19,533	19,298	15,705	2,170	2,144	1,745
Total	75,893	75,280	67,888	8,433	8,364	7,543

Source: CT Housing Supply and Demand Model

### By County

Table 66 presents the net production need for rental and owner-occupied units by county. The net production need is positive for almost all counties. Litchfield County's negative employment growth from the 2000 – 2006 period impacts the forecast for that county and its housing production need. However, the other two forecast methods, by population and employment growth share, suggest there will be a small number of additional units needed. The data suggests the urban counties in Connecticut (Fairfield, Hartford, and New Haven) will experience the greatest need throughout the state.

**Table 66: Net Production Need for 2015 by County**

County		2000-2015 Estimated Housing Supply Requirements for Resident Population			Average Annual Production Potential 2006-2015		
		Employment-Driven: Maintain 2006 Share of State Employment (A)	Employment-Driven: Capture Share of Employment Growth Equal to 2000-2006 Share (B)	Population-Driven: CT State Data Center Projections (C)	(A)	(B)	(C)
		Fairfield	Owner Renter Total	13,621 5,059 18,681	16,997 6,472 23,469	21,384 8,308 29,692	1,513 562 2,076
Hartford	Owner Renter Total	17,386 5,247 22,633	14,086 3,566 17,652	6,719 -188 6,532	1,932 583 2,515	1,565 396 1,961	747 -21 726
Litchfield	Owner Renter Total	1,020 11 1,031	380 -182 198	4,014 913 4,928	113 1 115	42 -20 22	446 101 548
Middlesex	Owner Renter Total	1,400 800 2,200	1,376 791 2,168	3,403 1,533 4,936	156 89 244	153 88 241	378 170 548
New Haven	Owner Renter Total	14,363 4,948 19,311	15,487 5,562 21,049	10,416 2,790 13,206	1,596 550 2,146	1,721 618 2,339	1,157 310 1,467
New London	Owner Renter Total	6,742 2,331 9,072	5,860 1,936 7,796	3,241 766 4,007	749 259 1,008	651 215 866	360 85 445
Tolland	Owner Renter Total	1,417 516 1,933	1,115 418 1,534	1,922 680 2,602	157 57 215	124 46 170	214 76 289
Windham	Owner Renter Total	411 621 1,032	680 734 1,414	1,084 902 1,986	46 69 115	76 82 157	120 100 221

Source: CT Housing Supply and Demand Model

## Long-Term Detailed Analysis

Forecasts were extended to 2025 for the long-term analysis of production need. This provides a way to begin planning for economic growth past 2015.

### Statewide

Connecticut will continue to have a positive net production need in 2025. Forecasting to 2025 introduces more uncertainty and therefore broadens the range of expected housing production need. The total net production need suggested for the state ranges from 108,204 – 155,058 additional housing units. Table 67 shows the estimated housing supply requirements for 2025.

<b>Table 67: State Net Production Need for 2025</b>						
	<b>2000-2025 Estimated Housing Supply Requirements for Resident Population</b>			<b>Average Annual Production Potential 2006-2025</b>		
	<b>Employment-Driven: Maintain 2006 Share of State Employment (A)</b>	<b>Employment-Driven: Capture Share of Employment Growth Equal to 2000-2006 Share (B)</b>	<b>Population-Driven: CT State Data Center Projections (C)</b>	<b>(A)</b>	<b>(B)</b>	<b>(C)</b>
Owner	110,549	109,169	80,153	5,818	5,746	4,219
Renter	44,509	44,262	28,052	2,343	2,330	1,476
<b>Total</b>	<b>155,058</b>	<b>153,432</b>	<b>108,204</b>	<b>8,161</b>	<b>8,075</b>	<b>5,695</b>

Source: CT Housing Supply and Demand Model

### By County

Projecting to 2025, at the county level, the range of the net production need estimates from the three methods increased. Overall, each county expects positive net production need in 2025. The counties with smaller need are the rural counties: Litchfield, Middlesex, New London, Tolland, and Windham. The counties with greater need are Fairfield, Hartford, and New Haven. Table 68 provides specific data.

**Table 68: Net Production Need for 2025 by County**

<b>Table 68: Net Production Need for 2025 by County</b>							
<b>County</b>		<b>2000-2025 Estimated Net Production Need for Resident Population</b>			<b>Average Annual Production Potential 2006-2025</b>		
		<b>Employment-Driven: Maintain 2006 Share of State Employment</b>	<b>Employment-Driven: Capture Share of Employment Growth Equal to 2000-2006 Share</b>	<b>Population-Driven: CT State Data Center Projections</b>			
		<b>(A)</b>	<b>(B)</b>	<b>(C)</b>	<b>(A)</b>	<b>(B)</b>	<b>(C)</b>
Fairfield	Owner	26,126	23,759	30,769	1,375	1,250	1,619
	Renter	10,293	9,303	12,237	542	490	644
	Total	36,419	33,062	43,006	1,917	1,740	2,263
Hartford	Owner	31,242	29,170	9,740	1,644	1,535	513
	Renter	12,306	11,251	1,351	648	592	71
	Total	43,548	40,421	11,091	2,292	2,127	584
Litchfield	Owner	4,302	3,979	6,775	226	209	357
	Renter	1,000	903	1,745	53	48	92
	Total	5,302	4,881	8,520	279	257	448
Middlesex	Owner	4,314	4,950	6,393	227	261	336
	Renter	1,866	2,098	2,626	98	110	138
	Total	6,179	7,048	9,019	325	371	475
New Haven	Owner	27,422	32,064	17,274	1,443	1,688	909
	Renter	12,086	14,624	6,539	636	770	344
	Total	39,508	46,688	23,813	2,079	2,457	1,253
New London	Owner	11,244	8,666	3,970	592	456	209
	Renter	4,342	3,190	1,092	229	168	57
	Total	15,587	11,856	5,062	820	624	266
Tolland	Owner	3,804	3,874	2,463	200	204	130
	Renter	1,292	1,314	856	68	69	45
	Total	5,096	5,188	3,319	268	273	175
Windham	Owner	2,095	2,708	2,769	110	143	146
	Renter	1,324	1,580	1,605	70	83	84
	Total	3,419	4,287	4,374	180	226	230

Source: CT Housing Supply and Demand Model

## Conclusion

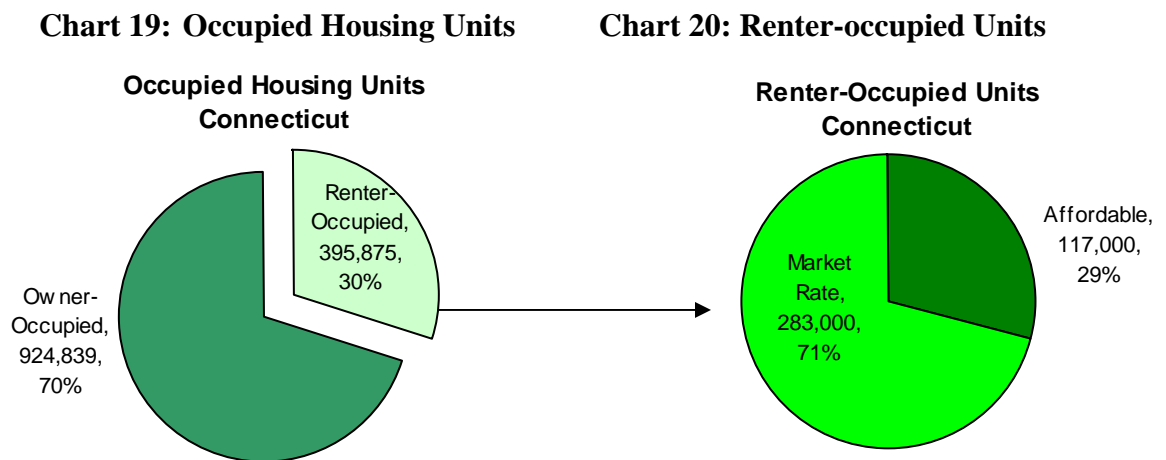
This analysis identifies the relationship between housing availability and affordability and sustained economic growth. The demographic and employment trends indicate an increasing level of demand pressure on housing supply. The report details the current level of housing stock and future production needed to adequately satisfy the increasing level of demand, taking into account a variety of different economic scenarios.

There is an overall need for housing in Connecticut, especially for affordable housing units. There will be an increasing demand for rental housing in the state, as there has been a depletion of rental properties as people continue to buy/convert properties. The current need is projected to grow with time to 2015 and 2025. Action must be taken to rectify this issue as it hinders Connecticut's economic growth.

## Preservation

### Affordable Units

In Connecticut there are about 1.3 million occupied housing units. Of those housing units about 70% are owner-occupied and the remaining 30% or 400,000 units are renter-occupied. About 117,000 rental units in Connecticut are considered affordable housing through federal or state financing or deed restrictions. The remaining 283,000 units in Connecticut are considered market rate units. Charts 19 and 20 show the distribution of housing in Connecticut.

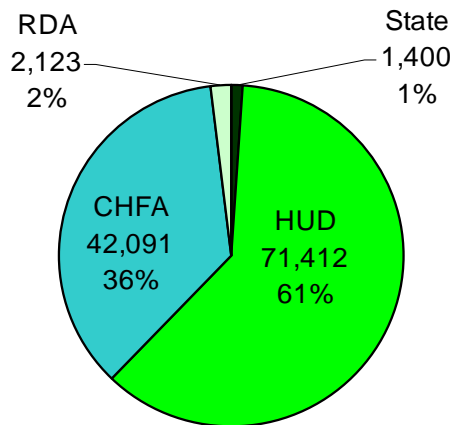


Sources: U.S. Census, American Community Survey 2007 and CHFA

Of the 117,000 affordable rental housing units in Connecticut about 41,000 are administered by the Connecticut Housing Finance Authority (CHFA) through mortgage

financing, tax credit financing, or through portfolio management. About 71,000 of the units are administered by HUD, about 2,000 units are administered by the United States Department of Agriculture's (USDA) Rural Development Agency. Chart 21 indicates the management of affordable housing in the Connecticut.<sup>14</sup>

**Chart 21: Administrators of Affordable Housing in Connecticut**  
**Administrators of Affordable Units  
in Connecticut**



Source: CHFA

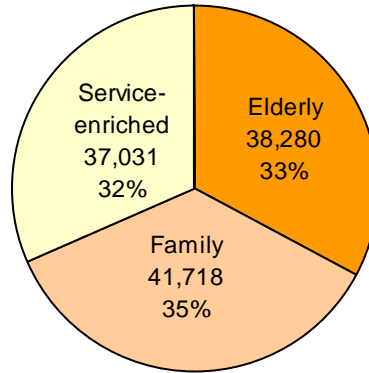
Of the 117,000 affordable units in the state, about a third of the units are elderly units, another third are family units and another third are service-enriched units.

<sup>14</sup> CHFA includes mortgage financing, tax credits and portfolio management HUD includes assisted units, tenant-based programs, LIPH and Section 202



## Chart 22: Affordable Housing in Connecticut

### Types of Affordable Housing in Connecticut



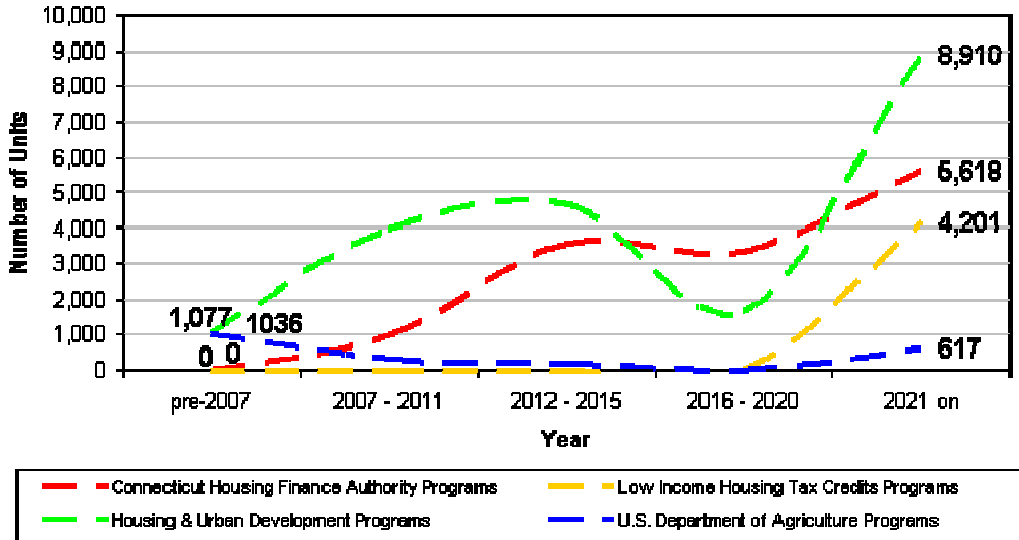
Source: CHFA

### Expiring Units

Affordable housing is only required to stay affordable through restrictions that are put in place during financing, when receiving tax credits, or through other deed restrictions. Of the 117,000 affordable units in Connecticut, approximately 15,000 units will lose their requirement to remain affordable by 2015. Another 5,000 units will lose their requirement to remain affordable by 2020 and another 19,000 units will lose their requirement to remain affordable sometime after 2020. Chart 23 shows the expiration dates for affordable housing based on the administrator of the housing unit.

Chart 23: The Loss in Assisted Housing

## Loss in Assisted Housing Stock Expiring Use



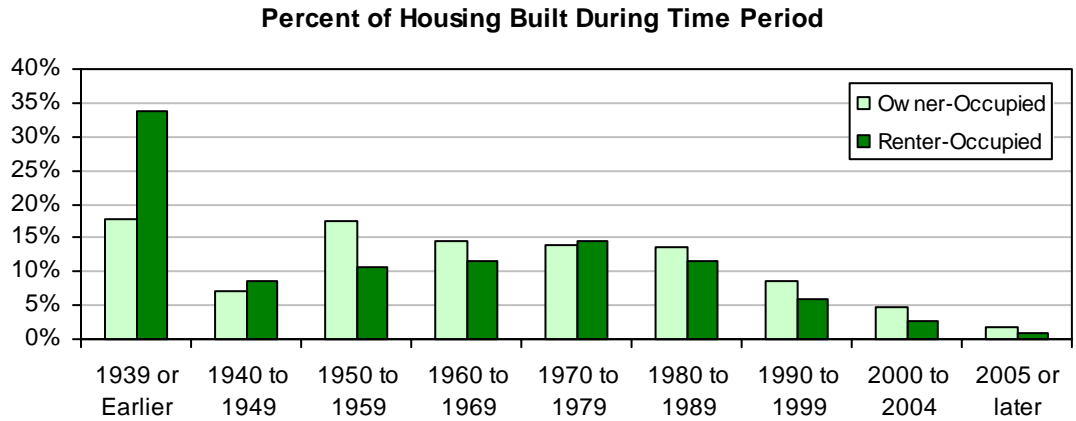
Source: CHFA

As these properties need repairs and are provided financing through one of these administrators, they will have affordable housing restrictions placed on them again for a number of years, usually an additional 30 years. Over the past several years, CHFA has been working to offer financing to many of these properties that are expiring in order to preserve the affordable housing that is currently in the market. By doing this, CHFA hopes to stabilize the affordable housing market in Connecticut while at the same time adding new affordable units through housing development programs.

### Connecticut's Housing Stock

The housing stock of renter-occupied units is generally older than owner-occupied units. A third of renter-occupied housing was built before 1939 while 18% of owner-occupied units were built before 1939.

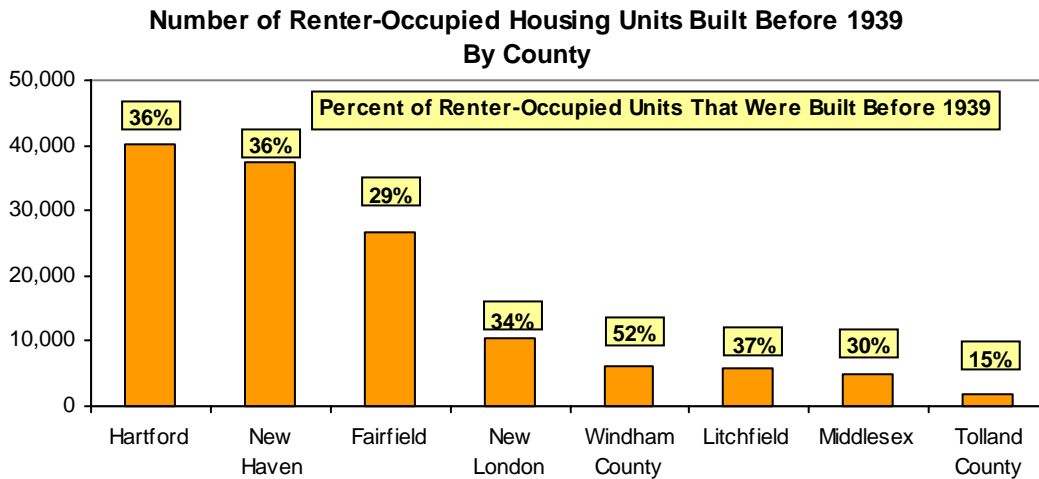
**Chart 24: Percent of Housing Built in Various Periods**



Source U.S. Census, American Community Survey 2007

There are nearly 135,000 renter-occupied housing units in Connecticut that were built before 1939. These units will need more frequent and possibly more expensive maintenance and repairs in the coming years. Most of the oldest renter-occupied units are in Hartford, New Haven, and Fairfield counties. However, Windham County has more than half of their total renter-occupied housing stock that was built before 1939.

**Chart 25: Number of Renter-Occupied Housing Units Built Before 1939**



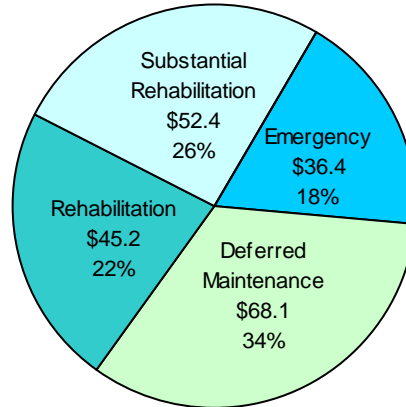
Source U.S. Census, American Community Survey 2007

## Physical Deficiencies of State Housing

When looking at the state housing portion of CHFA's portfolio, there is about \$202 million worth of physical needs for approximately 13,000 units of housing. Chart 26 shows the category of need that is necessary in these housing units.

**Chart 26: Physical Needs**

### Physical Needs (\$ millions) State Housing

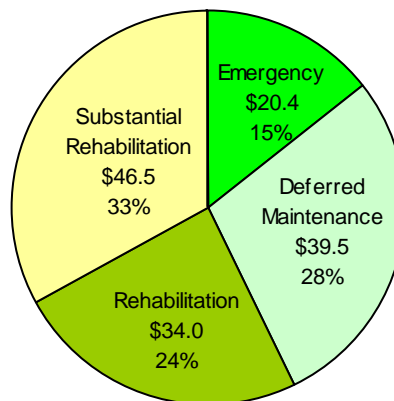


Source: CHFA

It is anticipated that about \$62 million of the physical needs in state housing can be funded either through reserves or through a loan. Therefore, there is an additional \$140 million of unfunded needs. Chart 27 shows the various categories of unfunded needs.

**Chart 27: Unfunded Needs**

### Unfunded Needs (\$ millions) State Housing



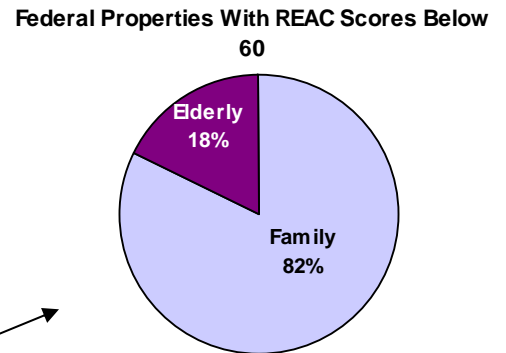
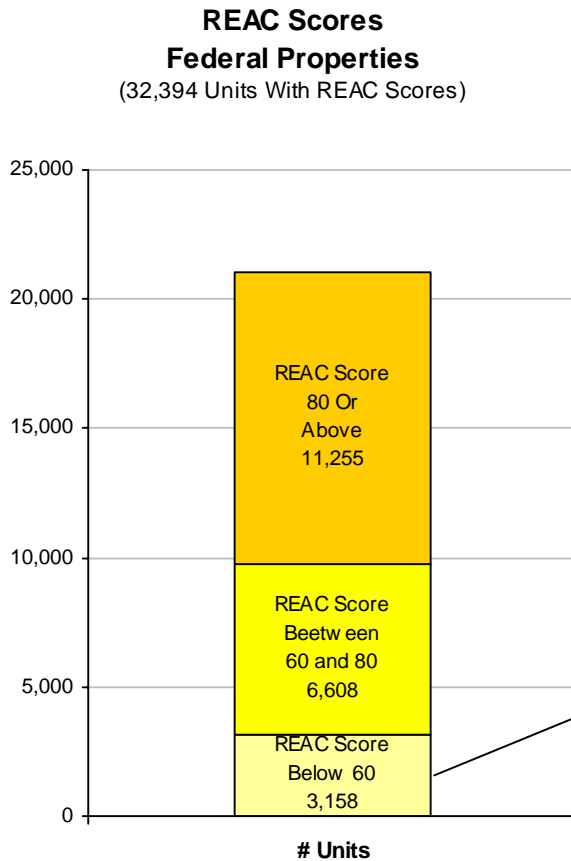
Source: CHFA

In general, elderly units tend to need less rehabilitation and maintenance than family units. Of the \$202 million of physical needs in state housing, about 60% are family units and 40% are elderly units.

When examining federal housing, about 15% of the units have Real Estate Assessment Center (REAC) scores below 60 which indicate a deficiency and an immediate need for attention. Of the federal properties in Connecticut with REAC scores below sixty, 84% are family units and 16% are elderly units. Charts 28 and 29 show the distribution of REAC scores for federal properties and the type of housing units that are most in need of repairs.

**Chart 28: REAC Scores for Federal Properties**

**Chart 29: Federal Properties with REAC Scores Below 60**



Source: CHFA

## Housing Affordability Assessment

“About 72% of Connecticut’s ‘top new jobs’ through 2014 according to the state labor department are expected to pay less than \$40,000 annually, indicating that affordable workforce housing will be an important economic issue in years to come. The wage needed to affordably rent a typical two bedroom apartment in Connecticut is now almost \$44,000 a year.”<sup>15</sup> Connecticut faces a significant need for affordable housing in each county. Based on the number of residents spending more than 30% of their income on gross rent in the 2007 ACS, a total of approximately 188,000 rental units need to be created throughout the state (Table 70). With proper policy incentives, rental units can be created to relieve the cost burden. The state’s positive vacancy rate suggests available units that could be converted to affordable rental units. The necessary affordable rental units can also be created by lowering the cost burden of the rental units that currently exist and introducing new construction. To rectify the current affordable renter household need problem by 2015, approximately 23,500 units would have to be created annually. When the current deficit of available affordable rental housing is obsolete, the future need projections will be more acute.

### Cost Burden Trends and Current Picture

#### Income Distribution

Table 69 shows the statewide distribution of households by income group and ownership for Connecticut in 2000. There are a larger number of renters in the low income groups relative to homeowners.

<b>Table 69: 2000 Income Distribution by AMI and Home Ownership</b>			
<b>Income Group</b>	<b>Homeowners</b>	<b>Renters</b>	<b>Total</b>
Under 30% AMI	77,635	136,839	214,474
Under 50% AMI	164,109	221,636	385,745
Under 60% AMI	211,388	258,261	469,649
Under 80% AMI	311,976	315,387	627,363
Under 100% AMI	415,111	352,904	768,015
Under 120% AMI	510,005	382,143	892,148
All Homeowners	869,742	431,928	1,301,670

Source: Census 2000

Cross-tabulations of household income and household size provide greater segmentation of cost burden. Cross-tabulation provides detailed insight into demographic characteristics needed to construct an estimate of future housing supply and housing demand.

<sup>15</sup> Klepper-Smith, Don. Updated Perspectives on the Need for Affordable Housing within Connecticut. January 2008

Table 70 shows the statewide distribution of households by income range and household size. The income groupings are related to area median income (AMI) and are adjusted for family size. Family sizes are classified as the following:

- 1 person household = studio
- 2 person household = 1 bedroom
- 3 person household = 2 bedroom
- 4 person household = 3 bedroom
- 5 person household = 4 bedroom
- 6+ person household = 5 or more bedroom units.

The first three income ranges are the traditional HUD definitions.<sup>16</sup> The others were added to provide a broader spectrum of housing need, calculated according to the methodology provided in the Overview of HUD Public Housing Section 8 Income Limits.

These income groups span the spectrum of household income. With these income levels cross-tabulated with household size, the baseline housing need could be further identified. A low income level coupled with a high number of people in the household indicates a high level of existing need. In Table 70, a low-income level coupled with a high number of people in the household indicates the severest level of cost burden and starts to introduce the issue of housing overcrowding.

<b>Table 70: 2000 Household Income Distribution by Household Size</b>							
<b>2000 Area Median Family Income</b>	<b>Household Size by Number of Persons</b>						<b>Total Households</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	
Less than 30% AMI	9,445	51,247	56,622	46,208	13,941	3,189	180,652
30-50% AMI	5,318	30,237	55,094	55,253	15,320	3,282	164,504
50-80% AMI	3,798	30,540	70,028	73,920	21,572	5,279	205,137
80-100% AMI	2,452	20,106	53,530	76,424	30,034	6,118	188,664
100-125% AMI	636	6,965	20,646	36,112	14,013	2,838	81,210
125-150% AMI	1,038	12,468	43,446	85,660	38,042	6,387	187,041
150-200% AMI	239	4,276	15,450	37,019	18,234	3,892	79,110
Greater than 200% AMI	814	8,149	31,022	80,402	61,947	18,359	200,693
<b>Total</b>	<b>23,740</b>	<b>163,988</b>	<b>345,838</b>	<b>490,998</b>	<b>213,103</b>	<b>49,344</b>	<b>1,287,011</b>

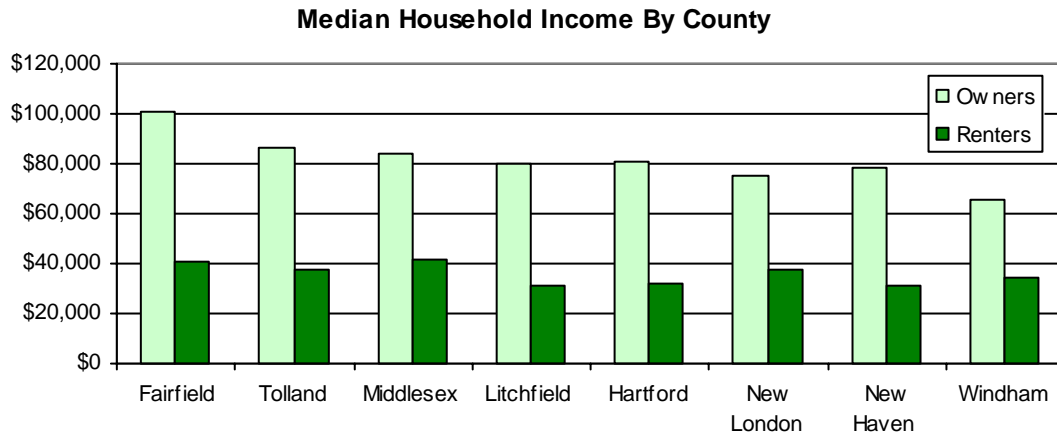
Source: Census 2000 interpolation by DECD

In general, renters tend to have lower income than homeowners. The 2007 median household income in Connecticut was about \$66,000. However, people in owner-occupied housing had median household income of \$83,000 while people in renter-occupied housing had median household income of about \$35,000.

<sup>16</sup> See [http://www.huduser.org/datasets/il/il07/FY07\\_StateIncomeLimits.doc](http://www.huduser.org/datasets/il/il07/FY07_StateIncomeLimits.doc).

The income disparity between owners and renters is highest in Fairfield County and lowest in Windham County. However, the difference between median incomes of owners versus renters is between \$31,000 and \$60,000 in each county, and is \$48,000 in the state overall.

**Chart 30: Median Household Income by County**



Source U.S. Census, American Community Survey 2007

### **Cost Burdened Households**

Households are considered cost burdened when 30% or more of their income is spent on housing costs. With nearly half a million households in Connecticut paying more than 30% of their incomes for housing, it is extremely important to preserve the affordable housing that is currently in Connecticut and add to the affordable housing stock in the state. This is especially true in certain target areas and towns such as New Haven and Fairfield counties, where the cost of living is generally higher than in other areas of the state.



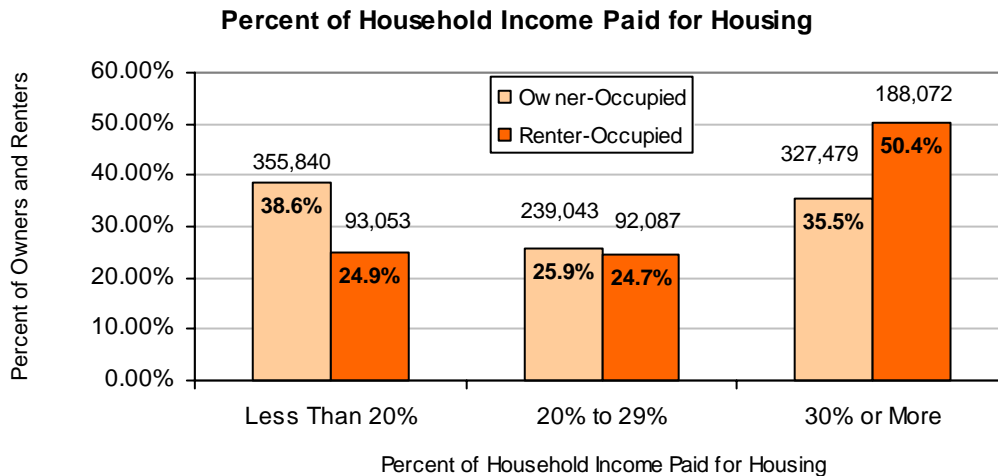
**Table 71: Owner and Renter Costs as Percentage of Median Income**

State/County	Homeowner Costs as a % of Median HH Income				Renter Costs as a % of Median Income			
	< 20%	20% – 29%	30% +	Unknown	< 20%	20% – 29%	30% +	Unknown
Fairfield	36.60%	23.70%	39.30%	0.40%	21.60%	24.90%	49.80%	3.70%
Hartford	40.70%	26.60%	32.20%	0.40%	26.20%	25.00%	44.30%	4.50%
Litchfield	39.10%	26.80%	33.80%	0.40%	29.70%	20.50%	41.00%	8.90%
Middlesex	38.10%	28.20%	33.70%	0.00%	24.70%	25.20%	46.80%	3.20%
New Haven	35.80%	28.00%	35.80%	0.50%	19.90%	22.60%	51.70%	5.70%
New London	41.70%	25.60%	32.70%	0.00%	21.40%	27.80%	47.40%	3.40%
Tolland	43.20%	28.10%	28.40%	0.40%	26.30%	24.30%	42.60%	6.80%
Windham	41.30%	28.30%	30.10%	0.40%	28.50%	21.60%	40.70%	9.20%
Connecticut	38.50%	26.30%	34.80%	0.40%	23.30%	24.20%	47.60%	4.90%

Source: CHFA

Renters are generally more likely to pay a greater portion of their incomes for housing than owners are. In 2007, half of the renter-occupied households paid more than 30% of their household income for housing while 36% of owners paid more than 30% of their household income for housing.

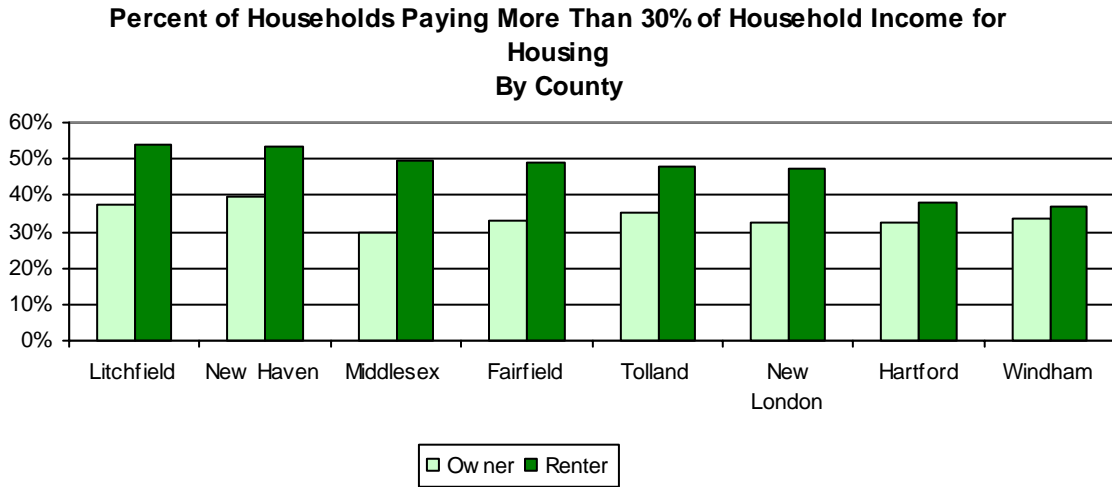
**Chart 31: Percent of Household Income Paid for Housing**



Source: U.S. Census, American Community Survey 2007

By county, there is a similar disparity between owners and renters with renters more likely to be paying more than 30% of their household income for housing.

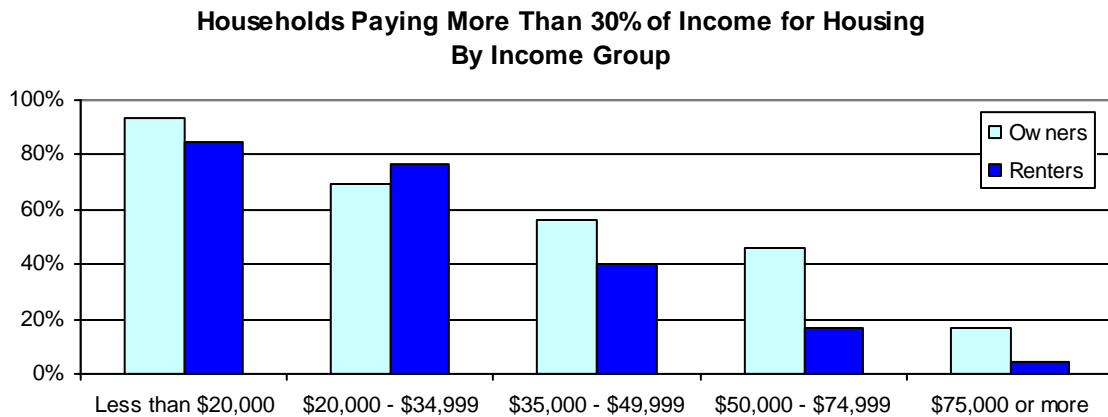
**Chart 32: Households Paying More Than 30% of Their Income for Housing**



Source: U.S. Census, American Community Survey 2007

What is most striking is that those households with the lowest incomes are the households that are most likely to be paying more than 30% of their incomes for housing. Almost all (93%) homeowners who earn less than \$20,000 pay more than 30% of their household incomes for housing. For renters in this same income category, 85% pay more than 30% of their household income for housing. Of households receiving the highest incomes, (\$75,000 or more), 4% of renters and 18% of owners pay more than 30% of their household incomes for housing.

**Chart 33: Households Paying More 30% of their Income for Housing**



Source: U.S. Census, American Community Survey 2006

## Renters

Table 72 tracks the renter population with economic characteristics of excessive cost burden historically. The number of renters with excessive cost burden decreased from 1990 to 2000. However, the number of renters with excessive cost burden increased for households earning less than 30% of the area median income.

<b>Table 72: Cost Burdened Rental Households</b>			
<b>Housing Cost Burden at 30%+ for Monthly Costs</b>	<b>1990</b>	<b>2000</b>	<b>Change 1990-2000</b>
Renters - Total Pay 30%+ for Gross Rent	161,317	155,324	-5,993
Under 30% AMI	80,693	93,043	12,350
Under 50% AMI	123,471	133,902	10,431
Under 60% AMI	138,541	145,347	6,806
Under 80% AMI	155,473	151,878	-3,595
Under 100% AMI	159,202	153,772	-5,430
Over 100% AMI	2,095	1,504	-591

Source: Census 1990 and 2000

Table 73 shows the number and percentage of renters that have gross rent exceeding the HUD guideline of 30% for each county in Connecticut in 2007. For a renter household to be considered affordable, housing expenses should not exceed 30% of the household's total income. Fairfield County had the greatest gap and need for affordable housing, as 50.8% of renters were burdened with excessive housing costs. Several counties follow closely, with Windham County having the lowest percentage of burdened renters at 34.7%.

<b>Table 73: Gross Rent Greater than 30% of Income</b>			
<b>State/County</b>	<b>Total Number of Renters</b>	<b>Gross Rent Greater than 30% of Income</b>	<b>Percentage with Rent Greater than 30% Income</b>
Connecticut	395,875	188,072	47.5%
Fairfield	91,465	46,429	50.8%
Hartford	112,394	52,059	46.3%
Litchfield	15,755	6,664	42.3%
Middlesex	15,980	5,656	35.4%
New Haven	105,789	53,451	50.5%
New London	30,194	13,793	45.7%
Tolland	12,388	5,891	47.6%
Windham	11,910	4,129	34.7%

Source: 2007 ACS

## Homeowners

Table 74 shows cost burden data for Connecticut homeowners, for whom there was at each income level an increase except for those homeowner households earning more than 100% of the AMI.

<b>Table 74: Cost Burden Data for Connecticut Homeowners</b>			
<b>Housing Cost Burden at 30%+ for Monthly Costs</b>	<b>1990</b>	<b>2000</b>	<b>Change 1990-2000</b>
Single Family Homeowners - Cost Burden @ 30%+	159,296	171,452	12,156
Under 30% AMI	33,676	39,480	5,804
Under 50% AMI	55,420	71,107	15,687
Under 60% AMI	65,932	86,184	20,252
Under 80% AMI	88,991	117,772	28,781
Under 100% AMI	116,598	138,916	22,318
Over 100% AMI	41,405	32,836	-8,569

Source: Census 1990 and 2000

For each county, the 1990-2000 distribution of households categorized by income and size is included in the housing baseline, which shows the current housing situation. Using cumulative distribution data, future housing production is segmented to meet the demand for specific housing characteristics such as size and affordability. County level data provides a more detailed account of the need for housing in specific locations. This information is useful to identify and help target areas of need for policy makers.

<b>Table 75: Homeowner Costs Greater than 30% of Income</b>			
<b>State/County</b>	<b>Number of Homeowners</b>	<b>Ownership Costs Greater than 30% of Income</b>	<b>Percentage with Costs Greater than 30% Income</b>
Connecticut	924,839	327,479	35.4%
Fairfield	232,383	91,456	39.4%
Hartford	224,768	73,533	32.7%
Litchfield	57,977	20,340	35.1%
Middlesex	48,790	15,712	32.2%
New Haven	215,414	80,106	37.2%
New London	72,801	23,482	32.3%
Tolland	40,989	12,301	30.0%
Windham	31,717	10,549	33.3%

Source: 2007 ACS

Table 75 shows the number and percentage of Connecticut homeowners that have housing costs exceeding 30% of their household income. Again, housing is considered affordable for homeowners when housing costs do not exceed 30% of the household income. The qualifying income for a median-priced home in Connecticut in 2008 was \$69,000.<sup>17</sup> All eight counties have a current need for ownership housing units that are affordable for these overextended households. Fairfield County exhibits the greatest need, with 39.4% of homeowners being burdened by housing costs. Tolland County has the least need compared to the other counties, with 30% of homeowners being burdened.

### Severe Cost Burden

Households are considered severely cost burdened when 50% or more of their income is spent on housing expenditures. Table 76 shows the number and percentage of severely cost-burdened renters and homeowners in Connecticut in 2007. The table shows that 23.8% of all rental households and 12.9% of all owner occupied households are severely cost burdened. There are almost four times as many cost-burdened homeowners with a mortgage, compared to those without a mortgage. The solution to the problem of cost-burdened renter households is to offer affordable housing.

<b>Table 76: Connecticut Household Cost as a Percentage of Household Income</b>					
	<b>Total</b>	<b>Severe Cost Burden</b>	<b>Mortgage</b>	<b>No Mortgage</b>	<b>Percentage of Severe Cost Burden</b>
Renter	395,875	94,201	N/A	N/A	23.8%
Owner	924,839	119,051	94,840	24,211	12.9%

Source: 2007 ACS

### Affordability Need

Affordable housing is a serious concern in the state of Connecticut. Despite the fact that Connecticut residents enjoy high median incomes relative to the rest of the country, the sharp increase in housing prices from 2000 to 2007 produced a significant affordability gap in the housing market. This gap has begun to close in recent years, but the effects of the housing bubble continue to be felt by Connecticut citizens.

Table 77 shows a comparison of housing affordability between the United States and Connecticut. There are six variables used to calculate the composite affordability index: median priced home, mortgage rate, monthly principal and interest payment, payment as a percentage of income, median family income, and qualifying income. The composite affordability index measures whether or not a typical family could qualify for a mortgage

<sup>17</sup> Klepper-Smith, Don. Updated Perspectives on the Need for Affordable Housing within Connecticut. January 2008

loan on a typical home. A typical home is defined as the national median priced, existing single-family home as calculated by the National Association of Realtors (NAR). The typical family is defined as one earning the median family income as reported by the U.S. Bureau of the Census. The prevailing mortgage interest rate is the effective rate on loans closed on existing homes from the Federal Housing Finance Board. These components are used to determine if the median income family can qualify for a mortgage on a typical home.

To interpret the index we give the following examples. An index value of 100 means that a family earning the median income has exactly enough income to qualify for a mortgage on a median-priced home. An index above 100 signifies that a family earning the median income has more than enough income to qualify for a mortgage loan on a median-priced home, assuming a 20% down payment. For example, a composite housing affordability index (HAI) of 120 means a family earning the median family income has 120% of the income necessary to qualify for a conventional loan covering 80% of a median-priced existing single-family home. An increase in the HAI, then, shows that this family is more able to afford the median priced home. The calculation assumes a down payment of 20% of the home price and it assumes a qualifying ratio of 25%. That means the monthly principal and interest payment cannot exceed 25% of the median family monthly income.

<b>Table 77: Homebuyer Affordability Index – United States vs. Connecticut</b>							
	<b>Median Priced Home</b>	<b>Mortgage Rates</b>	<b>Monthly P&amp;I Payment</b>	<b>Payment as a % of Income</b>	<b>Median Family Income</b>	<b>Qualifying Income</b>	<b>Composite Affordability Index</b>
<b>United States</b>							
2006	\$ 221,900	6.58	\$ 1,131	23.6	\$ 57,612	\$ 54,288	106.1
2007	\$ 217,900	6.52	\$ 1,104	22.4	\$ 59,224	\$ 52,992	111.8
<b>Connecticut</b>							
2006	\$ 315,300	6.49	\$ 1,593	25.2	\$ 75,834	\$ 76,464	99.2
2007	\$ 265,900	6.52	\$ 1,347	20.9	\$ 77,428	\$ 64,656	119.8

Source: Connecticut Association of Realtors

Table 78 shows the distribution of household incomes of Connecticut homeowners (in 2007 inflation-adjusted dollars).

<b>Table 78: Household Income in the Past 12 Months</b>			
	<b>Total Occupied</b>	<b>Owner Occupied</b>	<b>Renter Occupied</b>
Less than \$5,000	2.02%	0.78%	4.92%
\$5,000 to \$9,999	3.03%	1.00%	7.76%
\$10,000 to \$14,999	4.05%	1.94%	8.99%
\$15,000 to \$19,999	4.24%	2.53%	8.25%
\$20,000 to \$24,999	4.19%	2.89%	7.25%
\$25,000 to \$34,999	7.97%	5.71%	13.27%
\$35,000 to \$49,999	12.35%	10.84%	15.88%
\$50,000 to \$74,999	18.04%	18.58%	16.77%
\$75,000 to \$99,999	13.85%	16.17%	8.44%
\$100,000 to \$149,999	16.32%	20.94%	5.54%
\$150,000 or more	13.93%	18.62%	2.95%
Median Household Income	\$65,967	\$83,037	\$34,634

Source: 2007 ACS

The National Low Income Housing Coalition (NLIHC) publishes an annual report, *Out of Reach*, which provides a comparison of wages and rents in various jurisdictions within each state.<sup>18</sup> Using the affordability standard that households should not pay more than 30% of their income on housing expenditures, the NLIHC calculates the wage a household must earn in order to afford various sized rental units based on each area's Fair Market Rent (FMR). The hourly wage necessary to afford a two-bedroom unit is called the housing wage. In the 2008 study, the housing wage for Connecticut was \$21.11. In the 2009 study, Connecticut's housing wage increased to \$21.60. Tables 79 and 80 compare selected *Out of Reach* data for the metro and non-metro jurisdictions within Connecticut for 2008 and 2009.

<sup>18</sup> See: <http://www.nlihc.org/oor/oor2009/data.cfm?getstate=on&state=CT>

Table 79: Out of Reach Income Data									
Type of Jurisdiction	Name of Jurisdiction	Annual AMI		30% of AMI (Extremely Low - Income)		% of Median Renter Income Needed to Afford 2-Bedroom FMR			
		2008	2009	2008	2009	2008	2009		
State	Connecticut	\$84,259	\$87,678	\$25,278	\$26,303	109%	107%		
Non-metro	---	\$77,121	\$80,056	\$23,136	\$24,017	94%	94%		
Metro Area	Bridgeport	\$81,100	\$84,800	\$24,330	\$25,440	123%	122%		
Metro Area	Colchester-Lebanon	\$86,400	\$91,400	\$25,920	\$27,420	86%	84%		
Metro Area	Danbury	\$104,500	\$107,100	\$31,350	\$32,130	111%	112%		
Metro Area	Hartford-West Hartford-East Hartford	\$81,100	\$85,100	\$24,330	\$25,530	102%	101%		
Metro Area	Milford-Ansonia-Seymour	\$81,600	\$85,700	\$24,480	\$25,710	92%	90%		
Metro Area	New Haven-Meriden	\$78,300	\$80,200	\$23,490	\$24,060	128%	121%		
Metro Area	Norwich-New London	\$77,400	\$80,500	\$23,220	\$24,150	89%	89%		
Metro Area	Southern Middlesex County	\$93,900	\$96,700	\$28,170	\$29,010	95%	96%		
Metro Area	Stamford-Norwalk	\$117,800	\$122,300	\$35,340	\$36,690	113%	113%		
Metro Area	Waterbury	\$63,700	\$66,900	\$19,110	\$20,070	113%	112%		

Source: NLIHC, Out of Reach



Table 80: Out of Reach Housing Wage Data									
Type of Jurisdiction	Name of Jurisdiction	Housing Wage for 2-Bedroom FMR		2-Bedroom Housing Wage as % of Mean Renter Wage		Estimated % of Renters Unable to Afford 2-Bedroom FMR			
		2008	2009	2008	2009	2008	2009		
State	Connecticut	\$21.11	\$21.60	128%	123%	53%	52%		
Non-metro	---	\$17.05	\$17.69	159%	160%	47%	47%		
Metro Area	Bridgeport	\$22.52	\$23.35	100%	96%	59%	58%		
Metro Area	Colchester-Lebanon	\$19.98	\$20.73	142%	139%	43%	43%		
Metro Area	Danbury	\$27.90	\$28.94	124%	119%	54%	54%		
Metro Area	Hartford-West Hartford-East Hartford	\$18.94	\$19.63	122%	119%	50%	50%		
Metro Area	Milford-Ansonia-Seymour	\$20.67	\$21.40	157%	155%	46%	46%		
Metro Area	New Haven-Meriden	\$21.96	\$21.17	166%	153%	62%	57%		
Metro Area	Norwich-New London	\$17.81	\$18.48	126%	124%	45%	45%		
Metro Area	Southern Middlesex County	\$20.46	\$21.23	136%	140%	48%	49%		
Metro Area	Stamford-Norwalk	\$31.58	\$32.75	140%	135%	56%	54%		
Metro Area	Waterbury	\$16.60	\$17.19	126%	124%	56%	54%		

Source: NLIHC, Out of Reach

The *Out of Reach* study estimates that more than half of Connecticut renters are unable to afford the fair market rate for a two-bedroom unit. This data is consistent with the “living wage,” or self-sufficiency standard, mentioned earlier. Many state residents simply do not earn enough to live in the state without being burdened by housing costs.

Since 2005, HOMEConnecticut, an initiative of the Partnership for Strong Communities, has issued an annual report that analyzes housing affordability in each Connecticut town.<sup>19</sup> The study makes its calculations based on the median sales price of single-family homes and the median income of residents in the state’s 169 towns. The goal of the study is to determine whether, in a given town, a home at median sales price for that town is affordable to a household earning the town’s statistical median income. The 2007 HOMEConnecticut study shows that despite a downturn in the national housing market, the median sales price for a single-family home in Connecticut remains unaffordable for citizens in 84% of Connecticut towns.

To determine the affordability of a given town, the study calculated the “qualifying income”—the income necessary for a household to qualify for a mortgage. The study assumes that the household is earning the median household income, that they have no outstanding debt, and that they have reserved 10% of the purchase price for a down payment. The study also assumes that the household is looking at a median-priced home in that town. The formula used by HOMEConnecticut determines the qualifying income for a 4.5% fixed-rate, 30-year mortgage with a 1% annual property tax rate and \$60 per month in property insurance. Once the qualifying income was calculated, it was compared to the town’s actual median household income. A town was considered unaffordable if its median household income was lower than the qualifying income. Overall, 142 out of the 169 towns in Connecticut were considered unaffordable. Though this number represents an improvement from the 2006 study, in which 154 towns were unaffordable, unaffordable housing exists in most Connecticut towns.

Future cost burden trends allow us to segment demand for housing and provide insight to affordability. Understanding current affordability suggests what production the market may address and what production may need to be subsidized by the state.

The statewide projection of cost burden for renters and homeowners illustrates the housing affordability needs of the population in the year 2015. Tables 81 and 82 show the cost burden data for the baseline, 2015 projected data, and the change between the two data sets. The cumulative percentage distribution of income level is assumed to remain the same in the year 2015. The number of cost burdened renter and homeownership household units are projected to decrease in 2015. The 2006 statewide percentage of renter households was 48% and is projected to decrease to 36%. The 2006

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<sup>19</sup> See:

[http://www.homeconnecticut.org/images/stories/pdf/2008\\_Affordability\\_Study/hc\\_2008\\_ctaffordability\\_study\\_all.pdf](http://www.homeconnecticut.org/images/stories/pdf/2008_Affordability_Study/hc_2008_ctaffordability_study_all.pdf)

statewide percentage of homeownership households was 35% and is projected to decrease to 19.7%. The decrease is expected to happen from changes in population and employment during 2006 to 2015. However, the number of households, renter and homeowner, that will still be cost burdened in 2015 needs to be addressed.

<b>Table 81 : 2000 Cost Burden Data and Projection for Renters-Statewide</b>							
<b>Tenure and Income</b>	<b>2000 Census Cumulative</b>			<b>2015 Projections</b>			<b>Change 2000-2015</b>
<b>Renters</b>	<b>Total Renters</b>	<b>Cost Burden @ 30%</b>	<b>Percent with 30%+ Cost Burden</b>	<b>Total</b>	<b>Cost Burden @ 30%</b>	<b>Percent with 30%+ Cost Burden</b>	<b>Cost Burden @ 30%+</b>
Under 30% AMI	136,839	93,043	68.00%	133,660	90,881	68.00%	-2,162
Under 50% AMI	221,636	133,902	60.40%	216,487	130,791	60.40%	-3,111
Under 60% AMI	258,261	145,347	56.30%	252,261	141,970	56.30%	-3,377
Under 80% AMI	315,387	151,878	48.20%	308,060	148,350	48.20%	-3,528
Under 100% AMI	352,904	153,772	43.60%	344,706	150,200	43.60%	-3,572
All Renters	431,928	155,324	36.00%	421,894	151,716	36.00%	-3,608
	<i>Within Income Range</i>			<i>Within Income Range</i>			<i>Within Income Range</i>
Under 50% AMI	221,636	133,045	60.40%	216,487	130,791	60.40%	-3,111
50-80% AMI	93,751	17,976	19.20%	91,573	17,558	19.20%	-418
Over 80% AMI	116,541	3,446	3.00%	113,834	3,366	3.00%	-80

Source: CT Housing Supply and Demand Model

<b>Table 82: 2000 Cost Burden Data and Projection for Ownership-Statewide</b>							
<b>Tenure and Income</b>	<b>2000 Census Cumulative</b>			<b>2015 Projections</b>			<b>Change 2000-2015</b>
	<b>Total Renters</b>	<b>Cost Burden @ 30%</b>	<b>Percent with 30%+ Cost Burden</b>	<b>Total</b>	<b>Cost Burden @ 30%</b>	<b>Percent with 30%+ Cost Burden</b>	<b>Cost Burden @ 30%+</b>
<b>Renters</b>							
Under 30% AMI	77,635	39,480	50.90%	85,182	43,318	50.90%	3,838
Under 50% AMI	164,109	71,107	43.30%	180,062	78,019	43.30%	6,912
Under 60% AMI	211,388	65,932	31.20%	231,937	72,341	31.20%	6,409
Under 80% AMI	311,976	88,991	28.50%	342,303	97,642	28.50%	8,651
Under 100% AMI	415,111	138,916	33.50%	455,463	152,420	33.50%	13,504
All Renters	869,742	171,452	19.70%	559,582	110,310	19.70%	-61,142
	<i>Within Income Range</i>			<i>Within Income Range</i>			<i>Within Income Range</i>
Under 50% AMI	164,109	71,107	43.30%	180,062	78,019	43.30%	6,912
50-80% AMI	147,867	17,884	12.10%	162,241	19,622	12.10%	1,738
Over 80% AMI	557,766	82,461	14.80%	217,279	12,668	5.80%	-69,793

Source: CT Housing Supply and Demand Model

## **Barriers to Affordable Housing**

### **Creation Barriers**

#### **Overview**

Housing is a basic need of every person/family regardless of age, race, or income level. The lack of housing choices for all citizens affects the state's fiscal condition, the quality of life, and the vitality of our cities, towns and neighborhoods. The availability and quality of housing choices have substantial impacts on economic competitiveness, responsible growth, and the cost of infrastructure, not just roads and bridges, but also the cost of municipal services and local schools.

The state needs to raise the prominence of quality, affordable housing to the top of the local, state, and federal agendas. The affordable/workforce housing issue must reach beyond the development community and housing advocates to a broad range of constituents, including businesses, utilities, trade organizations, public and private sector employees, community leaders, and government officials.

Connecticut is the home of a highly educated and professional workforce. It is understood by many that the cost of housing is an important factor in Connecticut's ability to effectively attract and retain employees and businesses. Young workers are often forced to leave the state because of high housing costs. A lack of affordable housing choices hinders business recruitment and expansion and is a key consideration in business location decisions.

Housing prices nationwide have increased dramatically over the past 15 years. A number of factors have contributed to the rising prices, including federal, state, and local regulations that affect land and housing development. While many regulations provide important public benefits, others may be outdated, excessive, unnecessary, or exclusionary. Various studies have found that obstructive regulations have contributed to rising housing costs and created roadblocks to quality affordable housing in most of our communities.

Regulations that affect housing prices occur in several categories, as a component of building codes, environmental stipulations, land use and zoning, impact fees, and administrative processes. The point at which a regulation/policy becomes a barrier is not always clear. Regulations, in general, should serve a greater public purpose; therefore regulations that raise housing costs must serve a greater public purpose. The regulations/policies that should raise concern are those which disproportionately impact low- and moderate-income individuals by deliberately or indirectly prohibiting or

discouraging the development of affordable housing, with little compensating public benefit.

The availability of workforce housing, both ownership and rental, plays an important role in growing and sustaining the state's economic future. It is recognized by many in the business and governmental sectors that barriers to the creation of a full range of housing choices exist on both the state and local levels. Improved integration of housing, zoning, and land use policies with economic development and transportation policies will strengthen the state's ability to compete in the global economy.

Given the level of public investment in infrastructure (transportation, etc.) and the need for housing choices that are affordable to the state's workforce, governmental decisions regarding policies, regulations, and financing should be mutually reinforcing. There has never been sufficient action at all levels of government to address the growing imbalance between economic growth (business expansion and recruitment) and the number of net new housing units available and affordable to workers and their families.

It is understood that high-density development actually is more efficient than low-density development. By their very nature, longer sewer lines and sprawling utility (water, gas, and electric) supply systems are more costly; traditional development patterns dictate expensive road construction. In addition, local governments must provide fire and police protection (as well as other services) over a larger area. In contrast, compact development benefits from economies of scale and geographic scope can potentially be less costly.

There is a need to educate the public to the benefits of greater affordable housing choices, mixed-use and mixed-income housing complexes, transit-oriented developments, and pedestrian-friendly communities and how these provide for economic growth. The bias against multifamily rental housing must be overcome if Connecticut is to meet its housing needs in an environmentally sustainable and economically realistic manner.

### **Quality of Life**

"Quality of Life" is identified frequently as a major attraction for Connecticut residents and an important factor in job recruitment and retention. Each time a job is added, regardless of the attached wages, it is important to be able to have desirable and affordable housing within a reasonable (less than one hour) commuting distance. Worker retention, already a problem for some employers in both the public and private sectors, is likely to become an even greater problem if the cost and availability of housing do not improve.

It is in employers' self-interest to find ways to increase the supply and affordability of housing. A healthy community is one that has more of its workforce within its boundaries so that they have time to participate in its governmental, social, and economic processes.

### **Need for Regulatory Reform**

Regulatory delays increase costs, reduce returns on investment, and cause investors to seek other opportunities. Regulations are often written without considering how much they will cost the developer. In evaluating any regulation or modification, it is important that both the costs and benefits be considered. It is only in this way that careful decisions can be made.

More than a century ago, the notoriously poor living conditions associated with tenement houses led not only to a movement to reform and improve such dwellings, but also to a movement to prevent further apartment construction. Opponents drew on two key tools to block new multifamily buildings: restrictive building codes that made multifamily construction uneconomical; and restrictive zoning—in particular, the creation of single-family-only districts.<sup>20</sup>

The need for regulatory reform has been recognized at the national, state, and local levels for many years. The U.S. Department of Housing and Urban Development (HUD) began exploring this issue in the early 1990s. HUD appointed the Advisory Commission on Regulatory Barriers to Affordable Housing in 1991 to study the impact of state and local regulations on housing prices. The Commission found that regulatory restrictions raise development costs in some communities by as much as 35 percent. A regulatory barrier is either a de jure or de facto action that prohibits or discourages the construction of affordable housing without sound reasons directly related to public health and safety. In June 2003, HUD created the America's Affordable Communities Initiative (AACI) to assist state and local governments address regulatory reform to increase the availability of affordable housing for America's workforce."<sup>21</sup>

Recent research analyzing density restrictions in local jurisdictions making up the 50 largest metropolitan areas, which encompass 48% of the population in these areas, concluded that:

- Residential developments with densities of more than 30 units per acre are prohibited in all but 12% percent of local jurisdictions; and

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<sup>20</sup> Kenneth Baar, "The National Movement to Halt the Spread of Multifamily Housing, 1890-1926" *Journal of the American Planning Association*, Chicago: Winter 1992.

<sup>21</sup> "Creating a Task Force on Regulatory Barriers to Affordable Housing", U.S. Department of Housing and Urban Development, Office of Policy Development and Research – 2007.



- A hypothetical 2-story, 40-unit apartment property on five acres of land would be prohibited outright in about 30% of such jurisdictions.
- Such restrictions not only reduce the range of housing options available to local residents they tend to favor lower density over higher density developments, which in turn make housing more expensive.<sup>22</sup>

## Property Values

Concerns that multifamily rental housing will lower the value of their single-family houses have driven many residents to oppose new apartment developments in or near their neighborhoods. Opponents of rental housing often argue that while people who own their homes are invested in the long-term success and safety of a community, people who rent apartments are merely short-term transients and therefore less desirable neighbors. Multifamily rental housing complexes, however, do not generally lower property values in surrounding areas.

- Pollakowski et al. in their 2005 study entitled the Effects of Mixed-Income, Multi-family Housing Developments on Single-family Housing Values state that “We find that large, dense, multi-family rental developments...do not negatively impact the sales price of nearby single-family homes,”<sup>23</sup> and,
- Joyce Siegel states in The House Next Door that “In sum, the presence or proximity of subsidized housing made no difference in housing values as measured by relative price behavior in a dynamic market.”<sup>24</sup>

The available research is fairly strong that multifamily rental housing:

- Does not impose greater costs on local governments;
- Does not increase traffic and parking problems;
- Does not reduce property values if well-designed and appropriate to the neighborhood;
- Does not inherently attract residents who are less neighborly or less involved in the community; and

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<sup>22</sup> John M. Quigley and Larry A. Rosenthal, “The Effects of Land Use Regulation on the Price of Housing: What Do We Know? What Can We Learn?” *Cityscape*, Vol. 8, Nr. 1 (2005) and Edward L. Glaeser and Joseph Gyourko, “The Impact of Building Restrictions on Housing Affordability, *Economic Policy Review*, Federal Reserve Bank of NY, New York, NY: June 2003.

<sup>23</sup> Henry O. Pollakowski, David Ritchay, and Zoe Weinrobe, “Effects of Mixed-Income, Multi-family Housing Developments on Single-family Housing Values,” Cambridge, MA: MIT Center For Real Estate, April 2005.

<sup>24</sup> Joyce Siegel, *The House Next Door*, Innovative Housing Institute, 1999.

- Has “not contributed significantly to the rise in school enrollments” and that “it is very unlikely that new multi-family housing has produced a negative fiscal impact on cities and towns.”<sup>25</sup>

Barrett and Connery (footnote 91) argue that multifamily housing does not significantly add to school enrollments because most of the units (one- and two-bedrooms) produced in these complexes were never designed to house families with children. They argue that developers do so for the express purpose ensuring local officials that their developments will not hurt local fiscal matters. Barrett and Connery note that this approach ends up pitting fiscal policy against housing policy—that is, the kind of residential developments that are approved are not what might be required by local households, but rather to address a perception that multifamily housing will have an adverse impact on the local budget.

The fear that housing density will hurt property values seems to be primarily based on anecdotes. In contrast, as noted above, most research has come to a different conclusion. In general, neither multifamily rental housing, nor low-income housing, causes neighboring property values to decline.<sup>26</sup>

### **Zoning and Land Use Regulations as a Barrier**

Zoning and land use regulations are frequently listed as barriers to the development of lower cost housing. Requirements such as height restrictions, density limitations, maximum lot coverage, minimum lot size, minimum setback requirements, street and right-of-way requirements add to development costs. Zoning and land use regulations are not the only barriers to quality, affordable housing choices, but do contribute to the problem.

Many communities have zoning and land use policies that make it difficult or impossible to develop multifamily and other types of housing that tend to be less costly. To discourage affordable housing, communities employ exclusionary zoning tactics, including large minimum lot requirements or density limitations that restrict multifamily housing development. Alternative forms of affordable housing such as accessory dwelling units and manufactured housing are often prohibited by zoning codes. Some communities impose high architectural standards or require developers to include attractive amenities that increase the costs and demand for housing in a community.

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<sup>25</sup> Judith Barrett and John Connery (2003). “Housing the Commonwealth’s School-Age Children,” Citizens’ Housing and Planning Association Research Study, August.

<sup>26</sup> Alexander von Hoffman, Eric Belsky, James DeNormandi, and Rachel Bratt, “America’s Working Communities and the Impact of Multifamily Housing,” Cambridge, MA: Joint Center for Housing Studies, 2004

It is not generally possible to identify the unique impacts of zoning and land use regulations or precisely where and when zoning and/or land use regulations impose regulatory barriers. The evidence suggests that zoning and land use regulations indeed are a barrier to higher-density multifamily housing. The evidence suggests a relationship between zoned capacity and housing production, and between higher-density zoning and multifamily housing production. Research has found that those communities that directly limit housing development generally have higher incomes, higher housing prices, lower densities, and fewer multifamily housing units than communities that do not impose such limits.

Zoning and land use regulations alone do not cause, nor can they solve the problem of affordable housing. Changes in zoning and land use regulations alone are not a sufficient policy response to the problem of housing affordability. Many factors beyond zoning can limit the quantity of multifamily housing stock. These include market conditions, land availability, the quantity and quality of public services, other planning goals (e.g., protecting open space or rural areas), and existing land-use patterns.

However, the rationale for restrictive zoning and land use policies is often based on concerns about the preservation of neighborhood character and desirability. With appropriate zoning, land use and design policies in place, however, a wide array of housing types can be incorporated into communities without compromising local design standards, property values or quality of life.

### **Regulatory and Administrative Processes as a Barrier**

Regulatory processes are potential barriers to the development of lower cost housing. Professor May classifies regulatory process barriers as those posed by “regulatory approval processes,” “regulatory practices,” and “fragmented administrative structures.”<sup>27</sup> According to Professor May, developers need to go through a “regulatory gauntlet” including a series of pre-application meetings, submission of application materials showing adherence to a number of regulations, a variety of special reports and studies, hearing processes, and approval conditions on the proposed development.

The delays in the local approval process increase development costs and hence have a negative impact on affordability. Additionally, meeting the conditions imposed as part of different approval processes, and accounting for the fees often associated with these processes, can add substantial costs to the project.

Housing developers seeking state or federal financial assistance face additional delays. Approval processes associated with government financial assistance pose additional

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<sup>27</sup> Peter J. May, “Regulatory Implementation: Examining Barriers from Regulatory Processes” - Prepared for HUD Workshop on Regulatory Barriers, April 22, 2004, Washington D.C.

barriers for developers because of the various state and/or federal regulatory or policy conditions that need to be met. Typically, state and federal agencies offer financial assistance only for project sites that are ready to be developed. Therefore, lengthy local review procedures such as zoning, environmental reviews, etc. make land acquisition extremely challenging for affordable housing developers.

There are additional barriers associated with strict implementation of regulations as opposed to more “cooperative enforcement and facilitative practices” (footnote 27). Strict enforcement strategies can also increase the cost of housing by causing delays.

In addition to the time required by lengthy approval processes, the involvement of multiple agencies concerning different regulations poses further barriers. Duplication, inconsistencies between the requirements of different regulatory bodies, multiple review practices, and the cumulative impact of regulations are the major barriers associated with fragmented administrative process.

Complex administrative processes can also become a barrier by significantly increasing housing costs. Developers are often required to work with several different agencies to obtain approval for development, and coordination with these agencies can lead to significant delays in the permitting process. Administrative inefficiency and delays in permitting often increase developer costs and lead to higher than necessary housing costs.

Finally, NIMBY (Not In My Back Yard)-related community opposition, though not a part of the regulatory processes per se, comes into play during the fulfillment of public hearing and community meeting requirements mandated by some regulatory processes.

### **Building Codes as a Barrier**

Building codes can be considered as another potential barrier to lower cost housing.<sup>28</sup> Like zoning and land use, the regulation of building construction is an exercise of police powers delegated to the municipalities from the state.

These codes are generally enforced at the local level by means of periodic inspections. An existing property that is rehabilitated typically will have to satisfy building, plumbing, mechanical, and sister codes as well as the fire and hazard codes, etc. It should be noted that building codes designed to regulate new construction sometimes create an expensive and unrealistic burden on developers interested in rehabilitating existing buildings.

In May 1997, HUD published the Nationally Applicable Recommended Rehabilitation Provisions (NARRP) to serve as a model for the development of rehabilitation codes to

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<sup>28</sup> David Listokin, Rutgers University and David Hattis, Building Technology Inc. “Building Codes and Housing” - Prepared for HUD Workshop on Regulatory Barriers, April 22, 2004, Washington D.C.

regulate work in existing structures. Similarly, in January 1998 after two years of work, New Jersey adopted its rehabilitation code. Since then, rehabilitation codes have been adopted by Maryland, New York, Rhode Island, Minnesota and Delaware.

The overall goal of the rehabilitation codes is to encourage the reuse of older buildings. These new codes are based on two principles:

- Predictability that clear rehabilitation codes would foster the accurate prediction of improvement standards and costs; and
- Proportionality, in that a sliding scale of requirements is established depending on the level and scope of the rehabilitation activity, from repairs to reconstruction.

A 2006 study by Burby, Salvesen, and Creed provided the first systematic empirical evidence that New Jersey's rehabilitation code stimulated rehabilitation activity.<sup>29</sup> The authors compared New Jersey's success to similar neighboring state communities to determine the full impact of renovation-friendly codes.

Their study controlled for varying influences that could contribute to an increase in renovation activity, such as a strong economy, low interest rates, or a shortage of development sites in the suburbs. The authors found that New Jersey's rehabilitation code was responsible for increased residential rehabilitation activity from 1998 to 2002, by more than 100 rehabilitation projects per year per community in comparison with communities without rehabilitation codes.

### **Exactions and Impact Fees as a Barrier**

At one time, infrastructure was funded almost entirely by government because infrastructure generally tends to serve a public purpose and to accelerate private investment. Today, budgetary constraints, the economy, and public opposition to higher taxes have whittled down the public dollars available for infrastructure development. Thus, part of the burden of constructing capital facilities has shifted from the public sector to the private sector.

Impact fees, on-site land dedication requirements, and requirements for the construction of infrastructure and public facilities are different forms of exactions that have a potentially negative impact on the affordability of housing. To the extent that the fee or

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<sup>29</sup> Raymond J. Burby, David Salvesen, and Michael Creed (2006). "Encouraging Residential Rehabilitation with Building Codes: New Jersey's Experience," *Journal of the American Planning Association*, Volume 72, Issue 2 June, pp. 183-196.

exaction exceeds the land developer's proportionate share of the facility's cost, the levy is an unconstitutional taking of property.<sup>30</sup>

Fees and exactions are direct charges or dedications collected on a one-time basis as a condition of an approval being granted by the local government. Fees can be categorized in three classes:

- Development impact fees which are levied on new development to cover the cost of infrastructure or facilities necessitated by that development;
- Permit and application fees which cover the cost of processing permits and development plans; and
- Regulatory fees.

Impact fees may pose barriers to affordability especially in communities where a flat fee per housing unit is charged instead of sliding scale fees based on the cost of the unit. The price tag for the construction of public facilities and infrastructure can take up a substantial portion of the project budget and thereby of the public subsidy as well. On-site land dedications can also affect affordability because the total cost of the project including land acquisition cost is divided between a fewer number of units.

### **Environmental Regulations as a Barrier**

There is not much information about the impact of environmental regulations on the price of housing.<sup>31</sup> Environmental regulations can potentially increase project costs through delays, consultant fees, and additional items for site improvement in the project budget, such as environmental site assessment requirements. Often permitting and processing procedures that take very long periods of time, thereby forcing developers to pay higher interest costs in carrying their land, as well as other project costs.

Environmental laws and regulations can and do impact the supply of land and cost to develop housing at a given price. According to Kiel (footnote 98), there are few empirical studies that attempt to quantify the impact. Kiel concludes from her literature review that little is truly known about the impact of environmental regulations on the price and quantity of housing. Kiel notes, "Most, if not all, economists would say that the increase in the price of inputs, along with any increase in delays and/or uncertainty, would decrease the supply of new housing to the market, thus increasing the price of new housing. And most, if not all, economists also would say that improvements in the environment due to regulation should increase the demand for housing in areas that have

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<sup>30</sup> Callies, David. "Exactions, Impact Fees and Other Land Development Conditions." Proceedings of the 1998 National Planning Conference.

<http://web.archive.org/web/20050205032224/http://www.asu.edu/caed/proceedings98/Callies/callies2.html>>

<sup>31</sup> Katherine A. Kiel, College of the Holy Cross "Environmental Regulations and the Housing Market: A Review of the Literature" - Prepared for HUD Workshop on Regulatory Barriers, April 22, 2004, Washington D.C.

experienced the improvement, which would increase price. Many economists have estimated the price increase, with some attributing the increase to changes in supply and others to changes in demand...”(footnote 31, pp 20-21).

## **Economic Impacts**

Local officials and citizens have made many communities increasingly inhospitable to virtually all new development over the past several decades. Regulations have been passed that are intended, at least in part, to increase the difficulty of obtaining permits and slow the pace of new development. These regulations have harmful economic impacts on towns, cities, and the state.

Some of the impacts are relatively immediate: a loss in construction jobs and local construction-related spending; a decline in vacancy rates leading to increased rents and house prices; lengthening commutes as workers seek lower housing costs; and wear and tear on local and state roads and highways. In the longer run, high housing costs put upward pressure on wages for local businesses and government workers, forcing businesses to make decisions to locate or relocate elsewhere. Finally, as some families decide to leave the area altogether for lower housing costs, the available workforce shrinks and growth stalls.

A 2005 study found that improvements in permit processes can help a community promote economic development, lower business costs, and create jobs both within the construction sector and throughout the local economy.<sup>32</sup> Increased tax collections can provide a revenue source that can help finance the costs of the systems and procedural improvements needed to accelerate permit approval.

These land use regulations result in inelastic supply, impeding the ability of the market to respond to an increase in demand. Greater demand for housing therefore leads to higher prices for all housing—new and existing—rather than greater production of housing units. Higher prices reduce the share of housing that is affordable to average-income households. One study concludes that in the Boston region, housing prices might have been 23-36% lower by 2004 if regulation had not reduced new permits since 1990.<sup>33</sup>

Regulations and the resulting high house prices lead to a lower quality of life for the region’s residents. The search for affordable housing leads many households to outer suburbs, leading to long commutes which ultimately cause increased congestion and infrastructure costs, and lower air quality. Long commute times leave workers less time

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<sup>32</sup> National Economic Consulting “The Economic Impact of Accelerating Permit Processes on Local Development and Government Revenues” - Prepared for American Institute of Architects December 7, 2005.

<sup>33</sup> Glaeser, Edward L., Jenny Schuetz, and Bryce Ward (2006). “Regulation and the Rise of Housing Prices in Greater Boston,” Cambridge: Rappaport Institute for Greater Boston, Harvard University and Boston: Pioneer Institute for Public Policy Research.

for their families and to participate in volunteer and social activities in their communities. High housing prices increase wages local businesses must pay to retain workers.

Housing supply restrictions that result in high housing prices mean that businesses have either to pay higher wages or move out of state to a place with lower housing costs and wages. In addition to wage pressure, high housing prices increase the difficulty of attracting and retaining workers. Because wages have been unable to keep up with housing costs, businesses, universities, hospitals, and other employers in high-cost states report increasing difficulty in attracting and retaining high-quality employees.<sup>34</sup>

## **SUMMARY**

Housing relates to economic development through new construction and real estate fees, as well as the consumption of housing-related goods and services. The existing supply of housing in Connecticut is constrained, but the cost of producing a unit is high, therefore new developments of large homes are now the norm, instead of starter, single-family homes being built across the state. Connecticut's population is projected to grow by 140,000 between 2010 and 2025; however, employment growth is projected to slow, reducing the need for housing in the long-term. Fairfield, Hartford, and New Haven counties have a declining growth of stock, while rural towns (mostly in Windham County) are growing the most. Connecticut still has a sizeable special needs population—the elderly, those with disabilities and health issues, and abuse victims—which requires affordable and adequate housing throughout the state. This echoes the fact that affordable housing is deficient in Connecticut, based on the number of low-income families; while renting is becoming a more common option among young adults. Without the availability of affordable housing, homeowners will bear a greater burden of taxes in Connecticut, and the flight of young adults out-of-state will continue to adversely affect the labor market.

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<sup>34</sup> Carman, Edward C., Barry Bluestone, and Eleanor White. 2003. *Building on Our Heritage: A Housing Strategy for Smart Growth and Economic Development*. Report and Recommendations for the Commonwealth Housing Task Force. Boston, MA: Center for Urban and Regional Policy, Northeastern University.



## Transportation

Transportation systems are critical to the well being of individuals, the productivity of businesses, and in general the overall health of economies. Transportation provides the means for commuting to work, the purchase and delivery of goods, and recreational opportunities. The many benefits and impacts of transportation systems can be summarized as direct user and economic benefits, indirect and induced business impacts, and finally construction and maintenance spending impacts.

*Direct User Benefits:* all modes of transportation — including roads, rail, air, and water — provide direct benefits to users. These immediately realized benefits might be reduced congestion costs, ease of access, comfort, safety, reduced travel times and/or travel costs.<sup>1</sup>

*Direct Economic Benefits:* these benefits lead to monetary benefits for some users and non-users (individuals and businesses) within a geographic area. For affected businesses there may be *Economic Efficiency Benefits* in terms of production cost and product quality and availability stemming from changes in labor market access and the cost of obtaining, as well as supplying, inputs to customers and obtaining outputs from intermediaries. For affected residents, benefits may include reduced costs for obtaining goods and services, an increased variety of work and recreational opportunities associated with greater locational accessibility, and reduced pollution that adds to the amenity value of the area (footnote 1).

*Induced Impacts:* includes *Indirect Business Impacts* for suppliers to directly affected businesses. *Induced Business Impacts* result from the extra spending (which originates from reduced cost of travelling) on other goods. There are also *Other Induced Impacts*, which come from shifts in the broader population and business location patterns, and land use and the resulting land value patterns. These shifts may also affect government costs and revenues (e.g., parking revenues and taxes). These changes will ultimately affect income, wealth and/or “wellbeing” — both overall and for particular groups of people in the affected geographic area (footnote 1).

*Construction and Maintenance Spending Impacts:* there is a short-term economic impact associated with the construction of transportation facilities and services, and other long-term impacts associated with maintenance and operation of facilities and services (footnote 1).

These benefits and impacts show that Connecticut’s economic future is directly linked to its transportation system. As such, Connecticut’s existing transportation system needs to

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<sup>1</sup> Connecticut Center for Economic Analysis, “The Impact of the Regional Transit Strategy on the Capitol Region of Connecticut: A Dynamic Impact Analysis,” January 2001.

be thoroughly evaluated so that future goals may enhance its strengths and overcome its weaknesses. Following is an assessment of Connecticut's transportation system by the Connecticut Center for Economic Analysis. The assessment is divided into focused sections on Connecticut's maritime industry, railway system, bus system, highway system, aviation system, and bikeway/pedestrian system.

### **Connecticut's Maritime Industry**

The ports of Connecticut are "niche" ports; that is, they are cargo-specific ports specializing in bulk, liquid bulk, breakbulk and neobulk operations.<sup>2</sup> They serve their customers through public and private terminals via pipelines, highways, rail, and warehousing and distribution facilities. They also provide ferry system facilities and accommodate the public's ferry transportation needs.<sup>3</sup>

### **Economic Impacts**

The four components of the Maritime Cluster are:<sup>4</sup>

- Maritime Transportation – These activities include "the movement of freight and passengers through Connecticut's ports and involve ports, ships, ferries, and inland transportation linkages."
- Maritime Manufacturing and Services – These activities include "the construction, engineering and servicing of waterborne vessels including nuclear submarines, powerboats and sailboats, and the manufacturing of supporting marine components."
- Maritime Recreation – These activities include "boating and sport fishing and involve marinas, boat dealerships and marine retailers."
- Commercial Fishing – These activities include "the production, harvesting, processing and retail of finfish, shellfish and lobster."

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<sup>2</sup> Muller, Gerhardt, "Intermodal Freight Transportation," 4<sup>th</sup> Edition, pp. 450 and 469 - "Bulk Cargo – cargo that is unbound as loaded and carried aboard ship, it is without mark or count in a loose unpackaged form, and has homogeneous characteristics"; "Breakbulk – to unload, sort, and reload some/all contents of a vehicle in transit; to reduce a large shipment of a single commodity to many small shipments, which then are dispersed to various buyers"; "Neobulk – shipment of bulk and other forms of homogeneous types of cargo in the same vehicle."

<sup>3</sup> Yim, Joan, and Parsons Brinkerhoff, "Connecticut's Ports: Transportation Centers for People and Goods," Connecticut Maritime Coalition, May 2002.

<sup>4</sup> Michael Gallis and Associates et al., "Strategic Cluster Initiative - Final Report," July 2000.

**Table 1: Economic Impact by Maritime Cluster Component (1997)**

<b>Component</b>	<b>Businesses</b>	<b>Jobs</b>	<b>Payroll</b>	<b>Sales</b>
<b>Transportation</b>	63	1,399	\$69.7 million	\$771.7 million
<b>Manufacturing &amp; Services</b>	17	8,927	\$418.9 million	\$1.6 billion
<b>Recreation</b>	203	1,292	\$37.4 million	\$204.3 million
<b>Commercial Fishing</b>	66	607	\$27.4 million	\$32.5 million
<b>TOTALS</b>	<b>349</b>	<b>12,225</b>	<b>\$553.4 million</b>	<b>\$2.61 billion</b>

Source: Connecticut Maritime Coalition, "Connecticut's Ports: Transportation Centers for People and Goods," May 2002.

Connecticut's maritime businesses and activities benefit the state by:

- Strengthening linkages to global trade;
- Attracting a skilled workforce;
- Increasing productivity and personal income;
- Reducing costs of goods and services for inland industries;
- Revitalizing waterfront cities;
- Relieving congestion on interstate highways, in particular, Interstate 95; and
- Strengthening a superior quality of life and environment by reducing congestion, pollution, and highway accidents.

**Table 2: IMPLAN Economic Impacts<sup>5</sup> of Connecticut Seaports**  
**IMPLAN Economic Impacts of Connecticut Seaports**

(Results based on Employment data for 1997)

<b>Description</b>	<b>Direct Impacts</b>	<b>Indirect Impacts</b>	<b>Induced Impacts</b>	<b>Total Impacts</b>
Employment (jobs)	10,452	5,130	7,182	22,765
Output (\$1995 mil.)	\$1522.689	\$531.523	\$567.667	\$2,621.867
Personal Income (\$1995 mil)	\$531.409	\$210.460	\$223.515	\$965.385
Total Value Added (\$1995 mil)	\$792.857	\$307.456	\$371.125	\$1,471.639
Other Property Income (\$1995 mil)	\$209.050	\$72.420	\$107.655	\$389.126
Indirect Business Taxes (\$1995 mil)	\$52.397	\$24.575	\$40.154	\$117.127

Source: Connecticut Center for Economic Analysis, "The Economic Impact of Connecticut's Deepwater Ports: An IMPLAN and REMI Analysis," May 2001.

Table 1 in the appendix to this section presents the port-related industries in Connecticut, their estimated degree of dependency on the seaports, and a sectoral employment estimation. Some sectors that generate the greatest numbers of employment include local trucking without storage, shipbuilding/repairing, and scrap/waste materials, with degree of port dependency estimated at 40%, 20%, and 60% respectively. Some sectors that have 100% port dependency for employment include refined petroleum pipelines, petroleum bulk stations and terminals, and refrigerated warehousing and storage.

### **Port Usage**

According to the U.S. Army Corps of Engineers, Connecticut's ports collectively handled 19.3 million short tons in 2006. This places Connecticut 34<sup>th</sup> among the states in waterborne traffic, right after Hawaii, South Carolina, and Massachusetts.

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<sup>5</sup> Connecticut Center for Economic Analysis, "The Economic Impact of the Arts, Film, History and Tourism Industries in Connecticut," December 2006, p. 11: "Economic benefits generally separate into three types of economic impact: *direct*, *indirect*, and *induced*. *Direct impacts* are those arising from the initial spending by the industry studied, such as payroll for employees and contract workers, goods and services purchases, and rent and permit fees. *Direct impacts* include the jobs in the industries under consideration. *Indirect impacts* arise as the businesses and governments that supply the goods, services, permits, rents, and other things to an industry in turn buy goods and services from other places. *Induced impacts* represent the additional income earned and spent by workers and business owners due to their participation in and support of a particular industry."

**Table 3: Connecticut's Waterborne Tonnage (In Units of 1,000 Tons)**

Year	Totals	Shipping		Receiving		Intrastate
		Domestic	Foreign	Domestic	Foreign	
2006	19,340	1,187	213	10,344	5,701	1,894
2005	19,617	795	245	11,687	4,923	1,967
2004	20,075	1,055	363	11,927	4,560	2,170
2003	18,579	892	118	11,223	4,850	1,496
2002	17,610	862	310	10,263	4,798	1,377
2001	18,267	872	37	11,653	4,397	1,308
2000	18,959	1,021	3	11,729	4,748	1,458

Source: US Army Corps of Engineers, Waterborne Statistics.

The State Pier of New London has provided accommodations for cruise ship arrivals that offer passengers day trips in historic New London. The Port has been visited eight times in the last five years representing total passenger capacity of approximately 14,800. Table 4 shows the number of visitors to New London over the past five years.

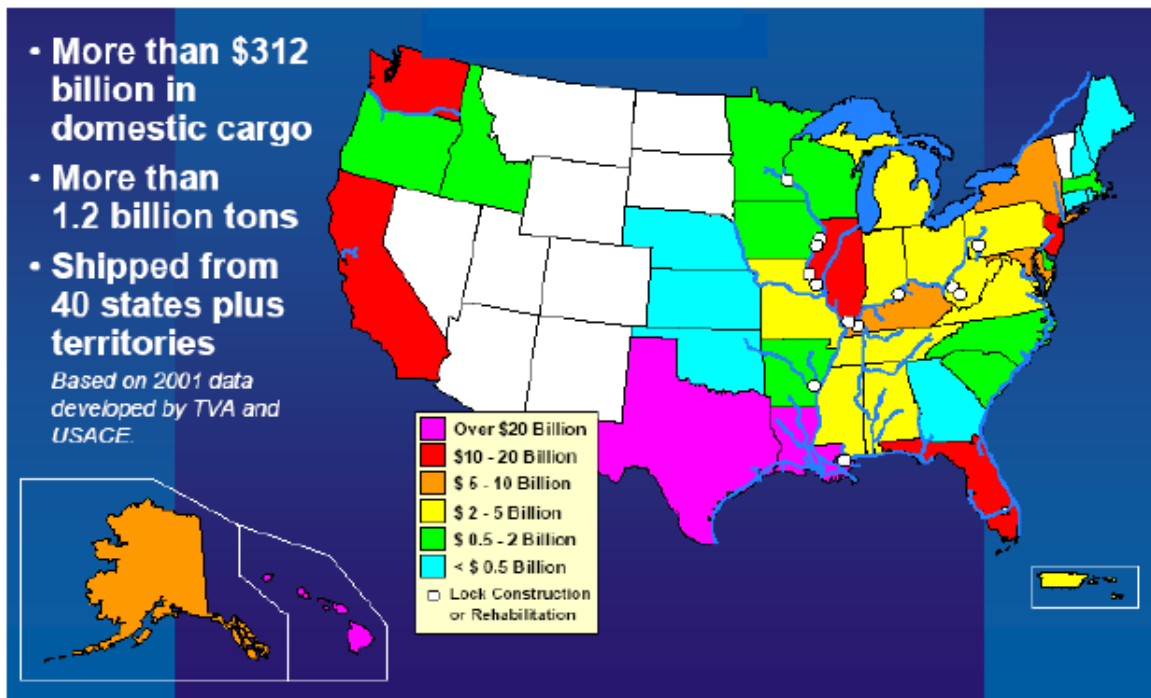
**Table 4: Total Arriving Capacity, State Pier of New London**

Year	Maasdam	Orion	Veendam	Explorer of the Seas	TOTAL
FY 2004	1,200	0	0	0	1,200
FY 2005	1,200	212	0	0	1,412
FY 2006	1,200	0	0	0	1,200
FY 2007	1,200	0	0	0	1,200
FY 2008	1,200	0	1,200	12,400	14,800

Source: CT Cruise Ship Task Force

Figure 1 shows how Connecticut compares to other states in the use of the waterway system. Connecticut is one of eight states shipping/receiving less than \$.0.5 billion in domestic cargo.

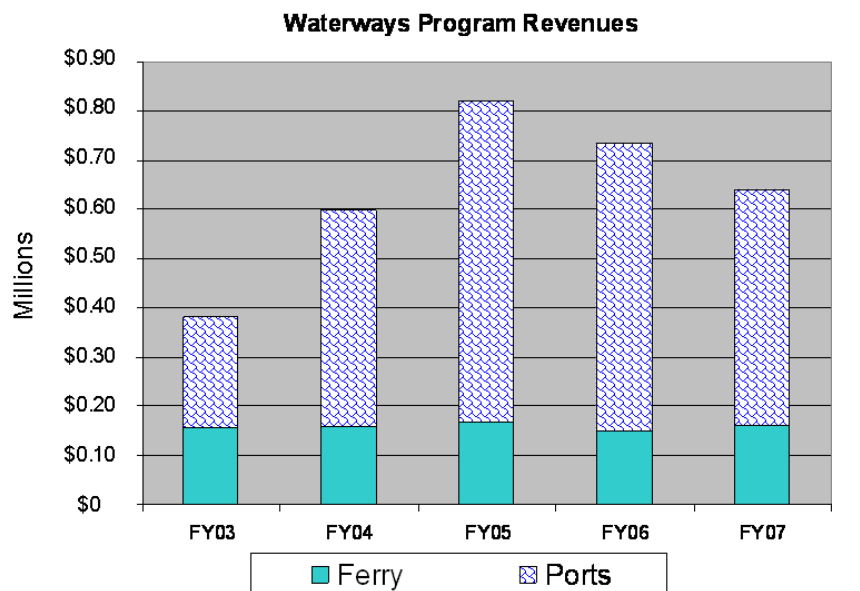
**Figure 1: States' Use of Waterways for Shipping**



Source: David V. Grier, U.S. Army Corps of Engineers, Institute for Water Resources.

Figure 2 shows the trends in ferry and port revenues from 2003 to 2007.

**Figure 2: Ferry and Port Revenues, 2003-2007**



Source: ConnDOT Bureau of Aviation and Ports, Presentation to Governor's Commission on the Reform of the DOT, September 2007.

## Connecticut's Major Ports

Of the top 150 ports in the United States ranked by tonnage, in 2006 New Haven ranked 51<sup>st</sup> and Bridgeport ranked 76<sup>th</sup>.

**Table 5: Tonnage for Connecticut's Ports**

Year	Rank	Port Name	Total	Domestic	Foreign	Imports	Exports
2006	51	New Haven, CT	10,897,052	7,306,754	3,590,298	3,377,740	212,558
	76	Bridgeport, CT	5,388,604	3,229,064	2,159,540	2,159,540	0
2005	52	New Haven, CT	10,931,485	7,903,802	3,027,683	2,783,030	244,653
	74	Bridgeport, CT	5,482,056	3,627,963	1,854,093	1,854,093	0
2004	52	New Haven, CT	10,855,934	7,789,159	3,066,775	2,703,512	363,263
	75	Bridgeport, CT	5,671,230	3,972,984	1,698,246	1,698,246	0
	144	Stamford, CT	1,021,449	1,021,449	0	0	0

Source: US Army Corps of Engineers, Waterborne Statistics.

The ports' primary cargo (footnote 3):

- Bridgeport handles primarily coal, gasoline, fuel oil, sand and gravel, paper and paperboard.
- Primary cargos handled at New Haven include coal, gasoline, fuel oil, naphtha and solvents, asphalt products, sand and gravel, zinc, glass and glass products, steel, copper, cement and concrete, and fabricated metal products. In 2001, New Haven received 65% of the state's fuel oil and gasoline.
- New London's chief cargo has traditionally been gasoline and in more recent times, lumber and copper as well.

The ports' fuel storage capacity as of 2002 (footnote 3):

- Fuel storage capacity in Bridgeport Harbor is 1,697,560 barrels representing 11.6% of the state's capacity.
- New Haven's fuel storage capacity is 9,935,870 barrels or 67.9% of the state's capacity.
- New London's fuel storage capacity is 1,118,970 barrels or 7.6% of the state's capacity.

**Table 6: Warehousing, Storage and Intermodal Connections**

<b>Operator</b>	<b>Warehousing</b>	<b>Open Storage</b>	<b>Railway Connection</b>	<b>Highway Access</b>	<b>Fuel Handling</b>
<b>Bridgeport</b>	Approximately 20 acres outside storage/staging area. 130,000 square feet dry storage space. 85,000 square feet of refrigerated warehouse space. <sup>6</sup>	20 acres of outside storage/staging area	Conrail 1 mi. from terminal	0.5 mi. to I-95	Pequannock River Industrial Area No. 2 fuel oil facility
<b>New Haven</b>	14 warehouses (500,000 sq. ft.)	56 acres	Providence & Worcester RR	0.25 mi. to I-95	12+ facilities (approx. 200 tanks) Jet Lines Pipeline – Fuel To Bradley Airport & Westover Air Force Base, Westover MA
<b>New London</b>	100,000 sq. ft. (commodities are handled on both sides of the Thames River)	10 acres	New England Central RR (direct access to both U.S. & Canadian rail networks)	1 mi. New London to I-95 3 mi. Groton to I-95	Amerada Hess, Groton

Source: Connecticut Maritime Coalition, “Connecticut’s Ports: Transportation Centers for People and Goods,” May 2002.

Connecticut’s ports have limited land for cargo storage (laydown area) space and consequently continue to miss opportunities for sea transportation business. Instead, goods are transported by truck. The Connecticut Maritime Commission estimates 80,000 truck trips per year on I-95 could be eliminated if this cargo was transported through Connecticut’s ports.<sup>7</sup> The seaports need capital investment to expand storage capacity, and to increase intermodal connections between water and land transport (highway and rails).

<sup>6</sup> Connecticut’s Department of Transportation, “Port of Bridgeport,” July 22, 2008, <http://www.ct.gov/dot/cwp/view.asp?A=1380&Q=259718>.

<sup>7</sup> Connecticut Maritime Coalition, “Ports: Dependence on waterborne transportation is increasing,” July 10, 2008, <http://www.ctmaritime.com/ports.html>.



## Connecticut's Ferry Systems

In a 2000 survey of ferry operators, the Connecticut Maritime Coalition determined that of the four major operators reporting annual figures to the Federal Highway Administration (FHWA), there were over 2.1 million passenger boardings and nearly 852,000 vehicle boardings of ferries servicing Connecticut's ports.<sup>8</sup> See Table 2 in the appendix for passenger and vessel boardings by operator.

The ferry routes provide (footnote 3):

- *Essential* services to island communities that have no alternative travel modes. This is the case with travel to Fishers Island. The routes out of New London to Martha's Vineyard and other vacation islands are other forms of essential service that generally peak during the summer tourism season.
- *Complementary* service. That is, people and vehicles are carried from origin to destination in a more direct route than land-based alternatives. The service from Port Jefferson, New York to Bridgeport is an example of complementary service.
- *Optional* service, which the FHWA defines as providing "an equally direct route as land-based alternatives, but may provide other advantages (e.g., a coastal commuter boat running parallel to congested highways)."<sup>9</sup> The high speed ferry system proposed by the Connecticut Maritime Coalition between Connecticut and New York City is an example of an alternative form of service for those who wish to avoid the congestion of I-95.<sup>10</sup>

In 2001, the Connecticut Department of Transportation conducted a study on the state's ferry systems. Following are the operations, service levels, and fares found through the study:

Bridgeport-Port Jefferson Ferry:<sup>11</sup>

- The Bridgeport-Port Jefferson Ferry operates out of the Port of Bridgeport across Long Island Sound to Port Jefferson on Long Island.
- In 1999, the ferry service carried approximately 800,000 passengers, 342,000 cars, and 3,000 vehicles in other categories.
- In the summer months it provides 16 daily round trips and in the winter it provides 11 daily round trips.
- The one-way fare for a car is \$34.50, a motorcycle is \$18.50, and vehicles other than cars cost \$40.50 to \$88.00. The fare for a passenger in a car is \$9.20 and \$12.25 for an adult foot passenger.

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<sup>8</sup> Yim, Joan, and Parsons Brinkerhoff, "Connecticut's Ports: Transportation Centers for People and Goods – Executive Summary," Connecticut Maritime Coalition, May 2002.

<sup>9</sup> U.S. Department of Transportation, National Ferry Database CD-ROM, System Navigation – Routes, 2001.

<sup>10</sup> Connecticut Maritime Coalition, "Transportation: Take a look beyond Connecticut's Highways," 10 July 2008, <http://www.ctmaritime.com/transportation.html>.

<sup>11</sup> Connecticut Department of Transportation, "Intrastate Passenger Commuter Ferry Study," March 2001.

Port of New London Ferries (footnote 11):

- These passenger ferries serve Long Island (New York), Block Island (Rhode Island), Glen Cove (New York), and Fishers Island (New York).
- The Fishers Island Ferry, operated by the Fishers Island Ferry District, makes 44 scheduled trips per week in the summer months, with a minimum of five trips per day and a maximum of 11 trips per day on Fridays and Sundays. In the winter months this service makes 34 trips per week, with an average of five per weekday, six on Fridays, and four each on Saturday and Sunday.
- The cost for a car is \$10, bicycle \$5, passenger \$4, children and senior citizens \$2, and trucks are \$1.25 per foot length, with a minimum fee of 15 feet (\$18.75).
- In 1997, Fishers Island Ferry transported approximately 156,400 passengers, 40,900 cars, and 4,900 trucks.

Cross Sound Ferry (footnote 11):

- The ferry operates between New London and Orient Point, Long Island. Cross Sound Ferry operates seven vessels for this service, with six that can carry automobiles, trucks, motor homes, buses, and walk-on passengers, while the seventh is a passenger-only high speed ferry.
- In 1999, the fleet carried 1.2 million passengers, 360,000 cars, and 12,000 trucks.
- In the summer months they make a combined total of 26 daily round trips and in the off-season they make eight round trips.
- The one-way fare for automobiles is \$34, motorcycles is \$22, and for trailers, tractor trailers, motor homes, buses, and campers it is \$2.25 per foot, with a \$3 surcharge. The one-way fare for a passenger is \$10, and \$2 for bicycles.

Fox Navigation (footnote 11):

- Fox Navigation provides fast ferry service between New London, Connecticut and Glen Cove, New York.
- The trip takes approximately two hours and 15 minutes and costs \$59, or \$89 for the round trip.
- The service operates seven days a week with two round trips per day. The service carries an average of 50 people per trip, with approximately 10% of the passengers transferring to the Amtrak rail service in New London.
- Foxwoods Casino operates a shuttle bus that meets the incoming ferry in New London and transports the ferry patrons to their casino.
- In the summer months there is seasonal service to Martha's Vineyard, with a one-way trip for \$59 and a round trip for \$89.

Connecticut River Ferries (courtesy of DOT):

- The Department of Transportation operates two ferry services crossing the Connecticut River between Rocky Hill and Glastonbury, and between Chester and Hadlyme.

- These ferry services operate seasonally, generally between the months of April and December, dependant on river conditions
- Each service offers transportation of passengers, vehicles and bicycles for a nominal fee (\$3.00 per vehicle, reduced to \$2.00 for commuter with coupons, and \$1.00 for walk-on pedestrians and bicyclists).
- In a typical year, these ferries will provide over 28,000 crossings and transport over 50,000 vehicles and over 10,000 additional walk-on pedestrians and bicyclists.

Through the ferry system, Connecticut's maritime industry can further provide congestion relief and energy efficient transportation options to its residents. One plan would reduce traffic on I-95 with a high-speed ferry system between Bridgeport, Stamford and Wall Street (footnote 8). The number of potential daily ferry passenger users on such a system can be estimated in the range of 50 to 100 trips daily (25 to 50 in each direction), with a yearly use of 12,750 to 25,500 (footnote 10).

## **Dredging**

In the United States, less than half the states have direct transportation access to the ocean through deepwater ports. Connecticut has three. Yet Connecticut's maritime advantage is slowly eroding as its deepwater ports are on an extremely critical timeline to be dredged. As port channels grow shallower, depth dictates the size of ships that are able to safely enter ports to offload goods. Larger ships will be unable to use ports and cargo will need to be transported by alternative methods, most likely over highways, thus increasing highway congestion, maintenance, and pollution. The Texas Transportation Institute (TTI) found that 70 trucks are needed to carry the equivalent dry cargo load (1,750 short tons) as one barge, and 144 trucks are needed to carry the equivalent liquid cargo load (27,500 BBL) as one barge.<sup>12</sup> TTI also found safety, hazardous material, and infrastructure advantages to maritime transport compared to rail or highway transport.

Connecticut's deepwater ports need maintenance dredging to assure safe navigation for vessels calling upon the ports of Bridgeport, New Haven and New London. In addition, maintenance dredging is needed along the Thames River to meet the needs of the U.S. Department of Defense (footnote 3).

The New England Division of the Army Corps of Engineers routinely updates the development of the Long Island Sound Dredge Material Management Plan (LIS DMMP) as well as Connecticut dredging projects such as Bridgeport Harbor. The LIS DMMP project was to begin the public "scoping" process in spring 2007 but was delayed. If an LIS DMMP is not in place by June 2013, both the Western LIS and Central LIS disposal

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<sup>12</sup> Texas Transportation Institute, "A Modal Comparison of Domestic Freight Transportation Effects on the General Public," November 2007.

sites will be closed. The estimated cost of the LIS DMMP is approximately \$15 to 16 million. The Army Corps of Engineers reported that there is an estimated 1.5 million cubic yards of material to be removed from the Bridgeport Harbor channels. There appears to be sufficient Contained Aquatic Disposal (CAD) cell locations within the harbor to handle all dredged material.<sup>13</sup>

### Connecticut's Railway System

In June 2007, there were 575 route miles of railroad track in Connecticut. In addition, there were 657 highway-rail grade crossings, including 370 public motor vehicle crossings, 278 private motor vehicle crossings, and nine pedestrian crossings. The state owns 325 bridges on active, inactive and abandoned rail rights of way.<sup>14</sup>

**Figure 3: Railroad Map of Connecticut**



Rail network based upon 2006 National Transportation Atlas Database published by the U.S. DOT, Bureau of Transportation Statistics.

© 1993–2008, Association of American Railroads. For more information about railroads, visit [www.aar.org](http://www.aar.org) or call 202-639-2100.

June 2008

Source: Association of American Railroads, "Railroad Service in Connecticut," 2006.

### Passenger Rail

Connecticut is served by three passenger rail operations (footnote 14):

- The New Haven Line (NHL) commuter service operates between New Haven, Connecticut and Grand Central Terminal in New York City with connecting branches to New Canaan, Danbury, and Waterbury.

<sup>13</sup> Connecticut Maritime Coalition, Annual Report, 2007.

<sup>14</sup> Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

- The Shore Line East (SLE) commuter service operates between New Haven and New London with two special SLE express trains that operate west of New Haven to Bridgeport and Stamford.
- Amtrak intercity passenger service is provided along the Northeast Corridor (NEC) between New York and Boston, and the inland route between New Haven and Springfield, Massachusetts.

## **New Haven Line**

The New Haven Line (NHL) is one of the busiest commuter transit systems in North America, and ridership has increased roughly 5% per year since 2005.<sup>15</sup> The state has made efforts to integrate train travel with local bus service routes to facilitate travel in urban areas as Stamford and New Haven.

- ConnDOT and the Metropolitan Transportation Authority (MTA) of New York jointly oversee and subsidize the operation of the NHL. ConnDOT owns the 235 track miles of the NHL between New Haven and Greenwich and the three branch lines within Connecticut and is responsible for all capital improvements in Connecticut. Metro-North Railroad (MNR) is the contract operator under an agreement with ConnDOT and MTA (footnote 14).
- The New Haven Line consists of the New Haven main line and the Waterbury, Danbury, and New Canaan branch lines. There are 36 station stops on the Connecticut portion of the NHL. There are approximately 250 scheduled weekday trains, 143 Saturday trains, and 132 Sunday and holiday trains (footnote 14).
- The NHL service is a vital transportation link that relieves traffic on the most congested portion of I-95 between New Haven and New York and provides easy access to New York City. Based on the 2000 Census journey-to-work data, the NHL captures about 81% of the work trips bound for New York City. Nearly 80,000 one-way passenger trips are made on this segment each weekday (footnote 14).
- As shown in Figure 4, annual ridership on the NHL increased significantly since 1995. In 2006, total NHL ridership was approximately 34.9 million — an increase of 3% over the previous year. Of this number, 22.6 million rail passengers used Connecticut stations. Forty-nine percent of NHL passengers were rush-hour commuters to Manhattan. Fifty-one percent of those customers are “reverse commuting” from Manhattan and the Bronx to suburban employment

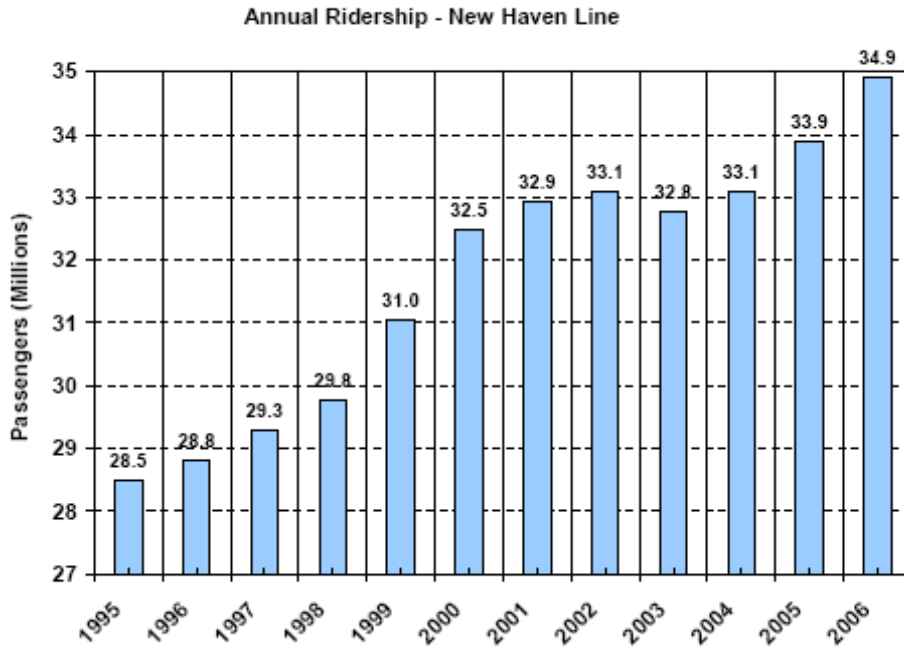
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<sup>15</sup> Connecticut Department of Transportation, “Governor Rell Hails Public Transit Ridership Increases More than 2.7 Million New Riders in 2006,” March 2006, <http://www.ct.gov/dot/cwp/view.asp?A=1373&Q=332922>.

centers in Connecticut and New York, traveling during off-peak hours, or taking trips in the region without passing through Manhattan (footnote 14).

**Figure 4: Annual Connecticut New Haven Ridership**

Figure III-1. Annual Connecticut New Haven Line Ridership



Source: ConnDOT Bureau of Public Transportation. Graphic revised as of May 2007.

Source: Connecticut Department of Transportation, “Transportation in Connecticut: The Existing System,” June 2007.

- Intermediate ridership on the NHL — those customers who do not begin or end their trips at Grand Central Terminal in New York City — makes up 14% of all trips taken. In 2006, intermediate train travel within Connecticut on the NHL increased by more than 6% (footnote 14).
- The NHL carried 33,219,666 passengers at a deficit/passenger cost of \$2.64 in fiscal year 2003. The net deficit on NHL for fiscal year 2003 was \$87,820,690.<sup>16</sup> See Table 3 and Table 4 in the Appendix for total commuter rail data.
- A new train station is scheduled to be built in Fairfield, the first addition to the NHL in over 50 years. Originally slated to include an office building, hotel, restaurants, and a recreation park, the Fairfield Metro Center will be a rail station only (as of May 2009).<sup>17</sup>

<sup>16</sup> Connecticut Department of Transportation, “Operations Statistics for the Biennium,” SFY 2002/2003.

<sup>17</sup> Reid, Chip, “A Big Taste of Progress by a Little Street,” The Fairfield Sun, July 24, 2008.

- The state made a commitment to rehabilitate this line by purchasing new M-8 passenger cars scheduled for use in 2010. The cars feature state of the art accommodations for commuters including power outlets for lap-top use.<sup>18</sup> Concurrent with this plan is a new rail yard maintenance facility to be built in New Haven.

### **Shore Line East (SLE)**

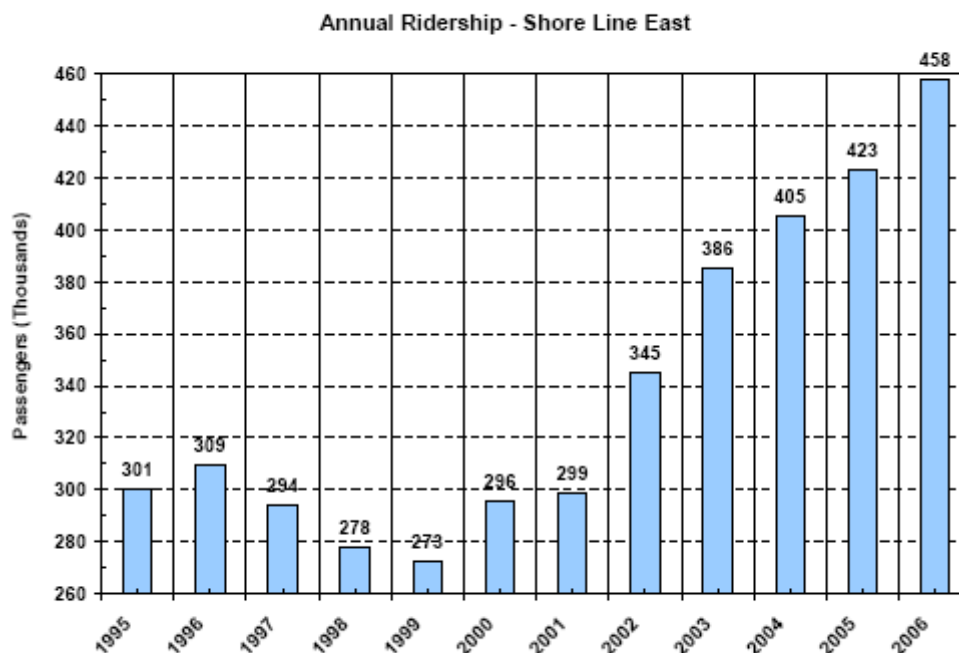
- ConnDOT contracts with Amtrak to operate the SLE commuter rail service between New Haven and New London, a service area that is located within Amtrak's Boston Division of the North East Corridor (NEC). ConnDOT provides passenger equipment and funding for the operation and oversees Amtrak's performance as a service provider (footnote 14).
- There are seven passenger stations north and west of New Haven with connecting service to the NHL. The Shore Line East system provides 25 scheduled weekday peak-period trains that operate between New Haven and New London (footnote 14).
- Figure 5 shows that annual ridership on SLE increased from 296,000 in 2000 to 423,000 in 2005. From 2005 to 2006 total annual ridership on SLE increased 8% to 458,000 (footnote 14).
- The SLE service carried 379,096 passengers in fiscal year 2003 at a deficit/passenger cost of \$16.83. The net deficit on SLE for fiscal year 2003 was \$87,820,690 (footnote 16). See Table 3 and Table 4 in the Appendix for total commuter rail data.

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<sup>18</sup> Connecticut Department of Transportation, "Connecticut Department of Transportation.& Metro-North Railroad Showcase New M-8 Rail Car Interior," May 2008, <http://www.ct.gov/dot/cwp/view.asp?Q=415974&A=1373>.

## Figure 5 Annual Connecticut Shore Line East Ridership

Figure III-2. Annual Connecticut Shore Line East Ridership



Source: ConnDOT Bureau of Public Transportation. Graphic revised as of May 2007.

Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

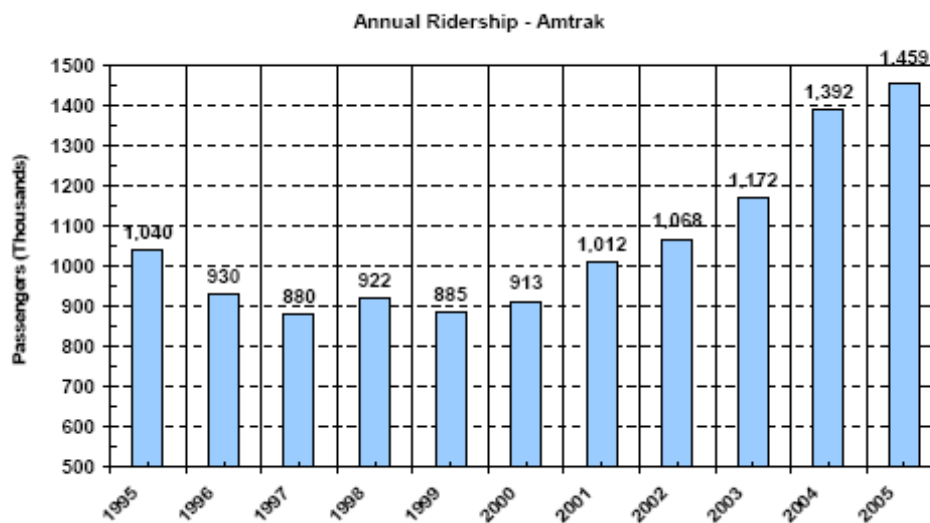
### Amtrak Intercity Rail Service

- Amtrak provides intercity rail service through Connecticut along the NEC (Boston-New York City-Washington D.C.) and along the New Haven-Springfield Line (New Haven-Hartford-Springfield). Amtrak operates over its own right of way east of New Haven and between New Haven and Springfield, and over the ConnDOT-owned NHL between New Haven and Greenwich (footnote 14).
- Amtrak's intercity service serves 12 rail-passenger stations in Connecticut (footnote 14). See Table 5 in the appendix for a list of these stations and Amtrak Connecticut ridership by station for FFY 1999 through FFY 2005.
- As shown in Figure 6, from FFY1999 to FFY2005, total Amtrak ridership at stations in Connecticut increased from 884,860 to 1,459,068, or about 65% (footnote 14).



**Figure 6: Annual Connecticut Amtrak Ridership**

Figure III-4. Annual Connecticut Amtrak Ridership



Source: ConnDOT Bureau of Public Transportation. Graphic revised as of November 2006.

Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

Governor Rell identified commuter rail service between New Haven through Hartford to Springfield, Massachusetts as a key component in meeting the goals of improving and sustaining the regional economic vitality and improving regional livability. In addition to serving commuters traveling between the towns and cities along the corridor, the service could provide a connection to Bradley International Airport, existing Metro-North and Shore Line East Commuter Rail in New Haven, and links to the proposed New Britain-Hartford Busway.<sup>19</sup>

## Train Power

Trains on the New Haven Main Line and New Canaan Branch are electrically powered using an AC system. Traction power to propel the trains arrives from overhead wires, known as catenary. From Woodlawn to Grand Central Terminal, the New Haven Line (NHL) uses 650 volts DC current, supplied by a third rail. Connecticut chose the AC system because it is more efficient for the higher speeds and traffic levels envisioned for the New York, New Haven & Hartford Railroad Line than the system chosen by the New York Central for its 1904 electrification of Grand Central Terminal (footnote 14). As a result of the differing systems, dual-power passenger railcars are required to operate on the New Haven Line. The dual-power passenger railcars are more expensive than cars operating on one type of power.

<sup>19</sup> Connecticut Department of Transportation, "New Haven - Hartford - Springfield Commuter Rail Implementation Plan: Existing Conditions," March 2003.

## **Passenger Rail Stations**

- Fifty stations provide access to the various passenger rail services in Connecticut. NHL commuter rail service is provided by MNR at 36 stations, and SLE commuter rail service is provided by Amtrak at seven stations. Northeast Corridor intercity rail service is provided by Amtrak at an additional seven stations (footnote 14).
- More than 16,700 parking spaces are available at the state's 50 rail stations. The number of parking spaces provided at each station varies from approximately 20 spaces at Seymour's NHL station to more than 1,000 at the New Haven, Bridgeport, Greenwich, Stamford, Westport, and Fairfield stations (footnote 14).
- On both the NHL and SLE lines, the parking utilization rate is extremely high, exceeding 80% for both systems. On the Waterbury Branch, utilization ranges from a high of 72% to a low of 10%. On the Danbury Branch, utilization ranges from a high of 90% to a low of 58%. On the New Canaan Branch, utilization ranges from 88% to 82%. On the SLE Branch, utilization ranges from a high of 113% to a low of 22% (footnote 14).

## **Rail Freight**

- Rail freight service in Connecticut is provided by the following railroads: CSX Corporation, Providence & Worcester Railroad Company, Housatonic Railroad Company, Springfield Terminal Railroad, Connecticut Southern Railroad, Branford Steam Railroad, New England Central Railroad, Naugatuck Railroad, Central New England Railroad, and Pan Am Railways (footnote 14).
- Most rail shipments entering Connecticut fall within a limited range of bulk commodities: crushed stone, lumber, rolled paper, steel, chemicals, and waste products (footnote 14).
- Rail freight from the west was rerouted due to the Poughkeepsie Bridge outage in 1974. Shipments from the west are now generally routed via Selkirk, New York, and then pass through either the Oak Point Yard in New York City or the West Springfield Yard, before reaching much of the state's rail network (footnote 14).
- In recent years, annual rail shipments originating or terminating within the state have amounted to 50,000 carloads carrying about three to four million tons (footnote 14).

**Table 7: Freight Railroad Traffic in Connecticut**

Tons Originated 2006			Tons Terminated 2006		
	Tons	%		Tons	%
Waste & Scrap	1,194,048	52%	Nonmetallic Minerals	880,276	43%
Nonmetallic Minerals	880,276	39	Lumber & Wood Prod.	268,540	13
Chemicals	97,520	4	Primary Metal Products	260,160	13
Glass & Stone Products	95,960	4	Pulp & Paper	132,040	7
-	-	-	Chemicals	125,840	6
All Other	9,920	<1%	All Other	362,936	18
Total	2,277,724	100%	Total	2,029,792	100%

Source: Association of American Railroads, "Railroad Service in Connecticut," 2006.

**Table 8: CT Railroad Service and Employment**

<b>Facilities</b>	Number of Freight Railroads	8
	Miles Operated (Excluding Trackage Rights)	390
<b>Traffic</b>	Total Carloads of Freight Carried	42,522
	Total Tons of Freight Carried	3,609,724
<b>Employment and Earnings</b>	Rail Employees Living in State	2,174
	Freight Employees Only	185
	Total Wages of Rail Employees	\$142,131,000
	Freight Employees Only	\$10,722,000
	Average Per Freight Rail Employee:	
	Wages	\$58,000
	Fringe Benefits	\$22,500
Total Compensation	\$80,500	
<b>Railroad Retirement</b>	Railroad Retirement Beneficiaries	2,798
	Railroad Retirement Benefits Paid	\$42,661,000

Source: Association of American Railroads, "Railroad Service in Connecticut," 2006.

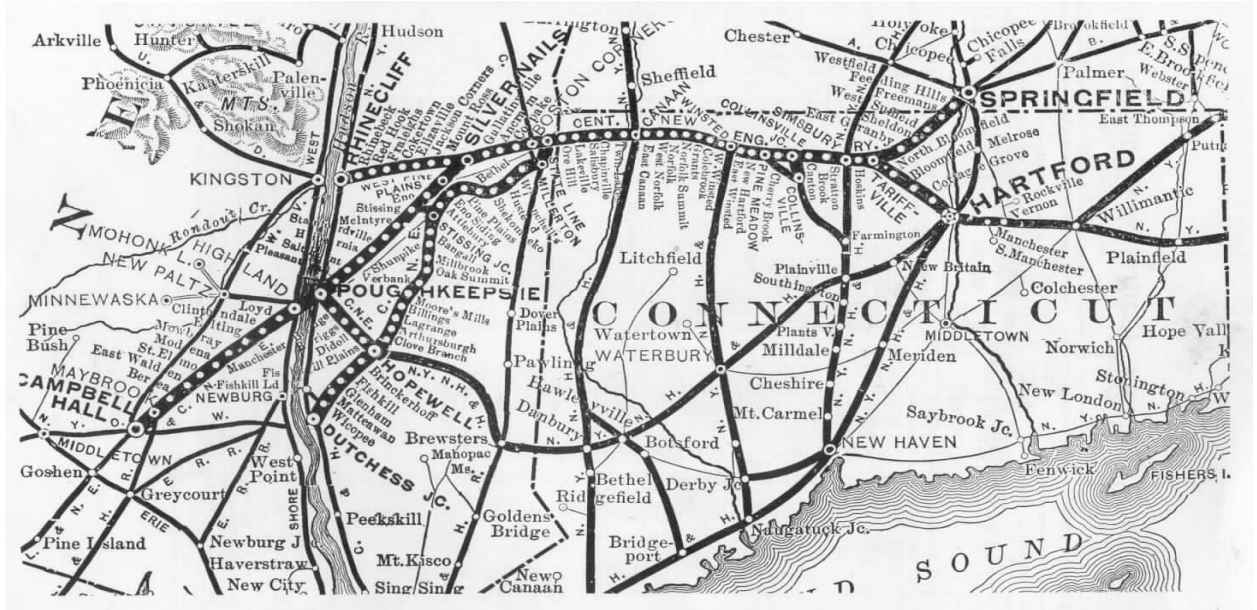
- A method for increasing rail freight service is to double stack rail freight cars. Currently there is no double-stack rail freight service in Connecticut. ConnDOT can work to provide clearance for double-stack operations on the Springfield Line between Springfield and Cedar Hill Yard in North Haven, perhaps in connection with a partnership with Norfolk Southern or CSX to upgrade service into Connecticut. Cedar Hill Yard has ample space for rail freight expansion, is directly accessible to I-91, and is remote from surrounding residential development.<sup>20</sup>

<sup>20</sup> Connecticut Public Transportation Commission, "2007 Annual Report and Recommendations," 2007.

## Poughkeepsie Railroad Bridge

The Poughkeepsie Railroad Bridge provided a route for rail freight over the Hudson River from New York into Cedar Hill Yard in New Haven (Figure 7).

**Figure 7: Poughkeepsie Railroad Bridge and Surrounding Rail Tracks**



Source: <http://www.ubuyvacations.com/Railroad/PoughkeepsieBridgeAfterFire.html>

In 1974, however, the bridge caught fire and has not been rebuilt. Currently rail shipments from New York to Stamford have to go north to Albany, then east and back south, at substantial additional cost. Consequently, rail freight into Connecticut and other New England states has decreased in favor of transportation by trucks. A 2002 study showed railroads handled only 5% of freight shipment in Maine, 2% in Connecticut, and 1% or less in Massachusetts, New Hampshire, Rhode Island and Vermont.<sup>21</sup>

Replacing the Poughkeepsie Railroad Bridge would improve the viability of freight transportation into Connecticut and other New England states. The Texas Transportation Institute estimates 16 railcars can carry the dry cargo equivalent of 70 trucks, and 46 railcars can carry the liquid cargo equivalent of 144 trucks (footnote 12). With increased rail freight transportation Connecticut would enjoy reduced costs for goods and a decrease in road congestion.

<sup>21</sup> Peirce, Neal and Curtis Johnson, "Road, Rail, Air, Water: Separate Worlds or One System?" <http://www.newenglandfutures.org>.

Currently the Poughkeepsie Railroad Bridge is being converted into the world's longest elevated pedestrian and bicycle path and is set to open to the public in August 2009.<sup>22</sup>

### **Connecticut's Bus System**

Connecticut's bus system is a vital component of the overall transportation infrastructure. Bus systems are important for:<sup>23</sup>

- Providing vital transportation links for the low-income, young, elderly, mobility limited, and transit dependent;
- Increasing transportation alternatives for all residents;
- Fulfilling statewide goals of improved air quality and quality of life; and
- Reducing highway congestion.

### **Bus Transit in Connecticut**

ConnDOT's Bureau of Public Transportation, through the Office of Transit and Ridesharing, oversees and financially supports bus and ridesharing services. Through Connecticut Transit (CTTransit), 14 active local transit districts, private bus operators, and four ridesharing brokerages, ConnDOT is able to deliver five types of service (footnote 14). They are:<sup>24</sup>

- Fixed route service provides traditional urban bus service, operating on a fixed route with regularly scheduled service;
- Express service makes one or few stops before proceeding non-stop to an end destination (e.g. commuter express bus services);
- Commuter connections from rail services to residential and employment centers;
- Demand responsive and Dial-a-Ride services provide as-needed service within a system's service area (e.g. Americans with Disabilities Act (ADA) paratransit services and non-ADA paratransit services); and,
- Flex route provides similar service as demand responsive service, however, boardings are at pre-arranged times within a system's service area.

There are different levels of bus systems in Connecticut: (footnote 23):

- Two major urban systems (Hartford and New Haven);
- Three large urban systems (Bridgeport, Stamford and Waterbury);
- Four medium urban systems (Danbury, New Britain, Norwalk and Southeast Area Transit (SEAT));

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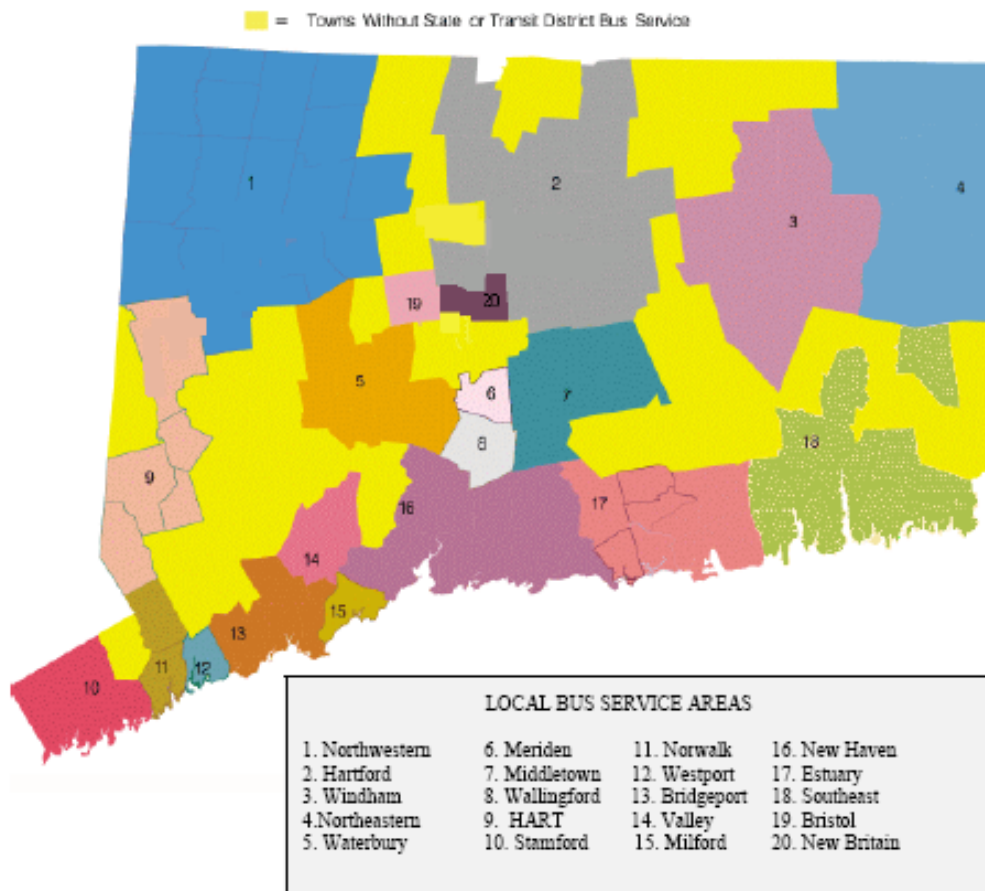
<sup>22</sup> Marano, Greg, "Walkway work takes first step," Poughkeepsie Journal, 28 May 2008, <http://www.poughkeepsiejournal.com/apps/pbcs.dll/article?AID=2008805280336>.

<sup>23</sup> Urbitran Associates, Inc, "Connecticut DOT Statewide Bus System Study - Executive Summary," July 2000.

<sup>24</sup> Transportation Strategy Board, "Moving Forward," January 2007.

- Six small urban systems (Bristol, Meriden, Middletown, Milford, Wallingford and Westport);
- Five rural systems (Estuary, Northeastern, Northwestern, Valley and Windham);
- and,
- One express bus network.

**Figure 8: Connecticut’s Local Bus Service Areas**



Source: Urbitran Associates, Inc., “ConnDOT Statewide Bus System Study - Executive Summary,” July 2000.

CTTransit, consisting of eight divisions, is the largest transit operation in the state and is owned by the state. Three divisions (Stamford, New Haven, and Hartford) are operated and managed by First Transit Inc. The remaining five divisions (Waterbury, New Britain, Bristol, Meriden, and Wallingford) are operated under contract with private bus operators. CTTransit provides fixed route and express services. ADA paratransit services are contracted out by CTTransit to various organizations located within the respective service areas (footnote 24).

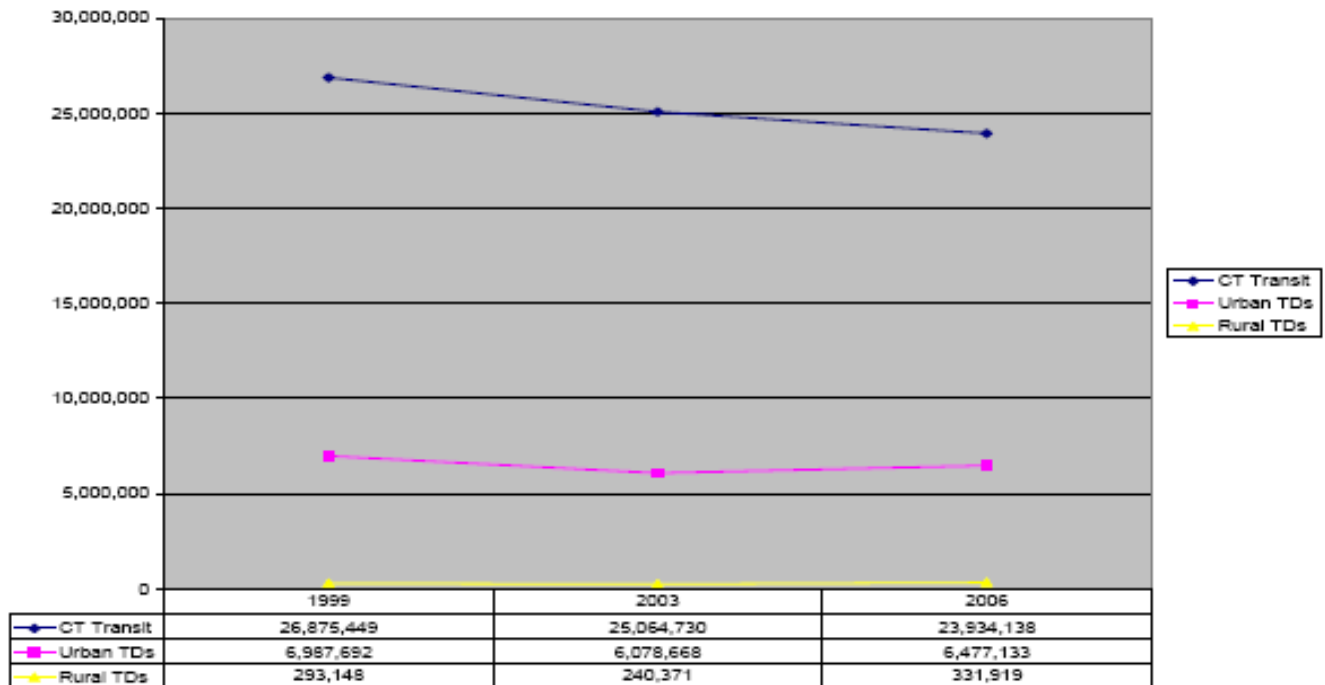
## Bus Ridership

In state fiscal year 2006 (footnote 14):

- Urban fixed-route systems provided more than 32.7 million passenger trips;
- About 80% of those trips occurred in the eight CTTransit service areas;
- More than 706,000 trips occurred on the federally-mandated ADA paratransit services for the disabled;
- Dial-a-ride services transported more than 37,000 passengers. Rural services provided 335,000 trips; and,
- Commuter Express services provided more than 1.5 million passenger trips.

Figure 9 displays ridership on CTTransit, urban and rural transit routes from 1999 to 2006. Figure 9 shows that bus transit ridership among urban and rural routes have experienced an increase from 2003, while ridership on CTTransit services has declined (footnote 24).

**Figure 9: Ridership on CTTransit, and Urban and Rural Transit Routes**



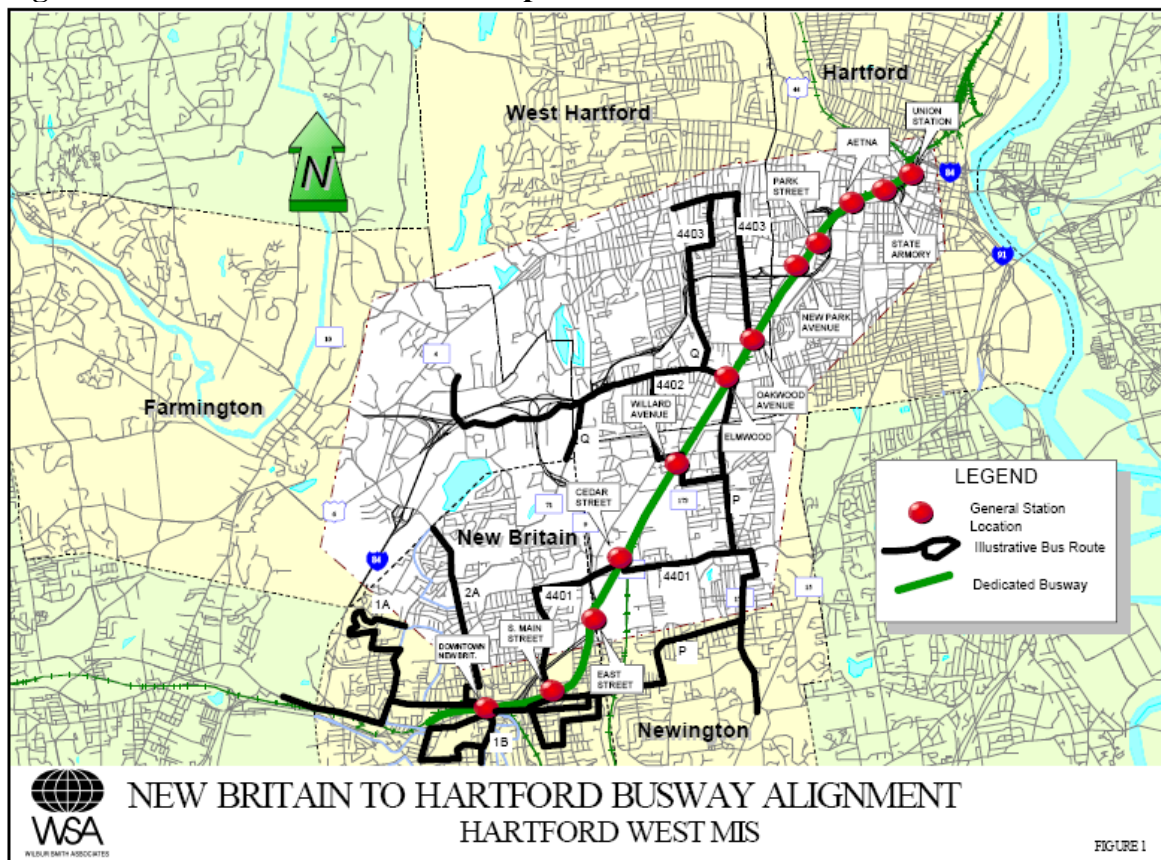
## Bus Rapid Transit

Bus rapid transit (BRT) is defined by the Federal Transit Administration (FTA) as a “flexible, high performance rapid transit mode” (footnote 24). ConnDOT has a number

of BRT projects in various stages of development, the most advanced of which is the busway running between New Britain and Hartford.

- The New Britain-Hartford Busway is one of 10 demonstration projects in the country approved by the FTA in 1999. The project consists of two-way, nine-mile exclusive busway with 12 online stations linking downtown New Britain and Hartford’s Union Station (footnote 24).
- The New Britain-Hartford Busway will be built on active and inactive rail rights of way and offer four types of service: express, shuttle, neighborhood collectors, and feeder bus. Figure 10 presents a map of the planned route (footnote 24).

**Figure 10: New Britain – Hartford Rapid Bus Transit**



Source: Connecticut Department of Transportation

- Construction on the New Britain-Hartford Busway may begin in 2009 and the busway is scheduled to be completed by 2012.<sup>25</sup>

<sup>25</sup> Connecticut Department of Transportation, “New Britain-Hartford Rapid Transit – Project Schedule,” July 31, 2008, [http://www.ctrapidtransit.com/ct\\_schedule.asp](http://www.ctrapidtransit.com/ct_schedule.asp).



- Other BRT proposals include the Hartford East Busway, which would provide service from Hartford to East Hartford, Manchester and Vernon, and the Griffin Line Busway, which would provide service from downtown Hartford to Bradley International Airport (footnote 24).
- The Norwalk-Greenwich corridor is one of the most congested areas in the United States. The Southwest Regional Planning Agency conducted a study in April 2008 to assess the feasibility and impact of a high-speed bus system, which could greatly reduce the number of single occupancy vehicle trips. The proposed bus system would utilize existing highway infrastructure and Route 1.<sup>26</sup>

### **Environmental Impacts**

- According to ConnDOT's 2007 Master Transportation Plan, Connecticut is a leader in adopting ultra-low sulfur diesel fuel buses.<sup>27</sup>
- Connecticut has conducted pilot programs with lower emission diesel and electric hybrid buses that have successfully improved fuel efficiency by 15 to 20% (footnote 26).
- CTTransit partnered with a local Connecticut business leader in fuel cell technology to build one of the first operating hydrogen fuel cell buses in the nation.
- CTTransit's new delivery of 40 foot clean diesel buses are 90% "greener" than the older buses they replaced. CTTransit has also switched to using biodiesel in three divisions (Stamford, New Haven, and Hartford).<sup>28</sup>
- Connecticut has equipped the major urban center buses, including the entire Hartford bus fleet, with bike racks.<sup>29</sup> Passengers thus have the option of biking to bus stops rather than driving.

### **Operating Deficiencies**

- Table 9 shows in fiscal year 2003, Connecticut's total bus transit operated at a \$2.56 deficit per passenger. This represents an increase of 38.9% from the 2000 deficit per passenger ratio of \$1.84.

<sup>26</sup> Southwest Regional Planning Authority, "Bus/Rapid Transport Study Report," April 2008.

<sup>27</sup> Connecticut Department of Transportation, "2007 Master Transportation Plan," January 2007.

<sup>28</sup> Connecticut Transit, "CTTRANSIT leads the way with environmentally-friendly transit," February 4, 2008, <http://cttransit.com/Press/Display.asp?PressID={1CC84229-30CE-4859-BBEF-538B908E60F0}>.

<sup>29</sup> The Office of Governor M. Jodi Rell, "Governor Rell: Bicycle Racks Installed on CTTRANSIT Buses in Hartford Increase Mobility in Region," July 31, 2008,

<http://www.ct.gov/governorrell/cwp/view.asp?A=2791&Q=391614&pp=12&n=1>.

- Table 9 shows from fiscal years 2000 to 2003, total bus transit revenues decreased by 3.4%, whereas expenses increased by 18.6%.

**Table 9: Total Bus Transit in Connecticut**

CTTRANSIT, EXPRESS BUS, TRANSIT DISTRICTS, ADA, DIAL-A-RIDE AND SHUTTLE SERVICES

	SFY 2003	SFY 2002	SFY 2001	SFY 2000	% CHANGE 00-03
revenue	\$ 31,235,331	\$ 33,470,678	\$ 33,317,461	\$ 32,347,495	-3.4%
expense	\$ 122,155,526	\$ 117,015,198	\$ 110,774,000	\$ 102,990,507	18.6%
net deficit	\$ 90,235,410	\$ 83,561,228	\$ 77,456,538	\$ 70,643,009	27.7%
cdot share	\$ 82,344,111	\$ 76,245,203	\$ 71,415,963	\$ 64,323,455	28.0%
passenger trips	35,279,303	37,032,607	38,993,230	38,356,438	-8.0%
deficit/passenger	\$2.56	\$2.26	\$1.99	\$1.84	38.9%
cost/passenger	\$3.46	\$3.16	\$2.84	\$2.69	29.0%
operating ratio	25.6%	28.6%	30.1%	31.4%	

Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium – Statewide Bus and Rail System Summary," SFY 2002/2003.

- Table 10 shows the operating deficiencies based on type of service for 2003. The deficit per passenger ranged from \$1.89 on CTTransit Hartford, New Haven, Stamford services, to \$8.17 on rural transit systems and \$11.02 on dial-a-ride services.

**Table 10 Total Bus Transit in Fiscal Year 2003**

SFY 2003

	CTTRANSIT HNS MGMT.	CTTRANSIT PRIVATE OPERATORS	EXPRESS BUS PRIVATE OPERATORS	URBAN TRANSIT DISTRICTS	RURAL TRANSIT DISTRICTS	ADA SERVICES	DIAL-A-RIDE SERVICES	OTHER SERVICES	TOTAL SFY2003
revenue	\$ 19,028,460	\$ 2,072,109	\$ 926,268	\$ 6,840,115	\$ 293,226	\$ 1,461,320	\$ 250,480	\$ 363,353	\$ 31,235,331
expense	\$ 66,290,369	\$ 7,878,647	\$ 2,016,352	\$22,506,020	\$ 2,257,900	\$ 14,377,127	\$ 4,543,725	\$ 2,285,386	\$122,155,526
net deficit	\$ 47,261,909	\$ 5,477,938	\$1,090,084	\$15,665,905	\$ 1,964,674	\$12,915,807	\$ 4,293,244	\$ 1,565,849	\$ 90,235,410
cdot share	\$ 47,261,909	\$ 5,182,204	\$1,090,084	\$13,649,560	\$ 610,194	\$11,769,503	\$ 1,298,069	\$ 1,482,588	\$ 82,344,111
passenger trips	25,064,730	2,137,740	366,338	6,078,668	240,371	570,452	389,573	431,431	35,279,303
deficit/passenger	\$1.89	\$2.56	\$2.98	\$2.58	\$8.17	\$22.64	\$11.02	\$3.63	\$2.56
cost/passenger	\$2.64	\$3.69	\$5.50	\$3.70	\$9.39	\$25.20	\$11.66	\$5.30	\$3.46
operating ratio	28.7%	26.3%	45.9%	30.4%	13.0%	10.2%	5.5%	15.9%	25.6%

Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium – Statewide Bus and Rail System Summary," FY 2002/2003.

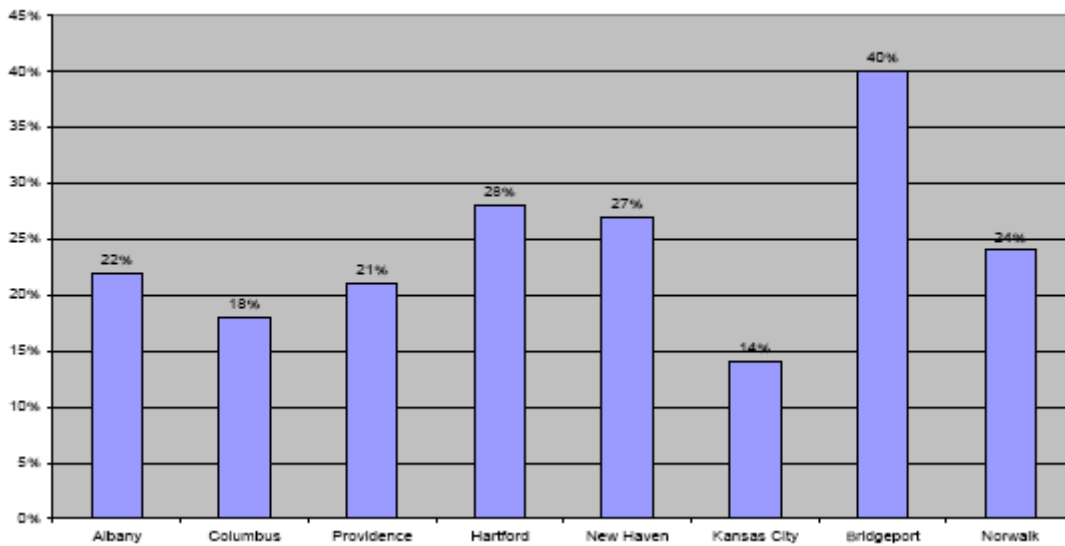
- The operating deficiencies for fiscal years 2000 to 2002 are presented in Tables 6, 7, and 8 in the Appendix.

## Fare Box Ratios

One measure of the operating efficiency of bus transit is the percentage of operating costs paid for by fares, known as the fare box ratio (footnote 24). A higher recovery rate indicates more revenue from passengers offsetting the deficit that ConnDOT has to subsidize.

- Currently the fare box ratios of Connecticut's bus system compares well to other cities in the nation, as shown in Figure 11. This operational efficiency indicates that there is a comparatively large demand for bus service in Connecticut.

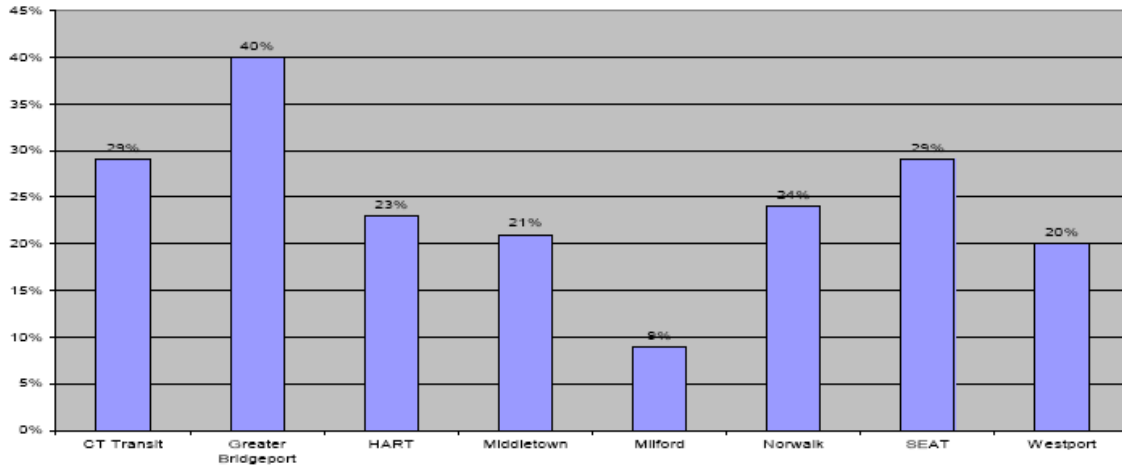
**Figure 11: Fare Box Ratios for National Peers**



Source: Transportation Strategy Board, "Moving Forward," January 2007.

- Within Connecticut, however, fare box ratios vary widely depending upon the area and the type of service, as demonstrated by a comparison of the state's fixed route services in Figure 12.

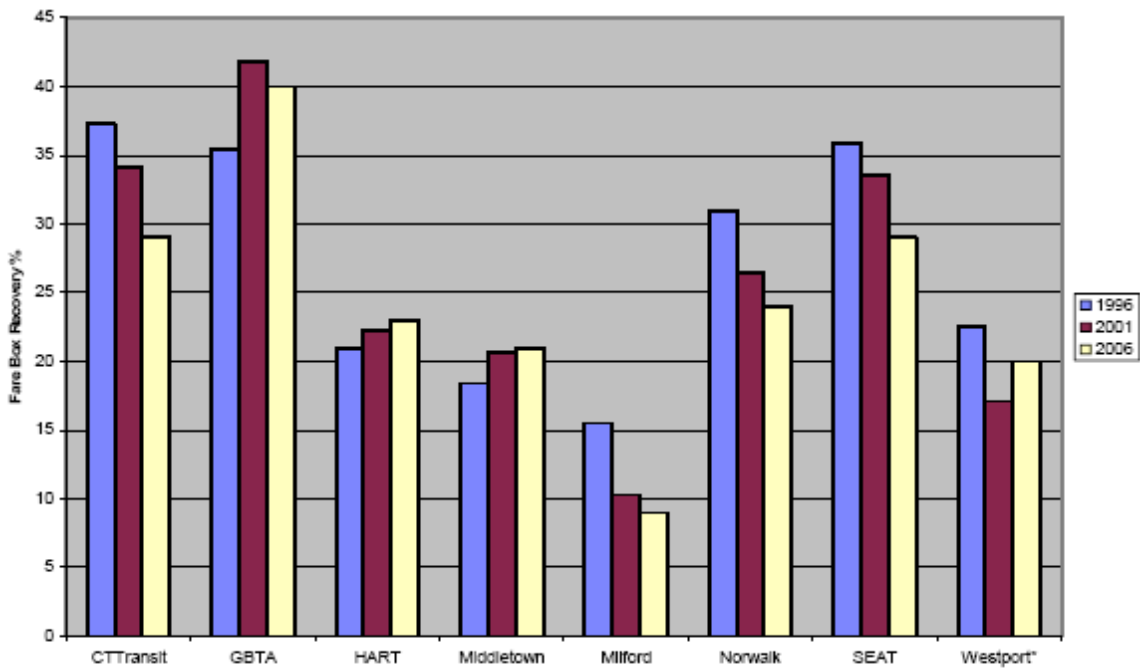
**Figure 12: Fare Box Ratios within Connecticut**



Source: Transportation Strategy Board, “Moving Forward”, January 2007.

- Figure 13 shows the change in fare box recovery rates from 1996 to 2006.

**Figure 13 2007 Fare Box Recovery Rates**



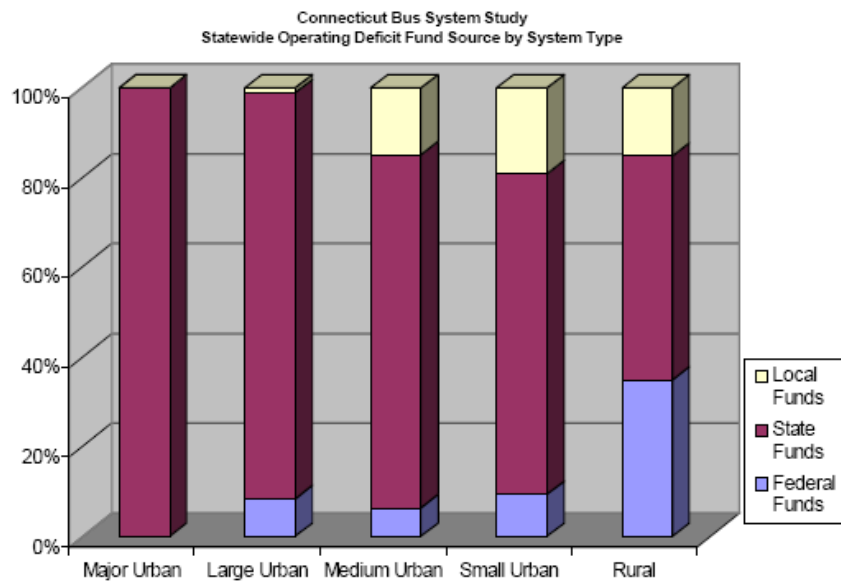
Source: Transportation Strategy Board, “Moving Forward,” January 2007.

- Over that 10-year period, fare box ratios have improved in urban areas such as Hartford and Bridgeport, while in other areas such as Norwalk and Milford they have declined. Hartford has taken significant initiatives to improve the fuel efficiency of its fleet, which may account for the improvement in its operational

efficiency. Bridgeport is another area with traditionally high recovery rates (almost 40%) due in part because of the high demand for the service from a relatively low-income population.

- CTTransit, the ConnDOT-operated bus service, experienced an overall decline in operational efficiency for the 10-year period shown in Figure 13.
- Connecticut might expect to see an overall increase in the operating deficit due to rising fuel prices. However, this deficit might also be offset by increased demand from passengers seeking more affordable means of transportation.
- All bus systems rely upon government funding to cover the portion of expenses not covered by the fare box, or the operating deficit. Figure 14 shows the distribution of federal, state, and local funding for different bus systems in 1998.

**Figure 14: Federal/State/Local Funding Breakdown**



Source: Urbitran Associates, Inc., “Connecticut DOT Statewide Bus System Study - Executive Summary,” July 2000.

### Funding for Connecticut’s Bus System

- Connecticut residents and visitors used bus transit for over 35 million trips in SFY 2005, reducing congestion, stress, and delay suffered by other road travelers. In that same year, the Urban Mobility Report of the Texas Transportation Institute found that public transportation in three Connecticut urban areas saved 1.6 million

hours of delay for other road travelers in 2003, at a cost savings to them of \$26.8 million.<sup>30</sup>

- Despite the benefits of Connecticut’s public transportation, the state investment in bus operations and capital is insufficient to maintain current services, much less to make service improvements or add service capacity to better serve current and new customers. Table 11 shows that Connecticut needs an additional investment of \$120.6 million in one-time capital spending, and about \$30 million additional in the annual operating budget for its public bus systems (footnote 30).

**Table 11: Connecticut’s Needed Investment**

INVESTMENT	OPERATIONS	CAPITAL
Current Bus Services -Unmet Needs	\$10,319,885	\$74,895,250
Expanded Bus Services	\$9,591,516	\$29,793,000
New Interregional-Commuter Express Services	\$10,046,085	\$15,900,000
<b>TOTAL</b>	<b>\$29,957,486</b>	<b>\$120,588,250</b>

Source: Connecticut Association for Community Transportation, “Transportation in Connecticut: Don’t Miss the Bus,” Dec 2006.

- The life cycle of an average bus is typically 12 years. The state expects to replace over 300 buses in 10 years (by 2017) at a cost of an estimated \$130 million (footnote 26).
- In 2006, almost \$1.6 million in federal funds that three bus systems were eligible to receive for capital costs could not be accessed because of the lack of state funds for the required 20% match (footnote 30).
- According to figures developed by Urbitran Associates (the consulting firm that performed the 2000 ConnDOT Statewide Bus System Study), the overall average hours of service of 11 Connecticut urban bus systems’ fixed routes is less than half the hours of service needed to maximize bus ridership. Increasing transit ridership should be a top priority in Connecticut (footnote 23).

<sup>30</sup> Connecticut Association for Community Transportation, “Transportation in Connecticut: Don’t Miss the Bus,” December 2006. The “three Connecticut urban areas” were not specified in the report.

## **Connecticut's Highway System**

### **Roads**

Connecticut has 21,193 miles of public roads. ConnDOT is directly responsible for overseeing all design, construction, maintenance, and improvements for the 3,731 miles of state-maintained roads consisting of state routes and roads, stubs, bypasses, and ramps serving as main lines. This includes 960 miles of Interstate and other National Highway System (NHS) roads in Connecticut. ConnDOT is also responsible for 3,844 state bridges (footnote 14). Table 9 in the appendix presents a detailed description of public roads.

### **Monitoring**

The current Intelligent Transportation Systems (ITS) involving cameras, traffic flow monitoring detectors, Variable Message Signs (VMS), Highway Advisory Radio (HAR) transmitters, and coordinated signal systems have been installed and operated within the last five to 10 years (shown in Figure 1 in the appendix). ConnDOT presently has more than 142 miles of freeway traffic management systems on I-95, I-91, I-84, and Route 2 including 294 cameras, 93 VMS, and 11 HAR stations (footnote 14).

### **Rest Areas**

For the convenience of the motoring public, ConnDOT maintains seven highway rest areas that have parking facilities, lavatories, vending machines, picnic tables, and K-9 areas. Most have telephones, information booths, and seasonal dumping facilities for recreational vehicles (RVs). The highway rest areas do not have restaurants, fuel, or convenience store facilities on the premises.

Connecticut has 23 highway commercial service areas that offer fuel and restaurant or convenience store facilities in addition to lavatories, telephones, and parking facilities. Ten of these facilities are adjacent to I-95, three are adjacent to I-395, and 10 are adjacent to Route 15. These facilities are open 24 hours a day, 365 days a year. There is currently no continuous law enforcement or security operation to prevent undesirable activities. There have been instances of vandalism, theft and even robberies at some locations, and there is a perception of a potentially dangerous environment for the motorist (footnote 14).

### **Congestion**

Travel on Connecticut's Interstate highways continues to grow at a significant rate, although there has been very little expansion of the system in recent years. From 1990 to 2004, vehicle travel on the state's interstate highways increased by 23% from 7.8 billion

miles driven annually to 10.1 billion miles. Yet during the same 1990 to 2004 period, total lane miles on Connecticut's interstate system increased by 3% from 1,789 lane miles to 1,848 lane miles. Thus, vehicle miles of travel increased at a rate eight times faster than the addition of new capacity.<sup>31</sup>

This increase in traffic on Connecticut's interstate highways has increased traffic congestion levels. The Federal Highway Administration considers any interstate highway that carries more than 80% of its design capacity to be congested, because at this level, vehicles experience significant delays in traffic flow. More than one half, or 56%, of Connecticut's 302 miles of urban interstates are considered congested because they carry traffic levels that result in significant delays during peak travel hours (footnote 31).

A study conducted by three planning agencies on Hartford's metropolitan region found that in 2005, I-84 was the most congested corridor with 1,183 hours of delay per day and daily traffic volumes exceeding 170,000. The second most congested corridor in the region was I-91 North with 711 hours of delay per day and daily traffic volumes exceeding 140,000. Together I-84 and I-91 account for 85% of all congestion recorded in the Hartford metropolitan region.<sup>32</sup>

ConnDOT conducted a study on the congested roads of the southwest corridor, particularly I-95, and Routes 15 and 1. In October 1999, average daily traffic on I-95 was 135,100 vehicles, on Route 15 it was 70,800 vehicles, and on Route 1 it was 33,800 vehicles. Ten percent of the daily volume on I-95 was truck traffic. During the peak commuting periods, I-95 carried 9,000 vehicles per hour, Route 15 carried 7,000 vehicles per hour, while Route 1 carried 3,118 vehicles per hour. Congestion and delays are a regular occurrence on the southwest corridors (footnote 11).

Figure 15 shows the congestion index for five Connecticut urban areas. All areas have been steadily increasing since 1982. The congestion index for the Bridgeport-Stamford region remained greater than the congestion index for the entire NY-NJ-CT region from 1982 to 2005.

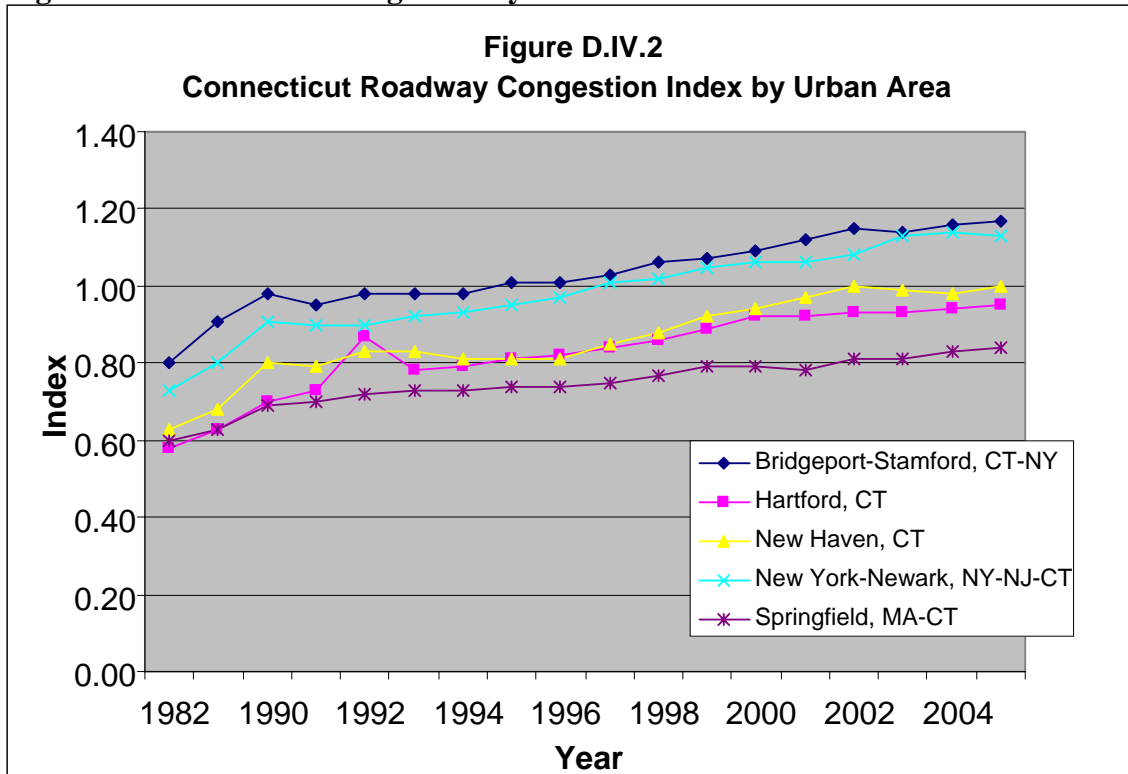
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<sup>31</sup> TRIP, "The Interstate Highway System in Connecticut: Saving Lives, Time and Money," April 2006.

<sup>32</sup> Capitol Region Council of Governments, Central Connecticut Regional Planning Agency, Midstate Regional Planning Agency, "Transportation Monitoring & Management Report: Metropolitan Hartford Area: 2005," December 2007.



**Figure 15: Connecticut Congestion by Urban Area**



Source: U.S. Department of Transportation, Bureau of Transportation Statistics, “Annual Roadway Congestion Index,” November 2007.

### Road Capacity

Statewide, in 2005, 9% of all state routes exceeded their design capacity and 5% were approaching design capacity. In 2005, 14% of Connecticut’s National Highway System (NHS) expressways and 22% of the NHS non-expressways were over design capacity and respectively, 15% and 7% of these systems were approaching design capacity. With the current funding and resources available, the portions of Connecticut’s NHS and non-NHS routes that are over design capacity due to congestion will continue to grow (footnote 14).

Regionally, the percent of state-numbered route miles over design capacity in 2005 ranged from highs of 25% (45.36 miles) and 35% (50.27 miles) in the south western and greater Bridgeport planning regions, respectively, to lows of less than 1% in both the Northwestern and Litchfield Hills planning regions. For 2025, ConnDOT forecasts that state-numbered route miles over design capacity will range from highs of 43% (77.96 miles) in the south western planning region and 43% (61.65 miles) in the greater Bridgeport planning region to lows of less than 1% in the northwestern planning region and 2% (4.09 miles) in the northeastern planning region (footnote 14). Table 10 in the

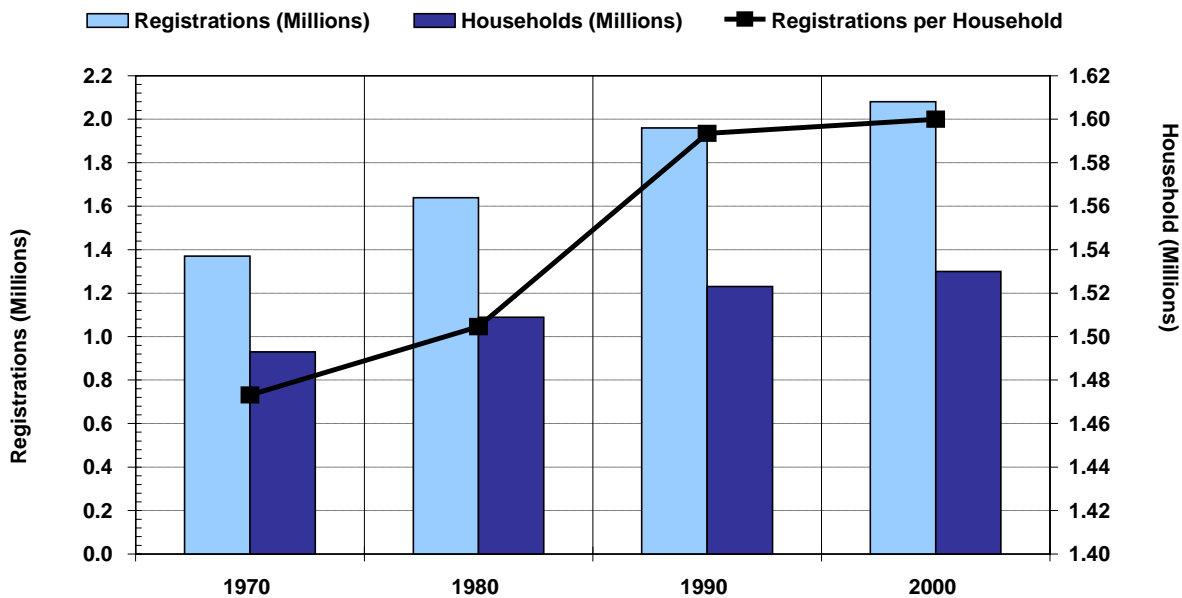
appendix shows the current and projected capacity status of state routes by planning region.

### Motor Vehicle Ownership

Between 1990 and 2000, Connecticut’s population increased 3.6% from 3,287,116 to 3,405,545. During this same period, motor vehicle ownership, reflected by the number of passenger vehicles registered in the state’s cities and towns, increased by 5.9% from 1,963,809 to 2,080,612.<sup>33</sup>

The average number of vehicles available per household has been increasing. As shown in Figure 16, the ratio of registered passenger vehicles to population steadily increased from 1.47 vehicles per household in 1970 to 1.59 vehicles per household in 1990. From 1990 to 2000, the ratio of vehicles per household increased slightly from 1.59 to 1.60 (footnote 33).

**Figure 16: Comparison of Passenger Vehicle Registrations to Households**



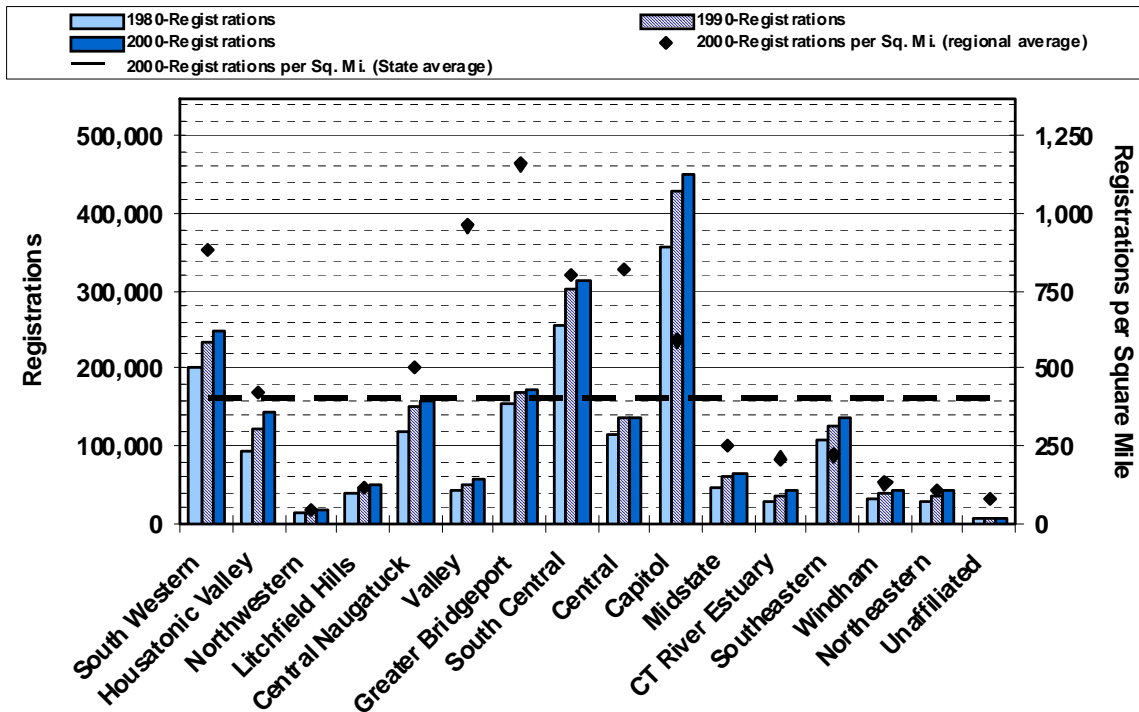
Source: 1970 Census, 1980 Census, 1990 Census, 2000 Census, and Connecticut Department of Motor Vehicles. Graphic revised as of April 2006

Source: Connecticut Department of Transportation, “Transportation in Connecticut: Trends & Planning Data,” June 2006.

<sup>33</sup> Connecticut Department of Transportation, “Transportation in Connecticut: Trends & Planning Data,” June 2006.

From 1990 to 2000, passenger vehicle ownership increased more than 10% in the following regions: Connecticut River Estuary, Housatonic Valley, Northeastern, Windham, Valley and Northwestern. In 2000, passenger vehicle ownership was the highest in the Capitol and South Central regions and the lowest in the Northwestern Region. Additional information on passenger vehicle registrations in Connecticut appears in Figure 17 (footnote 33).

**Figure 17: Passenger Vehicle Registrations by Planning Region**



Source: Connecticut Department of Motor Vehicles - Class 1 Auto Registrations (Passenger Cars). Projections for years following 2000 is not available. Graphic revised as of August 2004.

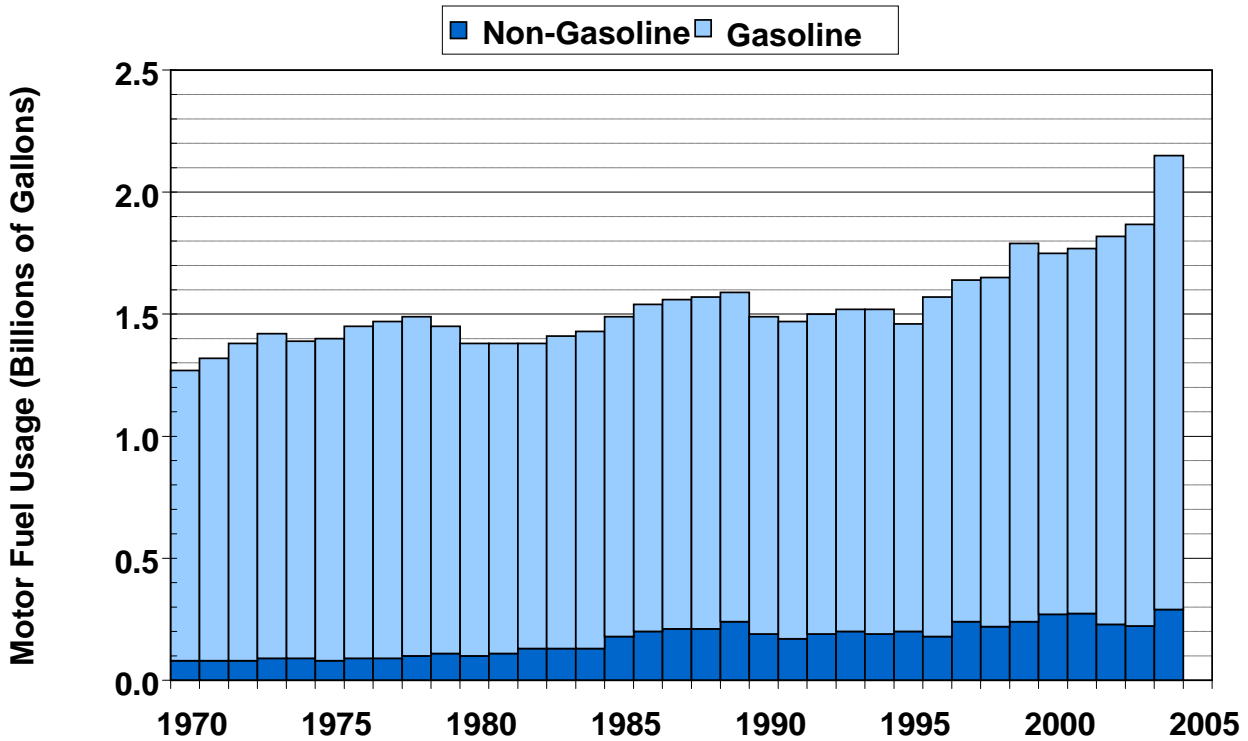
Source: Connecticut Department of Transportation, “Transportation in Connecticut: Trends & Planning Data,” June 2006.

Comparatively, the greatest numbers of vehicles per square mile in 2000 occurred in the greater Bridgeport (1,159) and valley (960) regions. The northwestern region averaged the lowest number of passenger vehicles per square mile (46) in 2000. The statewide average for vehicles per square mile in 2000 was 406 (footnote 33).

### Auto Usage

In Connecticut, fuel vendors record the quantity of fuel sold and submit this information to the state for tax purposes. Figure 18 below presents historic motor fuel usage in Connecticut, including data comparing gasoline to non-gasoline fuel alternatives. This recorded fuel sales volume also serves as a measure of vehicle use (footnote 33).

**Figure 18: Motor Fuel Usage in Connecticut**



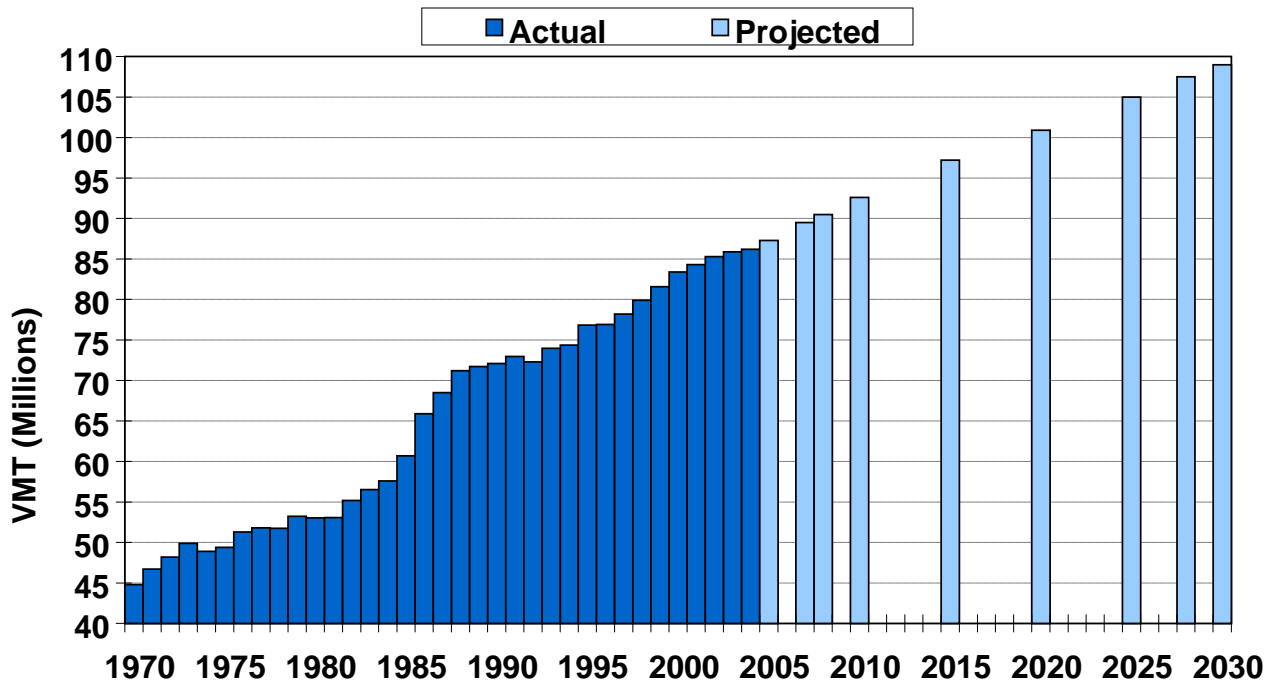
Source: Highway Statistics Table MF-21. Data following 2004 not yet available. Graphic revised as of April 2006.

Special Notes: As a result of revised estimation procedures, data from one year to another may not be comparable.

Source: Connecticut Department of Transportation, “Transportation in Connecticut: Trends & Planning Data,” June 2006.

Motor fuel usage in Connecticut peaked in 1989; this was due primarily to the rapid increase in the number of vehicles and growth in the number of vehicle miles traveled (VMT) in the state. Motor fuel consumption decreased slightly in 1990 and 1991 during the Gulf War. Since 1992, motor fuel consumption has been increasing gradually with a slight decrease again in 1995. Since 1995, motor fuel consumption in Connecticut has been increasing, with a peak of 1.79 billion gallons sold in 1999. In 2001, motor fuel consumption dropped slightly to 1.78 billion gallons (footnote 33).

**Figure 19: Vehicle Miles Traveled (VMT) in Connecticut**



Source: Years 1970 to 1977 derived from statewide fuel usage data; years 1978 to 2004 from Highway Performance & Monitoring System Data; years greater than 2004 are projected with ConnDOT Travel Model (Series 28). Graphic revised in October.

Special Notes: Data represents the average daily vehicle miles of travel. Some years are leap years. Model projections do not include Worcester UA VMT.

Source: Connecticut Department of Transportation, "Transportation in Connecticut: Trends & Planning Data," June 2006.

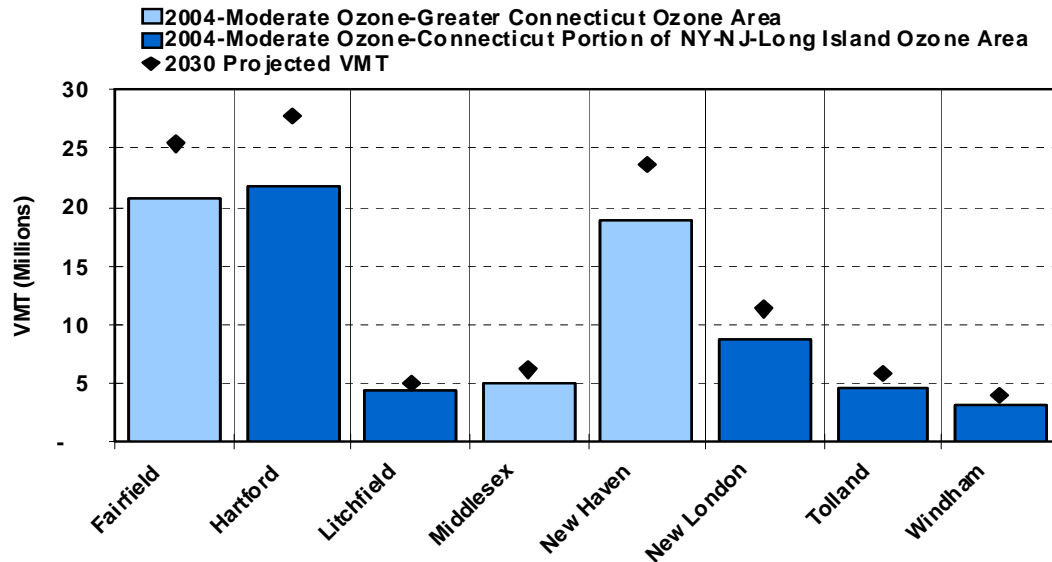
At present, significant amounts of time and money are being spent on research to develop alternative fuels, which are cleaner and less expensive than those presently in use. Three technologies that hold promise are hybrid, fuel cells, and electric vehicles. As cleaner and less expensive fuels make their way into the marketplace, the transportation industry will no doubt adapt to make use of them as it has in the past (footnote 33).

Figure 19 illustrates that daily VMT in Connecticut has been growing steadily since 1970. However, from 1990 to 2000, the rate of growth was approximately 17.4% over the 10 years, compared to approximately 36% from 1980 to 1990. In 2000, the total VMT in Connecticut was 83.4 million miles. Future projections call for continued slow growth in VMT as both the state and the national economy continue to grow. In 2030, the statewide VMT is anticipated to be 109 million miles. This represents an increase of 25.6 million miles or a 30.7% increase from the VMT in 2000 (footnote 33).

However, recent fuel hikes may alter these long-term projections. At the national level, highway VMT dropped from 2007 to 2008 due to high gas prices. The U.S. DOT

reported a decline of 20 billion miles from January to April, compared to the same period in 2007.<sup>34</sup>

**Figure 20: Vehicle Miles Traveled (VMT) by County**



Source: ConnDOT Travel Model (Series28). Graphic revised as of April 2006.

Special Notes: Data represents the Average Daily vehicle miles of travel. Graph shows June 2004 ozone non-attainment designations.

Source: Connecticut Department of Transportation, “Transportation in Connecticut: Trends & Planning Data,” June 2006.

On a county level, in 2004, as illustrated in Figure 20, Hartford County had the most vehicle miles traveled in the state: 21.7 million miles or 24.9% of the average daily statewide miles traveled. Comparatively, Windham County had the fewest with slightly less than 3.2 million miles or 3.7%, of the statewide average daily VMT (footnote 33). Table 12 shows how Connecticut ranked out of the 100 largest U.S. metropolitan areas by employment in 2005 and provides VMT per capita for 2005.

<sup>34</sup> Livable Streets Network, “Vehicle-Miles Traveled,” July 30, 2008, <http://www.livablestreets.com/streetswiki/vehicle-miles-traveled>.

**Table 12: 2005 VMT by Metropolitan Area**

<b>Metropolitan Area</b>	<b>VMT per capita, 2005</b>	<b>Rank</b>
New Haven-Milford, CT	7,775.70	16
Bridgeport-Stamford-Norwalk, CT	8,560.20	23
Hartford-West Hartford-East Hartford, CT	9,273.50	40

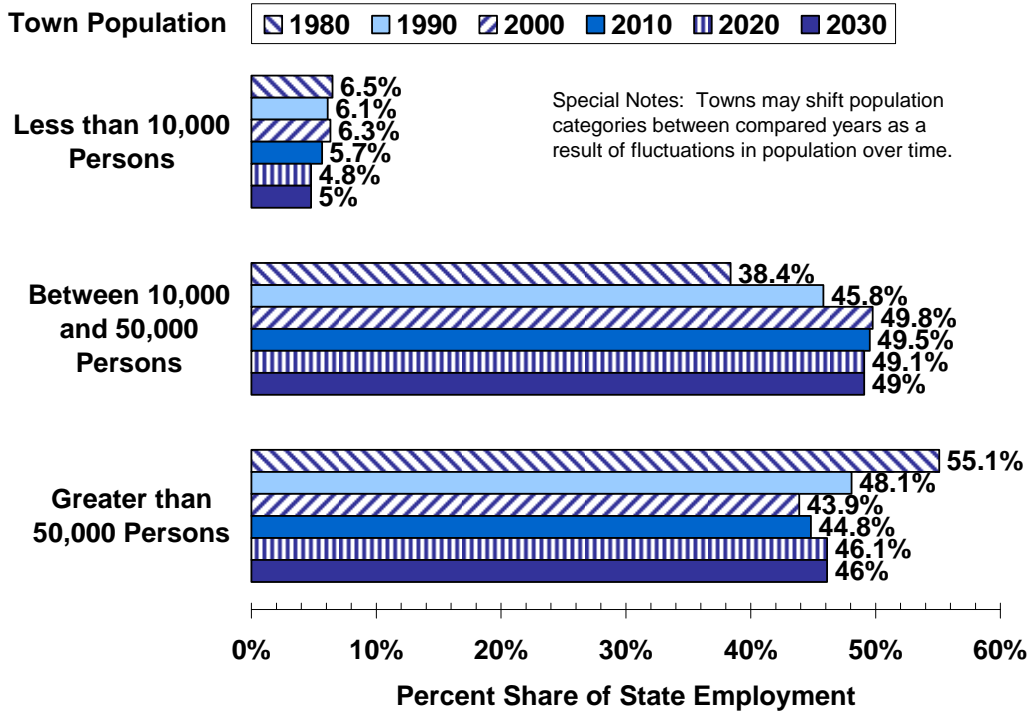
Source: Blueprint for American Prosperity, "Vehicle Miles Traveled".

## **Commuting**

Getting people from their homes to their place of employment puts a critical demand on the transportation network. Increases in suburban employment have resulted in separation between home and worksite. This has resulted in increases in suburban travel, which has placed added strain on the transportation system beyond the urban center. Figure 21 shows that from 1990 to 2000, the percentage of total state employment located in towns with populations greater than 50,000 had decreased by 4% from 48% to 44% of the total state employment. During the same period, the percentage of total jobs located in towns with populations between 10,000 and 50,000 increased 4% from 46% to 50%; the employment share of towns with populations less than 10,000 remained virtually unchanged at 6%. It should be noted that during compared years, populations in a given town can fluctuate; this potentially leads to a shifting of towns between the population categories from one year to another (footnote 33).

From 2000 through 2030, ConnDOT projects a 2% increase (from 44% to 46%) in the fraction of state employment located in towns with populations greater than 50,000. This represents an insignificant increase (less than 1%) for towns with populations between 10,000 and 50,000 persons, and a small decrease (less than 2%) for towns with less than 10,000 persons (footnote 33).

**Figure 21: Employment Share by Town Size**



Source: 1980 Census, 1990 Census, 2000 Census, and ConnDOT Series 27B Landuse Projections. Data for years following 2000 is projected. Graphic revised as of August 2004.

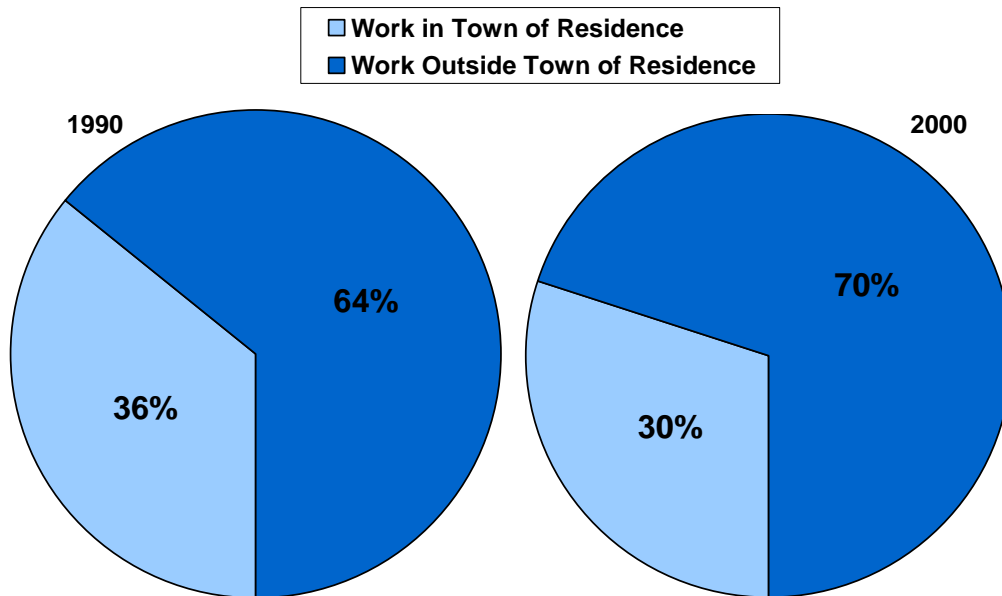
Source: Connecticut Department of Transportation, "Transportation in Connecticut: Trends & Planning Data," June 2006.

From 1980 through 2000, the shift of employment from central cities to suburban towns has been accompanied by an increase in the percentage of Connecticut's work force commuting to employment sites outside their towns of residence. Figure 22, shows that the number of workers who commuted to a job located outside their towns of residence increased overall by approximately 6% statewide from 1,071,800 in 1990 to 1,147,898 in 2000. During the same period, the number of workers living in Connecticut whose place of employment was located within their town of residence decreased by 18.1% from 601,642 to 492,925 (footnote 33). Table 11 in the appendix shows the commuting patterns of county residents relevant to employment in other counties for 2000. The largest cross county commuting took place from New Haven to Fairfield with 50,970 commuters and Tolland to Hartford with 35,090 commuters.

The aforementioned demographic changes have affected the amount of time it takes commuters to make trips. The average statewide commute increased 13.7% from 21.1 minutes in 1990 to 24.4 minutes in 2000 (footnote 33).



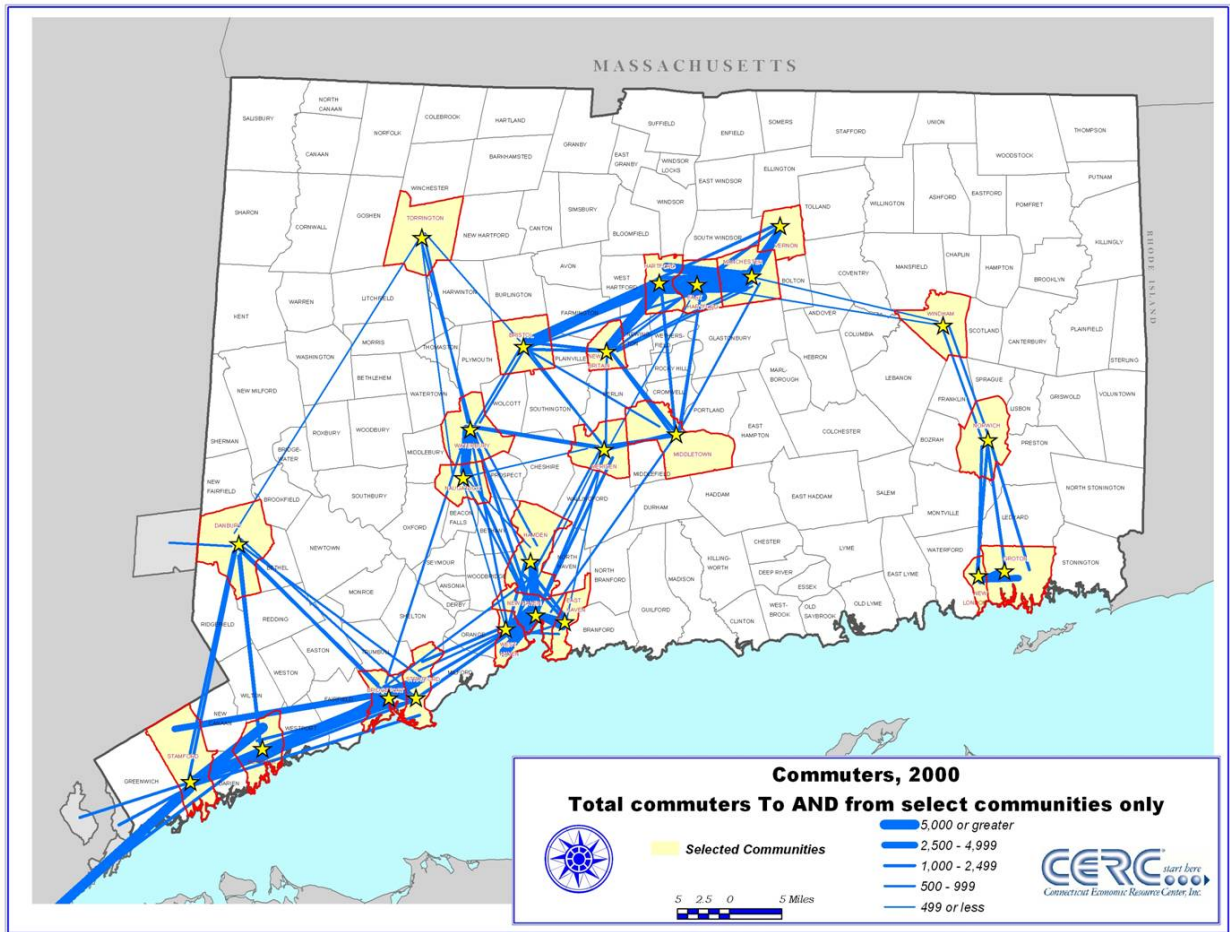
**Figure 22: Comparison of Place of Employment to Residence**



Source: 1990 Census and 2000 Census. Projections not available.  
Graphic revised as of August 2004.

Figure 23 shows commuter volumes to and from select communities graphically. Figures 2 and 3 in the appendix show both the positive and negative change in commuters between 1990 and 2000.

**Figure 23: Total Commuters To and From Select Communities**



Source: Connecticut Economic Resource Center.

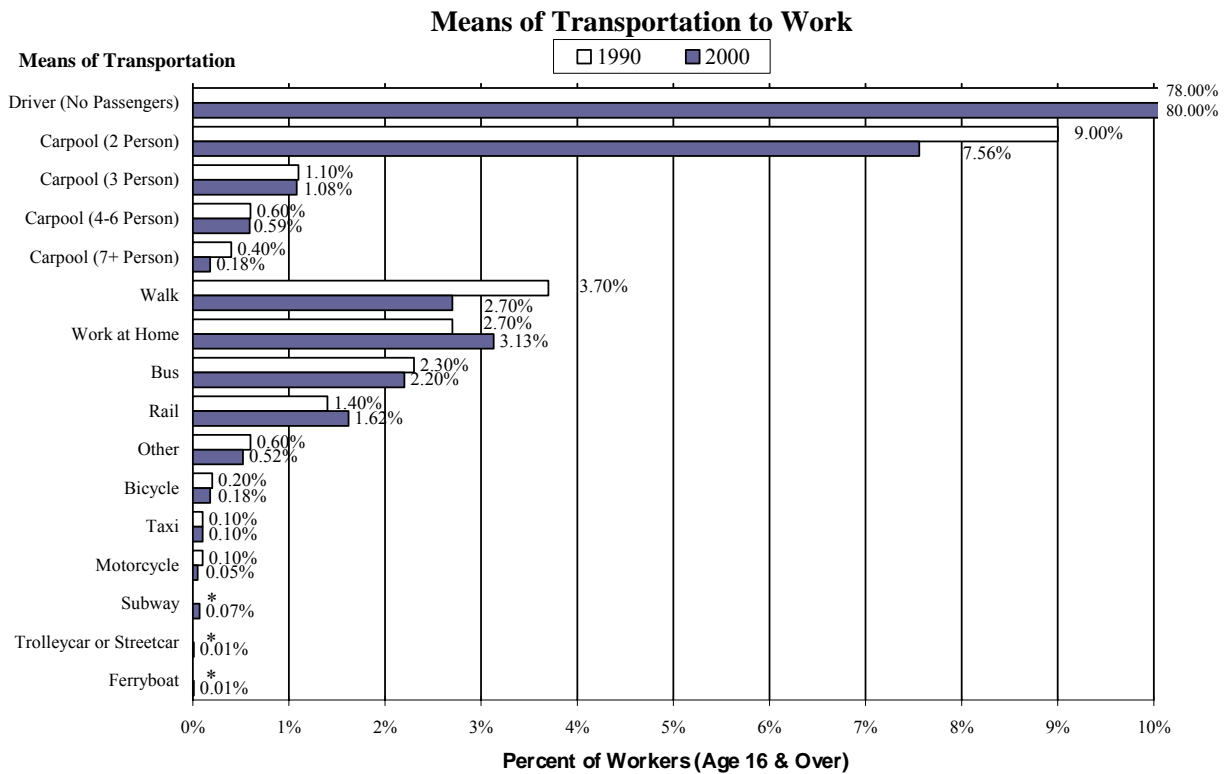
Information on the means by which persons in Connecticut travel to work is presented in Figure 24. This figure presents 1990 Census and 2000 Census data on means of transportation to work for Connecticut workers who are age 16 and older. In 1990, the private automobile was the primary means of getting to work. Of the workers commuting to work in a private automobile, 78% of the workers drove to work alone, 9% participated in two-person carpools, 1.1% participated in three-person carpools, 0.6 percent participated in 4 to 6 person carpools and 0.4% participated in carpools of seven or more persons. After the private automobile, walking was the next largest category (3.7%) followed by work at home (2.7%), bus (2.3%), rail (1.4%), other(0.6%), bicycle (0.2%), taxi (0.1%), and motorcycle (0.1%) (footnote 33).

In 2000, 80% of workers drove to work alone, 7.56% traveled in two-person carpools, 1.08% traveled in three-person carpools, 0.59% participated in 4 to 6 person carpools, and 0.18% traveled in a carpool of seven or more persons. After the private automobile,

work at home was the next largest category (3.13%) followed by walking (2.70%), bus (2.20%), rail (1.62%), other (0.52%), bicycle (0.18%), taxi (0.10%), and motorcycle (0.05%). Additionally, in 2000, 0.07% of workers used a subway to get to work, 0.01% used a trolley car or streetcar, and 0.01% used a ferryboat to get to work. Subway, Trolley car or Streetcar, and Ferryboat are new Means-to-Work categories that were listed in the 2000 Census (footnote 33).

A comparison of the 1990 to 2000 Means-to-Work census data indicates that in 2000, the private automobile continued to be the primary means of transportation to work. However, there was an increase (2%) in the percentage of workers driving alone and a decrease (1.69%) in the percentage of workers using carpools as a means of transportation to work. There also were increases in the percentage of workers working at home and traveling by rail and decreases in the percentages of workers riding the bus and walking to work (footnote 33).

**Figure 24: Means of Transportation to Work in 1990 and 2000**



Source: 1990 Census, and 2000 Census Supplemental Survey. \* The following categories: Trolley, Subway and Ferryboat were not available in the 1990 census. The Census allows a person to select only one category as a means of transportation to work. It does not account for dual-mode trips to work. Data updated as of January 2006.

Source: Connecticut Department of Transportation, "Transportation in Connecticut: Trends & Planning Data," June 2006.

The increase in the number of commuters driving alone to work occurred despite the higher cost compared with carpooling and transit. The continuing dispersion of employment and other services into the suburbs is a contributing factor to this behavior.

Another significant and somewhat related factor is the increasing number of women, particularly women with young children, in the labor force. Women now make more trips, by all modes, than men do and they are more likely to “trip-chain” — to link together a series of trips for different purposes in one outing. The increase in trip-chaining associated with providing child care and managing a household is directly related to the increase in the number of commuters driving alone (footnote 33).

Reducing the number of single occupancy vehicles has proved to be a difficult objective. Several factors contribute directly to a successful carpool. These include a large employer that serves as a “magnet,” a long commuting distance (greater than 10 miles), and a work location where free parking is not readily available. Another factor which has been observed in other areas of the country and that may start affecting Connecticut commuters is the decision to avoid congestion and decrease travel times during the peak period by using High Occupancy Vehicle (HOV) lanes. Connecticut now has approximately 38 miles of HOV lanes in operation on I-84, I-384 and I-91 extending northward and eastward from Hartford. These lanes carry approximately 7,100 commuters toward Hartford during the morning peak period (footnote 33).

Commuting by carpools and vanpools is facilitated in Connecticut through Rideshare, Rideworks, and MetroPool. In 1995, The Rideshare Company created Easy Street, a vanpool network service that currently operates in New York, Massachusetts, Rhode Island and throughout Connecticut. As of May 2007, approximately 3,000 Connecticut employees commuted in an Easy Street van each workday. Through Easy Street, in 2006, the number of cars on the road in Connecticut was reduced by 1,522 annually, and the number of vehicle trips by 696,000 annually, thus conserving 735,000 gallons of gasoline and cutting emissions by 13,000 tons.<sup>35</sup>

Rideworks and Metropool service the area between New Haven and Greenwich. MetroPool reported in their first quarterly report for fiscal year 2000 that they had 5,834 carpools and 33 vanpools.<sup>36</sup> Rideworks Fiscal Year 1999 annual report stated they have 2,233 carpools and 26 vanpools (footnote 11).<sup>37</sup>

Local bus service tends to be centered on urban areas. Express bus service primarily connects suburban towns with urban centers. While rail ridership increased during the past 10 years, bus ridership declined overall. The capitol region (greater Hartford area) has the heaviest use of bus service in the state. Bus ridership in the capitol region accounts for nearly 35% of the total bus ridership in the state. The median household income for bus riders is lower than for riders of any other mode of transportation, and

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<sup>35</sup> The Rideshare Company, “Rideshare in the News,” August 20, 2008, [http://rideshare.com/rideshare\\_in\\_the\\_news.html](http://rideshare.com/rideshare_in_the_news.html).

<sup>36</sup> Need updated MetroPool data

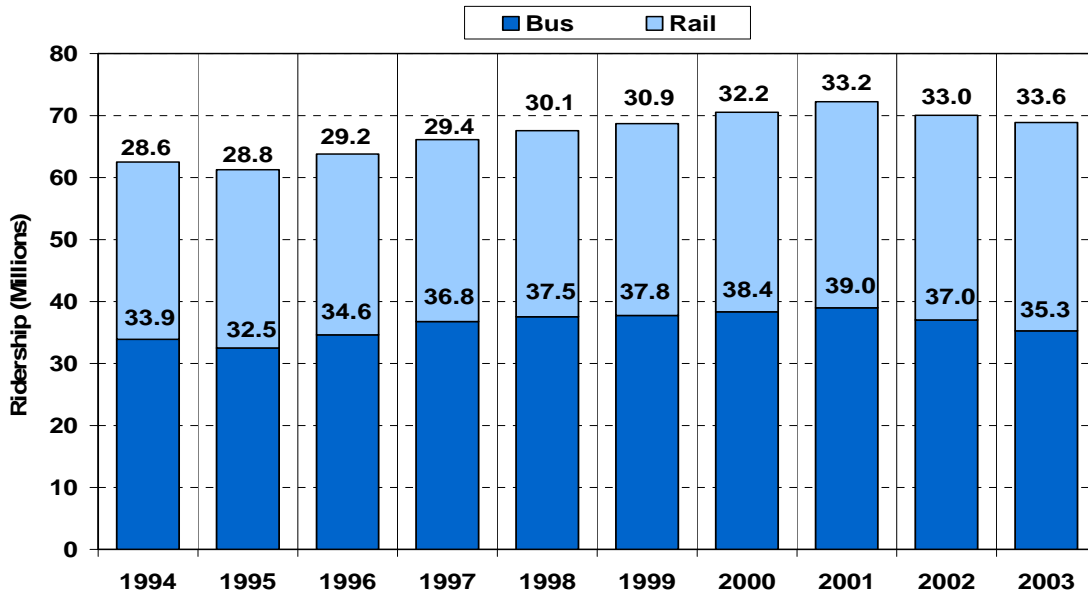
<sup>37</sup> Need updated Rideworks data

many bus riders have limited access to automobiles. Low household income and lack of auto availability continue to be significant factors in the use of bus service (footnote 33).

Rail commuters in Connecticut historically have been destined mainly for New York City. Data, however, indicates that the number of people traveling in the reverse commute direction (New York to Connecticut) and within Connecticut is increasing. The most heavily traveled segment of rail line in Connecticut is between Norwalk and Greenwich, the area of residence for the majority of the state's rail commuters who work in Manhattan. Rail service provides the most convenient means of traveling to Manhattan, and it captures most of the commuter market to that destination. Rail ridership between Connecticut towns is increasing, and although it still remains a small percentage of total rail ridership, it represents a growth component that is a priority for the state (footnote 33).

Figure 25 shows the relative share of transit passengers carried by bus and by rail in 1994 through 2003. The figure compares annual passenger volumes for bus and rail for SFY1994 through SFY2003 and is the latest available data from ConnDOT. It shows that bus passenger volumes decreased from 33.9 million in SFY1994 to 32.5 million in SFY1995, increased annually from 32.5 million in SFY1995 to 39 million in SFY2001, and then decreased to 37 million in SFY2002 and to 35.3 million in SFY2003. In comparison, rail passenger volumes increased annually during this period from 28.6 million in SFY1994 to 33.6 million in SFY2003 (footnote 33).

**Figure 25: Comparisons of Annual Passenger Volumes for Transit Modes (SFY1994-SFY2003)**



Source: ConnDOT Bureau of Public Transportation's "Operations Statistics". Graphic Revised as of September 2004.

Source: Connecticut Department of Transportation, "Transportation in Connecticut: Trends & Planning Data," June 2006.

Telecommuting programs provide multiple benefits because they allow greater schedule flexibility and reduce commuting times to zero for the participants, while at the same time they save fuel and reduce congestion for everyone. Telecommute Connecticut estimates there are more than 158,000 telecommuters in Connecticut, compared to an estimated 85,260 in December 2001; this equates to an 86% increase. On an average day, Telecommute Connecticut finds telecommuting eliminates nearly 60,000 automobiles from Connecticut's roads.<sup>38</sup> Because of the continuing development of communications technology and increasing costs of fuel, this mode of employment will play a growing role in addressing the demand for transportation services (footnote 33).

### Goods Movement

The freight transportation industry in the United States has undergone dramatic changes in the last 20 years. Developments in "containerization," shifts in the manufacturing industry to "just-in-time" delivery, the deregulation of the rail, trucking and aviation industries, and the development of new trading patterns in a global economy have led to

<sup>38</sup> Telecommute Connecticut, "Telecommuting Fact Sheet," July 22, 2008, [http://www.telecommutect.com/press/tc\\_fact\\_sheet.php](http://www.telecommutect.com/press/tc_fact_sheet.php).

consolidation and restructuring within, and partnerships between, all freight transportation modes (footnote 33).

The development of an extensive cross-country expressway network, the trend toward larger and heavier trucks, more time-sensitive shipping requirements, increasing competition, and railroad branch line reductions have contributed to the trucking industry attracting a large market share of goods movements. However, while the number of truck trips is increasing, the length of such trips is decreasing. Many shippers are using more cost-effective rail, air, or water transport for the long-haul portion of freight delivery, with trucking firms supplying the pick-up and delivery portion of trips rather than supplying end-to-end service. Thus, short-haul truck/intermodal traffic has increased dramatically in recent years and is expected to continue to increase (footnote 33).

Truck transport of intermodal freight will continue to impact Connecticut, however. This is attributable to its small geographic area and close proximity to some of the nation's largest ports, intermodal rail facilities, and airports (footnote 33).

Table 13 presents freight shipments that have either an origin or a destination in Connecticut. As Table 13 portrays, trucks move a large percentage of the tonnage and value of shipments, followed by water and rail tonnage and air value (footnote 33).

<b>Table 13: Freight Shipments To, From, and Within Connecticut 1998, 2010, and 2020</b>						
<b>CONNECTICUT</b>	<b>Tons (millions)</b>			<b>Value (billions \$)</b>		
	<b>1998</b>	<b>2010</b>	<b>2020</b>	<b>1998</b>	<b>2010</b>	<b>2020</b>
<b>State Total</b>	117	165	200	80	154	248
<b>By Mode</b>						
<b>Air</b>	<1	<1	<1	8	18	30
<b>Highway</b>	89	126	155	67	127	205
<b>Other*</b>	2	3	3	<1	<1	1
<b>Rail</b>	12	17	22	2	4	7
<b>Water</b>	15	19	20	2	4	5
<b>By Destination/Market</b>						
<b>Domestic</b>	95	129	151	64	120	188
<b>International</b>	22	36	49	16	35	60

Note: Modal numbers may not add to totals due to rounding. \* The “Other” category includes international shipments that moved via pipeline or by an unspecified mode.  
Source: Office of Freight Management Operations, Federal Highway Administration, *Freight Transportation Profile—Connecticut Freight Analysis Framework*, November 2002.  
Source: Connecticut Department of Transportation, “Transportation in Connecticut: Trends & Planning Data,” June 2006.

Data from the United States Department of Transportation (USDOT) show that trucks currently carry approximately 76% of the freight in Connecticut. USDOT projects this share to grow to 77.5% by the year 2020, even as rail traffic grows from a 10.3% share to 11%. *Although all modes will experience growth in volume, USDOT and/or ConnDOT anticipate that trucking will provide the majority of service, regardless of state policies and programs.* However, the extent to which significant increases in fuel prices will impact trucking and other freight transportation modes is unknown at this time (footnote 33).

The Interstate highway system carries the most interstate truck movements. Of these corridors, I-95 between New York and New Haven carries the greatest volume. I-91, especially from Meriden to Hartford, carries a high volume because a portion of the I-84 east-west movement joins with the north-south movement. Other routes, for example U.S. 6, U.S. 7, CT 2, and CT 8, provide regionally important truck accessibility (footnote 33).

Truck traffic moving to and from Connecticut accounted for 6% of the average annual daily truck traffic (AADTT) on the Freight Analysis Framework (FAF) road network.



Approximately 5% of truck traffic involved in-state shipments, and 14% involved trucks traveling across the state to other markets. About 75% of the AADTT were not identified with a route-specific origin or destination<sup>39</sup> (and see footnote 33).

Table 12 in the appendix shows the top five commodity groups shipped to, from, and within Connecticut by all modes. The top commodities by weight are nonmetallic minerals and petroleum or coal products. By value, the top commodities are chemicals or allied products and secondary traffic. Secondary traffic is defined as freight flows to or from distribution centers or through intermodal facilities. No commodities are assigned to this intermediate step in the transportation process (footnote 33).

### **Comparative Statistics**

In the study *17<sup>th</sup> Annual Report on the Performance of State Highway Systems* the Reason Foundation measured the performance of all state-owned roads and highways from 1984 to 2006.<sup>40</sup> The report uses indicators from 12 different categories, including traffic fatalities, congestion, pavement condition, bridge condition, highway maintenance costs, and administrative costs, to calculate effectiveness and performance in each state. Table 12 shows how Connecticut ranks in these 12 categories and overall.

In 2006, Connecticut ranked 35<sup>th</sup> out of all states in overall cost-effectiveness and performance, which is an improvement from 39<sup>th</sup> in 2005. Connecticut is 43<sup>rd</sup> in urban interstate congestion, with 62% congested. The state ranked 1st in rural interstate road conditions and 26th in urban interstate road conditions. Connecticut ranks 43<sup>rd</sup> in deficient bridges —32.8% of the state’s bridges are deemed structurally deficient or functionally obsolete. Connecticut ranks 42<sup>nd</sup> in total disbursement per mile of responsibility, up from 44<sup>th</sup> in 2005. Connecticut’s fatality rate per 100 million vehicle miles traveled is 0.95, which places it 4<sup>th</sup> in the nation for least fatalities per million vehicle miles traveled.

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<sup>39</sup> Office of Freight Management and Operations, Federal Highway Administration, U.S. Department of Transportation, “Freight Transportation Profile: Connecticut Freight Analysis Framework,” November 2002.

<sup>40</sup> See <http://www.reason.org/news/show/1003049.html>.

**Table 14: Comparison of Connecticut’s State-owned Highways and Roadways Effectiveness and Performance**

Categories	Results 2006	Results 2005	Rank 2006	Rank 2005	Change in Rank 05-06
Total Receipts* per Mile of Responsibility	337,208	344347	45	43	-2
Capital Disbursement per Mile of Responsibility	133,118	140322	39	42	3
Maintenance Disbursement per Mile of Responsibility	41496	37668	43	42	-1
Administration Disbursement per Mile of Responsibility	15,883	14564	38	40	2
Total Disbursement per Mile of Responsibility	300,419	356,230	42	44	2
Urban Interstate, Percent Poor Condition	3.64	3.97	26	27	1
Rural Interstate, Percent Poor Condition	0.00	0.00	1	1	0
ROPA **, Percent Poor Condition, 2006	0.61	0.61	29	30	1
ROPA **, Percent Narrow Lanes	1.22	1.22	12	11	-1
Urban Interstate, Percent Congested	62.38	65.6	43	44	1
Bridges, Percent Deficient	32.80	34.18	43	43	0
Fatality Rate per 100 Million Miles Driven	0.95	0.87	4	2	-2
<b>Overall Performance</b>	1.23	1.28	35	39	4

\*Receipts include all sources (fed and state taxes, gasoline, bond capital and interest, tolls.)

\*\*Rural Other Principal Arterial System

Source: Reason Foundation, “17<sup>th</sup> Annual Report on the Performance of State Highway Systems (1984-2006),” July 2008.

### **Connecticut’s Aviation System**

The Connecticut aviation system is comprised of 153 landing areas that are licensed by the state and/or the Federal Aviation Administration (FAA). The landing areas open to the public are licensed as Commercial and those not open to the public are licensed as Restricted Landing Areas (RLA). Connecticut’s 153 active aviation landing areas include 55 airports, seven seaplane bases, and 92 heliports. There are 23 airports (one includes a seaplane base) open for public use, while 32 airports, six seaplane bases, and 92 heliports are for private use. Of the 23 public-use airports, six are owned by the state, four by municipalities, and 13 are privately owned airports that are open to the public.<sup>41</sup>

Table 15 shows the economic benefit, both direct and indirect, that these facilities provide for the communities they serve (footnote 5).

<sup>41</sup> Connecticut Department of Transportation, “Connecticut Statewide Airport System Plan,” June 2006.

**Table 15: Economic Impact of State and Municipal Airports**

Airport Name	Economic Benefit	Year study complete
Bradley International	3,876,000,000	2004
Hartford-Brainard	37,199,086	1997
Groton-New London	167,346,112	1995
Waterbury-Oxford	50,000,000	2004
Windham	9,779,452	1997
Danielson	NA	NA
Tweed-New Haven Regional	140,600,000	2001
Igor-Sikorsky Memorial	58,553,984	1993
Danbury Municipal	NA	NA
Meriden-Markham	5,418,600	1997

\* How Economic Benefit is measured was not defined in the report.  
 Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

### Enplanements

In 2006, Bradley International Airport (BDL) handled 3,409,938 enplanements, placing it 52<sup>nd</sup> among U.S. airports. The second busiest airport in Connecticut, Tweed New Haven Regional Airport (HVN), handled 38,144 enplanements in 2006, ranking it at 282 nationwide.<sup>42</sup> With their current terminal configuration, BDL can accommodate approximately 1,700 and HVN approximately 180 enplanements per hour in the peak hour (footnote 40). See Table 13 in the Appendix for 2001 through 2006 enplanements at Connecticut's seven largest airports.

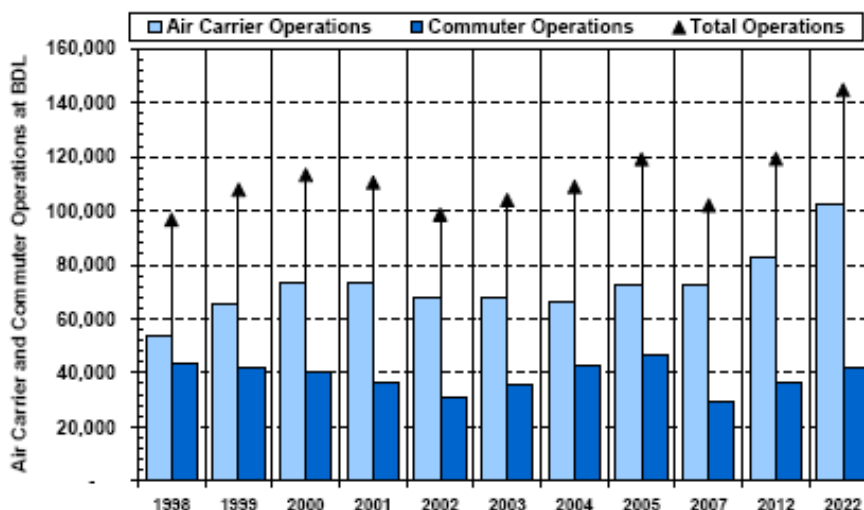
### Aircraft Operations

Aircraft operations are defined as take offs or landings, where each is a separate operation. Table 14 in the Appendix shows annual operations<sup>43</sup> in 2000 and 2004 for Connecticut's 23 public-use airports. Connecticut's total public-use annual operations in 2000 were 1,026,294; the effects of September 11, 2001 decreased 2004 annual operations to 852,430. In 2004, over 50% of the operations in the state took place at state-owned airports, with municipal airports accounting for 30% and privately run airports totaling 20% (footnote 40). Figure 27 shows air carrier and commuter operations at BDL that projects operations at BDL will increase in the coming years (footnote 14).

<sup>42</sup> Federal Aviation Administration, "Passenger and All-Cargo Statistics," July 2007.

<sup>43</sup> An operation is a landing or a departure from an airport.

**Figure 27: Air Carrier and Commuter Operations at BDL**



Source: ConnDOT Bureau of Aviation & Ports. Data following 2005 is projected. Graphic revised as of March 2006.

Source: Connecticut Department of Transportation, “Transportation in Connecticut: The Existing System,” June 2007.

## Airport Capacity

Table 15 in the appendix shows airport capacity, operations, and percent of capacity reached for Connecticut’s public airports.<sup>44</sup> Table 15 shows Connecticut’s airport operations range from 11,000 at Stonington Airpark to 263,000 at BDL. The annual operation as a percent of total capacity ranges from less than 1% at three airports to 56% at BDL. The FAA recommends that a detailed analysis of airport capacity should be performed for airports at 60% capacity, and capacity improvements should be in place when an airport reaches 80% capacity (footnote 42).

To handle future capacity issues, more than 2,000 acres of commercial and industrial master-planned land sits in the four towns adjacent to BDL.<sup>45</sup>

## Based Aircraft

Tables 16 and 17 in the appendix show the number of based aircraft at BDL and public-use airports respectively. In 1990, there were 83 based aircraft at BDL; by 1995 the

<sup>44</sup> Airport Operational Capacity: the FAA defines operational capacity in terms of annual service volume (ASV). This is a reasonable estimate of the maximum number of operations that can occur at an airport in a year, and it takes into account the differences in runway use, aircraft mix, weather patterns, etc. that would be encountered in a year’s time. As annual operations approach the ASV of an airport, aircraft delays will increase rapidly. Source: “Connecticut Statewide Airport System Plan,” June 2006.

<sup>45</sup> Bradley Airport Development League, Department of Economic and Community Development Testimony, January 2008.

based aircraft at BDL had risen to 94, but declined to 83 in 2003. In 2003 there were 1,766 aircraft based at Connecticut’s public-use airports (footnote 40). Of the 1,766 based aircraft, state-owned airports accounted for 39%, municipal airports accounted for 35%, and privately run airports accounted for 26%.

## Runways

BDL has three runways serviced by a network of 16 taxiways. This network of pavement comprises an equivalent of 70 linear miles of road pavement (footnote 14). The characteristics of these runways are listed in Table 14. Table 18 in the appendix lists runway characteristics for all of Connecticut’s public-use airports. Table 19 in the appendix lists runway characteristics for the four major airports near BDL: Logan International Airport (BOS), La Guardia Airport (LGA), John F. Kennedy International (JFK), and Newark Liberty International (EWR). As Table 16 shows, BDL has the same aircraft capacity as these other major airports.

**Table 16: Runway Characteristics at BDL**

Runway	Length (Feet)	Width (Feet)
<b>Bradley International Airport (BDL)</b>		
6-24	9,510	200
15-33	6,847	150
1-19	4,268	100
Source: ConnDOT Bureau of Aviation & Ports. Data is as of October 2006.		

Source: Connecticut Department of Transportation, “Transportation in Connecticut: The Existing System,” June 2007.

## Parking

At BDL surface parking is provided on-airport for passengers, visitors, and employees. On-airport parking consists of a state-owned parking garage, Short-Term Parking Lot B, Long-Term Parking Lots 1, 2, 3, 4, 5A, 5B (with shuttle service), and an employee parking lot (also with shuttle service). The number of public parking spaces available on-airport is 7,830. Table 20 in the appendix shows the total number of parking spaces, including handicap spaces, available in each BDL lot by category. In addition to on-airport parking, 11 privately owned, off-airport parking lots operate “valet” parking services using shuttle vans to the terminals (footnote 14).

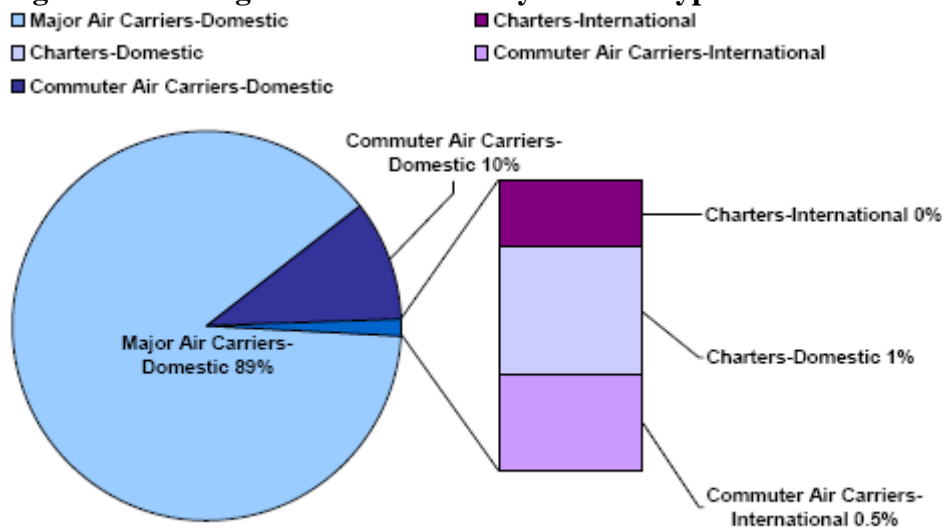
The short- and long-term parking lots are revenue-generating and are privately managed by APCOA Bradley Parking Company, LLC, under contract with ConnDOT. In a study conducted by the Connecticut General Assembly in 2000, it was found that revenue from

BDL parking exceeds \$8 million per year and is the largest single source of airport income.<sup>46</sup> The dependence on parking revenues creates incentives against providing public transportation to/from BDL.

## Carriers

Figure 28 shows passenger traffic at BDL in 2005 by carrier type. It shows that 89% of the passenger traffic was Major Air Carriers-Domestic, 10% was Commuter<sup>47</sup> Air Carriers-Domestic, 1% was Charters-Domestic and 0.5% was Commuter Air Carriers-International (footnote 14).

**Figure 28 Passenger Traffic at BDL by Carrier Type**



Source: ConnDOT Bureau of Aviation & Ports. Graph revised in February 2006.

Special Note: Panam Air ceased operations in May 2005 and Commute Air Ceased operations in January 2005

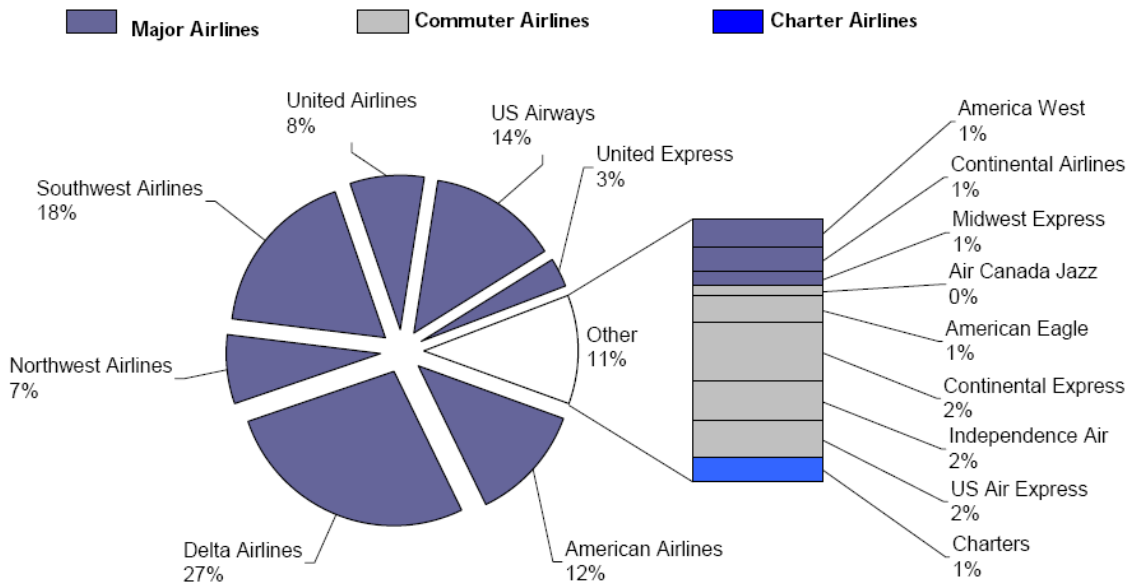
Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

In terms of total annual passenger activity by airline, Figure 29 shows that Delta led the other airlines in 2005 with 27% of the market, followed by Southwest (18%), US Airways (14%), American Airlines (12%), United with 8% and Northwest with 7%. Three other airlines (America West, Continental, and Midwest) accounted for 3% of the total annual passenger activity at the airport. The commuter airlines, as a group, accounted for 8%, and charter airlines accounted for approximately 1% of total passenger activity at BDL (footnote 14).

<sup>46</sup> Connecticut General Assembly, "Bradley International Airport," July 24, 2008, <http://www.cga.ct.gov/pri/archives/2000bradleyreportappenF.htm>.

<sup>47</sup> Air Carrier Fitness Division, Department of Transportation, "How to Become a Commuter Air Carrier," August 2002: Commuter Air Carrier – small planes with a capacity of 60 or fewer seats.

**Figure 29: Passenger Activity by Carrier type at BDL**



Source: ConnDOT Bureau of Aviation & Ports. Graphic revised in March 2006.

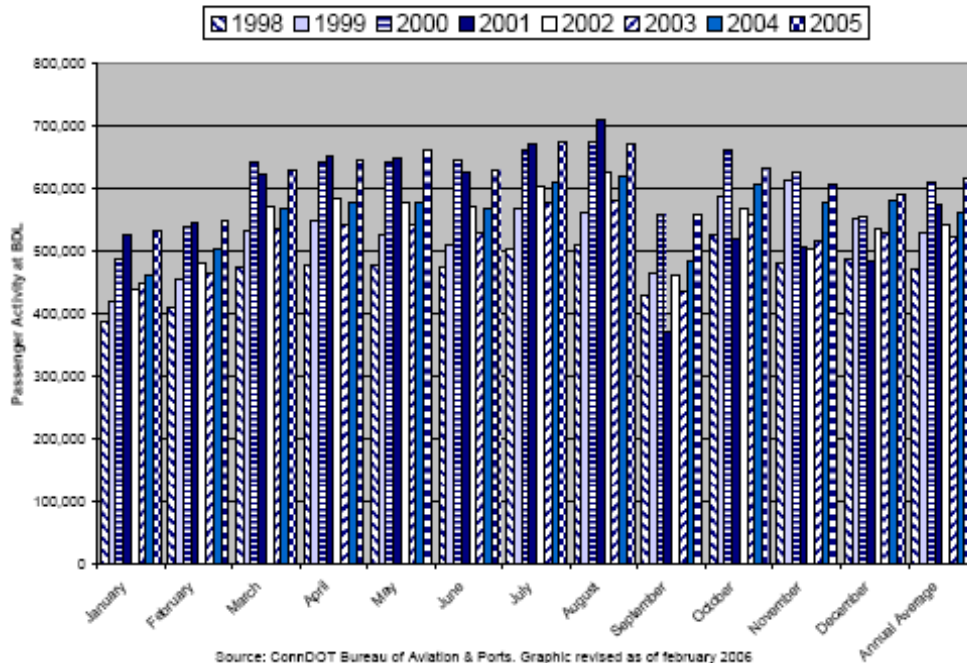
Special Note: Panam Air ceased operations in May 2005 and Commute Air Ceased operations in January 2005

Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

Virtually all of the jet service from BDL is to hub cities of the various airlines. The major cities to which jet service from BDL is provided as of April 2007 are listed in Table 21 in the appendix. Commuter destinations to which service is provided from BDL include Buffalo, Montreal, Toronto, Philadelphia, Newark, New York (John F. Kennedy International), and Rochester (footnote 14).

The events of September 11, 2001 affected most long-haul services from BDL. The effect of September 11, 2001 on monthly passenger activity at BDL is shown in Figure 30, which presents data from 1998 through 2005, showing that passenger activity dropped off sharply after the terrorist attacks but has since recovered to pre-September 11 levels (footnote 14).

**Figure 30: Comparison of Passenger Activity by Month at BDL**



Source: ConnDOT Bureau of Aviation & Ports. Graphic revised as of February 2006

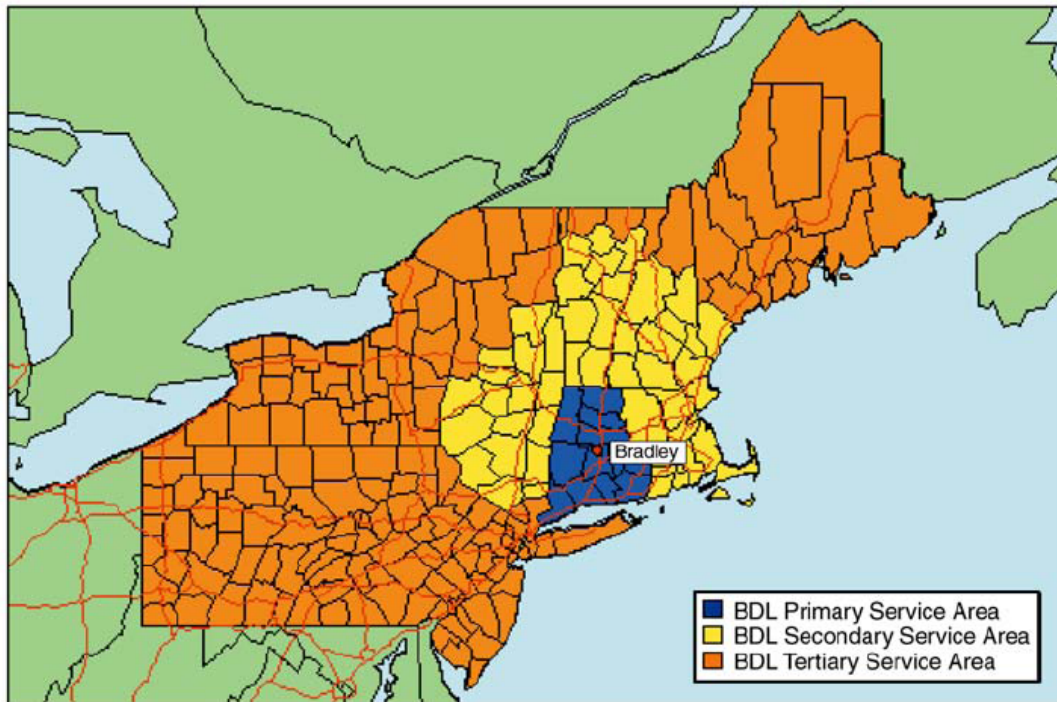
Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

## Cargo

Although the success of airports is often considered from a passenger service viewpoint, BDL's importance as a cargo terminal has grown steadily accompanied by significant ancillary development (see Table 22 in the Appendix). BDL currently has three on-airport cargo areas. The primary service area for cargo represents the area where BDL is the most easily accessed airport using local pickup and delivery trucks. This area includes all of Connecticut and the western half of Massachusetts. The secondary service area is a region within which BDL can compete with both Logan and JFK with the ability for same day pickup and delivery. This area includes all of Connecticut, Massachusetts, most of New Hampshire and Vermont, about one quarter of New York, which is closest to Connecticut excluding New York City and Long Island, and York County in southern Maine. The tertiary service area for BDL includes all of New England, New York, New Jersey and Pennsylvania (footnote 40). Figure 31 shows the primary, secondary, and tertiary cargo service areas for BDL.



**Figure 31: BDL Cargo Service Areas**



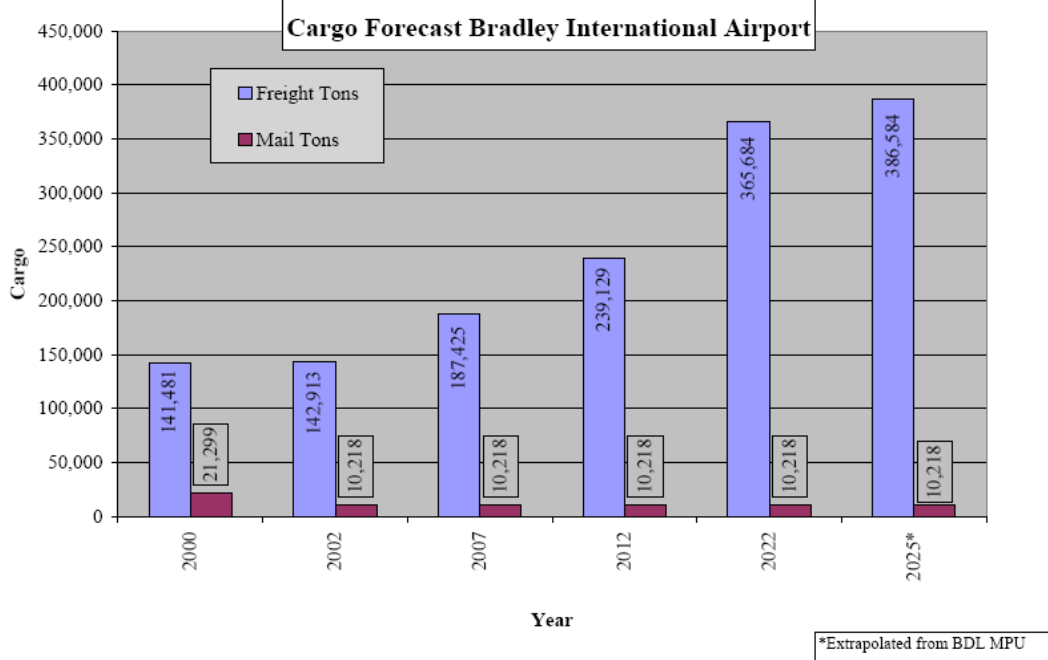
Source: International Air Cargo Market Analysis Report for BDL ConnDOT

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

The majority of forwarders, brokers and other cargo firms are located in a number of industrial facilities near the airport. This affords lower lease costs compared to being on airport property. BDL ranked 37<sup>th</sup> among U.S. airports in total air cargo for the year 2004, including both airfreight (309 million pounds) and airmail. More than 96% of the airfreight is handled on flights by all-cargo carriers, and three-quarters of that traffic moves on flights by the U.S. domestic integrated carriers such as FedEx, UPS, Airborne Express, among others. Also located at BDL are the 103rd Fighter Wing of the Air National Guard and the 126<sup>th</sup> Aviation Regiment of the Army National Guard (footnote 40).

Figure 32 shows the projected growth at BDL for freight tons and mail in revenue ton miles (RTM). At BDL, more than 96 percent of the airfreight is transported on flights by all-cargo carriers, and three quarters of that traffic moves on flights by U.S. domestic integrated carriers (FedEx, UPS and others). Due to BDL's strategic location between two international gateways, New York's John F. Kennedy International Airport (JFK) and Boston-Logan Airport (BOS), ConnDOT expects BDL's cargo tonnage will continue to increase in the future. This increase is projected due to not only the location of BDL, but also the fact that BDL is not as congested as others in the region servicing air cargo, such as JFK and BOS (footnote 40).

**Figure 32: Cargo Forecast for Bradley Airport**



Source: 2004 Bradley Master Plan Update  
 Source: Connecticut Department of Transportation, “Connecticut Statewide Airport System Plan,” June 2006.

**Funding**

There are generally five funding sources for airport development: airport cash flow, revenue and obligation bonds, Airport Improvement Program grants, Passenger Facility Charge (PFC’s), and state and local grants. Of the six airports owned and operated by the state, BDL is the only self-sustaining airport. BDL was established as an enterprise fund of the state in 1982.

This means BDL relies on its own revenue and not taxes to operate. The surplus in the airport’s operating budget is used to pay obligations and fund reserves required by the issuance of bonds. BDL’s operating budget is set by ConnDOT and the secretary of the Office of Policy and Management, and is not subject to legislative approval. ConnDOT projects BDL to fully fund its operating, maintenance and capital improvement costs, including debt service (footnote 40).

Commercial service airports are eligible for entitlement money every year based on the number of passenger boardings from the previous year. Table 23 in the appendix shows the amounts received by Connecticut airports in FY 2005. In FY 2005 BDL received \$2.2 million in entitlement money from the FAA of which \$1.53 million was received for passenger boarding and \$667,000 was based on cargo operations (footnote 40).

## Connecticut's Bicycle and Pedestrian Ways: Summary

Biking and walking are two necessary elements to make the state's transportation system truly intermodal. Investment in biking and pedestrian infrastructure has multiple external benefits for the state and its population such as reducing automobile congestion, eliminating CO<sub>2</sub> emissions that contribute to global warming, and promoting healthy lifestyles.

Connecticut has made small gains in becoming more bike and pedestrian friendly. And the demand for this infrastructure will grow as the price of oil increases and congestion on the highways worsens. If Connecticut citizens have the opportunity to utilize this infrastructure for commuting, shopping, and recreation purposes, Connecticut could attract young people to the state, help improve environmental conditions, and revitalize urban areas.<sup>48</sup> According to the most recent U.S. Conference of Mayors:

“Bicycle commuters annually save on average \$1,825 in auto-related costs, reduce their carbon emissions by 128 pounds, conserve 145 gallons of gasoline, and avoid 50 hours of grid locked traffic. Surveys show that a majority of people want to ride more but are dissuaded by concern over traffic danger and other barriers, and case studies have shown that when those barriers to bicycling are removed, people start riding more.”<sup>49</sup>

The Conference of Mayors also resolved:

“That even absent federal incentives, Governors and state-level leadership should embrace Complete Streets policies that acknowledge the contributions of bicycles as a means to reduce vehicle miles by integrating bicycle use into standard street design” (footnote 45).

Currently the ConnDOT is responsible for bike and pedestrian infrastructure in the state. Connecticut has implemented certain initiatives to promote the usage of bicycles and walking:

- All CTTransit buses in Hartford, Stamford, and New Haven have been equipped with bicycle racks, which will provide area passengers an added option when commuting.<sup>50</sup> This addresses a significant problem for commuters taking public

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<sup>48</sup> Hartford experienced a 159% increase in bikes on bus racks from April to August 2008. Several cities are experiencing an increase in bike ridership. See the national Geographic Magazine January, 2009. Also, see “MORE BIKE RIDERS GETTING ON THE RIGHT TRACK,” Hartford Courant, May 15, 2008.

<sup>49</sup> US Mayors Conference 76<sup>th</sup> Annual Meeting, “Ensuring Bicycling is Integrated into National Transportation, Climate, and Health Policy Initiatives,” 20-24 June 2008, [http://www.usmayors.org/resolutions/76th\\_conference/chhs\\_04.asp](http://www.usmayors.org/resolutions/76th_conference/chhs_04.asp).

<sup>50</sup> State of Connecticut Press Release, “Governor Rell: Bicycle Racks Installed on CTTRANSIT,” 20 August 2007, <http://www.ct.gov/governorrell/cwp/view.asp?A=2791&Q=391614>.

transportation known as the “last mile” problem. Obviously, public transportation such as a bus or train cannot pick up and drop off a commuter at the exact location of employment. Thus, biking or walking is the beginning and end of every commute.

- In 1999, ConnDOT created a strategic Bike and Pedestrian Plan for the State of Connecticut. Each region contributed strategies to improve bicycle and pedestrian infrastructure on existing roads.
- In Connecticut, bicycles are considered vehicles and are allowed on all public roads except controlled access highways such as expressways and the interstate system.<sup>51</sup>
- Important factors that influence the choice of bicycle or pedestrian commuting include:<sup>52</sup>
  - Trip distance;
  - Perceived traffic safety;
  - Travel cost — surveys suggest that financial incentives could make a difference in the choice of this mode;
  - Physical environment, including terrain, climate, circulation within activity centers and availability of alternative modes; and
  - Demographics — bicycle commuting generally declines rapidly in the segment of the population over age 45.
- Major accomplishments include the construction of wide sidewalks and paths on almost every new major river crossing in the last 20 years. Many state roads have also been improved to provide for wider shoulders that allow safer use by bicyclists and pedestrians (footnote 47, page 7).

Currently, Connecticut has not been as progressive with regard to biking/walking as other states with similar climates. Although rising energy prices could provide enough incentive for individuals to change their transportation habits, and the state should make provisions for these changes. There is strong evidence to suggest that by building the infrastructure, people will walk and bike more.<sup>53</sup>

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<sup>51</sup> Connecticut Department of Transportation, “Connecticut Statewide Bicycle and Pedestrian Transportation Plan,” August 1, 2008, page 2, <http://www.ct.gov/dot/cwp/view.asp?a=1390&q=259670>.

<sup>52</sup> Transportation: A Strategic Investment, “An Action Plan for Connecticut 2003-2013,” January 2003, page 330.

<sup>53</sup> Bruce, Donald, “Trails Serve More Than Recreation,” Hartford Courant, February 16, 2008, page C5. Also, see <http://bikecommutetips.blogspot.com/2008/02/trails-serve-more-than-recreation.html>.

- Connecticut has 17 miles of authorized bicycle routes with signage along official roads; New York has 2,200 miles; and North Carolina has 2,444.<sup>54</sup>
- The Governor’s Commission on the Reform of ConnDOT reported that the one issue that generated the most complaints related to improved bicycle and pedestrian infrastructure (footnote 50).
- Accordingly, there have been suggestions that, “ConnDOT's sidewalk policy is not conducive to the provision of sidewalks and collides with efforts to encourage use of public transportation. The policy should be revisited by the Department” (footnote 50).
- Bicycle use in Connecticut as a mode for commuting remained fairly constant between 1990 and 2000, at approximately 0.2% of all commuters. Walking to work declined as an option in the state between those same years, from 3.6% to 2.7%. Compared to national averages, Connecticut has a lower percentage of bike commuters (0.2% vs. 0.4% nationally), and roughly the same percentage of pedestrian commuters (2.7% vs. 3% nationally) (footnote 48).

As part of the intermodal transportation initiative, many buses now have bike racks to accommodate bikers. Trains still have very limited amounts of space and currently restrict bikes on trains running during key commuter times in the morning and late afternoon. There have been numerous petitions to change that, however, until the state receives new trains this agenda will probably be delayed.

### **Current Bicycle and Pedestrian Infrastructure**

- As of January 2007, there were more than 60 off-road, multi-use trails open in Connecticut, including the Farmington Canal Heritage Trail in Simsbury. In addition, more than a dozen other trails are in the planning or design stages, including sections of nationally recognized Millennium Trails, such as the East Coast Greenway. These Enhancement Program projects are funded primarily by the Federal Highway Administration (FHWA) under SAFETEA-LU and by the local communities in which the facilities are located. As of May 2007, \$59,008,974 in federal Enhancement Program funds had been programmed to undertake bicycle and pedestrian projects (footnote 14, page IV-2).
- The state has 74 major existing bicycle and pedestrian facilities and enhancement projects. These facilities were developed by ConnDOT, Department of Environmental Protection (ConnDEP) and local communities. While the majority

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<sup>54</sup> Hladky, Greg, “Bicyclists Contend That State Slight Them,” New York Times, July 27 2008.

of these facilities are separate multi-use paths, several are bike lane routes that were developed along existing roads in the 1970s. Various funding sources were used in their construction including the use of interstate funds in conjunction with major projects, local funds, National Recreational Trails funds, enhancement funds and state bond money (footnote 47, page 109).

- ConnDOT collaborated with ConnDEP and municipal planning organizations in the development of trails on abandoned railroad rights of way, so far there are 30 miles of rail trails in the state (footnote 47, page 109).
- Every region in the state was required to submit a written bike/pedestrian plan to the ConnDOT to comprise the state's overall plan. Each region identified potential bike path routes on specific roads in the region that are safe, convenient, and central to both employment and housing areas. These regions are expected to work with ConnDOT to help implement their respective local plans. This state's plan includes methods to improve infrastructure to increase ridership and inter-modality within existing public transportation systems.
- The Connecticut Bicycle Map appeared in 1980 through a FHWA Bicycle Program Grant. This program promotes the use of bicycles for transportation purposes, including work trips, trips to commuter lots and rail stations. The program also included the production and distribution of a map of evaluated bicycle routes leading to major employment centers, commuter lots, and rail stations (footnote 47, p. 109).

### **Connecticut Greenways**

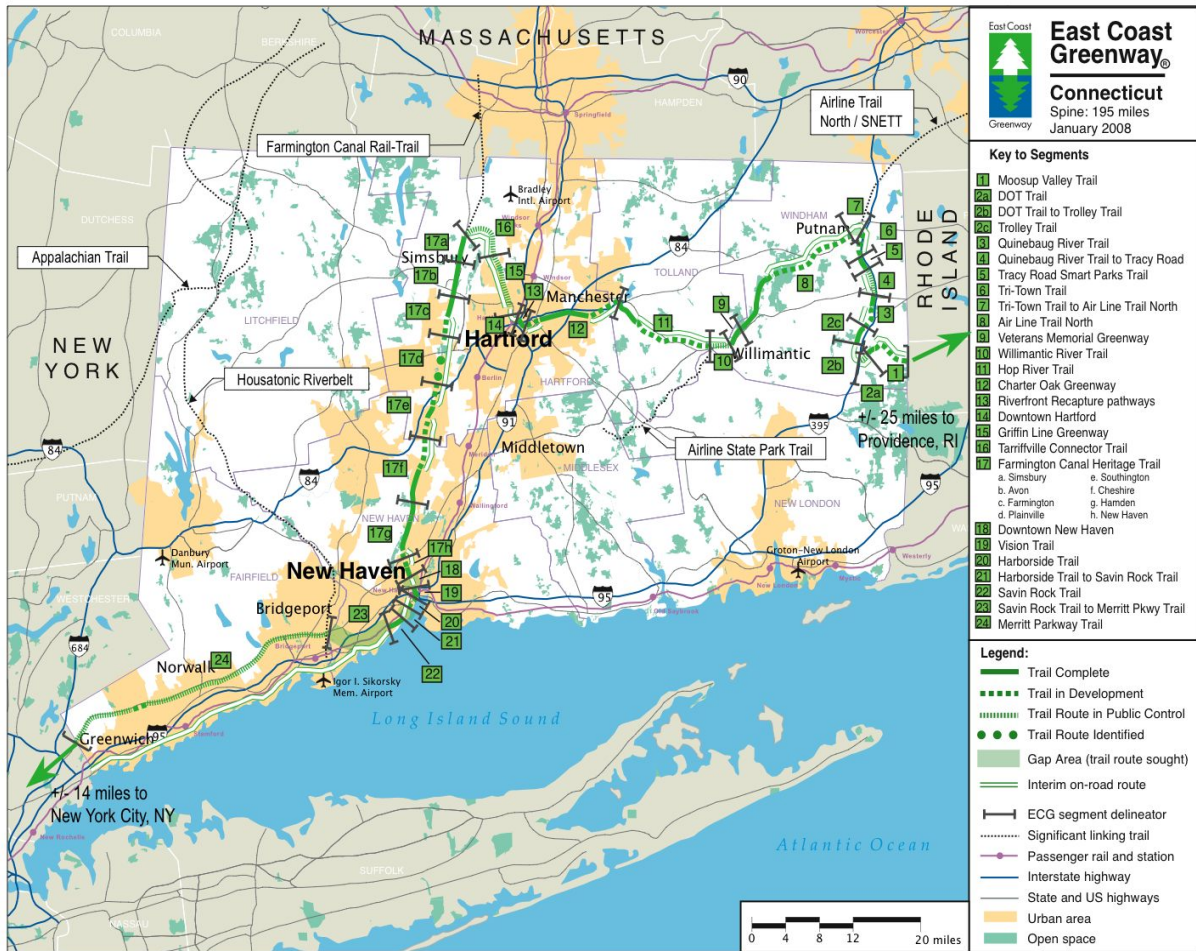
- A greenway is “a corridor of open space that may protect natural resources, preserve scenic landscapes and historical resources, offer recreational opportunities, and provide a place for people to walk, bicycle and move from place to place” (footnote 48, p. 117).
- Connecticut is an important piece of the East Coast Greenway initiative, which intends to build a continuous bike path from Florida to Maine. In 1992, the Governor established the Connecticut Greenway Committee. This committee, comprised of citizens from every part of Connecticut, was directed to develop a detailed proposal for a permanent Greenway program, which would provide assistance to municipalities and private organizations.<sup>55</sup>

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<sup>55</sup> East Coast Greenway, “Connecticut,” August 1, 2008, <http://greenway.org/>.

- Twelve segments of the Greenway have been officially designated in Connecticut. These segments are part of a continuous bike path that upon completion will cross the entire state from New York to Rhode Island (footnote 48, p. 117).
  - Moosup Valley Trail, Sterling and Plainfield, 4 miles;
  - Trolley Trail, Plainfield, 0.75 mile;
  - Quinebaug River Trail, Plainfield, 1 mile;
  - Tracy Road Smart Parks Trail, Killingly and Putnam, 2.3 miles;
  - Airline Trail, Windham County, 24 miles;
  - Veterans Memorial Greenway, Willimantic, 1.8 miles;
  - Hop River Trail, Tolland County, 13 miles;
  - Charter Oak Greenway, Manchester and East Hartford, 5 miles;
  - Riverfront Recapture, Hartford/East Hartford, 2 miles; and
  - Farmington Canal Greenway:
    - Simsbury-Avon section, 8 miles
    - Avon-Farmington section, 2.3 miles
    - Hamden-Cheshire section, 8 miles

**Figure 33: East Coast Greenway**



Source: East Coast Greenway

### Gaps in the Greenway

- There is a continued push to build the Merritt Parkway Trail for bikes (footnote 51). This is a crucial link for the Greenway’s completion along the east coast, linking New York to the rest of Connecticut. Such a stretch of trail exists in Stamford and there is a strong movement to develop this trail along the entire length of the parkway.
- Working with a coalition in the Hartford Area, East Coast Greenways revised both the current travel route and the future off-road alignment and developed a signage plan for the route that will be implemented in 2008. This represents another critical link to the continuous route across Connecticut.



- A two-year \$12 million bond issue to complete the Greenway in Connecticut was passed by both houses of the state legislature in 2008, which now needs to be signed by the Governor for the money to be used for this initiative. (See <http://www.cga.ct.gov/2007/ACT/PA/2007PA-00007-R00SB-01502SS1-PA.htm> section 68 for the exact language pertaining to greenways).

## Urban Areas

- Bike and pedestrian facilities are a critical part of Connecticut’s urban revitalization initiative. Bike and pedestrian facilities in urban areas helps to reduce congestion and promote safe and vibrant communities. Currently there are many initiatives in place to make urban areas more bike/pedestrian friendly, thereby making these areas more attractive for young professionals to live and work.
- According to the U.S. Conference of Mayors, a “transportation system that invests in and is conducive to bicycling reduces traffic congestion in our most heavily congested urban areas while promoting an overall improved quality of life that is valuable for everyone; and the greatest potential for increased bicycle usage is in our major urban areas where 40 percent of trips are two miles or less and 28 percent are less than one mile” (footnote 43).
- Police on bikes in urban areas greatly enhance their presence and approachability. Bicycling police also reduce the amount of carbon emissions from police activity. Bicycles can move more freely in congested areas and can reach places inaccessible to police cruisers. They provide stealth and allow officers to ride up to a scene before they are noticed. Bicycles are cost effective in that the average cost of outfitting one is approximately \$1,200.00. They also set good examples to young riders as they promote helmet use and bike safety.<sup>56</sup>
- The following tables show that the Hartford region had a relatively low rate of bicycling and walking for commute trips in 1990. In 2000, the bike rate was still low, having increased just 0.01% while the other region with a similar bike mode share in 1990, our neighbor Providence, Rhode Island, posted a significant increase by 2000 (of 50%). On the walking side, all regions, including Hartford, experienced a decline in the rate of walking to work between 1990 and 2000. This is likely due to the disappearance through the 1990s of manufacturing sites and mills within older neighborhoods. It is likely also due to continued suburbanization taking place through the 1990s.<sup>57</sup>

<sup>56</sup> Cheshire Police Department, “Bicycle Patrol,” August 1, 2008, <http://www.cheshirect.org/police/programs/bikepatrol.html>.

<sup>57</sup> Capitol Region Council of Governments, “Regional Pedestrian and Bicycle Plan,” March 2008.

**Table 17: 1990 Census Journey to Work Data**

1990 US Census Data					
Town	Number of workers	bike	Bike Mode Rate	walk	Walk Mode Rate
Burlington, VT MSA	70,491	560	0.79	4,976	7.06
Colorado Springs, CO MSA	197,436	781	0.40	12,278	6.22
Denver--Boulder, CO CMSA	964,912	6970	0.72	31,637	3.28
Hartford**	561,969	884	0.16	17,060	3.04
Madison, WI MSA	204,399	3970	1.94	16,859	8.25
Minneapolis--St. Paul, MN--WI MSA	1,307,624	5476	0.42	42,069	3.22
Portland--Vancouver, OR--WA CMSA	724,532	4409	0.61	23,725	3.27
Providence--Pawtucket--Fall River, RI--MA CMSA	544,668	897	0.16	21,144	3.88
<b>AVERAGE</b>	<b>4,505,540</b>	<b>23,387</b>	<b>0.52</b>	<b>169,748</b>	<b>3.77</b>

Hartford \*\* = Hartford--New Britain--Middletown, CT CMSA

Source: Capitol Region Council of Governments, "Regional Pedestrian and Bicycle Plan," March 2008.

**Table 18: 2000 Census Journey to Work Data**

2000 US Census Data					
Town	Number of workers	bike	Bike Mode Rate	walk	Walk Mode Rate
Burlington, VT MSA	90,903	440	0.48	5588	6.15
Colorado Springs, CO MSA	263,805	1,114	0.42	9,778	3.71
Denver--Boulder--Greeley, CO CMSA	1,346,025	9,341	0.69	32,044	2.38
Hartford, CT MSA	573,114	951	0.17	14,523	2.53
Madison, WI MSA	242,542	4,216	1.74	14,924	6.15
Minneapolis--St. Paul, MN--WI MSA	1,595,550	6,973	0.44	38,897	2.44
Portland--Salem, OR--WA CMSA	1,105,133	8,390	0.76	32,949	2.98
Providence--Fall River--Warwick, RI--MA MSA	555,540	1,332	0.24	18,240	3.28
<b>AVERAGE</b>	<b>5,772,612</b>	<b>32,317</b>	<b>0.56</b>	<b>161,355</b>	<b>2.80</b>

Hartford, CT MSA = Hartford--New Britain--Middletown, CT CMSA

Source: Capitol Region Council of Governments, "Regional Pedestrian and Bicycle Plan," March 2008.

**Table 19: 2006 ACS Journey to Work Data**

2006 American Community Survey					
City/MSA	Number of workers	# Bikers	Bike Mode Rate	walk	Walk Mode Rate
<b>Burlington-South Burlington, VT Metro Area</b>	109,856	792	0.72	8,107	7.38
<b>Colorado Springs, CO Metro Area</b>	302,405	1,291	0.43	12,224	4.04
<b>Denver-Aurora, CO Metro Area</b>	1,224,406	8,922	0.73	28,128	2.30
<b>Boulder, CO Metro Area</b>	148,251	5,417	3.65	6,878	4.64
<b>Hartford *</b>	588,830	1,509	0.26	18,385	3.12
<b>Madison, WI Metro Area</b>	303,050	5,379	1.77	15,785	5.21
<b>Minneapolis-St. Paul-Bloomington, MN-WI Metro Area</b>	1,669,299	10,697	0.64	39,457	2.36
<b>Portland-Vancouver-Beaverton, OR-WA Metro Area</b>	1,057,060	16,706	1.58	33,286	3.15
<b>Providence-New Bedford-Fall River, RI-MA Metro Area</b>	778,226	2,015	0.26	21,591	2.77
<b>AVERAGE</b>	6,181,383	52,728	0.85	183,841	2.97

Hartford \* = Hartford-West Hartford-East Hartford, CT Metro Area

Source: Capitol Region Council of Governments, "Regional Pedestrian and Bicycle Plan," March 2008.

## Trends

- In the 2006 census update, the American Community Survey, most regions posted increases in walk and bike commute rates. Portland, OR shows the most significant gain in the bike mode rate, an increase of 100%. On the walk side, the 2006 results indicate that the decline in walking rate may have bottomed out, with most regions, including Hartford, posting gains. This data shows that biking and walking rates in Hartford can continue to increase. Over the past 10 years, rates of walking and bicycling to work have increased slightly (footnote 14, page IV-2).
- Since 2000, ConnDOT in collaboration with the Capitol Region Council of Governments has sponsored Bike to Work Days during the months of April through September.
- Creating bicycle/pedestrian lanes to school alleviates the need for automobile use on a consistent basis. This initiative was established by the federal government and its aim is to encourage more students in elementary and middle schools (grades K-12) to walk and bike to school, as an alternative to using other modes of transportation, thus promoting a healthier lifestyle (footnote 14, page IV-2).

## **Safety**

- The FHWA reported that, in 2005 in the United States, 4,881 pedestrians and 784 bicyclists died in accidents involving motor vehicles and an estimated 64,000 pedestrians and 45,000 bicyclists were injured. In 2005 in Connecticut, 35 pedestrians and three bicyclists were killed and 1,141 pedestrians and 673 bicyclists were injured in accidents involving motor vehicles. It should be noted that more than half of the bicycle and pedestrian crashes occurred in the seven most populated towns: Bridgeport, Hartford, New Haven, Stamford, Waterbury, Norwalk, and New Britain (footnote 14, page IV-2).
- Many local police forces offer safe biking training programs designed to educate the public about the correct usage of bicycles on roads.

## **SUMMARY**

Transportation systems are critical to the productivity of businesses, the well being of individuals, quality of life issues and the overall health of economies. Citizens are looking for better transportation options to get to work within the major urban areas throughout the state, as well as to areas outside Connecticut. Eighty percent of commuters in Connecticut are single-riders in an automobile. It is therefore advantageous for the state to continue its successful carpooling programs, promote the use of pedestrian walkways and bike paths and expand rail options and thoughtful bus connections to facilitate a cleaner and less congested commute. All modes of transportation, including roads, rail, air and water, provide economic and user benefits. Connecticut's economic future is linked to its transportation system.

## Appendix: Transportation

**Table 1: Connecticut Port-Related Industries, 2001**

	Port Related industries	Connecticut Employment (Units)	Estimated Degree of Port Dependency	Estimated Employment
SIC codes	Sector Names			
1521	General contractors single family houses	6258	0.02	125
1522	General contractors residential bldg.	290	0.02	6
1611	Highway and street construction	2511	0.2	502
1771	Concrete work	2232	0.2	446
1791	Structural steel erection	726	0.1	73
2834	Pharmaceutical preparations	5414	0.1	541
289	Miscellaneous chemical products	2064	0.1	206
3444	Sheet Metal work	1383	0.2	277
3471	Plating and Polishing	2956	0.2	591
3479	Metal Coating and allied services	788	0.2	158
3499	Fabricated Metal services	1065	0.2	213
3731	Shipbuilding and repairing	8865	0.2	1773
3732	Boatbuilding and repairing	62	0.2	12
4212	Local Trucking without storage	4759	0.4	1904
4222	Refrigerated warehousing and storage	11	1	11
4226	Special warehousing and storage, nec	247	0.2	49
4231	Trucking terminal facilities	258	0.1	26
4482	Ferries	187	1	187
4489	Water passenger transportation	67	1	67
4491	Marine Cargo Handling	256	1	256
4492	Towing and Tugboat Services	239	1	239
4499	Water Transportation services, nec	105	1	105
4613	Refined petroleum pipelines	18	1	18
4731	Freight transportation arrangement	2010	0.1	201
4931	Electric and other services combined	62	0.6	37
4953	Refuse systems	1403	0.3	421
5093	Scrap and waste materials	1709	0.6	1025
5171	Petroleum bulk stations and terminals	198	1	198
	<b>Total Employment</b>	<b>46138</b>		<b>9667</b>

Source: Minnesota IMPLAN Group, Inc. Note: nec=not elsewhere classified.

Source: Connecticut Center for Economic Analysis. "The Economic Impact of Connecticut's Deepwater Ports: An IMPLAN and REMI Analysis," May 2001.

**Table 2: Passenger and Vessel Boardings (by Operator Annual)<sup>58</sup>**

<b>Operator</b>	<b>Passenger Boardings</b>	<b>Vehicle Boardings</b>	<b>Service Type</b>
Nelseco Navigation Co. New London Ferry Street-Block Island, Old Harbor	Not provided	Not provided	RO/RO <sup>59</sup>
Viking Ferry Lines Montauk (NY)-New London, Ferry Street	Not provided	Not provided	Passenger-Only
Bridgeport and Port Jefferson Steamboat Company	800,000	425,000	Passenger and Vehicle
Fox Navigation New London, Ferry Street-Vineyard Haven, Martha's Vineyard	45,000		Passenger-Only
Fishers Island Ferry District New London, State Street – Fishers Island (NY)	164,000	47,000	RO/RO
Cross Sound Ferry Services, Inc. New London, Ferry St. (CT) – Orient Pt. (NY) – conventional ferry service	919,183	379,885	RO/RO
New London, Ferry St. (CT) – Orient Pt. (NY) – fast ferry service	215,000		Passenger-Only

Source: Connecticut Maritime Coalition, "Connecticut's Ports: Transportation Centers for People and Goods," May 2002.

<sup>58</sup> U.S. Department of Transportation, National Ferry Database CD-ROM, 2001; survey period: March 1, 2000 – September 30, 2000.

<sup>59</sup> "Roll-on/Roll-off" or RO/RO is a service in which a vehicle can be driven on or off a vessel, utilizing a ramp between the dock and the vessel. The ramp is usually attached to or part of the vessel.

**Table 3: Total Commuter Rail - New Haven and Shore Line East**

	SFY 2003	SFY 2002	SFY 2001	SFY 2000	% CHANGE 00-03
revenue	\$ 189,249,825	\$ 185,873,354	\$ 188,069,894	\$ 180,480,293	4.9%
expense	\$ 282,361,405	\$ 260,261,179	\$ 254,122,011	\$ 247,817,818	13.9%
net deficit	\$ 94,201,860	\$ 73,334,121	\$ 64,501,983	\$ 60,808,205	54.9%
cdot share	\$ 60,042,903	\$ 48,699,182	\$ 43,016,813	\$ 37,757,531	59.0%
ny share	\$ 34,158,957	\$ 24,634,939	\$ 21,485,170	\$ 23,050,674	48.2%
passenger trips	33,598,762	33,022,647	33,242,227	32,174,971	4.4%
deficit/passenger	\$2.80	\$2.22	\$1.94	\$1.89	48.4%
cost/passenger	\$8.40	\$7.88	\$7.64	\$7.70	9.1%
operating ratio	67.0%	71.4%	74.0%	72.8%	

Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium", SFY 2002/2003.

**Table 4: Total Commuter Rail - Fiscal Year 2003**

	NEW HAVEN LINE	SHORE LINE EAST	TOTAL SFY 2003
revenue	\$ 188,130,202	\$ 1,119,623	\$ 189,249,825
expense	\$ 274,860,612	\$ 7,500,793	\$ 282,361,405
net deficit	\$ 87,820,690	\$ 6,381,170	\$ 94,201,860
cdot share	\$ 53,661,733	\$ 6,381,170	\$ 60,042,903
ny share	\$ 34,158,957		\$ 34,158,957
passenger trips	33,219,666	379,096	33,598,762
deficit/passenger	\$2.64	\$16.83	\$2.80
cost/passenger	\$8.27	\$19.79	\$8.40
operating ratio	68.4%	14.9%	67.0%

Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium," SFY 2002/2003.

**Table 5: Annual Ridership by Station and Federal Fiscal Year - Amtrak**

	FFY1999	FFY2000	FFY2001	FFY2002	FFY2003	FFY2004	FFY2005
Berlin	28,246	25,109	20,328	15,316	15,351	21,921	23,707
Bridgeport	44,975	45,155	51,802	48,718	50,773	55,543	58,615
Hartford	151,249	147,043	142,278	124,357	127,780	153,587	157,489
Meriden	25,086	20,039	18,353	11,420	14,083	22,842	28,825
Mystic	23,849	21,433	19,195	15,089	14,217	15,724	15,788
New Haven	251,130	289,785	370,498	411,113	501,064	617,638	654,124
New London	104,735	105,530	109,729	113,085	114,756	135,749	147,842
Old Saybrook	41,471	39,370	41,333	37,743	41,395	50,838	56,676
Stamford	184,424	189,954	215,824	270,579	272,349	292,507	284,837
Wallingford	8,331	7,885	6,002	3,865	4,770	7,809	11,189
Windsor	7,994	7,980	7,670	6,482	6,256	7,695	9,486
Windsor Locks	13,390	13,888	10,704	10,392	9,121	10,960	12,507
Total	884,860	912,949	1,011,710	1,067,957	1,171,895	1,392,393	1,459,068

Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

**Table 6: Total Bus Transit in Fiscal Year 2000**

SFY 2000

	CTTRANSIT HNS MGMT.	CTTRANSIT PRIVATE OPERATORS	EXPRESS BUS PRIVATE OPERATORS	URBAN TRANSIT DISTRICTS	RURAL TRANSIT DISTRICTS	ADA SERVICES	DIAL-A-RIDE SERVICES	OTHER SERVICES	TOTAL SFY2000
revenue	\$ 20,599,162	\$ 2,054,864	\$ 864,882	\$ 7,009,557	\$ 434,093	\$ 1,106,200	\$ 188,157	\$ 90,581	\$ 32,347,495
expense	\$ 57,168,711	\$ 6,630,914	\$ 1,891,430	\$ 21,109,276	\$ 2,020,242	\$ 9,906,142	\$ 3,811,864	\$ 451,928	\$102,990,507
net deficit	\$ 36,569,549	\$ 4,576,050	\$ 1,026,545	\$ 14,099,719	\$ 1,586,149	\$ 8,799,943	\$ 3,623,707	\$ 361,347	\$ 70,643,009
cdot share	\$ 36,569,549	\$ 4,508,332	\$ 1,026,545	\$ 12,632,637	\$ 484,356	\$ 7,596,957	\$ 1,199,907	\$ 305,172	\$ 64,323,455
passenger trips	27,341,448	2,290,746	329,986	7,100,623	287,922	484,818	411,610	109,285	38,356,438
deficit/passenger	\$1.34	\$2.00	\$3.11	\$1.99	\$5.51	\$18.15	\$8.80	\$3.31	\$1.84
cost/passenger	\$2.09	\$2.89	\$5.73	\$2.97	\$7.02	\$20.43	\$9.26	\$4.14	\$2.69
operating ratio	36.0%	31.0%	45.7%	33.2%	21.5%	11.2%	4.9%	20.0%	31.4%

Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium – Statewide Bus and Rail System Summary," SFY 2002/2003.

**Table 7: Total Bus Transit in Fiscal Year 2001**

SFY 2001

	CTTRANSIT HNS MGMT.	CTTRANSIT PRIVATE OPERATORS	EXPRESS BUS PRIVATE OPERATORS	URBAN TRANSIT DISTRICTS	RURAL TRANSIT DISTRICTS	ADA SERVICES	DIAL-A-RIDE SERVICES	OTHER SERVICES	TOTAL SFY2001
revenue	\$ 20,839,208	\$ 2,083,327	\$ 906,209	\$ 7,320,232	\$ 423,514	\$ 1,397,297	\$ 238,879	\$ 108,794	\$ 33,317,461
expense	\$ 61,173,870	\$ 7,050,066	\$ 1,926,865	\$ 21,927,751	\$ 2,252,804	\$ 11,639,093	\$ 4,304,362	\$ 499,189	\$110,774,000
net deficit	\$ 40,334,662	\$ 4,966,739	\$ 1,020,656	\$ 14,607,519	\$ 1,829,290	\$ 10,241,795	\$ 4,065,483	\$ 390,394	\$ 77,456,538
cdot share	\$ 40,334,662	\$ 4,906,740	\$ 1,020,656	\$ 13,456,310	\$ 539,455	\$ 9,467,231	\$ 1,358,925	\$ 331,984	\$ 71,415,963
passenger trips	27,342,986	2,313,141	339,249	7,595,425	316,855	534,973	420,638	129,963	38,993,230
deficit/passenger	\$1.48	\$2.15	\$3.01	\$1.92	\$5.77	\$19.14	\$9.67	\$3.00	\$1.99
cost/passenger	\$2.24	\$3.05	\$5.68	\$2.89	\$7.11	\$21.76	\$10.23	\$3.84	\$2.84
operating ratio	34.1%	29.6%	47.0%	33.4%	18.8%	12.0%	5.5%	21.8%	30.1%

Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium – Statewide Bus and Rail System Summary," SFY 2002/2003.

**Table 8: Total Bus Transit in Fiscal Year 2002**

SFY 2002

	CTTRANSIT HNS MGMT.	CTTRANSIT PRIVATE OPERATORS	EXPRESS BUS PRIVATE OPERATORS	URBAN TRANSIT DISTRICTS	RURAL TRANSIT DISTRICTS	ADA SERVICES	DIAL-A-RIDE SERVICES	OTHER SERVICES	TOTAL SFY2002
revenue	\$ 21,169,006	\$ 2,051,380	\$ 926,102	\$ 6,990,810	\$ 472,790	\$ 1,403,900	\$ 215,270	\$ 241,420	\$ 33,470,678
expense	\$ 64,341,579	\$ 7,412,405	\$ 1,998,716	\$ 22,478,762	\$ 2,497,776	\$13,045,028	\$ 4,200,715	\$ 1,040,217	\$ 117,015,198
net deficit	\$ 43,172,573	\$ 5,361,025	\$ 1,090,756	\$ 15,487,951	\$ 2,023,552	\$ 11,641,128	\$ 3,985,445	\$ 798,798	\$ 83,561,228
cdot share	\$ 43,172,573	\$ 5,208,342	\$ 1,090,756	\$ 13,480,693	\$ 554,290	\$10,566,270	\$ 1,371,895	\$ 800,384	\$ 76,245,203
passenger trips	26,508,821	2,187,690	353,815	6,454,793	311,438	559,389	427,066	229,595	37,032,607
deficit/passenger	\$1.63	\$2.45	\$3.08	\$2.40	\$6.50	\$20.81	\$9.33	\$3.48	\$2.26
cost/passenger	\$2.43	\$3.39	\$5.65	\$3.48	\$8.02	\$23.32	\$9.84	\$4.53	\$3.16
operating ratio	32.9%	27.7%	46.3%	31.1%	18.9%	10.8%	5.1%	23.2%	28.6%

Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium – Statewide Bus and Rail System Summary," SFY 2002/2003.



**Table 9: Public Road Mileage**

Types of Roads	Mileage
State-maintained Roads	
NHS - Interstate	346.17
Other NHS	613.63
NON-NHS	
State Routes & Roads	2,757.15
State Park Roads	69.03
State Forest Roads	172.60
State Institution Roads	44.32
U.S. Army Corps of Engineers Road	25.60
U.S. Department of Defense Roads	41.00
U.S. Fish & Wildlife Service Roads	0.13
Bureau of Indian Affairs Roads	3.70
<b>State Maintained Road Mileage Subtotal</b>	<b>4,078.71</b>
Town-Maintained Road Mileage	
NHS	3.24
Non-NHS	17,111.40
<b>Town- Maintained Road Mileage Subtotal</b>	<b>17,114.64</b>
<b>Total</b>	<b>21,193.35</b>
Source: ConnDOT Bureau of Policy & Planning. Graphic list data as of December 2005.	
Special Notes: Mileage does not include ramps serving as main line. NHS roadways are roadways that are on the National Highway System as defined by a network of nationally significant highways approved by Congress in the National Highway System Designation Act of 1995. It includes the Interstate system and nearly 114,000 miles of arterial and other roads and connectors to major intermodal terminals.	

Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

**Figure 1: Intelligent Transportation System**

Figure VII-4. Intelligent Transportation System



Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

Table 10 presents the current and projected capacity status of state routes by planning region.

**Table 10: Capacity of All State Highways & Routes by Planning Region**

Planning Region	2006					2026				
	Total Miles of State Routes	Approaching Capacity		Over Capacity		Total Miles of State Routes	Approaching Capacity		Over Capacity	
	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent
South Western	179.4	22.82	13%	45.36	25%	179.4	14.03	8%	77.96	44%
Housatonic Valley	214.89	17.23	8%	27.68	13%	220.47	16.28	7%	36.99	17%
Northwestern	183.91	0	0%	0	0%	183.91	0	0%	-	0%
Litchfield Hills	252.19	0.18	0%	0.56	0%	252.19	3.3	1%	4.72	3%
Central Naugatuck Valley	248.01	12.15	5%	23.59	10%	248.01	15.39	6%	41.15	18%
Greater Bridgeport	65.15	5.57	9%	11.34	17%	65.15	4.89	8%	21.17	32%
South Central	143.99	10.08	7%	50.27	35%	143.99	13.73	10%	61.65	43%
Central	384.45	41.46	11%	46.44	12%	384.45	39.98	10%	106.3	29%
Capitol	141.75	6.69	5%	15.99	11%	143.84	16.67	12%	41.09	29%
Midstate	640.34	48.37	8%	77.25	12%	649.86	50.18	8%	192.67	30%
Ct River Estuary	172.6	12.45	7%	13.45	8%	172.6	10.09	6%	34.4	22%
Southeastern	140.91	1.02	1%	0.05	0%	140.91	9.76	7%	6.93	7%
Windham	463.76	12.76	3%	10.28	2%	463.76	26.26	6%	69.22	19%
Northeastern	201.73	2.15	1%	1.28	1%	210.57	9.5	5%	14.48	7%
Unaffiliated	268.16	0.59	0%	0.23	0%	268.16	6.17	2%	4.09	2%
State Total	30.13	0.99	3%	0	0%	30.13	0.31	1%	2.14	7%
<b>State Total</b>	<b>3,731.37</b>	<b>194.51</b>	<b>5%</b>	<b>323.77</b>	<b>9%</b>	<b>3,757.40</b>	<b>236.54</b>	<b>6%</b>	<b>714.96</b>	<b>19%</b>

ConnDOT Bureau of Policy & Planning, Congestion Management File. Graphic revised as of May 2007

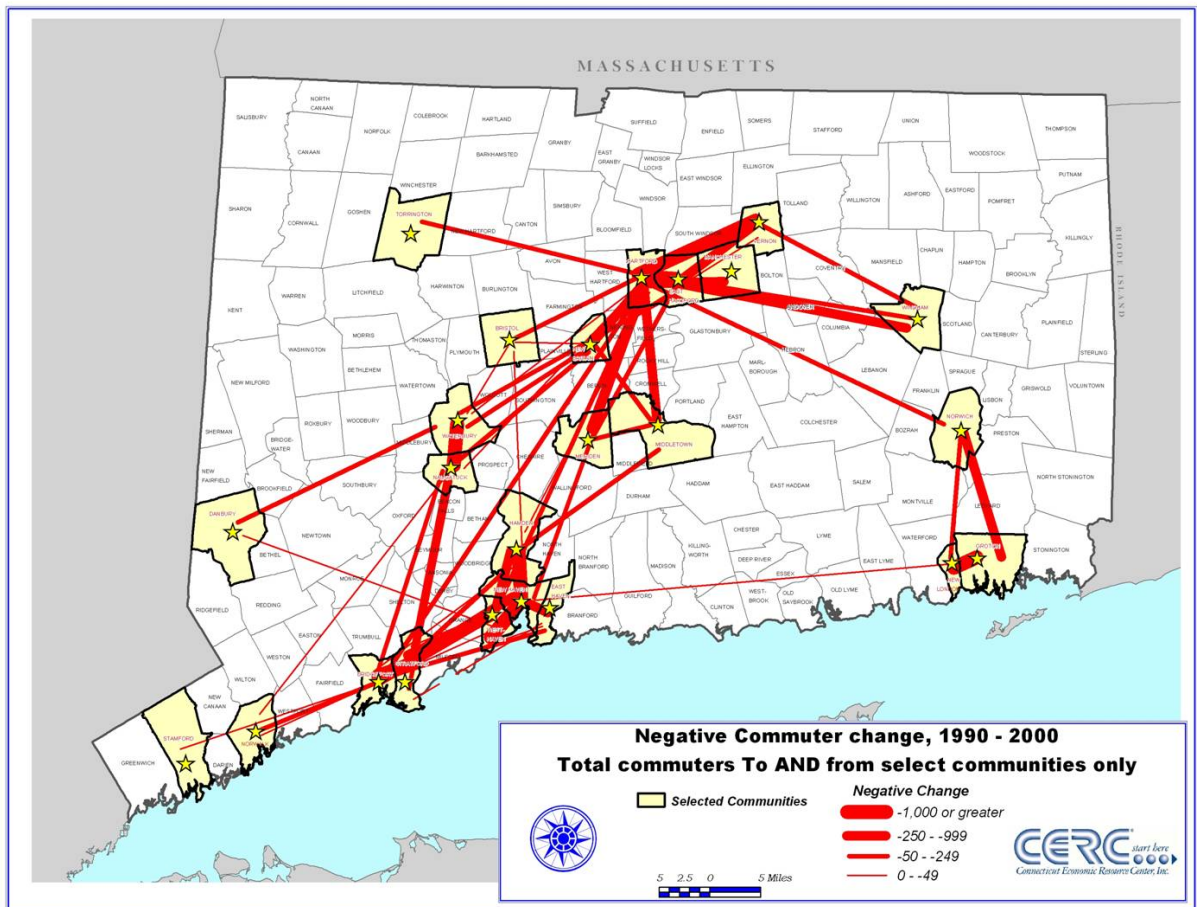
Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

**Table 11: 2000 Commuting Patterns: Number of workers commuting across CT counties**

	<b>To:</b>								
<b>From:</b>	<b>Fairfield</b>	<b>Hartford</b>	<b>Litchfield</b>	<b>Middlesex</b>	<b>New Haven</b>	<b>New London</b>	<b>Tolland</b>	<b>Windham</b>	<b>Outside State</b>
Fairfield	335,375	2,145	3,034	465	21,895	249	179	55	54,736
Hartford	2,669	350,790	3,544	11,080	16,940	2,069	4,710	679	10,098
Litchfield	11,459	13,595	51,500	540	12,715	49	64	0	3,625
Middlesex	1,160	19,225	193	41,635	12,830	3,875	409	108	726
New Haven	50,970	21,414	8,970	8,564	290,105	1,365	355	63	5,254
New London	415	7,089	14	4,910	1,634	107,230	999	3,180	3,520
Tolland	254	35,090	79	1,268	1,265	1,485	26,765	2,944	1,950
Windham	99	3,819	24	385	330	8,190	4,290	30,830	5,799

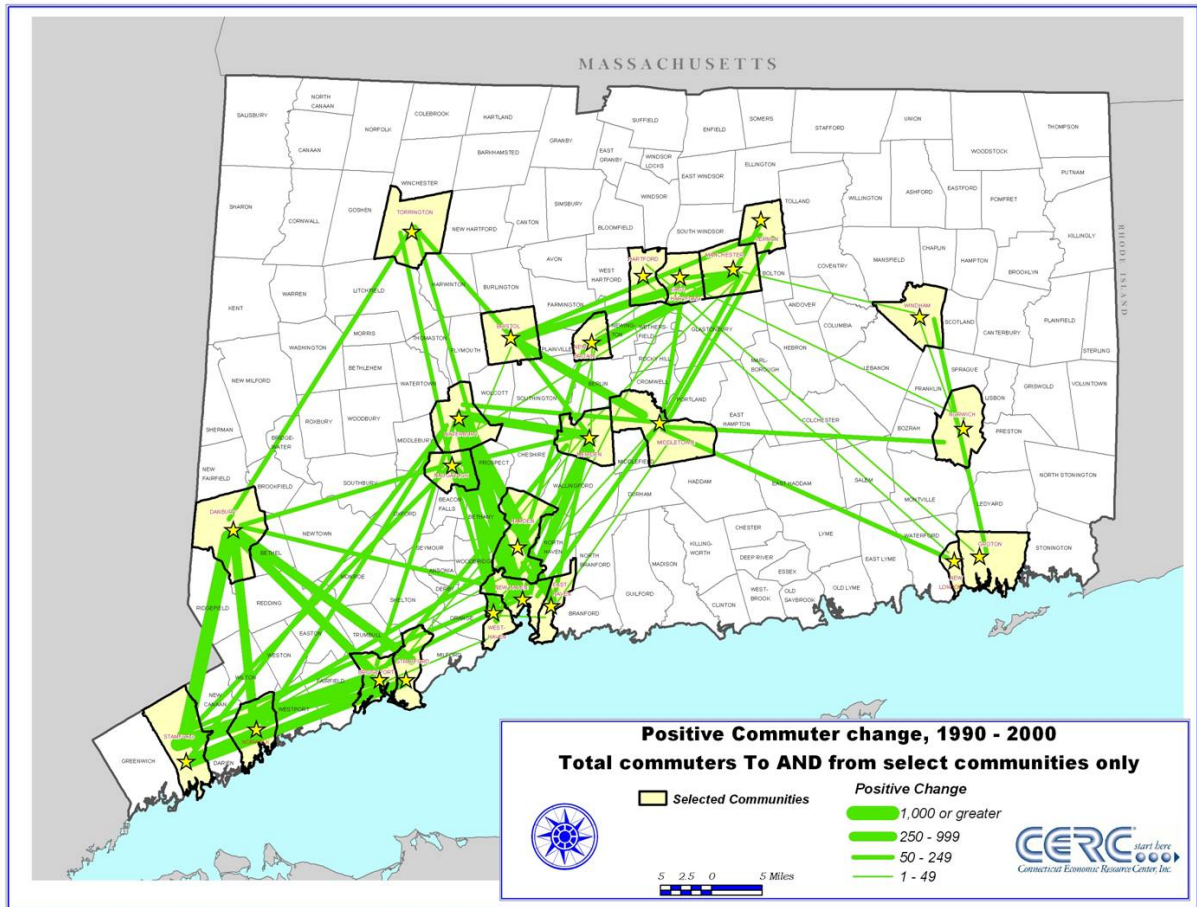
Source: Connecticut Department of Labor.

**Figure 2: Negative Commuter Volume Change To and From Selected Communities, 1990-2000**



Source: Connecticut Economic Resource Center.

**Figure 3: Total Commuters To and From Selected Communities, 1990-2000**



Source: Connecticut Economic Resource Center.

**Table 12: Top Five Commodities Shipped To, From, and Within Connecticut**

Commodity	Tons (millions)		Commodity	Value (billions \$)	
	1998	2020		1998	2020
Nonmetallic Minerals	24	27	Chemicals/Allied Products	14	45
Petroleum/Coal Products	21	31	Secondary Traffic	7	25
Chemicals/Allied Products	11	22	Food/Kindred Products	6	25
Farm Products	10	18	Primary Metal Products	6	12
Clay/Concrete/Glass/Stone	10	20	Machinery	6	20

Source: Office of Freight Management and Operations, Federal Highway Administration, U.S. Department of Transportation, "Freight Transportation Profile — Connecticut Freight Analysis Framework," *FREIGHT NEWS*, November 2002, FHWA-OP-03-054, EDL 13742.

Source: Connecticut Department of Transportation, "Transportation in Connecticut: Trends & Planning Data," June 2006.

**Table 13: Connecticut Airport Enplanements, 2000-2006**

Airport Name	Year	Rank	Current Year Enplanement	Previous Year Enplanement	Percent Change
<b>Bradley International</b>					
	2006	52	3,409,938	3,617,453	-5.74%
	2005	49	3,617,453	3,326,461	8.75%
	2004	49	3,326,461	3,098,556	7.36%
	2002	49	3,221,081	3,416,243	-5.7%
	2001	48	3,416,243	3,651,943	-6.45%
<b>Tweed-New Haven</b>					
	2006	282	38,144	65,142	-41.44%
	2005	247	65,142	39,736	63.94%
	2004	282	39,736	15,446	157.26%
	2002	322	21,904	28,766	-23.9%
	2001	310	28,766	38,159	-24.62%
<b>Danbury Municipal</b>					
	2006	531	3,271	302	983.11%
	2005	793	302	14	2057.14%
	2004	1313	14	10	40.00%
	2002	1554	6	12	-50.0%
	2001	1426	12	98	-87.76%
<b>Igor I Sikorsky Memorial</b>					
	2006	696	1,013	31	3167.74%
	2005	1124	31	74	-58.11%
	2004	992	74	248	-70.16%
	2002	996	101	249	-59.4%
	2001	881	249	166	50.00%
<b>Groton-New London</b>					
	2006	898	161	17	847.06%
	2005	1254	17	135	-87.41%
	2004	904	135	5,952	-97.73%
	2002	426	7,067	9,610	-26.5%
	2001	425	9,610	12,111	-20.65%
<b>Hartford-Brainard</b>					
	2006	1020	77	58	32.76%
	2005	1011	58	49	18.37%
	2004	1069	49	192	-74.48%
	2002	617	1,667	502	232.1%
	2001	804	502	1,366	-63.25%
<b>Waterbury-Oxford</b>					
	2006	1063	63	175	-64.00%
	2005	856	175	303	-42.24%
	2004	803	303	13	2230.77%
	2002	866	230	177	29.9%
	2001	921	177	52	240.38%

Source: FAA - Passenger Boarding and All-Cargo Data

**Table 14: Airport Annual Operations**

<b>Airport Name</b>		
<b>State Owned Airports</b>	<b>2000</b>	<b>2004</b>
Bradley International Airport***	169,700	147,500
Groton-New London Airport	74,200	66,200
Hartford-Brainard Airport	127,100	101,000
Waterbury-Oxford Airport**	147,400	65,900
Windham Airport	30,690	33,100
Danielson Airport	20,464	21,700
<b>Municipal Airports</b>		
Tweed-New Haven Airport	61,800	64,600
Bridgeport-Sikorsky Airport	90,400	80,500
Danbury Municipal Airport****	114,600	87,100
Meriden-Markham Airport	18,000	19,500
<b>Pprivately Owned Airports Open For Public Use</b>		
Candlelight Farms	11,010	11,450
Chester Airport	20,800	21,650
Ellington Airport	29,100	30,300
Goodspeed Airport	7,250	7,550
Griswold Airport	3,150	3,250
Robertson Field Airport	59,200	61,600
Salmon River Airfield	700	750
Simsbury Airport	9,450	9,850
Skylark Airpark	16,900	17,600
Stonington Airpark	50	50
Toutant Airport	130	130
Waterbury Airport	1,000	1,050
Woodstock Airport	100	100
Mountain Meadow Airport^	13,100	0
<b>Statewide Totals</b>	<b>1,026,294</b>	<b>852,430</b>

\*\* Data from AMPU - 1995, 2003

\*\*\* Data from AMPU - 1995, 2002

\*\*\*\*Forecasts from FAR Part 150 - 2000, 2003

^ Airport Closed April, 2004

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.



**Table 15: Connecticut Airport Capacity - 2004**

Airport Name State Owned Airports	Airport Capacity	Operations	Percent of Capacity
Bradley International Airport *	263,000	147,500	56%
Groton-New London Airport	230,000	66,200	29%
Hartford-Brainard Airport	230,000	101,000	44%
Waterbury-Oxford Airport **	230,000	65,900	29%
Windham Airport	125,000	33,100	26%
Danielson Airport	107,400	21,700	20%
Total	1,185,400	435,400	37% Avg.
Municipal Airports			
Tweed-New Haven Airport	230,000	64,600	28%
Bridgeport-Sikorski Airport	200,000	80,500	40%
Danbury Municipal Airport**	180,000	87,100	48%
Meriden-Markham Airport	118,100	19,500	17%
Total	728,100	251,700	35% Avg.
Privately Owned Airports Open For Public Use			
Candlelight Farms	59,600	11,450	19%
Chester Airport	99,000	21,650	22%
Ellington Airport	156,000	30,300	19%
Goodspeed Airport	62,600	7,550	12%
Griswold Airport	34,000	3,250	10%
Robertson Field Airport	148,000	61,600	42%
Salmon River Airfield	37,500	750	2%
Simsbury Airport	64,000	9,850	15%
Skylark Airpark	110,100	17,600	16%
Stonington Airpark	11,000	50	0%
Toutant Airport	28,000	130	0%
Waterbury Airport	37,400	1,050	3%
Woodstock Airport	44,600	100	0%
Total	891,800	165,330	19% Avg.
Mountain Meadow Airport^	49,500	13,100	26%
Statewide Totals	2,805,300	852,430	30% Avg.

\* Year 2002

\*\* Year 2003

^ Airport Closed in April, 2004

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

**Table 16: Connecticut's Population versus Based Aircraft at Bradley International Airport**

Year	Population	Based Aircraft
1990	3,287,116	83
1995	3,274,662	94
2003	3,448,619	83

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

**Table 17: Based Aircraft at Connecticut's Public Use Airports**

State Owned Airports	1995	2003
Bradley International Airport	94	83
Groton-New London Airport	40	51
Hartford-Brainard Airport	173	185
Waterbury-Oxford Airport**	160	242
Windham Airport	69	64
Danielson Airport	48	62

**Municipal Airports**

Tweed-New Haven Airport	84	72
Bridgeport-Sikorsky Airport	241	248
Danbury Municipal Airport	107	229
Meriden-Markham Airport	62	78

**Pivately Owned Airports Open For Public Use**

Candlelight Farms	*	14
Chester Airport	*	110
Ellington Airport	*	20
Goodspeed Airport	*	37
Griswold Airport	*	5
Robertson Field Airport	*	110
Salmon River Airfield	*	7
Simsbury Airpport	*	48
Skylark Airpark	*	71
Stonington Airpark	*	2
Toutant Airport	*	1
Waterbury-Plymouth Airport	*	10
Woodstock Airport	*	17

Mountain Meadow Airport^	*	23
<b>Statewide Totals</b>		<b>1766</b>

\* No data available

\*\* Interpolated from ongoing AMPU

^ Airport Closed April, 2004

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

Table 18: Runway Characteristics for Connecticut's Public Use Airports

AIRPORT NAME	ID	ASSOCIATED TOWN	OWNER	NPLAS ROLE	NO. OF ACRES	RUNWAY ORIENTATION	RUNWAY DIMENSIONS	RUNWAY SURFACE	RUNWAY DISPLACED THRESHOLD	ARC	AIRSPACE OPERATIONS FOR 2004	TOTAL NO. OF BASED AIRCRAFT 2003	APPRO	
STATE														
Bradley International	BOL	Windsor Locks	State	PR	2,432	06-24 15-33 01-19	8,510' x 200' 6,847' x 150' 5,145' x 100'	asph-grnd asph-grnd asphalt	0' 0' 0'	D-IV D-IV B-II	C	147,500	83	ATC
Hartford-Brainard	HFD	Hartford	State	RL	201	02-20 11-29 NE - SW	4,418' x 150' 2,315 x 71' 2,309' x 150'	asph-grnd asphalt turf	410' - 559' 0' - 257'	B-II B-I	D/G	101,000	185	ATC
Groton-New London	GON	Groton	State	PR	483	05-23	5,000' x 150'	asph-grnd	307' - 205'	C-III B-II	D/G	66,200	51	ATC
Waterbury-Oxford	OXC	Oxford	State	GA	424	18-36	5,800' x 100'	asph-grnd		D-II	D/E	65,800	242	ATC
Windham	UD	Windham	State	GA	280	09-27 18-36	4,278' x 100' 2,797' x 75'	asphalt asphalt	261' - 0' 0' - 799'	B-II B-II	G/E	33,100	64	
Danlison	5B3	Killingly	State	GA	287	13-31	2,700' x 75'	asphalt		A-I	E	21,700	62	
MUNICIPAL														
Tweed-New Haven	HVN	New Haven	Municipal	PR	384	02-20 14-32	5,800' x 150' 3,175' x 100'	asph-grnd asphalt	0' - 346' 367' - 0'	C-III B-II	D/E	84,800	72	ATC
Igor-Skorosky Memorial	BDR	Bridgeport	Municipal	CM	800	06-24 11-29	4,877' x 150' 4,761' x 150'	asphalt asphalt	0' - 320' 0' - 364'	C-II C-II	D/E	80,500	248	ATC
Danbury Municipal	DXR	Danbury	Municipal	RL	248	08-26 17-35	4,422' x 150' 3,135' x 100'	asph-grnd asphalt	368' - 734' 223' - 231'	B-II B-II	D/E	87,100	228	ATC
Menden-Norham	MMK	Menden	Municipal	GA	137	18-36	3,100' x 75'	asphalt		B-I	E	19,800	78	
PRIVATE														
Chester	3B9	Chester	Private	GA	146	17-35	2,566' x 50'	asphalt	559' - 0'	B-I	E	21,850	110	
Goodspeed Airport and Seaplane Base	428	East Haddam	Private		60	14-32 16W-34W	2,120' x 50' 4,500' x 1,000'	asphalt water		A-I	E	7,650	37	
Ellington	7B9	Ellington	Private		15	01-19	1,800' x 50'	asphalt		A-I	E	30,300	20	
Skyvak Airport	7B6	East Windsor	Private		150	10-28	2,642' x 60'	asphalt	600' - 175'	A-I	E	17,600	71	
Robertson Field	4B8	Plainville	Private	RL	39	02-20	3,612' x 75'	asphalt		B-II	E	61,800	110	
Simsbury Tri-Town	4B9	Simsbury	Private	GA	103	03-21	2,205' x 50'	asphalt	0' - 270'	A-I	E	9,850	48	
Mountain Meadow Airstrip (Closed)	228	Burlington	Private	GA	50	01-19	3,420' x 40'	asphalt	0' - 150'	A-I	G	13,100	23	
Woodstock	64CT	Woodstock	Private		56	01-19	2,200' x 75'	asphalt	0' - 200'	A-I	E	100	17	
Waterbury-Plymouth	N41	Plymouth	Private		62	02-20 17-35	1,600' x 250' 2,005' x 135'	turf turf		A-I	G	1,050	10	
Graswood	N04	Madison	Private	GA	40	06-24	1,863' x 50'	asphalt		A-I	E	3,250	5	
Toutant	C44	West Woodstock	Private		62	17-35	1,766' x 60'	asphalt		A-I	G	130	1	
Candlelight Farms	11N	New Milford	Private		25	17-35	2,800' x 50'	turf		A-I	G	11,450	14	
Salmon River Airfield	8B8	Marborough	Private		60	17-35	2,000' x 60'	turf		A-I	G	750	7	
Stonington Airport	CT90	Stonington	Private		100	04-22	1,700' x 50'	turf		A-I	E	50	2	

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

**Table 19: Runway Characteristics for Major Airports Near to BDL**

Airport Code	Runway ID	Runway Length	Runway Width
BDL	01/19	4,268	100
	06/24	9,510	200
	15/33	6,847	150
JFK	04L/22R	11,351	150
	04R/22L	8,400	200
	13L/31R	10,000	150
	13R/31L	14,572	150
LGA	04/22	7,001	150
	13/31	7,003	150
EWR	04L/22R	11,000	150
	04R/22L	10,000	150
	11/29 R	6,800	150
BOS	04L/22R	7,861	150
	04R/22L	10,005	150
	09/27	7,000	150
	14/32	5,000	100
	15L/33R	2,557	100
	15R/33L	10,083	150

Source: "Airport Information," <http://aviatorspot.com>.

**Table 20 Parking Spaces at Bradley International Airport**

Lot	Handicap Spaces	Total Spaces	Lot	Handicap Spaces	Total Spaces
Patron Surface Parking			Patron Garage Parking		
Short Term B	18	383	Short Term	7	397
Long Term 1	11	520	Long Term	38	2,980
Long Term 3	18	728	<b>Patron Garage Total</b>	<b>45</b>	<b>3,377</b>
Long Term 4	14	577	Non-Patron Parking		
Long Term 5A	8	377	Long Term 2 (Employee)	9	414
Long Term 5B	12	572	Rental & Taxi Car Queue	20	830
<b>Patron Surface Total</b>	<b>81</b>	<b>3,157</b>	<b>Non-Patron Total</b>	<b>29</b>	<b>1,244</b>

Source: ConnDOT Bureau of Aviation & Ports. Data is as of February 2005.

Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

**Table 21: Non-Stop Service Out of Bradley International Airport**

Destination	Airline	Destination	Airline
Amsterdam, Netherlands*	Northwest	Miami	American
Atlanta	Delta	Milwaukee	Midwest Express
Baltimore	Southwest	Minneapolis	Northwest
Buffalo	US Airways	Montreal	Air Canada
Cancun	USA3000	Nashville	Southwest
Charlotte	US Airways	Newark	Continental
Chicago-Midway	Southwest	New York-JFK	Delta
Chicago-O'Hare	United, American	Orlando	Delta, Southwest
Cincinnati	Delta	Philadelphia	US Airways
Cleveland	Continental	Phoenix	US Airways
Columbus	Delta	Pittsburgh	US Airways
Dallas	American	Raleigh	American
Denver	Frontier	Rochester	US Airways
Detroit	Northwest	San Juan	American
Ft. Lauderdale	Delta	St. Louis	American
Ft. Myers	Delta	Tampa	Southwest, Delta
Houston	Continental	Toronto	Air Canada
Indianapolis	Northwest	Washington-Dulles	United
Las Vegas	Southwest	Washington-Reagan	US Airways
Los Angeles	Delta	West Palm Beach	Delta

\*Service is scheduled to commence July 1, 2007.  
 Source: ConnDOT Bureau of Aviation & Ports. Graphic revised in April 2007.

\* Northwest service to Amsterdam ended in fall 2008, but will commence again in June 2009.  
 Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

**Table 22: Percent Change in Total Cargo from 2001 to 2006 for BDL**

Year	Rank (out of 115)	Current Year Landed Weight (lbs.)	Previous Year Landed Weight (lbs.)	% Change
2006	29	953,073,900	967,385,010	-1.48
2005	32	967,385,010	890,447,690	8.64
2004	33	890,447,690	824,106,330	8.05
2003	33	824,106,330	905,021,150	-8.94
2002	32	905,021,150	963,036,520	-6.02
2001	31	963,036,520	1,020,926,244	-5.67

Source: FAA - Passenger Boarding and All-Cargo Data

**Table 23: Commercial Service Airports – Entitlement Monies (FY 2005)**

Airport Name	Amount Received	
	Passenger	Cargo
Bradley International	\$1,532,140	\$667,870
Groton-New London	\$1,000,000	0
Tweed-New Haven	\$1,000,000	0
<b>Total</b>	<b>\$3,532,140</b>	<b>\$667,870</b>

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

### Tech Transfer in Connecticut Universities

Technology transfer refers to the formal licensing of technology to third parties, under the guidance of professionals employed by universities, research foundations and businesses, in departments focused on these activities.<sup>1</sup> Through technology incubator programs and research parks, universities are now at the forefront of development of patents and new technologies in Connecticut. Working directly with researchers, university programs, along with community colleges and local non-profits with an interest in entrepreneurial and workforce development, have helped Connecticut rank in the top 10 states in the United States under the latest State Technology and Science Index.<sup>2</sup>

Connecticut has impressive science and technology resources that include Yale University and the University of Connecticut (UConn), as well as major research corporations, strong financial and insurance companies, and manufacturing industries. The infrastructure is in place for development and fruition of new inventions, but it could be better. The state is lacking in overall incubator space, early-stage seeding, as well as the commercialization services surrounding the universities, relative to comparable states. Connecticut could benefit from a focal point cluster-type incubator, instead of spreading the innovations across different industries.<sup>3</sup>

At Yale, the Office of Cooperative Research (OCR) handles the process from invention to production for eager researchers. The duties of OCR include oversight for patenting and licensing activities, university inventions, and contractual relationships between faculty and industry. OCR staff work with Yale researchers to identify inventions that may ultimately become commercial products and services useful to the public. OCR staff engage in industrial partnerships to license Yale inventions. An important goal of the Yale OCR is to identify new ideas, cultivate venture funding for them, and facilitate their development into companies that become part of the New Haven economy.<sup>4</sup>

At UConn, the Center for Science & Technology Commercialization manages the commercial applications of the discoveries, inventions and technologies developed at the university. Each year the Center receives approximately 75 new invention disclosures and files 20 U.S. patent applications. Ten to 15 commercial development agreements are completed annually.<sup>5</sup> The

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<sup>1</sup> Yale University, Office of Cooperative Research. "Technology Transfer Overview," <[http://www.yale.edu/ocr/about/documents/TECHNOLOGYTRANSFEROVERVIEW\\_OCRRevisions\\_23Sep08.pdf](http://www.yale.edu/ocr/about/documents/TECHNOLOGYTRANSFEROVERVIEW_OCRRevisions_23Sep08.pdf)> Accessed March 16, 2009.

<sup>2</sup> Milken Institute: Devol, Ross and Rob Koepf. "State Technology and Science Index: Enduring Lessons for the Intangible Economy," March 2004.

<sup>3</sup> Innovation Associates. "A Report to the Connecticut Technology Transfer and Commercialization Advisory Board of the Governor's Competitiveness Council," October 2004.

<sup>4</sup> Yale University, Office of Cooperative Research, "About Yale OCR," <<http://www.yale.edu/ocr/about/index.html>> Accessed March 16, 2009.

<sup>5</sup> UConn, Office of Technology Commercialization. "Center for Science and Technology." <<http://otc.uconn.edu/programs/cstc/>> Accessed March 16, 2009.

Center offers a list of technologies available to the greater business community for license — over 20 — ranging from dental implant systems, to updates in mechanical CAD design. The Center also negotiates options and license agreements with small and large companies for the development of UConn technologies. With UConn backing its own faculty and student researchers, the university sets a good example for the rest of the state — that promising ideas and proper promotion can lead to exposure and marketability of new inventions. These inventions could fuel the next great industry for the state.

Successful tech transfer programs across the country have the following in common: strong and focused university research base, angel and early-stage capital, innovation centers, academic leadership and culture, entrepreneurship programs, technology incubator programs and research parks, and long-term development (footnote 3). Connecticut's universities are producing new technologies every year, and financing these developments can only strengthen the state's blossoming high-tech industries.

### **Recommendations for Expanding Connecticut's Economy through Tech Transfer**

The following recommendations are based on a report for the Connecticut Technology Transfer and Commercialization Advisory Board of the Governor's Competitiveness Council (footnote 3). These are the first steps to ensure a growing economy in the state through technology transfer. These steps lay the base for a future action plan, in which Connecticut's institutes of higher education work along private firms to produce new technologies, which employ Connecticut workers and benefit Connecticut citizens.

- **Initiate Aggressive Courting of Federal Funds to Support Targeted Initiatives** — A subcommittee of the Advisory Board, in conjunction with state legislators and other policy leadership should launch a campaign to court federal funding for targeted university and state technology efforts.
- **Explore Development of Innovation Ventures Center** — An innovation center could provide the focus that is now lacking for the state's technology-based economic development activities. A center might encompass R&D, seed capital, mentoring, and related activities in emerging fields such as nanotechnology and/or biotechnology. The state should launch a feasibility study for such a center.
- **Increase Angel and Seed Capital** – The state should make available funding for a pre-seed/seed capital fund, that is managed and matched by private sector funds, and should consider restoring Connecticut Innovations funding. In addition, funding should be made available to develop angel capital networks, specifically through an angel investor tax credit program.

- **Enhance Networking Capacity** — Organizations need to step up networking events, particularly in targeted clusters, and should more actively engage major industries, service providers, and universities.
- **Educate Policy Makers** — The Advisory Board should sponsor events, and produce and disseminate information to educate policymakers, on an ongoing basis, regarding technology transfer activities that promote state economic development.
- **Increase Corporate Role in Universities** — Corporations should play a role in strategic planning at universities, and provide input on advisory committees at all universities. In addition, university and state organizations should tap corporations for mentoring and other activities that promote entrepreneurship. This could be accomplished through incenting corporate technology transfer opportunities.
- **Develop Strategic Plan at UConn** — UConn should implement an enhanced strategic planning process that targets core research competencies and outlines steps for building research capacity. Moreover, UConn should better emphasize the commercialization of their products.
- **Enhance Entrepreneurial Development Activities at UConn and Yale** — Yale and UConn should enhance entrepreneurial development programs and activities similar to those found at MIT and Stanford. Specifically, the development program should be modeled after the Deshpande Center at MIT.
- **Encourage Collaborative R&D Between Yale and UConn and Regional Universities** — Leveraging the combined strengths of Yale’s life sciences, UConn’s material sciences and engineering, and that of other universities in the region such as RPI and MIT, could more effectively address opportunities in emerging fields such as bioengineering and nanotechnology. The state and private sectors might provide incentives for collaboration by offering competitive grants.
- **Implement “Time to Come Home” Campaign** — The universities, particularly Yale and UConn could develop a “Time to Come Home” campaign to encourage alumni who are successful entrepreneurs to move some operations to the state, participate in mentoring, and provide internships. The state might consider financial incentives to lure out-of-state entrepreneurs to targeted technology zones such as New Haven.
- **Create Permanent Technology Transfer Advisory Board** — There is a need for ongoing strategic planning, implementation and oversight of technology transfer related issues by leaders from academic, public and private sectors. A permanent Advisory Board would play a critical leadership role in Connecticut’s economic future.



- **Engage Bi-Partisan Support and Involve State Legislators** — In order to have a major sustained impact on the state’s economy, strong bi-partisan support and involvement of state legislators will be essential.

## **SUMMARY**

Technology transfer commercializes innovations for the benefit of society and the research effort producing them. Advanced technologies in Connecticut are usually developed by researchers working in universities or large firms, and the institution helps the individual produce the idea into a marketable good. The University of Connecticut and Yale University both provide tech transfer services to their students and faculty, and have been successful for both parties. However, Connecticut needs to provide better early funding for these projects, as well as market the availability of these services better if it wants to see a growth in high-tech businesses in the state.

## Brownfields

Vacant and underutilized mills and industrial/commercial property is a significant land use issue for all Connecticut towns, and range from the abandoned gasoline station to the historic mill complex. The Connecticut Department of Environmental Protection (DEP) defines a brownfield site generally as “real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant ...” The real or perceived risks related to the contamination on these properties effectively bars reinvestment in these properties for most developers. Even so, the expense in both time and financing is generally significant and is rarely done so without some form of public assistance. Connecticut, as other New England states, has a significant number of brownfield sites due to the changes in the industrial market and with corporate relocations that occurred in the region during the last century. Although brownfields are common to all communities in Connecticut, nearly 69% of the contaminated sites included on the inventory maintained by DEP are located in distressed municipalities.<sup>1</sup> Brownfields potentially worsen the economic and social blight already experienced in these areas, and are contrary to the state’s responsible growth strategies. There are several factors through which brownfields negatively affect local economies:

- Decrease neighboring property values;
- Create a disincentive for investment in the surrounding area;
- Create significant opportunity costs in terms of jobs and tax revenue;
- Contribute to sprawl as new business opportunities seek to develop raw land in lieu of reusing former commercial and industrial sites; and
- Are a source of contamination to ground water and soil.

Other brownfield issues that negatively affect local communities include environmental impacts, safety concerns, increased crime, and unsightly aesthetics.

Connecticut does not have a comprehensive brownfield inventory. This is due to the potential liability related to labeling private property as potentially contaminated, and the significant effort that would be required to collect and maintain such an inventory. Regardless, the limited data that is maintained by DEP and the Connecticut Brownfield Redevelopment Authority (CBRA) demonstrates the following:<sup>2</sup>

- Number of Brownfield Sites: 281

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<sup>1</sup> These communities are designated according to poverty rates, aging housing stock, low or declining population, per capita income and adverse impact from a major plant closing.

<sup>2</sup> CT DEP: “Brownfield Sites in Connecticut,” <http://www.ct.gov/dep/cwp/view.asp?A=2715&Q=324930>. This number is conservative because many potential sites would object to being listed. Therefore, it is difficult to grasp the actual number of contaminated sites or the degree to which they are contaminated. This is a key issue for policy formation.

- Total Acreage:<sup>3</sup> 2,602.9
- Number of Towns Affected: 65

It is clear that the above data is incomplete and only records a portion of the brownfield issue for the state.

### **Connecticut's Response to Brownfield Issues**

Connecticut's response to the brownfield issue began in the early 1990s with an informal collaboration between the Department of Economic Development (DED), now the Department of Economic and Community Development (DECD), and DEP to prioritize sites for DEP staff reviews for remedial investigations based on economic impact rather than health and safety priorities. This initiative evolved into the Urban Sites Remedial Action Program, summarized below, that provided state funding for investigations and later remedial action on eligible brownfield sites. Presently the Office of Brownfield Remediation and Development (OBRD) within DECD is the designated lead office for managing brownfield programs in Connecticut. OBRD, operating under the oversight of the DECD Office of Responsible Development (ORD), is the point of entry for state brownfield programs, and administers outreach and education efforts to help communities and businesses manage brownfield issues. OBRD is also responsible for developing funding programs and processes for expediting brownfield reuse.

The state uses a variety of funding sources for brownfield redevelopment that includes state bond funds, tax revenue and federal agency programs such as U.S. Department of Environmental Protection Agency (EPA) grants. EPA provides grants through competitive application rounds for assessment activities and revolving loan funds (RLF). Financial assistance is available for investigation, remediation and redevelopment through loans, grants and tax credits.

The Connecticut Brownfields Redevelopment Authority (CBRA) was formed in 1999 at the direction of the Connecticut legislature (Public Act 01-179<sup>4</sup>) to create and administer programs that bring about the remediation and economic redevelopment of the state's contaminated sites. CBRA is a wholly owned subsidiary of the Connecticut Development Authority. CBRA is a self-sustaining, quasi-public entity. CBRA's most significant brownfield redevelopment financing tool is the TIF (tax increment financing) program. The TIF provides "up front" grant funding to eligible projects based on pledge of future municipal real estate tax revenues, see summary below. This financing tool provides cash to support the remediation and reuse of these properties based on the projected economic activity of the reuse.

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<sup>3</sup> Acreage data is incomplete; DEP was not able to obtain acreage for several sites.

<sup>4</sup> <http://www.cga.ct.gov/2001/act/Pa/2001PA-00179-R00SB-00823-PA.htm>

## Brownfield Redevelopment Programs

Connecticut has several programs to promote brownfield redevelopment as well as general-purpose programs for development and business assistance:

- **Brownfield Municipal Pilot Program** — a competitive financial assistance program that provided grants to five municipalities to return brownfields properties to product use. The state budget allocated \$4.5 million for this program, and \$2.25 million was bonded in 2008 to support projects selected in October 2008.
- **Tax Incremental Financing** — a CBRA program that is available to brownfield sites statewide where redevelopment will generate increased municipal property tax revenues. The increment in value between the pre-development and post-development revenue can be used to support grant funding for brownfield remediation and development.
- **Dry Cleaner Establishment Remediation Fund** — provides grants to eligible dry cleaning business operators and landlords to remediate releases of dry cleaning chemicals. The grants may be used for pollution prevention and providing potable drinking water when necessary. The program receives funding from a dry cleaning surcharge (tax).
- **Economic Development Manufacturing Assistance Program** — a general economic development program administered by DECD. Bond funds are available for business, infrastructure, industrial and municipal development projects that may include brownfields.
- **Urban Act** — a general economic and community development program administered by DECD. Bond funds are available for public improvements that may include brownfields.
- **Special Contaminated Property Remediation and Insurance Fund** — provides loans for environmental assessment, abatement, demolition and minor remediation from bond funds.
- **Urban Sites Remedial Action Program (USRAP)** — the oldest state brownfield program jointly administered by DECD and DEP. The program is funded through bonding and recovered funds, and proceeds are used for investigation and remediation of designated sites. The state seeks cost recovery from “Potential Responsible Parties” (PRPs) through the DEP and the State Attorney Generals Office. The USRAP is limited to municipalities that are either designated as distressed or targeted investment communities.

- **Urban and Industrial Sites Reinvestment Tax Credit** — this program is a powerful economic development tool designed to drive investment to the state’s urban centers and other economically distressed communities as an alternative funding vehicle to state bonding to support development activities. Under the program, the state may provide up to \$100 million in tax credits over a 10-year period to support projects that create significant jobs and capital investment in these underserved areas. DECD assesses the projected economic activities of the proposed project to ensure estimated revenue to the state is positive or neutral.

The creation of additional brownfield programs is not recommended. Current state programs should be consolidated with a concurrent expansion of the eligible communities and activities for these programs.

Brownfield redevelopments are complex real estate developments. DECD seeks to leverage private and public funding sources to foster reuse, as well as non-financial assistance such as covenants not to sue, see commentary below. It should be noted that the state’s general development funding programs such as the Urban Act program and the Manufacturing Assistance Act program have also been used to provide financial assistance to eligible applicants to support brownfield redevelopment.

## Funding History

The following is a funding history of a selection of the brownfield programs that DECD administers.

- **Brownfield Municipal Pilot Program**
  - \$2.25 million bonded in October 2008
  - The projects are:<sup>5</sup>
    - Two communities with more than 100,000 in population
    - One community between 50,000 and 100,000 in population
    - One community with less than 50,000 in population
    - One discretionary community
- **Urban Sites Remedial Action Program (USRAP)** — These funds are intended as “seed capital” to expedite the project. Recovery of state funds committed to a project will be sought.<sup>6</sup>
  - \$30.5 million bonded to date
  - As of April 2009, \$2.6 million remains to be allocated

<sup>5</sup> Governor’s Press Release, October 29, 2008, <http://www.ct.gov/ecd/cwp/view.asp?a=1104&q=426060>.

<sup>6</sup> CT DEP: Brownfield Sites, [http://www.ct.gov/dep/cwp/view.asp?a=2715&q=324930&depNav\\_GID=1626](http://www.ct.gov/dep/cwp/view.asp?a=2715&q=324930&depNav_GID=1626).

- **Special Contaminated Property Remediation and Insurance Fund (SCPRIIF)** — this program provides loans to towns, businesses, and developers to assess sites and demolish structures in preparation for remediation and development.
  - \$6 million has been budgeted for this program
  - \$3 million has been bonded
  
- **U.S. Environmental Protection Agency Brownfield Loan/Grants**  
 — DECD has received EPA grants, and below is a chronological list of those grants thus far:
  - 2004: accepted administrative responsibilities of the Hartford Revolving Loan Fund (RLF) — \$472,171.
  - 2006: received \$168,000 in supplemental funding
  - 2007: received \$1,000,000 for statewide RLF
  - 2007: received \$500,000 for brownfield assessment

### **The Brownfield Challenge**

“Brownfields are often underutilized or abandoned, and due to the uncertain cost, additional liability and the uncertain timeframe to complete remediation, these properties are more difficult to develop. In addition, obsolete structures, inadequate parking and loading, insufficient land area or poor location often hinder development of these properties.”<sup>7</sup>

Brownfields are one of the most complex forms of real estate development projects. The state has several funding programs to “close the gap.” However, financial assistance, although significant, is only one hurdle in redevelopment where government action is appropriate. Time, money and financial exposure are the driving factors that developers consider while vetting their siting options. Bringing certainty as related to schedule, cost, risk, and liability are also common factors that municipalities and developers need to address while working with these properties. Expedited regulatory coordination and approvals, covenants not to sue, third party liability relief, and floodplain requirements all enhance certainty, and improve the prospects for a brownfield to move forward to reuse. DECD is continually seeking out financial resources to leverage brownfield development. Although the state has made significant capital investment in brownfield reuse, the brownfield issue is significant enough to warrant a consideration to increase funding to avoid lost opportunities to turn around derelict properties.

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<sup>7</sup> CT Office of Policy and Management. Conservation and Development: Policy Plans for Connecticut 2009-2010, <http://www.crerpa.org/CRERPA/adopted2005-2010cdplan.pdf>.

Liability is a major concern for potential developers, in terms of both cost and legal consequences. Although the state-sponsored programs reduce liability the issue is never erased. Future legal issues due to remediation are often the developer's responsibility — this crosscuts both small and large sites. Recently, various state government agencies have attempted to mitigate anticipated liability in developing brownfield sites through liability protection programs.

## **Liability Protection Programs**

### **Third Party Liability Program**

This program provides property owners with statutory protection regarding costs or damages to third parties, not including governmental bodies, exposed to pollution that existed prior to the landowner's taking title to the property.

### **Covenant Not to Sue**

A covenant not to sue (CNTS) is a form of liability protection that protects a holder from liability related to pollution which was attributed to the property prior to the issuance of the covenant by DEP. They have assurance that once a site is remediated to current standards, the commissioner of DEP will not require additional cleanup in the future. A CNTS is a tool that allows redevelopment of contaminated properties without the risk of liability for historical contamination. The state offers two forms of covenants; a no-cost covenant which is non-transferable and offers limited protection, and a fee-based covenant that is transferable and provides greater coverage to the recipient. The fee-based covenant cost is set as a percentage of the site remediation cost. Sites enrolled in the state's Urban Sites Remedial Action Program can apply for a waiver of this fee. A CNTS does not offer protection against federal liability.

### **CERCLIS "Comfort Letter" and Archive Policy**

At the request of DEP, EPA will remove (archive) any active federal superfund site from CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) if remedial action through one or more DEP Remediation Programs has been completed. If remedial action has not been completed, yet an interested party makes a commitment to remediate the site through a DEP Remediation Program, the department is willing to recommend to the EPA that they issue a "comfort letter" stating, "the EPA will not take further action to list the site on the National Priorities List."

### **Environmental Land Use Restrictions**

An Environmental Land Use Restriction ("ELUR") is a binding agreement between a property owner and the commissioner of DEP that is recorded on the municipal land records. The purpose of an ELUR is to minimize the risk of human exposure to pollutants and hazards to the environment by preventing specific uses or activities at a property or a portion of a property. An

ELUR is a tool that permits the remedial goals for a property to depend on the exposure risk associated with its use.

### **Environmental Insurance Program**

Environmental Insurance, funded through the Economic Development Manufacturing Assistance Act, provides loans and grants to subsidize the costs of Environmental Insurance Premiums. OBRD staff provides technical assistance to help clients choose the proper coverage for their project.

### **Case Study**

#### **Pfizer Global Development — New London, Connecticut**

The Pfizer Global Research Development project is on the remediated former “New London Mills” site. This 24-acre site was once home to a printing press manufacturer, an armaments manufacturer, and a linoleum mill before closing its doors in the early 1970s. The reuse of this land allowed Pfizer to create a state-of-the-art research facility in one of the state’s distressed urban areas. The goal was reached and successful, and serves as an excellent example of public and private entities working toward a common goal.

With DECD, DEP, the City of New London, the New London Development Corporation, the Connecticut Development Authority (CDA) and Pfizer working together, 790,000 square feet of office space was created, as well as 2,000 new high-tech, high-paying jobs. These jobs would not be in Connecticut without the site’s remediation. Moreover, \$270 million in private investment was leveraged for the project.

The state helped fund this project through various sources: the Economic and Manufacturers Assistance Act, Urban Act, and USRAP. Under the USRAP, \$9.7 million helped remediate this site. In addition, CDA provided \$30 million in sales and use tax exemptions for the project. DECD provided Pfizer with business assistance throughout the project as well.

### **SUMMARY**

Brownfield remediation is an important element of economic development and in implementing the state’s responsible growth strategies. It allows communities to revitalize their inventory of developed land as job generators, housing, community facilities and open space. A significant number of brownfields are located in economically-challenged areas, and if undeveloped, can be viewed as lost opportunities for their communities. DECD’s OBRD and CDA’s CBRA use funding mechanisms to induce the renovation and reuse of these blighted properties for new office, commercial, and residential developments. State programs, such as USRAP and TIF have invested millions of state dollars into environmental investigations and remediation of abandoned industrial sites. These resources demonstrate the state’s commitment to revamp and



reuse blighted areas with the anticipation of bringing commerce, jobs and quality housing to Connecticut. Brownfield reuse is an intrinsic element of the state's responsible growth strategies. Their return to productive use for the community locates development in areas served by existing infrastructure and reduces the need to convert raw land to more intense uses.

## Healthcare Delivery in Connecticut

In the Small Business and Entrepreneurship Council's 2009 "Health Care Policy Cost Index," Connecticut was ranked as the fourth costliest state in the United States in terms of healthcare to do business.<sup>1</sup> The rankings were based on five factors: number of imposed mandates on insurers, government requiring businesses to either provide healthcare coverage or pay a tax to support government programs, availability of health savings accounts, guaranteed issue for self-employed group of one, and insurer providing the same level of coverage for everyone in a defined region (regardless of their varying healthcare risks). Connecticut was ranked below only Massachusetts, Washington and Maine as the costliest state for small business healthcare.

### Rising Cost of Healthcare for Workers in Connecticut

The rising cost of health insurance is an increasing burden on Connecticut's private sector employees.

Only 9% of Connecticut's population is uninsured (325,516 people), well under the national average of 15%.<sup>2</sup> Employers cover 61% of the population; Medicare, Medicaid and individuals cover the other 28% of the population.<sup>3</sup>

Connecticut's workers are above national averages for insurance coverage rates (footnote 1). In Connecticut, 95.7% of full-time employees are offered health insurance at their place of work, 88.8% qualify and 80.7% (821,194 employees) enroll in the firm's insurance plan.<sup>4</sup> Moreover, 84.6% of part-time workers are offered healthcare coverage, 34.8% qualify, and 62.4% (50,130 employees) that are eligible enroll in the firm's health insurance plan.<sup>5</sup> Overall, 871,324 employees are insured by their place of work in Connecticut; however, this represents only slightly more than half of Connecticut's workforce.<sup>6</sup>

Accessibility to health insurance coverage is not the issue for Connecticut residents, more so is the rising employee contributions needed to maintain their coverage. In the past five years, annual wages (per capita wages) have increased an average of 2.25% per year while the cost of

<sup>1</sup> Small Business & Entrepreneurship Council. *Health Care Policy Cost Index: Ranking the State According to Policies Affecting the Cost of Health Care*. February 2009. [www.sbecouncil.org](http://www.sbecouncil.org)

<sup>2</sup> Kaiser Family Foundation. *Connecticut: Health Insurance Coverage of the Total Population, states (2006-2007), U.S. (2007)*. <http://www.statehealthfacts.org/profileind.jsp?ind=125&cat=3&rgn=8>.

<sup>3</sup> Kaiser Family Foundation. *Connecticut: Health Insurance Coverage of the Total Population, states (2006-2007), U.S. (2007)*. <http://www.statehealthfacts.org/profileind.jsp?ind=125&cat=3&rgn=8>.

<sup>4</sup> Agency for Healthcare Research and Quality. *Percent of private-sector full-time employees at establishments that offer health insurance by firm size and State* (Table II.B.3.b), years 1996-2006: 1996 (Revised March 2000), 1997 (March 2000), 1998 (August 2000), 1999 (August 2001), 2000 (August 2002), 2001 (August 2003), 2002 (July 2004), 2003 (July 2005), 2004 (July 2006), 2005 (July 2007), 2006 (July 2008). <<http://www.meps.ahrq.gov/mepsnet/IC/MEPSnetIC.jsp>> (February 05, 2009)

<sup>5</sup> Agency for Healthcare Research and Quality. "Percent of private-sector part-time employees at establishments that offer health insurance by firm size and State," (Table II.B.4.b), years 1996-2006: 1996 (Revised March 2000), 1997 (March 2000), 1998 (August 2000), 1999 (August 2001), 2000 (August 2002), 2001 (August 2003), 2002 (July 2004), 2003 (July 2005), 2004 (July 2006), 2005 (July 2007), 2006 (July 2008), <http://www.meps.ahrq.gov/mepsnet/IC/MEPSnetIC.jsp>, February 05, 2009.

<sup>6</sup> US Bureau of Labor Statistics. "May 2007 Occupational Employment and Wage Estimates," [http://www.bls.gov/oes/oes\\_dl.htm](http://www.bls.gov/oes/oes_dl.htm).

employee contributions has increased an average of 11% per year for family coverage.<sup>7</sup> The average total employee contribution for family health coverage is \$2,970 per year, almost 16% of the mean annual wage in Connecticut.<sup>8</sup>

Annual and hourly wages are still rising slowly, however health insurance contributions, and premiums, are outpacing them in the long run. Between 2000 and 2006, Connecticut family premiums increased by 77% while median earnings rose only 13.2%.<sup>9</sup> At the current rate, wages will not be able to keep up with the exponential rise of healthcare costs in Connecticut and low- and middle-income workers will suffer.

### **The Rising Cost of Healthcare for Workers Nationwide**

In many important respects, the American healthcare system is among the best in the world. When it comes to scientific advances, medical technology and the quality of our doctors and medical institutions, the United States is without peer. But this country's healthcare system, and its average performance, is becoming increasingly expensive and burdensome to businesses and families.<sup>10</sup>

The United States spends more than any other country on healthcare — almost two and one-half times more than the Organization for Economic Cooperation and Development (OECD) world average (Figure 1). Figure 1 contains data that is a combination of employers and workers paying into the healthcare system.

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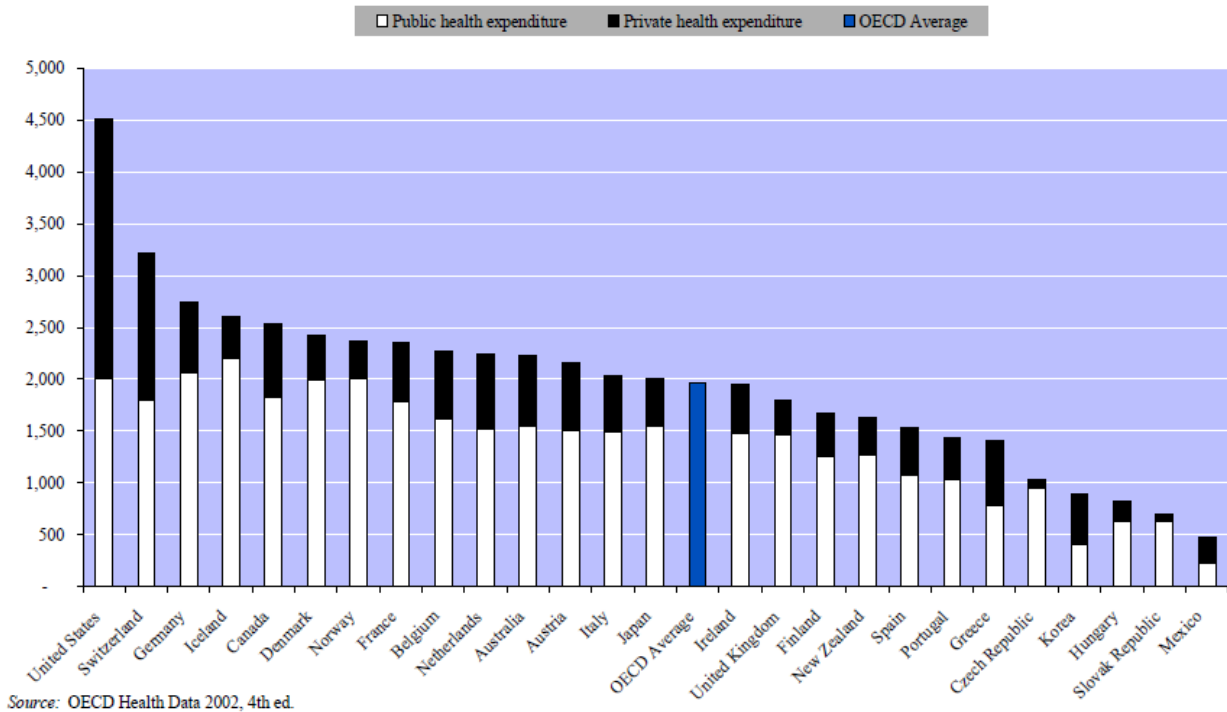
<sup>7</sup> Agency for Healthcare Research and Quality, "Average total family premium in dollars) per enrolled employee at private-sector establishments that offer health insurance by firm size and State," (Table II.D.1), years 1996-2006: 1996 (Revised March 2000), 1997 (March 2000), 1998 (August 2000), 1999 (August 2001), 2000 (August 2002), 2001 (August 2003), 2002 (July 2004), 2003 (July 2005), 2004 (July 2006), 2005 (July 2007), 2006 (July 2008), <http://www.meps.ahrq.gov/mepsnet/IC/MEPSnetIC.jsp>, February 05, 2009.

<sup>8</sup> Agency for Healthcare Research and Quality, "Average total family premium in dollars) per enrolled employee at private-sector establishments that offer health insurance by firm size and State," (Table II.D.1), years 1996-2006: 1996 (Revised March 2000), 1997 (March 2000), 1998 (August 2000), 1999 (August 2001), 2000 (August 2002), 2001 (August 2003), 2002 (July 2004), 2003 (July 2005), 2004 (July 2006), 2005 (July 2007), 2006 (July 2008), <http://www.meps.ahrq.gov/mepsnet/IC/MEPSnetIC.jsp>, February 05, 2009.

<sup>9</sup> Universal Health Care for Connecticut. *Connecticut's Health Crisis: Faces of a Broken Health Care System*, <http://universalhealthct.org/publications-details.php?publicationID=181>.

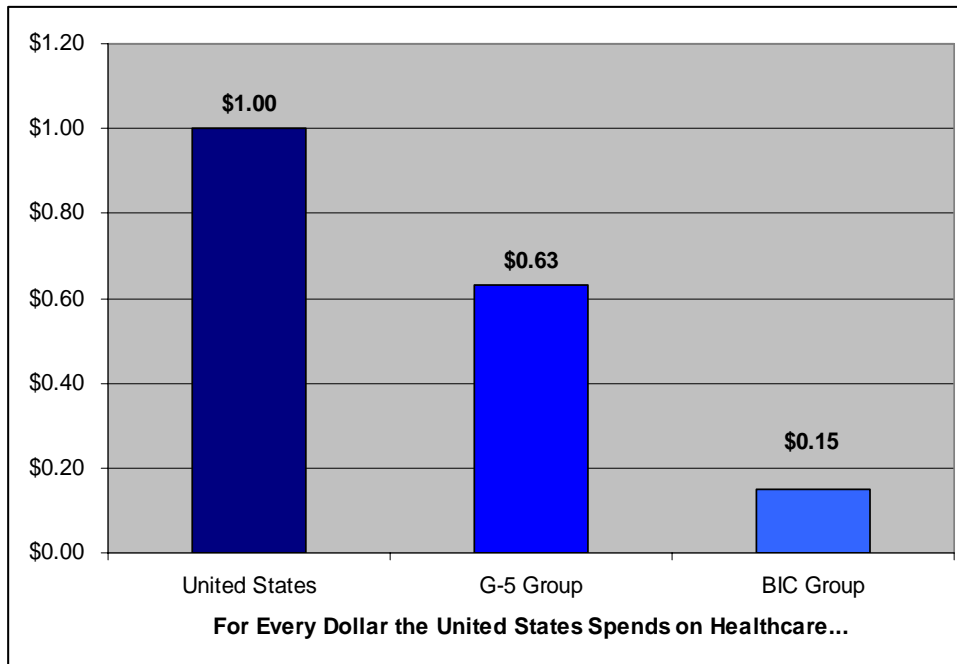
<sup>10</sup> Business Roundtable, "The Business Roundtable Health Care Value Comparability Study," 2009.

**Figure 1: Per Capita Expenditure on Health, 2000, in US\$ PPP**



Moreover, Figure 2 shows how much U.S. employers and workers spend in healthcare compared to two large cohorts globally. The G-5 Group includes Canada, Germany, France, Japan, and the United Kingdom; the BIC Group is comprised of Brazil, India and China. For every \$1.00 that U.S. employers and workers spend on healthcare, the G-5 countries spend only \$0.63 and the BIC countries spend just \$0.15.

**Figure 2: Combined Weighted Comparison Score on Health Spending**



Source: Business Roundtable, 2009

Businesses across the country are struggling because the cost accruing to healthcare is soaring every year. Significant expenditure on healthcare diverts investments from the research and development of new technologies that will keep the United States globally competitive.

### **SUMMARY**

The high cost of healthcare in Connecticut is burdensome for the state's businesses and is of significant concern. Employee contributions to maintain coverage and premiums have been rising. For example, the family premium cost has risen 77% from 2000 to 2006 in Connecticut. The average total employee contribution for family health coverage is \$2,970 per year, almost 16% of the mean annual wage in Connecticut. At the current rate, wages will not be able to keep up with the exponential rise of healthcare costs in Connecticut.

## Workforce and Education

### Summary

A baseline analysis of Connecticut's educational system and workforce reveals inequalities encompassing a highly decentralized education system; an education achievement gap along racial, ethnic, geographic, and economic lines; and widening income disparities in the workforce. Although Connecticut maintains its position as one of the richest states in terms of GDP per person, as well as having a highly productive and educated workforce, growing inequalities provide an unstable baseline for future economic growth.

Eighty-five percent of Connecticut's non-farm employment works in service-providing industries. The number of manufacturing jobs in the state continues to decline (the Appendix, Table 1 and Figure 1). This transition is characteristic of what is termed the knowledge economy. Sociologists Powell and Snellman (2004) define the knowledge economy "as production and services based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, as well as rapid obsolescence. The key component of a knowledge economy is a greater reliance on intellectual capabilities than on physical inputs or natural resources."<sup>1</sup> Businesses in today's knowledge economy require higher levels of educational attainment in the workforce and ongoing incumbent worker training in order to remain competitive.

This section provides a baseline assessment of education and workforce demographic trends in Connecticut. It provides information about the state's educational system: achievement, dropout and graduation rates, and college matriculation. This section includes an overview of the workforce including characteristics such as income, unemployment, job-training, and educational levels achieved.

### Demographic Overview

There are several demographic trends with important implications for education and the workforce in Connecticut including the decline in the state's population growth rate, the increased number of non-English speaking immigrants, and the out-migration of the state's young and educated cohort. Trends indicate that Connecticut's workforce will be smaller, older, more diverse, more mobile, and less educated in the coming years.

- According to a Connecticut State Data Center report, the state ranked 47<sup>th</sup> in relative population growth between 1990 and 2000,<sup>2</sup> and has some of the lowest fertility rates, across all ethnic groups, in the country. Foreign in-migration is too low to offset a long-

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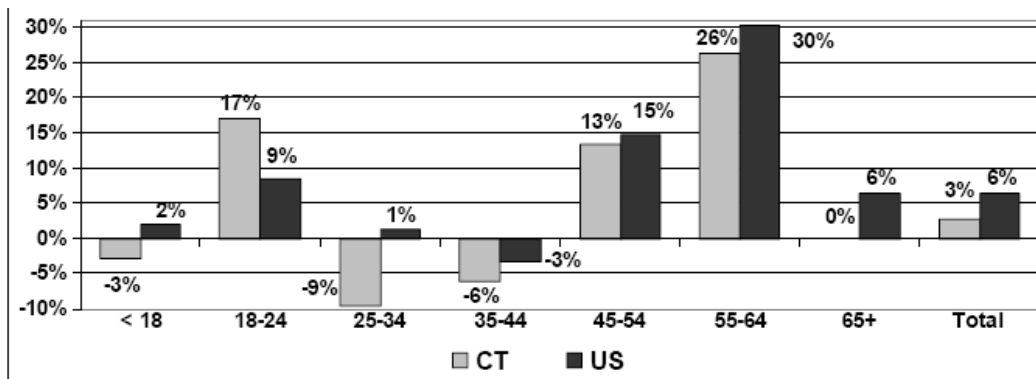
<sup>1</sup> Powell, Walter W. and Kaisa Snellman (2004). "The Knowledge Economy," *Annual Review of Sociology*, vol. 30, pp. 199-220.

<sup>2</sup> McPherron, Patrick et al. (2006). "Benchmarking Growth in Demand-Driven Labor Market," p. 10. See: <http://www.ctdol.state.ct.us/lmi/pubs/benchmarking.pdf>.

persistent pattern of domestic out-migration, which signifies an impending lack of workforce in the future.<sup>3</sup>

- “The Boomer generation, now approaching retirement, had fewer children per couple than their parents. Thus the size of the “Echo Boom” generation, the children of Boomers, is smaller than that of the Boomers. Looking forward, Echo Boomers are expected to have lower fertility rates than their parents thereby exacerbating the projected decline in the indigenous population” (footnote 2). Furthermore, Coelen and Berger report in their study, *New England 2020* that during the 1990’s the white out-migration was so large that the large amount of minority in-migration was not enough to make population growth positive.<sup>4</sup>
- Connecticut’s population of 55- to 64-year-olds is growing faster than that cohort in the United States. Connecticut is among the nation’s 10 oldest states ranking 8<sup>th</sup> in median age (39). According to the demographic data depicted in Figure 1, Connecticut is losing population in the 25 to 34 and 35 to 44 age cohorts. Significantly, the under 18 population is shrinking in Connecticut (-3% between 2000 and 2006) while it grew at 2% over the same period in the nation. This suggests that the aging workforce and the significant out-migration of the 25- to 44-year-old cohort may stunt the state’s future workforce growth unless we can import the labor we need to fill positions vacated.

**Figure 1: Connecticut Age Shifts 2000-2006 vs. U.S.**



Source: Census Bureau

- Connecticut’s population is becoming more diverse. According to a report by The Urban Institute, “Between 1990 and 2000, the number of Mexican and Central American

<sup>3</sup> CT State Data Center, “Where Have All the Children Gone,” June 24, 2008.

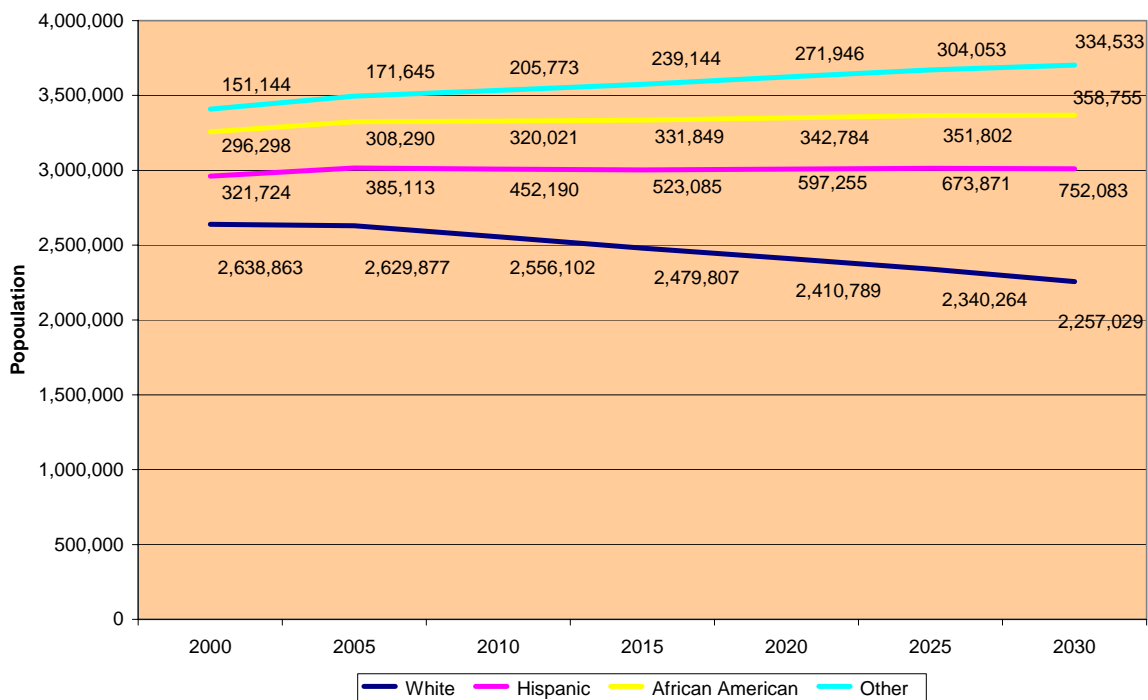
[http://ctcdc.uconn.edu/Educacn/2008\\_Projections/PR\\_CtSDC\\_EnrollmentProjection\\_08june25.pdf](http://ctcdc.uconn.edu/Educacn/2008_Projections/PR_CtSDC_EnrollmentProjection_08june25.pdf), p. 1.

<sup>4</sup> Coelen, Stephen, and Berger, Joseph (2006). “New England 2020: A Forecast of Educational Attainment and its Implications for the Workforce of New England States,” June, page vi.

immigrants in Connecticut grew by 310%, and the number of South Americans grew by 125%.”<sup>5</sup>

- According to the Connecticut State Data Center, Connecticut’s population will grow from 3.4 million in 2000 to 3.7 million in 2030.<sup>6</sup> More remarkable than the slow overall population growth is the decline in the state’s white population because of out-migration and its less-than-replacement fertility rate. Figure 2 illustrates this trend.

**Figure 2: Changing Composition of Connecticut’s Population**



Source: Connecticut State Data Center

<sup>5</sup> SW CT Regional Workforce Development Board, Community Audit and Needs Assessment Report, August 2006. See <http://www.workplace.org/docs/2006CommunityAudit.pdf>.

<sup>6</sup> See <http://www.ctsdc.uconn.edu/Projections.html>.



## Education Summary

Connecticut has invested significant resources to make its educational system one of the best in the nation, from early childhood to higher education. Connecticut has 169 municipalities and 154 school districts, each of which uses property taxes to support public education. The result is a highly decentralized educational system with uneven availability of financial resources. A recent study by Steven Lanza about the amount of money each Connecticut municipality spends per pupil revealed significant disparities.<sup>7</sup> He summarizes that, “increasing district enrollments through consolidations would likely lower costs. And some towns do participate in regional school systems — Connecticut has eight regional districts at the high school level and nine districts in the lower grades.”

The Connecticut educational apparatus and governance consists of the Executive Branch Departments of Education and Higher Education, a State Board of Education, a Board of Governors of Higher Education, as well as the Boards of Trustees of the Community College System, the State University system, the University of Connecticut and the University of Connecticut Health Center. Each district has its board of education as well. In addition, five autonomous Regional Educational Service Centers serve member districts in their service area.

An analysis of educational achievement reveals differences among urban, suburban and rural areas, as well as among racial, ethnic and income groups.<sup>8</sup> Connecticut has been successful in providing high quality of education for certain demographic groups, but has failed to provide an equal level of education for the entire population. Our education system needs to accommodate a growing population for whom English is a second language. Retention of college graduates and integration of diverse populations are two areas in which the state’s educational system is presently deficient, although there are positive indications of improved integration in higher education.

Another area of concern is the apparent inability of the educational system to meet the rapidly changing labor needs of Connecticut businesses. The knowledge economy requires higher skill levels to compete for the higher paying jobs. Lifelong learning is a requirement. Connecticut must provide educational opportunities that prepare students at all levels to compete successfully in the global economy.

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<sup>7</sup> The Connecticut Economy Quarterly, Summer 2008, (page 2).

<sup>8</sup> Higher Education Counts, Achieving Results, 2009 Report, <http://www.ctdhe.org/info/pdfs/2009/2009Accountability.pdf>.

## Early Childhood Education

Many studies indicate that the long-term benefits of investing in early child care and education (ECE) programs far outweigh the costs to society without them.<sup>9</sup> Research shows that high quality early care and education correlate positively with children and young adults who are better prepared for school and are more likely to perform at a higher level throughout their school years. They are more likely as adults to find higher paying jobs and their children are more likely to have better social outcomes (i.e., higher participation rates in civic and cultural life) than are children in corresponding cohorts who did not have high quality child care.<sup>10</sup>

- Thirteen percent of 3-year-olds participate in state-sponsored pre-kindergarten or the federal Head Start program. Connecticut ranks 27th in the nation on this measure.<sup>11</sup> If Connecticut is to maintain its competitive advantage in the knowledge economy, more 3-year-olds need to participate in high-quality, state-sponsored pre-kindergarten or the federal Head Start programs to ensure their readiness for kindergarten.
- During the 2007 legislative session, Connecticut lawmakers passed a budget that included \$57.8 million in new state funding for early child care and education for 2008 and 2009.<sup>12</sup>

The ECE industry contributes to Connecticut's economy in two ways. The industry not only creates jobs for providers; it provides a support system that permits parents to participate more fully in the labor force. Therefore, ECE is a valuable investment for the state. Although Connecticut has begun to invest in ECE programs, relative to other states, Connecticut still needs to improve (footnote 10).

- The Connecticut Center for Economic Analysis (CCEA) estimates that Connecticut's formal ECE industry is a significant driver of the state's economy. Its (2002) direct employment of about 15,000 workers (who earned \$321.4 million) in the state's regulated ECE sector made it a larger employer than, for example, Connecticut's pharmaceutical industry. CCEA determined that the total employment impact through multiplier effects of the ECE industry is more than 29,000 full-time equivalent jobs (footnote 10).

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<sup>9</sup> Mildred Warner at Cornell University's Community and Rural Development Institute has assembled a rich library of studies on ECE; see <http://government.cce.cornell.edu/warner/paperlist.asp>.

<sup>10</sup> McMillen, Stanley and Kathryn Parr, "The Economic Impact and Profile of Connecticut's ECE Industry," Sept. 27, 2004, page iii, working paper at <http://ccea.uconn.edu/studies/Child%20Care%20Report.pdf>.

<sup>11</sup> Rocha, Elana, Sharkey, Amanda, "The State We're In: An Education Report Card for the State of Connecticut", August 2005, p. 4. See <http://www.americanprogress.org/kf/connecticut-final.pdf>.

<sup>12</sup> Carrol, Judith, "Connecting the Dots: Growth, Work and Prosperity" December 2007, p. 25.

## Achievement

The overall achievement of Connecticut children appears to be quite good relative to other states (footnote 10). The state’s high-school graduation rate was 79% in 2005 and Connecticut ranked 8<sup>th</sup> in the nation on this measure (footnote 11, p. 4). However, suburban areas perform much better in this category than do urban areas.

- Urban areas such as Bridgeport, East Hartford, Hartford, Meriden, Middletown, New Britain, New Haven, New London, Norwalk, Norwich, Waterbury, and Windham are 12 school districts which the state identified as having critical problems (such as disproportionate grade retention, failure to graduate, and low CMT scores, among others). The State Department of Education (SDE) along with an educational consulting group is working directly with these districts to improve the quality of their educational programs and to help their students achieve at higher levels.<sup>13</sup>

Connecticut performs poorly in terms of the educational achievement gap among different demographic and economic categories. Educational achievement is not equally distributed among different income groups, races and geographic areas. Dropout rates (failure to graduate) are significantly higher among black and Hispanic high school students relative to their white counterparts. However, as Table 1 shows, statewide dropout rates improved from 1997 to 2004.

**Table 1: Statewide Annual Dropout Rate by Ethnicity and Race, 1997-98 through 2003-04**

Statewide Annual Dropout Rates %							
Year	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Asian American	2.6	2.7	2.0	2.0	2.4	1.6	1.0
American Indian	2.3	2.8	5.1	5.1	4.9	1.6	1.6
Black	5.5	5.6	4.7	4.7	4.1	3.2	3.0
Hispanics	8.8	8.3	8.0	8.0	5.4	5.2	4.3
White	2.5	2.2	2.1	2.1	1.9	1.5	1.3
Statewide	3.5	3.3	3.1	3.0	2.4	2.1	1.8

Source: CT State Department of Education

However, there is evidence that these dropout rates are understated. In a June 2009 report from the Connecticut Coalition for Achievement Now (ConnCAN), there exists a significant gap between graduation rates reported by the SDE and those estimated by Education Week’s Research Center.<sup>14</sup> For example, Hartford’s 2006 SDE graduation rate was 76.1%, while that estimated by Education Week is 41.2% creating a gap of 34.9%. In their study, Education Week’s largest gap exists in West Haven (39.7%) and the smallest gap exists in Thomaston

<sup>13</sup> CT Department of Education Press Release, “State Education Department Working with 12 Districts to Close Achievement Gap,” January 28, 2008, see: [http://www.sde.ct.gov/sde/lib/sde/pdf/Pressroom/School\\_Improvement\\_Cambridge.pdf](http://www.sde.ct.gov/sde/lib/sde/pdf/Pressroom/School_Improvement_Cambridge.pdf).

<sup>14</sup> See [http://www.conncan.org/matriarch/documents/ConnCAN\\_Grad\\_Rates\\_Comparison\\_2006.pdf](http://www.conncan.org/matriarch/documents/ConnCAN_Grad_Rates_Comparison_2006.pdf).

(0.1%). Four districts have negative gaps reflecting an understatement of their graduation rates (which amounts to an overstatement of their dropout rates).

Given the demographic trends in the state, researchers expect an increasing number of minority and low-income students in the state. The current lack of educational achievement for these children indicates a growing problem with severe workforce implications.

- The most significant achievement gap exists between our poorest and wealthiest students. On the 2006 Connecticut Mastery Test (CMT), students who paid full price for meals outperformed those who were eligible for free or reduced-price meals (an indicator of poverty) in reading, writing and mathematics. When scores were averaged across the three content areas, there was a 39 percentage-point difference in performance.<sup>15</sup>
- Twelve percent of African-American 4th graders are proficient in reading, compared to 54% of white students. Connecticut ranks 41<sup>st</sup> out of the 42 states that had data available on this measure (footnote 11, p. 4).
- Eighteen percent of Latino 4th graders are proficient in reading, compared to 54% of white students. Connecticut ranks 40<sup>th</sup> out of the 41 states with data available on this measure (footnote 11).

### **College Preparation and Higher Education Participation**

On the surface, Connecticut is successfully preparing students for college; however its high educational achievement does not reflect a much starker reality in urban schools and among specific minority groups. As noted above, Connecticut's urban schools perform significantly worse in retaining students and in preparing them for college and are severely deficient in achievement categories relative to their suburban counterparts.

- Sixty-two percent of the state's high school graduates enroll in college the fall after they graduate. Connecticut ranks 13<sup>th</sup> in the nation on this measure (footnote 11).
- Forty percent of the state's high-school graduates are academically ready for college. Connecticut ranks 4<sup>th</sup> in the nation on this measure.
- Students applying for state colleges who are deficient in math and or English must take non-credit bearing developmental courses to attain sufficient skill levels for college courses. Bailey (2008) presents evidence that nationally 58% of students attending community college took at least one remedial course, 44% took between one and three

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<sup>15</sup>CT State Board of Education, "A Superior Education for CT 21<sup>st</sup> Century Learners," January 3, 2007, see: [http://www.sde.ct.gov/sde/lib/sde/pdf/commish/comp\\_plan06-11.pdf](http://www.sde.ct.gov/sde/lib/sde/pdf/commish/comp_plan06-11.pdf), p. 3.

remedial courses and 14% took more than three remedial courses.<sup>16</sup> The Board of Governors of Higher Education reports, “About 19% of credit students attending a [Connecticut] community college enroll in at least one developmental math or English course.”<sup>17</sup>

In 2006, Connecticut ranked third nationally for the percentage of its population 25 and older with a bachelor’s degree or higher.<sup>18</sup> However, more detailed analysis shows another side to the story. There is an 18% gap between whites and minorities in the percentage of 25- to 64-year-olds with a bachelor’s degree or higher in Connecticut, which is one of the largest gaps in the United States. Among the same population, 13% of Hispanics, and 16% of blacks have bachelor’s degrees or higher, compared with 41% of whites.<sup>19</sup> Moreover, only 40% of the Hispanic population that began college completed it with a four-year degree compared to 56% of the white population.

It is important to note that Connecticut has improved accessibility to higher education by making educational opportunities more affordable. The growth in the number of low-income students at Connecticut colleges exceeded the national average over the last five years – 13.3% in Connecticut compared to 2.5% across the U.S.<sup>20</sup>

Connecticut’s educational system has not provided a workforce with the knowledge/skills needed by local businesses, but has recently begun to rectify this shortcoming. There have been numerous educational initiatives to develop required skills and properly train workers for careers relevant to Connecticut industries.

- The number of students graduating with a Bachelor’s degree in engineering increased by almost 18% in 2007 to 614, and is up almost 29% from 2003. However, degree production in this field is still well below the 1,119 annual openings projected by the Department of Labor (DOL) through 2016.<sup>21</sup>
- In 2007, biological sciences experienced a fifth straight year of growth with a 13% increase in degrees awarded. Computer science degrees were down 14% in 2007, their fourth year of decline. Physical science degrees are up by 8 % over last year and up 35% from a 23-year low in 2004.<sup>22</sup>

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<sup>16</sup> Bailey, Thomas (2008). “Challenge and Opportunity: Rethinking the Role and Function of Developmental Education in Community College,” Community College Research Center, CCRC Working Paper No. 14. Available at <http://ccrc.tc.columbia.edu/Publication.asp?uid=658>.

<sup>17</sup> “Higher Education Counts Achieving Results 2009 Report,” page 89, <http://www.ctdhe.org/info/pdfs/2009/2009Accountability.pdf>

<sup>18</sup> Department of Higher Education, “Higher Education Counts, Achieving Results, 2009 Report,” p. 28, <http://www.ctdhe.org/info/pdfs/2009/2009Accountability.pdf>.

<sup>19</sup> The National Center for Public Policy and Higher Education, “Measuring Up 2008,” <[http://measuringup2008.highereducation.org/print/state\\_reports/long/CT.pdf](http://measuringup2008.highereducation.org/print/state_reports/long/CT.pdf)>

<sup>20</sup> Connecticut Department of Higher Education, Facts, June 2008, see <http://www.ctdhe.org/info/pdfs/2008/GrowingNeedforFinAid.pdf>.

<sup>21</sup> See <http://www.ctdol.state.ct.us/lmi/misc/occmineducation.htm>.

<sup>22</sup> Board of Governor’s Department of Education, “CT Public Higher Education: 2008 System Trends, p. 32.

Though strides have been made, there is still a need to graduate more students with degrees in areas such as healthcare, finance, pre-engineering, and teaching (footnote 2, page 24). Some disciplines do not have sufficient seats or instructors (nursing and allied health).<sup>23</sup>

In today's knowledge-based economy, workforce development through educational initiatives will be crucial to the continued economic development of the state. Connecticut has taken strides to improve educational opportunity and accessibility, but the state will lose this investment in education if it fails to retain those graduates and matriculate them into its workforce.

## Teachers

Connecticut, as of June 2009, is in a severe recession and fiscal imperatives force the state and its municipalities to reduce the teacher workforce. This comes at time when there are record numbers of students wanting to obtain or extend a post-secondary education.

Providing quality education will become more difficult given a lack of qualified teachers in critical skills areas. There is a dearth of qualified instructors particularly in key subjects such as math and science. Teachers often cannot afford to live in the district in which they teach.

Based on data collected in October 2007, the state identified a shortage of teachers in the following areas for the 2008-09 school year:<sup>24</sup>

- Bilingual Education, PK-12
  - Comprehensive Special Education, 1-12
  - English, 7-12
  - Intermediate Administrator
  - Library Media Specialist
  - Mathematics, 7-12
  - Music, PK-12
  - Science, 7-12
  - Speech and Language Pathology, and
  - World Languages, 7-12
- The number of teachers expected to retire will peak by 2023. While the state recently added \$2 billion to the \$6.9 billion unfunded obligation to the teacher retirement plan,<sup>25</sup> teacher retirement will continue to burden the state, as well as create a challenge to maintain a strong teacher workforce. Chart 1 shows the projected

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<sup>23</sup> See <http://www.wbz.com/pages/4381432.php?> and

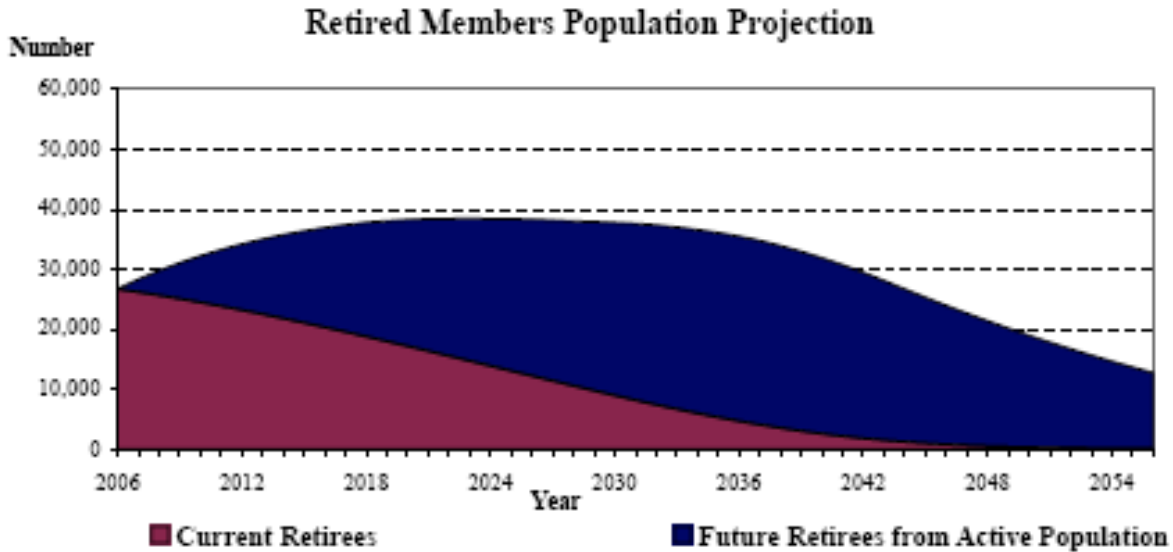
<http://www.detnews.com/article/20090615/SCHOOLS/906150354/1026/Lack-of-instructors-hampers-growth-in-nursing-careers>.

<sup>24</sup> "Teacher Shortage Areas," May 15, 2009, see <http://www.sde.ct.gov/sde/lib/sde/pdf/circ/circ08-09/c11.pdf>.

<sup>25</sup> House Republican Press Release, "Teachers Retirement System Pulled Back from the Brink," June 12, 2007, see [http://www.housegop.ct.gov/pressrel/DelGobboK070/2007/20070612\\_DelGobboK070\\_01.pdf](http://www.housegop.ct.gov/pressrel/DelGobboK070/2007/20070612_DelGobboK070_01.pdf).

number of retirees and subsequent decline in the number of teachers available to work.

**Chart 1: Expected Teacher Retirement**



Source: Connecticut State Teachers Retirement System<sup>26</sup>

In order to assuage the mass retirements expected, the state has implemented initiatives to maintain a strong teacher workforce with loan deferment and mortgage incentives for those teaching in teacher-deficient subject areas. Initiatives such as the mortgage assistance program, federal loan deferment program and the rehiring of retirees intend to reduce these specific subject-area shortages (footnote 25).

### Challenges for Connecticut’s Education System

Connecticut’s Education System faces challenges at all levels and on numerous fronts. As mentioned, the state’s decentralized education system creates inefficiency and excessive costs for many municipalities (the Appendix, Chart 1). The state’s changing demographics will place increasing demands on the system to provide educational opportunities beginning with ECE and continuing to higher education for a more diverse demographic. To keep up with the changing labor needs of business, Connecticut will have to ensure that training and education curricula reflect skills in demand and that capacity is sufficient. In addition, the state must focus on two priorities: successfully integrating immigrants into the workforce and attracting young people from out-of-state.

<sup>26</sup> Gabriel Roeder Smith & Company, “Connecticut State Teachers’ Retirement System Report on the Actuarial Valuation,” June 30, 2006, see [http://www.ct.gov/trb/lib/trb/formsandpubs/actuarial\\_valuation\\_rep\\_2006.pdf](http://www.ct.gov/trb/lib/trb/formsandpubs/actuarial_valuation_rep_2006.pdf), p. 3.

- Of the 17,928 Connecticut public college graduates in 2007, 70% (12,471) were employed in Connecticut in the third quarter after graduation and earned an average of \$10,171 per quarter, or about \$40,684 per year (footnote 19, page 22).
- Because of federal immigration policy, in particular quotas for H1B work visas, Connecticut (and other states) faces a challenge to retain highly qualified international students.
- Degrees awarded to non-resident aliens (international students here on a student visa) fell to 2,055 in 2007 (down 4.5%) after more than tripling over the previous two decades. The decrease in 2007 produced fewer degrees for non-resident aliens this year than in any of the four preceding years of 2003 to 2006.<sup>27</sup>
- In the fall of 2007, there were 35,899 degrees and/or certificates awarded in Connecticut of which 2,686 (7.5%) were awarded to black, non-Hispanic students, 1,986 (5.53%) were awarded to Hispanic students, 1,529 (4.26%) were awarded to Asian/Pacific Islander students, and 24,482 (68.2%) were awarded to white, non-Hispanic students (footnote 26).

Because of a decreasing young and highly educated population, Connecticut businesses will no longer be able to draw from the local population to satisfy their demand for labor and will be forced to attract workers from outside the state.

The “Learn Here, Live Here” initiative unveiled in 2007 is a plan to retain the young and educated cohort. Its critical components are:<sup>28</sup>

- Income tax receipts from recent college graduates would be deposited into an interest bearing account managed by the state treasurer;
- Those with at least an associate degree are eligible;
- Savings would grow over time and must be used within 10 years;
- Participants who move out of the state and then return are eligible to access whatever portion of their collected income tax receipts they placed in the account;
- The state treasurer would manage the accounts and provide statements annually to participants; and,
- The interest and investment income would be deposited go into the state general fund.

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<sup>27</sup> See <http://nces.ed.gov/programs/stateprofiles/sresult.asp?mode=full&displaycat=4&s1=09>.

<sup>28</sup> House Republican Press Release: “Learn Here, Live Here, Would Stem CT Brain Drain,” Jan. 25, 2007, see: [http://www.housegop.ct.gov/pressrel/CaucusWide/2007/20070125\\_CaucusWide\\_01.htm](http://www.housegop.ct.gov/pressrel/CaucusWide/2007/20070125_CaucusWide_01.htm).



## Workforce: Summary

Currently, Connecticut labor markets are not faring well. Job losses continued in manufacturing. March 2008 data showed an increase in Connecticut's nonfarm employment of 1%, which was a smaller increase than a year earlier. Nationally, nonfarm employment growth was 1.1%.<sup>29</sup> Despite a sizable job gain in May 2008, there were four consecutive months of job losses through April 2008.<sup>30</sup> In April 2008, the unemployment rate increased from 4.4% to 5.4% from a year earlier. Year-over-year employment declined in two (Enfield and Willimantic-Danielson) of the state's nine Labor Market Areas (LMAs). The New Haven LMA experienced zero growth over the period.

As of June 2009, in the throes of a deep recession, Connecticut has lost more than 69,000 jobs since December 2007 (the start of the recession) and its unemployment rate exceeds 7.9%. The state faces long-term structural change as its financial and insurance services industries shrink and are will likely not return to their former size or compensation levels because of new regulation.

The state recently increased its minimum wage, which is higher than that in several other states, potentially creating an incentive for certain industries to reduce their demand for low-skilled labor (e.g., teenagers) and substitute higher-skilled labor that provides greater productivity. This could affect Connecticut's competitiveness.

Connecticut needs to attract workers in order to grow its workforce. The growth rate of Connecticut's labor force has been quite slow for years. There will be a smaller pool of new workers available and thus a need to tap into new target groups. New pools of workers will include unskilled persons, especially those in jobs at the lower end of the skill (and wage) spectrum.<sup>31</sup>

The 21- to 39-year-old cohort does not view Connecticut as an attractive place to live and work and this will likely contribute to the shortage of future labor resources in the state. Connecticut residents may need to work later into their retirement years as result of an increasingly high cost of living, which may bolster the shrinking workforce. Although, Connecticut's workforce is not as racially diverse as other parts of the nation, the fastest growing demographic in the state is non-white.

Connecticut has the highest per capita income of any state, but a closer analysis of the data shows wealth is limited to small demographic, geographic, and industry concentrations. Specifically, the financial services and insurance sector in Fairfield County is skewing (this is

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<sup>29</sup> Joo, Jungmin Charles, Connecticut Department of Labor. "2007: Another Good Year for State Employment Growth," *The Connecticut Economic Digest*, March 2008, p.1, see <http://www.ctdol.state.ct.us/lmi/misc/cedmar08.pdf>.

<sup>30</sup> Connecticut Department of Labor, Office of Research, *Labor Situation*, April 2008, [Only the current month (i.e., May 2008) is kept online, see <http://www.ctdol.state.ct.us/lmi/laborsit.htm>]

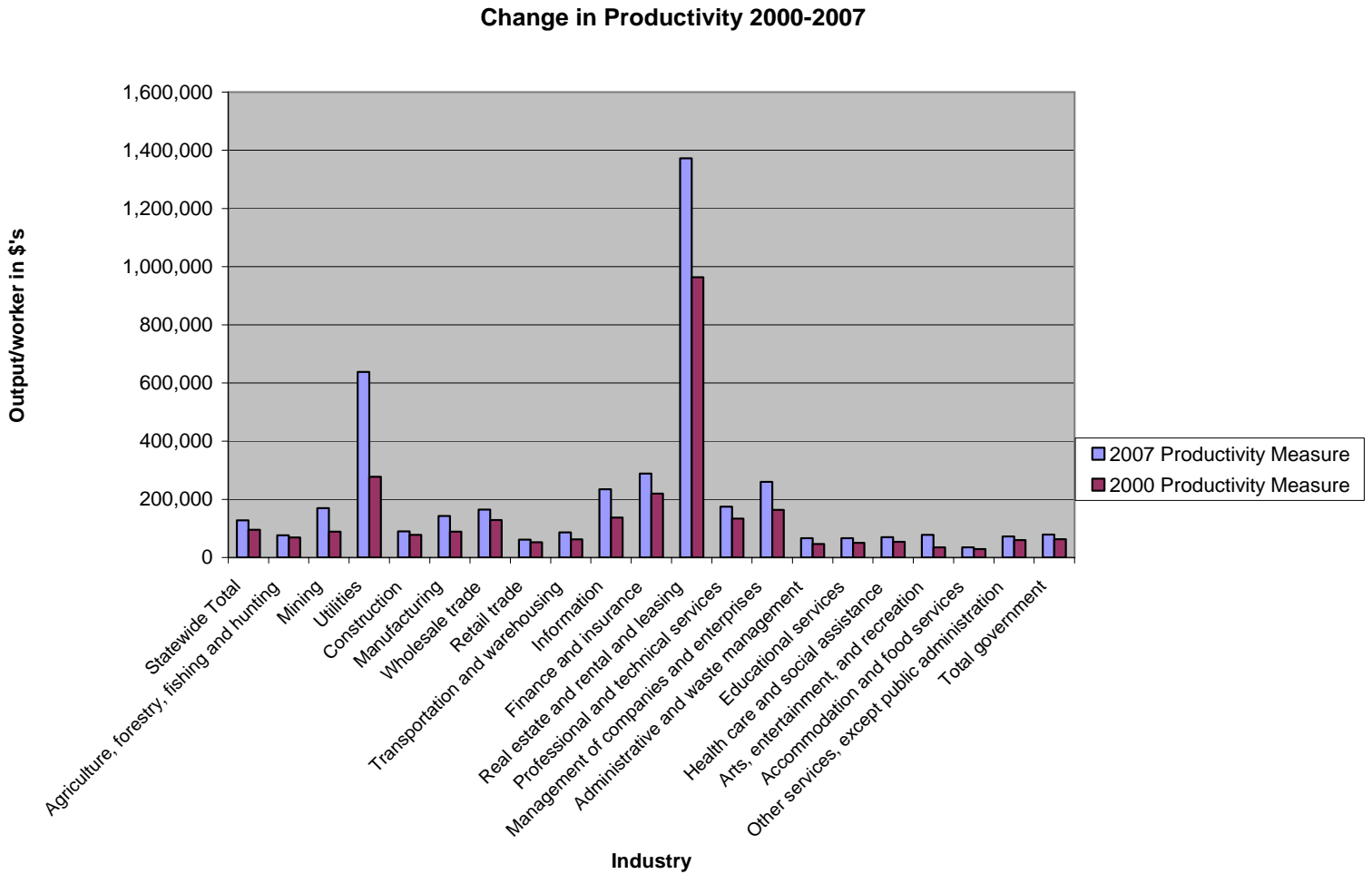
<sup>31</sup> Thierren, Roger, "CT Workforce Demands and the Implications for Education," July 2003, p. 19.

changing because of the recession and resulting structural change in the industry) the distribution of income and wealth (footnote 2, pp. 34 and 75).

Connecticut and the nation have witnessed high productivity growth over the last decade as a result of technological advancement, which has raised mean (per capita) income above the median. A growing gap between the mean and median incomes of the state entails an increasingly right-skewed income distribution that has adverse consequences mentioned above.

Another of Connecticut's heralded strengths is its highly productive workforce. The growth of the productivity indicator (output per worker) far exceeds the growth of median income except for the top 10% of the income distribution. Connecticut has witnessed significant productivity growth in all industrial sectors between 2000 and 2007, particularly in the utilities, real estate, information, finance and insurance, and management industrial sectors (Figure 3). However, the profit from increased productivity has benefited shareholders and upper management disproportionately more than workers, thus widening income inequality. Currently, the state's workforce is characterized by a high level of educational attainment; one of the highest of the 50 states and it contributes to the productivity of the workforce.

**Figure 3: Connecticut's Productivity Change by Industry, 2000-2007**



Source: DECD calculations.

**Workforce Demographic Overview**

Connecticut's workforce is less racially and ethnically diverse than either the workforce of the nation, or the workforce of the Northeast. The state's labor force is currently 76.8% white, 9.1% African-American, 10% Hispanic, and 3.2% Asian/Pacific Islander, reflecting generally the racial/ethnic composition of the Connecticut population.<sup>32</sup>

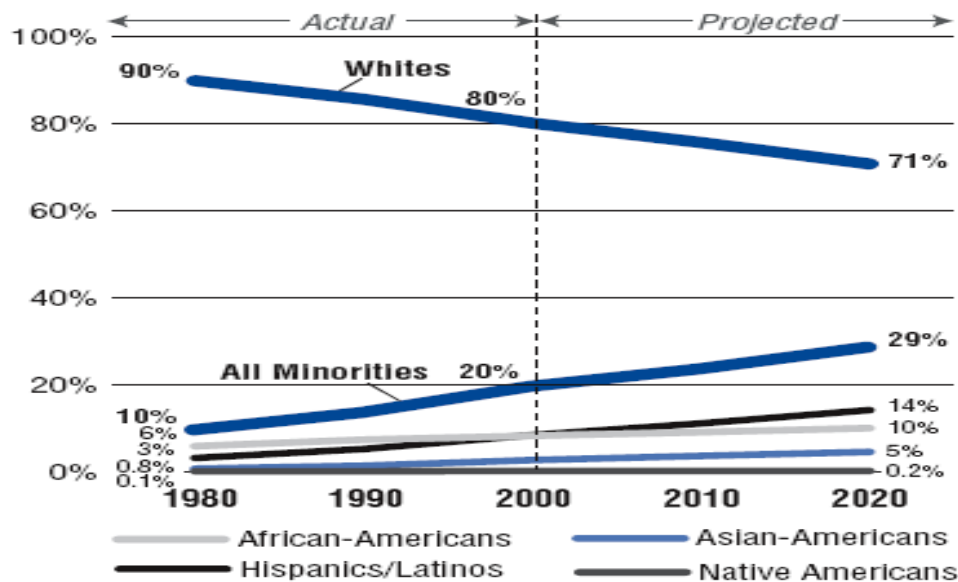
However, the composition of Connecticut's labor force is changing dramatically and minorities will play a larger role in the future. The share of Connecticut's total workforce consisting of whites (particularly those under age 45) is declining (see Figure 2 above that refers to

<sup>32</sup> Hero, Joachim, Hall, Douglas, Geballe, Shelley (2007), "State of Working Connecticut," pg. II-2.

population), while researchers project the share comprised of other racial/ethnic groups to reach 29% by 2020.

By 2012, 40% of young workers in Connecticut will be minorities; by 2020, 50% of young workers will be minorities (footnote 4). Chart 2 details the shrinking of the white workforce relative to other minority groups reflecting the out-migration of the white population relative to the in-migration of non-whites. The Hispanic/Latino population's share of the workforce is expected to increase from 3% in 1980 to 14% in 2020 (footnote 32 p. II-2).

**Chart 2: Demographic Composition of CT Workforce**



Notes: Population projections are based on historical rates of change for immigration, birth, and death. Pacific Islanders are included with Asian-Americans. Alaska Natives are included with Native Americans. Projections for Native Americans are based on 1990 Census. The Census category "other races" is not included.  
 Sources: U.S. Census Bureau, 5% Public Use Microdata Samples (based on 1980, 1990, and 2000 Census) and U.S. Population Projections (based on 2000 Census).

Source: National Center for Public Policy and Higher Education

Integrating the Spanish-speaking (that is, Spanish as a first language) population into the workforce and providing them with job opportunities will be a challenge for Connecticut. Providing equal opportunity to access training for high skill occupations in demand should be a critical priority for the state. Data shows that unemployment is concentrated among specific ethnic groups and in specific geographic areas.

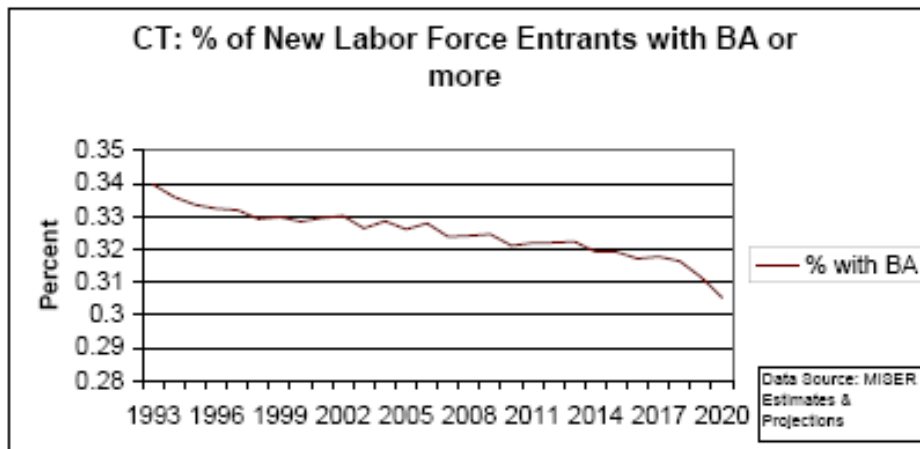
- In 2006, unemployment rates for Connecticut African-Americans (8.3%) and Hispanics (8.2%) were two and a half times higher than for whites (3.3%). The unemployment rate of Hispanic workers is markedly higher in Connecticut (at 8.2%), than it is in the Northeast and the nation (6.7% and 5.2%, respectively). Fortunately, longer-term trend data suggest the racial and ethnic disparity in Connecticut unemployment rates has been narrowing since 1979 (footnote 32, p IV-5).

- In 2007, some of Connecticut’s largest cities had the highest unemployment rates, led by Hartford’s 9.1% (down from 9.3% in 2006), New Haven’s 7.7% (up from 7.3% in 2006), and New Britain’s 7.6% (up from 7.0% in 2006). Moreover, these Connecticut cities have consistently shown the highest levels of unemployment (footnote 32, p IV-2).

### Workforce Educational Composition

Connecticut’s current labor force is highly educated: 36.8% hold bachelor’s degrees or higher, 25.8% have some college education (but no degree higher than an associate degree), and 10% have less than a high school education (footnote 32, p II-4). As noted above, high productivity and high educational attainment go hand-in-hand. Maintaining a highly productive workforce will be a challenge for Connecticut as there has been a marked decline in the level of education of entrants into the workforce, a trend that researchers expect to continue (Chart 3).

**Chart 3: CT Labor Force Entrants with a College Degree**



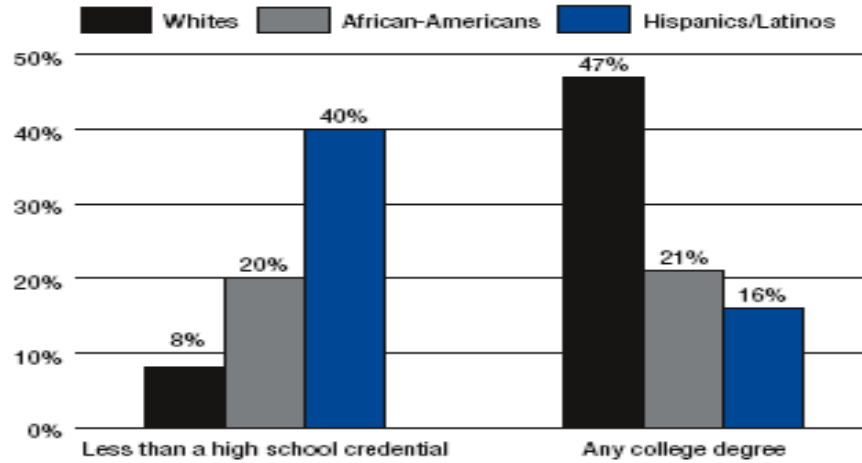
Source: CT First Steps. Note: the vertical axis numbers are 100 times too small. In other words, 0.35 is actually 35%.

The National Center for Public Policy and Higher Education (NCPPE) projects that the percentage of the workforce with a college degree will decline by 2020. NCPPE projects that the share of the workforce with less than a high school diploma will increase, while the share with an associate or a bachelor’s degree will decrease (Chart 3). If the average educational level of the state workforce declines, NCPPE projects Connecticut’s personal income per capita will drop from \$28,869 in 2000 to \$27,813 in 2020 — a decline of \$1,056, or 4% in inflation-adjusted dollars.<sup>33</sup>

<sup>33</sup> The National Center for Public Policy and Higher Education, “Policy Alert Supplement,” November 2005, pg. 2.

Chart 4 shows a skewed distribution of educational attainment among ethnic distinctions. This might well reflect inequality in educational opportunities.

**Chart 4: Educational Attainment by Race and Ethnic Group**



Note: These categories represent the highest level of education attained as of 2000.  
 Source: U.S. Census Bureau, 5% Public Use Microdata Samples (based on 2000 Census).

Source: National Center for Public Policy and Higher Education

The disparity in educational attainment has severe implications for future household income and the ability of Connecticut’s workforce to satisfy businesses’ demand for skilled labor. More than a third (34%) of Connecticut’s job openings in the next 10 years requires post-secondary education, while 38% require short-term on-the-job training.<sup>34</sup> However, the difference in average wage for those occupations requiring only short-term on-the-job training (most notably cashiers, retail salespersons and wait-staff) and those occupations requiring post-secondary education (such as registered nurses, accountants and lawyers) is almost \$20 per hour (footnote 34). The incentive to pursue higher education is clear, yet there is still a gap in Connecticut minority achievement.

### Minority Participation in Higher Education

As the demographics of Connecticut begin to change, minorities will play a bigger role in the future workforce. By 2012, 40% of young workers in Connecticut will be minorities; by 2020, 50% of young workers in Connecticut will be minorities (footnote 4). This growing role for minorities should allow more opportunity for jobs and prosperity in the near future. However, high school graduation rates among working age (25 to 64) Hispanics in Connecticut is 70.1%, compared to 85.6% for blacks and 94.6% for whites.<sup>35</sup>

<sup>34</sup> Connecticut Department of Labor – Labor Market Information, “Connecticut Job Outlook by Training Level 2006-2016,” [http://www.ctdol.state.ct.us/lmi/pubs/soaring\\_2006-16.pdf](http://www.ctdol.state.ct.us/lmi/pubs/soaring_2006-16.pdf).

<sup>35</sup> U.S. Census Bureau. American Community Survey Public Use Microdata Sample, [http://factfinder.census.gov/home/en/acs\\_pums\\_2007\\_3yr.html](http://factfinder.census.gov/home/en/acs_pums_2007_3yr.html).

This is significant considering Connecticut's workforce will rely on minority groups to fill its ranks in the future (footnote 4). New educational policies need to reflect greater diversity in the workforce and embrace the changing demographics of our state. It is important to provide access to all citizens looking for a high quality education. Connecticut's most available jobs over the next 10 years require on-the-job training. However, the high-paying, more stable jobs will be available to those with some post-secondary education.

## **Income Disparity**

Connecticut is a study of contrasts between the haves and the have-nots. The transition from a manufacturing to a service economy has caused layoffs and pay cuts for the portion of the workforce already at the bottom of the wage distribution. That is, as high-skilled manufacturing workers become increasingly available, they compete with and often displace lower-skilled workers in service sector jobs (substitution effect). As manufacturing jobs give way to more service sector jobs, many workers experience a significant decline in incomes. CERC reports, "The sectors losing jobs in Connecticut in recent years pay an average annual salary of \$63,000, while the growing service sector pays an average of \$36,000. Take away nursing from that sector and the average pay is more like \$27,000 per year."<sup>36</sup>

The Center for Budget Policy and Priorities reports that for 2006:<sup>37</sup>

- The richest 20% of families has an average income eight times larger than the poorest 20% of families;
- This ratio was 4.6 in the late 1980s;
- The very richest families, the top 5%, have average incomes 14.8 times larger than the poorest 20% of families;
- The richest 20% of families has an average income 7.7 times larger than the middle 20% of families;

In addition to having the second-most unequal household income distribution in the country, Connecticut of all states, has had the greatest growth in household income inequality over the past several decades (footnote 32, p. 1).

In 2006, as measured by the Gini coefficient,<sup>38</sup> Connecticut had the second most unequal income distribution in the nation (Gini = 0.480), slightly less unequal than New York State (Gini = 0.495). Connecticut's high-income households — the top 20% — received 51.6% of all the income in the state. The poorest 20% of households in Connecticut had 3.3% of all income in

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<sup>36</sup> "State of the Workforce, 2007: The Have's, the Have-nots, and the Used-to have's," p. 1, <http://www.workforcealliance.biz/pdf/sow2007.pdf>.

<sup>37</sup> Center on Budget and Policy Priorities and Economic Policy Institute, "Pulling Apart: A State By State Analysis of Income Trends," <http://www.cbpp.org/4-9-08sfp.htm>.

<sup>38</sup> Gini coefficients measure the divergence from perfect equality (zero is perfect equality): the larger the coefficient, the greater the inequality (one means perfect inequality). See Damgaard, Christian. "Gini Coefficient." From *MathWorld*—A Wolfram Web Resource, created by Eric W. Weisstein, <http://mathworld.wolfram.com/GiniCoefficient.html>.

the state. Figure 4 shows Connecticut in comparison to the rest of the nation in terms of income inequality.

**Figure 4: Gini Coefficients of Inequality**

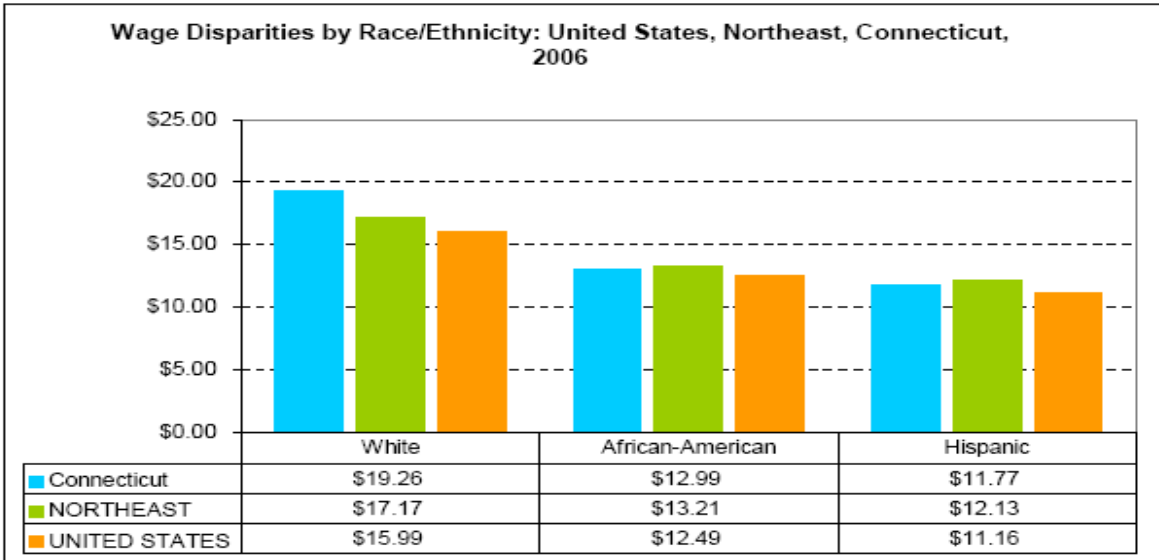


Source: Connecticut Voices for Children

Figure 5 shows that the state’s white and minority workforce out-earns the national average. However, while the white workforce earns more than its cohort in neighboring states, the minority population earns less than their cohorts in neighboring states. Clearly, the minority workforce in Connecticut is at a disadvantage relative to their white counterparts in terms of income.



**Figure 5: Wage Disparity by Race and Ethnicity**

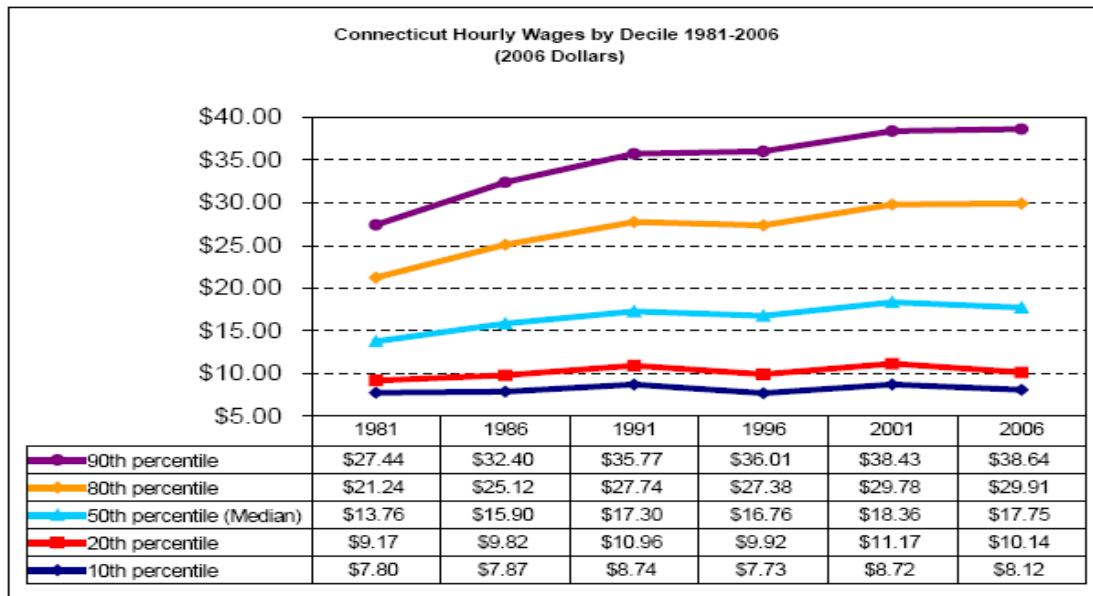


Source: Connecticut Voices for Children and EPI Analysis of Current Population Survey

Connecticut has persistent disparities in wages based on race and ethnicity. The median hourly wage for white workers in 2006 was \$19.26 compared to \$12.99 for African-American workers and \$11.77 for Hispanic workers. Connecticut’s white workers not only enjoy a wage advantage over their non-white counterparts in Connecticut, but also a significant wage advantage over white workers nationally and regionally (footnote 32, p. V-22).

Figure 6 details Connecticut hourly wages by income decile. While the 90<sup>th</sup> percentile saw wages increase, the next highest wage earners (80<sup>th</sup> percentile) saw a leveling of wages, and the other income categories saw a decline in wages. This situation has implications for housing affordability, healthcare access, and access to post-secondary education.

**Figure 6: Connecticut Hourly Wages by Income Decile**



Source: Connecticut Voices for Children and EPI Analysis of Current Population Survey

### Contributing Factors to Rising Income Disparity

Dew-Becker and Gordon (2005)<sup>39</sup> show that over the period from 1966 to 2001, as well as over the shorter period of 1997 to 2001, only the top 10% of the U.S. income distribution enjoyed a growth rate of real (inflation-adjusted) wage and salary income equal to or above the average rate of economy-wide productivity growth. Median real wage and salary income barely grew at all while average wage and salary income kept pace with productivity growth, because half of the income gains went to the top 10% of the income distribution, leaving little for the bottom 90%. Half of this inequality effect is attributable to gains of the 90th percentile over the 10th percentile; the other half is due to increased skewness within the top 10%. In addition, the authors find that an acceleration (or deceleration) of the productivity growth trend of 1% actually decreases (or increases) the inflation rate by at least 1%.

Dew-Becker and Gordon (2005) suggest that economists have placed too much emphasis on “skill-biased technical change” and too little attention to the sources of increased skewness at the very top, that is, within the top 1% of the income distribution. Dew-Becker and Gordon distinguish two complementary explanations, the “economics of superstars,” that is, the pure rents earned by sports and entertainment stars, and the escalating compensation premia of CEOs and other top corporate officers. These sources of divergence at the top, combined with the role of deunionization, immigration, and free trade in pushing down incomes at the bottom, have led

<sup>39</sup> Dew-Becker, I. and Robert J. Gordon (2005). “Where Did the Productivity Growth Go? Inflation Dynamics and the Distribution of Income,” National Bureau of Economic Research Working Paper No. 11842, [www.nber.org/papers/w11842](http://www.nber.org/papers/w11842).

to the wide divergence between the growth rates of productivity, average compensation, and median compensation. From 1989 to 1997, total real compensation of CEOs increased by 100%, while compensation in occupations related to math and computer science increased only 4.8% and engineers' compensation decreased by 1.4%.

### **Consequences of Wage Inequality**

The mean (per capita) wage is growing faster than the median in Connecticut, signifying an increasingly unequal distribution of wealth in the state, which in turn reduces the overall quality of life in the state. According to labor economist MacPherron et al., “although skewed distributions are expected in market economies, this demonstrates a gap in the incentive structure that could entice lower compensated laborers to leave. Importantly, this could include educated, younger workers, as they are typically not in the highest percentiles” (footnote 2, p 55).

- Income inequality has adverse life expectancy/health implications for the entire population, not just the poor demographic.<sup>40</sup>
- Income disparity “can reduce social cohesion, trust in government and other institutions, and participation in the democratic process.”<sup>41</sup>
- The widening income gap compounds many of Connecticut’s problems related to transportation and housing. According to MacPherron et al., “housing affordability is compromised because Connecticut’s median income households are not able to afford the median price house” (footnote 2, p. 5). Many workers that are critical to the high quality of life in Connecticut sometimes cannot afford to live in the areas in which they work. This means that people have to commute long distances in order to live in affordable areas. Long commutes on an aging and inadequate transportation infrastructure as well as unaffordable housing, for which Connecticut is known, will not attract needed professionals to the state (footnote 2, p 75).

### **Innovation**

Innovation is a key characteristic of the workforce that improves efficiency and maximizes output. Innovation is difficult to measure quantitatively, although we can measure the products of innovation through entrepreneurship, patents, and technology usage data.

- According to CERC, Connecticut ranks high relative to other states in terms of existing entrepreneurs, patents, and technology usage, yet in terms of growth in these categories Connecticut lags behind much of the nation. This trend indicates slowing productivity and a stagnating economy. As measures of innovation, the lack of

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<sup>40</sup> Hero, Joachim, “Connecticut Voices for Children,” October 2007, pg. 1.

<sup>41</sup> Bernstein, Jared, et al., “Pulling Apart: A State by State Analysis of Income Trends” April 2008, p.12.

growth of innovative products and processes does not bode well for continued economic growth in the state.<sup>42</sup> See Charts 2 and 3 in the Appendix for details.

- Connecticut's high level of productivity depends on the workforce's ability to innovate, and the declining growth in such areas as entrepreneurs and patents indicates a stagnating economy (footnote 41).

### **Incumbent Worker Training**

Incumbent worker training is an important way to increase the productivity levels of Connecticut's existing workforce and maintain a competitive advantage in the global economy. The challenges of a global marketplace require a greater investment in workforce training to maximize opportunities for job growth. While the American Recovery and Reinvestment Act (ARRA) provides funding for incumbent job training, it is not known how much of this temporary funding will flow to certain sectors. Connecticut needs long-term investment to enhance the skills of its existing workforce to meet the challenges of the 21<sup>st</sup> century.

- Over the last two years Connecticut's five workforce investment boards utilized \$1.5 million in federal funding, which was matched with an additional \$2 million in employer contributions, to support incumbent worker training throughout the state.<sup>43</sup>
- State and local workforce professionals estimated that \$3 to \$5 million would be necessary to meet the needs of Connecticut businesses (Massachusetts invests \$21 million per year; Rhode Island invests \$8 million) (footnote 42).
- The continuing cutbacks and increasing limitations on the use of federal funds require Connecticut to develop a new strategy for the sustainability of incumbent worker training. Demand for incumbent worker training in the five workforce investment areas in Connecticut has far exceeded available resources.
- Incumbent worker training is an important way to minimize the expected labor shortage due to low population growth by increasing the productivity of existing workers, as well as increasing workers' earning potential (footnote 43, p. 9).

### **Unions**

Unions have played an important role in protecting the rights of workers. The decline in union representation parallels the decreasing average wage for certain income groups.

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<sup>42</sup> Connecticut Economic Resource Center, "Benchmarking Connecticut 2007: A Comparative Analysis of Innovation and Technology," February 13, 2007.

<sup>43</sup>CT Workforce Development Council, "Incumbent Worker Training;" see <http://www.cwdc.org/pdf/issues/Incumbent%20Worker%20Training.pdf>.

- As shown in Figure 7 below, Connecticut’s rate of union coverage has fluctuated between 16.4% and 17.7% since 2000. Despite occasional gains, Connecticut’s overall trend – like that of the nation and region – has been downward. In 2006, 10 states had a greater share of their workforces covered by collective bargaining agreements than Connecticut. In 2006, Connecticut’s union coverage surpassed the national coverage rate of 13.1%, but was less than the average coverage rate in the Northeast (19.5%) (footnote 32, p III-13).

Connecticut is not a right-to-work state. Right-to-work laws are statutes enforced in 22 states, mostly in the southern or western United States, allowed under provisions of the Taft-Hartley Act that prohibit agreements between trade unions and employers making membership or payment of union dues or fees a condition of employment, either before or after hiring. There are arguments for and against having right-to-work laws. Proponents of right-to-work laws point to the constitutional right to freedom of association, as well as the common-law principle of private ownership of property. They argue that workers should be free both to join unions and to refrain from joining unions, and for this reason often refer to non-right-to-work states as “forced-union” states.<sup>44</sup>

Proponents also argue that right-to-work states experience higher economic growth and job creation than do non-right-to-work-law states.<sup>45</sup> For example, in recent years all new auto factories have been located in right-to-work states. Moreover, proponents contend right-to-work states typically have lower unemployment rates.<sup>46</sup>

On the other hand, opponents argue right-to-work laws create a free-rider problem, in which non-union employees (who are bound by the terms of the union contract even though they are not members of the union) benefit from collective bargaining without paying union dues.<sup>47</sup>

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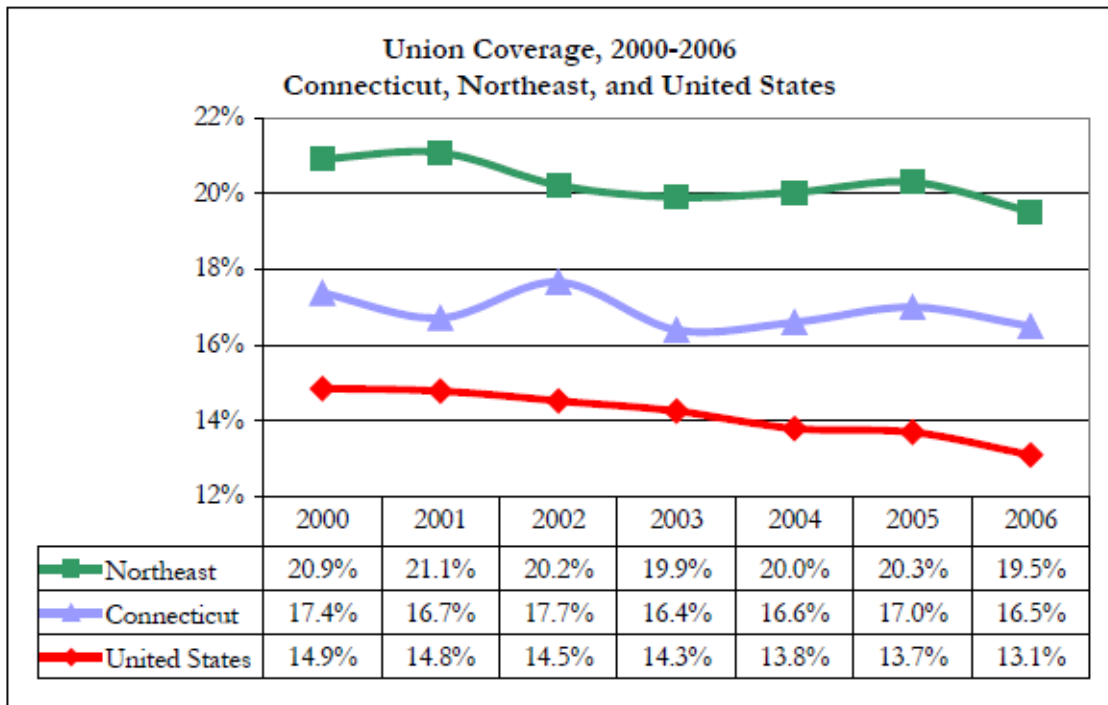
<sup>44</sup> See “Stop Teacher Strikes in Pennsylvania,” [http://www.stopteacherstrikes.org/index.php?pr=Forced\\_Unionism](http://www.stopteacherstrikes.org/index.php?pr=Forced_Unionism).

<sup>45</sup> See for example the National Institute for Labor Relations Research Fact Sheet at <http://www.nilrr.org/files/NILRR%20FACT%20SHEET%20RTW%20States%20Benefit%202008.pdf>, and “Western, Southern and Midwestern States Rank in Top Eight For 2003-2008 Employment Gains

<sup>46</sup> See “Unemployment Rates,” at <http://www.mackinac.org/article.aspx?ID=8951> that discusses such rates in states with and without right-to-work laws.

<sup>47</sup> See “Labor Groups” under The South Carolina Governance Project — Interest Groups in South Carolina at [http://www.ipspr.sc.edu/grs/SCCEP/Articles/interest\\_groups\\_in\\_south\\_carolin.htm](http://www.ipspr.sc.edu/grs/SCCEP/Articles/interest_groups_in_south_carolin.htm).

**Figure 7: Union Coverage, 2000-2006, Connecticut, the Northeast and U.S.**



Source: CT Voices for Children and Economic Policy Institute (EPI) analysis of BLS data.

## **Conclusion**

From the mid-1990s to the present, there were rapid technological advancements that increased worker productivity. During this period, there was a significant opening of our economy to free trade and increased foreign immigration. These two factors benefited the highest income earners and put increasing downward pressure on the income of the lowest income earners.

Connecticut's wealthy and low-income areas and population became significantly more polarized during this time. Connecticut's urban areas became concentrations of low-income, minority workers, while suburban areas saw rising levels of wealth and increasing housing prices.

Educational opportunities for the entire population can balance the levels of income for the workforce. However, the state's investment in education will be lost if it cannot retain its educated population and provide them with jobs and affordable housing close to their places of work. Therefore, bridging the gap between education and employment becomes the primary initiative for responsible economic development.

## Appendix

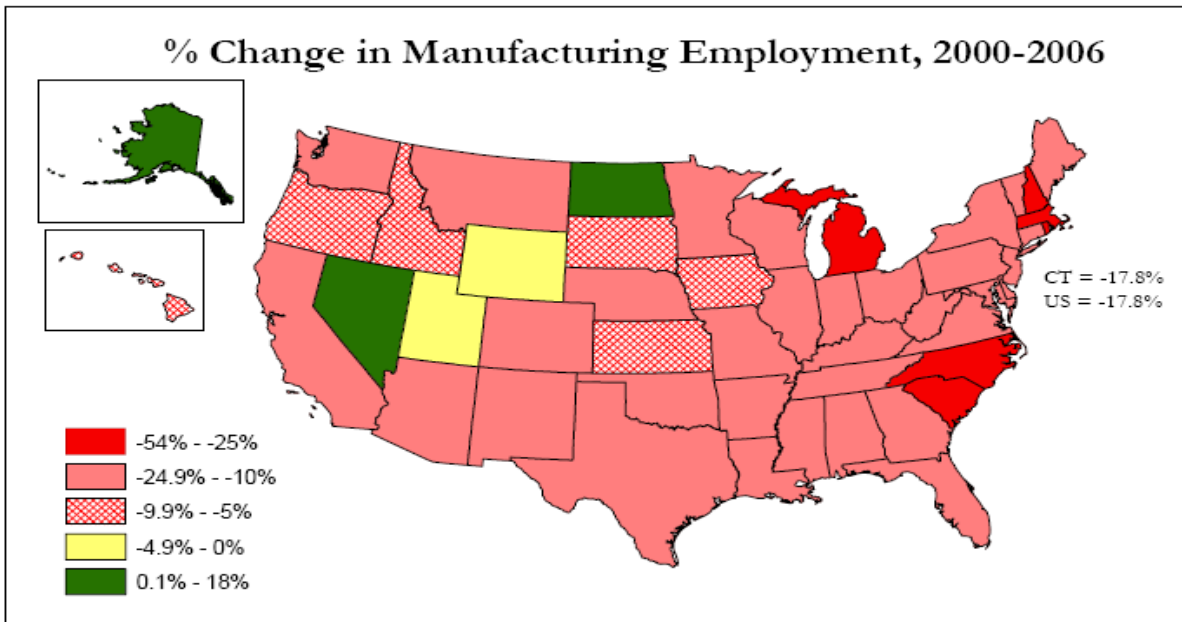
### Table 1: Composition of Employment by Industry

	CONNECTICUT		Not Seasonally Adjusted		MAR 2008
	APR 2008	APR 2007	CHANGE NO.	CHANGE %	
<b>TOTAL NONFARM EMPLOYMENT.....</b>	<b>1,701,300</b>	<b>1,689,400</b>	<b>11,900</b>	<b>0.7</b>	<b>1,683,800</b>
<b>GOODS PRODUCING INDUSTRIES.....</b>	<b>256,700</b>	<b>258,500</b>	<b>-1,800</b>	<b>-0.7</b>	<b>252,800</b>
<b>CONSTRUCTION, NAT. RES. &amp; MINING.....</b>	<b>67,300</b>	<b>67,800</b>	<b>-500</b>	<b>-0.7</b>	<b>63,200</b>
<b>MANUFACTURING.....</b>	<b>189,400</b>	<b>190,700</b>	<b>-1,300</b>	<b>-0.7</b>	<b>189,600</b>
<b>Durable Goods.....</b>	<b>143,500</b>	<b>143,600</b>	<b>-100</b>	<b>-0.1</b>	<b>143,500</b>
Fabricated Metal.....	32,700	33,300	-600	-1.8	32,600
Machinery.....	18,000	18,100	-100	-0.6	18,100
Computer and Electronic Product.....	13,900	14,200	-300	-2.1	13,900
Transportation Equipment.....	43,600	42,800	800	1.9	43,600
Aerospace Product and Parts.....	31,800	31,300	500	1.6	31,700
<b>Non-Durable Goods.....</b>	<b>45,900</b>	<b>47,100</b>	<b>-1,200</b>	<b>-2.5</b>	<b>46,100</b>
Chemical.....	15,200	15,700	-500	-3.2	15,200
<b>SERVICE PROVIDING INDUSTRIES.....</b>	<b>1,444,600</b>	<b>1,430,900</b>	<b>13,700</b>	<b>1.0</b>	<b>1,431,000</b>
<b>TRADE, TRANSPORTATION, UTILITIES.....</b>	<b>307,200</b>	<b>306,100</b>	<b>1,100</b>	<b>0.4</b>	<b>307,400</b>
Wholesale Trade.....	68,600	67,500	1,100	1.6	68,500
Retail Trade.....	186,000	186,400	-400	-0.2	186,200
Motor Vehicle and Parts Dealers.....	22,100	21,900	200	0.9	21,900
Building Material.....	16,500	16,800	-300	-1.8	15,500
Food and Beverage Stores.....	41,200	40,800	400	1.0	41,700
General Merchandise Stores.....	24,100	24,600	-500	-2.0	24,300
Transportation, Warehousing, & Utilities.....	52,600	52,200	400	0.8	52,700
Utilities.....	8,300	8,100	200	2.5	8,200
Transportation and Warehousing.....	44,300	44,100	200	0.5	44,500
<b>INFORMATION.....</b>	<b>38,800</b>	<b>38,000</b>	<b>800</b>	<b>2.1</b>	<b>38,800</b>
Telecommunications.....	13,100	13,200	-100	-0.8	13,100
<b>FINANCIAL ACTIVITIES.....</b>	<b>142,600</b>	<b>144,100</b>	<b>-1,500</b>	<b>-1.0</b>	<b>142,100</b>
Finance and Insurance.....	122,400	123,100	-700	-0.6	122,200
Credit Intermediation.....	30,000	31,600	-1,600	-5.1	29,900
Securities and Commodity Contracts.....	22,200	21,600	600	2.8	22,200
Insurance Carriers & Related Activities.....	65,400	65,100	300	0.5	65,300
Real Estate and Rental and Leasing.....	20,200	21,000	-800	-3.8	19,900
<b>PROFESSIONAL &amp; BUSINESS SERVICES</b>	<b>205,900</b>	<b>206,000</b>	<b>-100</b>	<b>0.0</b>	<b>201,500</b>
Professional, Scientific.....	94,300	92,600	1,700	1.8	93,900
Legal Services.....	14,400	14,400	0	0.0	14,400
Computer Systems Design.....	22,200	21,500	700	3.3	22,000
Management of Companies.....	25,000	25,100	-100	-0.4	24,700
Administrative and Support.....	86,600	88,300	-1,700	-1.9	82,900
Employment Services.....	29,800	31,800	-2,000	-6.3	29,900
<b>EDUCATIONAL AND HEALTH SERVICES</b>	<b>295,700</b>	<b>289,200</b>	<b>6,500</b>	<b>2.2</b>	<b>292,200</b>
Educational Services.....	59,100	58,400	700	1.2	56,100
Health Care and Social Assistance.....	236,600	230,800	5,800	2.5	236,100
Hospitals.....	58,500	57,100	1,400	2.5	58,700
Nursing & Residential Care Facilities.....	59,800	58,900	900	1.5	59,200
Social Assistance.....	42,500	40,500	2,000	4.9	42,600
<b>LEISURE AND HOSPITALITY.....</b>	<b>133,700</b>	<b>131,300</b>	<b>2,400</b>	<b>1.8</b>	<b>129,200</b>
Arts, Entertainment, and Recreation.....	22,800	22,500	300	1.3	21,100
Accommodation and Food Services.....	110,900	108,800	2,100	1.9	108,100
Food Serv., Restaurants, Drinking Places.....	99,400	97,200	2,200	2.3	96,900
<b>OTHER SERVICES.....</b>	<b>63,900</b>	<b>63,900</b>	<b>0</b>	<b>0.0</b>	<b>63,600</b>
<b>GOVERNMENT.....</b>	<b>256,800</b>	<b>252,300</b>	<b>4,500</b>	<b>1.8</b>	<b>256,200</b>
Federal Government.....	19,300	19,600	-300	-1.5	19,300
State Government.....	72,500	70,000	2,500	3.6	71,900
Local Government**.....	165,000	162,700	2,300	1.4	165,000



**Figure 1: Changing from a Manufacturing to a Service Economy**

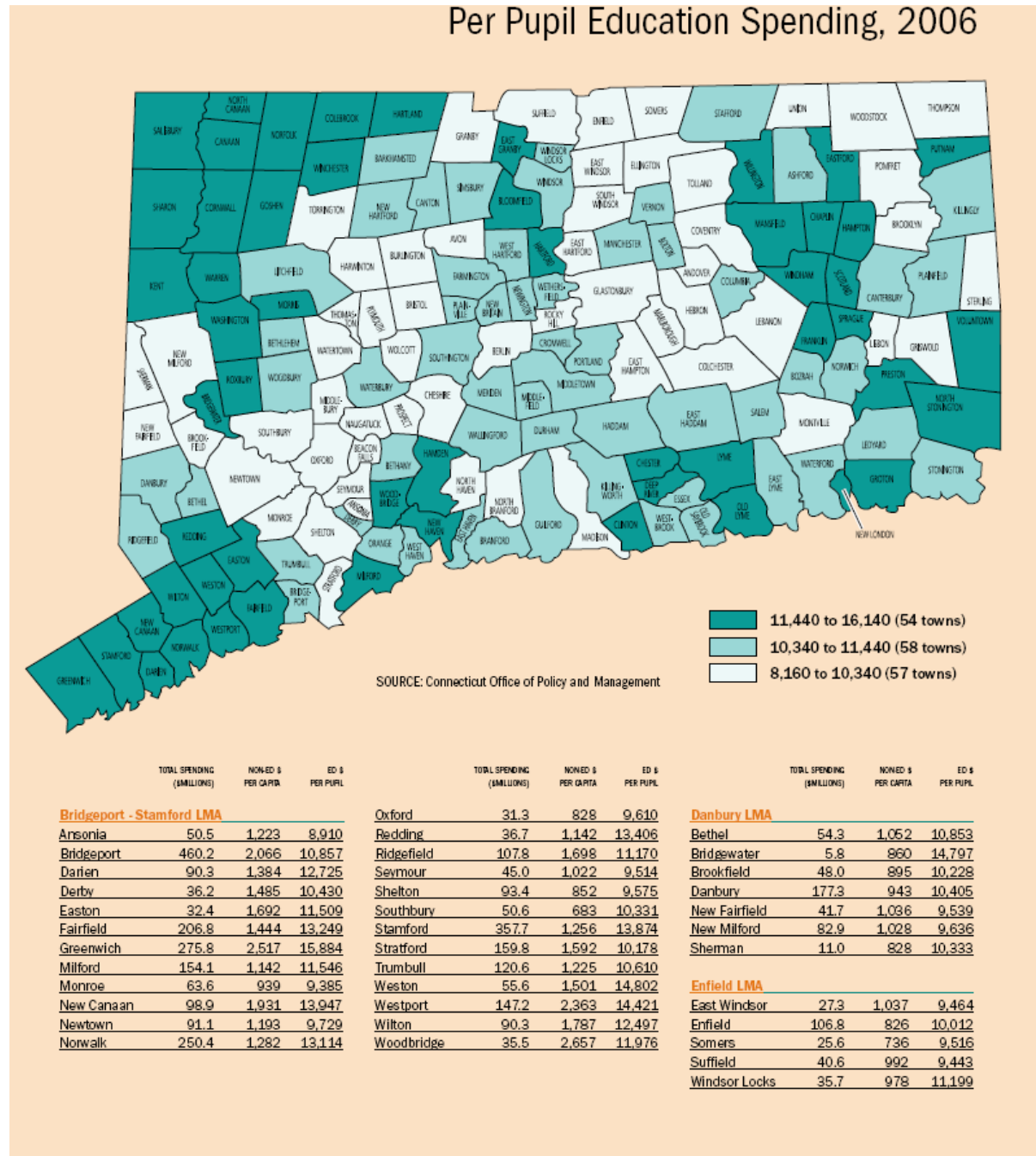
Connecticut has lost manufacturing jobs on a similar scale to the national decline.



Source: Connecticut Voices for Children and EPI Analysis of Current Population Survey

### Chart 1: Disparities Among Connecticut's 154 School Districts

There exists fragmentation and inefficiency in Connecticut's current education system due to the large number of districts that spend on average 60% of their budget on education.



Source: *The Connecticut Economy*, Summer 2008

**Chart 1: Continued**

	TOTAL SPENDING (\$MILLIONS)	NONED \$ PER CAPITA	ED \$ PER PUPIL
<b>Hartford LMA</b>			
Andover	9.1	695	9,806
Ashford	12.1	630	10,914
Avon	57.6	1,162	10,218
Barkhamsted	9.1	516	10,447
Berlin	58.8	1,178	9,786
Bloomfield	61.3	1,250	12,855
Bolton	15.7	884	11,324
Bristol	129.2	753	9,973
Burlington	25.6	753	9,572
Canton	28.7	951	10,480
Colchester	44.4	839	9,170
Columbia	14.0	682	10,411
Coventry	32.1	821	9,500
Cromwell	36.3	1,059	10,778
East Granby	14.9	863	11,828
East Haddam	23.4	787	10,849
East Hampton	32.3	787	10,101
East Hartford	150.6	1,398	10,119
Ellington	38.8	907	9,574
Farmington	77.1	1,177	10,513
Glastonbury	113.7	1,354	9,778
Granby	34.1	914	9,933
Haddam	21.5	755	10,929
Hartford	451.3	1,447	14,365
Hartland	6.3	874	11,845
Harwinton	13.4	726	9,572
Hebron	27.2	704	8,949
Lebanon	18.6	461	9,355
Manchester	136.0	844	11,201
Mansfield	38.0	434	13,465
Marlborough	18.0	803	9,971
Middlefield	12.1	710	11,432
Middletown	100.4	789	11,435
New Britain	181.6	897	10,603
New Hartford	22.5	1,238	10,848
Newington	80.0	1,007	10,602
Plainville	47.3	954	10,951
Plymouth	33.9	1,050	9,895
Portland	25.8	934	11,365
Rocky Hill	49.9	1,337	10,331
Simsbury	76.2	855	10,422

	TOTAL SPENDING (\$MILLIONS)	NONED \$ PER CAPITA	ED \$ PER PUPIL
South Windsor	78.4	941	9,904
Southington	105.5	798	10,415
Stafford	31.8	841	10,481
Thomaston	21.7	1,081	9,383
Tolland	44.6	919	9,235
Union	2.0	1,182	9,310
Vernon	70.3	830	11,126
West Hartford	191.4	1,270	10,842
Wethersfield	69.2	1,032	10,897
Willington	13.5	1,046	11,536
Windsor	79.7	846	11,429

	TOTAL SPENDING (\$MILLIONS)	NONED \$ PER CAPITA	ED \$ PER PUPIL
<b>New Haven LMA</b>			
Bethany	16.4	764	10,842
Branford	78.2	1,214	10,960
Cheshire	85.9	1,063	9,753
Chester	10.7	912	11,842
Clinton	38.5	888	11,535
Deep River	13.7	1,094	11,999
Durham	22.7	690	11,432
East Haven	77.8	1,189	10,585
Essex	17.0	790	11,311
Guilford	65.3	973	10,662
Hamden	155.8	1,240	12,040
Killingworth	21.2	1,073	10,929
Madison	55.9	885	9,421
Meriden	167.0	1,238	10,815
New Haven	411.7	1,911	14,258
North Branford	38.4	881	9,398
North Haven	72.9	1,362	9,618
Old Saybrook	31.0	1,231	11,069
Orange	48.8	1,301	11,135
Wallingford	124.2	989	10,344
West Haven	139.3	1,116	10,404
Westbrook	19.7	1,227	10,951

	TOTAL SPENDING (\$MILLIONS)	NONED \$ PER CAPITA	ED \$ PER PUPIL
<b>Norwich - New London LMA</b>			
Bozrah	6.4	906	10,362
Canterbury	12.7	513	11,246
East Lyme	54.0	983	10,801
Franklin	5.6	872	11,650
Griswold	28.4	520	9,667

	TOTAL SPENDING (\$MILLIONS)	NONED \$ PER CAPITA	ED \$ PER PUPIL
Groton	107.0	933	12,339
Ledyard	43.3	1,066	10,406
Lisbon	11.0	651	9,589
Lyme	7.8	1,356	14,483
Montville	49.6	839	10,239
New London	73.8	1,332	12,010
North Stonington	16.9	1,117	12,419
Norwich	93.9	951	10,771
Old Lyme	26.1	837	14,483
Preston	13.0	718	11,936
Salem	12.5	812	10,618
Sprague	10.3	1,490	12,381
Stonington	47.2	1,008	10,414
Voluntown	7.0	585	11,860
Waterford	61.5	1,235	11,025

	TOTAL SPENDING (\$MILLIONS)	NONED \$ PER CAPITA	ED \$ PER PUPIL
<b>Torrington LMA</b>			
Bethlehem	8.6	592	10,934
Canaan	4.2	1,135	16,135
Colebrook	4.7	925	12,392
Cornwall	5.3	1,175	15,383
Goshen	7.9	689	12,207
Kent	8.7	1,062	13,456
Litchfield	23.3	900	10,878
Morris	7.4	811	12,207
Norfolk	6.2	1,458	13,458
North Canaan	8.8	685	12,205
Roxbury	7.8	1,001	14,797
Salisbury	10.4	897	14,686
Sharon	9.3	1,249	15,500
Torrington	97.0	1,148	10,300
Warren	3.7	822	12,207
Washington	11.4	1,002	14,797
Winchester	29.7	1,009	11,942
Woodbury	24.1	739	10,934

	TOTAL SPENDING (\$MILLIONS)	NONED \$ PER CAPITA	ED \$ PER PUPIL
<b>Waterbury LMA</b>			
Beacon Falls	15.1	793	9,512
Middlebury	22.9	1,285	10,331
Naugatuck	90.1	1,181	9,975
Prospect	23.6	748	9,512
Waterbury	322.5	1,653	11,334
Watertown	51.4	851	8,163
Wolcott	45.9	949	8,516

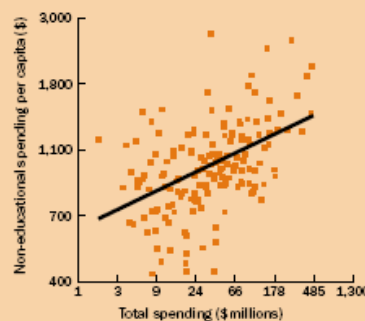
	TOTAL SPENDING (\$MILLIONS)	NONED \$ PER CAPITA	ED \$ PER PUPIL
<b>Willimantic - Danielson LMA</b>			
Brooklyn	18.5	583	9,695
Chaplin	6.4	655	14,419
Eastford	4.5	628	11,943
Hampton	5.5	825	14,478
Killingly	40.4	544	10,947
Plainfield	39.9	607	11,140
Pomfret	10.0	469	9,827
Putnam	18.8	437	12,290
Scotland	5.0	619	14,121
Sterling	8.1	427	9,822
Thompson	19.2	498	9,347
Windham	62.1	962	11,787
Woodstock	18.9	571	9,067

169 Town Average    **61.5**    **1,014**    **11,180**

**ABOUT THE CENTERFOLD**

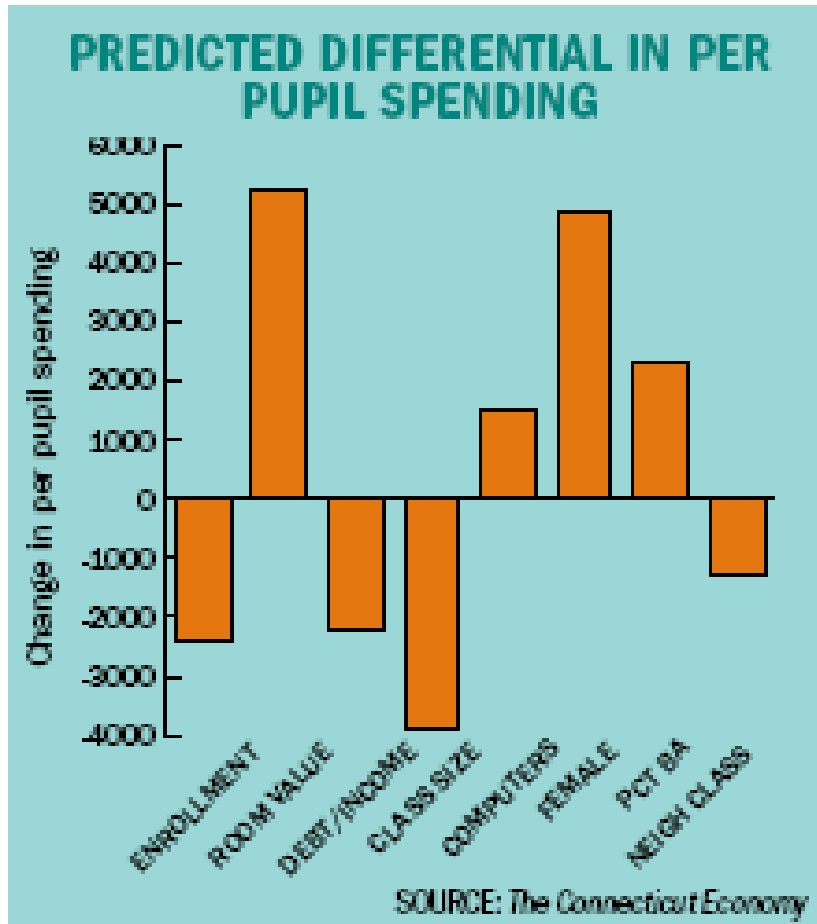
Education spending, mapped here on a per-pupil basis, accounts for 60% of local public expenditures. Per pupil spending averaged \$11,180 in 2006, but varied from a low of \$8,163 in Watertown to a high of \$16,135 in Canaan. Spending was highest in the cities, the northwest hills, the Fairfield County panhandle, and some of the towns surrounding UConn in Mansfield.

The scatterplot compares the other two variables in the table: total local spending and per capita non-educational spending. Total spending is largely a function of population, so towns with more residents have the largest budgets. But these same towns also tend to spend more per capita because of more extensive services and higher costs.



According to the following table, the difference between the least-efficient and the optimally sized school district comes to more than \$2,400 per student. Thus, increasing district enrollments through consolidations would likely lower costs.<sup>48</sup>

**Figure 2: Predicted Differential in Per Pupil Spending**



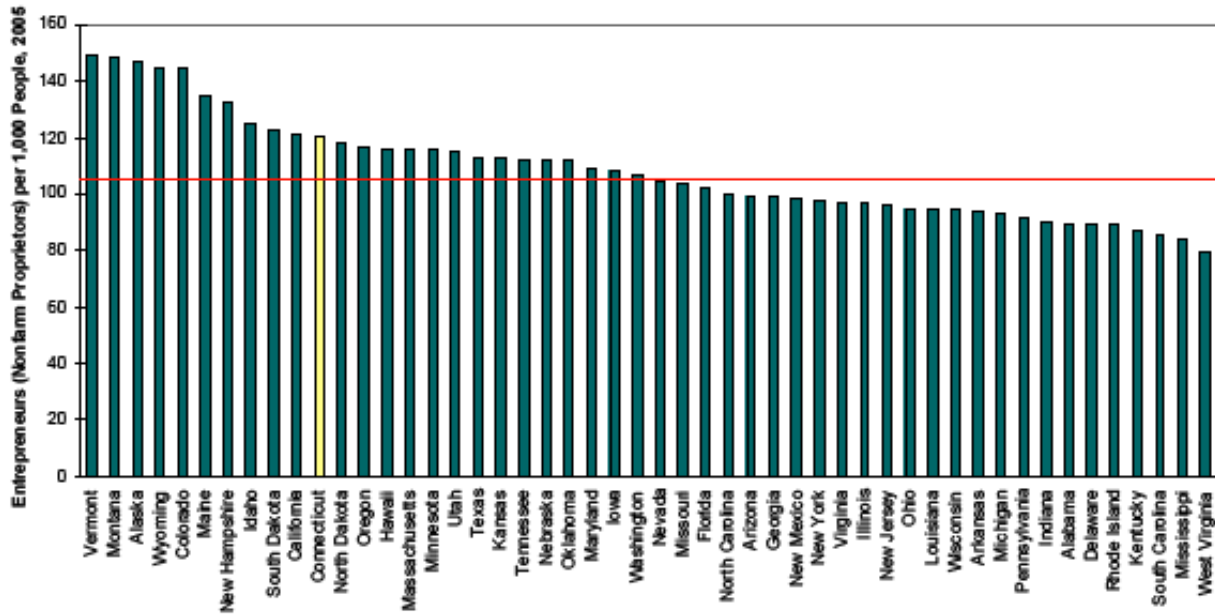
Source: *The Connecticut Economy*, Summer 2008

<sup>48</sup> The Connecticut Economy, Summer 2008

## Measures of Innovation (Present and Future)

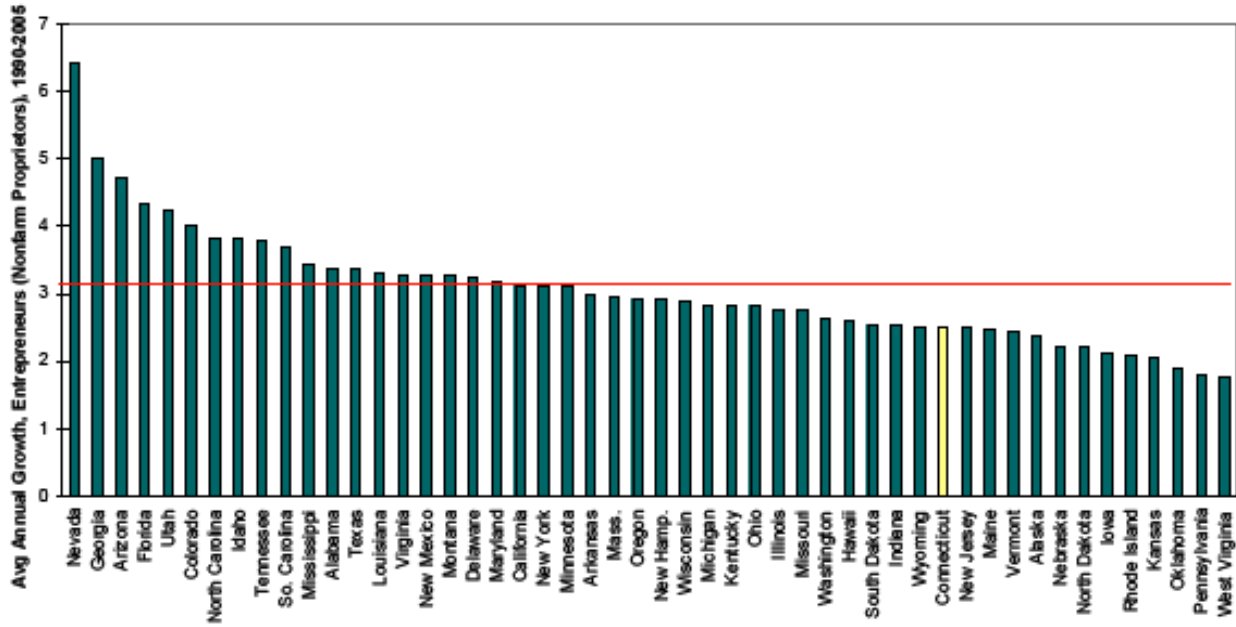
Connecticut compares well in terms of innovation measured by the product of this characteristic (the number of entrepreneurs per 1,000 population), but in terms of growth of this characteristic, Connecticut is near last place. Chart 2 illustrates this for entrepreneurialism, and this trend is similar for other categories such as the number of patents to patent growth as well as the use of technology.

**Chart 2: The Number of Entrepreneurs Per 1,000 People, 2006**



Source: U.S. Small Business Administration

**Chart 3: Growth in the number of entrepreneurs puts Connecticut near the bottom.**



Source: U.S. Small Business Administration

## Social Services

### Department of Social Services (DSS)

The mission of the Connecticut Department of Social Services (DSS) is to provide a continuum of care services to meet the basic needs of food, shelter, economic support and healthcare, promote and support the choice to live with dignity in one's own home and community, and promote and support the achievement of economic viability in the work force.

Each division of DSS provides programs, services and/or resources for the individuals, children and families of Connecticut. The divisions and their main responsibilities appear in Table 1.

**Table 1: Divisions and Responsibilities of the Department of Social Services**

Adult Services	The Adult Services Division is made up of two teams — the Adult Services Team and the Supplemental Nutrition Assistance Program or SNAP team. SNAP was called the Food Stamp Program until October 1, 2008 at which time Congress changed the name of the program. The division runs programs that give cash, medical and nutritional help. The State Supplement program, Medicaid for the Aged, Blind and Disabled (MAABD) and the Connecticut Assistance for Organ Transplant Recipients (ConnTRANS) programs help adults with disabilities and the elderly.
Affirmative Action	The Affirmative Action Division is responsible for the development, implementation and monitoring of employee/client rights protection programs for regional as well as central office locations.
Aging Services	The Aging Services Division ensures Connecticut's elders have access to the supportive services necessary to live with dignity, security, and independence. The Division administers Older Americans Act programs for supportive services, in-home services, and congregate and home-delivered meals. It also administers programs that provide senior community employment, health insurance counseling, and respite care for caregivers.
Bureau of Rehabilitation Services	The Bureau of Rehabilitation Services creates opportunities that allow individuals with disabilities to live and work independently. The division administers the Vocational Rehabilitation Program, Disability Determination Program (encompassing Social Security Insurance and Medicaid for Employed Disabled), the Independent Living Program, and the CT Tech Act Project.

Central Processing Division	<p>Central Processing’s mission is to provide highly focused and efficient services in the areas of revenue maximization, fraud reduction, electronic benefit provision, payment approvals, payments history research, oversight of the biometric identification program, specific Medicaid coverage groups as well as the provision of specialized operational support to both Central Office Divisions and Regional Offices.</p>
Certificate of Need and Rate Setting	<p>The primary functions of this division include establishing payment rates for certain medical and residential services, cost report auditing, and performing certificate of need reviews for nursing facility, residential care homes and ICF/MR development projects.</p>
Electronic Benefit Transfer	<p>The goals of the EBT project are to: provide a more reliable, stable, and convenient benefit delivery system; to provide a more cost effective and efficient benefit issuance system; to eliminate ATP card redemption, SNAP handling, and check cashing in Connecticut banks; to provide authorized SNAP retailers with EBT technology at the point-of-sale and streamlined accounting and settlement procedures for SNAP; to reduce the administrative costs of benefit issuance; and to reduce fraud and SNAP benefit trafficking associated with the paper benefit issuance process.</p>
Family Services	<p>The Family Services Division coordinates the planning, development, and implementation of programs, services and contracts that support families in achieving or maintaining self-sufficiency and independent living. The Division provides technical support to regional offices to ensure that services to clients are provided in a consistent manner and to external contractors, which assist in service delivery to families and children.</p>
Financial Management and Analysis	<p>The Division of Financial Management and Analysis (DFMA) supports the department through the provision of a full range of operational and budgetary financial functions. These financial management activities are provided through budgeting, client accounting services, funds management and reporting, payroll and accounting support, and actuarial and analytical support.</p>
Human Resources	<p>The Human Resource Division is responsible for providing technical guidance and support to the employees of the central and regional offices. Staff is involved in addressing issues that impact human resource management for the agency as a whole, through coordination of policy issues, involvement in labor relations activity and, in general, with the objective of ensuring that the quality of human resource service throughout the department remains consistent.</p>



Legal Counsel, Regulations and Administrative Hearings	<p>The Office of Legal Counsel, Regulations, and Administrative Hearings (OLCRAH) provides the opportunity for applicants and recipients of DSS programs to contest actions taken by the department.</p>
Information Technology Services	<p>The Information Technology Services (ITS) Division of DSS has two distinct sections, Information Technology Technical Services and Support Services. These sections have provided extensive technical support to both the program and administrative areas of the agency</p>
Medical Administration Policy	<p>The Medical Administration Policy Division is involved in analyzing issues, determining policy and designing and undertaking new initiatives relating to Medicaid. The Medical Administration Policy Division is composed of two teams, Benefit Design and Program Analysis and Managed Care.</p>
Medical Administration Operations	<p>The Medical Care Administration Division is responsible for overseeing the administration, policy, regulations and operations of the Medical Assistance Programs for the agency's clients.</p>
Organizational and Skill Development	<p>This division supports the organization through services that contribute to the development of a learning community that builds the competency of staff and the organization to meet the DSS mission. The core services include: training and staff development, organizational development, and media and graphic support.</p>
Public and Government Relations	<p>The Public and Government Relations (PGR) office is responsible for the full range of communications, legislative and information and referral activities. The Public and Government Relations office also acts as a commissioner's liaison to community-based organizations, private sector organizations and other public interest groups.</p>
Quality Assurance	<p>The Office of Quality Assurance maximizes the resources available to families and individuals that need assistance by assuring quality, accuracy, efficiency and effectiveness in the delivery of DSS programs. This is accomplished by ensuring that: adequate internal controls are in place and functioning; fraud is deterred and pursued; overpayments to providers and clients are reduced or recouped; and unnecessary costs are avoided.</p>
Social Work and Prevention Services	<p>This division develops services and methods of service delivery designed to respect the client's right to self determination and empower and protect individuals, families and those who are economically disadvantaged or otherwise vulnerable.</p>

Strategic Planning

The Office of Strategic Planning (OSP) assists the Commissioner in developing and defining the purpose and future direction of the agency, coordinates the development of the agency's vision, mission, long-range goals and operating principles, and develops the agency's strategic plan.

Source: CT DSS, <http://www.ct.gov/dss/site/default.asp>

The 2006 fiscal year budget shows that DSS was responsible for the oversight of more than \$4.5 billion in state funds for the programs it administers.<sup>1</sup>

### **Department of Developmental Services (DDS)**

The Connecticut Department of Developmental Services, previously known as the Department of Mental Retardation, provides various services and support to eligible individuals with mental disabilities. Its mission is to join with others to create the conditions under which all people served experience:

- Presence and participation in Connecticut town life;
- Opportunities to develop and exercise competence;
- Opportunities to make choices in the pursuit of a personal future;
- Good relationships with family members and friends; and
- Respect and dignity.

Persons with disabilities may be afflicted with an array of physical, mental, and/or developmental conditions that constrain their possibilities for obtaining suitable employment, housing, transportation, or support. DDS provides case management, family support, community living services, respite services, employment, training and day services, transportation, and health and clinical services.

Table 2 displays statewide and county population data for citizens with mental disabilities. There were an estimated 156,119 mentally disabled persons in 2006 in Connecticut. The severity of disability varies by person.

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<sup>1</sup> Connecticut Department of Social Services, <http://www.ct.gov/dss/cwp/view.asp?a=2349&q=304846>.

**Table 2: Persons with Mental Disabilities**

	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Percent of Non-institutionalized Population</b>
<b>Connecticut</b>	77,659	78,460	156,119	4.82%
<b>Fairfield County</b>	17,219	18,607	35,826	1.11%
<b>Hartford County</b>	21,443	20,124	41,567	1.28%
<b>Litchfield County</b>	4,416	4,250	8,666	0.27%
<b>Middlesex County</b>	3,978	2,749	6,727	0.21%
<b>New Haven County</b>	18,024	21,421	39,445	1.22%
<b>New London County</b>	6,169	7,058	13,227	0.41%
<b>Tolland County</b>	2,089	1,740	3,829	0.12%
<b>Windham County</b>	4,321	2,511	6,832	0.21%

Source: ACS 2006

The DDS fiscal year 2007 budget exceeded \$866 million, and provided services to more than 19,000 individuals. Additionally, during the previous fiscal year, DMR operated programs that generated \$337 million in federal reimbursement to the state, a 138% increase from the \$141 million generated in fiscal year 1995.<sup>2</sup>

DDS offers supportive housing to persons within the DDS system. In March 2008, the number of people receiving services from DDS was 15,193 and 5,649 of these people were enrolled in supportive housing. The number of DDS persons living in a campus style facility, the Southbury Training School or DDS centers, was 770. Three thousand one hundred sixty-three persons were in Community Living Assignments (CLA), also known as group homes. Community Training Homes offered supportive housing options for 395 DDS participants. Some persons receiving DDS services receive housing support from other state agencies. The Department of Mental Health and Addiction Services, the Department of Correction and the Department of Children and Families provided housing support for 120 people. There were 419 people receiving housing support from Connecticut's elderly programs. One hundred eleven people were in residential schools and 113 people were in other supportive housing programs while receiving DDS services.

### **Department of Mental Health and Addiction Services (DMHAS)**

The Department of Mental Health and Addiction Services (DMHAS) promotes and administers comprehensive, recovery-oriented services in the areas of mental health treatment and substance abuse prevention and treatment throughout Connecticut.

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<sup>2</sup> Department of Developmental Services, "Report to Connecticut Citizens 2006-2007," <[http://www.ct.gov/dds/lib/dds/commissioner/report\\_to\\_ct\\_citizens2006-2007.pdf](http://www.ct.gov/dds/lib/dds/commissioner/report_to_ct_citizens2006-2007.pdf)>

While the department's prevention services serve all Connecticut citizens, its mandate is to serve adults (over 18 years of age) with psychiatric or substance use disorders, or both, who lack the financial means to obtain such services on their own. DMHAS provides collaborative programs for individuals with special needs, such as persons with HIV/AIDS infection, people in the criminal justice system, those with problem gambling disorders, substance abusing pregnant women, persons with traumatic brain injury or hearing impairment, those with co-occurring substance abuse and mental illness, and special populations transitioning out of the Department of Children and Families.

DMHAS operates on the belief that most people with mental illnesses and/or substance use disorders can and should be treated in community settings, and that inpatient treatment should be used only when absolutely necessary to meet the best interests of the patient. Effective care requires that services such as residential, supportive, rehabilitative and crisis intervention programs are available within their local communities.<sup>3</sup>

DMHAS' FY 2009 Current Services Budget is approximately \$590 million. The department receives approximately \$20 million in federal block grant funds and received more than \$155 million in federal grant funds between 1997 and 2008. Major grant awards are for mental health transformation, access to recovery I and II (substance use), co-occurring (mental health and substance use), prevention of underage drinking, and suicide prevention. Over 90,000 individuals receive care annually in the DMHAS service system. In addition, thousands of citizens benefit from prevention and health promotion services.<sup>4</sup>

### **Department of Children and Families (DCF)**

Working together with families and communities to improve child safety, ensuring more children have permanent families, and advancing the overall well-being of children is the central focus of the Department of Children and Families (DCF). DCF protects children who abused or neglected, strengthens families through support and advocacy, and builds on existing family and community strengths to help children who face emotional and behavioral challenges, including those committed to the department by the juvenile justice system.

DCF is one of the nation's few agencies to offer child protection, behavioral health, juvenile justice, and prevention services. This comprehensive approach enables DCF to offer quality services regardless of how a child's problems arise. Whether children are abused or neglected, are involved in the juvenile justice system, or have emotional, mental health or substance abuse issues, the department can respond to these children in a way that draws upon community and state resources to help them.

DCF supports in-home and community based services through contracts with service providers.

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<sup>3</sup> Department of Mental Health and Addiction Services website: <http://www.ct.gov/dmhas/site/default.asp>

<sup>4</sup> Department of Mental Health and Addiction Services, "Briefing Book 2009," <http://www.ct.gov/dmhas/lib/dmhas/publications/briefingbook09.pdf>

In addition, the department runs five facilities: a secure facility for boys who are committed to the department as delinquents by the juvenile courts (the Connecticut Juvenile Training School); a children’s psychiatric hospital (Riverview Hospital); two residential facilities (Connecticut Children’s Place and High Meadows); and an experiential program for troubled youth in Connecticut (the Wilderness School).<sup>5</sup>

Table 3 shows the 2007 average numbers for services facilitated by DCF.

<b>Table 3: On Any Given Day There Are</b>	
2,782	Children in foster care
1,067	Children in relative care
814	Children in residential care
207	Children in DCF Facilities
129	Adolescents in Independent Living
168	Children in Safe Homes
105	Children in Shelters

Source: DCF Averages for 2007 Calendar Year

### **HUD Emergency Shelter Grants (ESG)**

The U.S. Department of Housing and Urban Development (HUD) is responsible for the Emergency Shelter Grant (ESG) Program, which provides homeless persons with basic shelter and essential supportive services. It can assist with the operational costs of the shelter facility, and for the administration of the grant. ESG provides short-term homeless prevention assistance to persons at imminent risk of losing their housing due to eviction, foreclosure, or utility shutoffs. HUD defines a “homeless” person as one who lacks a fixed, regular, and adequate nighttime residence, for example, one who frequents a public or private place not designed for, or ordinarily used as, regular sleeping accommodations for human beings; or, an individual who has a primary nighttime residence that is supervised by a publicly or privately operated shelter designed to provide temporary living accommodations. Shelter facilities that may receive assistance include an institution that provides a temporary residence for individuals intended to be institutionalized. This definition of homeless does not include individuals imprisoned or detained pursuant to state law or an act of Congress.

In accordance with HUD guidelines for proper homeless survey techniques, Connecticut conducted its first ever point-in-time count of the sheltered and unsheltered homeless populations on the night of January 30, 2007. The final report is titled Connecticut Counts 2007. According to the report, volunteers counted 3,325 homeless households. In accounting for the homeless sheltered population, Connecticut Counts 2007 does not incorporate residents of transitional housing programs that are not specifically designated for homeless people into the results. For example, residents of mental health, substance abuse,

<sup>5</sup> Connecticut Department of Child and Families Website. <http://www.ct.gov/DCF/site/default.asp>

and child welfare programs were only counted if the program specifically serves homeless people.

Authors of the report emphasize that the final count is not to be interpreted as a representation of the full scope of homelessness, but the study is important as a baseline measure to compare the effectiveness of future initiatives to end homelessness. In fact, the Connecticut Coalition to End Homelessness and the Reaching Home Campaign (both sponsors of CT Counts 2007) prefer to give the public a more holistic perspective. They estimate that in a given 12-month period, approximately 33,000 individuals (including 13,000 children) in Connecticut experience homelessness to varying degrees. This figure encompasses those who are on the brink of losing their homes in addition to those that experience homelessness.

The results indicate that just over two-thirds of sheltered adults in families were between ages 22 and 39, as opposed to the majority of sheltered single adults (57%) who were between 40 and 59 years old. Interestingly, 72% of sheltered single adults are male, whereas 83% of sheltered adults in families are female. This suggests that most homeless women belong to families as single mothers. Similar trends prevail in the unsheltered population, where 80% of single adults are male and 74% of adults in families are female.

To better trace the roots of homelessness, surveyors interviewed the homeless about the primary reason for leaving their last permanent residence. Table 4 displays the results.

<b>Table 4: Reason Left Last Residence</b>								
	<b>Sheltered</b>				<b>Unsheltered</b>			
	<b>Single Adults</b>	<b>%</b>	<b>Adults in Families</b>	<b>%</b>	<b>Single Adults</b>	<b>%</b>	<b>Adults in Families</b>	<b>%</b>
Rent Problems	518	24%	139	31%	180	25%	11	29%
Evicted for a reason other than rent problems	248	12%	60	13%	99	14%	2	5%
Conflict with family or friends	396	19%	83	19%	120	17%	5	13%
Overcrowding	47	2%	22	5%	18	3%	1	3%
Domestic Violence	72	3%	73	16%	28	4%	5	13%
Went to prison or jail	271	13%	22	5%	101	14%	1	3%
Went into the hospital	105	5%	0	0%	4	1%	0	0%
Housing condemned	20	1%	9	2%	8	1%	1	3%
Fire	11	1%	6	1%	6	1%	0	0%
Other	619	29%	97	22%	136	19%	4	11%
Unknown	148	7%	16	4%	134	19%	13	34%

Source: CT Counts 2007

DSS has historically reported the leading causes of homelessness as alcohol/drug abuse, unemployment, and insufficient income. Across all groups in the CT Counts 2007 survey, “rent problems” was the number two reason cited as the cause of homelessness. “Rent problems” refers to a household’s failure to make periodic housing payments. This failure could be attributed to a number of financial or housing problems such as a lack of affordable housing supply in Connecticut. In addition to forces in the housing market, rent problems could be caused by personal issues such as substance abuse or unemployment. The most frequent choice for respondents was the “other” category, which could be interpreted in a number of ways, not the least of which could be a problem with alcohol or drug abuse.

At the same time, chemical dependency may trigger several of the above scenarios, including family/friend conflict, eviction, or hospitalization. Among single adults, a striking 13% of sheltered and 14% of unsheltered persons were incarcerated, and once released were forced

into poverty and homelessness. It is common for released prisoners to have difficulty finding a job and affordable housing, leading many to eventually return to jail.

A regular measure of homelessness in Connecticut comes from the DSS Annual Homeless Shelter Demographic Report. The latest report states that from October 2006 to September 2007, 13,779 people used available emergency shelters in the state. However, in the same period, these shelters turned people away 34,026 times. The three cities with the highest rates of people turned away among reporting shelters were New Haven, East Hartford and Hartford; all number in the thousands annually.

Of the number of homeless clients served by homeless shelters from 2006 to 2007, 9,904 (72%) of them were single. There were 1,284 (9.3%) families that stayed in homeless shelters, and those families included 2,295 (16.7%) homeless children.

An accurate record of the chronically homeless is difficult to determine even with the best survey methodologies. CT Counts 2007 surveyed those persons who have been without a permanent residence for various lengths of time. If respondents indicated that this period was greater than three years, they were categorized as chronically homeless. The results convey that an alarming 52% of unsheltered single adults were chronically homeless. The second highest rate (36%) occurred among sheltered single adults. It is important to note that single homeless adults reported a high incidence of mental, physical, or developmental disability. Forty percent of sheltered and 45% of unsheltered single adults cited that they had some type of health condition that limits their ability to work, get around, care for themselves or otherwise provide for their needs. In addition, 41% of sheltered and 26% of unsheltered adults were in need of mental health services at the time of the count. Table 5 reports CT Counts 2007 survey results.

The Continuum of Care, a program sponsored by HUD, is a community-based, long-range plan that addresses the needs of homeless persons in order to help them reach maximum self-sufficiency. A broad cross section of the community developed the program collaboratively and it is based on a thorough assessment of homeless needs and resources. HUD recommends the Continuum of Care as a comprehensive and strategic approach to addressing homelessness. The application process for Continuum of Care funding includes an estimate of homeless populations and subpopulations for each state.



<b>Table 5: Homeless Populations and Subpopulations in CT</b>				
<b>Household Type</b>	<b>Sheltered</b>		<b>Unsheltered</b>	<b>Total</b>
	<b>Emergency Shelter</b>	<b>Traditional Housing</b>		
Persons in Individual Households	1,941	1,060	503	3,504
Persons in Family Households with Children	899	558	214	1,671
Total Homeless Persons in Households	2,840	1,618	717	5,175
<b>Subpopulation Type</b>	<b>Sheltered</b>		<b>Unsheltered*</b>	<b>Total</b>
Chronically Homeless	980		333	1,313
Severely Mentally Ill	1,310		169	1,479
Chronic Substance Abuse	1,701		221	1,922
Veterans	361		24	385
Persons with HIV or AIDS	226		33	259
Victims of Domestic Violence	387		29	416
Unaccompanied Youth less than 18 Years	360		7	367

\*Provision of information on unsheltered homeless subpopulations was optional in the 2006 CoC application.

Source: Continuum of Care 2006

One aspect of the Continuum of Care program is that it funds housing-related projects designed to serve the homeless population. Table 6 shows the funding awards received by Connecticut homeless housing programs in 2006.

<b>Table 6: Continuum of Care Funding Awards by Program Component</b>					
<b>Program Component</b>	<b># of Projects</b>	<b>New Projects</b>	<b>Renewal Projects</b>	<b>Total</b>	<b>% of State Award</b>
Permanent Supportive Housing	71	\$2,698,804	\$13,249,512	\$15,948,316	71%
Transitional Housing	24	\$0	\$5,428,338	\$5,428,338	24%
Supportive Services Only	4	\$0	\$737,077	\$737,077	3%
Homeless Management Information Systems (HMIS)	6	\$23,045	\$310,165	\$333,210	1%
<b>Grand Total</b>	105	\$2,721,849	\$19,725,092	\$22,446,941	100%

Source: Continuum of Care 2006

Additionally, the ESG program helps domestic violence victims and provides safe housing options for them. According to the American Institute on Domestic Violence, 85 to 95% of nationwide domestic violence victims are female. Victims of domestic violence are forced to turn outside of the home for shelter, safety, and support. Connecticut's lack of affordable housing reduces the level of independence and mobility that abused women need in order to leave their current situation. Often victims will have poor credit, rental, and employment histories as a result of their abuse. These factors further complicate the process of their securing new housing opportunities.

The 2007 National Census of Domestic Violence Services surveyed 10 out of 16 local domestic violence programs in Connecticut. It provides a snapshot of the adults and children served during one 24-hour period (September 25th). One hundred and eighty-six domestic violence victims received housing services, while 649 adults and children sought non-residential advocacy and services such as individual counseling, legal advocacy, and children's support groups.

For the 2006-07 fiscal year, the Connecticut Coalition Against Domestic Violence (CCADV) sheltered 1,601 persons. There were 2,157 persons requesting shelter, but did not stay. More than 32% did not stay because of a lack of beds. Of the 2,157 that needed a safe place to stay, 1,445 were referred to other domestic violence or homeless shelters. The CCADV is just starting to collect statistics on the living situation of domestic violence victims after they seek assistance from the CCADV. After living in a shelter, 96 victims have returned to the previous abusive living situation. The leading reason is a lack of affordable housing.

## Housing Opportunities for Persons with AIDS (HOPWA)

HIV/AIDS continues to be a major concern in Connecticut. The disease was first reported in the state during the early 1980s, and the number of HIV/AIDS cases continues to rise despite a slowing rate of growth. As of 2007, 10,731 people were reported by the Connecticut Department of Public Health to be living with HIV/AIDS (PLWHA). However, this number is almost certainly an underestimate of actual HIV/AIDS cases in the state considering the fact that HIV reporting was not required prior to 2002 and that some PLWHA are not aware of their infection. Table 7 gives a sense of the trend in HIV/AIDS cases in Connecticut over the last year.

<b>Table 7: Trends in HIV/AIDS Cases</b>				
<b>Year</b>	<b>Reported AIDS</b>	<b>Reported HIV</b>	<b>Deaths</b>	<b>Prevalent HIV AIDS</b>
1997	1,175	4	344	5,575
1998	642	4	311	5,973
1999	580	3	316	6,369
2000	581	4	305	6,775
2001	554	4	288	7,156
2002	592	264	287	7,895
2003	690	267	270	8,536
2004	672	291	296	9,095
2005	569	772	256	9,564
2006	539	852	133	10,171
2007	445	855	28	10,731

Source: CT Dept. Public Health 2007

The PLWHA population in Connecticut is extremely concentrated in the three largest urban areas in the state: Bridgeport, Hartford, and New Haven. These three cities contain 5,000 citizens living with HIV/AIDS, which is 47% of the total PLWHA population in Connecticut. Table 8 provides specific numbers of PLWHA in selected Connecticut cities.

<b>Table 8: PLWHA in Selected Cities</b>	
<b>Town of Residence</b>	<b>People Living with HIV/AIDS</b>
Bloomfield	72
Bridgeport	1,343
Bristol	83
Danbury	221
East Hartford	199
East Haven	70
Greenwich	64
Groton	50
Hamden	119
Hartford	2,089
Manchester	89
Meriden	208
Middletown	156
Milford	63
New Britain	397
New Haven	1,568
New London	194
Norwalk	348
Norwich	144
Stamford	525
Stratford	96
Torrington	64
Wallingford	59
Waterbury	704
West Hartford	75
West Haven	188
Windham	126
Other Towns	1,417

Source: CT Dept. of Public Health 2007

## **Department of Corrections**

The Department of Corrections (DOC) ensures the security of the state's 18 correctional facilities. The mission of DOC is to protect the public, protect staff, and provide safe, secure and humane supervision of offenders with opportunities that support successful community reintegration. DOC provides the programming, counseling, education and treatment to

inmates that they can utilize to improve themselves. DOC provides programs and structured activities with clearly defined behavioral expectations for offenders. The department's focus is on successful strategies to reduce recidivism and support offenders in returning to their communities. The 2008 DOC budget was \$691,135,411.

DOC contracts for approximately 600 halfway house beds throughout the state. These programs assist offenders in the process of reintegrating into society, and may include employment assistance, substance abuse treatment, mental health and housing assistance. The Court Support Services Division supervises approximately 52,000 probationers and, as part of Connecticut's balanced program to alleviate overcrowding in the state's prisons, DOC has developed a major network of Alternative Incarceration Programs. By diverting less serious offenders to community punishment and supervision programs, Connecticut ensures that prison space remains available for more serious offenders.

The department continues to face the challenges of providing adequate and appropriate risk/need assessment, case planning and pre-release services and intensive supervision and case management once offenders are back in the community. The most critical needs within 72 hours of release are medical services, registration for benefits, supervision compliance and access to appropriate and safe housing. The majority of offenders who violate parole have housing issues, with nearly 50% listing local shelters as their address at the time of parole violation. DOC recognizes that the problems of re-entry are not strictly a correction or a criminal justice issue but a community issue, and that creative solutions require collaboration, coordination and partnership with a wide range of state, local, non-profit and community groups.

### **Veterans Affairs**

The Department of Veterans Affairs (DOVA) offers many benefits and social services to Connecticut's 31,000 veterans with the mission of, "Serving those who served." Opportunities facilitated by the DOVA include the following: housing, health care, educational, financial assistance, motor vehicle, employment, retirement and burial. Funding for veteran services is composed of federal and state dollars.

### **Non-Governmental Organizations**

It is important to mention that Connecticut has a vast network of private and not-for-profit organizations that provide social services to the state's residents. Thousands of non-governmental organizations are assisting to promote welfare for all of Connecticut.

## **SUMMARY**

Social services is not only a large government expenditure each fiscal year, but numerous private and non-profit organizations are necessary to provide proper facilities and complement programs for Connecticut's citizens. DSS contains 19 different divisions and oversees \$4.5 billion in services and programs. These programs are vital to providing housing, counseling and medical assistance. With a growing number of citizens relying on welfare and governmental housing, the need for workforce development for these groups is essential.

## Land Use in Connecticut

### Overview

Land use is crucial to economic development and transportation is crucial to land use. The critical linkage among the three necessitates a thorough understanding of the principles of growth management such that proceeding from where we are protects and sustains our vital water, land and natural resources and is supported to the extent possible by the established infrastructure. Connecticut's Plan of Conservation and Development is an important contribution to the understanding of the status quo and contains a comprehensive set of policies for sustaining and improving our quality of life with rational use of our land and economic and transportation development that proceeds according to sound growth management principles.

### Growth Management Principles

The Plan of Conservation and Development lists the following growth management principles that we take as a framework for understanding the current land use situation in the state.

1. Redevelop and revitalize regional centers and areas with existing or currently planned physical infrastructure;
2. Expand housing opportunities and design choices to accommodate a variety of household types and needs;
3. Concentrate development around transportation nodes and along major transportation corridors to support the viability of transportation options;
4. Conserve and restore the natural environment, cultural and historical resources, and traditional rural lands;
5. Protect and ensure the integrity of environmental assets critical to public health and safety; and
6. Promote integrated planning across all levels of government to address issues on a statewide, regional and local basis.

### Land Use and Infrastructure

The availability of infrastructure is an integral part of economic development. In regions without roads, utilities, sewers, or water, economic growth will not occur. As discussed below, Connecticut's municipalities are responsible for planning and regulating land use and economic development within their borders. The lack of integration between these two functions has had a cumulative effect on unintended development and the inefficient use of transportation resources.

Over the past several decades, population migration from cities to suburbs has made it increasingly difficult and expensive to accommodate society's demand for mobility. As land use patterns change, the transportation system faces new demands in certain areas while other areas have underutilized capacity. The effort and cost to maintain this expansive network, limits the state's responsiveness to the deficiencies in the transportation system. Municipalities have experienced increased fiscal burden to maintain (and plow) the expanding road network.

Today's suburban communities are characterized by their low-density, single-use patterns of development that seldom support any form of transportation other than the automobile.

Commuting patterns that traditionally involved a central hub now often cut across regions from suburb to suburb. Highway-accessible shopping malls, corporate offices, and industrial complexes have drawn considerable retail and employment away from regional metro centers, further limiting public transportation's ability to respond to convoluted travel demands. As a result, suburban arterial roads must handle significantly more traffic than they were designed to accommodate.

Experience confirms that the state cannot build its way out of congestion, as short-term improvements in highway expansion often exacerbate development pressures at the suburban fringe. The solution requires a consistent, long-term approach to match land development with the ability of the transportation network to provide an acceptable level of mobility. There is no single cure for congestion, but transportation options can become viable over time as more concentrated land use patterns emerge through prioritized infill development around transportation nodes and along major transportation corridors.

### **Land Use and Zoning**

There is a strong connection between zoning regulations and land use in Connecticut. Zoning regulations dictate the location of specific types of development within municipal borders. Hence, their effect on local development patterns is significant. Municipal zoning regulations are determined at the local level by planning officials and boards. With the exception of the call for municipal plans of conservation and development, the state government remains aloof from the local economic development process except as environmental protection is concerned. As most states tend to regionalize zoning practices, Connecticut's situation is unique.

Under Connecticut's home rule system of government, each municipality has the autonomy to regulate local land use in a manner that is both fiscally and environmentally responsive to its residents' needs and desires. To a certain degree, municipal land use decisions can be influenced by state infrastructure plans and capital investments in transportation facilities, public water supply and sewer lines, sewage treatment plant upgrades, and property acquisitions for open space and other restricted development purposes.



There are consequences of this land use system. First, regulation decisions ultimately rest in the hands of a specific town planning board or commission. While the municipal population does have some say in economic development matters, significant decisions are beyond the public's reach. For example, there is no opportunity for a referendum on a contentious development issue. Anyone can seek to appeal a planning or zoning commission decision to superior court by following the procedure specified in CGS § 8-8, which includes giving the commission and other affected parties advanced notice of the appeal. No state board, commission, or agency is authorized to hear appeals or act on its own to overrule a local land use decision. Although anyone can seek to appeal a land use decision, the court will not hear it unless the appellant can demonstrate they have standing.

The state could override local zoning, because towns are creatures of the state. However, under current law, the state has delegated land use in Connecticut as a matter of local jurisdiction. CGS § 8-2 gives towns broad discretion in adopting and amending zoning ordinances, which dictate how land may be used. Notwithstanding, the statutes do place some restrictions on zoning ordinances.

The implication is that a town's development pattern or development agenda does not always reflect the wishes and needs of the local population. Further, there is little inter-town coordination of economic development entailing competing and perhaps redundant developments. Although significant heterogeneity among towns fosters Tiebout-style competition in which people vote with their feet,<sup>1</sup> it does not bode well for development continuity from one town to the next, and discouraged households may leave the state altogether.

### **Transit-supportive Land Use**

State investments in public transportation equipment and operations cannot be cost-effective without supportive land use planning and design. Transit-supportive land use is a process whereby communities plan and zone for intensive, mixed-use development in close proximity to transit stations or along transit corridors where physical infrastructure is typically already in place. A wide variety of transportation options, including train, bus, car, bicycle and walking should be integrated into the area's design in order to provide travel choices and improve the overall effectiveness of the transit system for all its users.

Transit-supportive land use presents opportunities for infill development and redevelopment in underutilized areas, including a wide variety of housing types and prices, and reduces the number of automobile trips. By mixing employment, residential, retail, and leisure activities into concentrated areas, transit service can become more viable. Furthermore, station area

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<sup>1</sup> Traditionally, economists have looked at competition and public service provision in two ways. The first, pioneered by Charles Tiebout in the mid-1950s, argued that local governments compete with each other based on cost. People "vote with their feet" to choose the local government that provides them with the right number of services at preferred levels and costs. This approach implies that rivalry among local governments improves service quality. An alternative, but complementary line of reasoning, argues that as government functions are consolidated, or more functions move to "higher levels" of government (e.g., federal rather than state, state rather than local, etc.).

development is a way to bring visitors into a community to shop or dine without adding to traffic on local roads.

Transit-supportive land use is more than addressing the transportation engineering aspect of moving people safely and efficiently. It is about creating an environment that facilitates opportunities for social interaction and “walkability.” This can be an attractive environment for many, including young professionals, college students, senior citizens, and others who might choose to live and work nearby, in addition to enhancing their mobility.

Communities that currently have stations along the New Haven Line and its branches and the Shoreline East commuter rail line have the greatest potential for transit-supportive land use. Shoreline East communities in particular have an affirmative obligation to create new ridership by clustering residential development within walking distance to stations, if this heavily subsidized service would become more viable.

Several opportunities exist for transit-supportive land use in communities along the proposed New Haven-Hartford-Springfield commuter rail line. Furthermore, a network of planned bus rapid transit (BRT) facilities in the capitol region could create additional opportunities for station area development and inter-city commuting. Lastly, municipalities with existing local bus service should evaluate their routes and stops to ensure that areas with high density, mixed uses, and pedestrian access are well served by transit.

### **Open Space**

Aggregate demand for both public and private open space increases with population, providing justification for increased provision. Open space provision, however, is becoming a problem. Prices for land are rising, funding is shrinking, and density is increasing. Each of these factors makes it increasingly difficult for increased open space provision.

Notwithstanding these issues, in 1997 the General Assembly set a goal of preserving 21% of the land area in Connecticut as open space by 2023. There are more than 3,200,000 acres in the state. This leaves approximately 670,000 acres needed to reach the goal. The best estimates of total open space preserved in FY 2006 are nearing 500,000 protected acres (from the CT Green Plan). Although Connecticut is 75% of the way toward its goal, there is still work to do. In addition, Connecticut’s efforts have also resulted in the preservation of 222 farms incorporating 31,025 acres of farmland.

### **Responsible Growth**

In order to address the challenges of growth and development vis-à-vis protecting and sustaining our vital water, land and natural resources and preserving to the extent possible the established

infrastructure, Governor Rell established the Office of Responsible Growth in October 2006.<sup>2</sup> The responsibilities of the Office include:

- a) **Chairing an Interagency Steering Council**, consisting of the commissioners of the Department of Economic and Community Development (DECD), Department of Environmental Protection, Department of Agriculture, Department of Transportation and the Department of Public Health as well as the Executive Directors of the Connecticut Housing Finance Authority (CHFA) and the Connecticut Development Authority, to coordinate policy development and capital planning in an effort to efficiently utilize state expertise and financial resources.
- b) **Creating regional roundtables** that will invite the ongoing participation of city and town officials and foster the development of planning agendas tailored to the specific needs of different parts of our state, starting with new transit corridors.
- c) **Developing support and incentives for communities** to engage in regional planning, to update zoning maps and ordinances and to build the capacity of municipal staff, boards and agencies to make complex land-use decisions. This effort will include the establishment of a new municipal training program that will be created in conjunction with regional planning organizations, the Connecticut Land Use Academy and resources that already exist in our state's colleges and universities.
- d) **Updating the "Green Plan" for Connecticut** by June of 2007 to better identify sensitive ecological areas and unique features, guide acquisition and preservation efforts, support local build-out maps and assessments, and make these and other maps accessible to state agencies, regional planning agencies, local communities and nongovernmental organizations through geographic information systems (GIS).<sup>3</sup>
- e) **Reviewing transportation policies and projects** to increase opportunities to promote mass transit and road design that support state and local economic development while preserving and enhancing the character, as well as the "walkability" of our communities.
- f) **Expanding housing opportunities** to meet the needs of all Connecticut residents and support an expanding workforce with housing that provides ready access to passenger rail and bus service.
- g) **Reviewing all state funding** that has an impact on the growth and development of Connecticut and establishing criteria that will target funds for uses that are consistent with goals that emerge for responsible growth.

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<sup>2</sup> Executive Order 15. View at <http://www.ct.gov/governorrell/cwp/view.asp?A=1719&Q=320908>.

<sup>3</sup> The updated Green Plan is available at [http://www.ct.gov/dep/lib/dep/open\\_space/green\\_plan.pdf](http://www.ct.gov/dep/lib/dep/open_space/green_plan.pdf).

- h) **Targeting economic incentives** to support development in designated responsible growth areas; and
- i) **Creating a new “Green and Growing” web page** to highlight best practices and develop a virtual toolbox and roadmap to promote responsible growth region by region and community by community.

## **Local Fiscal Issues**

Connecticut and other New England states and their municipalities face increasingly difficult fiscal issues as a variety of costs beyond local control escalate faster than grand lists do. Thus, concerns about increases in school costs motivate some towns to restrict growth.<sup>4</sup> Using legislation at the town level, local officials aim to control the growth of residential housing, rising school costs and sprawl. Yet sprawl is increasing, school enrollments are dropping in Connecticut<sup>5</sup> and New England.<sup>6</sup> Connecticut is losing its social capital as younger workers and families face longer commutes. Long commutes unnecessarily limit involvement of these workers in their communities and within their families. Another effect of sprawl is that some young families are unable to live near their aging family members and returning young adults are unable to afford housing in the towns in which they grew up, which fractures the heart of New England’s strong family roots and ideals. While the aim of these local measures is ostensibly to protect a small town and a family oriented way of life, in fact the opposite is the result.

In the demographic section of this report, we have shown that one of the most significant and potentially harmful consequences of the lack of affordable housing, high energy costs and transportation bottlenecks is the out-migration of young adults. This exodus will leave Connecticut with slowing workforce growth, declining numbers of children — the future workforce — and a population aging at an even faster rate due to disproportionately increasing numbers of older residents. The influx of international immigrants and the greater-than-replacement fertility rate of Hispanics have camouflaged the exodus of young (educated) adults. However, Connecticut and the rest of New England are aging more rapidly than other areas, greatly diminishing the region’s prospects for economic growth.

## **School-Age Children Multipliers**

Two of the myths pushing towns to larger residential zoning and big box retail are that school enrollments are rising and young families generate significant numbers of school-aged children. The Rutgers University Center for Urban Policy Research created a series of school-age

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<sup>4</sup> Francese, Peter, and Lorraine S. Merrill (2008). Communities & Consequences: The Unbalancing of New Hampshire's Human Ecology, and What We Can Do About It, Peter E. Randall Publisher.

<sup>5</sup> The Connecticut State Data Center ([www.ctsdc.uconn.edu](http://www.ctsdc.uconn.edu)) has documented enrollment growth.

<sup>6</sup> Coelen, Stephen and Berger, (2005). “New England 2020,”

multipliers for each state in the United States.<sup>7</sup> The demographic fields differentiated by housing type, price, and tenure have been found by Rutgers University to be associated with differences in household size, school-age children (SAC), and public school-age children (PSAC). The multipliers are calculated for new housing, defined as housing units enumerated in the 2000 Census and built from 1990 to 2000. Values and gross rents reported in the 2000 Census are updated to 2005 using a residential price inflation index available from the Federal Housing Finance Board. A separate price index is applied for the nation, for each of the 50 states, and for the District of Columbia.

The table created by the Center for Urban Policy Research for Connecticut is listed below. In general, the Residential Demographic Multipliers for Connecticut reveal that new housing units, regardless of type and tenure, generate fewer total persons per housing unit and school-age children per housing unit than is commonly assumed. The Connecticut Partnership for Balanced Growth found the following common themes in the multipliers.

- All single family units with less than five bedrooms generate fewer than one public school-age child per unit.
- As the value of units increases, the number of persons per unit and school-age children per unit tends to decrease.
- There is little difference between the number of school-age children between one and two bedroom units. Three bedroom units produce on average less than one public school-age child per unit.

When interpreting the following table, for 100 single-family detached, three-bedroom units, about 21 school-age children would be generated, and six of them would be in grades K-2. (The attached table is courtesy of the Rutgers University study.)

Contrary to popular belief, there is not a one-to-one ratio of number of housing units created and school-age children in the school system. The creation of housing units does not create the equivalent stress on the school system. The multiplier shows that the additional property tax revenue from a new housing unit does not have the same magnitude of the additional marginal cost of the school-age children in school from that housing unit.

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<sup>7</sup> Rutgers University, Center for Urban Policy Research, Residential Demographic Multipliers—Connecticut, Estimates of the Occupants of New Housing (Residents, School-Age Children, Public School-Age Children) by State, Housing Type, Housing Size, and Housing Price.

**CONNECTICUT (2--1) ALL SCHOOL CHILDREN:  
SCHOOL-AGE CHILDREN (SAC)**

STRUCTURE TYPE /BEDROOMS/ VALUE (2005)/TENURE	TOTAL SAC	GRADE				
		K-2	3-6	7-9	10-12	Gr. 9 Only
<b>Single-Family Detached, 2 BR</b>						
All Values	0.21	0.06	0.07	0.04	0.04	0.01
Less than \$218,000	0.27	0.08	0.06	0.05	0.08	0.01
\$218,000 to \$356,500	0.20	0.06	0.08	0.03	0.02	0.01
More than \$356,500	0.17	0.06	0.05	0.04	0.02	0.03
<b>Single-Family Detached, 3 BR</b>						
All Values	0.66	0.21	0.23	0.13	0.09	0.04
Less than \$257,500	0.78	0.18	0.26	0.20	0.13	0.08
\$257,500 to \$356,500	0.65	0.23	0.23	0.12	0.08	0.04
More than \$356,500	0.58	0.20	0.21	0.09	0.08	0.02
<b>Single-Family Detached, 4 BR</b>						
All Values	1.07	0.30	0.34	0.25	0.18	0.08
Less than \$435,500	1.03	0.29	0.34	0.25	0.16	0.07
\$435,500 to \$554,500	1.06	0.30	0.33	0.25	0.17	0.09
More than \$554,500	1.11	0.31	0.36	0.25	0.20	0.07
<b>Single-Family Detached, 5 BR</b>						
All Values	1.66	0.36	0.62	0.40	0.28	0.11
Less than \$554,500	1.65	0.31	0.49	0.51	0.34	0.06
\$554,500 to \$1,386,500	1.68	0.31	0.74	0.39	0.24	0.13
More than \$1,386,500	1.64	0.51	0.48	0.34	0.30	0.13
<b>Single-Family Attached, 2 BR</b>						
All Values	0.23	0.09	0.09	0.02	0.03	0.01
Less than \$178,500	0.53	0.22	0.20	0.06	0.05	0.03
\$178,500 to \$257,500	0.11	0.05	0.03	0.00	0.03	0.00
More than \$257,500	0.07	0.01	0.04	0.00	0.01	0.00
<b>Single-Family Attached, 3 BR</b>						
All Values	0.62	0.12	0.18	0.21	0.11	0.11
Less than \$218,000	1.34	0.20	0.39	0.51	0.24	0.24
\$218,000 to \$435,500	0.34	0.14	0.10	0.05	0.05	0.02
More than \$435,500		Insufficient Sample				
<b>Single-Family Attached, 4 BR</b>						
All Values		Insufficient Sample				
Less than \$356,500		Insufficient Sample				
\$356,500 to \$435,500		Insufficient Sample				
More than \$435,500		Insufficient Sample				
<b>5+ Units--Own, 1 BR</b>						
All Values	0.00	0.00	0.00	0.00	0.00	0.00
Less than \$119,000		Insufficient Sample				
\$119,000 to \$257,500		Insufficient Sample				
More than \$257,500		Insufficient Sample				
<b>5+ Units--Own, 2 BR</b>						
All Values	0.07	0.02	0.01	0.02	0.01	0.01
Less than \$150,500	0.14	0.03	0.03	0.06	0.02	0.00
\$150,500 to \$218,000	0.07	0.03	0.00	0.02	0.01	0.02
More than \$218,000	0.00	0.00	0.00	0.00	0.00	0.00
<b>5+ Units--Own, 3 BR</b>						
All Values		Insufficient Sample				
Less than \$178,500		Insufficient Sample				
\$178,500 to \$257,500		Insufficient Sample				
More than \$257,500		Insufficient Sample				

## **Incentive Housing Zones**

The Connecticut General Statutes Section 8-13n provides municipalities with the ability to establish incentive housing zones. Developers can increase their economies of scale by building more units on a specific plot of land — lowering the development cost of each unit. Incentive housing zones allow for higher densities within the zone. Developments within a zone must include affordable units. In order for a development to be considered an affordable housing development it must contain not less than 20% of the units deeded as affordable housing units. DECD anticipates that the higher densities allowed for within the zones will encourage developers to create more affordable housing within the state.

## **Zone Specifications**

The incentive housing zones create incentive housing developments (affordable housing units) where the housing costs are 30% or less than the household's income and where such income is less than or equal to 80% of the area median income (AMI).

The specific eligibility criterion for the establishment of incentive housing zones is thoroughly described in Section 8-13n. Most pertinent to the following analysis are the density requirements. The minimum allowable densities per acre outlined in the act are as follows:

- Six units for single family detached housing;
- 10 units for duplex housing; and
- 20 units for multifamily housing.

## **Determination of Incentive Housing Zone Need**

### **Analytical Methodology**

Using the Connecticut Housing Supply and Demand Model, DECD projected the number of households in 2015 that would be considered cost burdened with more than 30% of household income being spent on housing costs. Affordable housing is intended to reduce the cost burdens on these households. A distinction must be noted in the definition of affordable housing by the incentive housing zones and the Connecticut Housing Supply and Demand Model. Both require that for housing to be affordable, housing costs must be at or below 30% of the household income. However, the incentive housing zone requires that household income be at or below 80% of the AMI, and the housing model does not make this assumption. DECD and CHFA used the projections at the county level from the Connecticut Housing Supply and Demand Model to determine the number of units needed for the incentive housing zone. Due to data limitations, the additional AMI constraint could not be accounted for.

Based on current ratios of owners and renters and the expectation that the ratios will hold, future needs were calculated for each household type. To calculate the actual number of acres necessary to meet the affordable housing need, the required number of units needed was divided

by the corresponding density per acre. After accounting for the 20% affordable unit requirement, the calculation of acreage necessary for the incentive housing zones to meet the affordable housing need for 2015 is complete.

One restriction of the incentive housing zone is the aggregate land area of the incentive housing zones in the municipality must not exceed 25% of the total land area of the municipality. While DECD and CHFA were unable to work at the municipal level due to data limitations from the Connecticut Housing Supply and Demand Model, data was available at the county level. 2000 Census data gave the total land area of each county. Comparing the incentive housing zone acres and 25% of the total county land area, the needed zones in each county are less than 25% of the land area. Table 1 shows the total land area, measured in acres for each county and 25% of that area, which can be used for the incentive housing zone program.

<b>Table 1: Total Land Area</b>		
	Total Land Area (acres)	25% of Total Land Area
Fairfield	400,512	100,128
Hartford	470,682	117,670
Litchfield	588,749	147,187
Middlesex	236,326	59,082
New Haven	387,610	96,902
New London	426,182	106,546
Tolland	262,445	65,611
Windham	328,160	82,040
Connecticut	3,100,666	775,166

Source: Connecticut QuickFacts from Census 2000

## Results of Analysis

Table 2 shows the zoning acres needed to meet the expected affordable housing gap in 2015. Seven test scenarios were created for how the incentive housing zones could be configured. The affordable owner and rental housing units needed for each county and for the whole state are projections from the Connecticut Housing Supply and Demand Model. The column heading explanations appear below.

- Single Family Owner: only single family units are developed and all units are owner occupied;
- Duplex Owner: only duplex units are developed and all units are owner occupied;
- Blended — Single-Family and Duplex-Owner: single-family and duplex units are created, all units are owner occupied;
- Blended — Single- and Multi-family Owner: single- and multi-family units are created, all units are owner occupied;



- Multi-family Rental: multi-family units are solely created and all occupied by renters;
- Blended — Single-Family Owner and Rental: single-family units are created, some are owner occupied, some are renter occupied, based on the current ratios;
- Blended — Multi-family Owner and Rental: multi-family units are created, some are owner-occupied, some are renter occupied, based on the current ratios.

Table 2: Affordable Housing Incentive Housing Zoning Needs for 2015										
	Necessary Incentive Housing Zone Acres									
	Affordable Owner Housing Units Needed	Affordable Rental Housing Units Needed	Total Units Needed	Single Family Owner	Duplex Owner	Blended: Single Family and Duplex Owner	Blended: Single- and Multi-family Owner	Multifamily Rental	Blended: Single Family Owner and Rental	Blended: Multifamily Owner and Rental
Fairfield	32,915	10,140	43,055	27,429	16,458	20,572	14,352	2,535	35,879	10,764
Hartford	21,506	24,157	45,663	17,922	10,753	13,441	15,221	6,039	38,053	11,416
Litchfield	9,178	714	9,892	7,648	4,589	5,736	3,297	179	8,243	2,473
Middlesex	6,989	1,175	8,164	5,824	3,495	4,368	2,721	294	6,803	2,041
New Haven	25,452	13,737	39,189	21,210	12,726	15,908	13,063	3,434	32,658	9,797
New London	8,684	1,900	10,584	7,237	4,342	5,428	3,528	475	8,820	2,646
Tolland	4,831	988	5,819	4,026	2,416	3,019	1,940	247	4,849	1,455
Windham	3,668	789	4,457	3,057	1,834	2,293	1,486	197	3,714	1,114
Connecticut	113,223	53,600	166,823	94,353	56,612	70,764	55,608	13,400	139,019	41,706

Source: CT Housing Supply and Demand Model, ACS 2006

## Emergency Preparedness

### Homeland Security Overview

Homeland Security is a combined effort of state and national governments to prevent terrorist attacks within the state and nation. This is accomplished by four overarching goals: prevention, preparedness, response and recovery.<sup>1</sup>

Connecticut has always had a multi-hazard approach to emergency planning, including natural disasters and terrorism. This means the state has plans in place to cover all types of disasters. In fact, the state developed a Consequence Management Guide addressing terrorism preparedness and response in 1999. Since September 11, 2001, the focus has been updating this guide into a consequence plan.

Section 28-1a of the Connecticut General Statutes created a new state agency: the Department of Emergency Management and Homeland Security (DEMHS). Governor Rell named James Thomas Commissioner to head the new agency. Commissioner Thomas served in the Glastonbury Police Department where he served as chief for 15 years. The new state department combined the Office of Emergency Management within the Military Department and the Homeland Security Division of the Department of Public Safety.

### Connecticut's Emergency Response Planning

DEMHS is leading a number of multi-agency task forces charged by Governor Rell with preparing state government to deal with terrorism. These include revising the Natural Disaster Plan and the Consequence Management Plan. DEMHS and the Department of Public Safety and the Department of Transportation are working together to develop a Mass Evacuation and Mass Care Plan. DEMHS and the Department of Agriculture have developed the state's Pandemic Avian Response Plan. DEMHS and the Department of Health are working on the state's Pandemic Flu Plan. DEMHS has divided the state into five emergency planning regions and is organizing planning teams in each region to develop Regional Emergency Response Plans. This effort is being spearheaded by the DEMHS regional offices and the regional planning organizations. Many local agencies are assisting in the process as well. Additionally, DEMHS is working with local agencies to establish, equip, and train five regional response teams capable of responding to any type of terrorist incident. Each plan is compliant with the National Incident Management System (NIMS) and supportive of both state and national strategies. Governor Rell's Executive Order #10 mandates NIMS compliance for all state agencies.

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<sup>1</sup> Connecticut Department of Emergency Management and Homeland Security: Overview.  
<<http://www.ct.gov/demhs/cwp/view.asp?a=1939&q=308364&demhsNav=|>> Accessed March 10, 2009.

## **Critical Assets Identification**

DEMHS has made protection of Connecticut's critical assets a top priority of the state's Homeland Security Initiative against terrorism. A critical asset evaluation was conducted in 2003 identifying over 700 critical assets in the state. DEMHS has been working with its government and private sector partners to evaluate these sites and develop plans of actions to increase security at each asset. These critical assets include infrastructure (dams, power plants, etc.), locations, or events where large groups of people gather, and symbols of power, such as the Capitol. DEMHS offers these critical assets review to government and private sectors at no charge. A specially trained group of state troopers assigned to DEMHS conducts the assessments. As of this writing, the state police are updating the critical assessments.

## **Connecticut Intelligence Center**

This multi-agency center is located at the FBI's Connecticut office. The center includes federal, state and local law enforcement personnel working side by side to develop leads and solve cases. The center is connected to every local law enforcement agency by specially trained intelligence liaison officers who report to regional intelligence officers to report to and work at the Connecticut Intelligence Center (CTIC). The CTIC produces weekly intelligence bulletins that are distributed electronically to law enforcement and others (like fire chiefs, fire marshals, emergency managers and health directors) who work in the field and may come upon important information.

## **Standardized Incident Response**

Connecticut is prepared to respond to any incident, including terrorism, using the National Interagency Incident Management System (NIIMS). Training is being provided by FEMA personnel to all emergency responders in the state to standardize the system, manage incidents and will enable all Emergency First Responders to function in a multi-discipline and multi-jurisdictional response and better coordinate their efforts through a seamless integration of resources. To further this goal all equipment purchased and distributed to first responders has been standardized to ensure compatibility.

Executive Order # 10 signed by Governor Rell on September 19, 2005 implemented NIIMS as the state standard for all responses.

## **Standardizing Communications**

Given the issues of communications at the attacks of September 11, 2001, Connecticut has developed two programs to overcome inter-operation communication troubles. The first was to allow all incident commanders to talk to one another. Today a fire chief in one town can talk to a police chief or EMS director in any other town in the state. Radios were provided for incident command communications. A second system, utilizing cross-banding devices allows

firefighters, police officers, medical personnel or public works employees to be able to talk to one another at the scene.

### **Working with Local Government Partners**

The backbone of Connecticut's Homeland Security program rests with the Coordinating Council. This council has representatives from over 25 different agencies, both state and local. The council meets monthly and provides the guidance to DEMHS on developing its statewide strategy and funding distribution models.

### **State Emergency Operations Center**

This facility activated for several days immediately following the September 11, 2001 terrorist attacks. The Emergency Operations Center is in warm status, meaning it can be activated and operational at a moment's notice. The center is the managing arm over Connecticut's deployment of regional emergency first response teams, and would activate the responders if a terrorist event occurred.

### **Homeland Security and the Need for a Scientific Workforce**

The security of the United States is reliant on technological advancement and up-to-date protection measures. The research and development of new defense and safety strategies to support these initiatives involves various areas of expertise that can not be outsourced. However, the United States is currently lacking education in just these areas.<sup>2</sup> Jay Cohen, Under Secretary for Science and Technology at the U.S. Department of Homeland Security, discussed the importance of teaching children in math and science, at a November 6, 2008 speech at Eastern Connecticut State University. "If we don't get this right, if we don't produce the requisite number of scientists and engineers for a technologically enabled society, we will not be a first-world economy."<sup>3</sup> The United States is not producing scientists and engineers at high enough rates to grow the economy, because not enough students are interested in the subjects, and test scores are stagnant.

In 2005, 27.3% of all high school graduates in the United States studied biology, chemistry and physics; and 4.3% were enrolled in engineering-centric classes. Also in 2005, only 62.8% of high school graduates took algebra I classes, 29.5% were enrolled in analysis/pre-calculus classes and just 13.6% were taking calculus.<sup>4</sup>

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<sup>2</sup> Organisation for Economic Co-operation and Development. *OECD in Figures 2007: World Education Rankings*. <[http://oberon.sourceoecd.org/vl=694993/cl=11/nw=1/rpsv/figures\\_2007/en/c008/page24.htm](http://oberon.sourceoecd.org/vl=694993/cl=11/nw=1/rpsv/figures_2007/en/c008/page24.htm)>

<sup>3</sup> Eastern Connecticut State University. *ECSU Newsflash – December 2008*. <<http://universityrelations.easternct.edu/NewsflashPDF/December2008.pdf>>

<sup>4</sup> National Center for Education Statistics, "Digest of Education Statistics: 2007," [http://nces.ed.gov/programs/digest/d07/tables\\_2.asp](http://nces.ed.gov/programs/digest/d07/tables_2.asp).

This disinterest begins at an early age with low test scores in math and science, discouraging many children to pursue a career in the hard sciences. In 2007, 72% of Connecticut's eighth-graders achieved at or above the basic level of mathematical understanding, as defined by the National Center for Education Statistics. This percentage was the 27<sup>th</sup> highest in the country, and two points above the national average of 70%.<sup>5</sup> As of 2007, the average science test score for a Connecticut eighth-grader was down three points since 1996. Moreover, only 63% of these students achieved at or above the basic level of scientific understanding.<sup>6</sup>

Overall, Connecticut's growth over the past few years concerning math and science test scores, higher education attainment and affordability, and science and engineering graduation rates has been sluggish. According to a CERC 2007 calculation, Connecticut's growth in these important innovation areas ranked the state 40<sup>th</sup> (50<sup>th</sup> being the slowest growth) in the nation.<sup>3</sup> Although gaining in "doctoral scientists and engineers per 1,000 workers," the overall future workforce of Connecticut looks bleak without a significant focus on the sciences during one's elementary education.

## **SUMMARY**

The Department of Emergency Management and Homeland Security (DEMHS) directs and coordinates all available resources to protect the life and property of the citizens of Connecticut in the event of a disaster or crisis, through a collaborative program of prevention, planning, preparedness, response, recovery and public education. Homeland security is dependent upon up-to-date protection measures, and thus a scientific workforce, as advanced technologies are necessary in order to adapt to and combat threats. Emphasis must be placed on improved educational outcomes in science, technology, engineering and mathematics for a technologically-enabled society.

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<sup>5</sup> Connecticut Economic Resource Center. *Benchmarking Connecticut 2007*.  
<<http://www.cerc.com/images/customer-iles/CTBenchmarksFullReport.pdf>.

<sup>6</sup> NAEP Report Card, "State Profiles," <http://nces.ed.gov/nationsreportcard/state>.

### 1. Introduction

What is the nature of taxation in Connecticut? What is the distribution of the burden and incidence of taxes residents (that is, householders) pay across towns? That is, who pays what and where do they live (the geographic distribution of burden)? And how do Connecticut's taxes compare with other states? This section attempts to answer these questions and others through a detailed accounting of taxation in Connecticut. We begin by looking at how tax burden by tax type at the federal, state, and local level is distributed across Connecticut residents by town and income group. We then examine and compare Connecticut's system of taxation to other states. Before proceeding, we begin with a brief review of theories of taxation in order to provide some context for the analysis discussion and results to follow.

Taxes permit governments to provide goods and services that would otherwise not be provided or provided in sufficient quantity. Such goods are provided by government because of their unique properties. First, except for congestion issues, public goods are noncompetitive and nonrivalrous. That is, my consumption of a public park, road, monument, or education does not deny another of the same consumption until congestion inhibits our consumption. Second, governments provide those goods and services for which private markets are missing or inefficient. Roads, bridges, harbors, airports, libraries, parks, forests, reservoirs, schools and public safety are examples of goods and services governments provide that the private sector would or could not provide efficiently. Inefficiencies arise for several reasons. Private markets would not necessarily provide for the common good in the sense that a private provider of roads, bridges, harbors, libraries would likely have monopoly power in some geographic area ruling out competitive pressure. In addition, the public sector can theoretically provide goods and services with economies of scale that reduce their cost. Some public goods such as parks or libraries may not be privately provided at all because their marginal private costs outweigh their marginal private benefits (marginal social costs and benefits would not be considered by private providers). Other instances in which markets are inefficient arise in situations in which equity issues are important, such as education and public safety when ability to pay is meaningless. In these cases, governments can provide goods and services more efficiently than a private market.

Taxes that pay for public goods and services are raised from income (a flow of wealth), property (a stock of wealth), consumption (sales of goods and services including conveyances), and inheritances among others. Taxes relate to business and personal income directly and indirectly; the former include federal, state and local personal and business income taxes, the federal payroll tax (social security), and unemployment insurance. Taxes indirectly related to income include inheritance, consumption, excise and property taxes to the extent that higher income people have larger inheritances, consume more and higher-priced goods and services, and have larger and more expensive homes, as well as other taxable real property (boats, planes, stables) than lower income people. Taxes directly related to income essentially follow the spatial and statistical distribution of income (across towns). Connecticut residents earning wages in other states

experience the same Connecticut personal income tax burden as their counterparts who work inside Connecticut with identical incomes net of before-tax deductions. Federal taxes are identical (for identical incomes net of identical before-tax deductions) no matter where one works or lives. Connecticut's personal income tax is deductible from the federal tax burden, so to the extent people itemize deductions on their federal tax returns, the federal government subsidizes Connecticut's personal income tax. With respect to Connecticut's sales tax, people shopping in certain other states (border effects and via the Internet) could experience a lower sales tax burden than Connecticut residents who don't live close to the borders or do not have transportation or computers.<sup>1</sup> Sales taxes are inherently regressive because they consume disproportionately more of a lower income than of a higher income.

## **Summary of Findings**

The majority of taxes paid by Connecticut residents falls into three categories: the personal property and real estate tax levied by local town governments, state and federal personal income taxes, and sales and use taxes collected primarily at the state level. Connecticut's local property tax accounts for 24.3% of the total tax burden felt by Connecticut households<sup>2</sup> and is the primary source of variation in tax burden across towns for a given income.

The Department of Economic and Community Development (DECD) constructs a measure of tax capacity that describes the value of taxable property in a town relative to the state average value of taxable property and of tax effort that describes a town's propensity to tax personal property and real estate. This report finds that, on average, Connecticut's tax effort does not rise proportionately with tax capacity. That is, towns with high property values tax property at a lower rate than towns with lower property values. At the extremes, a property worth \$200,000 in 2005 to 2006 paid \$5,578 in property tax in Bridgeport and \$944 in Greenwich.

Our personal income tax simulations reveal that the federal component of this tax accounts for the bulk (57%) of all tax collected from Connecticut residents. The federal personal income tax is the most progressive tax faced by Connecticut residents, with rates that climb from 0% for households earning less than \$25,000 per year to nearly 35% for those making (significantly) more than \$100,000 per year. The state personal income tax, which accounts for 12.5% of the total tax burden on Connecticut residents, is progressive, rising from 0% to 5% across income groups, and it provided the state with 53.4% of its FY 2008 revenue from state sources.<sup>3</sup>

The distribution of both federal and state income tax burden across towns necessarily mirrors that of median household income.

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<sup>1</sup> Of the nine northeastern states, Rhode Island and New Jersey have the highest sales tax at 7%, Pennsylvania, Connecticut and Vermont have a 6% sales tax, Maine and Massachusetts have 5%, New York has 4% and New Hampshire has no sales tax. Each of these states exempts food and prescription drugs. Additionally, Pennsylvania, Vermont, New York, New Jersey and Connecticut exempt non-prescription drugs.

<sup>2</sup> Based on the results of the tax model described in Section 2.

<sup>3</sup> DRS FY 2008 Annual Report, [http://www.ct.gov/drs/lib/drs/research/annualreport/drs\\_fy08\\_annual\\_report.pdf](http://www.ct.gov/drs/lib/drs/research/annualreport/drs_fy08_annual_report.pdf)



Connecticut residents and households pay a variety of taxes to their local, state, and federal governments in return for public services. Determining how this burden varies across households and how Connecticut's aggregate tax burden and incidence compares with other states is inherently difficult. Yet understanding these problems is crucial to enlightened public debate and sound policy prescription. This section addresses the three issues raised above. In two independent sections, DECD:

- performs an accounting of tax burdens in Connecticut, reporting the federal, state, and local tax burdens for households of varying income in each town; and
- compares Connecticut's state and local taxes with other states.

The remainder of this section is organized as follows: Section 2 analyzes how taxes vary from town to town. This includes an analysis of household tax burden, tax capacity, and tax collection at all levels. The information provided is useful to those interested in a detailed accounting of Connecticut's tax structure, and provides insight into taxation in Connecticut's 169 municipalities. Section 3 compares Connecticut's aggregate tax structure with the other 49 states in the nation. This last step puts Connecticut's tax structure in a broader context for policy analysis.

## **2. Taxation in Connecticut**

The state collected \$7.51 billion in personal income tax and \$3.58 billion in sales and use taxes in FY 2007-08 (footnote 3). These sums represent 53.5% and 25.5% of more than \$14 billion in tax revenue and user fees collected that year by the Department of Revenue Services. These sources together represent 44% of all revenue Connecticut received in 2007 (\$25.492 billion).<sup>4</sup> Local revenues for FY 2007 totaled \$11.421 billion, including \$7.842 billion from property taxes and \$2.681 billion in (state) intergovernmental transfers.<sup>5</sup> In this section, we examine federal, state, and local taxes as they apply to Connecticut residents. Results in this section describe aggregate Connecticut tax burden by income groups and tax burden by town applied to households earning the median income.

### **Property Taxes**

The primary source of geographical variation in tax burden for a given income and the size and quality of real property (which correlates with income) accrues to the property tax. In other words, the tax on property of given market value varies across Connecticut towns according to the equalized mill rate (EMR) that accounts for the different dates of property revaluation in Connecticut's towns. The EMR represents the most recent grand levy as a fraction of the current, full property value.

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<sup>4</sup> See Census of State Government Finances at <http://www.census.gov/govs/state/0707ctst.html>.

<sup>5</sup> Municipal Fiscal Indicators, 2003-2007. [http://www.ct.gov/opm/lib/opm/igp/munfinsr/fi2003-07\\_final.pdf](http://www.ct.gov/opm/lib/opm/igp/munfinsr/fi2003-07_final.pdf).

The FY 2006 EMR distribution across Connecticut towns is approximately normal (bell-shaped). The smallest value 4.72 is in Greenwich; the largest value 27.89 is in Waterbury; the median and mean values 14.15 and 14.18 suggest that the distribution of EMR values is approximately symmetric. Therefore, assuming valuation of property in 2005-2006, these numbers imply that a \$200,000 property in Greenwich pays \$944 in property tax, while an identically valued property in Waterbury pays \$5,578. Map 2.1 displays the spatial distribution of Equalized Mill Rates across Connecticut for 2006, with darker towns representing higher equalized mill rates. Table 2.1 ranks towns according to EMR.

Map 2.1 shows that the lowest equalized mill rates (and therefore relative property tax burdens for a given property value) cluster along the western and eastern edges of the state with the western quarter having the most towns with EMRs less than 14. However, there are several towns along Connecticut's central coast with EMRs less than 14. Central, northern Connecticut towns have the highest EMRs in the state. In the western band of towns (the northwestern, Housatonic valley and southwestern planning regions) with lower than average EMRs, Newtown (13.99), Bethel (13.68), Easton (13.62), Monroe (13.53), Trumbull (13.85) Morris (13.94) and Canaan (14.19) stand out with slightly larger EMRs. Bridgeport (19.93) and Stratford (18.46) are significantly higher than average in this band of lower than average EMRs.

In the eastern band of towns (the southeastern and northeastern planning regions) with lower relative EMRs, Lisbon (9.56) and Putnam (7.35) have among the lowest EMR values. Along the southeast coast, New London (15.71) is significantly higher than Groton (9.75) and Stonington (9.86). Ashford (17.92), Hampton (17.01), Windham (17.01), Chaplin (17.74) and Scotland (17.83) immediately border the eastern band of towns with significantly higher EMRs. To generalize, for a given property value (in market or assessed value terms) or per dollar of assessed or market value, residents of high income and/or wealthy towns such as Greenwich and Darien pay the least property tax in Connecticut while residents of low income and/or less wealthy towns such as Hartford and Bridgeport pay the most.

The equalized mill rate, however, does not paint a complete picture of property taxation across Connecticut towns. In its *Cities Count: Urban Indicators Report*,<sup>6</sup> the Rhode Island Public Expenditure Council measures the tax capacity index and tax effort index that are related to EMR. Tax capacity measures the amount of taxable property available to a municipality per capita, which is the equalized net grand list per capita for each municipality. The tax capacity index (TCI) is the municipal equalized net grand list per capita divided by the statewide capacity. Tax effort measures the property tax levy per capita. The tax effort index (TEI) is municipal tax effort divided by the statewide effort.

These indices are useful because they offer insight into differences in equalized mill rates across towns. Another useful index, the relative equalized mill rate (REMR) is the ratio of the municipal tax effort index to the municipal tax capacity index (TEI/TCI). This ratio is equivalent

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<sup>6</sup> Available from [www.ripec.org](http://www.ripec.org).

to the municipal EMR divided by the statewide EMR (that is, the total statewide levy divided by the total statewide equalized net grand list). This measure shows the relationship of the municipal EMR to a state average EMR and shows how much more or less the municipality's equalized mill rate is with respect to a statewide average. Recall that EMR represents the tax levy as a fraction of the current, full property value.

TEI and TCI have different statistical distributions than EMR. Both have distributions skewed to the left, indicated by the fact that the medians (101.2 and 91.2) are less than the means (103.8 and 111.8) and that there are some high value outliers but few or no low outliers. In Connecticut, TEI ranges from a low of 37.1 in Mansfield to a high of 240.7 in Weston meaning that the per capita property tax levy in Mansfield is 37% of the statewide average per capita property tax levy, while in Weston it is 2.41 times higher. TCI ranges from a low of 28.1 in Hartford to a high of 562.3 in Greenwich indicating that the per capita municipal grand list in Hartford is 28.1% of the statewide average per capita grand list, while in Greenwich it is more than five times higher than the statewide average per capita grand list. Maps 2.2 and 2.3 show the spatial distribution of TEI and TCI for Connecticut towns. In both maps, darker towns have higher index values. In Tables 2.2 and 2.3, towns rank in ascending order according to TEI and TCI, respectively.

TEI generally transitions from high to low values moving from west to east across the state (Map 2.2). This reflects higher per capita property tax levies with respect to the state average per capita levy in western Connecticut relative to those in eastern Connecticut. The TCI follows a roughly similar spatial pattern (Map 2.3) reflecting higher per capita taxable property in western Connecticut with respect to the state average per capita taxable property relative to that in eastern Connecticut.

Map 2.4, which displays REMR, the ratio of TEI to TCI for each town, reveals that these indices offset each other to a large extent. The spatial pattern in Map 2.4 is necessarily similar to EMR shown in Map 2.1. Thus, a higher per capita levy from more (or higher value) taxable property per capita implies a lower EMR given a fixed town budget target. A notable exception is Stamford, which shows a REMR of 153.9. Table 2.4 ranks towns by REMR. EMR and REMR both reveal that property in low-income and/or less wealthy towns is taxed at a higher rate than property in wealthy towns. This trend indicates that property taxation is regressive in Connecticut.<sup>7</sup>

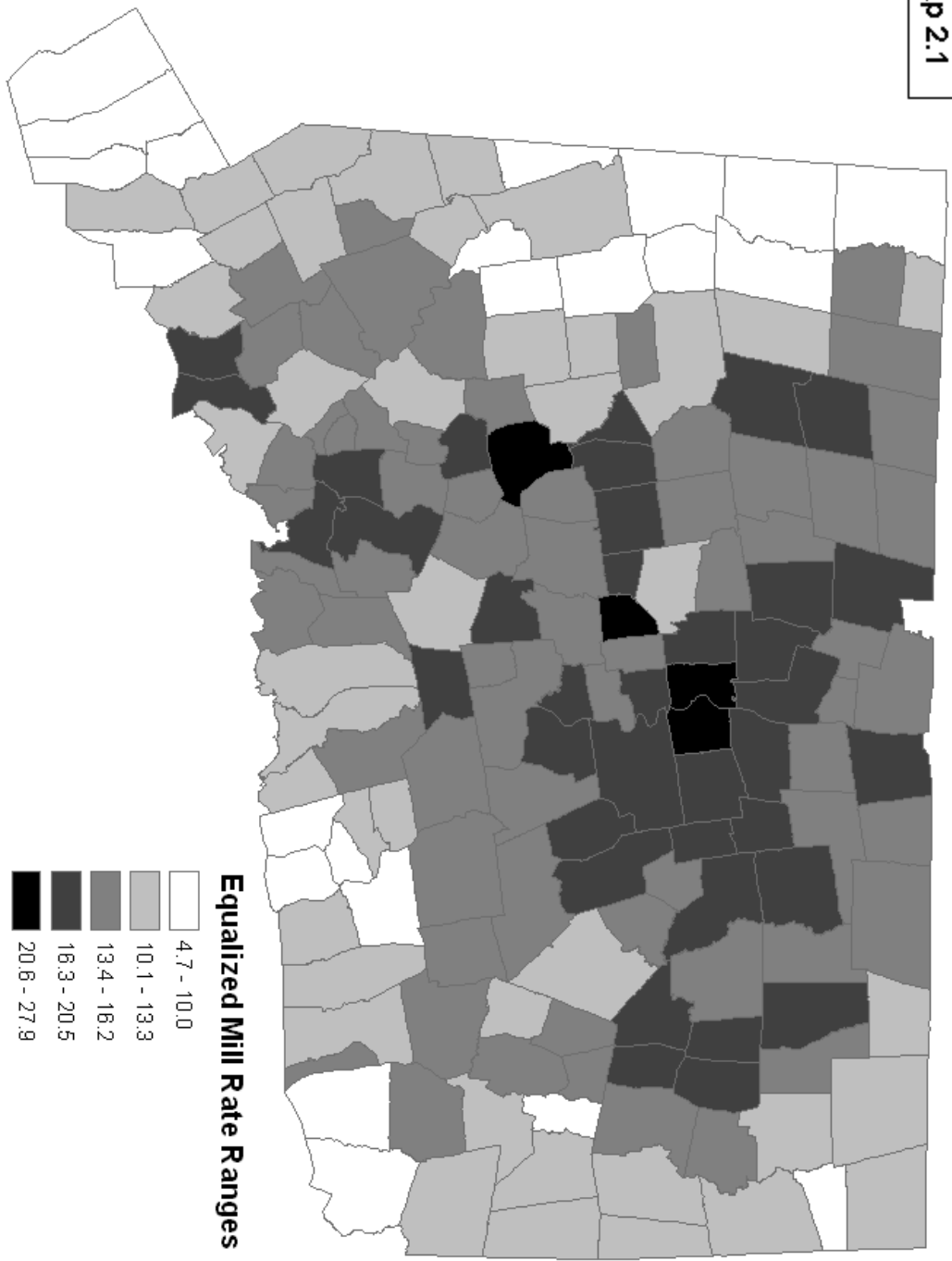
Figure 2.1, which shows the relationship between tax effort and tax capacity, indicates that as TCI increases across towns, TEI does not increase proportionately. In towns with high tax capacities, tax effort is roughly constant at about twice the statewide average tax capacity, while in towns with low tax capacities, increases in tax capacity meet with proportional increases in tax effort. Along the 45° line, tax effort equals tax capacity relative to statewide averages.

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<sup>7</sup> For median income households. Table 2.5 reveals that property taxation is slightly progressive across income groups.

# 2005-2006 Equalized Mill Rate (EMR) for Connecticut Towns

Map 2.1

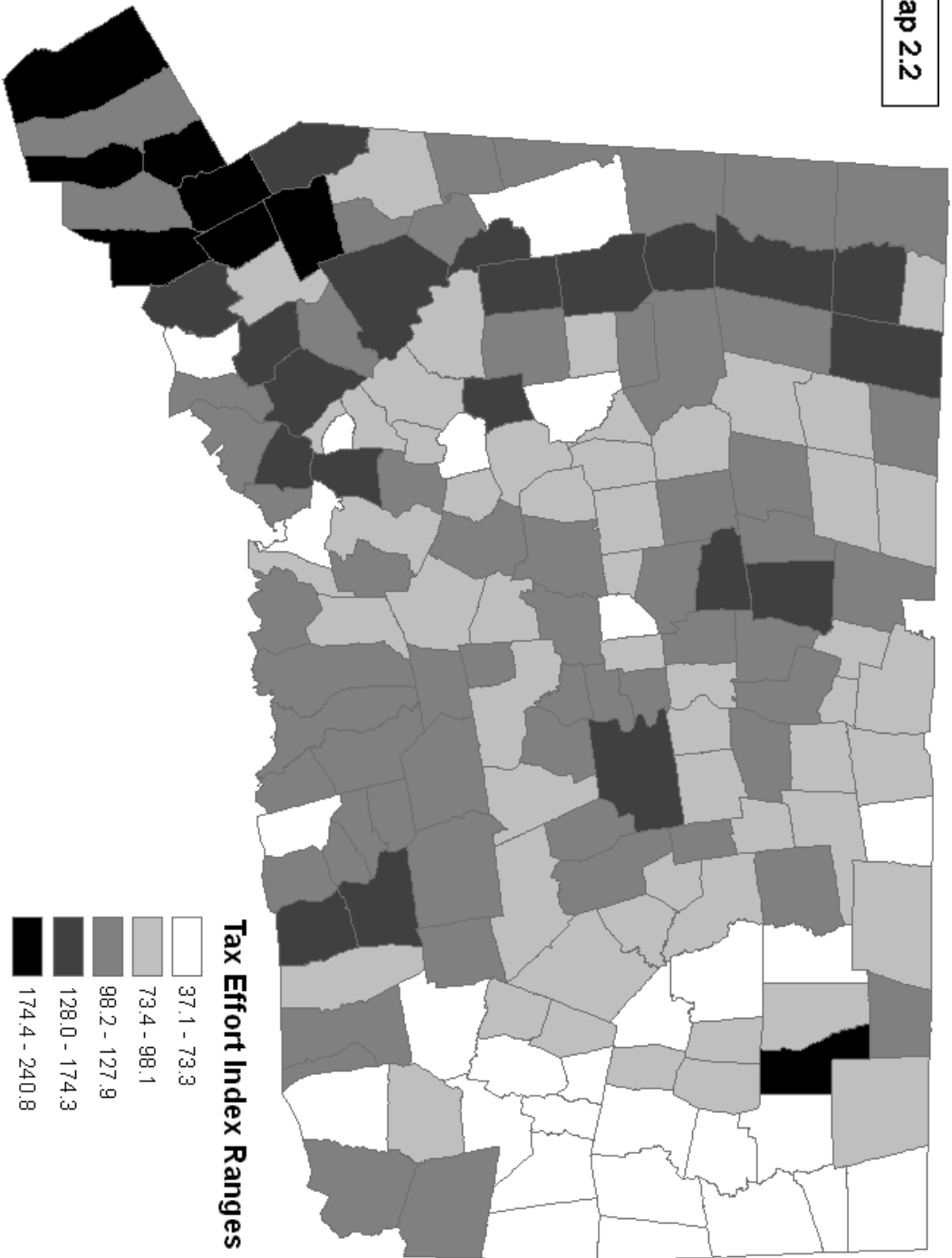


**Table 2.1: Equalized Mill Rates (EMR) for Connecticut Towns, 2005-2006**

Rank	Town	2005-2006 Equalized Mill Rate	Rank	Town	2005-2006 Equalized Mill Rate	Rank	Town	2005-2006 Equalized Mill Rate
1	GREENWICH	4.72	57	PLAINFIELD	12.77	114	COLEBROOK	15.68
2	WASHINGTON	6.38	58	WALLINGFORD	12.83	115	NEW LONDON	15.71
3	SALISBURY	6.76	59	NORTH STONINGTON	13.09	116	CHESHIRE	15.74
4	DARIEN	7.05	60	LEBANON	13.10	117	SALEM	15.74
5	PUTNAM	7.35	61	WESTON	13.24	118	SPRAGUE	15.74
6	NEW CANAAN	7.51	62	NORWALK	13.24	119	ELLINGTON	15.76
7	SHARON	7.74	63	FARMINGTON	13.30	120	EAST GRANBY	15.92
8	LYME	7.79	64	NEW FAIRFIELD	13.30	121	CANTON	15.93
9	ROXBURY	8.14	65	WINDSOR LOCKS	13.45	122	COLCHESTER	15.93
10	OLD SAYBROOK	8.26	66	SOUTHBURY	13.52	123	ANDOVER	15.95
11	WESTPORT	8.57	67	MONROE	13.53	124	BURLINGTON	15.99
12	KENT	8.58	68	NORFOLK	13.56	125	NEWINGTON	16.01
13	SHERMAN	8.72	69	EAST HADDAM	13.57	126	WEST HAVEN	16.10
14	WARREN	8.78	70	EASTON	13.62	127	STAFFORD	16.20
15	BRIDGEWATER	8.99	71	HARWINTON	13.67	128	MIDDLETOWN	16.23
16	CORNWALL	9.24	72	BETHEL	13.68	129	MARLBOROUGH	16.42
17	ESSEX	9.25	73	FRANKLIN	13.69	130	PLAINVILLE	16.43
18	LISBON	9.56	74	NORTH HAVEN	13.80	131	CROMWELL	16.49
19	WESTBROOK	9.71	75	TRUMBULL	13.85	132	ENFIELD	16.72
20	GROTON	9.75	76	AVON	13.89	133	WETHERSFIELD	16.88
21	STONINGTON	9.86	77	MORRIS	13.94	134	GLASTONBURY	16.95
22	STAMFORD	10.01	78	NEWTOWN	13.99	135	BRISTOL	17.00
23	GOSHEN	10.21	79	KILLINGWORTH	14.03	136	HAMPTON	17.06
24	FAIRFIELD	10.48	80	COLUMBIA	14.03	137	WINDHAM	17.09
25	SHELTON	10.63	81	NORTH BRANFORD	14.06	138	DURHAM	17.17
26	WATERFORD	10.70	82	SOUTHINGTON	14.08	139	HEBRON	17.18
27	WOODSTOCK	10.77	83	BROOKLYN	14.10	140	THOMASTON	17.19
28	THOMPSON	11.07	84	PROSPECT	14.14	141	HAMDEN	17.37
29	GUILFORD	11.14	85	SOMERS	14.15	142	WINDSOR	17.66
30	UNION	11.36	86	CANAAN	14.19	143	CHAPLIN	17.74
31	MADISON	11.41	87	NORWICH	14.20	144	SCOTLAND	17.83
32	WILTON	11.42	88	BEACON FALLS	14.24	145	VERNON	17.90
33	BETHLEHEM	11.56	89	ORANGE	14.28	146	ASHFORD	17.92
34	OLD LYME	11.63	90	DERBY	14.34	147	BOLTON	17.93
35	WOODBURY	11.71	91	HARTLAND	14.38	148	WINCHESTER	17.94
36	KILLINGLY	11.76	92	SUFFIELD	14.43	149	PORTLAND	17.97
37	REDDING	11.78	93	MIDDLEBURY	14.44	150	NAUGATUCK	18.02
38	DANBURY	11.79	94	CANTERBURY	14.46	151	MANCHESTER	18.14
39	EAST LYME	11.80	95	MONTVILLE	14.51	152	SOUTH WINDSOR	18.21
40	BOZRAH	11.85	96	BRANFORD	14.62	153	COVENTRY	18.25
41	GRISWOLD	11.97	97	EASTFORD	14.76	154	WEST HARTFORD	18.39
42	BROOKFIELD	11.98	98	EAST WINDSOR	14.79	155	TORRINGTON	18.44
43	RIDGEFIELD	12.02	99	WILLINGTON	14.85	156	STRATFORD	18.46
44	WATERTOWN	12.10	100	SEYMOUR	14.96	157	GRANBY	18.64
45	NORTH CANAAN	12.13	101	MIDDLEFIELD	14.97	158	NEW HAVEN	18.74
46	LITCHFIELD	12.21	102	BARKHAMSTED	15.02	159	SIMSBURY	18.74
47	VOLUNTOWN	12.25	103	ROCKY HILL	15.07	160	TOLLAND	19.13
48	MILFORD	12.33	104	EAST HAMPTON	15.14	161	MERIDEN	19.35
49	NEW MILFORD	12.41	105	BETHANY	15.21	162	PLYMOUTH	19.72
50	OXFORD	12.45	106	EAST HAVEN	15.24	163	WOODBIDGE	19.74
51	CLINTON	12.50	107	NEW HARTFORD	15.29	164	BRIDGEPORT	19.93
52	DEEP RIVER	12.52	108	WOLCOTT	15.29	165	BLOOMFIELD	20.55
53	POMFRET	12.67	109	LEDYARD	15.35	166	EAST HARTFORD	22.23
54	PRESTON	12.77	110	ANSONIA	15.40	167	NEW BRITAIN	23.04
55	STERLING	12.77	111	MANSFIELD	15.48	168	HARTFORD	24.71
56	CHESTER	12.77	112	HADDAM	15.49	169	WATERBURY	27.89
			113	BERLIN	15.62			

# Tax Effort Index (TEI) for Connecticut Towns

Map 2.2

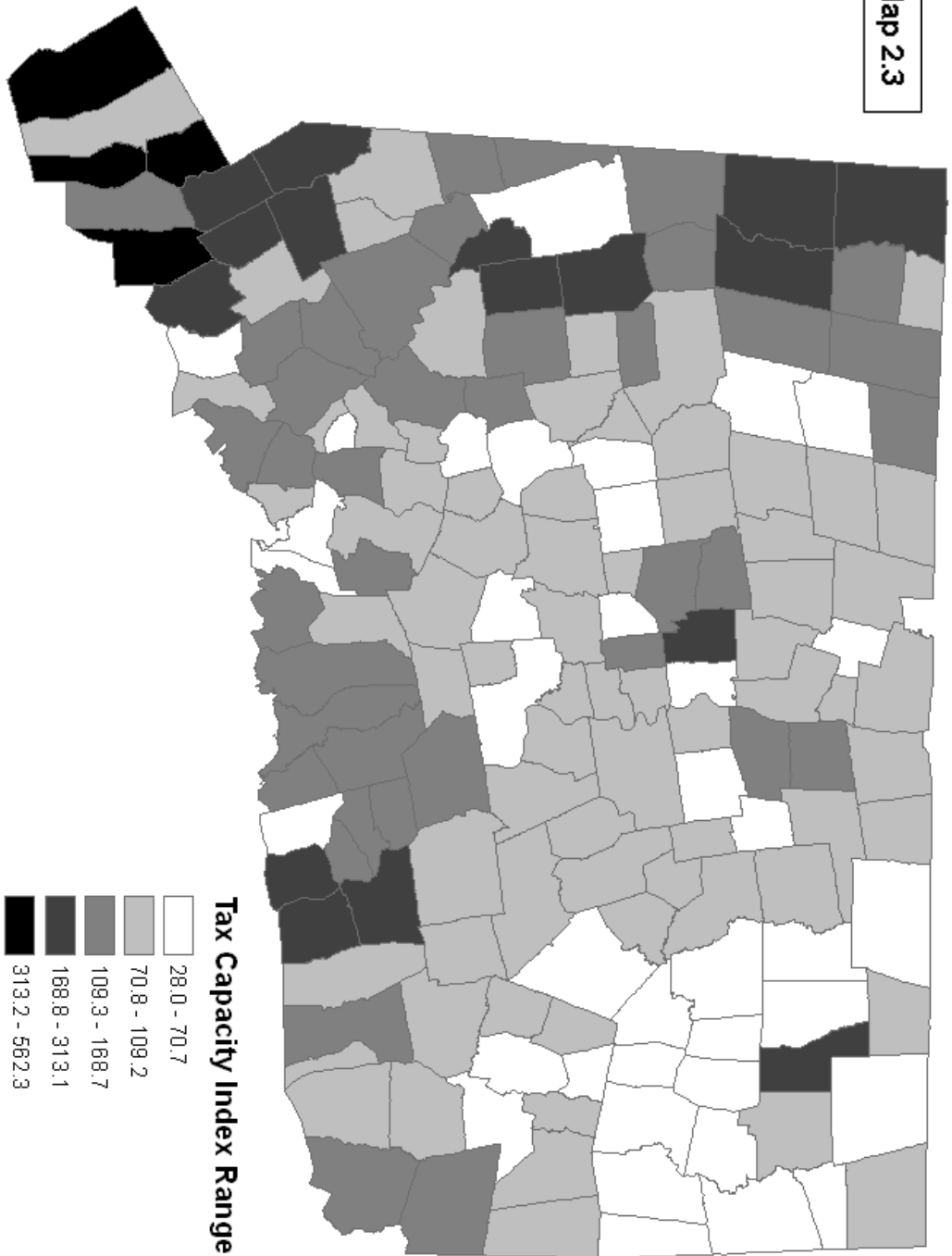


**Table 2.2: Tax Effort Index (TEI) for Connecticut Towns**

Rank	Town	Tax Effort Index	Rank	Town	Tax Effort Index	Rank	Town	Tax Effort Index
1	MANSFIELD	37.14	57	SCOTLAND	86.29	114	EAST HADDAM	113.28
2	PUTNAM	43.01	58	BEACON FALLS	87.27	115	NEW FAIRFIELD	113.37
3	WINDHAM	49.18	59	WALLINGFORD	87.60	116	CANTON	113.67
4	THOMPSON	50.38	60	SEYMOUR	87.98	117	GRANBY	114.02
5	KILLINGLY	53.36	61	PROSPECT	88.16	118	SOUTH WINDSOR	114.53
6	PLAINFIELD	54.96	62	SOUTHBURY	88.29	119	STRATFORD	114.65
7	BROOKLYN	56.42	63	THOMASTON	88.52	120	SALISBURY	114.96
8	GRISWOLD	56.62	64	HARTLAND	88.82	121	GUILFORD	116.13
9	LISBON	57.78	65	EAST HARTFORD	88.91	122	MONROE	116.83
10	ANSONIA	61.21	66	PLAINVILLE	89.01	123	HADDAM	118.39
11	NEW BRITAIN	61.56	67	MANCHESTER	89.25	124	BLOOMFIELD	118.71
12	CANTERBURY	62.53	68	ANDOVER	89.47	125	SOUTHINGTON	118.94
13	SOMERS	63.03	69	EASTON	89.91	126	BETHANY	119.92
14	NORWICH	63.68	70	NORTH BRANFORD	90.00	127	DURHAM	120.38
15	NEW HAVEN	63.74	71	COLUMBIA	91.04	128	WEST HARTFORD	120.73
16	NEW MILFORD	64.15	72	HAMDEN	91.11	129	NORWALK	121.62
17	VOLUNTOWN	67.66	73	WINDSOR LOCKS	91.12	130	WATERFORD	121.68
18	POMFRET	68.09	74	EAST HAVEN	91.42	131	OLD SAYBROOK	122.62
19	NAUGATUCK	69.16	75	BETHLEHEM	92.79	132	BROOKFIELD	123.09
20	PRESTON	69.23	76	EAST WINDSOR	93.09	133	KENT	123.52
21	GROTON	69.31	77	HARWINTON	93.19	134	FARMINGTON	123.60
22	STERLING	69.47	78	FRANKLIN	93.55	135	WEST HAVEN	123.92
23	WESTBROOK	69.90	79	EAST HAMPTON	94.17	136	NORTH HAVEN	123.95
24	MONTVILLE	70.39	80	BARKHAMSTED	95.70	137	GOSHEN	124.29
25	SPRAGUE	70.72	81	OXFORD	95.85	138	STAMFORD	126.64
26	WATERTOWN	71.32	82	NEWINGTON	98.06	139	COLEBROOK	127.11
27	BRIDGEPORT	71.43	83	UNION	99.39	140	MADISON	127.42
28	WILLINGTON	73.31	84	TOLLAND	101.09	141	MORRIS	127.91
29	VERNON	73.81	85	NORTH STONINGTON	101.15	142	WARREN	130.64
30	LEBANON	74.34	86	SALEM	101.26	143	WASHINGTON	130.96
31	ENFIELD	74.68	87	HEBRON	101.37	144	NEWTOWN	133.31
32	STAFFORD	75.11	88	BOLTON	102.25	145	TRUMBULL	135.76
33	DERBY	75.26	89	NEW LONDON	102.72	146	SIMSBURY	137.76
34	EAST LYME	75.59	90	MARLBOROUGH	102.76	147	AVON	143.11
35	BRISTOL	76.11	91	CLINTON	102.89	148	BRIDGEWATER	143.39
36	WOODSTOCK	76.14	92	ROCKY HILL	102.97	149	MIDDLEBURY	144.01
37	MERIDEN	76.67	93	PORTLAND	103.32	150	GLASTONBURY	144.40
38	CHAPLIN	78.12	94	NEW HARTFORD	103.38	151	CANAAN	144.53
39	DANBURY	78.21	95	CROMWELL	103.55	152	FAIRFIELD	144.83
40	HARTFORD	79.44	96	DEEP RIVER	103.88	153	NORFOLK	145.74
41	TORRINGTON	79.53	97	WOODBURY	103.96	154	LYME	146.03
42	WATERBURY	79.74	98	BURLINGTON	104.82	155	ROXBURY	152.21
43	HAMPTON	80.14	99	CHESHIRE	105.48	156	OLD LYME	152.32
44	ASHFORD	80.45	100	WETHERSFIELD	105.95	157	ORANGE	155.23
45	COVENTRY	80.60	101	STONINGTON	106.13	158	SHELTON	162.01
46	BOZRAH	80.87	102	BETHEL	106.54	159	CORNWALL	166.04
47	COLCHESTER	80.92	103	LITCHFIELD	106.66	160	WOODBIDGE	167.33
48	WINCHESTER	81.60	104	ESSEX	106.73	161	RIDGEFIELD	174.30
49	NORTH CANAAN	81.72	105	SHERMAN	106.92	162	REDDING	177.39
50	WOLCOTT	82.14	106	WINDSOR	107.74	163	GREENWICH	177.88
51	SUFFIELD	82.59	107	MIDDLEFIELD	108.10	164	DARIEN	188.26
52	MIDDLETOWN	82.61	108	BRANFORD	109.46	165	EASTFORD	194.67
53	LEDYARD	84.05	109	CHESTER	110.17	166	NEW CANAAN	214.69
54	EAST GRANBY	84.06	110	SHARON	110.30	167	WILTON	218.46
55	PLYMOUTH	84.98	111	KILLINGWORTH	111.37	168	WESTPORT	223.51
56	ELLINGTON	85.29	112	MILFORD	111.67	169	WESTON	240.75
			113	BERLIN	111.85			

# Tax Capacity Index (TCI) for Connecticut Towns

Map 2.3



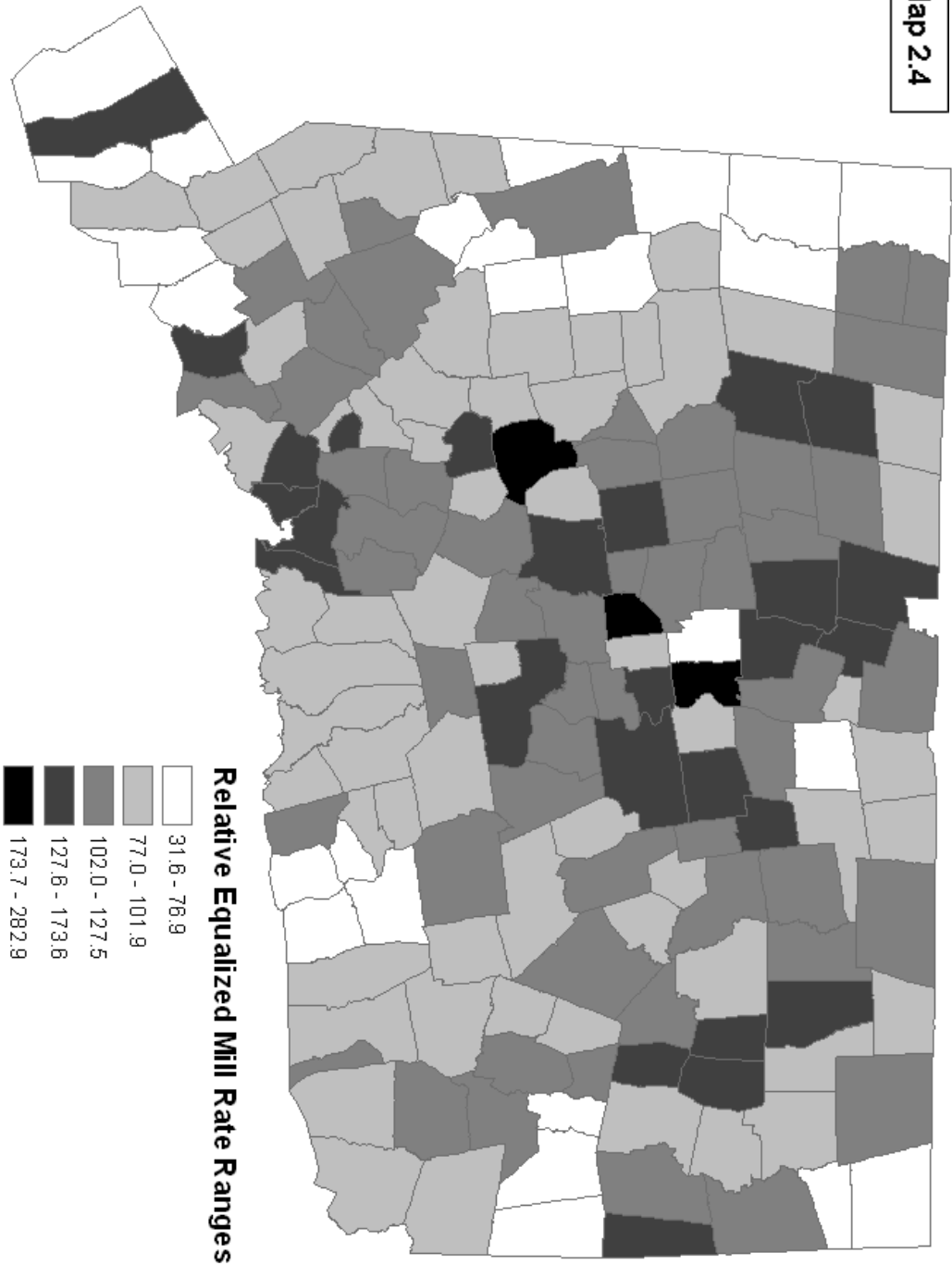


**Table 2.3: Tax Capacity Index (TCI) for Connecticut Towns**

Rank	Town	Tax Capacity Index	Rank	Town	Tax Capacity Index	Rank	Town	Tax Capacity Index
1	HARTFORD	28.09	57	LEDYARD	81.09	114	MONROE	112.26
2	NEW BRITAIN	30.97	58	CROMWELL	81.32	115	NORTH HAVEN	112.63
3	WATERBURY	34.54	59	THOMASTON	81.37	116	DEEP RIVER	113.28
4	NEW HAVEN	37.26	60	STAMFORD	82.29	117	OXFORD	113.60
5	MANSFIELD	38.39	61	DANBURY	82.62	118	FARMINGTON	114.22
6	WINDHAM	40.30	62	EAST HAMPTON	83.01	119	CANAAN	115.29
7	BRIDGEPORT	41.15	63	PLAINVILLE	83.16	120	CHESTER	115.72
8	ANSONIA	45.65	64	COLCHESTER	83.35	121	HADDAM	117.22
9	PLAINFIELD	47.00	65	BARKHAMSTED	84.60	122	NEWTOWN	118.19
10	NAUGATUCK	47.73	66	GROTON	85.22	123	BRANFORD	118.91
11	VERNON	49.77	67	SOUTHINGTON	85.26	124	ORANGE	119.17
12	KILLINGLY	50.58	68	POMFRET	85.76	125	GUILFORD	119.93
13	NEW MILFORD	50.98	69	TOLLAND	85.88	126	NORTH STONINGTON	121.32
14	BRISTOL	52.14	70	WOLCOTT	86.16	127	STONINGTON	122.94
15	NORWICH	52.45	71	BLOOMFIELD	86.28	128	COLEBROOK	124.70
16	STERLING	52.52	72	ELLINGTON	86.53	129	CLINTON	126.51
17	CHAPLIN	53.16	73	SEYMOUR	86.55	130	SHELTON	128.68
18	TORRINGTON	55.71	74	BURLINGTON	87.84	131	EAST WINDSOR	128.71
19	WINCHESTER	56.81	75	WINDSOR	87.88	132	KILLINGWORTH	129.68
20	PUTNAM	57.25	76	ANDOVER	88.01	133	NORFOLK	129.72
21	ASHFORD	57.75	77	NEW HARTFORD	88.12	134	NORWALK	130.85
22	MIDDLETOWN	58.19	78	VOLUNTOWN	88.48	135	GOSHEN	131.95
23	EAST HAVEN	58.48	79	PROSPECT	88.71	136	NEW FAIRFIELD	134.72
24	SCOTLAND	59.10	80	BERLIN	89.03	137	AVON	134.87
25	HAMPTON	60.32	81	SIMSBURY	89.78	138	MILFORD	135.22
26	WESTBROOK	60.58	82	HARWINTON	89.81	139	WOODBIDGE	136.10
27	EAST GRANBY	60.98	83	PORTLAND	90.34	140	MADISON	137.15
28	PRESTON	63.55	84	WINDSOR LOCKS	90.37	141	TRUMBULL	151.18
29	MERIDEN	63.64	85	CHESHIRE	91.19	142	WATERFORD	152.34
30	MANCHESTER	63.81	86	ROCKY HILL	91.22	143	MIDDLEBURY	153.12
31	SPRAGUE	64.38	87	NORTH BRANFORD	91.90	144	ESSEX	157.41
32	WILLINGTON	66.57	88	NEW LONDON	91.95	145	WARREN	159.73
33	BROOKLYN	66.66	89	EAST HARTFORD	92.39	146	MORRIS	161.54
34	STAFFORD	69.41	90	BEACON FALLS	92.46	147	BROOKFIELD	162.66
35	PLYMOUTH	69.76	91	BETHEL	94.27	148	KENT	167.05
36	WOODSTOCK	69.87	92	LISBON	95.25	149	SHERMAN	168.75
37	LEBANON	70.40	93	CANTON	95.73	150	REDDING	182.58
38	CANTERBURY	70.82	94	STRATFORD	95.86	151	RIDGEFIELD	184.02
39	SOMERS	71.78	95	HARTLAND	96.05	152	SHARON	185.89
40	COVENTRY	72.29	96	HEBRON	96.20	153	OLD SAYBROOK	191.65
41	THOMPSON	73.10	97	SOUTHURY	96.25	154	WEST HARTFORD	206.89
42	ENFIELD	73.31	98	FRANKLIN	96.46	155	OLD LYME	210.75
43	GRISWOLD	73.66	99	WALLINGFORD	97.66	156	FAIRFIELD	213.30
44	DERBY	75.46	100	GLASTONBURY	98.07	157	WILTON	223.99
45	SUFFIELD	77.21	101	BETHANY	100.09	158	BRIDGEWATER	224.38
46	HAMDEN	77.28	102	COLUMBIA	100.88	159	ROXBURY	228.67
47	WEST HAVEN	77.70	103	EAST HADDAM	101.18	160	EASTFORD	233.68
48	EASTON	77.75	104	UNION	101.34	161	WESTON	256.98
49	NORTH CANAAN	77.90	105	MARLBOROUGH	102.35	162	LYME	259.54
50	WATERTOWN	78.30	106	BETHLEHEM	104.47	163	WASHINGTON	274.03
51	MONTVILLE	78.48	107	LITCHFIELD	106.25	164	SALISBURY	301.05
52	GRANBY	78.56	108	DURHAM	107.13	165	CORNWALL	313.17
53	BOZRAH	79.77	109	SALEM	108.95	166	DARIEN	334.34
54	BOLTON	80.17	110	MIDDLEFIELD	109.31	167	NEW CANAAN	365.87
55	WETHERSFIELD	80.26	111	SOUTH WINDSOR	110.08	168	WESTPORT	410.15
56	EAST LYME	81.08	112	NEWINGTON	110.60	169	GREENWICH	562.30
			113	WOODBURY	112.06			

# Relative Equalized Mill Rate (REMR) for Connecticut Towns

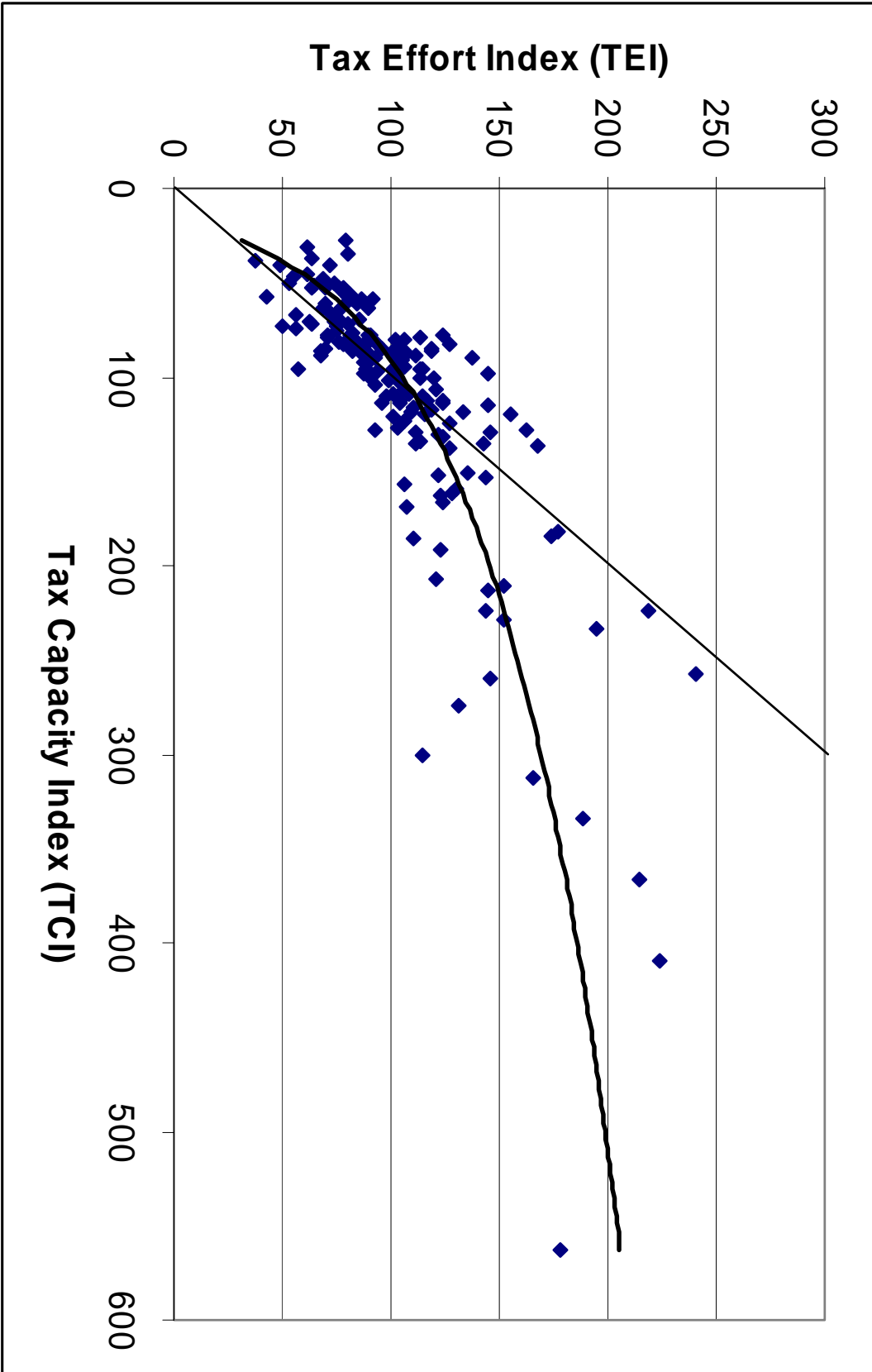
Map 2.4



**Table 2.4: Relative Equalized Mill Rates (REMR) for Connecticut Towns**

Rank	Town	Relative Equalized Mill Rate (TEI/TCI)	Rank	Town	Relative Equalized Mill Rate (TEI/TCI)	Rank	Town	Relative Equalized Mill Rate (TEI/TCI)
1	GREENWICH	31.63	57	EAST LYME	93.23	114	BETHEL	113.02
2	SALISBURY	38.19	58	WESTON	93.69	115	BARKHAMSTED	113.12
3	WASHINGTON	47.79	59	MIDDLEBURY	94.05	116	EAST HAMPTON	113.45
4	CORNWALL	53.02	60	GOSHEN	94.20	117	PORTLAND	114.36
5	WESTPORT	54.50	61	BEACON FALLS	94.39	118	WESTBROOK	115.39
6	LYME	56.26	62	DANBURY	94.66	119	EASTON	115.63
7	DARIEN	56.31	63	RIDGEFIELD	94.72	120	CHESHIRE	115.67
8	WEST HARTFORD	58.35	64	CHESTER	95.21	121	PLAINFIELD	116.94
9	NEW CANAAN	58.68	65	WOLCOTT	95.33	122	NEW HARTFORD	117.32
10	SHARON	59.33	66	EAST HARTFORD	96.23	123	TOLLAND	117.70
11	LISBON	60.66	67	MANSFIELD	96.75	124	HAMDEN	117.89
12	SHERMAN	63.36	68	GUILFORD	96.83	125	CANTON	118.75
13	BRIDGEWATER	63.91	69	FRANKLIN	96.99	126	BURLINGTON	119.32
14	OLD SAYBROOK	63.98	70	COLCHESTER	97.09	127	STRATFORD	119.60
15	ROXBURY	66.56	71	REDDING	97.16	128	BETHANY	119.82
16	ESSEX	67.80	72	WILTON	97.53	129	MERIDEN	120.48
17	FAIRFIELD	67.90	73	NORTH BRANFORD	97.93	130	NORWICH	121.42
18	THOMPSON	68.93	74	UNION	98.08	131	PLYMOUTH	121.81
19	OLD LYME	72.27	75	ELLINGTON	98.57	132	WINDHAM	122.03
20	EAST WINDSOR	72.32	76	MIDDLEFIELD	98.89	133	WINDSOR	122.59
21	KENT	73.94	77	PROSPECT	99.38	134	WOODBIDGE	122.94
22	PUTNAM	75.14	78	DERBY	99.73	135	CANAAN	125.35
23	BROOKFIELD	75.67	79	LITCHFIELD	100.39	136	BERLIN	125.63
24	VOLUNTTOWN	76.48	80	MARLBOROUGH	100.40	137	NEW MILFORD	125.85
25	GRISWOLD	76.87	81	WINDSOR LOCKS	100.83	138	SHELTON	125.91
26	MORRIS	79.18	82	HADDAM	101.00	139	CROMWELL	127.33
27	POMFRET	79.39	83	BOZRAH	101.38	140	BOLTON	127.55
28	WATERFORD	79.87	84	SEYMOUR	101.64	141	ORANGE	130.26
29	CLINTON	81.33	85	ANDOVER	101.66	142	WETHERSFIELD	132.00
30	GROTON	81.33	86	ENFIELD	101.87	143	STERLING	132.28
31	WARREN	81.79	87	COLEBROOK	101.93	144	HAMPTON	132.85
32	MILFORD	82.58	88	LEDYARD	103.66	145	ANSONIA	134.10
33	EASTFORD	83.30	89	HARWINTON	103.77	146	BLOOMFIELD	137.59
34	NORTH STONINGTON	83.38	90	SOUTH WINDSOR	104.05	147	EAST GRANBY	137.84
35	NEW FAIRFIELD	84.15	91	MONROE	104.07	148	ASHFORD	139.30
36	OXFORD	84.38	92	NORTH CANAAN	104.90	149	SOUTHINGTON	139.50
37	BROOKLYN	84.63	93	HEBRON	105.37	150	MANCHESTER	139.86
38	KILLINGWORTH	85.88	94	KILLINGLY	105.49	151	MIDDLETOWN	141.96
39	STONINGTON	86.32	95	LEBANON	105.59	152	TORRINGTON	142.76
40	SOMERS	87.82	96	AVON	106.11	153	WINCHESTER	143.65
41	CANTERBURY	88.29	97	SUFFIELD	106.96	154	NAUGATUCK	144.89
42	NEWINGTON	88.65	98	PLAINVILLE	107.04	155	GRANBY	145.14
43	BETHLEHEM	88.82	99	FARMINGTON	108.21	156	BRISTOL	145.97
44	MONTVILLE	89.69	100	STAFFORD	108.21	157	SCOTLAND	146.01
45	WALLINGFORD	89.70	101	THOMASTON	108.78	158	CHAPLIN	146.94
46	TRUMBULL	89.80	102	PRESTON	108.93	159	GLASTONBURY	147.24
47	COLUMBIA	90.24	103	WOODSTOCK	108.98	160	VERNON	148.30
48	WATERTOWN	91.09	104	SPRAGUE	109.84	161	SIMSBURY	153.45
49	DEEP RIVER	91.70	105	NORTH HAVEN	110.04	162	STAMFORD	153.89
50	SOUTHURY	91.72	106	WILLINGTON	110.12	163	EAST HAVEN	156.34
51	BRANFORD	92.05	107	COVENTRY	111.48	164	WEST HAVEN	159.50
52	HARTLAND	92.47	108	NEW LONDON	111.71	165	NEW HAVEN	171.08
53	WOODBURY	92.77	109	EAST HADDAM	111.96	166	BRIDGEPORT	173.57
54	MADISON	92.90	110	NORFOLK	112.35	167	NEW BRITAIN	198.78
55	SALEM	92.94	111	DURHAM	112.37	168	WATERBURY	230.82
56	NORWALK	92.94	112	NEWTOWN	112.80	169	HARTFORD	282.86
			113	ROCKY HILL	112.88			

Figure 2.1: Relationship between TCI and TEI for Connecticut Towns



## Personal Income Tax

Taxes directly depending on personal income include state and federal income taxes, the payroll or social security tax, unemployment insurance and workers' compensation. These taxes are independent of location of residence within Connecticut. The federal and Connecticut personal income tax burdens for a given income are the same no matter where the income is earned assuming it is earned domestically or repatriated. The Connecticut and federal personal income taxes are ostensibly progressive, that is, unless one uses some sort of effective tax planning, the fraction of income paid in tax increases with income. Social security and unemployment insurance taxes are regressive<sup>8</sup> because they take disproportionately larger shares of low incomes than of higher incomes. Map 2.5 shows the geographical distribution of median household income from the Connecticut Economic Resource Center (CERC) Town Profiles<sup>9</sup> (households is a broader category than families and includes them). The mean (\$80,178) and median (\$75,360) are reasonably close indicating that the distribution is approximately symmetric. Median household incomes range from \$30,806 in Hartford to \$190,014 in Weston. The reported incomes are Census based and do not contain unearned components such as interest, dividends and capital gains (or losses).

Using median household income for each Connecticut town, we calculate the federal and state personal income tax burdens experienced in calendar 2006, using the National Bureau of Economic Research (NBER) TAXSIM model<sup>10</sup> of state and federal personal income tax burdens for tax year 2006. The simulations, analogous to filing state and federal tax returns, require assumptions about the type of household filing. We assume families file under "head of household" with all household income reported to the filer. The household claims one dependent and no age exemptions, and it claims dividend income of \$500, other property income of \$50, and \$0 for taxable pensions, gross social security income, other non-taxable transfer income and rent paid. We further assume that the filing householder claims the estimated property tax paid on an average house in each income group aggregated to the town level,<sup>11</sup> \$2,000 of itemized deductions, and \$0 for child care and unemployment compensation received.

Using the method described above, we calculate state and federal income tax burden for Connecticut by income group and for the median income household in each Connecticut town. The resulting federal median household income tax burdens are decidedly not normally distributed. The median (\$8,021) lies to the left of the mean (\$8,907) indicating a distribution skewed to the left. Federal median household income tax burdens range from \$42,844 in Weston

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<sup>8</sup> See Anderson, P.M. and Bruce D. Meyer (2003). "Unemployment Insurance Tax Burdens and Benefits: Funding Family Leave and Reforming the Payroll Tax," NBER Working Paper 10043, <http://www.nber.org/papers/w10043>.

<sup>9</sup> See <http://www.cerc.com/townprofiles/default.asp>.

<sup>10</sup> TAXSIM is the NBER's program for calculating liabilities under U.S. federal and state income tax laws from individual data. See <http://www.nber.org/taxsim>. Version 9.0 introduces federal income tax through 2013; federal tax per law up to but not including ARRA (Feb 2009); state income taxes through 2008; optional modifications to federal law.

<sup>11</sup> We estimate an average house price for each of Census' ten income groups in each town based on an arc income-price elasticity using the town median household income as the income basis. We calculate the average property tax burden for each income group's average house market value using the equalized mill rate. We aggregate these burdens over each income group and average them for each town. See the Appendix.

to \$1,867 in Hartford. Map 2.6 shows the geographical distribution of Connecticut's federal median household income tax burden that mimics closely the geographical distribution of median household income. Similarly, values of federal tax burden listed in Table 2.6 closely mirror those for median household income.

Connecticut median household income tax burdens also lie in a left-skewed distribution, with the median (\$1,758) just below the mean (\$1,888). Connecticut median household personal income tax burdens range from \$9,208 in Weston to \$241 in Hartford. Map 2.7 reveals the geographical distribution of Connecticut's median household income tax burden. This distribution also mimics closely the geographical distribution of median household income. Table 2.6 includes state personal income tax burden by town.

### **Connecticut Sales Tax and Fuel Tax Household Burden**

Connecticut's 6% sales tax is levied on most retail sales and on some services, exempting food, prescription drugs, and non-prescription drugs. The fuel tax applies per gallon, and does not depend on the price of gas. Neglecting diesel fuel, we estimate that for fiscal year 2007 gasoline prices averaged \$2.84 per gallon. The \$0.34 per gallon gasoline tax thus translates to an effective gasoline sales tax of \$0.12 per dollar for FY 2007. To determine the sales and fuel tax burdens by income group on Connecticut residents, we first estimate how consumer spending varies across income cohorts. The Bureau of Labor Statistics (BLS)<sup>12</sup> provides detailed consumer expenditure data by item consumed and income cohort.<sup>13</sup> From these aggregate U.S. data, we estimate spending on taxable consumer goods and gasoline for several income groups in Connecticut. We apply the sales tax (6%) and effective fuel sales tax (16.7%) to estimated purchases to determine burdens for each town and at the state level (see Tables 2.5 and 2.6).

Connecticut taxes spending on certain goods, including a 6% tax on most consumer goods as well as inputs to production and a \$0.34 per gallon tax on gasoline (FY 2007). The sales and gas tax account for 4.7% and 1.1% of the total (household) tax burden on Connecticut residents, and represent 25.5% and 3.4% of total state revenues,<sup>14</sup> respectively. Despite low-income households and residents spending a greater proportion of their income on consumption, the sales and fuel tax are regressive across all income ranges in the state. At the extremes, households earning less than \$10,000 per year expend 8.0% of their income on these two taxes combined, while households earning more than \$100,000 expend 1.4% of their incomes on these taxes.

Notwithstanding the regressive nature of these taxes, households earning more than \$50,000 per year account for roughly 79% and 77% of sales and fuel tax receipts respectively. This is

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<sup>12</sup> Information available at <http://www.bls.gov/cex/2002/highincome/hincome.pdf>

<sup>13</sup> BLS income data includes dividends and other "unearned" income, whereas Census data includes only "earned" income. Thus, when we map BLS income cohorts onto Census cohorts, spending by CT households is biased downwards. Our results are therefore a slight overstatement of the regressive nature of sales and fuel taxes for high income groups with little significant bias on low income groups that have little unearned income.

<sup>14</sup> Revenue percentages include taxes from business spending, while burden percentages do not.

explained by the additional discretion these households have to spend relative to lower income groups.

A summary of DECD's findings for household taxes follows:

- The aggregate tax burden for Connecticut residents is regressive for low-income groups (those whose total income is less than \$25,000 per year) who are exempt from income taxes and for whom property, fuel, and sales taxes dominate their tax bills. The aggregate tax burden for Connecticut residents is progressive for households earning more than \$25,000 due to the disproportionate increase in income taxes as income rises.
- The local property tax accounts for most of the variation in tax burden across towns for a given household income.
- 63.7% of taxes paid by Connecticut households accrue to the federal government, but for taxpayers who itemize, federal tax law allows them to deduct state personal income tax paid.

### **Summary of Household Taxation in Connecticut**

Overall, Connecticut residents experience a system of taxation that is regressive at low incomes and progressive at high incomes. Table 2.5 offers a summary of Connecticut taxation by income group, and Table 2.6 provides an estimate of taxes paid by the median income resident in each town. Figure 2.2, which graphs tax burden (as a percent of household income) versus household income, summarizes the tax burden of a typical household in each income group reported.

Taxation over the first three cohorts is regressive. This is despite the fact that households with low-income levels are exempt from state and federal income taxes. Because of their income tax-exempt status, the sales tax is the primary method of taxation of low-income households, and as the BLS data shows, such households spend a significantly higher proportion of their income on consumption than high-income households do.<sup>15</sup> Thus, the sales and fuel tax represent a higher proportion of household income for these low-income groups than for high-income groups. As income increases, the state and federal income taxes represent an increasing proportion of household income, while sales and fuel tax become a smaller fraction, despite the fact that high income groups spend more than low income groups on taxable goods.

However, households with incomes in the regressive range account for 22% of total Connecticut households. For the remaining 78% of state residents, increasing income results in a more than proportionate increase in tax burden as a percent of household income. Due to this tax structure and the fact that over half of Connecticut households earn more than \$50,000 per year, households in the top three income groups we use pay the majority of total taxes in the state, and households in the top income group (greater than \$100,000) pay more than half of all taxes collected. Of all the federal, state, and local taxes collected from Connecticut residents in our model, households earning more than \$100,000 pay 64.2%, while households earning less than \$50,000 pay less than 8%.

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<sup>15</sup> The three lowest income groups have expenditure levels well above their incomes, implying dis-saving and borrowing.

Figure 2.2 demonstrates that federal personal income tax accounts for the majority of the burden at high incomes. At the state level, households earning more than \$100,000 per year pay nearly two-thirds of Connecticut's personal income tax and roughly one-third of all sales and gas taxes. This latter income group pays 59% of all local property taxes collected by Connecticut towns. Therefore, despite the regressive nature of taxation at the lowest income groups, wealthy households bear the majority of tax burden in Connecticut

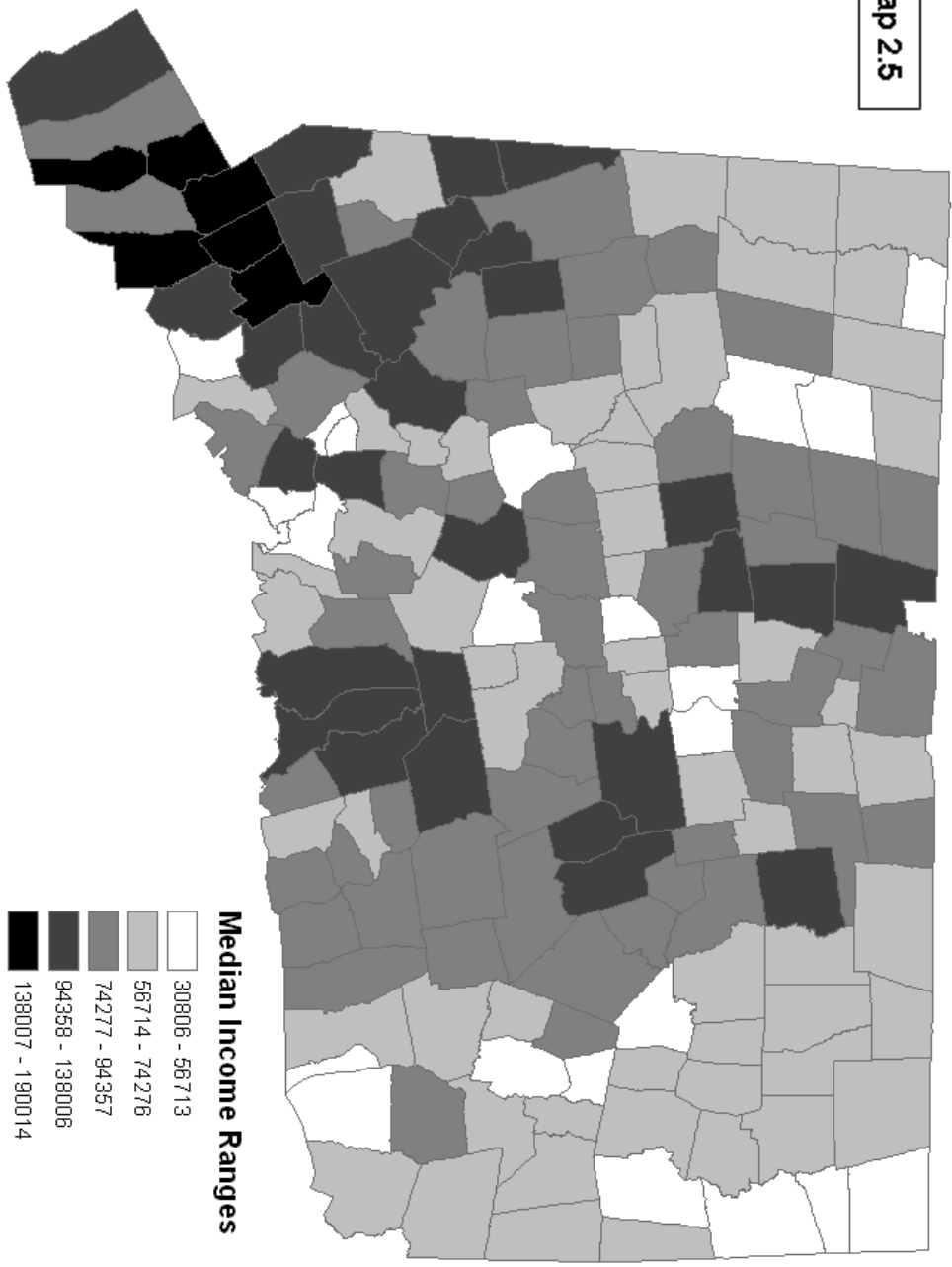
Connecticut taxpayers pay more taxes on average because they earn more income per capita than taxpayers in other states. Connecticut ranked number one in state taxes per capita in 1999, and maintained this position until 2002, after which it gradually dropped to its FY 2007 rank of five. In FY 2006, Wyoming, Alaska, Hawaii and Vermont paid more per capita in state taxes than Connecticut. However, Connecticut's state and local tax burden as a fraction of personal income ranked 15<sup>th</sup> in 2006 relative to the other states reflecting a modest ability to pay (a rank of 50 indicates the lowest tax burden as a fraction of personal income). Since 1997, Connecticut has consistently improved its rank from 9<sup>th</sup> in FY 1999 to 12<sup>th</sup> in FY 2005. Refer to Tables 3.6 through 3.9 below.

To the extent that consumption and real property values relate positively to income, total sales, excise and property tax burdens rise as incomes increase. In high-income towns, equalized mill rates tend to be lower than in lower-income towns. This reflects greater household property values in such towns and the ease with which such towns can raise the revenue required to support the town's budget.



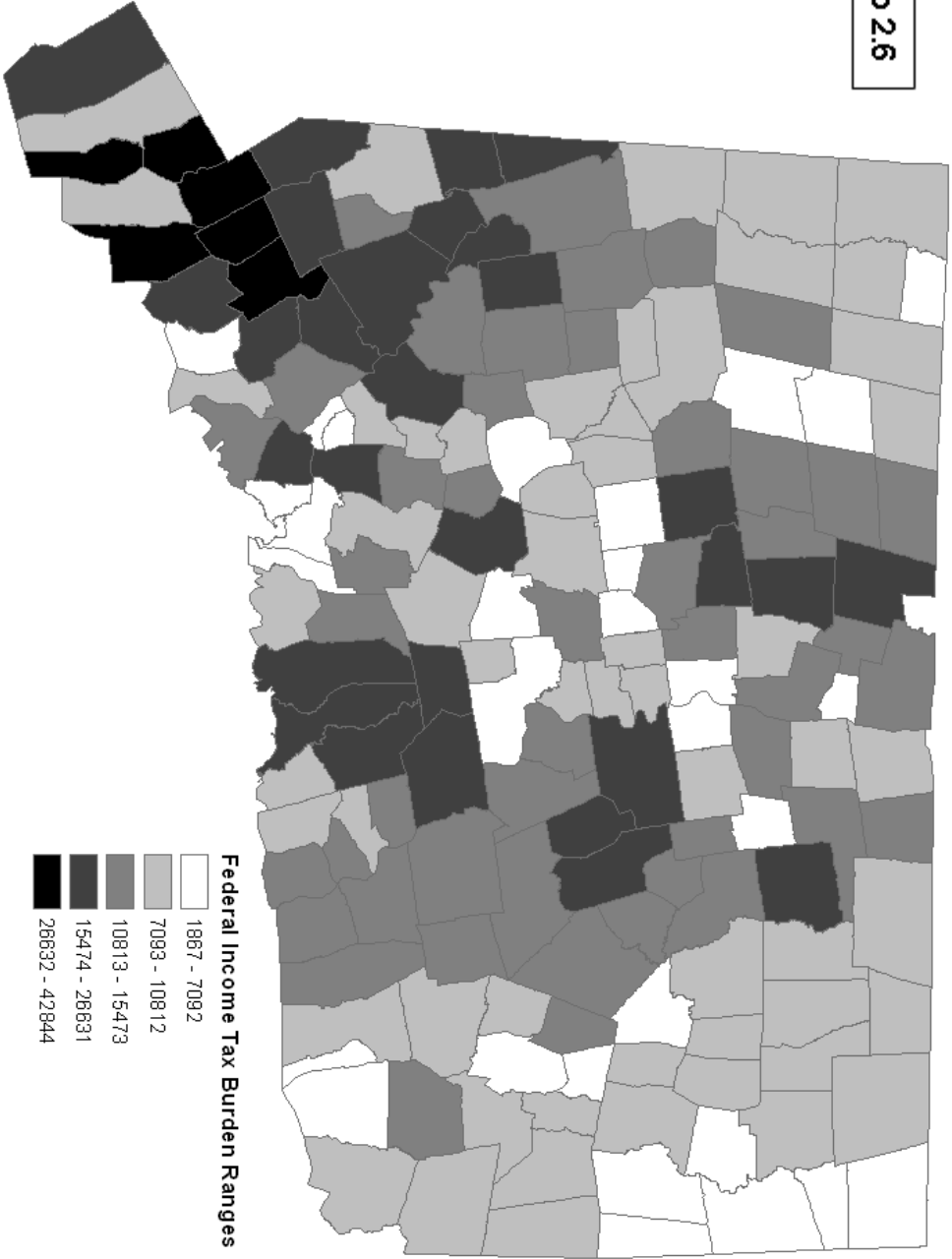
# Median Household Income for Connecticut Towns – 2006

Map 2.5



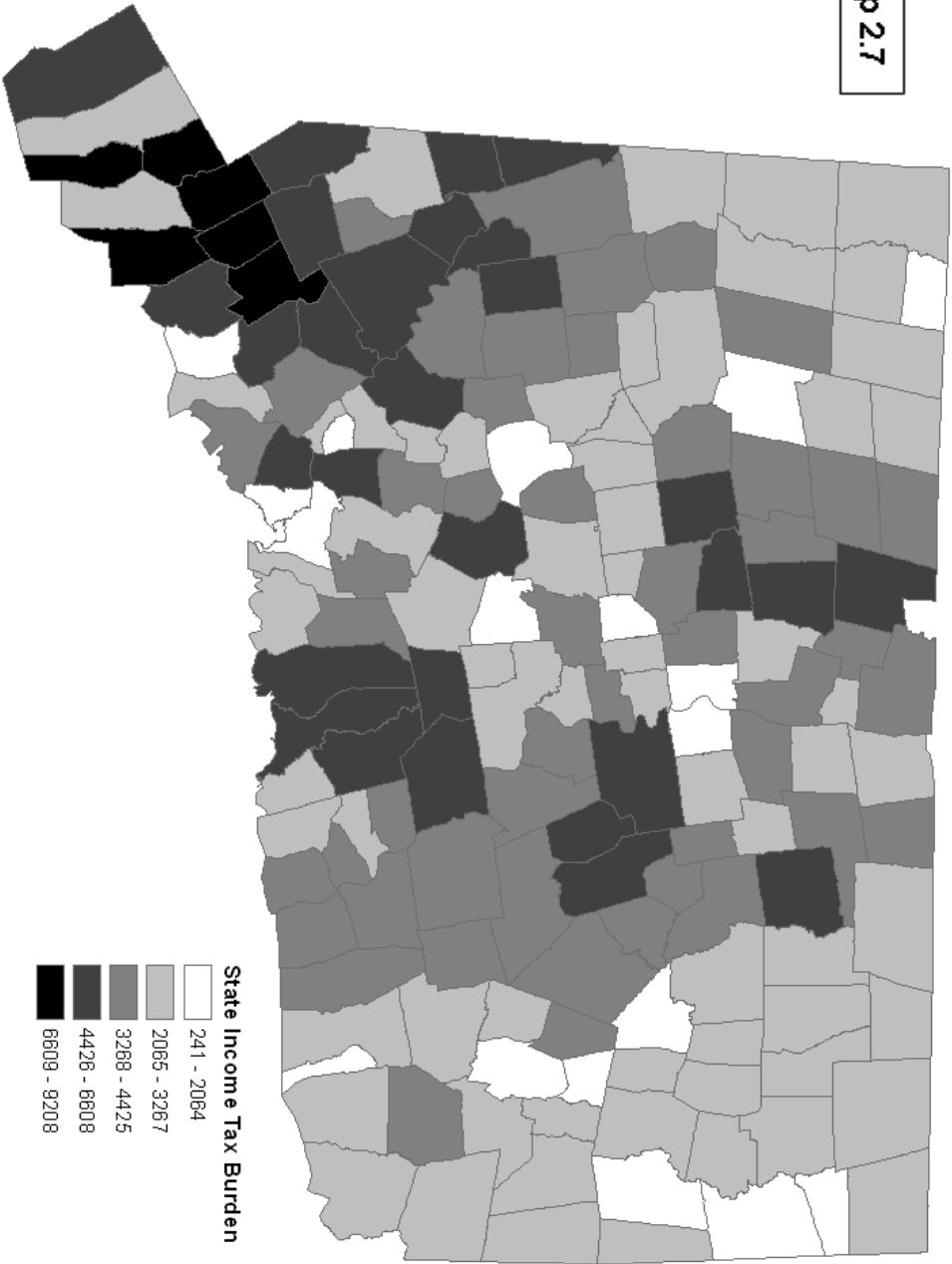
# Median Federal Personal Income Tax Burden in Connecticut Towns

Map 2.6



# Median State Personal Income Tax Burden in Connecticut Towns

Map 2.7



**Table 2.5: Summary of Connecticut Taxation by Income Group**

Tax Type	Income Cohort		Less than \$10,000	\$10,000-14,999	\$15,000-24,999	\$25,000-34,999	\$35,000-49,999	\$50,000-74,999	\$75,000-100,000	More than \$100,000 <sup>5</sup>	Row Totals
	Est. Med. HH Income	No. of CT Households: Percent of CT Total									
Federal Personal Income Tax <sup>1</sup>	Total <sup>6</sup> (\$)										
	% of tax paid by cohort										
	\$/Household										
	% of HH Income										
	Burden as % of Total										
State Personal Income Tax <sup>1</sup>	Total <sup>6</sup> (\$)										
	% of tax paid by cohort										
	\$/Household										
	% of HH Income										
	Burden as % of Total										
Local Property Tax <sup>2</sup>	Total <sup>7</sup> (\$)										
	% of tax paid by cohort										
	\$/Household										
	% of HH Income										
	Burden as % of Total										
Sales & Use Tax <sup>3</sup>	Total <sup>7</sup> (\$)										
	% of tax paid by cohort										
	\$/Household										
	% of HH Income										
	Burden as % of Total										
Fuel Tax <sup>4</sup>	Total <sup>7</sup> (\$)										
	% of tax paid by cohort										
	\$/Household										
	% of HH Income										
	Burden as % of Total										
Totals	Total (\$)										
	% Paid by Cohort										
	\$/Household										
	Percent of HH Income										

1 Estimated using TAXSIM under the assumptions described in report.  
2 Estimated residential property tax paid for 2006.  
3 Estimated from BLS household expenditure data.  
4 Estimated from BLS household expenditure data. Assumes average 2007 fuel price of \$2.84 per gallon.  
5 Estimated from income cohorts (\$100,000-\$149,999), (\$150,000-\$199,999), and (greater than \$200,000)  
6 May not equal actual 2006 amount collected due to simplifications made for TAXSIM model  
7 Estimated amount does not equal actual 2007 amount collected because it omits business spending

Figure 2.2: Tax burden in Connecticut as a percent of household income by income group

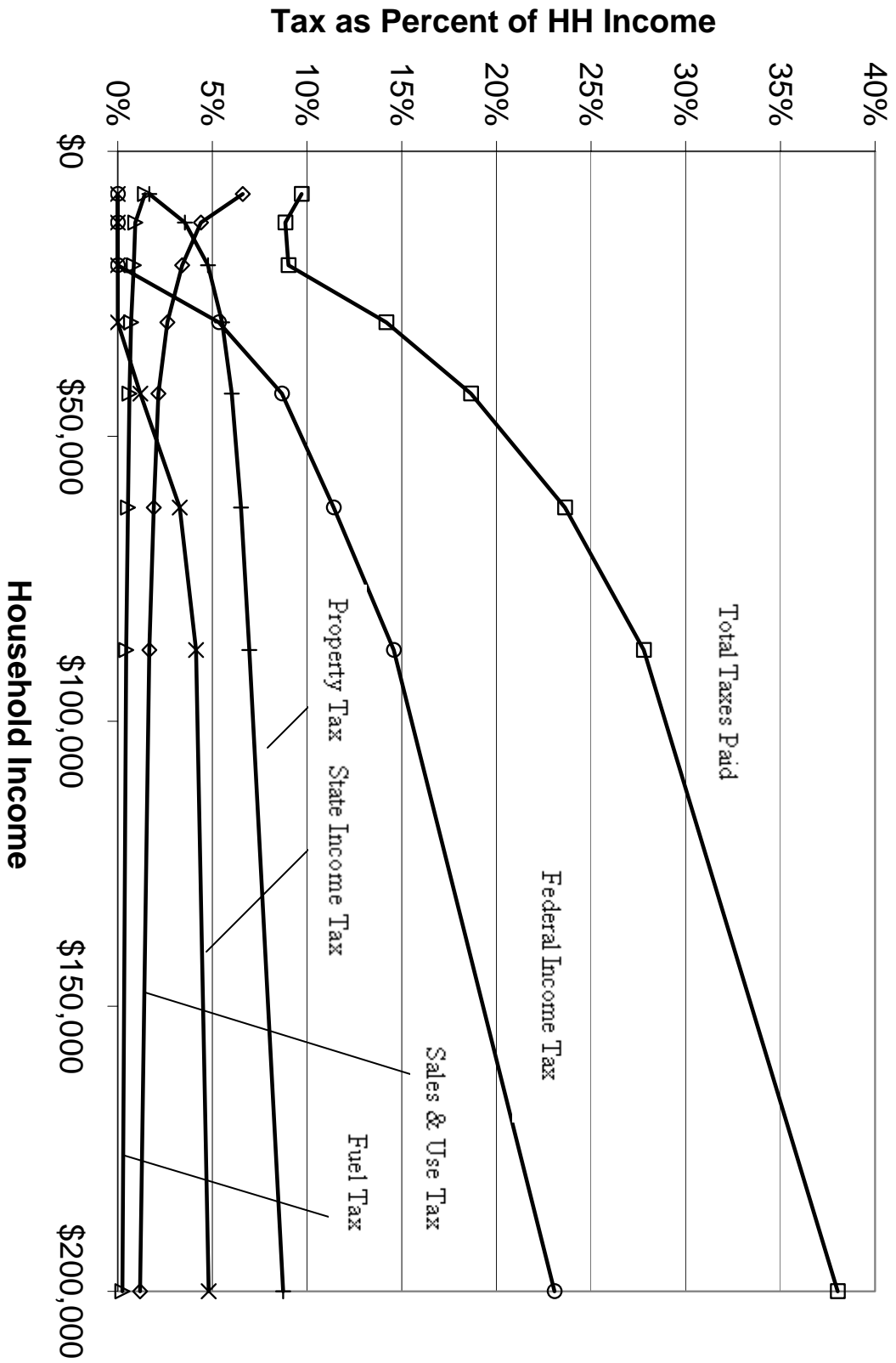


Table 2.6: Connecticut tax burdens for median household by town

	Number of Households	Median HH Income	Median Tax Burden	Property Tax Burden	Skewness	Federal PIT Median Household	State PIT Median Household	Fuel Tax Median Household	Sales & Use Tax Median Household
ANDOVER	1,250	\$79,846	\$4,612	\$4,529	0.63	\$13,770	\$4,085	\$367	\$1,287
ANSONIA	7,360	\$48,781	\$4,179	\$4,240	46.00	\$5,217	\$1,962	\$367	\$968
ASHFORD	1,693	\$62,055	\$3,781	\$3,754	14.31	\$8,697	\$2,763	\$337	\$1,208
AVON	6,732	\$105,802	\$5,434	\$6,521	13.39	\$20,739	\$5,479	\$453	\$2,236
BARKHAMSTED	1,453	\$76,574	\$3,727	\$3,853	40.78	\$12,764	\$3,883	\$367	\$1,287
BEACON FALLS	2,176	\$64,021	\$4,454	\$4,285	0.08	\$9,303	\$2,872	\$337	\$1,208
BERLIN	7,363	\$77,373	\$4,301	\$4,491	18.99	\$13,207	\$3,972	\$367	\$1,287
BETHANY	1,912	\$85,995	\$6,173	\$6,402	0.61	\$15,473	\$4,425	\$392	\$1,512
BETHEL	6,569	\$79,260	\$5,500	\$5,679	6.42	\$13,452	\$4,021	\$367	\$1,287
BETHLEHEM	1,323	\$80,462	\$4,322	\$4,191	1.44	\$13,846	\$4,100	\$392	\$1,512
BLOOMFIELD	8,308	\$61,576	\$4,084	\$5,192	47.01	\$6,444	\$2,718	\$337	\$1,208
BOLTON	2,059	\$76,789	\$4,770	\$5,028	0.88	\$12,704	\$3,871	\$367	\$1,287
BOZRAH	886	\$63,932	\$3,035	\$3,085	0.90	\$9,311	\$2,874	\$337	\$1,208
BRANFORD	12,701	\$65,385	\$4,085	\$5,022	24.49	\$9,704	\$2,944	\$337	\$1,208
BRIDGEPORT	51,397	\$38,397	\$5,096	\$5,375	48.77	\$3,635	\$937	\$241	\$874
BRIDGEWATER	746	\$94,315	\$5,279	\$6,798	3.52	\$18,017	\$4,934	\$392	\$1,512
BRISTOL	24,594	\$53,864	\$3,671	\$3,924	39.06	\$6,454	\$2,359	\$337	\$1,208
BROOKFIELD	5,699	\$93,144	\$5,139	\$5,614	3.74	\$17,459	\$4,822	\$392	\$1,512
BROOKLYN	2,797	\$56,133	\$2,861	\$2,872	1.18	\$6,957	\$2,450	\$337	\$1,208
BURLINGTON	3,100	\$95,701	\$5,014	\$5,459	0.97	\$18,323	\$4,995	\$392	\$1,512
CANAAN	306	\$63,430	\$3,501	\$4,146	13.80	\$9,114	\$2,838	\$337	\$1,208
CANTERBURY	1,877	\$64,714	\$2,992	\$3,092	1.59	\$9,535	\$2,914	\$337	\$1,208
CANTON	3,706	\$76,566	\$4,689	\$5,323	8.01	\$12,129	\$3,757	\$367	\$1,287
CHAPLIN	930	\$59,319	\$4,594	\$4,614	0.87	\$7,883	\$2,617	\$337	\$1,208
CHESTER	9,432	\$91,579	\$5,229	\$5,626	1.73	\$17,052	\$4,741	\$392	\$1,512
CHESTER	1,582	\$73,328	\$4,119	\$4,907	4.35	\$11,724	\$3,675	\$367	\$1,287
CLINTON	5,456	\$69,014	\$3,848	\$4,323	3.60	\$10,724	\$3,267	\$337	\$1,208
COLCHESTER	5,563	\$75,236	\$3,944	\$4,066	37.90	\$12,550	\$3,841	\$367	\$1,287
COLERBROOK	594	\$66,781	\$4,016	\$4,526	2.07	\$10,176	\$3,029	\$337	\$1,208
COLUMBIA	2,050	\$80,533	\$3,818	\$4,176	1.65	\$13,948	\$4,120	\$392	\$1,512
CORNWALL	658	\$62,766	\$3,330	\$4,346	13.27	\$8,814	\$2,784	\$337	\$1,208
COVENTRY	4,709	\$73,771	\$3,478	\$3,344	0.24	\$11,928	\$3,716	\$367	\$1,287
CROMWELL	5,787	\$68,914	\$4,405	\$4,926	15.83	\$10,607	\$3,210	\$337	\$1,208
DANBURY	28,306	\$61,479	\$3,679	\$3,863	50.76	\$8,633	\$2,752	\$337	\$1,208
DARIEN	6,664	\$165,970	\$9,440	\$12,791	5.17	\$41,562	\$9,011	\$453	\$2,236
DEEP RIVER	1,935	\$60,494	\$3,970	\$4,730	5.08	\$8,127	\$2,660	\$337	\$1,208
DERBY	5,217	\$52,324	\$4,052	\$4,331	10.57	\$5,836	\$2,248	\$337	\$1,208
DURHAM	2,407	\$89,671	\$5,993	\$6,433	6.14	\$16,529	\$4,636	\$392	\$1,512
EAST GRANBY	1,989	\$78,530	\$4,213	\$4,160	0.69	\$14,107	\$4,152	\$367	\$1,287
EAST HADDAM	3,485	\$72,454	\$3,324	\$3,169	1.69	\$11,565	\$3,644	\$367	\$1,287
EAST HARTFORD	4,751	\$76,347	\$3,831	\$4,003	1.29	\$12,750	\$3,881	\$367	\$1,287
EAST HAVEN	19,562	\$46,160	\$4,052	\$4,232	68.36	\$4,941	\$1,789	\$282	\$968
EAST LYME	11,356	\$54,637	\$3,560	\$3,852	49.32	\$6,769	\$2,416	\$337	\$1,208
EAST LYME	6,610	\$75,990	\$3,750	\$4,459	13.53	\$12,757	\$3,882	\$367	\$1,287
EAST WINDSOR	4,188	\$58,297	\$2,907	\$3,114	33.02	\$7,691	\$2,582	\$337	\$1,208
EASTFORD	676	\$64,437	\$3,187	\$3,043	0.23	\$9,523	\$2,912	\$337	\$1,208
EASTON	2,499	\$142,396	\$10,554	\$10,777	0.59	\$33,023	\$7,697	\$453	\$2,236
ELLINGTON	5,997	\$71,335	\$4,048	\$4,495	36.00	\$11,105	\$3,445	\$367	\$1,287
ENFIELD	16,269	\$60,317	\$3,367	\$3,672	71.08	\$8,141	\$2,663	\$337	\$1,208
ESSEX	3,109	\$77,549	\$3,953	\$4,708	2.57	\$13,113	\$3,953	\$392	\$1,287
FAIRFIELD	19,825	\$97,152	\$7,473	\$9,449	14.15	\$18,430	\$5,017	\$392	\$1,512
FARMINGTON	9,957	\$76,997	\$3,978	\$4,928	31.84	\$12,880	\$3,907	\$367	\$1,287
FRANKLIN	701	\$70,415	\$2,832	\$2,880	1.19	\$10,913	\$3,373	\$367	\$1,287
GLASTONBURY	12,553	\$92,977	\$6,280	\$6,982	11.91	\$17,649	\$4,860	\$392	\$1,512
GOSHEN	1,153	\$74,203	\$3,312	\$3,849	3.89	\$11,967	\$3,722	\$367	\$1,287
GRANBY	3,977	\$94,723	\$5,741	\$6,049	3.44	\$17,993	\$4,929	\$392	\$1,512
GREENWICH	22,848	\$116,006	\$6,556	\$11,177	8.12	\$23,951	\$6,104	\$453	\$2,236
GRISWOLD	4,556	\$57,351	\$2,447	\$2,494	2.30	\$7,314	\$2,514	\$337	\$1,208
GROTON	15,806	\$52,230	\$2,679	\$3,740	28.49	\$5,720	\$2,182	\$337	\$1,208

Table 2.6 (cont'd): Connecticut tax burdens for median household by town

	Number of Households	Median HH Income	Median Tax Burden	Average Tax Burden	Skewness	Median Household	Median Household	Median Household	Median Household
GUILFORD	8,160	\$88,628	\$3,595	\$4,123	7.56	\$16,278	\$4,586	\$392	\$1,512
HADDAM	3,053	\$88,417	\$4,813	\$4,990	25.81	\$16,274	\$4,586	\$392	\$1,512
HAMDEN	22,475	\$60,108	\$4,815	\$5,488	47.91	\$8,144	\$2,664	\$337	\$1,208
HAMPTON	734	\$63,558	\$3,426	\$3,863	12.60	\$9,273	\$2,867	\$337	\$1,208
HARTFORD	44,628	\$27,611	\$2,806	\$3,712	29.72	\$1,867	\$241	\$205	\$773
HARTLAND	726	\$74,887	\$3,724	\$4,116	29.87	\$12,197	\$3,770	\$367	\$1,287
HARWINTON	2,113	\$77,504	\$3,485	\$3,514	1.25	\$13,163	\$3,963	\$367	\$1,287
HEBRON	3,237	\$86,827	\$5,439	\$5,589	19.81	\$15,875	\$4,506	\$392	\$1,512
KENT	1,232	\$64,019	\$3,231	\$4,422	4.36	\$9,322	\$2,876	\$337	\$1,208
KILLINGLY	6,807	\$46,562	\$2,215	\$2,187	30.80	\$4,959	\$1,795	\$282	\$968
KILLINGWORTH	2,457	\$90,671	\$5,570	\$5,321	0.88	\$17,216	\$4,774	\$392	\$1,512
LEBANON	2,569	\$70,379	\$3,117	\$3,087	13.70	\$10,935	\$3,377	\$367	\$1,287
LEDYARD	5,420	\$71,400	\$2,974	\$3,081	20.53	\$11,274	\$3,550	\$367	\$1,287
LISBON	1,564	\$62,011	\$2,455	\$2,458	0.19	\$8,674	\$2,759	\$337	\$1,208
LITCHFIELD	3,530	\$66,756	\$3,935	\$4,701	3.22	\$10,007	\$2,999	\$337	\$1,208
LYME	861	\$82,339	\$3,882	\$5,456	3.05	\$14,686	\$4,268	\$392	\$1,512
MADISON	6,624	\$103,822	\$5,752	\$7,193	4.03	\$20,350	\$5,401	\$453	\$2,236
MANCHESTER	23,698	\$55,942	\$3,484	\$4,028	43.06	\$7,292	\$2,510	\$337	\$1,208
MANFIELD	5,620	\$55,588	\$3,756	\$4,331	12.40	\$7,400	\$2,530	\$337	\$1,208
MARLBOROUGH	2,160	\$92,400	\$5,197	\$5,729	4.18	\$17,363	\$4,803	\$392	\$1,512
MERIDEN	23,009	\$49,644	\$3,955	\$4,132	29.87	\$5,406	\$2,064	\$282	\$968
MIDDLEBURY	2,540	\$78,721	\$4,734	\$5,187	2.91	\$13,635	\$4,058	\$367	\$1,287
MIDDLEFIELD	1,789	\$67,887	\$4,738	\$5,012	1.30	\$10,297	\$3,085	\$337	\$1,208
MIDDLETOWN	20,129	\$54,801	\$3,837	\$4,444	37.64	\$7,020	\$2,461	\$337	\$1,208
MILFORD	21,482	\$70,003	\$4,532	\$5,071	47.55	\$10,897	\$3,370	\$367	\$1,287
MONROE	6,486	\$97,477	\$6,595	\$6,868	0.36	\$18,802	\$5,091	\$392	\$1,512
MONTVILLE	6,722	\$62,652	\$3,080	\$3,157	6.62	\$8,785	\$2,779	\$337	\$1,208
MORRIS	957	\$65,487	\$3,907	\$4,819	12.33	\$9,706	\$2,945	\$337	\$1,208
NAUGATUCK	11,734	\$58,316	\$4,801	\$4,787	47.89	\$7,682	\$2,580	\$337	\$1,208
NEW BRITAIN	27,452	\$38,124	\$4,143	\$4,629	63.81	\$3,708	\$958	\$241	\$874
NEW CANAAN	6,844	\$164,028	\$11,028	\$14,161	4.30	\$39,665	\$8,716	\$453	\$2,236
NEW FAIRFIELD	4,700	\$99,002	\$4,960	\$5,546	2.38	\$19,065	\$5,144	\$392	\$1,512
NEW HARTFORD	2,372	\$80,360	\$4,214	\$4,556	5.22	\$13,913	\$4,113	\$392	\$1,512
NEW HAVEN	47,039	\$33,525	\$3,448	\$5,449	29.50	\$3,074	\$608	\$241	\$874
NEW LONDON	11,207	\$38,463	\$3,489	\$4,107	16.75	\$3,700	\$1,458	\$282	\$968
NEW MILFORD	10,775	\$76,549	\$4,229	\$4,379	12.56	\$12,775	\$3,886	\$367	\$1,287
NEWINGTON	12,036	\$65,682	\$4,115	\$7,269	24.98	\$12,775	\$3,886	\$367	\$1,287
NEWTOWN	8,651	\$104,444	\$6,973	\$7,269	6.50	\$20,574	\$5,445	\$453	\$2,236
NORFOLK	749	\$66,497	\$6,616	\$9,163	6.17	\$9,876	\$3,976	\$337	\$1,208
NORTH BRANFORD	5,037	\$72,088	\$4,890	\$5,149	62.17	\$11,446	\$3,620	\$367	\$1,287
NORTH CANAAN	1,371	\$42,862	\$2,042	\$2,042	12.56	\$4,438	\$1,458	\$282	\$968
NORTH HAVEN	8,848	\$74,175	\$4,925	\$5,353	35.25	\$11,930	\$3,717	\$367	\$1,287
NORTH STONINGTON	1,923	\$66,659	\$3,528	\$3,564	0.60	\$9,963	\$2,991	\$337	\$1,208
NORWALK	32,801	\$68,343	\$5,729	\$6,667	48.55	\$10,503	\$3,191	\$337	\$1,208
NORWICH	15,794	\$43,608	\$2,818	\$3,084	24.90	\$4,559	\$1,540	\$282	\$968
OLD LYME	3,069	\$78,373	\$4,047	\$5,006	4.60	\$13,309	\$3,993	\$367	\$1,287
OLD SAYBROOK	4,367	\$72,136	\$4,604	\$5,803	5.36	\$11,452	\$3,621	\$367	\$1,287
ORANGE	4,940	\$89,729	\$5,749	\$6,257	20.74	\$16,104	\$4,552	\$392	\$1,512
OXFORD	4,073	\$87,970	\$4,816	\$4,615	12.51	\$16,061	\$4,543	\$392	\$1,512
PLAINFIELD	5,844	\$49,551	\$2,601	\$2,613	9.19	\$5,400	\$2,832	\$282	\$968
PLAINVILLE	7,863	\$54,602	\$3,567	\$3,638	15.25	\$6,842	\$2,429	\$337	\$1,208
PLYMOUTH	4,803	\$62,176	\$5,668	\$5,852	6.40	\$8,781	\$2,778	\$337	\$1,208
POMFRET	1,690	\$66,371	\$3,550	\$3,892	2.79	\$9,884	\$2,977	\$337	\$1,208
PORTLAND	3,789	\$71,600	\$4,589	\$4,601	0.23	\$11,341	\$3,563	\$367	\$1,287
PRESTON	1,841	\$63,408	\$3,050	\$3,171	0.59	\$9,082	\$2,832	\$337	\$1,208
PROSPECT	3,063	\$77,897	\$4,514	\$4,562	0.48	\$13,294	\$3,990	\$367	\$1,287
PUTNAM	4,034	\$48,762	\$1,456	\$1,545	17.06	\$5,243	\$1,970	\$282	\$968
REDDING	3,262	\$119,908	\$9,169	\$10,251	3.95	\$24,984	\$6,298	\$453	\$2,236
REDDEFIELD	8,421	\$124,503	\$8,920	\$9,975	5.08	\$26,631	\$6,608	\$453	\$2,236
ROCKY HILL	7,985	\$69,276	\$3,903	\$4,565	31.14	\$10,812	\$3,318	\$337	\$1,208

Table 2.6 (cont'd): Connecticut tax burdens for median household by town

	Number of Households	Median HH Income	Median Tax Burden	Property Tax Burden	Skewness	Federal PIT Household	State PIT Median Household	Fuel Tax Median Household	Sales & Use Tax Median Household
ROXBURY	943	\$106,542	\$4,739	\$5,833	3.48	\$20,764	\$5,483	\$453	\$2,236
SALEM	1,585	\$76,720	\$4,394	\$4,650	4.30	\$12,964	\$3,924	\$367	\$1,287
SAUSBRURY	1,834	\$60,870	\$2,900	\$4,082	4.31	\$8,254	\$2,683	\$337	\$1,208
SCOTLAND	583	\$65,752	\$3,947	\$3,962	0.69	\$9,741	\$2,951	\$337	\$1,208
SEYMOUR	6,186	\$60,120	\$4,446	\$4,640	12.49	\$8,012	\$2,640	\$337	\$1,208
SHARON	1,287	\$62,745	\$2,432	\$3,523	5.23	\$8,787	\$2,779	\$337	\$1,208
SHELTON	14,203	\$76,641	\$4,467	\$4,683	81.52	\$12,807	\$3,892	\$367	\$1,287
SHERMAN	1,404	\$87,934	\$4,060	\$4,434	2.11	\$16,054	\$4,541	\$392	\$1,512
SIMSBURY	8,561	\$96,313	\$6,689	\$7,432	10.68	\$18,298	\$4,990	\$392	\$1,512
SOMERS	3,070	\$73,288	\$3,754	\$3,910	2.52	\$11,896	\$3,710	\$367	\$1,287
SOUTH WINDSOR	9,198	\$84,993	\$4,856	\$5,168	8.77	\$15,248	\$4,380	\$392	\$1,512
SOUTHBRURY	7,470	\$71,235	\$4,270	\$4,648	41.16	\$10,937	\$3,377	\$367	\$1,287
SOUTHINGTON	15,654	\$68,853	\$4,020	\$4,412	8.80	\$10,714	\$3,265	\$337	\$1,208
SPRAGUE	1,114	\$48,989	\$2,960	\$3,171	1.18	\$5,232	\$1,967	\$282	\$968
STAFFORD	4,803	\$61,104	\$3,185	\$3,231	1.08	\$8,312	\$2,694	\$337	\$1,208
STAMFORD	45,647	\$68,699	\$5,725	\$6,763	52.43	\$10,514	\$3,193	\$337	\$1,208
STERLING	1,288	\$55,553	\$3,460	\$3,444	0.60	\$6,950	\$2,449	\$337	\$1,208
STONINGTON	8,046	\$60,608	\$3,139	\$4,269	5.77	\$8,196	\$2,673	\$337	\$1,208
STRATFORD	19,317	\$61,332	\$5,478	\$5,646	80.01	\$8,425	\$2,714	\$337	\$1,208
SUFFIELD	4,915	\$76,906	\$4,082	\$4,469	18.08	\$12,842	\$3,899	\$367	\$1,287
THOMASTON	3,074	\$61,825	\$3,759	\$3,866	1.22	\$8,774	\$2,777	\$337	\$1,208
THOMPSON	3,755	\$52,461	\$2,176	\$2,079	0.87	\$5,988	\$2,275	\$337	\$1,208
TOLLAND	5,298	\$89,154	\$4,831	\$5,196	9.63	\$16,510	\$4,633	\$392	\$1,512
TORRINGTON	15,504	\$47,372	\$3,339	\$3,544	25.38	\$5,114	\$1,886	\$282	\$968
TRUMBULL	12,250	\$90,412	\$7,098	\$7,699	74.74	\$16,903	\$4,711	\$392	\$1,512
UNION	316	\$66,217	\$3,367	\$3,712	1.59	\$9,829	\$2,967	\$337	\$1,208
VERNON	13,618	\$54,176	\$4,170	\$4,476	57.18	\$6,493	\$2,366	\$337	\$1,208
VOLUNGTOWN	1,062	\$65,535	\$3,140	\$3,285	1.73	\$9,675	\$2,939	\$337	\$1,208
WALLINGFORD	16,887	\$66,225	\$3,974	\$4,279	92.49	\$9,871	\$2,974	\$337	\$1,208
WARREN	520	\$72,280	\$3,026	\$4,158	3.27	\$11,497	\$3,630	\$367	\$1,287
WASHINGTON	1,681	\$78,675	\$3,504	\$5,346	6.55	\$13,482	\$4,027	\$367	\$1,287
WATERBURY	41,649	\$38,512	\$4,206	\$4,031	3.31	\$3,710	\$959	\$241	\$874
WATERFORD	8,007	\$63,412	\$1,987	\$2,306	9.97	\$9,116	\$2,839	\$337	\$1,208
WATERTOWN	8,539	\$67,955	\$3,292	\$3,578	19.90	\$10,453	\$3,148	\$337	\$1,208
WEST HARTFORD	24,604	\$70,770	\$7,444	\$8,468	31.73	\$11,226	\$3,504	\$367	\$1,287
WEST HAVEN	21,145	\$48,257	\$4,895	\$5,133	22.99	\$5,137	\$1,893	\$282	\$968
WESTBROOK	2,845	\$63,044	\$3,565	\$4,229	2.60	\$9,210	\$2,855	\$337	\$1,208
WESTON	3,276	\$170,758	\$12,457	\$15,168	2.85	\$42,844	\$9,208	\$453	\$2,236
WESTPORT	9,387	\$140,026	\$10,426	\$13,503	37.54	\$32,175	\$7,567	\$453	\$2,236
WETHERSFIELD	11,051	\$61,888	\$4,993	\$5,577	56.23	\$8,603	\$2,746	\$337	\$1,208
WILLINGTON	2,540	\$59,410	\$3,236	\$3,516	15.97	\$7,982	\$2,634	\$337	\$1,208
WILTON	5,942	\$160,900	\$10,856	\$12,449	18.96	\$39,975	\$8,767	\$453	\$2,236
WINCHESTER	4,533	\$52,622	\$2,883	\$3,142	7.67	\$6,062	\$2,289	\$337	\$1,208
WINDHAM	8,901	\$39,119	\$2,535	\$2,557	21.58	\$3,658	\$944	\$241	\$874
WINDSOR LOCKS	5,041	\$72,902	\$2,538	\$2,640	32.30	\$11,702	\$3,671	\$367	\$1,287
WINDSOR	10,716	\$55,742	\$3,448	\$3,606	35.59	\$7,092	\$2,474	\$337	\$1,208
WOLCOTT	5,815	\$69,693	\$3,723	\$4,014	2.82	\$10,780	\$3,312	\$337	\$1,208
WOODBURY	3,053	\$115,721	\$9,109	\$9,639	1.26	\$24,025	\$6,118	\$453	\$2,236
WOODBURY	3,999	\$77,234	\$4,954	\$5,275	4.64	\$12,985	\$3,928	\$367	\$1,287
WOODSTOCK	3,103	\$63,538	\$3,003	\$3,152	6.26	\$9,154	\$2,845	\$337	\$1,208



## Business Taxes in Connecticut

When discussing Connecticut taxes, one needs to examine closely business taxes because they affect the state's competitive standing and influence firms' decisions to locate or expand in the state. Businesses take several forms: corporations, sole proprietorships, partnerships, S-corporations and limited liability corporations (LLCs), for example. The state's business tax environment upon which location and expansion decisions depend is influenced by several factors. These factors surface in comprehensive studies that evaluate states' business tax climates. This section summarizes key studies' recent findings on Connecticut's business tax climate.

It is important to note that several studies rank states in terms of competitiveness and attractiveness to businesses, but not all include business taxes as an explicit measure. The Corporation for Enterprise Development (CFED) publishes the *Development Report Card for the States* that evaluates each state in terms of "performance, business vitality and development capacity."<sup>16</sup> These indicators do not take business taxes specifically into account.

The Beacon Hill Institute publishes the *Annual State Competitiveness Report* that employs an index intended to evaluate the long-term competitiveness of each state. This index uses the ratio of state and local taxes per capita to income per capita as one indicator in its "Government and Fiscal Policy" sub-index (the other sub-indices are Security, Infrastructure, Human Resources, Technology, Business Incubation, Openness, and Environmental Policy).<sup>17</sup> Business taxes in particular are not used.

The Kauffman Foundation's annual *New Economy Index* does not consider business tax specifics,<sup>18</sup> and the Milken Institute's *Cost-of-Doing-Business Index* uses annual state tax revenue as a share of personal income as a tax burden measure, and does not separate business taxes.<sup>19</sup> For this reason, these studies are not analyzed here, but three studies that do explore the tax burden on businesses in particular are analyzed in detail below.

### The Tax Foundation Analysis

The Tax Foundation's *2009 Business Tax Climate Index*<sup>20</sup> ranks each state based on its business climate. The business climate index is composed of five separate indices:

- the corporate tax index
- the individual income tax index
- the sales tax index
- the unemployment insurance tax index

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<sup>16</sup> [www.cfed.org/go/drc](http://www.cfed.org/go/drc)

<sup>17</sup> <http://www.beaconhill.org/Compete08/BHISState08-FINAL.pdf>

<sup>18</sup> [http://www.kauffman.org/uploadedfiles/2008\\_state\\_new\\_economy\\_index\\_120908.pdf](http://www.kauffman.org/uploadedfiles/2008_state_new_economy_index_120908.pdf)

<sup>19</sup> <http://www.milkeninstitute.org/publications/publications.taf?function=indexes>

<sup>20</sup> <http://www.taxfoundation.org/publications/show/22658.html>; Joshua Barro, Author.

- the property tax index

Each index is based on two sub-indices; the tax rate structure, and the applicable tax base for each type of tax. A number one rank shows that state to be the best among the 50 states' tax systems for each category, and a rank 50 is the worst. Connecticut's place in the overall ranking and in each index is listed below.

- Overall business climate index: # 37
- Corporate tax index: #18
- Individual income tax index: #25
- Sales tax index: #25
- Unemployment insurance tax index: #21
- Property tax index: #49

Most of the above rankings suggest that Connecticut places in the mid-range among the 50 states in terms of factors that influence the Tax Foundation's characterization of the business climate. The exception is property taxes, where the state is ranked second to last among the 50 states. Property taxes are taxes on the real assets of individuals and businesses. For businesses, this includes property taxes on land and buildings, and personal property taxes on equipment, furniture and fixtures. Connecticut's property tax collections per capita and property tax collections as a percentage of income are high compared to the other 49 states and both these measures are captured in the tax rate sub-index portion of the property tax index. Connecticut's municipalities rely significantly on the property tax to support local services. Government transfers provide another important source for a few municipalities.

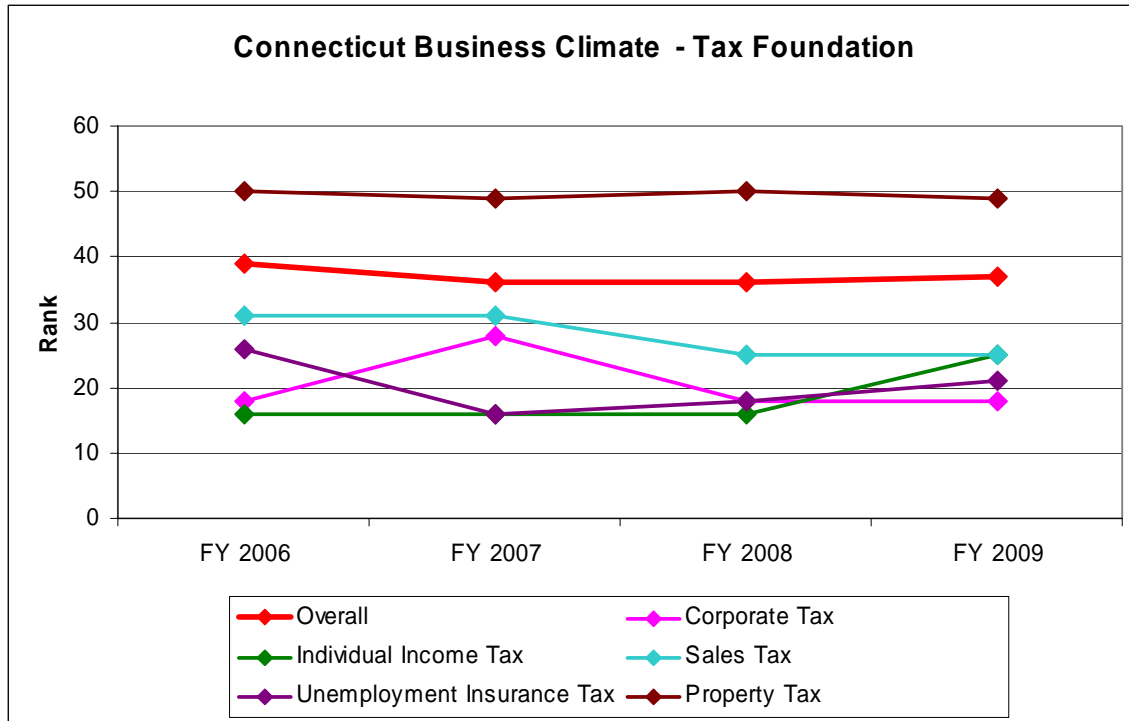
The tax on capital stock, or the net wealth of a corporation, is included as a factor in the property tax index. Connecticut's capital stock tax rate of 0.31% ranks among the highest, second only to West Virginia's 0.55%. Connecticut does get credit for attempting to lessen the impact of this tax by imposing a cap on the maximum amount payable (the cap is \$1,000,000), and allowing businesses to pay the higher of the capital stock tax or the corporate income tax. The property tax base sub-index takes into account seven different types of property taxes that can affect businesses: taxes on intangible property, inventory tax, real estate transfer taxes, estate taxes, inheritance taxes, generation-skipping taxes and gift taxes.<sup>21</sup> Taxes on intangible property, for example, can be levied on a business's holdings of stocks, bonds and trademarks. The five assets transfer taxes (real estate transfer taxes, estate taxes, inheritance taxes, generation-skipping taxes and gift taxes) can be particularly detrimental to family-owned businesses or any business that transfers real property frequently. Of these seven property tax types, Connecticut imposes a real estate transfer tax and a gift tax, and is mentioned as one of only three states that impose the latter. This earns the state a low score in this category, which in turn places the state 37<sup>th</sup> overall in terms of business tax climate.

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<sup>21</sup> <http://www.taxfoundation.org/publications/show/22658.html>, page 39.

## Trend in Connecticut's Business Tax Systems – Tax Foundation Analysis

The Tax Foundation's report on state business tax climate cited above lists the overall index and sub-indices for the last four fiscal years. The graph below shows the movement of the indices over time.



The overall index (in red) shows that Connecticut's standing relative to other states has improved over time. This occurs because perhaps other states changed their tax policies while Connecticut did not, and the changes negatively affected their rank with respect to Connecticut. The other possibility is that Connecticut changed its tax policies such that its rank improved while other states made no changes. The last possibility is that all states changed their tax policies but the net effect is that Connecticut improved relative to other states.

Connecticut's sales tax rank has improved, from 31<sup>st</sup> in FY 2006 to 25<sup>th</sup> in FY 2009. The state's corporate tax rank has remained steady at 18 with an exception in FY 2007, when it ranked 28. This may reflect the 20% surtax that all corporations (except those making the minimum tax of \$250) had to pay before any tax credits were applied to the 2006 income year<sup>22</sup> (this surtax was not applied in 2005 or 2007). The improvement in the sales tax index in FY 2008 may reflect the exemptions that were added to encourage energy efficiency (these included sales tax exemptions on solar energy electricity generating systems and solar water or space heating systems) [footnote 7, p. 9].

<sup>22</sup> Connecticut Department of Revenue Services Annual Report, Fiscal Year 2006-2007, page 20. Report available at [http://www.ct.gov/drs/lib/drs/research/annualreport/drs\\_fy07\\_annual\\_report.pdf](http://www.ct.gov/drs/lib/drs/research/annualreport/drs_fy07_annual_report.pdf).

Connecticut's personal income tax rank stayed steady at 16 and then worsened in FY 2009 when it ranked 25. The worst grade Connecticut received was with respect to property taxes, where its rank has remained at 49 or 50 throughout, reflecting Connecticut's high property taxes as a share of personal income.

### The Small Business and Entrepreneurship Council (SBEC) Analysis

The Small Business and Entrepreneurship Council's *Business Tax Index 2009: Best to Worst State Tax Systems for Entrepreneurship and Small Business* ranks states and the District of Columbia from best to worst, in terms of the costs of their tax systems on entrepreneurship and small business.<sup>23</sup> SBEC calculates an index based on 16 factors. A lower numerical rank indicates a less burdensome tax climate, and a higher numerical rank indicates a more burdensome tax climate from the small business perspective. Some factors rank the states, and others either exist or do not exist in a particular state (these are indicated with yes/no answers). Connecticut's ranking in the overall index, and in each of the 16 factors, appears below;

- overall index ranking #30
- top personal income tax rate #19
- top individual capital gains tax rate #21
- top corporate income tax rate #30
- state's top corporate capital gains tax rate #31
- any added income tax on S-Corporations - no
- does the state impose an alternative minimum tax on individuals - yes
- does the state impose an alternative minimum tax on corporations - no
- are the state's personal income tax brackets indexed for inflation - no
- state and local property taxes as a share of personal income #44
- state and local consumption-based taxes (i.e., sales, gross receipts and excise taxes) as a percent of income #10
- does the state imposes a death tax - yes
- unemployment tax #15
- does the state have a tax limitation mechanism - no
- does the state impose an Internet access tax - no
- gas tax (per gallon of gasoline) #47
- diesel tax (per gallon of diesel fuel) #49

These rankings show Connecticut's gasoline and diesel taxes are high relative to other states, and with its relatively high share of property taxes of personal income and relatively high top corporate income tax rate and top corporate capital gains tax rate, the state ranks 30<sup>th</sup> overall in the costs of its tax system to small businesses and entrepreneurs.

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<sup>23</sup> <http://www.sbecouncil.org/uploads/BusinessTaxIndex2009Final.pdf>, page 2.

## The ALEC-Laffer State Economic Competitiveness Study

The American Legislative Exchange Council's *Rich States, Poor States: the ALEC-Laffer State Economic Competitiveness Index*<sup>24</sup> (2009) identifies 15 policy variables that are influenced directly by state lawmakers that "have a proven impact on the migration of capital — both investment capital and human capital — into and out of states" (footnote 9, p. 24). The index is calculated by weighting each state's rank in these policy variables equally, and a rank of one indicates the best economic competitiveness among the states, and a rank of 50, the worst. These variables and Connecticut's rank in each policy variable appear below (footnote 9, p. 98).

- Highest Marginal Personal Income Tax Rate #17
- Highest Marginal Corporate Income Tax Rate #26
- Personal Income Tax Progressivity #34
- Property Tax Burden #43
- Sales Tax Burden #12
- Tax Burden From All Remaining Taxes #8
- Estate Tax/Inheritance Tax (Yes or No) – Yes #50
- Recent Tax Policy Changes 2007-08 (per \$1,000 personal income) #34
- Debt Service as a Share of Tax Revenue #20
- Public Employees Per 1,000 Residents #15
- Quality of State Legal System #19
- State Minimum Wage #44
- Workers' Compensation Costs #31
- Right-to-Work State (Yes or No) – No #50
- Tax or Expenditure Limit #13
- Overall State Economic Competitiveness Index #32

Connecticut's relatively high property tax burden per \$1,000 personal income and relatively high state minimum wage (\$7.65 compared to the federal minimum of \$6.55) ranks the state lower relative to other states. The existence of an estate/inheritance tax and not being a right-to-work state earns the state a #50 ranking (all states that answer yes to the former are ranked #50, as are those that answer no to the latter; all other states are ranked #1). Connecticut achieves a relatively high ranking for its sales tax burden (12<sup>th</sup> at \$17.38 per \$1,000 personal income), remaining tax burden (8<sup>th</sup> at \$15.76 per \$1,000 personal income), public employees per 10,000 residents (15<sup>th</sup> at 532.1 full-time equivalents), and number of tax/expenditure limits (TEs) on public spending (13<sup>th</sup> with one TEL, namely a cap on state spending).

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<sup>24</sup> [http://www.alec.org/am/pdf/tax/09RSPS/26969\\_REPORT\\_full.pdf](http://www.alec.org/am/pdf/tax/09RSPS/26969_REPORT_full.pdf); 2009; Arthur B. Laffer, Stephen Moore and Jonathan Williams, Authors.

## The Ernst and Young Analysis

The *Total State and Local Business Taxes: 50 State Estimates for 2008*<sup>25</sup> report published by Ernst and Young (EY) in conjunction with the Council on State Taxation (COST) presents two indicators that evaluate states' business tax burdens. The first is each state's business taxes as a percentage of total state and local taxes. Connecticut's business share of total state and local taxes in FY 2008 was 32.3%, which was second only to Maryland's 30.7%. The highest shares were paid by businesses in Wyoming (74.3%) and Alaska (89.3%). The national average was 44.1% (footnote 10, p. 15).

EY defines the second indicator in this report as "the total effective business tax rate (TEBTR) imposed on business activity by state and local governments" (footnote 10, p. 13). TEBTR is the ratio of state and local business taxes to private sector gross state product (GSP or the total value of a state's production of goods and services by the private sector). The national average TEBTR for FY 2008 was 4.9%; Connecticut's 3.7% TEBTR tied with Oregon for the second lowest among the states. The lowest business tax share of private sector GSP is North Carolina's 3.6%, and the highest, Alaska's was 22.3%.

Both indicators suggest that Connecticut's business tax burden is one of the lowest in the country. This differs from the conclusions of the previous two studies cited (the Tax Foundation and SBEC studies) that place Connecticut's business tax burden in the mid-to high-range compared to other states. The Ernst and Young report differs from these two studies in that it takes the actual dollar amount of business taxes paid into account. This suggests that while different indicators such as high property taxes and fuel taxes may suggest a relatively burdensome business tax climate in Connecticut, in terms of dollars paid, businesses in the state do not carry a relatively large share of the tax burden. This could be because other taxpayers simply pay more compared to other states (e.g., personal income tax payments can be high as a result of Connecticut's high per capita income levels), or because in spite of the higher tax burdens cited in the previous studies, businesses in Connecticut take advantage of exemptions and targeted tax credit programs that do not get included in tax climate index evaluations.

## **Conclusion**

Three of the four studies cited above suggest that Connecticut's business climate does not place it among the most attractive states in which to do business, but rather in the mid-range. The one exception is the Ernst and Young analysis that evaluates the state's business tax burden as a share based on actual amounts paid. Some programs that Connecticut has enacted to attract business may have hurt its ranking in the former studies. The Tax Foundation index, for example, rewards states with low tax rates and the broadest possible bases (the fundamental rule of taxation), and penalizes states that have tax programs targeted toward specific industries.

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<sup>25</sup> January 2009: available at [www.ey.com](http://www.ey.com/Publication/vwLUAssets/Total_state_and_local_business_taxes:_50_state_estimates_for_fiscal_year_2008/$File/Total_state_and_local_business_tax_fiscal_year_2008.pdf)  
[http://www.ey.com/Publication/vwLUAssets/Total\\_state\\_and\\_local\\_business\\_taxes:\\_50\\_state\\_estimates\\_for\\_fiscal\\_year\\_2008/\\$File/Total\\_state\\_and\\_local\\_business\\_tax\\_fiscal\\_year\\_2008.pdf](http://www.ey.com/Publication/vwLUAssets/Total_state_and_local_business_taxes:_50_state_estimates_for_fiscal_year_2008/$File/Total_state_and_local_business_tax_fiscal_year_2008.pdf)

Connecticut's targeted tax programs would therefore appear to hurt the state's standing in this index. The same targeted tax programs, on the other hand, may have boosted Connecticut's ranking in the Ernst and Young study.

The fact that most of the cited studies do not rate Connecticut as an attractive state for business is a cause for concern and may drive the perception that the state is not business-friendly (New England states in general do not fare well in most of these rankings). If Connecticut is to improve its standing in these evaluations, however, targeted reforms toward a specific sub-index component (e.g. reducing a specific top tax rate or expanding the relevant tax base) where Connecticut is ranked low should result in a significant improvement in the state's position, without necessitating a complete overhaul of the entire business tax system.

### 3. Connecticut Taxation Compared with Other States

In reviewing Connecticut's taxes, one naturally asks "relative to what?" Connecticut taxpayers may not care. However, there are reasons for the differences from which Connecticut may learn useful strategies to raise additional revenue, reduce and/or equalize burdens on some taxpayers, and/or broaden its tax bases for stability and growth. The fundamental rule (or goal) of taxation is to have the lowest possible rate on the broadest possible base. Connecticut's tax situation is a competitive issue among the states: workers and businesses take taxes into account and vote with their feet in location decisions.

#### Methods of Comparison and Problems<sup>26</sup>

There is a variety of methods to make such comparisons. The most commonly used measures include taxes per capita, taxes per \$1,000 of personal income, and top tax rates. Before discussing flaws in the specific tax measures, we note the generic problems inherent in any overall measure of tax competitiveness. The primary problem revolves around a state's ability to export taxes.

First, states rich in economically sensitive natural resources, such as petroleum, coal, natural gas and lumber, can impose severance taxes upon removal of these resources that are primarily paid by the ultimate consumers of these products. To the extent these consumers are located in other states, these taxes are exported. For this reason alone, most aggregate comparisons fail to be completely informative.

Second, states with significant tourist industries like Hawaii, Florida, California, and New York, can export a portion of their sales tax base (and certain selected excise taxes) to nonresident visitors. For example, Hawaii has a very high sales tax rate, which results in significant revenue generated from nonresident tourists.

Third, states with significant economic migration of workers may have the opportunity to shift taxes to nonresidents who work in the state.

Fourth, some state and local tax sources are deductible from federal taxes. To the degree a state and local tax structure is weighted to federally deductible tax sources, a part of the tax cost is exported to the federal government. These factors are not recognized in aggregate tax comparisons.

Fifth, it is extremely difficult to incorporate tax burdens into overall tax capacity measures. While business taxes are allocated to states based on formula apportionment, the question of who actually pays the tax and where they are located is difficult to determine. This is a specific

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<sup>26</sup> The following discussion is adapted from the State of New York, Department of Tax and Finance, *New York State Tax Source Book*, for state fiscal year (SFY) 2007-2008, [http://www.tax.state.ny.us/statistics/policy-special/tax\\_sourcebook/new\\_york\\_state\\_tax\\_sourcebook\\_electronic\\_toc.htm](http://www.tax.state.ny.us/statistics/policy-special/tax_sourcebook/new_york_state_tax_sourcebook_electronic_toc.htm).



instance of the more generic problem in the overall tax burden of determining the underlying incidence (who pays the tax) of a tax structure.

Per capita taxes are the dollar amount of total tax collections divided by the population of a state. Measuring state tax burdens by using per capita tax collections can seriously mislead the reader. This measure does not reflect ability to pay the tax or the demographic composition of taxpayers. In addition, it does not indicate the amount of state tax paid by nonresident workers and consumers, or the amount exported to the federal government through deductibility.

Taxes per \$1,000 of personal income are the dollar amount of total collections divided by the personal income of the state's residents in thousands of dollars. Dividing state tax collections by personal income provides a better indicator because it provides some measure of taxpayers' ability to pay. However, like per capita measures, it does not show who actually pays state taxes. This measure of tax burden is necessarily imprecise as not all residents pay tax (particularly corporate and certain selective sales taxes). Again, this measure includes taxes paid by nonresidents, but not the income they earn. In Connecticut in tax year 2007, nonresidents and part-year residents accounted for approximately 10 % of personal income tax liability.<sup>27</sup> Moreover, Connecticut's estimated July 1, 2008 population was 1.15% of the national total, but the state accounts for almost 1.63% of total personal income.<sup>28</sup>

A further problem with this measure is that it does not control for wealth differences across states. For example, if all states had identical tax structures composed only of a progressive personal income tax, then states with higher per capita incomes would appear as higher tax states. Additionally, this measure does not correct for the deductibility of certain taxes from federal taxes. Federal deductibility allows state taxpayers to shift a portion of the cost of the personal income tax to the federal government.

The U.S. Commerce Department's definition of personal income does not include capital gains or nonresident income, each of which may go toward paying a particular state's income and corporate taxes. Connecticut's nonresidents and part-year residents are liable for tax on taxable income derived from sources within Connecticut. Additionally, Connecticut residents pay tax on capital gains realizations. As a result, the tax-to-income ratio is biased upward because it includes tax but excludes the associated income. Connecticut residents realize a substantial fraction of national capital gains. This means the upward bias in the tax-to-income ratio is even greater for Connecticut. Tax-to-personal income is, however, a more useful interstate comparison than taxes per capita, because it partially adjusts for the relative wealth or poverty of different states.

Researchers usually represent top tax rates by the state's top marginal tax rate for corporate and personal income taxes. Comparing state tax rates can prove especially misleading because state tax bases differ widely, particularly for personal income and sales taxes. For example, states

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<sup>27</sup> Data from [www.census.gov](http://www.census.gov) and CT Department of Revenue Services.

<sup>28</sup> Data from [www.bea.gov](http://www.bea.gov).

with high graduated income tax rates often have more deductions, exclusions and credits than states with lower, less-graduated rate structures. In addition, states tax similar bases differently.

More generally, tax collection patterns can vary from state to state, and fluctuate from year to year. Such factors as law changes, audit activities, withholding rules, and the relationship between tax and fiscal years can skew apparent collections in a given period. Moreover, one has to exercise caution when comparing U.S. Census Bureau data to state tax collections data provided by individual states. The Census Bureau includes various license revenues in tax amounts even though particular states may not report these revenues in their tax collections data.

Furthermore, the U.S. Census Bureau's classification scheme does not always capture methods states may choose to impose taxes on similar entities. For example, the State of Washington does not have a corporate income tax, but it collects about \$1 billion from a tax on business receipts, in addition to a retail sales tax. These differences in classification can hide the fact that the states often select different approaches to taxing similar entities or activities.

Using the standard measure of tax burden — collections per capita or as a share of personal income — has less meaning for business tax burden than for other taxes. Whereas individuals out of their personal income at least, in part, pay personal income and sales taxes, business tax incidence is far less straightforward. Although individuals, as workers, consumers, and shareholders ultimately pay business taxes with their income, where they live may bear little relationship to where the business ultimately pays tax. In addition, per-capita and share-of-income burden measures provide little insight on different businesses' ability to pay tax.

### **Where Connecticut Stands**

Bearing in mind the foregoing issues, the following tables illustrate Connecticut's position on several taxes with respect to the other states. Table 3.1 shows the composition of state taxes in terms of the percentage of a state's revenue from general sales taxes, personal income taxes, corporate income taxes, excise and gross receipts taxes, license taxes and other taxes for FY 2007. Connecticut ranked 38<sup>th</sup> relative to the other states which have a general sales tax (rank one indicates the highest portion of state revenue derived from this tax), with 23.59% of its revenue raised from that source in 2007 (seven states had smaller fractions of their total revenue derived from sales taxes; five states charge no sales tax). Connecticut received 49.3% of its total revenue from the personal income tax and ranked 6<sup>th</sup> (seven states have no income tax); it received 6.42% of its revenue from the corporate income tax and ranked 27<sup>th</sup> (four states have no corporate income tax); it received 15.05% of its revenue from excise and gross receipts taxes and ranked 26<sup>th</sup>. Only 2.82% of Connecticut's revenue derived from license taxes (ranked 48<sup>th</sup>) and 2.81% derived from other sources (ranked 30<sup>th</sup>). Connecticut tends to rank in the middle in general except with regard to personal income and license taxes as a percentage of the state's total tax revenue.

Table 3.2 shows that Connecticut's mix of tax revenue has been leaning toward more local taxes

in terms of the proportion of all taxes raised from state and local sources. In 1999, the split was 65/35 percent state/local. In recent years, the proportion has moved in favor of a larger local share of total taxes, with an approximate 60/40 percent split between Connecticut's state and local taxes.

Table 3.3 ranks the states according to their total state taxes collected per \$1,000 of personal income in FY 2007. This measure conveys some idea of the relative burden placed on those earning income in a state (not on just those who live there) in terms of ability to pay. Connecticut ranked 24<sup>th</sup> in FY 2007 with \$72.18 paid in total state taxes per \$1,000 of personal income earned in the state (that is, 26 states had lower burdens in this sense than Connecticut). This compares to the U.S. average of \$68.41 and the high in Hawaii of \$133.04 and the low of \$41.66 per \$1,000 of personal income in New Hampshire.

Table 3.4 indicates that Connecticut has become less burdensome relative to other states since 1999 as it declined from \$78.76 per \$1,000 of personal income to \$72.65 in FY 2006. Connecticut's performance in FY 2002's \$62.15 in state taxes per \$1,000 income ranks the lowest in the years considered.

Table 3.5 separates total state tax burdens per \$1,000 of personal income into seven categories for FY 2007.

Table 3.6 examines state and local taxes paid per \$1,000 of personal income for FY 2006. Connecticut ranks higher (some would say lower) by adding local taxes paid for a total of \$118.89 per \$1,000 of personal in FY 2006. This compares to the U.S average of \$116.22, a high of \$165.92 in Wyoming and a low of \$91.03 in South Dakota. Since 1997, Connecticut has consistently changed its ranking moving from 9<sup>th</sup> in FY 1999 to 12<sup>th</sup> in FY 2005 (see Table 3.7).

Table 3.8 indicates that Connecticut in FY 2007 ranked number five in per capita state taxes paid with \$3,668.31 paid per person compared to the U.S. average of \$2,487.50, the high of \$5,037.37 per person in Alaska and the low of \$1,577.62 per person in South Dakota. The high rank correlates with Connecticut's per capita income, which ranked number one in the country in 2007 at \$54,117,<sup>29</sup> and is not affected by the fact that 31 states have higher top marginal personal income tax rates (see below). In 2007, U.S. per capita income was \$38,611, Alaska's per capita personal income was \$40,352 (and ranked 15<sup>th</sup>), while South Dakota's per capita personal income was \$33,905 (ranked 34<sup>th</sup>).<sup>5</sup> Connecticut ranked number one in state taxes per capita in 1999, and maintained this position until 2002, after which it gradually dropped to its FY 2007 rank of five (Table 3.9).

Table 3.10 reports state taxes per capita in seven tax categories for FY 2007. Connecticut's highest rankings are in personal income taxes (ranked number one at \$1,808.83 per capita), death and estate taxes (ranked number four at \$50.93 per capita), and corporate income tax (ranked

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<sup>29</sup> Source: U.S. Bureau of Economic Analysis, [www.bea.gov](http://www.bea.gov).

number nine at \$235.53 per capita). Connecticut's lowest ranking is in corporate license and business occupation taxes, where it ranks 36<sup>th</sup> at \$30.06 per capita.

Connecticut ranks number three in state and local taxes paid per capita in FY 2006, at \$5,699.71 compared to the U.S. average of \$4,039.44, the high of \$6,419.76 in New York and the low of \$2,812.65 in Alabama (see Table 3.11). Since 1997, Connecticut's relative position with respect to per capita state and local taxes has remained in the top three (see Table 3.12).

Connecticut's top marginal personal income tax rate was 5% as of January 1, 2008 when comparative statistics were last available for the 50 states. The current top rate represents an increase from 4.5% in the spring of 2003. Connecticut ranked 32<sup>nd</sup> out of 41 states that have a personal income tax; that is, 31 states have higher top rates (the highest is 10.3% in California, the lowest is 3.00% in Illinois; see Table 3.13).

Table 3.14 shows the tax-free income level, that is, the level of income above which a family of four begins owing state income tax. Connecticut ranks 17<sup>th</sup> with a tax-free income of \$24,100, which is \$3,656 above the poverty level for a family of four. This compares to number one-ranked California with a tax-free income level of \$44,700 that is \$24,256 above the poverty threshold, and to last place Alabama where wage earners begin paying state income tax at \$4,600 or \$15,844 *below* the poverty threshold.

## **Conclusion**

Connecticut taxpayers pay more taxes on average because they earn more income per capita than taxpayers in other states. However, Connecticut's tax burden per \$1,000 of personal income is toward the middle of the pack reflecting a modest ability to pay. To the extent that consumption and real property values relate positively to income, total sales, excise and property tax burdens are higher as incomes increase. In high-income towns, equalized mill rates tend to be lower than in lower income towns. This reflects greater household property values in such towns and the ease in terms of the equalized mill rate with which such towns can raise the revenue required to support the towns' budgets.

**Table 3.1: Fraction of Total State Tax Revenue by Type of Tax, Fiscal Year 2007**

State	General Sales Tax	Personal Income Tax	Corporate Income Tax	Excise & Gross Receipts Taxes	License Taxes	Other
U.S. Total	31.50	35.44	7.11	14.59	6.25	5.10
Alabama	25.69	34.05	5.70	23.82	5.38	5.36
Alaska	(X)	(X)	23.64	6.38	3.70	66.29
Arizona	45.85	25.78	7.96	13.35	3.25	3.81
Arkansas	39.29	29.34	4.91	12.86	4.04	9.57
California	28.47	46.47	9.72	6.77	6.54	2.03
Colorado	24.10	52.09	5.21	13.37	3.73	1.49
<b>Connecticut</b>	<b>23.59</b>	<b>49.31</b>	<b>6.42</b>	<b>15.05</b>	<b>2.82</b>	<b>2.81</b>
Delaware	(X)	35.29	10.40	15.80	34.63	3.88
Florida	60.86	(X)	6.83	16.19	5.25	10.87
Georgia	34.24	47.22	5.46	9.81	2.67	0.60
Hawaii	50.21	30.63	1.98	13.16	3.07	0.95
Idaho	36.12	39.77	5.32	11.06	7.47	0.25
Illinois	26.48	31.88	9.95	22.00	8.27	1.42
Indiana	38.47	32.74	7.00	16.52	4.16	1.11
Iowa	27.62	41.22	5.02	15.16	9.51	1.47
Kansas	32.52	39.82	7.65	11.82	4.39	3.79
Kentucky	28.47	30.74	9.99	17.91	4.64	8.25
Louisiana	32.05	29.60	6.93	17.43	5.21	8.78
Maine	29.45	37.92	5.13	17.75	6.35	3.39
Maryland	22.84	44.25	5.18	15.66	4.78	7.28
Massachusetts	19.72	55.17	10.20	9.29	3.27	2.35
Michigan	33.47	27.01	7.49	15.17	5.77	11.08
Minnesota	25.14	40.67	6.66	15.93	5.47	6.13
Mississippi	49.35	21.92	5.77	14.74	6.19	2.03
Missouri	30.57	45.16	3.65	14.40	5.89	0.32
Montana	(X)	35.90	7.70	22.85	13.29	20.25
Nebraska	36.46	40.55	5.23	11.51	5.09	1.17
Nevada	50.96	(X)	(X)	30.35	12.71	5.98
New Hampshire	(X)	4.95	27.43	33.83	9.52	24.27
New Jersey	28.67	39.65	9.88	12.36	5.20	4.24
New Mexico	35.42	22.09	8.17	12.28	4.56	17.48
New York	17.23	54.75	8.57	13.66	2.10	3.69
North Carolina	23.01	46.83	6.92	16.20	5.92	1.12
North Dakota	27.16	17.77	7.65	18.19	7.17	22.05
Ohio	31.36	40.43	5.25	13.87	8.62	0.46
Oklahoma	22.06	38.34	6.30	10.94	10.70	11.66

Oregon	(X)	72.27	5.24	10.11	10.76	1.62
Pennsylvania		28.09	31.82	7.41	18.88	9.23
Rhode Island		31.66	39.25	6.48	17.39	3.40
South Carolina		37.22	37.28	3.59	15.46	5.42
South Dakota		56.63	(X)	6.10	24.46	12.38
Tennessee		59.62	1.97	9.88	14.03	11.10
Texas		50.69	(X)	(X)	28.22	14.23
Utah		33.17	43.48	6.77	11.40	3.44
Vermont		13.07	22.71	3.26	19.95	4.56
Virginia		18.65	53.97	6.75	12.97	3.55
Washington		61.39	(X)	(X)	16.90	4.99
West Virginia		24.27	29.23	11.58	23.59	3.91
Wisconsin		28.71	43.73	6.38	12.97	5.94
Wyoming		34.49	(X)	(X)	6.30	6.24

(X) Does not impose  
tax.

Source: "State Tax Collections" (2007), U.S. Department of Commerce, Bureau of the Census.

**Table 3.2: State & Local Taxes by Level of Government (%), Selected Fiscal Years**

	2006		2002		1999	
	State	Local	State	Local	State	Local
U.S. Total	59	41	59	41	61	39
Alabama	67	33	67	33	69	31
Alaska	68	32	53	47	51	49
Arizona	60	40	59	41	62	38
Arkansas	80	20	81	19	76	24
California	68	32	65	35	69	31
Colorado	49	51	50	50	54	46
<b>Connecticut</b>	<b>61</b>	<b>39</b>	<b>60</b>	<b>40</b>	<b>65</b>	<b>35</b>
Delaware	79	21	81	19	82	18
Florida	56	44	56	44	59	41
Georgia	55	45	57	43	58	42
Hawaii	79	21	81	19	81	19
Idaho	70	30	69	31	71	29
Illinois	54	46	54	46	56	44
Indiana	59	41	60	40	63	37
Iowa	60	40	60	40	63	37
Kansas	60	40	60	40	63	37
Kentucky	73	27	74	26	75	25
Louisiana	61	39	60	40	62	38
Maine	62	38	58	42	62	38
Maryland	57	43	54	46	57	43
Massachusetts	63	37	62	38	66	34
Michigan	66	34	71	29	73	27
Minnesota	77	23	72	28	73	27
Mississippi	73	27	72	28	75	25
Missouri	56	44	58	42	61	39
Montana	70	30	68	32	66	34
Nebraska	58	42	56	44	58	42
Nevada	63	37	61	39	65	35
New						
Hampshire	46	54	53	47	34	66
New Jersey	56	44	53	47	54	46
New Mexico	73	27	74	26	77	23
New York	46	54	49	51	47	53
North						
Carolina	69	31	69	31	71	29
North Dakota	69	31	65	35	66	34
Ohio	57	43	56	44	56	44
Oklahoma	69	31	69	31	70	30
Oregon	61	39	57	43	63	37



Pennsylvania	59	41	59	41	61	39
Rhode Island	59	41	59	41	59	41
South						
Carolina	62	38	62	38	68	32
South Dakota	53	47	53	47	53	47
Tennessee	62	38	60	40	61	39
Texas	48	52	49	51	52	48
Utah	66	34	65	35	67	33
Vermont	87	13	77	23	78	22
Virginia	57	43	58	42	59	41
Washington	65	35	65	35	68	32
West Virginia	77	23	76	24	77	23
Wisconsin	62	38	63	37	67	33
Wyoming	68	32	60	40	60	40

Source: Government Finances (Selected Fiscal Years), U.S. Census Bureau.

**Table 3.3: State Taxes per \$1,000 Personal Income Fiscal Year 2007**

<b>Rank</b>	<b>State</b>	<b>State Taxes (\$)</b>
	U.S. Average	\$68.41
1	Alaska	133.04
2	Vermont	118.46
3	Hawaii	107.60
4	Wyoming	96.93
5	Arkansas	92.45
6	West Virginia	91.19
7	New Mexico	89.59
8	Minnesota	88.80
9	Delaware	87.34
10	North Dakota	84.88
11	Maine	84.88
12	Mississippi	81.65
13	Louisiana	80.74
14	Idaho	80.53
15	California	79.96
16	Montana	79.52
17	Kentucky	79.16
18	North Carolina	78.95
19	Utah	77.58
20	Oklahoma	76.79
21	Wisconsin	75.60
22	New York	74.42
23	Washington	72.67
<b>24</b>	<b>Connecticut</b>	<b>72.18</b>
25	New Jersey	72.01
26	Kansas	71.78
27	Michigan	69.92
28	Rhode Island	69.53
29	Massachusetts	69.40
30	Indiana	69.29
31	South Carolina	67.73
32	Pennsylvania	67.56
33	Nebraska	66.96
34	Iowa	65.71
35	Ohio	65.08
36	Nevada	64.76
37	Arizona	62.92
38	Oregon	62.92
39	Virginia	62.74

40	Alabama	62.52
41	Georgia	62.15
42	Maryland	61.40
43	Illinois	60.06
44	Tennessee	58.15
45	Missouri	55.87
46	Florida	53.88
47	South Dakota	49.57
48	Colorado	48.92
49	Texas	48.92
50	New Hampshire	41.66

Source: "State Tax Collections" (2007), U.S. Department of Commerce, Bureau of the Census.

**Table 3.4: State Taxes per \$1,000 Personal Income for Selected Fiscal Years**

	2006		2002		2001		2000		1999	
	Amount	Rank	Amount	Rank	Amount	Rank	Amount	Rank	Amount	Rank
	(\$)		(\$)		(\$)		(\$)		(\$)	
U.S. Average	\$68.68		\$61.47		\$67.52		\$69.52		\$68.12	
Vermont	118.42	1	87.50	2	94.62	3	95.69	3	69.63	22
Wyoming	112.24	2	75.25	11	82.82	9	76.12	20	69.62	23
Hawaii	110.95	3	96.33	1	103.85	1	102.13	1	99.41	1
Alaska	102.25	4	55.47	40	76.76	19	80.39	15	52.86	46
West Virginia	95.05	5	86.14	3	86.94	5	88.25	7	86.09	7
New Mexico	94.63	6	85.66	4	100.12	2	98.45	2	94.97	2
Arkansas	93.00	7	81.71	6	83.46	7	85.82	9	85.79	8
Delaware	91.66	8	84.07	5	88.97	4	91.93	4	92.89	3
Minnesota	90.96	9	78.60	8	85.97	6	90.71	5	90.25	4
Maine	88.36	10	76.40	9	82.34	11	86.32	8	86.66	6
Louisiana	86.41	11	67.05	20	69.77	25	65.20	35	62.24	37
Kentucky	84.13	12	78.70	7	80.57	12	83.60	11	84.28	10
California	82.61	13	68.92	18	82.62	10	84.54	10	78.64	14
Mississippi	80.90	14	76.07	10	79.87	13	82.26	13	84.06	11
North Dakota	79.74	15	67.99	19	77.35	17	79.36	17	75.79	17
Montana	77.85	16	66.57	21	73.34	21	72.58	23	73.12	20
Utah	77.80	17	71.52	14	77.47	16	80.22	16	78.01	15
Idaho	77.76	18	69.83	15	83.17	8	83.17	12	79.89	12
North Carolina	77.17	19	68.97	17	72.00	23	76.48	19	75.98	16
Wisconsin	75.81	20	74.72	12	78.00	14	88.53	6	84.72	9
Oklahoma	73.10	21	69.77	16	77.76	15	75.92	21	73.85	19
Washington	73.00	22	65.86	23	68.81	26	71.83	24	75.53	18
<b>Connecticut</b>	<b>72.65</b>	<b>23</b>	<b>62.15</b>	<b>29</b>	<b>76.02</b>	<b>20</b>	<b>78.86</b>	<b>18</b>	<b>78.76</b>	<b>13</b>
Michigan	71.76	24	73.47	13	76.93	18	82.07	14	88.38	5
Rhode Island	71.42	25	66.50	22	73.31	22	69.91	26	67.89	26
Indiana	\$70.41	26	58.83	34	62.39	35	65.04	36	65.50	31
Kansas	69.90	27	62.47	28	67.64	28	68.34	28	68.11	25
Massachusetts	69.14	28	59.71	33	71.85	24	73.58	22	71.58	21
New York	69.02	29	63.18	24	68.42	27	67.68	29	66.38	30
Nebraska	68.62	30	60.47	31	63.86	32	66.15	33	61.83	39
Nevada	68.16	31	62.66	25	64.26	31	66.23	32	67.36	28
Ohio	67.44	32	59.85	32	61.83	38	64.38	37	62.03	38
Pennsylvania	67.27	33	58.64	35	62.16	36	65.48	34	65.48	32
Oregon	66.21	34	52.54	44	62.03	37	66.35	31	62.81	35
New Jersey	65.91	35	56.10	39	61.53	39	62.69	40	60.81	40
Iowa	65.56	36	62.66	25	66.75	29	70.55	25	68.77	24
Arizona	64.76	37	61.73	30	65.49	30	67.30	30	66.77	29

South Carolina	64.27	38	56.85	38	63.76	33	69.75	27	67.80	27
Alabama	64.10	39	62.66	25	60.90	40	64.09	38	62.86	34
Maryland	62.59	40	57.21	36	60.42	41	61.67	42	60.47	42
Illinois	60.60	41	54.49	43	58.42	43	60.33	43	58.87	44
Florida	60.32	42	52.29	45	55.79	45	59.12	45	59.45	43
Georgia	60.00	43	57.17	37	62.83	34	63.45	39	63.16	33
Virginia	59.85	44	54.83	41	59.32	42	61.78	41	60.69	41
Tennessee	57.68	45	50.34	46	52.94	47	55.19	47	54.17	45
Missouri	55.96	46	54.61	42	57.97	44	59.43	44	62.62	36
Colorado	48.47	47	46.82	49	53.91	46	55.29	46	50.29	48
Texas	48.13	48	47.03	48	50.66	48	50.94	48	51.34	47
South Dakota	47.95	49	48.41	47	49.72	49	50.50	49	50.10	49
New Hampshire	42.48	50	43.83	50	43.38	50	45.38	50	30.63	50

Source: Calculated as FY total taxes divided by prior year personal income from State Government Finances (Selected Years), and Survey of Current Business

(Selected Years), respectively, U.S. Department of Commerce, Bureaus of the Census & Economic Analysis.

Source: "State Tax Collections" (2006), U.S. Department of Commerce, Bureau of the Census.

**Table 3.5: State Taxes by Selected Tax Amounts per \$1,000 Personal Income, Fiscal Year 2007**

Rank	Total State		General Sales		Motor Fuel		Personal Income	
	Tax	Amount	Tax	Amount	Tax *	Amount	Tax	Amount
	U.S. Average	\$68.41	U.S. Average	\$21.55	U.S. Average	\$3.33	U.S. Average	\$24.25
1	Alaska	133.04	Hawaii	54.03	Montana	7.22	Oregon	45.47
2	Vermont	118.46	Washington	44.61	West Virginia	6.84	New York	40.74
3	Hawaii	107.60	Mississippi	40.29	North Dakota	6.61	Massachusetts	38.29
4	Wyoming	96.93	Arkansas	36.33	Arkansas	5.78	California	37.16
5	Arkansas	92.45	Tennessee	34.67	Mississippi	5.73	North Carolina	36.97
6	West Virginia	91.19	Wyoming	33.43	North Carolina	5.62	Minnesota	36.11
7	New Mexico	89.59	Nevada	33.00	Maine	5.49	<b>Connecticut</b>	<b>35.59</b>
8	Minnesota	88.80	Florida	32.79	Idaho	5.28	Virginia	33.86
9	Delaware	87.34	New Mexico	31.73	Nebraska	5.27	Utah	33.74
10	North Dakota	84.88	Idaho	29.09	Wisconsin	5.20	Wisconsin	33.06
11	Maine	84.88	Arizona	28.85	Utah	5.04	Hawaii	32.96
12	Mississippi	81.65	South Dakota	28.07	South Dakota	4.87	Maine	32.19
13	Louisiana	80.74	Indiana	26.66	Pennsylvania	4.70	Idaho	32.03
14	Idaho	80.53	Louisiana	25.88	Washington	4.64	Delaware	30.82
15	California	79.96	Utah	25.74	Louisiana	4.58	Oklahoma	29.44
16	Montana	79.52	South Carolina	25.21	Kentucky	4.56	Georgia	29.34
17	Kentucky	79.16	Maine	25.00	Iowa	4.54	Kansas	28.58
18	North Carolina	78.95	Texas	24.80	Ohio	4.51	New Jersey	28.55
19	Utah	77.58	Nebraska	24.41	Kansas	4.49	Montana	28.55
20	Oklahoma	76.79	Michigan	23.41	Tennessee	4.41	Rhode Island	27.29
21	Wisconsin	75.60	Kansas	23.35	Indiana	4.33	Maryland	27.17
22	New York	74.42	North Dakota	23.06	New Mexico	4.21	Nebraska	27.15
23	Washington	72.67	California	22.77	South Carolina	4.16	Arkansas	27.12
24	<b>Connecticut</b>	<b>72.18</b>	Kentucky	22.54	Vermont	4.04	Iowa	27.08
25	New Jersey	72.01	Minnesota	22.33	Alabama	4.00	Vermont	26.91
26	Kansas	71.78	West Virginia	22.13	Arizona	3.90	West Virginia	26.66
27	Michigan	69.92	Rhode Island	22.01	Missouri	3.84	Ohio	26.31
28	Rhode Island	69.53	Wisconsin	21.71	Texas	3.73	Colorado	25.48
29	Massachusetts	69.40	Georgia	21.28	Georgia	3.61	South Carolina	25.25
30	Indiana	69.29	New Jersey	20.65	Delaware	3.53	Missouri	25.23

	South							
31	Carolina	67.73	Ohio	20.41	Colorado	3.52	Kentucky	24.33
32	Pennsylvania	67.56	Pennsylvania	18.98	Florida	3.48	Louisiana	23.90
	North							
33	Nebraska	66.96	Carolina	18.16	Wyoming	3.45	Indiana	22.69
34	Iowa	65.71	Iowa	18.15	Oklahoma	3.42	Pennsylvania	21.50
35	Ohio	65.08	Missouri	17.08	Oregon	3.39	Alabama	21.29
36	Nevada	64.76	<b>Connecticut</b>	<b>17.02</b>	Nevada	3.37	New Mexico	19.79
37	Arizona	62.92	Oklahoma	16.94	Rhode Island	3.31	Illinois	19.15
38	Oregon	62.92	Alabama	16.06	Minnesota	3.22	Michigan	18.89
39	Virginia	62.74	Illinois	15.91	Maryland	3.07	Mississippi	17.90
40	Alabama	62.52	Vermont	15.48	Virginia	3.04	Arizona	16.22
41	Georgia	62.15	Maryland	14.03	Michigan	3.03	North Dakota	15.09
	New							
42	Maryland	61.40	Massachusetts	13.69	Illinois	2.96	Hampshire	2.06
	New							
43	Illinois	60.06	New York	12.82	Hampshire	2.48	Tennessee	1.15
44	Tennessee	58.15	Colorado	11.79	<b>Connecticut</b>	<b>2.47</b>	Alaska	(X)
45	Missouri	55.87	Virginia	11.70	California	2.39	Florida	(X)
46	Florida	53.88	Alaska	(X)	Massachusetts	2.27	Nevada	(X)
47	South Dakota	49.57	Delaware	(X)	Hawaii	1.90	South Dakota	(X)
48	Colorado	48.92	Montana	(X)	Alaska	1.52	Texas	(X)
	New							
49	Texas	48.92	Hampshire	(X)	New Jersey	1.40	Washington	(X)
	New							
50	Hampshire	41.66	Oregon	(X)	New York	0.61	Wyoming	(X)

\* Does not include other taxes on motor fuel products, such as taxes on petroleum businesses.

(X) Does not impose tax.

Source: "State Tax Collections" (2007), U.S. Department of Commerce, Bureau of the Census.

**Table 3.5 (contd.): State Taxes by Selected Tax Amounts per \$1,000 Personal Income, Fiscal Year 2007**

Rank	Death & Gift		Corporate		Corp. License & Business Occup.		Income/License & Business	
	Taxes	Amount	Income Tax	Amount	Taxes	Amount	Occup. Taxes	Amount
	U.S. Average	\$0.45	U.S. Average	\$4.87	U.S. Average	\$1.98	U.S. Average	\$6.85
1	Pennsylvania	1.61	Alaska	31.45	Delaware	26.00	Delaware	35.08
			New					
2	New Jersey	1.45	Hampshire	11.43	Nevada	5.20	Alaska	32.65
3	Maine	1.30	West Virginia	10.56	Texas	4.83	New Hampshire	13.12
4	New York	1.24	Delaware	9.08	Tennessee	4.58	West Virginia	11.56
5	<b>Connecticut</b>	<b>1.00</b>	Kentucky	7.90	Pennsylvania	3.29	California	10.85
6	Maryland	0.91	California	7.78	Ohio	3.25	Tennessee	10.33
7	Rhode Island	0.90	New Mexico	7.32	South Dakota	3.08	Kentucky	9.40
8	Massachusetts	0.84	New Jersey	7.12	California	3.07	New Jersey	9.36
9	Vermont	0.82	Massachusetts	7.08	Louisiana	3.05	Montana	9.16
10	Iowa	0.79	North Dakota	6.49	Montana	3.03	North Dakota	8.92
11	Washington	0.75	New York	6.38	Mississippi	2.62	Louisiana	8.65
12	Indiana	0.74	Montana	6.13	North Dakota	2.43	Pennsylvania	8.30
13	Oregon	0.65	Illinois	5.98	Maine	2.35	New Mexico	7.82
14	Wisconsin	0.63	Minnesota	5.91	Oregon	2.33	Massachusetts	7.71
	North							
15	Carolina	0.62	Tennessee	5.74	New Jersey	2.24	Illinois	7.70
16	Kansas	0.58	Louisiana	5.60	Oklahoma	2.18	Minnesota	7.43
					North			
17	Oklahoma	0.57	Kansas	5.49	Carolina	1.96	North Carolina	7.43
			North					
18	Tennessee	0.57	Carolina	5.47	Illinois	1.72	Mississippi	7.34
					New			
19	Minnesota	0.54	Utah	5.25	Hampshire	1.70	Oklahoma	7.02
20	Illinois	0.53	Michigan	5.24	Wisconsin	1.67	Maine	6.70
					South			
21	Virginia	0.51	Pennsylvania	5.01	Carolina	1.63	Ohio	6.67
22	Nebraska	0.45	Arizona	5.01	Alabama	1.58	New York	6.64
23	Kentucky	0.35	Indiana	4.85	Minnesota	1.52	Wisconsin	6.49
24	Ohio	0.19	Oklahoma	4.84	Kentucky	1.50	Kansas	6.34
25	Wyoming	0.13	Wisconsin	4.82	Vermont	1.48	South Dakota	6.11
26	Louisiana	0.08	Mississippi	4.71	Arkansas	1.44	Arkansas	5.98
27	Florida	0.07	<b>Connecticut</b>	<b>4.63</b>	Wyoming	1.36	Utah	5.80
28	Delaware	0.03	Arkansas	4.54	Idaho	1.34	Michigan	5.74



29	Montana	0.03	Rhode Island	4.50	Iowa	1.30	Oregon	5.63
30	South Dakota	0.02	Maine	4.36	Missouri	1.26	Idaho	5.63
	South							
31	Carolina	0.01	Idaho	4.29	Alaska	1.21	Arizona	5.56
32	Nevada	0.01	Virginia	4.24	Nebraska	1.16	Rhode Island	5.44
	New							
33	Hampshire	0.01	Vermont	3.86	Washington	1.06	Vermont	5.34
34	Utah	0.01	Florida	3.68	West Virginia	1.00	<b>Connecticut</b>	<b>5.23</b>
35	Texas	0.01	Alabama	3.57	Rhode Island	0.93	Nevada	5.20
36	Alaska	0.01	Nebraska	3.50	Maryland	0.89	Alabama	5.14
37	Alabama	0.00	Ohio	3.42	Kansas	0.85	Indiana	5.08
38	Georgia	0.00	Georgia	3.39	Virginia	0.72	Virginia	4.96
39	California	0.00	Iowa	3.30	Florida	0.66	Texas	4.83
40	Idaho	0.00	Oregon	3.30	Hawaii	0.65	Nebraska	4.66
41	West Virginia	0.00	Maryland	3.18	Georgia	0.65	Iowa	4.60
42	Hawaii	0.00	South Dakota	3.03	Massachusetts	0.63	Florida	4.34
43	Colorado	0.00	Colorado	2.55	<b>Connecticut</b>	<b>0.59</b>	Maryland	4.08
			South					
44	Michigan	0.00	Carolina	2.43	Arizona	0.56	South Carolina	4.06
45	Mississippi	0.00	Hawaii	2.13	Utah	0.55	Georgia	4.04
46	Arizona	(X)	Missouri	2.04	Michigan	0.51	Missouri	3.30
47	Arkansas	(X)	Nevada	(X)	New Mexico	0.50	Hawaii	2.79
48	Missouri	(X)	Texas	(X)	New York	0.26	Colorado	2.78
49	New Mexico	(X)	Washington	(X)	Colorado	0.23	Wyoming	1.36
50	North Dakota	(X)	Wyoming	(X)	Indiana	0.23	Washington	1.06

(X) Does not impose tax.

Source: "State Tax Collections" (2007), U.S. Department of Commerce, Bureau of the Census.

**Table 3.6: State & Local Taxes per \$1,000 Personal Income, Fiscal Year 2006**

Rank	State & Local		State		Local	
	State	Taxes	State	Taxes	State	Taxes
	U.S. Average	\$116.22	U.S. Average	\$69.12	U.S. Average	\$47.10
1	Wyoming	165.92	Vermont	118.27	New York	83.86
2	New York	156.52	Wyoming	112.28	New Jersey	55.75
3	Alaska	150.98	Hawaii	111.07	Maine	54.34
4	Maine	142.94	Alaska	102.35	Louisiana	54.24
5	Louisiana	140.46	West Virginia	95.18	Wyoming	53.64
6	Hawaii	140.00	New Mexico	94.65	Illinois	51.74
7	Vermont	135.30	Arkansas	93.77	Texas	51.53
8	New Mexico	129.17	Delaware	91.78	Ohio	51.12
9	New Jersey	125.34	Minnesota	90.97	Nebraska	50.51
10	West Virginia	122.83	Maine	88.60	Rhode Island	50.49
					New	
11	Wisconsin	122.60	Louisiana	86.21	Hampshire	49.78
12	Rhode Island	121.91	Kentucky	84.06	Colorado	49.51
13	California	121.45	California	82.59	Georgia	49.25
14	Nebraska	119.19	Mississippi	81.01	Alaska	48.63
15	<b>Connecticut</b>	<b>118.89</b>	North Dakota	80.02	Indiana	48.23
16	Indiana	118.70	Utah	77.89	Maryland	48.09
17	Ohio	118.16	Idaho	77.88	Florida	47.79
18	Utah	118.13	Montana	77.86	Wisconsin	46.76
			North			
19	Minnesota	118.05	Carolina	77.29	Kansas	46.58
20	Arkansas	116.91	Wisconsin	75.84	Pennsylvania	46.33
21	North Dakota	116.82	Oklahoma	73.43	<b>Connecticut</b>	<b>46.31</b>
22	Kansas	116.55	Washington	73.02	Virginia	44.84
23	Delaware	116.09	New York	72.66	Missouri	44.71
24	Kentucky	114.51	<b>Connecticut</b>	<b>72.58</b>	Arizona	44.51
25	Pennsylvania	113.58	Michigan	71.76	Iowa	44.39
	North					
26	Carolina	112.59	Rhode Island	71.42	South Dakota	42.72
27	Illinois	112.35	Indiana	70.47	Oregon	41.96
28	Washington	111.99	Kansas	69.97	Utah	40.24
29	Idaho	111.58	New Jersey	69.59	Massachusetts	40.09
30	Maryland	111.08	Massachusetts	69.17	Nevada	40.03
31	Mississippi	110.65	Nebraska	68.68	Washington	38.97
32	Montana	110.58	Nevada	68.20	California	38.87
					South	
33	Arizona	110.25	Pennsylvania	67.25	Carolina	38.68

34	Iowa	110.04	Ohio	67.03	Michigan	37.23
35	Massachusetts	109.26	Oregon	66.17	North Dakota	36.79
36	Georgia	109.21	Arizona	65.74	Tennessee	35.69
					North	
37	Michigan	108.99	Iowa	65.65	Carolina	35.30
38	Nevada	108.23	Alabama	64.11	New Mexico	34.52
			South			
39	Oregon	108.13	Carolina	64.08	Idaho	33.70
40	Florida	108.06	Maryland	62.99	Montana	32.71
41	Oklahoma	105.74	Illinois	60.61	Oklahoma	32.31
42	Virginia	104.75	Florida	60.28	Alabama	31.86
	South					
43	Carolina	102.76	Georgia	59.96	Kentucky	30.45
44	Missouri	100.68	Virginia	59.91	Mississippi	29.63
45	Texas	99.70	Tennessee	57.68	Hawaii	28.92
46	Colorado	98.01	Missouri	55.97	West Virginia	27.65
47	Alabama	95.97	Colorado	48.50	Minnesota	27.08
48	Tennessee	93.38	South Dakota	48.31	Delaware	24.31
	New					
49	Hampshire	92.30	Texas	48.17	Arkansas	23.14
			New			
50	South Dakota	91.03	Hampshire	42.51	Vermont	17.02

Source: "State & Local Government Finance Estimates" (2006), U.S. Department of Commerce, Bureau of the Census.

**Table 3.7: State & Local Taxes per \$1,000 Personal Income, Selected Fiscal Years**

State	2005		2000		1999		1998		1997	
	Amount (\$)	Rank	Amount (\$)	Rank	Amount (\$)	Rank	Amount (\$)	Rank	Amount (\$)	Rank
U.S. Average	\$112.90		\$112.13		\$110.48		\$111.70		\$104.95	
Wyoming	150.45	1	117.05	14	113.41	16	122.04	10	109.50	13
New York	150.19	2	141.04	1	140.34	1	141.92	2	136.21	2
Hawaii	134.48	3	125.92	6	123.01	5	125.89	6	123.05	4
Maine	132.11	4	139.10	2	139.08	2	144.46	1	127.47	3
Alaska	131.22	5	131.58	3	102.62	39	122.29	9	146.75	1
Vermont	130.37	6	120.66	9	121.82	6	125.08	7	117.53	10
Wisconsin	122.49	7	128.93	4	127.08	3	129.10	4	120.40	7
Rhode Island	122.23	8	118.69	13	115.56	11	117.15	14	110.01	11
New Mexico	121.88	9	127.09	5	121.73	7	131.39	3	121.43	6
West Virginia	121.38	10	116.37	15	116.65	10	112.30	25	109.33	14
Nebraska	118.70	11	109.84	28	107.66	30	112.36	24	109.52	12
<b>Connecticut</b>	<b>118.66</b>	<b>12</b>	<b>119.69</b>	<b>11</b>	<b>121.48</b>	<b>8</b>	<b>124.52</b>	<b>8</b>	<b>117.95</b>	<b>9</b>
Ohio	118.63	13	112.44	20	109.86	23	110.35	26	103.70	30
New Jersey	117.67	14	113.70	19	113.68	13	115.10	16	104.42	26
Louisiana	116.95	15	109.92	27	108.02	27	109.02	29	104.12	28
California	115.84	16	120.69	8	113.58	15	114.50	18	104.92	24
Utah	114.82	17	120.05	10	116.78	9	118.15	13	106.86	19
Indiana	114.58	18	105.63	39	104.70	37	105.75	37	104.87	25
Minnesota	114.02	19	123.72	7	123.26	4	127.69	5	121.87	5
Arkansas	113.91	20	106.44	36	112.62	18	106.51	35	99.73	36
North Dakota	113.60	21	119.10	12	114.89	12	122.02	11	118.02	8
Nevada	112.61	22	105.27	40	101.79	41	100.82	43	96.61	40
Delaware	111.97	23	115.11	16	112.34	19	118.84	12	106.24	20
Pennsylvania	111.18	24	106.82	34	107.18	32	107.27	32	101.22	32
Arizona	111.14	25	110.88	24	108.65	25	106.77	34	100.27	33
Kansas	110.91	26	108.87	30	107.59	31	115.74	15	105.91	21
Michigan	110.73	27	113.81	18	113.60	14	112.75	23	105.51	23
Illinois	110.36	28	107.76	32	104.95	34	104.66	38	100.13	34
Kentucky	109.80	29	111.67	21	110.99	21	112.84	22	106.94	17
Idaho	109.71	30	113.87	17	112.63	17	113.76	20	106.88	18
North Carolina	108.67	31	105.75	37	105.52	33	107.40	31	98.65	39
Maryland	108.66	32	109.36	29	104.63	38	107.86	30	100.08	35
Massachusetts	107.78	33	110.88	23	108.53	26	113.28	21	104.14	27
Mississippi	107.35	34	110.67	25	110.54	22	109.73	28	104.00	29
Iowa	107.22	35	110.96	22	107.95	28	109.80	27	105.55	22
Florida	105.91	36	98.74	45	100.24	44	100.50	45	94.63	43

Montana	105.47	37	110.00	26	108.85	24	113.78	19	109.18	15
Washington	105.21	38	107.47	33	111.25	20	115.00	17	108.11	16
South										
Carolina	104.11	39	104.58	41	104.75	36	103.50	39	96.13	41
Georgia	103.86	40	108.77	31	107.74	29	106.15	36	98.69	38
Virginia	103.29	41	102.88	43	101.64	42	100.81	44	93.23	45
Oregon	101.15	42	105.65	38	100.19	45	100.96	41	99.54	37
Oklahoma	100.65	43	106.51	35	104.78	35	107.17	33	102.00	31
Missouri	99.87	44	99.50	44	101.56	43	101.57	40	95.59	42
Texas	99.40	45	96.83	46	96.79	46	98.71	46	93.78	44
Colorado	95.73	46	103.10	42	102.24	40	100.87	42	92.47	46
Alabama	92.54	47	93.65	48	91.11	48	91.33	48	86.64	48
New										
Hampshire	91.58	48	88.00	50	88.37	49	88.39	50	84.53	49
Tennessee	91.52	49	88.09	49	87.99	50	90.01	49	84.27	50
South Dakota	88.09	50	94.49	47	95.06	47	97.80	47	89.36	47

**Table 3.8: State Taxes Per Capita, Fiscal Year 2007**

<b>Rank</b>	<b>State</b>	<b>Total State Taxes</b>
	U.S. Average	\$2,487.50
1	Alaska	\$5,037.37
2	Vermont	\$4,118.78
3	Hawaii	\$3,969.06
4	Wyoming	\$3,873.32
<b>5</b>	<b><i>Connecticut</i></b>	<b><i>\$3,668.31</i></b>
6	Minnesota	\$3,420.83
7	Delaware	\$3,360.34
8	New Jersey	\$3,351.03
9	New York	\$3,273.01
10	Massachusetts	\$3,203.79
11	California	\$3,138.90
12	North Dakota	\$2,787.16
13	Washington	\$2,735.25
14	Maine	\$2,719.15
15	Maryland	\$2,686.59
16	New Mexico	\$2,642.41
17	Rhode Island	\$2,614.83
18	Arkansas	\$2,607.52
19	Wisconsin	\$2,585.43
20	West Virginia	\$2,568.50
21	Louisiana	\$2,529.66
22	North Carolina	\$2,495.61
23	Kansas	\$2,483.20
24	Pennsylvania	\$2,480.35
25	Oklahoma	\$2,461.63
26	Virginia	\$2,460.08
27	Nevada	\$2,457.63
28	Montana	\$2,422.05
29	Michigan	\$2,367.87
30	Idaho	\$2,358.66
31	Kentucky	\$2,332.96
32	Illinois	\$2,296.56
33	Nebraska	\$2,294.09
34	Utah	\$2,226.35
35	Indiana	\$2,221.84
36	Mississippi	\$2,190.81
37	Iowa	\$2,165.21
38	Ohio	\$2,163.67

39	Oregon	\$2,066.17
40	South Carolina	\$1,971.30
41	Florida	\$1,958.13
42	Arizona	\$1,955.68
43	Georgia	\$1,952.58
44	Alabama	\$1,916.29
45	Colorado	\$1,893.63
46	Tennessee	\$1,842.70
47	Missouri	\$1,821.04
48	Texas	\$1,686.50
49	New Hampshire	\$1,650.82
50	South Dakota	\$1,577.62

Source: "State Tax Collections" (2007), U.S. Department of Commerce, Bureau of the Census.

**Table 3.9: State Taxes Per Capita, Selected Fiscal Years**

State	2006		2002		2001		2000		1999	
	Amount (\$)	Rank	Amount (\$)	Rank	Amount (\$)	Rank	Amount (\$)	Rank	Amount (\$)	Rank
U.S. Average	\$2,364.26		\$1,853.50		\$1,969.44		\$1,921.45		\$1,835.27	
Wyoming	4,138.88	1	2,193.19	9	2,275.90	9	1,950.71	17	1,694.23	29
Vermont	3,876.85	2	2,486.19	5	2,533.02	7	2,415.15	7	1,703.80	27
Hawaii	3,846.80	3	2,747.53	1	2,865.83	2	2,751.44	2	2,671.17	3
Alaska	3,667.31	4	1,691.78	34	2,249.92	11	2,270.00	10	1,461.07	44
<b>Connecticut</b>	<b>3,470.47</b>	<b>5</b>	<b>2,609.88</b>	<b>3</b>	<b>3,092.06</b>	<b>1</b>	<b>2,986.27</b>	<b>1</b>	<b>2,932.21</b>	<b>1</b>
Minnesota	3,362.33	6	2,576.97	4	2,722.16	4	2,711.63	4	2,613.69	4
Delaware	3,354.75	7	2,693.43	2	2,731.71	3	2,719.55	3	2,695.01	2
California	3,071.65	8	2,214.24	8	2,621.77	6	2,474.25	6	2,183.96	8
Massachusetts	3,014.31	9	2,305.51	6	2,700.31	5	2,544.16	5	2,385.65	5
New Jersey	2,867.37	10	2,133.74	12	2,269.37	10	2,156.83	12	2,078.54	11
New York	2,829.01	11	2,258.18	7	2,359.45	8	2,199.40	11	2,126.81	10
Maine	2,730.48	12	2,030.01	14	2,073.77	17	2,087.12	14	2,027.53	12
New Mexico	2,631.25	13	1,955.82	18	2,188.22	13	2,057.82	15	2,002.60	13
Maryland	2,597.21	14	1,982.64	16	2,006.64	18	1,955.14	16	1,833.07	18
Rhode Island	2,582.54	15	1,988.42	15	2,118.31	15	1,941.71	18	1,912.76	14
Washington	2,574.31	16	2,080.83	13	2,117.47	16	2,132.23	13	2,143.29	9
North Dakota	2,544.34	17	1,762.30	26	1,941.72	19	1,826.13	26	1,746.19	22
West Virginia	2,520.16	18	1,971.01	17	1,899.49	23	1,849.15	22	1,742.24	23
Arkansas	2,477.45	19	1,857.60	21	1,824.31	28	1,822.13	27	1,806.45	19
Wisconsin	2,475.49	20	2,171.26	11	2,178.50	14	2,357.01	8	2,214.63	7
Nevada	2,468.67	21	1,815.61	22	1,819.67	30	1,860.49	21	1,895.81	15
Kentucky	2,367.28	22	1,948.37	19	1,930.87	21	1,903.66	19	1,857.15	17
Michigan	2,347.43	23	2,175.53	10	2,228.39	12	2,289.84	9	2,365.66	6
Pennsylvania	2,342.26	24	1,794.53	23	1,836.27	26	1,829.40	25	1,799.96	20
North Carolina	2,322.87	25	1,867.22	20	1,908.76	22	1,890.43	20	1,886.90	16
Kansas	2,277.03	26	1,770.38	25	1,852.89	25	1,810.01	28	1,729.23	25
Louisiana	2,274.52	27	1,638.63	36	1,611.20	41	1,457.23	45	1,379.19	46
Virginia	2,250.19	28	1,752.28	27	1,820.44	29	1,786.70	29	1,682.36	30
Nebraska	2,245.82	29	1,730.78	29	1,767.78	32	1,742.28	32	1,597.87	37
Montana	2,245.81	30	1,587.16	39	1,654.65	40	1,564.04	42	1,546.60	41
Illinois	2,201.51	31	1,782.41	24	1,854.69	24	1,834.99	24	1,748.90	21
Oklahoma	2,175.93	32	1,732.31	28	1,832.87	27	1,695.69	35	1,613.21	34
Indiana	2,161.90	33	1,622.76	37	1,668.72	38	1,661.90	36	1,638.27	32
Ohio	2,149.16	34	1,717.59	30	1,724.81	34	1,733.14	34	1,614.64	33
Idaho	2,146.81	35	1,693.57	33	1,936.49	20	1,837.13	23	1,734.54	24
Utah	2,116.31	36	1,694.90	32	1,790.91	31	1,781.77	30	1,711.15	26



Mississippi	2,066.01	37	1,646.55	35	1,661.82	39	1,656.10	37	1,652.02	31
Florida	2,060.17	38	1,484.83	44	1,520.93	44	1,552.83	43	1,574.43	39
Iowa	2,058.46	39	1,704.55	31	1,764.89	33	1,772.18	31	1,696.69	28
Oregon	2,056.39	40	1,459.21	46	1,696.79	37	1,737.99	33	1,610.72	35
Arizona	1,899.73	41	1,553.70	40	1,593.51	42	1,578.78	41	1,578.53	38
Alabama	1,858.22	42	1,533.08	42	1,426.53	46	1,447.82	46	1,380.42	45
Georgia	1,823.33	43	1,608.90	38	1,713.80	35	1,650.53	38	1,600.08	36
South										
Carolina	1,792.06	44	1,399.70	47	1,513.07	45	1,590.58	40	1,498.68	42
Colorado	1,788.05	45	1,536.09	41	1,712.75	36	1,644.98	39	1,476.07	43
Tennessee	1,753.17	46	1,345.12	48	1,362.71	49	1,360.45	48	1,311.44	47
Missouri	1,743.86	47	1,529.81	43	1,569.66	43	1,532.00	44	1,566.03	40
New										
Hampshire	1,586.02	48	1,477.59	45	1,410.49	47	1,372.24	47	891.49	50
Texas	1,563.24	49	1,316.00	49	1,379.74	48	1,315.18	49	1,280.95	48
South Dakota	1,499.15	50	1,283.31	50	1,291.24	50	1,228.14	50	1,184.25	49

Source: State Government Finances (Selected Years), U.S. Department of Commerce, Bureau of the Census.

**Table 3.10: State Taxes by Selected Tax Amounts per Capita, Fiscal Year 2007**

Rank	Total Tax		General Sales Tax		Motor Fuel Tax*		Personal Income Tax	
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount
	U.S. Average	\$2,487.50	U.S. Average	\$783.54	U.S. Average	\$121.09	U.S. Average	\$881.59
1	Alaska	5,037.37	Hawaii	1,992.88	Montana	219.96	<b>Connecticut</b>	<b>1,808.83</b>
2	Vermont	4,118.78	Washington	1,679.13	North Dakota	216.99	New York	1,791.92
3	Hawaii	3,969.06	Wyoming	1,335.88	West Virginia	192.69	Massachusetts	1,767.45
4	Wyoming	3,873.32	Nevada	1,252.39	Nebraska	180.61	Oregon	1,493.24
5	<b>Connecticut</b>	<b>3,668.31</b>	Florida	1,191.64	Wisconsin	177.84	California	1,458.65
6	Minnesota	3,420.83	Tennessee	1,098.58	North Carolina	177.57	Minnesota	1,391.19
7	Delaware	3,360.34	Mississippi	1,081.14	Maine	175.74	New Jersey	1,328.57
8	New Jersey	3,351.03	Arkansas	1,024.55	Washington	174.51	Virginia	1,327.63
9	New York	3,273.01	New Jersey	960.82	Pennsylvania	172.37	Hawaii	1,215.77
10	Massachusetts	3,203.79	New Mexico	935.88	Arkansas	162.99	Maryland	1,188.81
11	California	3,138.90	Arizona	896.68	Kansas	155.40	Delaware	1,185.78
12	North Dakota	2,787.16	California	893.74	South Dakota	155.09	North Carolina	1,168.63
13	Washington	2,735.25	South Dakota	893.38	Idaho	154.66	Wisconsin	1,130.67
14	Maine	2,719.15	<b>Connecticut</b>	<b>865.24</b>	Mississippi	153.77	Maine	1,031.20
15	Maryland	2,686.59	Minnesota	860.12	Ohio	149.98	Rhode Island	1,026.25
16	New Mexico	2,642.41	Texas	854.85	Iowa	149.76	Kansas	988.81
17	Rhode Island	2,614.83	Indiana	854.73	Utah	144.55	Colorado	986.41
18	Arkansas	2,607.52	Idaho	852.03	Louisiana	143.63	Utah	968.12
19	Wisconsin	2,585.43	Nebraska	836.35	Vermont	140.63	Oklahoma	943.67
20	West Virginia	2,568.50	Rhode Island	827.75	Tennessee	139.64	Idaho	938.02
21	Louisiana	2,529.66	Louisiana	810.87	Indiana	138.82	Vermont	935.51
22	North Carolina	2,495.61	Kansas	807.65	Wyoming	137.78	Nebraska	930.31
23	Kansas	2,483.20	Maine	800.79	Colorado	136.14	Georgia	921.91
24	Pennsylvania	2,480.35	Michigan	792.62	Delaware	135.86	Iowa	892.42
25	Oklahoma	2,461.63	North Dakota	757.12	Kentucky	134.51	Ohio	874.84
26	Virginia	2,460.08	Wisconsin	742.39	Maryland	134.20	Montana	869.56
27	Nevada	2,457.63	Utah	738.53	Texas	128.65	Missouri	822.47
28	Montana	2,422.05	South Carolina	733.63	Nevada	128.02	Pennsylvania	789.26
29	Michigan	2,367.87	Pennsylvania	696.68	Florida	126.34	Arkansas	764.94
30	Idaho	2,358.66	Ohio	678.58	<b>Connecticut</b>	<b>125.54</b>	West Virginia	750.82
31	Kentucky	2,332.96	Georgia	668.59	Missouri	125.31	Louisiana	748.66
32	Illinois	2,296.56	Kentucky	664.31	Rhode Island	124.50	South Carolina	734.96

33	Nebraska	2,294.09	Massachusetts	631.89	New Mexico	124.18	Illinois	732.03
34	Utah	2,226.35	West Virginia	623.35	Minnesota	123.94	Indiana	727.41
35	Indiana	2,221.84	Maryland	613.67	Alabama	122.69	Kentucky	717.09
36	Mississippi	2,190.81	Illinois	608.23	Arizona	121.30	Alabama	652.46
37	Iowa	2,165.21	Iowa	597.94	Carolina	120.99	Michigan	639.67
38	Ohio	2,163.67	North		Virginia	119.14	New Mexico	583.68
39	Oregon	2,066.17	Carolina	574.15	Georgia	113.45	Arizona	504.22
40	South		New York	563.79	Illinois	113.11	North Dakota	495.37
41	Carolina	1,971.30	Missouri	556.77	Oregon	111.27	Mississippi	480.27
42	Florida	1,958.13	Oklahoma	542.97	Oklahoma	109.75	New	
43	Arizona	1,955.68	Vermont	538.29	Massachusetts	104.83	Hampshire	81.66
44	Georgia	1,952.58	Alabama	492.24	Michigan	102.71	Tennessee	36.28
45	Alabama	1,916.29	Virginia	458.90	New		Alaska	(X)
46	Colorado	1,893.63	Colorado	456.43	Hampshire	98.18	Florida	(X)
47	Tennessee	1,842.70	Alaska	(X)	California	93.90	Nevada	(X)
48	Missouri	1,821.04	Delaware	(X)	Hawaii	69.92	South Dakota	(X)
49	Texas	1,686.50	Montana	(X)	New Jersey	65.07	Texas	(X)
50	New		New		Alaska	57.50	Washington	(X)
	Hampshire	1,650.82	Hampshire	(X)	New York	26.75	Wyoming	(X)

\* Does not include other taxes on motor fuel products, such as taxes on petroleum businesses.

(X) Does not impose tax.

Source: "State Government Finances" (2007), U.S. Department of Commerce, Bureau of the Census.

**Table 3.10 (contd.): State Taxes by Selected Tax Amounts per Capita, Fiscal Year 2007**

Rank	Death & Gift		Corporate		Corp. License & Business Occup.		Income/License & Business	
	Taxes	Amount	Income Tax	Amount	Taxes	Amount	Occup. Taxes	Amount
	U.S. Average	\$16.25	U.S. Average	\$176.97	U.S. Average	\$71.94	U.S. Average	\$248.91
1	New Jersey	67.53	Alaska	1,190.62	Delaware	1,000.20	Delaware	1,349.69
			New					
2	Pennsylvania	59.25	Hampshire	452.79	Nevada	197.22	Alaska	1,236.34
3	New York	54.59	Delaware	349.48	Texas	166.43	New Hampshire	520.08
4	<b>Connecticut</b>	<b>50.93</b>	New Jersey	331.18	Tennessee	145.21	New Jersey	435.59
5	Maine	41.62	Massachusetts	326.66	Pennsylvania	120.64	California	425.89
6	Maryland	39.93	California	305.25	California	120.64	Massachusetts	355.73
7	Massachusetts	38.70	West Virginia	297.53	Ohio	108.02	Tennessee	327.20
8	Rhode Island	34.00	New York	280.66	New Jersey	104.41	West Virginia	325.66
9	Vermont	28.66	<b>Connecticut</b>	<b>235.53</b>	South Dakota	98.10	Pennsylvania	304.55
10	Washington	28.27	Kentucky	232.95	Louisiana	95.58	Illinois	294.33
11	Iowa	26.02	Illinois	228.47	Montana	92.34	North Dakota	292.98
12	Indiana	23.69	Minnesota	227.76	North Dakota	79.72	New York	292.11
13	Wisconsin	21.62	New Mexico	215.79	Oregon	76.53	Minnesota	286.28
14	Oregon	21.25	North Dakota	213.26	Maine	75.20	Montana	278.91
15	Minnesota	20.70	Kansas	190.00	Mississippi	70.32	Kentucky	277.09
16	Illinois	20.24	Montana	186.57	Oklahoma	69.82	Louisiana	270.92
					New			
17	Kansas	20.04	Pennsylvania	183.91	Hampshire	67.29	<b>Connecticut</b>	<b>265.59</b>
18	Virginia	19.82	Tennessee	181.98	Illinois	65.87	North Carolina	234.75
	North				North			
19	Carolina	19.59	Michigan	177.35	Carolina	61.97	New Mexico	230.57
20	Oklahoma	18.43	Louisiana	175.34	Minnesota	58.52	Oklahoma	225.02
			North					
21	Tennessee	18.06	Carolina	172.78	Wisconsin	57.09	Wisconsin	221.93
22	Nebraska	15.42	Rhode Island	169.37	Wyoming	54.25	Ohio	221.61
23	Kentucky	10.27	Virginia	166.08	Vermont	51.54	Kansas	219.34
24	Ohio	6.29	Wisconsin	164.84	Alabama	48.30	Maine	214.78
					South			
25	Wyoming	5.13	Arizona	155.58	Carolina	47.32	Rhode Island	204.42
26	Louisiana	2.59	Indiana	155.57	Alaska	45.72	Nevada	197.22
27	Florida	2.38	Oklahoma	155.19	Kentucky	44.14	Mississippi	196.82
28	Delaware	1.03	Utah	150.79	Iowa	42.73	Michigan	194.46
29	Montana	0.79	Maine	139.58	Missouri	41.20	South Dakota	194.39
30	South Dakota	0.64	Maryland	139.19	Arkansas	40.63	Virginia	194.32

	South							
31	Carolina	0.35	Vermont	134.18	Washington	39.77	Vermont	185.72
32	Nevada	0.30	Florida	133.83	Nebraska	39.63	Oregon	184.83
	New							
33	Hampshire	0.29	Arkansas	128.05	Idaho	39.30	Maryland	178.32
34	Alaska	0.19	Mississippi	126.49	Maryland	39.12	Arizona	172.95
35	Texas	0.19	Idaho	125.54	Rhode Island	35.05	Arkansas	168.68
36	Utah	0.19	Nebraska	120.04	<b>Connecticut</b>	<b>30.06</b>	Utah	166.53
37	California	0.17	Ohio	113.59	Kansas	29.34	Texas	166.43
38	Georgia	0.15	Alabama	109.31	Massachusetts	29.06	Idaho	164.84
39	Alabama	0.14	Iowa	108.79	Virginia	28.24	Indiana	162.86
40	Hawaii	0.13	Oregon	108.30	West Virginia	28.13	Nebraska	159.68
41	Colorado	0.12	Georgia	106.57	Hawaii	24.15	Florida	157.67
42	Idaho	0.12	Colorado	98.62	Florida	23.84	Alabama	157.61
43	West Virginia	0.11	South Dakota	96.29	Georgia	20.34	Iowa	151.52
44	Michigan	0.07	Hawaii	78.58	Arizona	17.37	Georgia	126.91
	South							
45	Mississippi	0.05	Carolina	70.76	Michigan	17.11	South Carolina	118.09
46	Arizona	(X)	Missouri	66.46	Utah	15.74	Colorado	107.69
47	Arkansas	(X)	Nevada	(X)	New Mexico	14.78	Missouri	107.65
48	Missouri	(X)	Texas	(X)	New York	11.45	Hawaii	102.73
49	New Mexico	(X)	Washington	(X)	Colorado	9.07	Wyoming	54.25
50	North Dakota	(X)	Wyoming	(X)	Indiana	7.30	Washington	39.77

(X) Does not impose tax.

Source: "State Government Finances" (2007), U.S. Department of Commerce, Bureau of the Census.

**Table 3.11: State & Local Taxes Per Capita, Fiscal Year 2006**

Rank	State & Local Taxes		State Taxes		Local Taxes	
	State	Taxes	State	Taxes	State	Taxes
		\$4,039.4		\$2,402.4		\$1,637.0
	U.S. Average	4	U.S. Average	1	U.S. Average	3
1	New York	6,419.76	Wyoming	4,189.67	New York	3,439.73
2	Wyoming	6,191.25	Vermont	3,883.36	New Jersey	2,430.45
3	<b>Connecticut</b>	<b>5,699.71</b>	Hawaii	3,880.35	<b>Connecticut</b>	<b>2,220.02</b>
4	Alaska	5,474.56	Alaska	3,711.36	Maryland	2,003.16
5	New Jersey	5,464.39	<b>Connecticut</b>	<b>3,479.69</b>	Wyoming	2,001.58
6	Hawaii	4,890.74	Delaware	3,403.39	Illinois	1,888.08
7	Massachusetts	4,765.13	Minnesota	3,389.13	New Hampshire	1,869.71
8	Maryland	4,627.32	California	3,093.80	Colorado	1,861.73
9	California	4,549.81	New Jersey	3,033.94	Rhode Island	1,817.01
10	Vermont	4,442.21	Massachusetts	3,016.78	Alaska	1,763.20
11	Maine	4,424.22	New York	2,980.03	Massachusetts	1,748.35
12	Minnesota	4,398.00	Maine	2,742.36	Texas	1,713.37
13	Rhode Island	4,387.26	New Mexico	2,666.91	Virginia	1,702.50
14	Delaware	4,304.80	Maryland	2,624.16	Maine	1,681.87
15	Illinois	4,099.54	Washington	2,617.03	Florida	1,662.93
16	Nevada	4,053.16	Rhode Island	2,570.24	Nebraska	1,661.01
17	Wisconsin	4,024.85	Nevada	2,554.22	Ohio	1,632.76
18	Washington	4,013.63	North Dakota	2,550.42	Pennsylvania	1,618.15
19	Virginia	3,977.30	Arkansas	2,530.81	Georgia	1,536.26
20	Pennsylvania	3,967.13	West Virginia	2,524.45	Wisconsin	1,534.98
21	Nebraska	3,919.28	Wisconsin	2,489.87	Kansas	1,523.45
22	Kansas	3,812.23	Kentucky	2,386.25	Nevada	1,498.94
23	Ohio	3,773.80	North Carolina	2,373.81	Indiana	1,490.26
24	Florida	3,760.44	Pennsylvania	2,348.99	California	1,456.01
25	North Dakota	3,723.08	Michigan	2,346.13	Missouri	1,404.95
26	Colorado	3,685.19	Kansas	2,288.78	Iowa	1,399.91
27	Indiana	3,667.88	Virginia	2,274.80	Washington	1,396.60
28	New Mexico	3,639.48	Montana	2,272.24	Arizona	1,352.58
29	Michigan	3,563.23	Nebraska	2,258.27	Louisiana	1,350.75
30	Louisiana	3,497.58	Illinois	2,211.46	South Dakota	1,348.24
31	Iowa	3,470.19	Oklahoma	2,210.87	Oregon	1,325.82

32	New Hampshire	3,466.33	Idaho	2,203.99	Michigan	1,217.10
33	North Carolina	3,458.05	Utah	2,180.29	North Dakota	1,172.66
34	Oregon	3,416.84	Indiana	2,177.63	Utah South	1,126.34
35	Georgia	3,406.50	Louisiana	2,146.83	Carolina	1,100.91
36	Arizona	3,350.15	Ohio	2,141.04	Tennessee North	1,100.29
37	Texas	3,315.18	Florida	2,097.51	Carolina	1,084.24
38	Utah West	3,306.63	Oregon	2,091.02	Hawaii	1,010.39
39	Virginia	3,257.84	Iowa	2,070.28	Minnesota	1,008.87
40	Kentucky	3,250.64	Mississippi	2,065.06	Oklahoma	972.81
41	Montana	3,226.89	Arizona	1,997.57	New Mexico	972.57
42	Oklahoma	3,183.68	Alabama	1,878.94	Montana	954.66
43	Missouri	3,163.80	Georgia South	1,870.24	Idaho	953.75
44	Idaho	3,157.74	Carolina	1,823.69	Alabama	933.71
45	Arkansas South	3,155.32	Colorado	1,823.45	Delaware	901.41
46	Carolina	2,924.60	Tennessee	1,778.23	Kentucky	864.38
47	Tennessee	2,878.52	Missouri	1,758.85	Mississippi West	755.35
48	South Dakota	2,872.62	Texas New	1,601.81	Virginia	733.39
49	Mississippi	2,820.40	Hampshire	1,596.62	Arkansas	624.51
50	Alabama	2,812.65	South Dakota	1,524.38	Vermont	558.84

Source: "State & Local Government Finance Estimates" (2006), U.S. Department of Commerce, Bureau of the Census.

**Table 3.12: State & Local Taxes Per Capita, Selected Fiscal Years**

State	2005		2000		1999		1998		1997	
	Amount (\$)	Rank	Amount (\$)	Rank	Amount (\$)	Rank	Amount (\$)	Rank	Amount (\$)	Rank
U.S. Average	\$3,705.31		\$3,099.80		\$2,991.58		\$2,863.36		\$2,721.23	
New York	5,768.07	1	4,577.79	2	4,514.69	2	4,318.28	2	4,158.96	2
<b>Connecticut</b>	<b>5,420.01</b>	<b>2</b>	<b>4,595.15</b>	<b>1</b>	<b>4,536.46</b>	<b>1</b>	<b>4,424.92</b>	<b>1</b>	<b>4,205.30</b>	<b>1</b>
Wyoming	5,274.70	3	3,045.87	19	2,827.30	23	2,901.00	17	2,584.45	24
New Jersey	4,915.69	4	3,902.77	3	3,877.67	3	3,698.07	3	3,400.76	4
Massachusetts	4,472.91	5	3,786.75	4	3,606.38	4	3,531.18	4	3,290.77	6
Alaska	4,402.43	6	3,687.08	6	2,841.30	22	3,279.25	7	3,953.44	3
Hawaii	4,357.71	7	3,384.17	10	3,302.63	7	3,293.38	6	3,228.77	7
Maryland	4,288.24	8	3,453.53	9	3,201.57	11	3,126.02	11	2,912.23	12
Rhode Island	4,218.18	9	3,256.06	13	3,226.32	10	3,116.54	12	2,954.35	9
Vermont	4,154.61	10	3,079.71	17	3,004.06	16	2,910.51	16	2,746.43	16
Minnesota	4,098.04	11	3,694.43	5	3,598.80	5	3,489.74	5	3,356.27	5
California	4,073.79	12	3,544.74	7	3,167.21	12	3,021.89	14	2,812.66	15
Maine	3,977.76	13	3,342.86	11	3,258.08	9	3,225.34	8	2,862.09	13
Delaware	3,899.06	14	3,340.09	12	3,278.19	8	3,217.50	9	2,932.93	10
Illinois	3,863.23	15	3,241.49	14	3,130.76	14	2,958.52	15	2,855.73	14
Wisconsin	3,863.12	16	3,457.60	8	3,317.64	6	3,185.88	10	3,002.38	8
Nebraska	3,754.89	17	2,906.47	24	2,775.46	24	2,751.44	22	2,711.17	19
Nevada	3,754.16	18	2,915.33	23	2,924.68	19	2,727.04	24	2,720.27	18
Pennsylvania	3,721.05	19	2,978.67	21	2,934.18	18	2,802.37	20	2,654.21	20
Washington	3,663.63	20	3,178.46	15	3,147.69	13	3,037.89	13	2,915.89	11
Virginia	3,659.79	21	2,978.24	22	2,845.58	21	2,675.41	25	2,497.88	27
Ohio	3,640.10	22	3,015.83	20	2,869.45	20	2,750.16	23	2,596.76	22
Michigan	3,491.83	23	3,167.05	16	3,031.72	15	2,873.72	18	2,721.53	17
Kansas	3,423.28	24	2,833.46	26	2,747.71	26	2,805.32	19	2,600.02	21
Indiana	3,410.05	25	2,691.35	30	2,620.86	31	2,499.90	32	2,510.54	26
Florida	3,375.27	26	2,623.99	35	2,663.29	28	2,544.59	31	2,427.81	31
Colorado	3,355.10	27	3,072.82	18	2,987.40	17	2,762.80	21	2,595.05	23
North Dakota	3,335.84	28	2,754.07	28	2,631.47	30	2,549.33	30	2,463.52	29
New Hampshire	3,314.97	29	2,652.41	32	2,589.58	32	2,415.92	36	2,347.77	34
Iowa	3,283.56	30	2,765.05	27	2,674.48	27	2,606.12	27	2,521.15	25
Louisiana	3,181.28	31	2,436.21	41	2,409.26	41	2,303.00	41	2,211.77	41
New Mexico	3,167.16	32	2,639.13	33	2,568.39	34	2,637.02	26	2,462.02	30
North Carolina	3,146.31	33	2,663.69	31	2,648.85	29	2,557.40	28	2,387.42	33
Arizona	3,079.78	34	2,598.64	36	2,561.32	37	2,371.48	38	2,289.63	36
West Virginia	3,074.14	35	2,412.78	42	2,367.90	43	2,182.76	45	2,122.39	44



Oregon	3,059.81	36	2,751.18	29	2,574.25	33	2,478.75	33	2,487.35	28
Texas	3,026.35	37	2,504.63	40	2,456.18	39	2,343.89	39	2,247.07	40
Georgia	3,017.89	38	2,840.65	25	2,761.05	25	2,552.45	29	2,425.97	32
Missouri	3,001.83	39	2,558.33	37	2,565.42	36	2,448.90	35	2,329.03	35
Kentucky	2,939.77	40	2,516.68	39	2,464.23	38	2,376.86	37	2,275.11	37
Idaho	2,933.28	41	2,545.78	38	2,427.59	40	2,334.25	40	2,248.97	39
Utah	2,915.74	42	2,630.15	34	2,567.51	35	2,458.50	34	2,265.08	38
Montana	2,909.54	43	2,363.46	45	2,311.95	46	2,291.19	42	2,196.92	42
Arkansas	2,905.30	44	2,230.20	47	2,382.20	42	2,142.80	47	2,029.45	46
Oklahoma	2,848.79	45	2,391.02	43	2,313.25	45	2,239.83	43	2,145.07	43
South										
Carolina	2,773.37	46	2,378.59	44	2,333.29	44	2,186.73	44	2,059.79	45
South Dakota	2,697.05	47	2,298.85	46	2,255.30	47	2,157.51	46	1,983.20	47
Tennessee	2,670.28	48	2,185.13	49	2,142.30	49	2,079.20	48	1,978.06	48
Mississippi	2,582.59	49	2,214.20	48	2,198.23	48	2,057.05	49	1,962.59	49
Alabama	2,574.38	50	2,117.18	50	2,006.96	50	1,915.66	50	1,841.31	50

**Table 3.13: Top State Personal Income Tax Rates as of January 1, 2008**

Rank	State	Rate (%)	Rank	State	Rate (%)
1	California <sup>(1)</sup>	10.30	26	Virginia	5.75
2	Rhode Island <sup>(2)</sup>	9.90	27	North Dakota	5.54
3	Vermont	9.50	28	Maryland	5.50
4	Oregon	9.00		Oklahoma <sup>(3)</sup>	5.50
				Massachusetts	
5	Iowa	8.98	30	<sup>(4)</sup>	5.30
				New Mexico	
6	New Jersey	8.97		<sup>(5)</sup>	5.30
7	Maine	8.50	32	Alabama	5.00
8	Hawaii	8.25		<b>Connecticut</b>	<b>5.00</b>
9	Minnesota	7.85		Mississippi	5.00
10	Idaho	7.80		Utah	5.00
11	North Carolina	7.75	36	Colorado	4.63
12	Arkansas	7.00	37	Arizona	4.54
13	South Carolina	7.00	38	Michigan <sup>(6)</sup>	4.35
14	Montana	6.90	39	Indiana	3.40
15	New York	6.85	40	Pennsylvania	3.07
16	Nebraska	6.84	41	Illinois	3.00
17	Wisconsin	6.75	42	Alaska	(X)
18	West Virginia	6.50		Florida	(X)
19	Kansas	6.45		Nevada	(X)
				New	
20	Ohio	6.24		Hampshire <sup>(7)</sup>	(X)
21	Georgia	6.00		South Dakota	(X)
22	Kentucky	6.00		Tennessee <sup>(8)</sup>	(X)
23	Louisiana	6.00		Texas	(X)
24	Missouri	6.00		Washington	(X)
25	Delaware	5.95		Wyoming	(X)

(X) Does not impose tax.

<sup>(1)</sup> The tax rate includes an additional 1% tax on taxpayers with incomes over \$1 million to support the provision of local government mental health services

<sup>(2)</sup> State liability is 25% of Federal rates prior to enactment of the Economic Growth and Tax Relief Act of 2001.

<sup>(3)</sup> The tax rate is scheduled to decrease to 5.25% in 2009 and thereafter.

<sup>(4)</sup> Certain unearned income is taxed at 12%.

<sup>(5)</sup> The tax rate is scheduled to decrease to 4.9% for tax years 2008 and thereafter.

<sup>(6)</sup> Effective October 1, 2011 the rate will decrease 0.1% and annually thereafter until it reaches 3.95% in 2015.

<sup>(7)</sup> A tax rate of 5% applies on interest and dividends only.

<sup>(8)</sup> A tax rate of 6% applies on interest and dividends only.

Source: OPA compilation from Commerce Clearing House State Tax Guide and Federation of Tax Administrators.

**Table 3.14: Income Tax-Free Levels of Income, Two-Parent Family of Four, 2006 Tax Year**

<b>Rank</b>	<b>State</b>	<b>Tax-Free Income Level <sup>(1)</sup></b>	<b>Amount Above/Below Poverty Line <sup>(2)</sup></b>
1	California	44,700	24,256
2	New York	36,300	15,856
3	Vermont	35,200	14,756
4	Minnesota	33,200	12,756
5	Pennsylvania	32,000	11,556
6	Rhode Island	31,500	11,056
7	Maryland	31,000	10,556
8	New Mexico	30,800	10,356
9	Delaware	28,600	8,156
10	South Carolina	26,800	6,356
11	Maine	26,400	5,956
12	Massachusetts	26,200	5,756
13	Kansas	26,100	5,656
14	Nebraska	25,600	5,156
15	Wisconsin	25,000	4,556
16	Virginia	24,200	3,756
<b>17</b>	<b>Connecticut</b>	<b>24,100</b>	<b>3,656</b>
18	North Dakota	24,000	3,556
19	Arizona	23,600	3,156
20	Idaho	23,600	3,156
21	Colorado	23,500	3,056
22	Utah	23,500	3,056
23	New Jersey	20,000	-444
24	Kentucky	19,900	-544
25	Mississippi	19,600	-844
26	North Carolina	19,400	-1,044
27	Iowa	18,300	-2,144
28	Oklahoma	18,200	-2,244
29	Oregon	17,500	-2,944
30	Missouri	17,000	-3,444
31	Louisiana	16,900	-3,544
32	Arkansas	16,000	-4,444
33	Georgia	15,900	-4,544
34	Illinois	15,600	-4,844
35	Ohio	15,600	-4,844
36	Indiana	15,000	-5,444
37	Michigan	14,400	-6,044
38	Hawaii	11,500	-8,944

39	Montana	11,300	-9,144
40	West Virginia	10,000	-10,444
41	Alabama	4,600	-15,844

<sup>(1)</sup> The tax-free income level is the level of income above which a family of four begins owing state income tax. Only deductions, exemptions and credits generally available to all taxpayers are included. Amounts are rounded to the nearest \$100.

<sup>(2)</sup> Amount of tax-free income level differs from the estimated 2006 poverty threshold of \$20,444 as noted by the U.S.

Department of Commerce, Bureau of the Census, Poverty thresholds for 2006, issued in 2007.

Source: Center on Budget and Policy Priorities and OTPA calculations.

## Appendix: The Calculation of Property Tax Burden by Income Group

The general approach to estimate property tax burden by income group by town is to estimate the average house price a member of an income group might own and then apply the equalized mill rate to 70% of that value. We use the arc price elasticity of demand (see below) to estimate that average price. We take two approaches in estimating arc elasticity. The first calculates the M-estimators for the pairwise arc elasticities between every possible unique pair of towns. These arc price elasticities use median residential property prices for each town as the Q's in the description below and median household incomes for each town as the P's in the description below. This gives us a distribution of sensitivities to a change in median income (between towns) to a change in median house price (between towns). There are 14,196 combinations of 169 towns taken two at a time. We then calculate M-estimators for this distribution of arc elasticities. M-estimators are robust alternatives to the sample mean and median for estimating the center of location. The estimators differ in the weights they apply to observations (the 14,196 arc elasticities). We calculate Huber's M-estimator, Andrews' wave estimator, Hampel's redescending M-estimator, and Tukey's biweight estimator. These M-estimator arc elasticity values hover around 1.2.

The second approach estimates a global arc elasticity by regressing the log of median income on the log of median residential house price for 169 towns. The highly significant elasticity estimate is 1.18. We choose 1.2 as our estimate of the statewide arc price elasticity of housing demand. We then use the following equation to estimate the 'average' house price a member of an income group might own in each town: where  $P$  is the estimated house price the

$$P = MP \left[ \frac{1 + 1.2 \left( \frac{bin - MI}{bin + MI} \right)}{1 - 1.2 \left( \frac{bin - MI}{bin + MI} \right)} \right],$$

representative income group member might own,  $MP$  is the median house price for the town,  $bin$  is the assigned income (usually the midpoint) of the income group and  $MI$  is the median income of the town. We then multiply the estimated house price by 0.7 and the equalized mill rate and arrive at the estimated local property tax burden by income group by town.

### Price Elasticity of Demand

The price elasticity of demand measures the responsiveness of the quantity demanded of a good to a change in its price, with all other factors held constant. The price elasticity of demand,  $E_d$  is

$$\frac{\text{proportionate change in quantity demanded}}{\text{proportionate change in price}}$$

Because the quantity demanded decreases when the price increases, this ratio is negative, the absolute value is usually taken, and  $E_d$  is reported as a positive number. Because the calculation uses proportionate changes, the result is a unitless number and does not depend on the units of price and quantity. As an example calculation, consider a product's  $E_d$  is 0.5. If the price were to increase by 10%, one would observe a decrease of approximately 5% in the quantity demanded. In this example,  $E_d$  is “approximate” because the exact result depends on whether the initial point or the final point is used in the calculation. This matters because for a linear demand curve the price elasticity varies continuously as one moves along the curve. For small changes in price and quantity, the difference between the two results often is negligible, but for large changes, the difference may be significant. To deal with this issue, one can use the *arc* price elasticity of demand. The arc elasticity uses the average of the initial and final quantities and the average of the initial and final prices in calculating the proportionate change in each. When the elasticity is calculated over a certain arc or section of the demand curve, it is referred to as the *arc elasticity* and is defined as the magnitude (absolute value) of the following:

where  $Q1$  is the initial quantity,  $Q2$  is the final quantity,

$P1$  is the initial price and  $P2$  is the final price.

$$\frac{\frac{Q2 - Q1}{(Q1 + Q2) / 2}}{\frac{P2 - P1}{(P1 + P2) / 2}},$$

The average values for quantity and price are used so that the elasticity is the same whether or not one moves from a lower price to higher price or vice-versa. For example, going from \$8 to \$10 is a 25% increase in price, but going from \$10 to \$8 is only a 20% decrease in price. This asymmetry disappears using the average price as the basis for the percentage change in each case.

## Availability of Capital

Connecticut companies need an infusion of capital from external investors to grow and prosper. Because of limited resources, small and medium-sized companies sometimes have trouble competing with the established larger corporations for marketing, exposure, research capacities and capital for growth. This source of funds is necessary for the continuation of all of Connecticut's industries, especially the expanding technology and manufacturing sectors, due to the high initial start-up cost of business. "Inventions advance the store of human knowledge, but do not affect the local economic system until they are implemented as an innovation. Risk capital by itself will not turn new ideas into commercially viable products; that is the role of entrepreneurs."<sup>1</sup>

## Venture Capital

Venture capital (VC) is a resource that helps researchers transform an idea or prototype into production. An increase in the availability of early-stage venture capital is required to address the make or break point in moving research discoveries from concept to commercialization.<sup>2</sup> It is at this make or break point where patents on new products and processes are completed, but research is most competitive and funding for licensing is the least available. Investors must determine if the innovation can be applicable to real-world situations as well as lower the risk factors of marketability before commercialization occurs.<sup>3</sup> VC firms however rarely invest in start-ups, but they look for high rates of return over a five-year period with an exit strategy of cashing out after a firm becomes publicly traded through an initial public offering or a merger or acquisition by an established firm.<sup>4</sup>

Entrepreneurs are needed the most when VC firms are exiting their investment relationship with the firm, since they only invest for the short-term. It is the work of the entrepreneur that will develop the innovation into product or process, and ultimately into a viable business. Job creation statistics bear out the importance of entrepreneurship in the U.S. economy. In the second half of the 1990s, businesses with fewer than 100 employees created 75% of all new jobs in the United States.<sup>5</sup> However, it must be noted that some of these new jobs may be service sector firms, not all are technology-driven industrial firms.

Throughout the state's educational institutions, there is a wealth of knowledge and a constant stream of innovation; however, researchers are constrained by high licensing fees and lack of business knowledge to move their project forward into the marketplace. Once an innovation is

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<sup>1</sup> Ross DeVol, Anita Charuorn and Soojun Kim, "State Technology and Science Index: Enduring Lessons for the Intangible Economy," Milken Institute, June 2008.

<sup>2</sup> Connecticut Office for Workforce Competitiveness (OWC), "A Talent-Based Strategy to Keep Connecticut Competitive in the 21<sup>st</sup> Century," February 2007.

<sup>3</sup> U.S. Department of Energy, "Financial Assistance Funding Opportunity Announcement," DE-FA-0000065, April 27, 2009.

<sup>4</sup> Martin Kenney and Richard Florida, *Understanding Silicon Valley: The Anatomy of an Entrepreneurial Region* (Stanford: Stanford University Press, 2000).

<sup>5</sup> Chris Edwards, "Entrepreneurs Creating the New Economy," ed. Joint Economic Committee Staff Report, 2000.

patented, it is left to the researchers to search for funding and to find investors to market their innovation. The state can improve the situation by providing (1) state-supported seed capital funds, (2) expanded angel investor networks, and (3) the use of tax incentives. Capital could take the form of equity investments, specialized technology facilities loans, and pre-seed proof of concept awards (footnote 2, OWC, p. 11). Connecticut Innovations Inc. (CI), a quasi-public agency, offers several funding opportunities to start-up firms in the bioscience and energy fields (see below).

## **Competitiveness**

Connecticut needs to stay competitive in order to keep talented researchers in the state, and stimulate them to create and grow new businesses. To do this, the state should be able to both attract and incubate new businesses and provide an environment that is conducive to the growth of existing firms.<sup>6</sup> Start-up firms need the initial infusion of capital from established sources to be sustainable. Creating an environment in which capital is available and business owners know how to access it is an important component of a vibrant economy. Businesses start, grow and generate jobs and wealth in a state if they have access to financial resources targeted to R&D and starting up new firms.<sup>7</sup> Relevant state agencies should be involved in this process, including non-profits, quasi-publics and other financing sources.

The important point is that to be successful long-term a state or region needs capable entrepreneurs and the risk capital infrastructure to support them. Perhaps most important, public policy officials must understand the role of entrepreneurial activities and build the social network infrastructure to nurture success (footnote 1, p. 21).

## **Current Access to Capital**

Connecticut offers direct financing to growing businesses, but also acts as an intermediary for those looking for capital. Partnering with local nonprofits and angel networks, as well as creating connections to emerging industries, the state is well positioned to facilitate economic growth.

The state offers financing directly through the DECD via the Economic and Manufacturing Assistance Act (MAA). The MAA offers incentive-driven direct loans for projects when there is a strong economic development potential. Eligible uses of these funds include:<sup>8</sup>

- Planning, including but not limited to feasibility studies, engineering, appraisals, market studies and related activities;

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<sup>6</sup> Beacon Hill Institute, "Eighth Annual State Competitiveness Report," <http://www.beaconhill.org/Compete08/BHISate08-FINAL.pdf>.

<sup>7</sup> Connecticut Economic Resource Center. "Benchmarking Connecticut 2007: A Comparative Analysis of Innovation and Technology," <<http://www.cerc.com/images/customer-files/CTBenchmarksFullReport.pdf>> Accessed June 1, 2009.

<sup>8</sup> DECD Financing: <http://www.ct.gov/ecd/cwp/view.asp?a=1097&q=253520&ecdNav=|>



- Acquisition of real property, machinery or equipment or any combination, provided such assistance does not exceed the fair market value;
- Construction of site and infrastructure improvements relating to a municipal or business development project;
- Construction/renovation/demolition of buildings;
- Relocation expenses for the purpose of assisting manufacturing or other economic-based businesses to locate, construct, renovate or acquire a facility;
- Working capital in conjunction with a business development project; and,
- Business support services such as workforce training, day care, energy conservation, pollution control, recycling and the like, in conjunction with other state agencies.

The state also offers capital through its financing partners (footnote 7, p. 1):

- The Connecticut Development Authority (CDA) provides financing to businesses when private-sector lenders cannot. They offer direct loans for general businesses throughout the state, as well as working capital to start-up firms, and financing for brownfield remediation and technology-intensive projects.
- CI stimulates high-tech growth in Connecticut through the Clean Energy Fund and the Eli Whitney Fund. CI also finances start-up bioscience firms through their BioSeed and BioScience Facilities Funds.
- The Community Economic Development Fund (CEDF) offers loans and technical assistance to small businesses, and grants to community organizations for economic development projects.
- Connecticut Venture Group (CVG) assists the development of high-growth enterprises through the promotion of capital formation.

In addition, there is a network of local and regional revolving loan funds across the state to assist businesses with their financing needs (footnote 7, p. 1). Along with these loan funds, researchers and existing businesses can turn to local credit markets — community banks and credit unions — for capital funding. Connecticut’s local credit markets are healthy, relative to the national economy, because Connecticut-chartered banks are well capitalized and they avoided investing heavily into subprime mortgages (which is part of the reason for the economic downturn of 2008-09). Moreover, these banks have made sensible loans, and freed up their ability to loan to start-ups through additional funding from the state and its partners.<sup>9</sup>

Based on the combination of state funds and private investment firms available, the Beacon Hill Institute indicates that Connecticut is among the top 10 states for VC opportunities. At \$147 per worker, venture capital invested in Connecticut is the 9<sup>th</sup> most concentrated in the country, but below the U.S. average of \$190 per worker. Massachusetts leads with \$876 invested per worker (footnote 6, p. 32).

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<sup>9</sup> Governor’s Office Press Release: Governor Rell Announces Five-Point Plan to Maintain Free Flow of Credit to Connecticut Businesses. October 6, 2008, <http://www.ct.gov/governorrell/cwp/view.asp?A=3293&Q=424612>

Moreover, Connecticut ranked 11<sup>th</sup> out of the fifty states in the Milken Institute's *Risk Capital and Entrepreneurial Infrastructure Composite Index* (footnote 1, p. 27). This index combines the following metrics to determine its rankings: the ease of incubator access; funding for the Small Business Investment Company (SBIC) program; the number of patents filed; IPO activity; the number and growth of companies receiving VC investment; the amount of VC investment relative to GSP; the growth in total VC funding; the number of new business starts; and the investment in clean technology and nanotechnology. Although Connecticut ranks 11<sup>th</sup> with a composite score of 66.36, it is well behind the leader California with a score of 81.27.

## **SUMMARY**

Start-up businesses in Connecticut need initial financing to blossom while young firms need capital to expand. As Connecticut has a strong technology-based industrial structure, and experiences high energy and labor costs among others, access to capital is more important than ever. The state offers direct and indirect financing opportunities for growing businesses in different disciplines. With the recent emphasis on green jobs and clean technologies, there are a greater number than ever of graduate students and professors at Connecticut's higher education institutions looking to commercialize their innovations. Connecticut is currently one of the leaders in venture capital availability, but such funds must continue to be obtainable and plentiful for start-ups and young firms. The state should continue to welcome and aid these new and young businesses as they are proven engines of economic growth.

## Energy Costs and Supply

The Energy Information Administration reports that in 2007 Connecticut ranked 2<sup>nd</sup> highest in the nation in terms of overall energy prices (Hawaii was first; Connecticut was second to Hawaii for the highest electricity price in cents per kilowatt).<sup>1</sup> Despite having some of the highest relative energy prices in the nation for motor fuels, heating oil, natural gas, coal, and retail electricity, Connecticut ranked 22<sup>nd</sup> in total energy expenditures per person while its per capita total energy consumption in 2007 ranked 45<sup>th</sup> in the nation (lower rank is better). The state consistently ranks in the lower 50<sup>th</sup> percentile in consumption (per capita) for each energy subcategory reflecting the state's energy efficient culture.

### The Supply Side

#### **Petroleum Supply**

Connecticut consumers experienced significant increases in heating oil and gasoline prices over the past two years. The volatile prices due to interruptions in supply and an increase in demand for petroleum worldwide raised the cost of heating homes and businesses and the cost of manufacturing for those industries that rely on petroleum for process applications. Key variables in petroleum price determination include demand, production levels, storage levels, weather or mean temperature, and alternative fuel prices.

Although oil supplies and prices normally are stable, recent experiences with Hurricanes Katrina and Rita indicate that low probability events, such as storms or political turmoil, can dramatically and adversely affect both the supply and price of fuel.<sup>2</sup>

As background, the petroleum industry distributes multiple products to five sectors: residential, commercial, industrial, power generation, and transportation. These products include residual fuel, distillate fuel, and motor gasoline. Residual fuel fires boilers in the commercial and industrial sectors. Distillate fuels include a number of products such as #2 heating oil, diesel fuel, liquid petroleum gas (LPG), and propane. Distillate fuels are used for a variety of purposes, including transportation, marine operation, and in general space heating equipment. Gasoline is used primarily as a transportation motor fuel, and in small generators and power equipment. The transportation sector consumes 60 percent of all petroleum in Connecticut.

The primary concerns with using petroleum products are price volatility, dependence on foreign energy sources, supply interruption, air pollution and greenhouse gas emissions. Since the mid-1970s, Connecticut policy has aimed at reducing dependence on foreign petroleum supplies

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<sup>1</sup> "State Energy Price and Expenditure Estimates 1970 Through 2007," August 2009, [http://www.eia.doe.gov/emeu/states/sep\\_prices/notes/pr\\_print2007.pdf](http://www.eia.doe.gov/emeu/states/sep_prices/notes/pr_print2007.pdf). "State Energy Consumption Estimates," [http://www.eia.doe.gov/emeu/states/sep\\_use/notes/use\\_print2007.pdf](http://www.eia.doe.gov/emeu/states/sep_use/notes/use_print2007.pdf).

<sup>2</sup> "The 2007 Energy Plan for Connecticut," prepared by the Connecticut Energy Advisory Board, February 6, 2007, [www.ctenergy.org](http://www.ctenergy.org).

because more than 80% of the state's oil comes from foreign sources. This situation leaves Connecticut vulnerable to a supply interruption.

Emissions from petroleum combustion have been a concern since the passage of the 1990 Clean Air Act. New burner technology and automotive fuel system designs have reduced certain emissions significantly, although petroleum still emits significantly more air pollutants than comparable natural gas equipment. More recently, greenhouse gas emissions (GHG) have become a source of concern for Connecticut. The need to control GHG emissions has implications on choices of fuels that heat homes and power vehicles in the state.

Alternative fuels offer great promise in mitigating some issues associated with traditional petroleum products. Whether used as an outright replacement for petroleum products or as a component blended with petroleum products, alternative fuels face supply issues as well. The production of biofuels (ethanol, biodiesel, and bioheat) is currently limited, placing some restriction on how quickly these alternatives can become a significant resource. Compressed natural gas (CNG) is an alternative transportation fuel, but from a supply perspective has the same concerns as natural gas. The Connecticut Energy Advisory Board (CEAB) estimates that the current alternative fuel vehicles (AFV) programs in the state displace approximately 75,000 gallons of petroleum fuel annually (this figure does not include displacement from gasoline powered vehicles).

Annual Connecticut price data<sup>3</sup> for gasoline and diesel fuel presents a picture of the significant cost increases to consumers for petroleum products in recent years. However, prices recently have moderated due to increased supply and decreased demand. Table 1 shows recent retail price history for gasoline unadjusted for inflation.

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<sup>3</sup> Price data is for New England. This is the smallest dataset available from the Energy Information Administration (EIA), reflecting the federal government's responsibility not to risk disclosing specific company information.

**Table 1: Historical Nominal Dollar Gasoline Prices**

<b>Date</b>	<b>Conventional Retail Gasoline Prices (Cents per Gallon)</b>
1994	118.9
1995	119.6
1996	126.8
1997	126.7
1998	110
1999	120.5
2000	156.5
2001	147.3
2002	140.7
2003	161.9
2004	192.6
2005	233.1
2006	263.1
2007	286.7
2008	334.3

Source: Energy Information Administration

Connecticut receives petroleum products at its three deep-water ports of New Haven, New London, and Bridgeport. The Connecticut River is an important inland water route for petroleum product barges supplying central Connecticut. In addition, a small-capacity product (the Buckeye) pipeline originating in New Haven supplies Hartford and Bradley Airport before terminating in central Massachusetts.<sup>4</sup> Two-thirds of Connecticut's petroleum supply enters through the Port of New Haven.

Connecticut, along with much of the Northeast, is vulnerable to distillate fuel oil shortages and price spikes during winter months due to high demand for home heating oil. Connecticut is at the end of the "energy pipeline;" it imports virtually all of its energy. This leaves the Connecticut economy at significant risk from the surging price of oil, a development that global demand drives. It thus faces potentially crippling energy costs, a prospect that drives home the strategic importance of developing alternative, cost-effective sources of energy. Heavy reliance on petroleum products, whether in power plants, transportation, or home heating, exacts a heavy toll in environmental and healthcare costs. Connecticut releases into the atmosphere annually an estimated 30 million metric tons of CO<sub>2</sub>, contributing to global warming. Particulate and other emissions make Connecticut residents 9<sup>th</sup> most susceptible to cancer risks linked to air quality and inflict on them other air-quality related health problems, particularly asthma, from which

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<sup>4</sup> EIA CT State Energy Profile - [http://tonto.eia.doe.gov/state/state\\_energy\\_profiles.cfm?sid=CT](http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=CT).

300,000 residents suffer.<sup>5</sup> Regionally, Massachusetts, Rhode Island, and Connecticut, and parts of New Hampshire and Maine, fail to meet the EPA eight-hour standard for ground-level ozone, that is, smog. Connecticut must meet the 8-hour ozone standard by June 2010, a challenge that underlines the importance of developing alternative energy sources.

Acknowledging this situation, on April 22, 2004, then Governor Rowland signed an executive order directing state agencies and universities to purchase increasing amounts of electricity generated from renewable resources. The order established the objective for state government of increasing Class I renewable-energy to 20% of electricity purchases by 2010, to 50% by 2020, and to 100% by 2050. Governor Rell and the legislative leadership continue to express strong interest in developing alternative energy sources for Connecticut. Governor Rell's Energy Vision is an expression of the state's desire and need to lead in the transition from a petroleum-based culture to one based substantially on a spectrum of renewables and significantly improved energy efficiency.<sup>6</sup>

About 52% of Connecticut households use oil as their primary energy source for home heating. In January and February 2000, distillate fuel oil prices in the Northeast rose sharply when extreme winter weather increased demand unexpectedly and hindered the delivery of new supply, as frozen rivers and high winds slowed the docking and unloading of barges and tankers. In July 2000, in order to reduce the risk of future shortages, the president directed the U.S. Department of Energy to establish the Northeast Heating Oil Reserve. The reserve gives Northeast consumers adequate supplies for about 10 days, the time required for ships to carry heating oil from the Gulf of Mexico to New York Harbor. Two of the reserve sites, with a total storage capacity of 750 thousand barrels, are located in New Haven. The reserve's other storage facilities are located in Providence, Rhode Island, and Woodbridge, New Jersey.<sup>7</sup>

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<sup>5</sup> McMillen, Stanley, et al., (2004). "Biodiesel: Fuel for Thought, Fuel for Connecticut's Future," working paper, <http://ccea.uconn.edu/studies/Biodiesel%20Report.pdf>.

<sup>6</sup> See <http://www.ct.gov/governorrell/lib/governorrell/ctenergyvisionsept19.pdf>.

<sup>7</sup> EIA CT State Energy Profile.

## Natural Gas Supply

Connecticut consumers experienced significant increases in natural gas prices over the past several years (prices increased 60% since 2003). These higher prices led to an increased cost of heating homes and businesses and higher costs to manufacturers for those industries that rely on natural gas for processes. Key variables in the price of natural gas include demand growth, the state of the economy, production levels, storage levels, weather or mean temperature and alternate fuel prices (primarily oil). Although natural gas supplies and prices are typically stable over long periods of time, supply or demand shocks, as small as 10%, can dramatically impact the price of the product in the wholesale market. Recent experience with Hurricanes Katrina and Rita demonstrated that low probability events, such as storms or political turmoil, can dramatically affect both supply and price of fuel. The growth in natural gas use in the region will most likely keep upward pressure on prices (footnote 1). Table 2 presents recent historical natural gas prices unadjusted for inflation

**Table 2: Recent Natural Gas Price History in Nominal Dollars**  
**Price (Dollars per Thousand Cubic Feet)**

<b>Year</b>	<b>Residential Consumers</b>	<b>Commercial Consumers</b>	<b>Industrial Consumers</b>
<b>1990</b>	8.58	6.3	-
<b>1991</b>	8.74	6.9	-
<b>1992</b>	8.96	7.2	-
<b>1993</b>	9.43	7.02	-
<b>1994</b>	10.14	7.39	-
<b>1995</b>	10	7.57	-
<b>1996</b>	10.08	7.41	-
<b>1997</b>	10.33	7.23	4.73
<b>1998</b>	10.6	6.89	4.34
<b>1999</b>	10.54	6.53	4.15
<b>2000</b>	11.43	6.62	5.95
<b>2001</b>	12.2	7.68	6.77
<b>2002</b>	11.15	7.18	4.97
<b>2003</b>	12.77	10.47	7.52
<b>2004</b>	14.06	11.31	9.32
<b>2005</b>	16.24	13	11.68
<b>2006</b>	17.71	13.6	10.86
<b>2007</b>	16.39	12.61	10.54

Source: EIA.

As Connecticut has no indigenous natural gas resources, the state is subject to two cost-determining elements of natural gas:

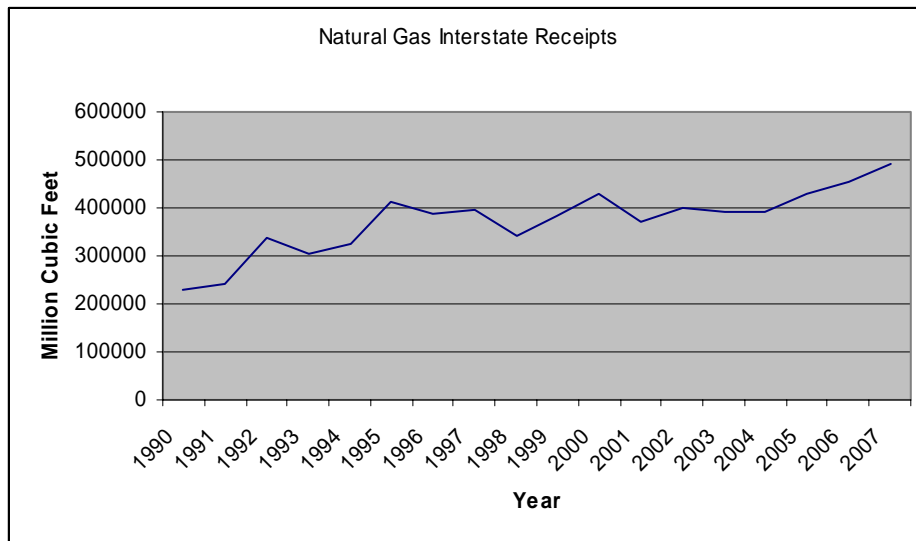
- The actual units of natural gas (the commodity) supplied
- The transportation of the commodity

One transport method is via pipelines that start in the Gulf of Mexico and Canada and terminate in New York or Massachusetts. A second option is tanker ships that deliver liquid natural gas by way of ports located in Massachusetts. For each of these transport options, Connecticut is near the end of the line. This means the state experiences larger than average transportation costs. With growing demand filling the carrying potential of pipelines, transport costs will rise accordingly. Local distribution companies must then outbid others that are potentially closer to the termination points.

It is the responsibility of the Department of Utility Control in Connecticut (DPUC) to ensure that supply adequately satisfies demand. The DPUC requires each local gas distributor to secure sufficient natural gas supply to meet customer requirements based on the coldest day in the last 30 years. This level of supply ensures that customers serviced by a firm are guaranteed natural gas throughout the coldest days of winter. The cost of this requirement is somewhat offset by local distributors selling unused gas to customers who are able to switch between natural gas and an alternate fuel source.

The supply of natural gas to Connecticut is represented by interstate receipts. Since 1990, supply has been trending upward, with more consistent growth in recent years. Chart 1 displays the trend.

**Chart 1: Trend of Natural Gas Supply to Connecticut**



Source: EIA

According to CEAB, the state has an infrastructure that can provide adequate natural gas supply in terms of both commodity and capacity, to meet the DPUC standard for residential, commercial and industrial customers. However, projected growth in demand in these sectors will strain the ability of the local distributors to meet the capacity needs of their customers. To address the growing demand for natural gas in the future, new capacity and infrastructure will be required to



serve the state. There may be a need for more local storage capacity to assist in meeting peak loads (footnote 1).

## **Electricity**

Connecticut consumers experienced significant increases in electric generation prices in recent years that have been driven by the dramatic escalation in fuel prices in the global marketplace and the inefficiency of the state's electricity generation and transmission infrastructure. Based on current fossil fuel commodity price trends, the CEAB anticipates that the electricity prices will continue to increase. In addition, inadequate transmission infrastructure in Connecticut interferes with the state's ability to import less expensive power from outside the state. Other factors that contribute to Connecticut's electricity price increases include the continued growth in electricity use or demand, the existing wholesale market design, and the restructuring of the electric industry (footnote 1).

Since 2002, the average retail price for electric power per KWh has increased, reflecting both increased demand and increased resource cost. However, a survey of the historical data shows more stability in the price. Table 3 presents recent historical electricity prices for the three major electricity markets.

**Table 3: Historical Electricity Prices**

<b>Average Retail Prices (2006 cents/KWh)</b>			
	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>
<b>1990</b>	14.23	12.96	10.74
<b>1991</b>	14.44	13.05	10.89
<b>1992</b>	14.87	13.25	11.04
<b>1993</b>	14.96	13.18	10.88
<b>1994</b>	14.75	12.85	10.16
<b>1995</b>	15.06	13.02	10
<b>1996</b>	14.9	12.72	9.71
<b>1997</b>	14.76	12.5	9.44
<b>1998</b>	14.37	12.04	9.26
<b>1999</b>	13.59	11.49	8.8
<b>2000</b>	12.6	10.76	8.49
<b>2001</b>	12.36	10.49	8.64
<b>2002</b>	12.2	10.39	8.55
<b>2003</b>	12.34	10.83	8.71
<b>2004</b>	12.33	10.5	8.37
<b>2005</b>	14.04	11.86	9.68
<b>2006</b>	16.86	14.03	11.71

Source: EIA

Growth in electricity demand in the state and region, especially during the peak (the time of greatest electricity use — typically on hot days), requires that the state’s electricity infrastructure continue to be upgraded to keep pace. The need for more infrastructure investments to keep up with record demand levels that only occur a few hours of the year will continue to drive up the cost of electricity. There are a variety of alternatives to manage consumption for many consumers including conservation and energy efficiency improvements, load management, time-of-use rates, and the addition of distributed generation. Connecticut must continue to explore and invest in these demand management tools and other technologies as a means to control costs in the future (footnote 1).

Another component of Connecticut’s high electricity cost is Federally Mandated Congestion Charges, or FMCCs. These are costs paid by all ratepayers for electrical energy or capacity, pursuant to markets designed by Independent System Operator (ISO) New England<sup>8</sup> and approved by the Federal Energy Regulatory Commission (FERC), that seek to build electrical infrastructure, particularly in southwest Connecticut. The state regulatory authorities do not have control over FMCCs. However, FMCCs include the costs of some state grants to businesses for enhanced conservation and demand response programs, distributed generation, new time-of-

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<sup>8</sup> See <http://www.iso-ne.com>.

use/seasonal rates to reduce peak demand and initiatives that seek to spur development of new electrical infrastructure, including generation plants (footnote 1).

## **Electricity Supply**

In March 2006, several Connecticut parties, including the DPUC and the Office of Consumer Counsel (OCC), signed a comprehensive agreement to establish a new forward auction market (Forward Capacity Market or FCM) system for electric capacity, replacing the older Locational Installed Capacity (LICAP) model. The FCM settlement agreement was negotiated over four months among approximately 100 parties under the auspices of a federal administrative law judge and received FERC's final approval on June 15, 2006. A large majority of the parties joined the settlement agreement including four New England states, regional consumer representatives, electric utilities, power plant owners and ISO-NE. CEAB believes that FCM is a cheaper, more reliable alternative to LICAP (footnote 1).

The FCM settlement agreement includes measures to ensure that electric generating plants will be available when they are most needed, in part by levying heavy penalties for failure to show up in accordance with their bid. This new capacity market is designed to meet New England's needs for reliable electric power at the lowest reasonable price. The settlement resolved a four-year dispute over how best to ensure that power plant owners will build enough new plants to meet peak power requirements and replace old, inefficient plants that cannot respond quickly or run efficiently at times of peak demand for power.

The FCM will use a competitive descending clock auction that will compensate power plants only when they meet their commitment to be available three years in the future. This auction will allow new plants and demand reduction measures to compete with older plants in the auction. LICAP, by contrast, used a non-competitive price-setting mechanism that some argued did not set a realistic market-based price for generating capacity.

### *Key Elements of New Forward Capacity Market (FCM):*

1. The CEAB estimates the net cost to Connecticut consumers over four years at approximately \$800 million, one-half of the incremental cost of the original LICAP proposal. Ratepayers will not be obligated to buy as much capacity as they may have under the original proposal. In addition, only the electric capacity that is needed will be purchased. Estimates suggest that the original LICAP proposal would have required approximately 15% more capacity to be purchased than needed.
2. There will be only one price zone for all of New England during the Transition Period (until the end of 2009), with the diminished likelihood of two price zones in Connecticut. Thus, in the near term, capacity prices will be the same for New England states.
3. Electric generators will be compensated in part based on their availability, especially during peak demand periods. Poorly performing power plants that are unavailable to run will be

excluded from the auction, providing incentives for building new power plants or retrofitting old existing plants, where the need is greatest.

4. A competitive auction process will determine prices with power plants bidding against each other to provide power.

Some details of the Forward Capacity Market are still being worked out, and there is a continuing need for the state to monitor these details and consider other measures to ensure that the Forward Capacity Market works well for this state's customers.

### **New England State Committee on Electricity (NESCOE)**

Connecticut is currently actively engaged in a process that would create a new regional organization called the New England States Committee on Electricity (NESCOE) whose mission will be to represent the interests of citizens of New England by advancing policies that will provide electricity at the lowest possible price over the long-term, consistent with maintaining reliable service and environmental quality. Through collaboration with stakeholders and presentation of its views to regulators, NESCOE will advance policies that seek to facilitate the efficient development of power generation, demand management and transmission resources needed to serve reliably the electricity requirements of consumers. It will seek to accomplish its objectives in the context of a wholesale electricity market that is primarily characterized by competitive market mechanisms, subject to the constraints and directions of law, regulation and public policy (footnote 1).

As currently proposed NESCOE will be active and express its views in two areas: resource adequacy and system planning and expansion. The new organization will be directed by a committee representing the New England states, with one or more representatives appointed by each governor to represent each state. It will have a staff sufficient to undertake the research, analysis, communication, consultation and advocacy necessary to achieve its mission. Currently, CEAB anticipates that the NESCOE proposal will be filed with FERC in the coming months for review and approval.

### **U.S. Department of Energy August 2006 National Electric Transmission Congestion Study**

The Federal Energy Policy Act of 2005 directed the U.S. Secretary of Energy to conduct a nationwide study of electric transmission congestion by August 2006. The report on the study examined transmission congestion and constraints and identified constrained transmission paths across the country. The study identified three types of congestion areas that merit further attention. The first were categorized as the most severely congested areas, called Critical Congestion Areas. Only two such areas were identified: Southern California and the Atlantic coastal area from the New York City area to northern Virginia.

The second category, called Congestion Areas of Concern, describes areas in the country that need close watching and further study to determine the magnitude of their congestion problems. Four such areas were identified: New England; the Phoenix-Tucson area; the Seattle-Portland area; and the San Francisco Bay Area.

The third type, Conditional Congestion Areas, describes areas where congestion is not presently acute but could become so if considerable new electric generation were to be built without associated transmission capacity. These areas include Montana-Wyoming; Dakotas-Minnesota; Kansas-Oklahoma; Illinois, Indiana, and Upper Appalachia; and the Southeast.

### **ISO New England 10-Year Outlook**

Each year ISO New England (ISO) produces its Regional System Plan (RSP), which is a 10-year analysis of the New England electric system that includes forecasts of future load and how the system as planned can meet demand by adding generating resources, demand-side resources and transmission improvements. Major findings of RSP06 include the need for generating capacity in New England, and in Connecticut specifically, by 2009 to assure that the regional and state electric systems continue to meet resource adequacy standards. RSP06 also emphasized the need for increased diversity in the fuels used to generate electricity, especially in southwest Connecticut.

RSP06 identifies greater Connecticut<sup>9</sup> as a major load pocket in New England. Furthermore, RSP06 identifies Connecticut as the most critical area in the region in terms of the need for increased supply-side resources to meet its long-term needs. Without the timely addition of new resources, ISO warns that the state and the region will fail to meet established reliability criteria and increase the need to enact emergency procedures to operate the system during peak periods as well as the possibility of needing to disconnect customers at peak times.

RSP06 also emphasizes the critical importance of modifying the electricity generating resource mix in New England to reduce the region's heavy dependence on natural gas, which has both reliability and price implications. In the winter for example, over reliance on gas-fired generating units can pose reliability problems when heating customers compete with electricity generators for natural gas supply. Tight supply often leads to price increases across the natural gas market. To address reliability concerns, ISO recommends that natural gas-fired generating units either procure firm gas contracts and/or take steps to become dual-fuel capable by modifying generating units to be able to burn oil to produce electricity under certain circumstances. Having additional gas-fired generating units with either of these two "reliability-based" capabilities would dramatically assist ISO in reliably operating the bulk power system during periods of extreme winter weather and/or abnormal conditions of the natural gas supply or delivery systems. Connecticut currently has 14 natural gas-fired generating units that are capable of producing approximately 1,300 megawatts of electricity, or approximately 20% of the state's

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<sup>9</sup> Greater Connecticut includes northern and eastern Connecticut, southwest Connecticut and the Norwalk/Stamford subareas.

generating capacity.<sup>10</sup> Eight of these plants (approximately 700 megawatts of generating capacity) are dual-fuel capable.

Longer-term issues relate to the high and increasing reliance on natural gas for producing electric power in New England and neighboring regions, suggesting the need for greater electric supply-side fuel diversity in the region. Given the need to diversify the state's and region's mixes of fuels to enhance regional reliability, RSP06 encourages state and regional energy officials to support initiatives to bring other non-gas energy sources on line.

### **Connecticut Federally Mandated Congestion Charges**

FMCCs are costs paid by all ratepayers for electrical energy or capacity, pursuant to markets designed by ISO-New England and approved by FERC, that seek to build electrical infrastructure, particularly in southwest Connecticut. The state regulatory authorities do not have control over FMCCs. However, FMCCs also include the costs of some state grants to businesses for enhanced conservation and demand response programs, distributed generation, new time-of-use/seasonal rates to reduce peak demand, and initiatives that seek to spur development of new electrical infrastructure, including generation plants.

### **Transmission Infrastructure Improvements**

The continued growth in electric demand and the absence of infrastructure improvements creates upward pressure on electric rates. The timely completion of transmission upgrades in Connecticut and, in particular, southwestern Connecticut will provide significant improvement to the transmission grid, permitting a more efficient importing of power from outside of the state as well as moving power within the state more readily and reliably. The transmission enhancements also provide connections for moving power within the state to meet capacity requirements identified by the ISO. In addition, these projects will foster the efficient operation of the region's power markets with greater access to more efficient and cheaper generation resources.

### **The Demand Side**

#### **Petroleum Demand**

Despite recent increases in the cost of using petroleum products, consumption of petroleum products continues to increase. This is particularly true within the transportation sector, where alternatives to petroleum products are few. Alternatives to heating fuels exist and are widely available to consumers. Heating oil is in direct competition with natural gas as a major source of heating homes and businesses. This competition has led to increases in efficiency levels for both technologies. Even with these increases in efficiency levels, the overall level of petroleum usage

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<sup>10</sup> Siting Council Draft 10-Year Forecast of Connecticut Electric Loads and Resources; October 27, 2006; pp 14-15.

has continued to grow. Energy efficiency can continue to play an important role in decreasing the use of petroleum products in all sectors. With the advent of biofuels, further alternatives to traditional petroleum products will become available in the near future.

The transportation sector represents the single largest consuming sector of petroleum products. Although alternative fuels to gasoline and diesel exist, the fact that these alternatives are not widely available continues to be a significant challenge to reducing petroleum usage.

Hybrid electric vehicles use a combination of fuels, such as gasoline, diesel, biodiesel, or CNG, together with an electric power system to propel the vehicle. These vehicles are becoming more popular as the technology expands into a greater share of the current automobile market. Displacement of petroleum occurs through greater efficiency of the system. Hybrid vehicles are increasing in number because they use the current fuel infrastructure. In Connecticut, the Clean Cities Program has a strong history of encouraging alternative fuel vehicles (AFV) throughout the state using a variety of resources from the private sector and local, state and federal governments. The increased use of AFVs will help the state reduce the health risks from pollution and meet federal air quality standards for particulate matter.

Because of the paucity of data readily available, determining an accurate picture of petroleum demand is difficult. However, the Energy Information Administration provides data that provide a reasonable proxy for demand. The sales of petroleum by refiners, gas plant operators, importers and large interstate distributors into the final local markets can be a fairly accurate representation of consumption and therefore demand. In addition, refiner sales volumes of motor gasoline, residual fuel oil, and # 4 fuel oil indicate demand more specifically. Data on sales volumes to consumers of fuel oil and kerosene is limited.

The available data shows extensive year-to-year fluctuation for total sales volumes of distillate fuel (Table 4). One would expect this given the volatility of the oil markets and the high responsiveness consumers have to increases in the retail price. The slight upward trend reflects small increases in demand over time. The demand for gasoline presents a much clearer picture: it has significantly smaller percentage fluctuations than distillate in sales and an obvious positive trend with time (Table 5).

**Table 4: Retail Distillate Deliveries: Recent History**

<b>Date</b>	<b>Connecticut Total Distillate Retail Deliveries (Thousand Gallons)</b>
1990	1,002,829
1991	944,354
1992	1,083,563
1993	1,007,708
1994	963,121
1995	937,093
1996	960,417
1997	961,829
1998	872,827
1999	974,942
2000	1,032,867
2001	1,054,955
2002	964,950
2003	1,151,186
2004	1,210,408
2005	1,113,738
2006	993,496
2007	1,004,646

Source: EIA



**Table 5: Gasoline Deliveries: Recent History**

<b>Date</b>	<b>Connecticut Total Gasoline All Sales/Deliveries by Prime Supplier (Thousand Gallons per Day)</b>
1990	3,705.7
1991	3,838.4
1992	3,783
1993	3,732.6
1994	3,880.5
1995	4,012.8
1996	3,678.5
1997	3,722.6
1998	3,797.3
1999	3,820
2000	3,779.2
2001	4,059.2
2002	4,388.4
2003	4,172.1
2004	4,171.2
2005	4,319.4
2006	4,409.1
2007	4,360.7

Source: EIA

### **Natural Gas Demand**

Since 2001, Connecticut experienced significant relative increases in natural gas consumption. Natural gas accounts for 20% of total Connecticut energy demand. The preference for natural gas as a leading source of energy arises from several factors. First, several restrictions on natural gas use stemming from the 1978 Energy Policy Act were repealed in the late 1980s, allowing more use of natural gas for electrical generation. In addition, concerns about the impact of fossil fuel use on air quality increased the appeal of natural gas across the country. Natural gas burns cleaner than coal, oil, or gasoline, emitting much smaller amounts of nitrogen oxides, sulfur dioxide, carbon monoxide, particulate matter, and reactive hydrocarbons. Another attraction is that natural gas is in relatively abundant supply within North America and Mexico. With the addition of relatively low prices throughout the 1990's and pressure on Connecticut's power generating facilities to adhere to some of the strictest environmental codes in the country, natural

gas has become a relatively clean source of energy.<sup>11</sup> Table 6 presents recent historical natural consumption in Connecticut.

**Table 6: Connecticut Natural Gas Consumption: Recent History**  
**Total Consumption (Million Cubic**

<b>Year</b>	<b>Feet)</b>
1997	144,708
1998	131,497
1999	152,237
2000	159,712
2001	146,278
2002	177,587
2003	154,075
2004	162,642
2005	168,067
2006	172,682
2007	180,178

Source: EIA.

Almost one-third of Connecticut’s electric power generation relies on natural gas. Despite a volatile market, the price of natural gas reaching electric power generation consumers has risen since 2002. Coupling this with increased electricity demand leads to higher consumer prices for electricity. The increased demand for natural gas has had a small effect on home heating costs. The residential price of natural gas has increased since 2001, topping \$23 per thousand cubic feet in June 2008. According to the CEAB, most gas-powered electricity generation plants in Connecticut lack either firm contracts or dual-fuel capability (footnote 1). With such a volatile market and increasing demand for natural gas, the aforementioned problems could cause severe inefficiencies in the energy market.

### **Electricity Demand**

Demand for electricity is difficult to analyze due to the complicated workings of the energy grid in Connecticut and surrounding states. To address this issue, we use historical electric power sales data (from 1990) for Connecticut. Total sales, in terms of megawatt hours (MwH), represent the consumption of electricity by residents and businesses that proxies for general demand.

The demand for electricity within a given year fluctuates significantly. On average, the greatest aggregate sales of electricity occur in the late summer months (July and August), and the early winter months (December and January). There are exceptions to this, namely winter month

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<sup>11</sup> Conaway, Carrie. “The Challenge of Energy Policy in New England,” New England Public Policy Center Research Report 06-2, April 2006, <http://www.bos.frb.org/economic/neppc/researchreports/2006/rr0602.pdf>

consumption. Although sales are higher in the winter months, the specific months at which they reach their peak vary from year to year.

Average electricity sales from 1990 through July 2008 gradually increased. In the five instances in which there was a decrease, it was often by an amount less than 1%. Positive changes averaged 2.16% and the overall change averaged 1.24%. This data suggests that demand will continue to rise at a gradual rate in the long run if recent history is a guide. Table 7 presents recent historical electricity sales volumes and the growth rate.

**Table 7: Recent Electricity Sales and Growth**

<b>Year</b>	<b>Average Mwh Sales</b>	<b>Percent Change</b>
1990	2,265,603	
1991	2,264,284	-0.06%
1992	2,260,581	-0.16%
1993	2,269,874	0.41%
1994	2,335,473	2.89%
1995	2,330,831	-0.20%
1996	2,368,079	1.60%
1997	2,369,342	0.05%
1998	2,413,012	1.84%
1999	2,483,584	2.92%
2000	2,496,034	0.50%
2001	2,545,063	1.96%
2002	2,583,791	1.52%
2003	2,652,518	2.66%
2004	2,684,551	1.21%
2005	2,757,919	2.73%
2006	2,639,788	-4.28%
2007	2,843,561	7.72%
2008 (July)	2,813,639	-1.05%

Source: EIA.

## **Demand Management**

In 2005 and 2006, the consumption of electricity increased by approximately 2% annually. However, electric coincident demand for electricity on the hottest day of the year increased by 7%. Energy efficiency remains the most cost effective means for reducing the demand for electricity and natural gas. The cost of avoiding a kilowatt hour from being used is valued at \$.02 to \$.04, while purchasing that same kilowatt hour can cost from four to seven times that amount. The Connecticut Energy Efficiency Fund (CEEF) programs have validated that \$1

spent on efficiency brings back \$4 in savings. In addition, the Department of Environmental Protection (DEP) contends that the same dollar saved brings the state another \$4 from reduced air pollution creating health and environmental benefits with cleaner air. CEEF programs in 2005 provided annual energy savings of approximately 318 million kWh. This equates to annual savings of approximately \$40 million, assuming an average price of \$0.125 per kWh. CEEF programs intend to reduce overall energy demand during critical peak periods. In 2005, CEEF programs<sup>12</sup> helped alleviate potential electricity shortages and reduced stress on Connecticut's transmission lines, especially in the congested area of southwestern Connecticut (footnote 1). Reducing demand will help mitigate FMCCs imposed on all Connecticut ratepayers.

## **Renewable Energy**

Renewable energy sources are energy generation technologies that produce electric and thermal energy using resources that can be renewed or replaced such as wind, hydro, solar, geothermal and bio-derived fuels (e.g., cellulosic ethanol and biodiesel). Renewable energy sources provide electric capacity diversity, improve economic development, reduce or eliminate air emissions, enhance energy security and reduce reliance on foreign sources of fossil fuel. Many renewable technologies that could support Connecticut and New England's energy needs are not yet cost competitive with traditional fossil fuel-fired technologies. As a result, all New England states encourage the development of renewable energy supply options through state incentives, tax exemptions and other programs. There are two major initiatives in Connecticut that promote renewable energy: the Renewable Portfolio Standard (RPS) and the Connecticut Clean Energy Fund (CCEF). The RPS requires that the state's electric generation providers obtain a part of their supply from renewable resources, with the proportion increasing over time. The CCEF, administered by Connecticut Innovations, Inc. (CI), invests in various renewable and clean energy resources including solar and fuel cells.

## **Renewable Energy Supply**

There are inadequate quantities of renewable energy to significantly affect energy reliability, cost or security in Connecticut due to the following supply side issues (footnote 1):

1. Inconsistent state policies for renewable energy, such as fluctuating amount and timing of renewable energy procurement requirements, send the inappropriate market signals to renewable energy developers thereby contributing to inadequate supply.
2. Administrative barriers to developing renewable energy sources, including state siting, approval and permitting requirements, add additional cost to developing renewable energy projects that are not currently cost competitive with traditional generation sources.

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<sup>12</sup> CEEF programs for households, businesses and municipalities appear at <http://www.ctsavesenergy.org>.

3. Current state incentive programs and tax exemptions do not offer sufficient funding to attract greater interest from renewable energy developers.
4. Technical barriers still exist that inhibit the commercial development of emerging renewable energy technologies.

In 2006, the electricity net generation in Connecticut was approximately 34,682 thousand Mwh. Of this, renewable net generation accounted for 3.8% or approximately 1,307 thousand Mwh. Five hundred forty-four Mwh (1.6%) came from conventional hydro sources and 755 Mwh (2.2%) came from MSW Biogenic/Landfill Gas sources.<sup>13</sup>

### **Renewable Portfolio Standards**

A renewable portfolio standard (RPS) is a state policy that requires electricity providers to obtain a minimum percentage of their power from renewable energy resources by a certain date. Currently Connecticut is one of 24 states plus the District of Columbia that have RPS policies in place. Together these 24 states account for more than half of the electricity sales in the United States.

Connecticut's RPS requirement is to reach 23% of power provided by renewable energy sources by 2020. The RPS requires that 4% derives from combined heat and power (CHP) systems and energy efficiency improvements by 2010. Electric distribution companies that fail to comply with the RPS during an annual period must pay \$0.055 per kWh to the DPUC; these payments will be allocated to CCEF for the development of Class I renewables.<sup>14</sup>

### **Connecticut Clean Energy Fund (CCEF)**

“Imagine residents, businesses, communities and educators joining together to push for clean, renewable energy sources, in a dedicated effort to lessen our dependence on foreign oil, protect the environment and stabilize energy costs. Such a movement is already under way in Connecticut, spearheaded by the Connecticut Clean Energy Fund. We offer financial incentives and educational programs to encourage homeowners, companies, municipalities, and other institutions to support renewable energy and lead the nation toward a brighter energy future.”<sup>15</sup>

Through their incentives, CCEF hopes to facilitate rapid growth in the renewable energy sector. Connecticut benefits from this in two ways: first, the direct and indirect effects of money injected into a rapidly growing part of the economy and secondly, Connecticut is first in line to receive the renewable energy benefits, furthering the ultimate goal of energy independence. This strategy improves the state's chances of satisfying its commitment to its RPS and the Regional

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<sup>13</sup> EIA, <http://www.eia.doe.gov>.

<sup>14</sup> Database of Incentives for Renewables and Efficiency - Connecticut Incentives for Renewable Energy - [http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive\\_Code=CT04R&state=CT&CurrentPageID=1&RE=1&EE=0](http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive_Code=CT04R&state=CT&CurrentPageID=1&RE=1&EE=0).

<sup>15</sup> Connecticut Clean Energy Fund - <http://www.ctcleanenergy.com/default.aspx?tabid=97>.

Greenhouse Gas Initiative, a compact among 10 Northeast and Mid-Atlantic states that will cap and then reduce CO<sub>2</sub> emissions from the power sector 10% by 2018.<sup>16</sup>

CCEF works with local government to increase the use of renewable energy for electric supply. Project 150 is an initiative aimed at increasing clean energy supply in Connecticut by at least 150 megawatts of installed electricity generation capacity. This initiative creates an opportunity for developers, manufacturers and financiers to advance Connecticut-based “Class I” clean renewable energy projects. Through landmark Connecticut legislation, Project 150 mandates local electric distribution companies to enter into long-term power purchase agreements for no less than 150 megawatts with generators of “Class I” renewable energy (footnote 16).

### **Renewable Energy Demand**

The following demand side issues influence both the availability and the cost of renewable energy in Connecticut (footnote 1):

1. CCEF has not yet developed sufficient clean/renewable energy technologies or supplies for Connecticut through the Project 150 process;
2. Renewable energy pricing is either too high to invite wide spread consumer participation in the Connecticut Clean Energy Options program, or the program marketing needs to further penetrate the electric consumer population to move consumers to renewable energy;
3. Renewable energy pricing is too high to invite large-scale user investment in renewable energy technologies; and,
4. The reliability of certain renewable energy technologies may not adequately meet customer needs.

### **SUMMARY**

Connecticut has lived up to its reputation as an energy conscious and scientifically-progressive region, and citizens hope to see this trend continue. Unfortunately, Connecticut is still subject to the market’s swings in energy costs. As Connecticut has no indigenous petroleum supply, the state is subject to the amount of gas available and the reliance on transportation of the good, globally. This puts Connecticut in a difficult position, with 52% of households relying on oil for their primary energy source. However, the future is bright with Connecticut having a strong alternative energy research and development sector — specifically biofuels. This recent boom in research has brought in a new wave of high-tech manufacturing opportunities to the state. There are currently barriers to the widespread adaptation of renewable energy in-state — such as the high initial development cost and slow processing time — but with the infusion of capital from the state, small production firms will be able to compete on a national scale sooner than later.

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<sup>16</sup> See [www.rggi.org](http://www.rggi.org).

## Culture and Tourism

Through the establishment of the Connecticut Commission on Culture & Tourism (CCCT) in 2003, the Connecticut General Assembly (§10-392) emphasized the role of culture and tourism in enhancing the quality of life and economic vitality of the state. The mission of CCCT is to preserve and promote Connecticut's cultural and tourism assets, bringing them together under four umbrella categories: arts, heritage and historic preservation, film, and tourism.<sup>1</sup> Previously, Connecticut had 11 tourism districts and several councils and commissions; the consolidation into one statewide commission has effectively reduced costs and streamlined services.<sup>2</sup>

### Connecticut's Five Tourism Regions

As shown in the map below, the CCCT divides the state into five regional sub-brands with specific attributes: Fairfield County, Greater New Haven, Litchfield Hills, Mystic Country, and River Valley. The CCCT works in partnership with these five tourism regions, the Connecticut Trust for Historic Preservation, and the Connecticut Humanities Council (footnote 2).

**Figure 1: Connecticut Tourism Regions**

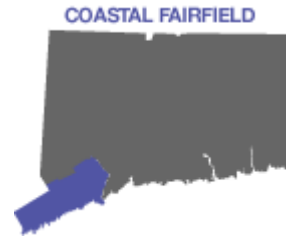


Source: [www.CTvisit.com](http://www.CTvisit.com)

<sup>1</sup> See <http://www.ct.gov/cct/cwp/view.asp?a=2271&q=302388&cctNav=|>.

<sup>2</sup> Connecticut Commission on Culture and Tourism. "2005-2008 Strategic Plan," 2004, p. 1.

## 1. Fairfield County



**Representing:** Bridgeport, Darien, Easton, Fairfield, Greenwich, Monroe, New Canaan, Norwalk, Shelton, Stamford, Stratford, Trumbull, Weston, Westport, Wilton

Positioned as the Gateway to New England just 35 miles outside New York City, Fairfield County has long attracted visitors to its coastal setting. Fairfield County offers a place where the shore, country, and city come together to create a unique getaway destination. While the county provides metropolitan residents a picturesque New England countryside getaway, it is also a destination for boutique shopping and fine dining.<sup>3</sup> According to CTvisit.com (the CCCT's web site to showcase Connecticut's attractions), there are over 30 lighthouses, a zoo and an aquarium, 12 historic sites, 21 museums and galleries, 19 performing arts centers, and four parks and forests in coastal Fairfield.<sup>4</sup> The table below presents the must see attractions of the tourism region recommended by the CCCT.

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<sup>3</sup>See [www.visitfairfieldcountyct.com](http://www.visitfairfieldcountyct.com).

<sup>4</sup>See [www.CTvisit.com](http://www.CTvisit.com).



**Table 1: The “Must See” Attractions of Fairfield County**

Attraction	Town	Features
Beardsley Zoo	Bridgeport	Features primarily North and South American animals, including several endangered species, a tropical rain forest with free-flight aviary, New England Farm Yard, and Victorian greenhouse
Bruce Museum	Greenwich	Presents more than a dozen changing exhibitions annually exploring diverse art, cultural and natural science topics; permanent galleries offer world-class minerals and environmental displays
Weir Farm National Historic Site	Wilton	America's only National Park devoted to the fine arts
Stamford Museum & Nature Center	Stamford	Museum galleries feature cultural exhibitions, interactive displays for children, planetarium, 118 woodland acres, hiking trails, and boardwalk
Maritime Aquarium	Norwalk	Features harbor seals, river otters, sea turtles, etc. and an IMAX theater
Sheffield Island Lighthouse	Norwalk	1868 lighthouse that has four levels and 10 rooms to explore
Lockwood-Mathews Mansion Museum	Norwalk	The Gilded Age is revisited at this historic treasure
Greenwich Avenue	Greenwich	Stroll this "Rodeo Drive of the Northeast" and enjoy the small town hospitality

Source: <http://www.ctvisit.com/tourismregion.aspx?id=5>

## 2. Greater New Haven



**Representing:** Bethany, Branford, Cheshire, Clinton, Durham, East Haven, Guilford, Hamden, Killingworth, Madison, Middlefield, Milford, New Haven, North Branford, North Haven, Orange, Wallingford, West Haven, Woodbridge.

The Greater New Haven Region has a vibrant intellectual atmosphere, rich in its cultural and historic past. New Haven, American’s first planned city, has been a locus of Yankee ingenuity for centuries. It is the home of inventions, sports firsts, medical milestones, and notable residents. The region boasts many firsts, such as the cotton gin, elevator, electric train, automatic revolver, telephone exchange, wireless radio, and steamboat.<sup>5</sup> The area’s highlights include the New Haven Green, the Yale libraries and museums, the New Haven port, and the Amistad ship.

<sup>5</sup> See [www.visitNewHaven.com](http://www.visitNewHaven.com).

In total, there are 14 historic sites, 17 museums and galleries, 13 performing arts centers, and 14 parks and forests to visit (footnote 4). The CCCT recommends the following attractions:

**Table 2: The “Must See” Attractions of Greater New Haven**

Attraction	Town	Features
Barker Character, Comic & Cartoon Museum	Cheshire	Collection of 60,000 pieces of fun as well as cartoon theater
Connecticut Audubon Coastal Center	Milford	Home to birds-herons, ospreys, egrets, and piping plovers
Hammonasset Beach State Park	Madison	Connecticut’s longest shoreline beach
Peabody Museum of Natural History	New Haven	Features a 67-foot brontosaurus
Shubert Performing Arts Center	New Haven	Theater where <i>South Pacific</i> and <i>My Fair Lady</i> had their premiers
Yale University	New Haven	One of the great seats of learning since 1701
Yale University Art Gallery	New Haven	Includes works by van Gogh, Manet, and Picasso
Yale Center for British Art	New Haven	The country's largest collection of British art
Thimble Islands Cruise	Branford	A beautiful and storied archipelago off the southern Connecticut coast
Freedom Schooner <i>Amistad</i>	New Haven	Featured in the critically-acclaimed film <i>Amistad</i> (1997)

Source: <http://www.ctvisit.com/tourismregion.aspx?id=4>

### 3. Litchfield Hills



**Representing:** Ansonia, Barkhamsted, Beacon Falls, Bethel, Bethlehem, Bridgewater, Bristol, Brookfield, Burlington, Canaan (Falls Village), Colebrook, Cornwall, Danbury, Derby, Goshen, Hartland, Harwinton, Kent, Litchfield, Middlebury, Morris, Naugatuck, New Fairfield, New Hartford, New Milford, Newtown, Norfolk, North Canaan, Oxford, Plymouth, Prospect, Redding, Ridgefield, Roxbury, Salisbury, Seymour, Sharon, Sherman, Southbury, Thomaston, Torrington, Warren, Washington (New Preston), Waterbury, Watertown, Winchester (Winsted), Wolcott, Woodbury.

The Litchfield Hills Region offers visitors the promise of a beautiful, tranquil trip through the New England countryside. Visitors may stay in a quaint B&B, hike among rustic stonewalls,

stroll under covered bridges, shop for antiques, explore area vineyards, taste local wines, or marvel at the fall foliage.<sup>6</sup> Litchfield Hills offers museums devoted to an eclectic variety of themes: carousels, clocks, trucks, railcars, and more. The region provides a fast-paced environment at its two amusement parks: Lake Compounce Theme Park and Quassy Amusement Park. Overall, there are 51 historic sites, 56 museums and galleries, 21 performing arts centers, and 30 parks and forests (footnote 4).

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<sup>6</sup> See <http://www.cultureandtourism.org/cct/cwp/view.asp?A=11&Q=305896&pp=12&n=1>.

**Table 3: The “Must See” Attractions of Litchfield Hills**

<b>Attraction</b>	<b>Town</b>	<b>Features</b>
Lake Compounce Theme Park	Bristol	Includes Connecticut's biggest water park and Boulder Dash (voted the world's best wooden roller coaster)
Aldrich Museum of Contemporary Art	Ridgefield	A Colonial manse with cutting-edge art inside and a sculpture garden outside
Brookfield Craft Center	Brookfield	Produces, displays, and sells top-notch contemporary crafts, set in a restored red Colonial mill
Glebe House Museum	Woodbury	Site of America's only Gertrude Jekyll garden
Town of Woodbury	Woodbury	Known as Connecticut’s antique capital
Institute for American Indian Studies	Washington	A re-created Algonkian village, longhouse, and simulated archeological site
Lime Rock Park	Lakeville	Site for professional and amateur races, car shows, and automotive festivals
Carousel Museum of New England	Bristol	One of the largest collections of antique carousel pieces in the country
Mattatuck Museum	Waterbury	A showcase for Connecticut industry and 19th and 20th century art
Danbury Railway Museum	Danbury	Seasonal local train rides, restored 1903 Station with model railroads and displays
American Clock & Watch Museum	Bristol	Visitors experience Yankee ingenuity and craftsmanship in this charming chiming atmosphere creating by the many running clocks
Golden Age of Trucking Museum	Middlebury	An extensive display of antique trucks ranging from the early 1900's until 1974
Quassy Amusement Park	Middlebury	Carousel, boat rides, water ride, and petting zoo
Railroad Museum of New England	Thomaston	A scenic ride on the Naugatuck Railroad Company and museum exhibits in the 1881 Thomaston station
Timexpo Museum	Waterbury	A new, one-of-a-kind museum where Timex history is explored minute by minute

Source: <http://www.ctvisit.com/tourismregion.aspx?id=3>



#### 4. Mystic Country

**Representing:** Ashford, Bozrah, Brooklyn, Canterbury, Chaplin, Colchester, Columbia, Coventry, East Lyme, Eastford, Franklin, Griswold, Groton, Groton City, Hampton, Killingly, Lebanon, Ledyard, Lisbon, Lyme, Mansfield, Montville, New London, North Stonington, Norwich, Old Lyme, Plainfield, Pomfret, Preston, Putnam, Salem, Scotland, Sprague, Sterling, Stonington (Mystic), Thompson, Union, Voluntown, Waterford, Willington, Windham, Woodstock.

Mystic Country is famous for its seaport and world-class casinos, Foxwoods Resort Casino and Mohegan Sun. Popular activities include whale watching, exploring Mystic Aquarium, enjoying the region's sandy beaches and waterfront parks, and dining at seafood restaurants along the harbor. CCCT markets other aspects of the region to encourage tourism in the northeastern corner of the state, suggesting that visitors drive up scenic Routes 169 and 49. Visitors may venture to pristine parks, apple orchards, B&Bs on the Register of National Historic Places, and American Impressionist paintings at the Florence Griswold Museum.<sup>7</sup> CCCT reports that Mystic Country has 31 historic sites, 23 museums and galleries, 10 performing arts centers, and 24 parks and forests (footnote 4).

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<sup>7</sup> See [www.cultureandtourism.org/cct/cwp/view.asp?A=11&Q=305896&pp=12&n=1](http://www.cultureandtourism.org/cct/cwp/view.asp?A=11&Q=305896&pp=12&n=1).

**Table 4: The “Must See” Attractions of Mystic Country**

Attraction	Town	Features
Mystic Seaport	Mystic	A well-preserved 19 <sup>th</sup> century seafaring village, a living history of Connecticut’s maritime economy
Mystic Aquarium & Institute for Exploration	Mystic	Nearly 3,500 aquatic creatures making waves
USS Nautilus & Submarine Force Museum	Groton	The world’s first nuclear-powered sub at the submarine capital of the world
Foxwoods Resort Casino	Mashantucket	The world's largest gaming facility
Mohegan Sun	Uncasville	Gaming and entertainment complex with Mohegan-themed design
Nathan Hale Homestead	Coventry	The humble farmhouse family home of Connecticut’s state hero
Florence Griswold Museum	Old Lyme	Inspiration for the Connecticut Impressionist movement
Mashantucket Pequot Museum & Research Center	Mashantucket	Life-size exhibits, dramatic films, and touch-screen computer games
Prudence Crandall House Museum	Canterbury	A stop on Connecticut’s Freedom Trail
Roseland Cottage	Woodstock	Where 19 <sup>th</sup> century Fourth of Julys were celebrated with guests like U.S. presidents Grant and McKinley

Source: [www.ctvisit.com/tourismregion.aspx?id=2](http://www.ctvisit.com/tourismregion.aspx?id=2)

## 5. River Valley



**Representing:** Andover, Avon, Berlin, Bloomfield, Bolton, Canton, Chester, Cromwell, Deep River, East Granby, East Haddam, East Hampton, East Hartford, East Windsor, Ellington, Enfield, Essex, Farmington, Glastonbury, Granby, Haddam, Hartford, Hebron, Manchester, Marlborough, Meriden, Middletown, New Britain, Newington, Old Saybrook, Plainville, Portland, Rocky Hill, Simsbury, Somers, South Windsor, Southington, Stafford, Suffield, Tolland, Vernon, West Hartford, Westbrook, Wethersfield, Windsor, Windsor.

The Connecticut River’s historic significance and scenic beauty stand out in the River Valley Region. At its core is the state Capital: Connecticut’s seat of political power and the birthplace of constitutional law.<sup>8</sup> Places of interest might include towns along the Connecticut River, Mark Twain’s home, Harriet Beecher Stowe’s home, the Capitol, and art of the Hudson River Valley

<sup>8</sup> See <http://www.enjoycentralct.com/index.cfm>.

School at the Wadsworth Atheneum. Altogether, there are 47 historic sites, 38 museums and galleries, 31 performing arts centers, and 16 parks and forests (footnote 4).

**Table 5: The “Must See” Attractions of River Valley**

<b>Attraction</b>	<b>Town</b>	<b>Features</b>
New Britain Museum of American Art	New Britain	300 years of American art in 5,000 choice pieces
Hatheway House	Suffield	Rare French wallpapers and early neoclassical architecture of the 18th century
New England Air Museum	Windsor Locks	Home to more than 80 aircraft displayed in two massive hangars
Old New-Gate Prison & Copper Mine	East Granby	Connecticut's first Colonial prison, established in 1707
Stafford Motor Speedway	Stafford Springs	Weekly NASCAR auto racing on the paved, half-mile oval track
Dinosaur State Park	Rocky Hill	30-foot diorama of the Connecticut Valley in the late Triassic Period
Harriet Beecher Stow Center	Hartford	Home to the personal and professional memorabilia of the <i>Uncle Tom's Cabin</i> author
Mark Twain House & Museum	Hartford	19 richly furnished rooms with Tiffany accents
Old State House	Hartford	Located on the site of George Washington's Revolutionary War meeting with the French, and home to daily cannon-firing ceremonies
Wadsworth Athenaeum Museum of Art	Hartford	More than 50,000 works of art, spanning 5,000 years
Gillette Castle	East Haddam	This 184-acre estate was once home to William Hooker Gillette, noted actor and playwright
Essex Steam Train & Riverboat	Essex	Ride in 1920s steam coaches pulled by an authentic steam locomotive
Goodspeed Opera House	East Haddam	Victorian theater overlooking the Connecticut River
Town of Essex	Essex	The quintessential New England river town

Source: <http://www.ctvisit.com/tourismregion.aspx?id=1>.

## Evaluating Connecticut's Cultural & Tourism Industries

The *2004 Connecticut Vacation Guide Survey* reports the number of visitors drawn to attractions from three of the main CCCT divisions (tourism, film, heritage and historic preservation, and the arts) by tourism region, as seen below. The survey is a self-reported exercise commissioned by CCCT that lists 99 arts, 154 historic and 122 traveler and tourist sites visited by approximately 22 million people. There are no non-profit galleries included in the survey and the number of visitors enjoying scenic roads, covered bridges, state parks, and other dispersed sites is unknown. Note that Foxwoods and Mohegan Sun report 75,000 visitors per day or 27.4 million per year (26% more than all other Connecticut reporting sites combined) and are therefore not included in order to see other sites' visitorship clearly.<sup>9</sup>

**Table 6: Number of Visitors by Type of Attraction by Tourism Region**

Visitors To	River Valley	Litchfield Hills	Mystic Country	Greater New Haven	Fairfield County	Totals
Travel & Tourism Attractions	3,826,589 (28 sites)	1,383,476 (28 sites)	2,910,235 (28 sites)	1,964,401 (12 sites)	3,863,691 (24 sites)	<b>13,948,392</b> <b>(120 sites)</b>
Heritage Attractions, Venues & Institutions	1,226,333 (64 sites)	233,078 (30 sites)	865,910 (29 sites)	1,069,549 (16 sites)	141,450 (15 sites)	<b>3,536,320</b> <b>(154 sites)</b>
Arts Attractions, Venues & Institutions	1,230,575 (27 sites)	309,845 (19 sites)	397,530 (17 sites)	1,560,440 (14 sites)	773,351 (22 sites)	<b>4,271,741</b> <b>(99 sites)</b>
<b>Totals</b>	<b>6,283,497</b>	<b>1,926,399</b>	<b>4,173,675</b>	<b>4,594,390</b>	<b>4,778,492</b>	<b>21,756,453</b>

Source: 2004 Connecticut Vacation Guide

Recent efforts measured the macroeconomic contribution of the culture and tourism industries to the state. The Connecticut Center for Economic Analysis (CCEA) completed a second economic impact study<sup>10</sup> for the state in December of 2006 titled *The Economic Impact of the Arts, Film, History, and Tourism Industries in Connecticut* (footnote 9). This study quantifies the impact of the CCCT's four divisions on the Connecticut economy. Moreover, the results from this study can serve as a benchmark for future studies.

In 2006, CCCT commissioned Phoenix Marketing International to evaluate the brand imagery of Connecticut among local residents, recent visitors, and non-recent visitors from the New York Metropolitan region. The study, referred to as the *2006 Brand Image Study*, examined the motivational drivers that caused people to choose Connecticut as a leisure travel destination.

<sup>9</sup> McMillen, Stanley et al., *The Economic Impact of the Arts, Film, History, and Tourism Industries in Connecticut*, The Connecticut Center for Economic Analysis, working paper, (2006).

<sup>10</sup> In 2001, the Connecticut Center for Economic Analysis conducted an economic impact study on tourism in Connecticut. See *The 2001 Economic Impact of Connecticut's Travel and Tourism Industry*, issued May 2003, available at: <http://ceea.uconn.edu/studies/2001%20Travel%20&Tourism%20Impact%20Full%20Report.pdf>.



In 2007, the New England Foundation for the Arts sponsored a study titled *The Creative Economy: A New Definition*.<sup>11</sup> The study provides a research framework for New England and beyond, including an economic analysis of New England's cultural industries and workforce. The empirical section of the study compares Connecticut to other New England states and the nation (see below).

## Economic Impact Study Results

### Overview

- Using software from Regional Economic Models, Inc. (REMI), CCEA conducted a counterfactual analysis<sup>12</sup> to determine the impact of culture and tourism on the Connecticut economy. In 2004, the total direct, indirect, and induced<sup>13</sup> economic impact of Connecticut's culture and tourism industries generated \$14.06 billion in gross state product or state GDP, or 7.6% of state total (footnote 9, p. i).
- Culture and tourism industries contributed \$9.1 billion in personal income (5.74% of state total), 171,023 jobs (10% of state total), and \$1.715 billion in state and local revenue — monetary receipts from state and local taxes and fees — representing 6.9% of the state and local total (footnote 9, p. i).
- Connecticut invested \$27.7 million in culture and tourism in 2004-05 to leverage \$258 million in net state and local revenue. Another way to consider the impact of culture and tourism state budget allocations is to view each dollar invested and track its rate of return. In this case, for every \$1 invested, the state garnered \$9.30 in state and local revenue, \$507 in gross state product, and \$328 in personal income.<sup>14</sup>
- The following chart from CCEA study compares culture and tourism to other leading Connecticut industries. Of the four industries considered, the insurance industry contributes the most value added to the state economy, while culture and tourism

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<sup>11</sup> DeNatale, Douglas and Wassall, Gregory. *The Creative Economy: A New Definition*. New England Foundation for the Arts, (2007).

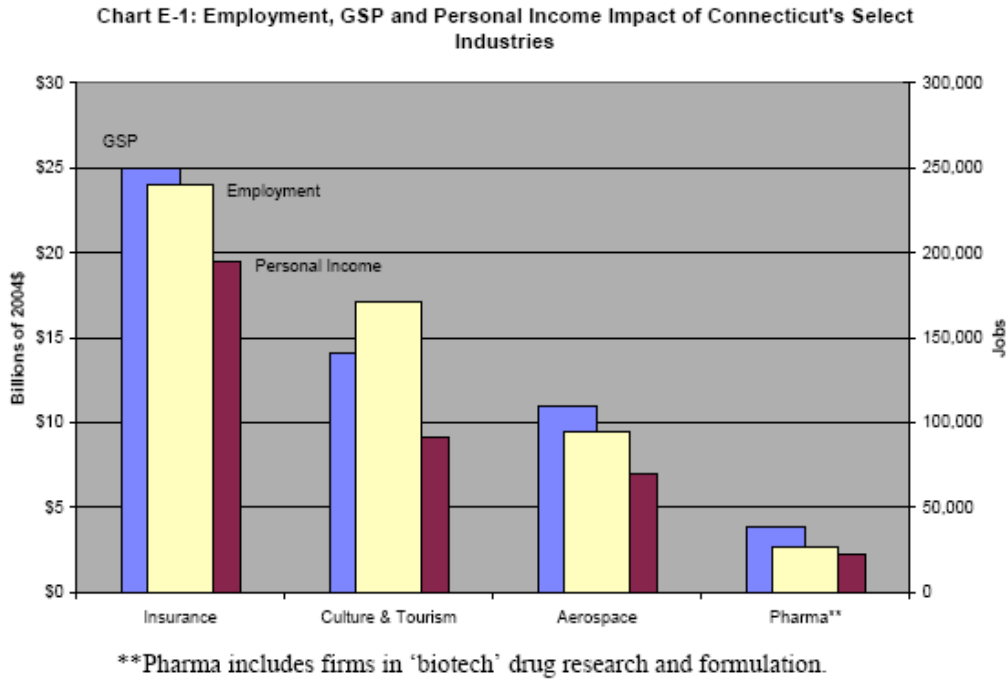
<sup>12</sup> A counterfactual analysis poses the hypothetical scenario where the industry in question ceases to exist. It is then possible to assess the consequent loss to the economy in terms of jobs, state GDP, personal income, etc. to measure the contribution of the industry to the economy as a whole.

<sup>13</sup> Economic benefits generally separate into three types of economic impact: *direct*, *indirect*, and *induced*. *Direct impacts* are those arising from the initial spending by the industry studied, such as payroll for employees and contract workers, goods and services purchases, and rent and permit fees. *Direct impacts* include the jobs in the industries under consideration. *Indirect impacts* arise as the businesses and governments that supply the goods, services, permits, rents, and other things to an industry in turn buy goods and services from other places. *Induced impacts* represent the additional income earned and spent by workers and business owners due to their participation in and support of a particular industry (see footnote 9, p. 11).

<sup>14</sup> Taken from the PowerPoint version of the economic impact study, slide 28 of 30. See [http://www.ct.gov/cct/lib/cct/Economic\\_Impact\\_Presentation\\_for\\_12.7.pdf](http://www.ct.gov/cct/lib/cct/Economic_Impact_Presentation_for_12.7.pdf).

contributes more to employment than aerospace and pharmaceuticals combined and an approximately equal share of gross state product and personal income.<sup>15</sup>

**Figure 2: Employment, GSO, and Personal Income Impact of Connecticut’s Selected Industries**



Source: Connecticut Center for Economic Analysis, 2006

## Arts

- Connecticut’s arts industries draw visitors from the state and beyond to concerts, exhibitions, and the many museums, galleries and playhouses in Connecticut. The arts industry consists of myriad for-profit and not-for-profit establishments as well as self-employed persons engaged in producing, supporting the production of and disseminating artistic goods and services (footnote 231, p.56). McMillen et al. define the arts industry broadly in order to estimate its economic value as accurately as possible to the state.
- The economic impact study approach assumes that the economic impact of the arts industry is due entirely to its employment and the spillover effects of this employment, as well as to the business-to-business activity necessary to sustain the primary firm,

<sup>15</sup> The North American Industry Classification System (NAICS) provides number codes to help identify and differentiate industries. McMillen et al. define Connecticut’s select industries’ impacts for purposes of comparison as Insurance, defined as NAICS 524, Aerospace, defined as NAICS 3364 through 3369 and the Pharmaceuticals industry defined as NAICS 3254 (includes firms in ‘biotech’ drug research and formulation) (see footnote 9, p. iii).

organization, institution or individual. Thus, the study's analysis is conservative and understates the true economic impact of the arts (footnote 9, p. 56).

- The following table presents a summary of the economic impact of Connecticut's arts industries. Using REMI, CCEA determined the annual average economic impact of the state's arts industries from 2004 through 2025. Connecticut's arts industries contributed \$3,833 million in state GDP (2.06% of state total), \$2,674 million in personal income (1.69% of state total), and \$432.5 million in state and local revenue (1.74% of state total). State and local governments spend an additional \$330 million to provide public services for the economic activity Connecticut's arts industries and its arts workers create.

**Table 7: Annual Average Economic Impact of Connecticut's Arts Industries 2004-2025**

	<b>Statewide Estimate</b>	<b>Percent of the CT Economy (2004)</b>
Employment	44,474	2.60%
State GDP (Mil 2004 \$)	\$3,833	2.06%
Personal Income (Mil 2004 \$)	\$2,674	1.69%
State & Local Revenues (Mil 2004 \$)	\$432.5	1.74%
State & Local Expenditures (Mil 2004 \$)	\$329.7	1.20%

Source: Connecticut Center for Economic Analysis, 2006

- The direct impact of 27,716 arts jobs creates an additional 16,207 jobs in other Connecticut industries implying a statewide employment multiplier of 1.6. The employment figure in the table represents the total of direct, indirect, and induced economic activity from the arts industries that supports employment (footnote 9, p. 79).
- The impact of Connecticut's arts industries is understated because the study does not account for the quality of life improvement that exposure to the arts affords residents, and does account for visitor spending as the many Connecticut attractions and arts venues induce visitors to spend in the transportation, food and drink, retail and other economic sectors (a portion of visitor spending is counted in the travel and tourism section). Furthermore, the impact of Connecticut's arts industry is conservative because the study does not count the contribution of volunteers at all levels of arts provision (for example, from docents to board members). Connecticut's arts assets not only retain Connecticut residents within its borders (that is, they recapture visitor spending), they attract visitors from other states and countries (footnote 9, p. 79).

## Film

- While not highly visible in Connecticut, the film and video industries nevertheless play an influential role in the state's economy. Connecticut is the proud home of the Entertainment & Sports Programming Network (ESPN), World Wrestling Entertainment, Inc. (WWE), and Versus (formerly the Outdoor Life Network), along with a number of smaller local production and post-production companies. Connecticut remains a choice site for many out-of-state productions as well, with its wide range of historic, coastal, residential, and scenic locations. A number of different production types, including movie, television, and musical ventures, are produced in Connecticut, all of which provide important direct and indirect benefits for the state. The film and video industries require the involvement of governments and a large variety of outside businesses to provide the goods, services, permits, and rentals that allow film and video professionals to operate (footnote 9, p. 24).
- The following table presents a summary of the findings from the economic impact study on the film and video industries taken from the REMI counterfactual analysis. Connecticut's film and video industries contributed \$2,502 million in state GDP (1.35% of state total), \$1,211 million in personal income (0.76% of state total), and nearly \$200 million in state and local revenue (0.81% of state total). State and local governments spend an additional \$87.35 million to provide public services for the economic activity Connecticut's film and video industries.

**Table 8: Annual Average Economic Impact of Connecticut's Film and Video Industries 2004-2025**

	<b>Statewide Estimate</b>	<b>Percent of the CT Economy (2004)</b>
Employment (Total Jobs)	18,079	1.06%
State GDP (Mil 2004 \$)	\$2,502	1.35%
Personal Income (Mil 2004 \$)	\$1,211	0.76%
State & Local Revenues (Mil 2004 \$)	\$199.36	0.81%
State & Local Expenditures (Mil 2004 \$)	\$87.35	0.32%

Source: Connecticut Center for Economic Analysis, 2006

- The film and video industries provide 8,323 direct jobs and support more than 18,000 total jobs in the state, implying a statewide film and video employment multiplier of 2.17 (footnote 9, p. 46).

## Heritage/Historic Preservation

- For this study, CCEA focuses on heritage establishments that provide historic goods and services such as museums, forts, libraries, and houses (e.g., the Nathan Hale

Homestead) directly to the public (footnote 9, p. 159). In addition, CCEA considers employment in the provision of historic-related sites' and venues' goods and services, that is, on jobs that maintain historic information or physical artifacts or property, and on jobs that educate the public that may be embedded in establishments whose principal business is not historic preservation or education. For visitation and membership of major Connecticut heritage sites, see Appendix, Table 1.

- Four primary activities contribute to the economic and fiscal value of historic preservation: net new construction and rehabilitation; net new real estate market activity including neighborhood property value effects; net new commercial activity; and net new visitors to heritage sites. These activities are net new in the sense that they would not happen unless historic preservation occurs. These activities take place in a given period and in a given geography (footnote 9, p. 154).
- The following table describes the economic impact of the history and heritage industry, again derived from the counterfactual analysis on REMI. Although Connecticut's historical and heritage assets contribute to travel and tourism, CCEA excluded visitor spending in conjunction with heritage tourism from their assessment; visitor spending is included in the travel and tourism report exclusively and likely captures a fraction of heritage traveler spending (footnote 9, p. 159). Connecticut's history and heritage industry contributes over \$100 million in state GDP (0.06% of state total), \$105 million in personal income (0.07%), and an equivalent percentage of state and local revenues and expenditures (0.07%).

**Table 9: Annual Average Economic Impact<sup>16</sup> of Connecticut's History and Heritage Industry 2004-2025**

	<b>Statewide Estimate</b>	<b>Percent of the CT Economy (2004)</b>
Employment (Total Jobs)	2,166	0.13%
State GDP (Mil 2004 \$)	\$111.69	0.06%
Personal Income (Mil 2004 \$)	\$105.16	0.07%
State & Local Revenues (Mil 2004 \$)	\$17.80	0.07%
State & Local Expenditures (Mil 2004 \$)	\$18.50	0.07%

Source: Connecticut Center for Economic Analysis, 2006

<sup>16</sup> These results are conservative because preservation activities are carried out and carried on by volunteers whose time has value the CCEA has not counted. It is conservative because the private investments property owners make in their historic homes or buildings to maintain them are unknown, though the CCEA does account for tax credits private property owners receive. It is conservative because the CCEA has not estimated the increased property values or high quality infill and new commercial activity that result from preservation activity. Finally, the estimate of the economic value of history and heritage is conservative because there is no estimate of the amenity value of preservation activity to the attractiveness of the region to workers and firms (see footnote 9, p. 5).

## Tourism

- Extensive data collected and processed through several methodologies provides travel and tourism expenditures by type of visitor and by category of expenditure in Connecticut. These expenditures represent sales from lodging, transportation, retail, restaurant, and amusement and recreation sales. In turn, these sales drive the economic impact of travel and tourism in Connecticut via their flow through the economy as these sectors in turn purchase labor (pay wages and salaries), purchase intermediate goods and services (e.g., raw food products, accounting services), pay rent and taxes, and pay the cost of goods sold (retail goods). Subsequent rounds of spending by people receiving direct and indirect wages and salaries generate a multiplier for the original sales. The sum of these multiplied changes (tourism-related sales) across all sectors of the Connecticut economy represents the impact of the travel and tourism industry (footnote 9, p. 3).<sup>17</sup>
- The following table (Figure 3 from the CCEA study, footnote 9) shows the distribution of traveler and tourist spending in eight categories by type of accommodation<sup>18</sup> or travel mode; note that day trippers' spending on waging represents the largest amount in any category:

Expenditure Category	HMR	Day Trippers	Friends & Relatives	Marinas	Campgrounds	Total	Percent
Recreation	\$421.0	\$747.4	\$377.4	\$0.0	\$25.0	\$1,570.9	17%
Meals	\$415.8	\$370.4	\$166.9	\$17.2	\$50.8	\$1,021.1	11%
Shopping	\$405.7	\$580.3	\$274.4	\$22.3	\$38.8	\$1,321.3	15%
Fuel	\$131.3	\$225.7	\$67.5	\$11.8	\$12.2	\$448.6	5%
Other Auto	\$74.6	\$259.3	\$31.8	NA	\$6.2	\$371.9	4%
Local Transportation	\$98.2	\$149.4	\$22.3	\$7.3	\$1.1	\$278.2	3%
Lodging	\$764.6	NA	NA	\$0.5	\$35.0	\$800.2	9%
Wagers	\$587.6	\$1,803.1	\$328.7	\$0.0	\$41.5	\$2,760.8	30%
Marina Sales	NA	NA	NA	\$495.2	NA	\$495.2	5%
<b>State Total</b>	<b>\$2,898.8</b>	<b>\$4,135.6</b>	<b>\$1,269.0</b>	<b>\$554.3</b>	<b>\$210.7</b>	<b>\$9,068.3</b>	<b>100%</b>

Source: Connecticut Center for Economic Analysis, 2006

- This spending generated the economic impact of travel and tourism through multiplier effects in Connecticut. The table below shows the REMI-estimated total impact of this spending in terms of employment, gross state product and personal income. The travel and tourism industry supported almost 111,000 jobs in the state or 6.5% of its workforce

<sup>17</sup> This study's results are affected to some degree by the small visitor intercept sample sizes in certain counties in certain seasons. The effect is visitor spending on certain goods in certain counties is not estimated with accuracy. Notwithstanding, sample sizes at the state level are reasonable (see footnote 9, p. 4).

<sup>18</sup> Marina sales include membership fees, boat rentals, slip and mooring fees, boat repair, sail repair, notary services, chandlery services (see footnote 9, p. 4).

in 2004. Travel and tourism created \$7.95 billion in state GDP representing 4.3% of Connecticut's state GDP in 2004 and \$5.35 billion in personal income impact that represented 3.4% of Connecticut's personal income in 2004. Connecticut's state and local governments received \$1.15 billion in revenue and expenditures increased by \$1.08 billion as a result of travel and tourism activity (footnote 9, p. 5):

**Table 10: Annual Average Economic Impact of Connecticut's Film and Video Industries 2004-2025**

	<b>Statewide Estimate</b>	<b>Percent of the CT Economy (2004)</b>
Employment (Total Jobs)	110,775	6.50%
State GDP (Mil 2004 \$)	\$7,946	4.28%
Personal Income (Mil 2004 \$)	\$5,345	3.37%
State & Local Revenues (Mil 2004 \$)	\$1,152.00	4.64%
State & Local Expenditures (Mil 2004 \$)	\$1,079.00	3.91%

Source: Connecticut Center for Economic Analysis, 2006

## 2006 Brand Image Study

- The primary purpose of the *2006 Brand Image Study* conducted by Phoenix Marketing International was to evaluate the brand imagery of Connecticut among Connecticut residents and residents of the New York metropolitan region. In addition, the study provides insight regarding the motivational drivers as to why people choose Connecticut as a leisure travel destination. The study is internet-based and targets households with incomes of at least \$60,000. Where possible, comparisons are made with the *2004 Brand Image Study*.<sup>19</sup>
- Phoenix International conducted 1,200 interviews for this study.<sup>20</sup> There were 500 interviews among Connecticut residents, 350 among metro New York recent visitors and 350 among metro New York non-recent visitors (footnote 19, p. 3). See the Appendix, Table 2 for a demographic profile of respondents.<sup>21</sup>
- Connecticut residents averaged 15.9 total leisure trips — 12.8 day trips and 3.1 overnight trips in 2006. In contrast, Metro New York visitors averaged 5.6 total trips, or 3.2 daytrips and 2.3 overnight trips (see the Appendix, Figure 1 and footnote 19, p. 6).
- Overnight trips typically last 2 to 3 days, indicating that Connecticut is a desirable vacation destination for short-term and weekend travel. Figure 4 shows how this is particularly true for out-of-state visitors:

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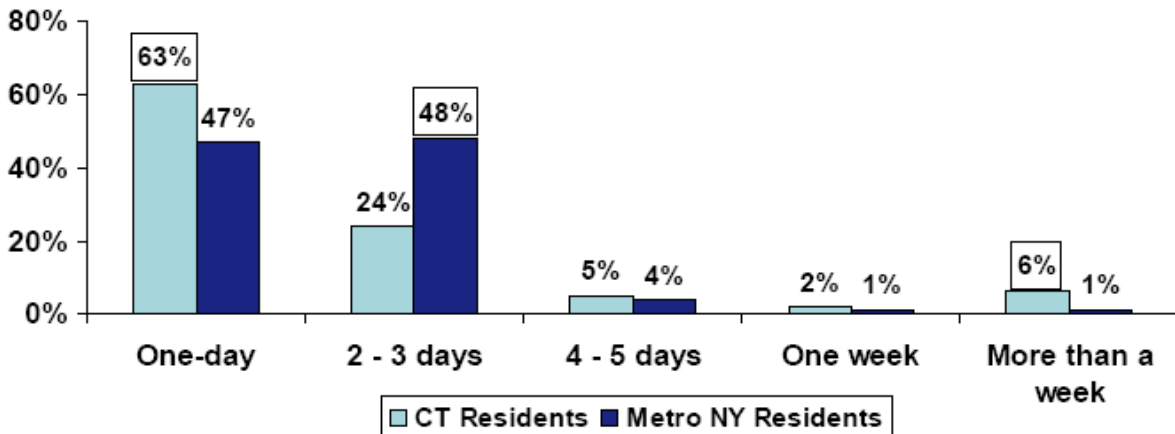
<sup>19</sup> *The Connecticut Commission on Culture & Tourism 2006 Brand Image Study*. Phoenix Marketing International (January 2007). See [http://www.ctvisit.com/PDFS/2006\\_tourism\\_brand\\_image\\_study\\_web.pdf](http://www.ctvisit.com/PDFS/2006_tourism_brand_image_study_web.pdf).

<sup>20</sup> The 1,200 interviews have an accuracy of +/- 2.8 points at the 95% confidence level. Each sub-group of 350 interviews has an accuracy of +/- 5.2 points while 500 interviews have an accuracy of 4.4% at the 95% confidence level (see footnote 19, p. 3).

<sup>21</sup> For purposes of this study, a “recent visitor” is defined as having visited Connecticut for leisure purposes within the last 12 months. Conversely, a “non-recent visitor” has not visited Connecticut within the last 12 months (see footnote 19, p. 3). See appendix Table E1 for a demographic profile of respondents to the *2006 Brand Image Study*.



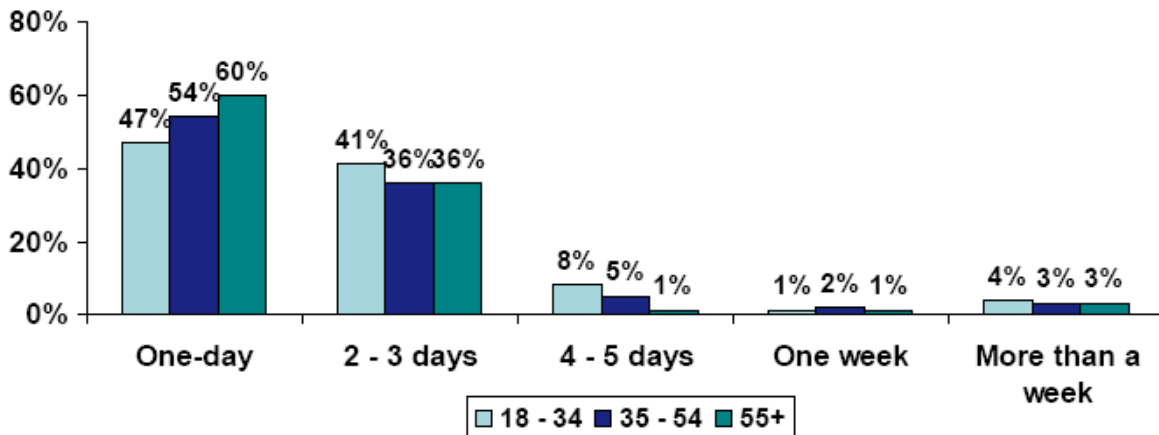
**Figure 4: Duration of Visit**



Source: 2006 Brand Image Study, Phoenix Marketing International

- Figure 5 shows length of stay broken down by age cohort. The 18- to 34-year-old cohort stays in Connecticut for an average of 2.2 days; this is longer than the 35 to 54 or 55+ age cohorts, who stay 2.1 and 1.8 days respectively.

**Figure 5: Duration of Stay by Age Cohort**



Source: 2006 Brand Image Study, Phoenix Marketing International

- Overnight visitors most commonly stayed in a hotel or motel and with friends or family. Connecticut residents had a higher tendency to stay in a campground (21%) compared to metro New York residents (9%). The results appear in Table 11.

**Table 11: Accommodation by Type of Visitor<sup>22</sup>**

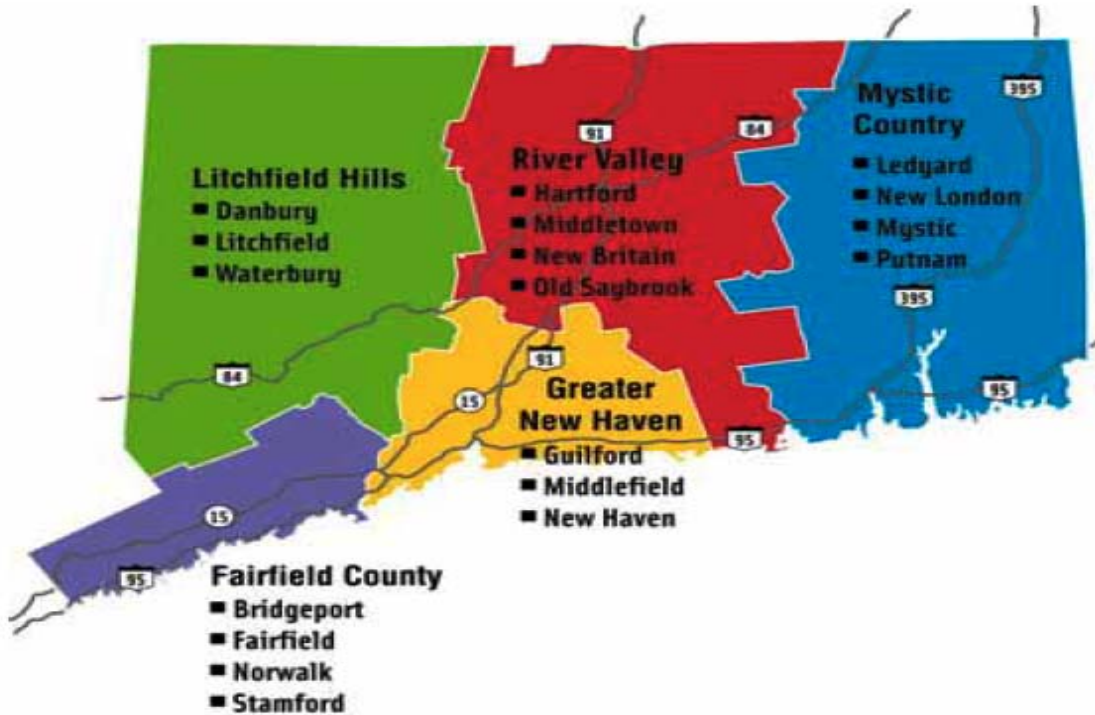
	CT Residents	Metro NY Residents
<i>Base: Total Respondents</i>	<i>(500)</i>	<i>(700)</i>
Hotel or Motel	66%	72%
Friends or Family	28%	35%
Campground	21%	9%
B&B or Inn	18%	19%
Resort/Spa	16%	11%
Vacation Home/Second Home	12%	8%
Rental or Timeshare Property	10%	6%
Marinas	9%	7%

Source: 2006 Brand Image Study, Phoenix Marketing International

- The preferred times of year to visit Connecticut for leisure purposes are the summer and fall. There are some differences, however, among residents and visitors. Residents have a slightly higher preference to travel within the state in the summertime, while metro New York visitors have a slightly higher preference to travel in the springtime. The percent of residents and non-residents who selected the fall as the optimal time to visit Connecticut was the same for both groups: 36%. Finally, less than 5% from both groups preferred to travel in the wintertime (footnote 19, p.9).
- The most popular towns to visit are listed in the map below (Figure 6) by tourism sub-region:

<sup>22</sup> The cells with gray shading indicate a significantly higher response rate at a 95% confidence level. Cells with black shading indicate a significantly lower response rate at a 95% confidence level (see footnote 19, p. 4).

**Figure 6: Towns Most Visited**



Source: 2006 Brand Image Study, Phoenix Marketing International

- Visitors most frequently visited Mystic Country and Fairfield County. Fifty-eight percent of Connecticut residents visited Mystic Country within the last year, compared to 30 to 34% for each of the other regions. Metro New York visitors more frequently visited Fairfield County than Connecticut residents did. Least popular among out-of-state visitors was the River Valley region, with only 15% having visited the area within the last year (see the Appendix, Figure 2 and footnote 19, p. 12).
- Among reasons for visiting, Mystic Country hosted the most visitors (79%) seeking leisure activities and the least visiting friends and family (17%). Major Connecticut attractions, such as Foxwoods and Mohegan Sun casinos and Mystic Aquarium are located within Mystic Country.

**Table 12: Reasons for Visiting (footnote 22)**

	Greater New Haven	Fairfield County	Litchfield Hills	Mystic Country	River Valley
<i>Base: Visitors</i>	(162)	(228)	(163)	(350)	(148)
Leisure activities	57%	54%	68%	79%	67%
Visiting friends and family	44%	50%	39%	17%	41%
Conventions, conferences or trade shows	12%	13%	8%	6%	10%
Business meetings	15%	10%	6%	5%	14%

Source: 2006 Brand Image Study, Phoenix Marketing International

- The Maritime Aquarium and Gillette Castle stand out as the two most popular attractions to visit, with just over half (52%) having visited the aquarium and 34% having visited the Castle. Between 24 to 28% of respondents had visited the Beardsley Zoo, the Mashantucket Pequot Museum, the Nautilus Submarine Museum, and the Mark Twain House & Museum. Connecticut residents disproportionately visited more of what the state has to offer among top attractions. Similarly, visitors who had not been to visit Connecticut within the last year disproportionately had not visited the top attractions (footnote 19, p. 15).

**Table 13: Connecticut Attractions Ever Visited (footnote 22)**

	Total	CT Residents	Metro NY Visitors	Metro NY Non-Visitors
<i>Base: Total Respondents</i>	(1,200)	(500)	(350)	(350)
Maritime Aquarium	52%	63%	49%	36%
Gillette Castle	34%	57%	16%	10%
Connecticut's Beardsley Zoo	28%	48%	12%	8%
Mashantucket Pequot Museum	26%	40%	17%	10%
Nautilus Submarine Museum	24%	28%	24%	18%
Mark Twain House & Museum	24%	34%	19%	12%
Long Wharf Theatre	21%	28%	18%	8%
Guilford Arts Center	8%	10%	9%	4%
Brookfield Craft Center	5%	6%	6%	2%
Music Mountain Falls Village	5%	6%	6%	2%
Other	10%	11%	8%	10%
None of the Above	20%	4%	26%	41%

Source: 2006 Brand Image Study, Phoenix Marketing International

- The survey component that measures satisfaction and intent to return produced favorable results: between 70 to 85% of all residents and visitors cited that they were satisfied with their last visit, would likely return, and would likely recommend the state as a leisure travel destination (footnote 19, p. 17).<sup>23</sup>
- According to the study, Connecticut's appeal lies principally in its quaint towns and villages, dining experiences, special events (fairs and festivals), fall foliage, and waterfront areas.

<sup>23</sup> And see Appendix, Figure 3.

**Table 14: Appeal of Getaway Experiences in Connecticut (footnote 22)**

	Total	CT Residents	Metro NY Visitors	Metro NY Non-Visitors
<i>Base: Total Respondents</i>	(1,200)	(500)	(350)	(350)
<i>Quaint towns and villages</i>	70%	74%	67%	66%
<i>Casual dining</i>	67%	73%	62%	63%
<i>Fine dining</i>	65%	71%	60%	60%
<i>Special events, such as fairs and festivals</i>	64%	72%	60%	56%
<i>Leaf-peeping/fall foliage</i>	64%	70%	61%	57%
<i>Lakes and beaches</i>	62%	70%	56%	57%
<i>Back country roads</i>	59%	68%	56%	49%
<i>Family-friendly experiences</i>	56%	67%	50%	47%
<i>Historic homes</i>	53%	58%	48%	51%
<i>Shopping</i>	53%	58%	53%	45%
Casinos	51%	53%	53%	46%
Park recreation	50%	57%	47%	43%
Non-traditional museums (air museum, clock museum, etc)	47%	52%	44%	44%
Outdoor adventures (hiking, biking, skiing)	45%	52%	40%	39%
Theater/performing arts	45%	52%	43%	37%
Top name entertainment	45%	51%	41%	39%
Educational attractions	44%	51%	37%	42%
Wine trails	43%	48%	43%	36%
Spa treatments/relaxation	43%	48%	39%	39%
Science museums	43%	49%	39%	38%
Art museums	40%	44%	38%	36%
Nightlife and live music	40%	42%	40%	36%
Theme parks	35%	37%	34%	32%
Golf	24%	27%	19%	24%

Source: 2006 Brand Image Study, Phoenix Marketing International

- CCCT recognizes the following broad-range experiences that attract residents and visitors to the state: arts & culture, history, family fun, active adventure, and rest and relaxation.<sup>24</sup> Table 15 displays survey respondents' ranking of the following messages describing Connecticut.

**Table 15: Appeal of Messages Describing Connecticut (footnote 22)**

	Total	CT Residents	Metro NY Visitors	Metro NY Non-Visitors
<i>Base: Total Respondents</i>	(1,200)	(500)	(350)	(350)
It's all so close	68%	73%	69%	60%
Relaxing change of pace	60%	61%	63%	56%
New England nearby	60%	66%	58%	53%
A place to recharge	59%	62%	63%	53%
So much to see and do	54%	58%	53%	48%
Time for two	52%	55%	53%	47%
Full of heritage treasures	51%	58%	49%	43%
Connect with greener pastures	47%	50%	50%	40%
Reconnect with the important people in your life	47%	56%	43%	37%
New England plus vibrant and contemporary experiences	46%	50%	47%	40%
Active adventures start here	39%	44%	37%	32%
Where arts and culture began	38%	43%	37%	34%
City with the beat	29%	30%	29%	26%

Source: 2006 Brand Image Study, Phoenix Marketing International

<sup>24</sup> See [http://www.cultureandtourism.org/cct/lib/cct/td\\_smp\\_exec\\_sum\\_0708.pdf#44205](http://www.cultureandtourism.org/cct/lib/cct/td_smp_exec_sum_0708.pdf#44205), p. 38.

- Notice that proximity to home, opportunities to relax, and New England charm are the primary identifiers of Connecticut’s brand image. In-state travelers tend to identify Connecticut more as a place of heritage treasures, a place to reconnect with friends and family, as well as pursue active adventures than do out-of-state travelers.
- Respondents deemed Figure 7 most representative of Connecticut:

**Figure 7: “Connecticut: Full of Heritage Treasures”**



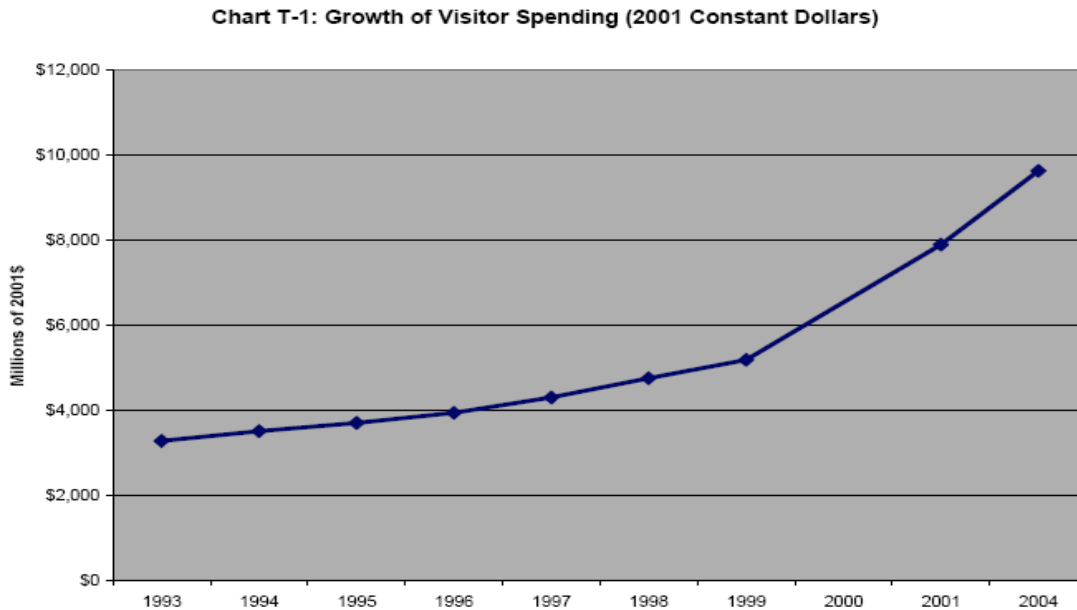
Source: 2006 Brand Image Study, Phoenix Marketing International

- Perceptions of Connecticut on several attributes have significantly improved since the previous *Brand Image Study* in 2004. Among state residents “It is a great day-trip destination” and “It is a beautiful scenic place.” Among Metro New York residents, Connecticut improved in the following: “It is close by,” “It is a great day-trip destination,” “It is a beautiful scenic place,” “It is a great 1 to 3 night getaway destination” and “It provides a good value for the money” (footnote 24, p. 56).

## Tourism Strategic 2007-2008 Plan

- Figure 8 shows the growth rate of visitor spending has increased in Connecticut since 1999.

**Figure 8: Growth of Visitor Spending (2001 Constant Dollars)**

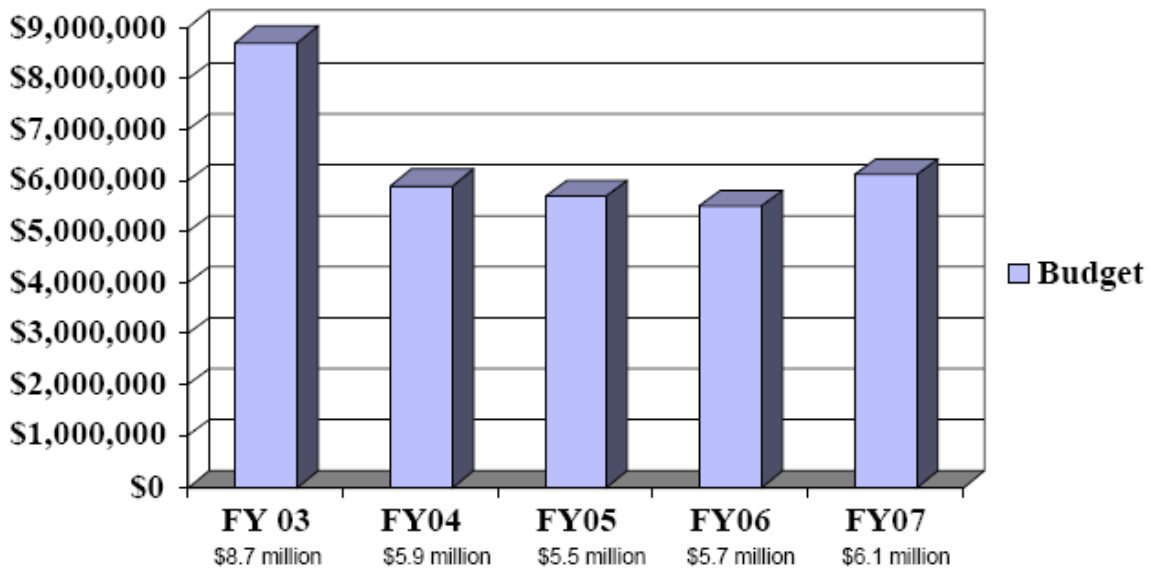


Source: Connecticut Center for Economic Analysis, 2006

- Connecticut's annual spending ranked 40<sup>th</sup> in the U.S. in 2004, down from 30<sup>th</sup> in 2002. The top three spending states include: Hawaii (\$69.2 million), Illinois (\$47.8 million), and Pennsylvania (\$31.8 million).<sup>25</sup> Connecticut's limited investment in tourism is a strong disadvantage to attract visitors from the state's primary target market—metro New York—while media rates and inflation continue to increase.
- Figure 9 depicts Connecticut's declining tourism budget. Note that in 2007, an additional \$340,000 was carried over from 2006 (footnote 25, p. 7).

<sup>25</sup> Connecticut Commission on Culture & Tourism's *Tourism Division Strategic Marketing Plan 2007-08* by Pita Communications, Inc. p, 6.

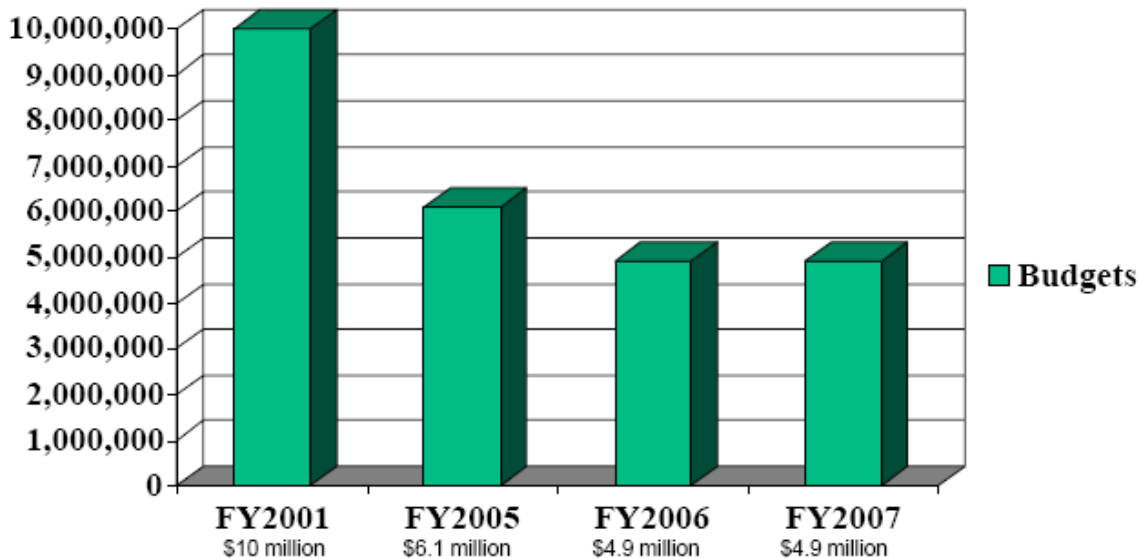
**Figure 9: Connecticut Commission on Culture and Tourism Fiscal Year Budget**



Source: Pita Communications, Inc., Connecticut Tourism Division Strategic Marketing Plan 2007-08

- The overall budget for the five regions has decreased—not adjusted to reflect inflation and increased costs (footnote 25, p. 8).

**Figure 10: Regional Tourism Budget**



Source: Pita Communications, Inc., Connecticut Tourism Division Strategic Marketing Plan 2007-08

- The region and state budgets are not competitive with other states marketing the same audiences. TIA TravelScope reports that with its \$5.6 million budget for tourism for



2005, Connecticut ranked last among the states of Maryland (\$11 million), New Jersey (\$12.7 million), and Pennsylvania (\$31.8 million). New York City alone spent \$45 million in 2005.

- Connecticut’s tourism industry is negatively affected by more than dwindling budgets and increased costs: high volume of traffic on interstates, general lack of awareness of what Connecticut offers, and lack of public transportation to and around the state hinder the growth potential of tourism in Connecticut (see footnote 25, p. 9).
- High gas prices during the summer and fall of 2008 were projected to stimulate in-state travel. In July of 2008, Governor M. Jodi Rell launched the Connecticut ‘Staycation’ Destination program to encourage Connecticut residents to take an affordable vacation within their home state. More than 300 venues and businesses have signed up to be a part of the Staycation Destination program.<sup>26</sup> These businesses have agreed to provide a variety of discounts that include reduced admission rate, free merchandise, discounted room rates and more to Connecticut residents. The economic impact of increased travel costs on Connecticut tourism has yet to be seen.

## **New England’s Creative Economy**

Defining and measuring the “creative economy” on an objective and consistent basis is difficult because past research often approached the issue from the perspective of a particular advocacy group. In *The Creative Economy: A New Definition*, Douglas DeNatale and Gregory Wassall propose a standardized methodology for defining the creative economy (footnote 11). Their definition of the creative economy is conservative; they select only the “cultural core” industries—occupations and industries that focus on the production and distribution of cultural goods, services and intellectual property. The occupations and industries included in the creative economy appear in the appendix of the study.<sup>27</sup> Excluded are products or services that are the result of non-culturally-based innovation or technology. Categories that fall under the cultural core group meet the basic test of categorical completeness—the aggregate data that is available using these categories represents cultural economic activity *anywhere* in the United States. In contrast, categories in the “cultural periphery” group are not wholly representative of the cultural component of the creative economy. Some subcategories of these industries and occupations produce cultural goods and services, but they are combined with others who do not. DeNatale and Wassall caution: “researchers should not employ aggregate data for these categories unless there are special local circumstances” (see footnote 11, p. 12). For example, a state with a large concentration of art pottery manufacturing and few other types of ceramic manufacturing may classify the industry under the creative economy, whereas other states whose ceramic

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<sup>26</sup> Cooper, Chris, Press Release: “Governor Rell Launches ‘Staycation’ Program Offering Discounts to CT Families for Summertime Vacations,” (July 3, 2008).

<sup>27</sup> Two classification systems are provided: the North American Industry Classification System (NAICS) and the Standard Occupational Classification (SOC). Both can be used with U.S. Economic Census and County Business Patterns.

manufacturing industry chiefly encapsulates manufacturing of building materials and plumbing fixtures may not.

To measure the relative contribution of the creative economy to the greater New England economy, cultural enterprise employment data, DeNatale and Wassall (2007) take data from the 1997 and 2002 Economic Censuses.<sup>28</sup> The phrase “cultural enterprise” substitutes for “creative cluster” to distinguish between the cultural and non-cultural aspects of the broader definition of creative.

**Table 16: Comparison of New England Cultural Enterprise Employment in 1997 and 2002**

CATEGORY	CT	ME	MA	NH	RI	VT	New England	USA
<b>2002:</b>								
Cultural Enterprise Employment	68,827	16,643	132,011	21,654	25,453	10,131	274,719	4,587,826
Cultural Enterprise % of Total Employment	4.13%	2.75%	4.06%	3.50%	5.32%	3.38%	3.97%	3.52%
Cultural Enterprise Location Quotient	1.173	0.780	1.155	0.995	1.510	0.960	1.128	1.000
<b>1997:</b>								
Cultural Enterprise Employment	65,644	15,780	130,981	20,584	30,304	10,509	273,142	4,262,751
Cultural Enterprise % of Total Employment	4.07%	2.85%	4.21%	3.61%	6.73%	3.76%	4.15%	3.47%
Cultural Enterprise Location Quotient	1.173	0.821	1.213	1.040	1.940	1.069	1.197	1.000

Source: 1997 and 2002 Economic Censuses

- With 4.13% of total employment falling in the cultural enterprise category, Connecticut ranks second only to Rhode Island among the New England states. The location quotients<sup>29</sup> above indicate that Connecticut maintained its position with 17.3% more than the national share of employment in its cultural enterprises.

<sup>28</sup> Comparable state and national employment data are from the Federal Reserve Bank of Boston and U.S. Bureau of Labor Statistics.

<sup>29</sup> A location quotient is the share of total employment in a region originating in a particular sector divided by the same sector’s share in national employment. A location quotient greater than one shows that the region has more than the national average share of employment in that sector; a location quotient less than one shows that the region has less than the national average share (see footnote 11, p. 19).

**Table 17: Artistic Occupations within the Cultural Workforce (Ranked by Percentage in the State Labor Force)**

OCCUPATION	STATE RANK WITHIN THE U.S.:					
	CT	ME	MA	NH	RI	VT
Architects	10	39	1	31	17	4
Designers	4	21	2	14	5	29
Visual Artists	12	4	14	19	30	3
Photographers	9	33	28	27	1	47
Writers	8	6	4	11	7	3
Actors	15	43	13	42	16	44(T)
Producers & Directors	3	21	6	45	19	35
Dancers	45	8	36	40	11	44
Musicians	10	28	9	41	37	38
Announcers	23	25	48	35	17	3
Entertainers, All Other	34	12	35	22	27	17
All Artistic Occupations	5	17	4	25	9	13

Source: U.S. Commerce Department 2000 Census Public Use File

- Three New England states (Connecticut, Massachusetts, and Rhode Island) rank among the top ten states in terms of artists as a percentage of the workforce, and none rank below the 50<sup>th</sup> percentile. Besides ranking 5<sup>th</sup> in the nation for its overall artistic workforce, Connecticut has six key cultural occupations highly concentrated within its borders: producers & directors, designers, writers, photographers, architects, and musicians.

### **Culture and Tourism Indicators**

Researchers may use the following list of indicators to track the growth of visitors and their spending on Connecticut's arts, heritage and historic, film and tourism destinations. Regular visitor intercept surveys will clarify the relative importance of Connecticut's assets and indicate how the state may improve its message and its position (image) as it competes with the other U.S. states and the world for tourism spending:

- Number of visitors by type of attraction by tourism region;
- The arts, heritage and historic preservation, film, and tourism industries' contribution to employment; state GDP; personal income; and state and local revenues and expenditures;
- The statewide employment and state GDP multiplier of the arts, heritage and historic preservation, film, and tourism industries;
- Average number of day trips and overnight trips to Connecticut for residents and non-residents;
- Growth in the number of trips to Connecticut that last 4 days or more for residents and non-residents;
- Reasons for visiting, that is, for leisure activities, visiting friends and family, conventions or conferences, or business meetings;
- Appeal of messages describing Connecticut (see Table 15 above for list);

- Level and growth rate of visitor spending;
- Location quotients of Connecticut's cultural workforce, as defined in *The Creative Economy*; and,
- Satisfaction with last leisure visit, likelihood to return, and likelihood to recommend Connecticut.

## Appendix to Culture & Tourism

**Table 1: Visitation and Membership of Major Connecticut Heritage Sites (2004)**

Institution	Annual Visitation	Members/Contributors	Staff F/T	Staff P/T	Volunteers	Board Members
Mystic Aquarium/Institute for Exploration	812,595	12,100	120	80	350	23
Mystic Seaport	382,564	50,192	230	93	1,400	63
Historic Ship Nautilus	150,000	1,689	29	0	1	12
Mashantucket Pequot Museum	172,272	3,490	95	6	15	NA
Stamford Museum and Nature Center	110,000	3,000	18	13	125	30
Connecticut State Capitol	100,000	0	0	0	20	0
Eli Whitney Museum	72,000	1,000	7	40	50	22
Gillette Castle*	66,000	500	2	12	2	NA
Mark Twain House	65,000	2,000	35	20	200	34
Talcott Mountain (Heublein Tower)**	64,358	40	1	4	6	NA
Fort Trumbull*	55,125	40	4	12	2	NA
Florence Griswold Museum	54,697	2,272	12	7	400	31
Fort Griswold Battlefield*	54,275	40	0	2	2	NA
CT Historical Society/Old State House	74,850	1,975	46	23	170	30
Mattatuck Museum	43,000	1,250	11	9	175	26
NE Air Museum	42,131	800	6	7	110	25
Harriet Beecher Stowe Center	38,566	260	12	18	10	17
CT River Museum	25,000	1,200	7	4	67	29
Barnum Museum	22,000	1,500	5	3	25	19
Museum of CT History	20,000	NA	2	0	0	10
Antiquarian and Landmark Society (9 sites)*	20,000	700	10	30	25	30
Weir Farm National Park*	17,632	200	9	0	10	NA
New Gate Prison*	17,600	140	0	5	40	NA
His. Soc. of the Town of Greenwich*	16,000	3,000	9	6	200	30
Noah Webster House*	16,000	409	3	22	50	17
Litchfield His. Society*	15,325	512	5	7	67	20
Lockwood Mansion Museum*	15,000	360	1	4	100	22
<b>Other Sites of Interest</b>						
Sloane Stanley Museum*	4,700	2	0	2	3	NA
Henry Whitfield House*	4,409	5	2	1	15	NA
Putnam Memorial*	3,500	NA	0	1	0	NA
Prudence Crandall House*	1,928	NA	2	0	6	NA
<b>TOTALS</b>	<b>2,406,527</b>	<b>88,676</b>	<b>683</b>	<b>431</b>	<b>3,626</b>	<b>490</b>

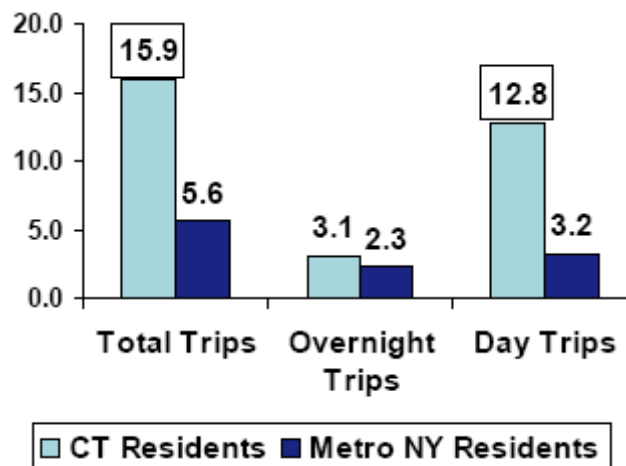
• \*seasonal or limited hours • \*\*includes recreational use

**Table 2: Demographic Profile of Respondents from the 2006 Brand Image Study (footnote 22)**

	Total	CT Residents	Metro NY Visitors	Metro NY Non-Visitors
<i>Base: Total Respondents</i>	<i>(1,200)</i>	<i>(500)</i>	<i>(350)</i>	<i>(350)</i>
Average Age	47.0	45.0	47.5	49.5
Average Household Income	\$122,700	\$115,800	\$129,300	\$125,880
Average Number of People in Household	3.0	3.0	2.9	2.9
Children in household (% yes)	42%	44%	42%	39%
<b>Marital Status</b>				
Married	75%	77%	71%	78%
Single	16%	12%	22%	14%
Divorced/Widowed/Separated	7%	9%	6%	6%
Prefer not to Answer	2%	2%	1%	2%
<b>Ethnicity</b>				
White/Caucasian	89%	91%	86%	89%
Black/African American	3%	2%	5%	3%
Asian/Pacific Islander	3%	3%	3%	3%
Hispanic/Latino	2%	1%	2%	3%
Native American	0%	0%	1%	0%
Other Ethnic Background	1%	1%	1%	0%
Prefer not to Answer	1%	1%	1%	1%

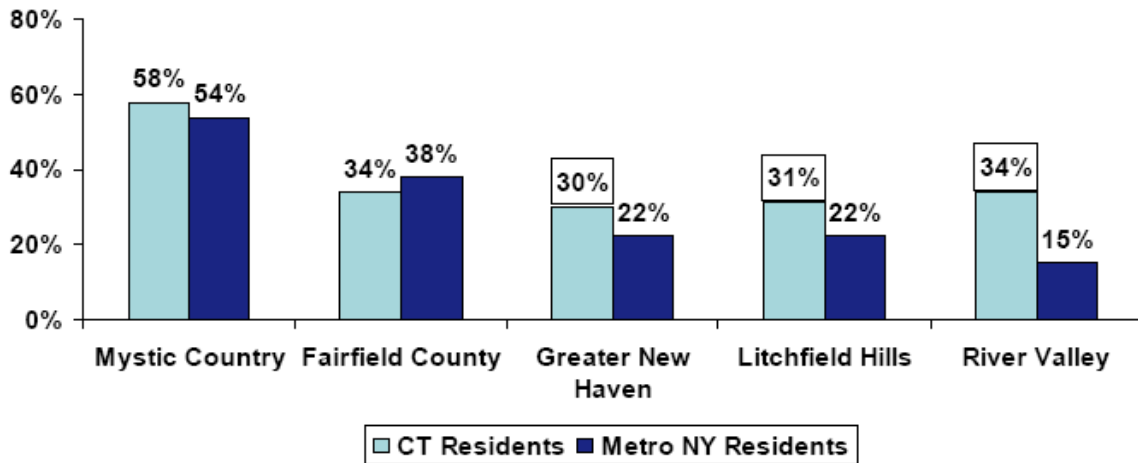
Source: 2006 Brand Image Study, Phoenix Marketing International

**Figure 1: Average Number of Trips**



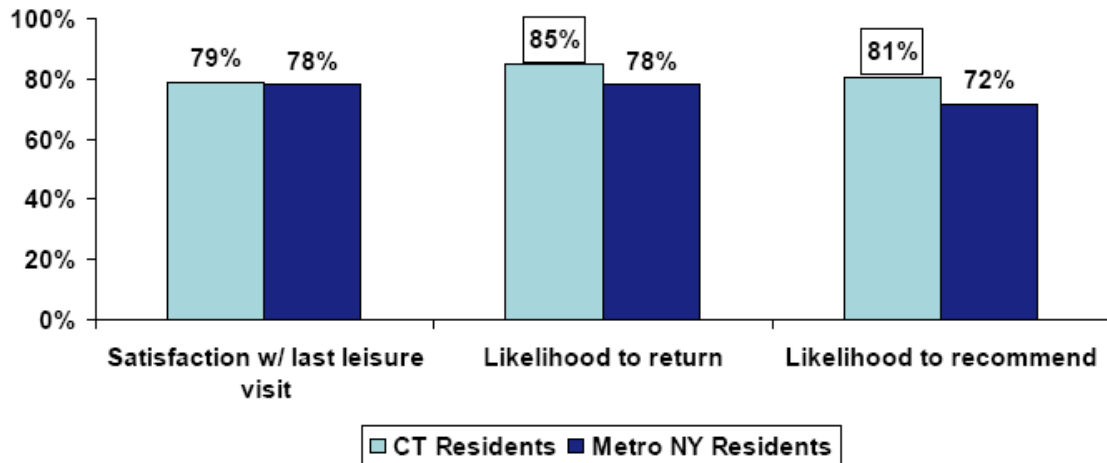
Source: 2006 Brand Image Study, Phoenix Marketing International

**Figure 2: Connecticut Regions Recently Visited**



Source: 2006 Brand Image Study, Phoenix Marketing International

**Figure 3: Satisfaction, Return Intent and Recommendation of Connecticut**



Source: 2006 Brand Image Study, Phoenix Marketing International

## C. Competitive Analysis

### Introduction

“Economic development is about creating opportunities and fostering and sustaining prosperity. Economic development provides and enhances the foundation from which economic growth occurs, and is a key element in sustaining competitiveness, increasing personal wealth, growing employment opportunities and providing upward mobility for low- and moderate-income families. The primary objective of public economic development is to build stronger, better communities. To achieve this, economic development organizations employ strategies that seek to create employment opportunities, expand the tax base, and diversify the economy.”<sup>1</sup>

The mission of the Connecticut Department of Economic and Community Development (DECD) is to develop and implement strategies to attract and retain businesses and jobs, revitalize neighborhoods and communities, ensure quality housing and foster appropriate development in Connecticut’s towns and cities.<sup>2</sup> In keeping with the agency’s mission, it is imperative to periodically assess the state’s competitive position vis-à-vis other locations and systems. This competitiveness analysis evaluates Connecticut’s economic development challenges and opportunities across a wide array of measures, and answers the question, “How does Connecticut rate?”

To determine the state’s competitive advantages and disadvantages, DECD examines several categories because a broad selection of interdependent measures helps determine competitiveness. Competitiveness cannot be judged from a single variable because it is too complex and multifaceted. Therefore, the selected measures DECD includes in this competitiveness analysis are workforce quality, education, globalization, energy, housing affordability, workers’ compensation, regulations/costs of doing business, taxes and entrepreneurial activity.

What follows is a summary review of published independent reports and studies on the above-mentioned measures, including, but not limited to, the following works:

- *The 2008 State New Economy Index*, Kauffman Foundation and the Information Technology and Innovation Foundation, November 2008.
- *2009 State Business Tax Climate Index*, Tax Foundation, October 2008.
- *Benchmarking Connecticut 2006: Determinants of Economic Growth*, Connecticut Economic Resource Center (CERC), 2006.
- *Eighth Annual State Competitiveness Report*, the Beacon Hill Institute, 2008.

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<sup>1</sup> DECD, *Annual Report for Fiscal Year 2007-2008*, p 76.

<sup>2</sup> DECD mission statement, available at <http://www.decd.org>.



- *Grading Places: What Do the Business Climate Rankings Really Tell Us?*, Peter Fisher, Economic Policy Institute, 2005.
- *Small Business Survival Index 2007*, Small Business and Entrepreneurship Council, November 2007.
- *State Technology and Science Index: Enduring Lessons for the Intangible Economy*, the Milken Institute, June 2008.
- *A Talent-Based Strategy to Keep Connecticut Competitive in the 21<sup>st</sup> Century*, Connecticut Office for Workforce Competitiveness, February 2007.
- *Total State and Local Business Taxes: 50-State Estimates for Fiscal Year 2008*, Ernst & Young LLP, January 2009.

For further detail and a more nuanced analysis of Connecticut’s baseline economic conditions, please refer to the “Factors of Growth” section located within the DECD strategic plan.

### **Limitations**

As with any report or study, there are certain limitations. Results depend on the measures used and their appropriateness to the task. To compensate for potential bias and provide a broad spectrum of indicators, DECD examines multiple reports from several independent sources. This approach prevents a state’s high or low rank in a specific study arising due to a given state’s adherence to one group’s political or social agenda.<sup>3</sup>

With ranked variables, one must keep certain caveats in mind. Distilling disparate measures into a standardized, scaled, averaged, single number may reduce the variance of values (footnote 3, p. 82). Reported results may not be accurate and consistent when researchers condense a large amount of data into one number. Data may be old or missing. State data collection categories vary and gaps may exist.

Additionally, at times circular logic may encapsulate a state’s score or rank. A measure may attempt to gauge the growth climate but present a rank based upon performance. For example, as Peter Fisher writes, “Economic growth tends to draw people into the labor market, increasing labor force participation. It is not clear why one would predict that high labor force participation causes growth” (footnote 3, p. 32). A state’s rank may reflect outcomes or results of several interacting variables, but not the root cause of a problem (footnote 3, p. 2). Some states’ ranks may be the result of prolonged slow (rapid) growth and produce a chain reaction of poor (favorable) consequences. For example, a state’s sustained high unemployment rate may cause it to have lower average incomes (footnote 3, p. 2).

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<sup>3</sup> Peter Fisher, “Grading Places: What Do the Business Climate Rankings Really Tell Us?” Economic Policy Institute, 2005, p. 43.

Despite such limitations, numerous interacting factors undoubtedly influence a state's competitiveness. With DECD's review of multiple studies, distinct patterns emerge to paint a picture of Connecticut's competitiveness.

## **Workforce Quality**

In the modern, global, knowledge-based economy, technology has produced a mobile labor and capital pool; people may easily locate to the areas of greatest opportunity. Talent attraction is critical because in this new economy, states are not competing solely with other states for workforce—states compete globally. International students and ex-patriots who studied and/or worked in the U.S. and choose to return to their home country can cause an “overseas brain drain” and may compound the issue of (the lack of) accessible talent. Therefore, it is important to attract and retain high-value human capital because “a state's or region's most important competitive advantage is the knowledge embedded in its people (intellectual capital).”<sup>4</sup> Across a variety of studies, Connecticut consistently scores high marks on various measures of an educated, talented and quality workforce.

One determinant of the quality of a state's workforce is its number of knowledge-based jobs. Connecticut scores near the top here, # 2 overall (out of the 50 states, with # 1 being the best), according to the Kauffman Foundation's *The 2008 New State Economy Index*.<sup>5</sup> Ranked # 2 in the Kauffman Foundation's 1999 index, Connecticut has been consistently strong in its number of knowledge-based jobs. Multiple indicators within Kauffman's knowledge-based employment category bode well for Connecticut, including (footnote 5, pp. 18, 19, 20-22, 24-25):

- Employment in IT occupations: # 7
- Share of workforce employed in managerial, professional, technical occupations: # 4
- Education level of workforce: # 4
- Average educational attainment of recent immigrants: # 5<sup>6</sup>
- Employment in high value-added manufacturing sectors: # 2
- Employment in high-wage traded services: # 2

The factors above suggest that Connecticut is home to an educated and skilled workforce that is capable of efficiently producing technologically complex, high value-added goods and services, exemplified by Connecticut's signature industries in aerospace and defense, insurance and financial services, photonics/lasers/optics, biotechnology, and precision machining.

The Kauffman Foundation's findings are bolstered by other reports that support Connecticut's claim to a high-quality workforce. According to the Milken Institute's *State Technology and*

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<sup>4</sup> Ross DeVol, Anita Charuworn and Soojun Kim, “State Technology and Science Index: Enduring Lessons for the Intangible Economy,” Milken Institute, June 2008, p. 27.

<sup>5</sup> Kauffman Foundation and The Information Technology & Innovation Foundation, “The 2008 State New Economy Index: Benchmarking Economic Transformation in the States,” November 2008, p. 18.

<sup>6</sup> This figure is significant because it indicates talent flow into a state.

*Science Index*, Connecticut scores well in both the overall human capital investment index, which gauges how well prepared states are to *sustain* employment in science, engineering, and technical fields, and a secondary composite index of its technology and science workforce. In 2008, Connecticut ranked # 4 out of the 50 states (with # 1 being the best), improving two spots from its # 6 ranking in the 2004 report. This latter category is a measure of the *current* supply of the workforce in specific fields of high-tech employment; in this index, Connecticut maintained a # 9 rank (footnote 4, p. 37). Such a ranking is of great importance in the knowledge-based economy because “[s]cience and technical workers do not just access knowledge and apply it to firm-specific objectives. More importantly, they harness new information to generate new knowledge, bringing both inductive and deductive analytical skills to complex problems and creating new concepts and processes” (footnote 4, pp. 30, 36-37). The proportion of scientists and engineers employed in the state’s labor force scores highly in the Kauffman Foundation’s index in which Connecticut achieves a # 6 rank in the last two consecutive years (footnote 5, p. 46). The Beacon Hill report assigns # 7 rank (a decline from its # 6 ranking in the previous 4 reports) in this same measure.<sup>7</sup>

Connecticut’s agricultural workforce is educated and astute as well—Connecticut’s farmers rank # 5 for online and computer usage to perform tasks such as buying feed, checking the weather, and selling livestock (footnote 5, p. 41).

If a talented workforce is critical to concept creation and innovation, then the high-quality education of the workforce is the means to achieve it. Education and workforce quality go hand in hand.

## **Education**

Overall, Connecticut scores well in various reports’ measures of Connecticut’s *current* educational attainment. However, the educational attainment of the state’s *future* workers may be a potential area of concern.

The Corporation for Enterprise Development (CFED) gave Connecticut high marks in several education variables, including the percentage of the state’s population with four years of college (# 4), and the percentage of science and engineer doctoral degrees (# 7).<sup>8</sup> Other reports echo similar findings, including the Milken Institute’s *State Technology and Science Index*, which gave the state a # 4 rank in the “human capital investment composite index” based partially upon the relatively high percentage of Connecticut’s population holding advanced degrees (footnote 4, pp. 4, 31). In a similar vein, the Beacon Hill Institute awarded Connecticut a rank of # 6 for the state’s number of science and engineering graduate students per 100,000 in the population (footnote 7, p. 22). The Kauffman Foundation reinforces these overall findings with its

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<sup>7</sup> Beacon Hill Institute, “Eighth Annual State Competitiveness Report,” <http://www.beaconhill.org/Compete08/BHISate08-FINAL.pdf>.

<sup>8</sup> Corporation for Enterprise Development (CFED *2007-2008 Assets & Opportunity Scorecard*), p. 2. CFED’s ranks are based upon the 50 states and Washington DC, with the most desirable outcome ranked # 1.

previously referenced ranking of Connecticut at # 4 for the education level of its workforce, a signal of the state's strong higher education system (footnote 5, p. 21). Connecticut achieved a rank of # 5 in an index of 'most educated workforce', per the *2008 Business Facilities Rankings Report*.<sup>9</sup> Finally, according to a 50 state review by the Morgan Quitno Press, Connecticut received the rank of the third 'smartest state' in 2006-2007.<sup>10</sup> Morgan Quitno Press used 21 measures to make such determination, including "expenditures for instruction, pupil-teacher ratios, high school graduation and dropout rates, and reading, writing and math proficiency." From 2002-2003 to 2006-2007, Connecticut has bounced among the top three in Morgan Quitno Press' rankings (footnote 10). Once again, this section refers to the population's current educational level, and overall Connecticut scores well within the "top 10" tier.

The use of computers ostensibly improves educational outcomes. Internet usage may signal one's computer efficiency and technical know-how because in the knowledge economy, computer proficiency is a must. Connecticut ranks in the middle of the field in two Internet indicators, deployment of IT in public schools and the percentage of the state's population online, where it scores # 25 and # 21, respectively (footnote 5, pp. 37, 39). However, Connecticut made significant strides in the 'deployment of IT in public schools' index in which the state jumped from # 47 in 2002 to # 25 in 2008, a large step in the right direction (footnote 5, p. 39). The Milken Institute recognizes such forward movement, noting that Connecticut's marks in other indexes partially reflect its "improvements in its home computer and Internet access indicators" (footnote 4, p. 33).

Connecticut's education measures decline when other educational computations impacting the state's future, and its *future* workforce, come into play. For example, in CFED's scorecard of 8<sup>th</sup> grade math and reading proficiency, Connecticut scores #11 and # 19 (with # 1 being the best), respectively (footnote 8, p. 2). Essentially, this signals a need to strengthen key learning areas and skill sets to insure the state has a well-educated labor pool in the future.

Another area of concern appears when one breaks down CFED's four-year college attainment by race, income, and gender. Despite CFED awarding Connecticut an overall rank of # 4 in this category, this rank drops to # 31 when further distilled by race, # 23 by income, and # 32 by gender, all being signals of educational inequality (footnote 8, p. 2). Although race and gender rankings were not as high as they were in 2005, the 2008 rankings by race, income, and gender rankings each represent an increase of at least ten spots from the CFED's 2002 scorecard, in which Connecticut received ranks of # 42, 33, and 47, respectively, showing that the state has been making improvements in these areas.

What about the skills of Connecticut's future workers? The Connecticut Office for Workforce Competitiveness (OWC) describes their educational attainment issues and needs in its *A Talent-Based Strategy to Keep Connecticut Competitive in the 21<sup>st</sup> Century*. OWC writes,

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<sup>9</sup> Jack Rogers and Bill Trub, *2008 Business Facilities Rankings Report*, p. 15. This report is a ranking of the 50 states, with # 1 being the best.

<sup>10</sup> "Results of the 2006 Smartest State Award," Morgan Quitno Press, <http://www.statestats.com/edrank.htm>.

“Connecticut’s future young workers are expected to be less prepared for the 21<sup>st</sup> century careers than those they are replacing in large part because nearly half of our future workforce will be coming out of the state’s urban centers where a significant and stubborn achievement gap persists.”<sup>11</sup>

The Connecticut Economic Resource Center (CERC) echoes similar thoughts regarding education skill gaps in the state’s urban areas:

- 6% of urban 10<sup>th</sup> graders passed all four sections of the Connecticut Mastery Test in 2004
- the combined math and verbal, average SAT scores for Hartford and Bridgeport is less than 800 points<sup>12</sup>

As CERC indicates in its 2006 report, Hartford, Bridgeport, and New Haven consistently appear on national lists of the poorest cities, and such low educational attainment statistics for urban centers is distressing in that the state’s future workers will come from these cities—they must have improved test scores, graduation rates, and adequate skill sets (footnote 12, p. 58).

## **Globalization**

In the modern economy, markets are interconnected, and the states that will succeed are those that have a global orientation. “A global orientation ensures expanding markets for a state’s industries” (footnote 5, p. 26). Connecticut’s international orientation is a positive force in the state’s economy.

The Kauffman Foundation assigns Connecticut an overall rank of # 7 in its globalization index. Within this index there are two important measures. One is the extent in which a state’s manufacturing and service workforce is employed making goods for export; Connecticut is # 20 (footnote 5, p. 26). While this ranking is lower than the state’s # 3 raking in 1999, it represents solid improvement over the # 26 ranking in 2007. It is important to note, however, that this measure is not an indicator of the raw dollar value of the exports produced, but rather a reflection of the percentage of the *workforce* involved in international exports.

According to the U.S. Department of Commerce’s International Trade Administration (ITA), export-supported jobs linked to manufacturing account for an estimated 6.1% of Connecticut’s total private-sector employment. Nearly 30% of manufacturing workers in Connecticut depend on exports for their jobs, the second largest share among the 50 states.<sup>13</sup> This statistic is not consistent with the Kauffman Foundation indicator above; however, ITA used 2006 data to calculate its results, while the Kauffman Foundation’s measurements are more recent.

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<sup>11</sup> Connecticut Office for Workforce Competitiveness (OWC), “A Talent-Based Strategy to Keep Connecticut Competitive in the 21<sup>st</sup> Century,” February 2007, p. 2.

<sup>12</sup> Connecticut Economic Resource Center, Inc. (CERC), “Benchmarking Connecticut 2006: Determinants of Economic Growth,” p. 41.

<sup>13</sup> U.S. Department of Commerce, International Trade Administration, “Exports, Jobs, and Foreign Investment,” February 2009, [http://ita.doc.gov/td/industry/otea/state\\_reports/connecticut.html](http://ita.doc.gov/td/industry/otea/state_reports/connecticut.html).

There were 4,636 companies that exported from Connecticut locations in 2006. Of those, 89% were small and medium-sized enterprises with fewer than 500 employees. Small and medium-sized firms generated nearly one-third of Connecticut's total exports of merchandise in 2006 (footnote 13).

Foreign exports are an engine of growth, and their importance as a contributor to state gross domestic product (GDP) cannot be understated. Connecticut's overseas commodity exports, which totaled more than \$15 billion in 2008, represent approximately 7% of Connecticut's GDP. Exports highlight the competitiveness of local companies on the international stage, and sustain and create jobs via its trickle-down effect on the economy. Despite the economic and fiscal turmoil, Connecticut's exports were a bright spot. Given the current economic climate, exports' ability to positively impact job creation and the economy is significant. As the economy becomes increasingly globalized, exports will continue to be a catalyst for growth in Connecticut and the U.S. Table 1 shows the distribution of commodity exports by 2008 value.

**Table 1: Connecticut's Top Ten 2008 Commodity Exports by Value**

Rank	Description	ANNUAL 2007	ANNUAL 2008	%2007-2008
	<b>TOTAL ALL COMMODITIES</b>	13,799,141,842.00	15,313,059,446.00	10.97
1	Industrial Machinery, Including Computers	5,777,149,407.00	6,234,803,082.00	7.92
2	Aircraft, Spacecraft, And Parts Thereof	1,330,409,486.00	1,591,073,731.00	19.59
3	Electric Machinery Etc; Sound Equip; TV Equip; Pts	1,445,740,151.00	1,280,625,597.00	-11.42
4	Optic, Photo Etc, Medic Or Surgical Instruments Etc	946,222,393.00	1,010,387,807.00	6.78
5	Plastics And Articles Thereof	951,197,759.00	1,010,333,281.00	6.22
6	Special Classification Provisions, Nesoi	305,534,745.00	385,445,268.00	26.15
7	Iron And Steel	212,796,386.00	350,569,912.00	64.74
8	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax	143,890,003.00	290,853,098.00	102.14
9	Cereals	71,757,320.00	284,409,256.00	296.35
10	Organic Chemicals	198,461,950.00	231,590,560.00	16.69

Source: World Institute for Strategic Economic Research (WISER)

Connecticut also showed improvement in the Kauffman Foundation's second globalization measure, moving from # 4 in 2007 to receive the top spot in 2008, representing the percentage of the workforce employed by foreign companies (footnote 5, p. 28).

Foreign Direct Investment (FDI) is major investment by foreign companies, such as the construction of new plants or ownership of property and equipment in the United States. FDI is important because it creates new jobs and leads to knowledge exchange and transfer, including the adoption of advanced new technologies and workforce practices. Foreign companies also serve as a source of business leads and as a resource for future foreign investment. The Kauffman Foundation's FDI findings for Connecticut complement data published by the Organization for International Investment (OFII):

- U.S. subsidiaries in Connecticut employ 104,900 workers.
- U.S. subsidiaries provide the livelihood for more than 7% of Connecticut's private sector workforce.
- Connecticut *ties for first* with South Carolina in the share of its workforce supported by U.S. subsidiaries.
- Overall, U.S. subsidiaries employ 5.3 million Americans, 4.5% of private sector employment.
- U.S. subsidiaries provide an average compensation per U.S. worker of \$68,317; this is 32% higher than compensation at all U.S. companies.<sup>14</sup>

## Energy

“The foundational factors that have significantly impacted New England's historic economic growth, transportation and energy, are increasingly viewed as problems stifling its economic growth” (footnote 12, p. 20). The cost of electricity is of considerable concern to Connecticut, as several reports rank Connecticut near the bottom in this particular sector:

- Electricity prices per million BTU: Connecticut ranks # 49 (footnote 7, p. 22)
- Electric utility costs: Connecticut ranks # 50 (but technically not last, because Washington, DC is included among the 50 states in this ranking)<sup>15</sup>
- Energy costs: # 46 (footnote 8, p. 2)

Connecticut's best energy ranking in the past five years came in 2004, when the state earned a # 41 ranking for electricity prices from the Beacon Hill Institute. Connecticut's energy cost rankings from each of the reports cited above have fallen steadily in recent years.

The CERC *Benchmarking Connecticut 2006* study captures the relative cost of energy in Connecticut and the New England states, “In 2003, the cost of electricity in the New England states was on average nearly 41 percent higher than the U.S. (\$30.67 per million BTUs for the six New England states when compared to \$21.81 for the U.S.)” (footnote 12, p. 20).

The energy sector represents a competitive disadvantage for Connecticut. Energy is a component of the cost of doing business in a state, as it factors into the equation of where to

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<sup>14</sup> Organization for International Investment (OFII), “Insourcing State Job Facts,” <http://www.ofii.org/ct.htm>.

<sup>15</sup> Small Business Entrepreneurial Council (SBEC), *Small Business Survival Index 2007*, November 2007, p. 36.

locate or expand one’s business. Therefore, to compensate for high energy costs, a state must offer other assets of high value, such as a highly skilled workforce (footnote 11, p. 10).

### **Housing Affordability**

Affordable housing is an element in attracting and sustaining a young workforce and retaining seniors downsizing to properties that are more manageable. Housing affordability, whether it is via ownership or rental, can be an obstacle to attracting and retaining workers. In a literature review, Connecticut does seem to have a competitive disadvantage in this sector (footnote 12, p. 30).

The Beacon Hill Institute study ranks Connecticut as # 44 on its measure of median monthly housing costs (footnote 7, p. 22). CERC finds that median “values of housing units in 2005 were greater than \$200,000 in all Connecticut counties... The median value of housing units in Fairfield County was almost seven times its median household income... But for renters, the share of median gross rent to income was higher” (footnote 12, p. 30). CERC finds that a number of Connecticut counties approach or exceed the limit on the percentage of income typically accepted as the threshold for housing affordability, 30% (footnote 12, p. 30). Table 2 presents the county median household income, value of housing units, monthly ownership costs, and gross rent as percentages of median household income.

**Table 2: Median Income and Housing**

<b>County</b>	<b>Median Household Income, 2005</b>	<b>Median Value of Housing Units, 2005</b>	<b>Median Monthly Owner Costs % Household Income, 2005</b>	<b>Median Gross Rent % Household Income, 2005</b>
Fairfield County	\$71,633	\$475,000	24.7	29.8
Hartford County	\$57,939	\$224,200	21.7	29.1
Litchfield County	\$64,544	\$254,200	23.3	27.7
Middlesex County	\$70,821	\$265,600	21.4	22.8
New Haven County	\$53,591	\$245,600	23.9	31.9
New London County	\$59,268	\$237,400	21.3	27.2
Tolland County	\$73,919	\$229,000	20.1	24.0
Windham County	\$47,684	\$204,000	23.0	29.4

Source: CERC Benchmarking Report, page 30, using U.S. Census American Community Survey

According to figures from the American Community Survey referenced in CERC’s *Benchmarking* study (footnote 12) regarding the ratio of median housing value to median household income, Connecticut has the 12<sup>th</sup> highest ratio among the 50 states. However,



compared to the Northeastern states, Connecticut's ratio is average. Affordable housing is an issue across the Northeast.

Despite the state's relative wealth, there are housing issues related to inequality in household assets and homeownership rates. Other issues regarding housing involve housing for an aging population—as the baby boomers retire and seek alternative housing options, perhaps a greater number of smaller units will be required.<sup>16</sup>

### **Workers' Compensation**

High workers' compensation costs affect competitiveness in that high premiums and “rates impact the economy... [t]he cost of labor relative to capital is increased.”<sup>17</sup> Connecticut ranked towards the bottom of the pack in the SBEC's state rankings of workers' compensation premiums, ranking # 40 in 2004 and worsening one spot to # 41 in 2005.<sup>18</sup> In subsequent years, the SBEC changed its measure of workers' compensation rankings to reflect benefits per \$100 of covered wages rather than premium rates. A review of those statistics reveals that Connecticut ranks among the states that award the greatest workers' compensation benefits. In the SBEC's 2006, 2007, and 2008 reports, Connecticut increased such benefits, reflected in the state's gradually rising rankings of #14, 12, and 11 for those respective years. Similarly, Connecticut's high workers' compensation premiums are painted as a competitive disadvantage in the Beacon Hill Institute's 2008 report, in which Connecticut ranks # 31 in terms of premium rates.<sup>19</sup>

Connecticut is at a competitive disadvantage in terms of workers compensation rates, as an increase to non-wage labor cost represents an increase to the cost of doing business in the state.

### **Regulations/Costs of Doing Business**

There are several factors that may be grouped into regulations and/or the “costs of doing business,” including labor, taxes, energy costs, etc., and some of the latter factors have been explored in earlier sections of this analysis. In the literature examined, there were limited references to regulatory costs; rather, taxes were a predominant focus of business costs and will be explored in the next section. Moody's Economy.com, however, did find that overall Connecticut has the 8<sup>th</sup> highest business costs among the 50 states in 2006 (footnote 12, p. 51), the ranking the result of a weighted combination of labor, tax, and energy costs. Additionally, the Milken Institute found that in 2007 Connecticut had the 5<sup>th</sup> highest business costs, a ranking which has been relatively constant since 2004. The Milken Institute index included a combined calculation of wage cost, tax burden, electricity cost, industrial rent costs, and office rent costs.<sup>20</sup>

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<sup>16</sup> Bruce Blakely, presentation at Partnership for Strong Communities event, “Housing and the Workforce,” January 22, 2009.

<sup>17</sup> Small Business & Entrepreneurship Council (SBEC), *Small Business Survival Index 2004*, October 2004, p. 6.

<sup>18</sup> SBEC 2004, p. 23 and SBEC 2005, p. 32.

<sup>19</sup> Beacon Hill Institute, p. 22.

<sup>20</sup> Milken Institute, *2007 Cost-of-Doing Business Index: State Level Data*.

Regulatory costs may be difficult to measure as each state has its own collection of regulations that are not necessarily comparable across states and may depend on the type of project undertaken or operation envisioned. Regulations reflect local scarcities (water) and environmental concerns (auto emissions). One could theoretically construct standard projects or operations and estimate the regulatory burden experienced in each state under each project or operational scenario. To our knowledge this has not been done.

## **Taxes**

An important business consideration is the ratio of taxes businesses pay in return for the state and local public services they receive in a given state. When taxes and other costs exceed benefits to a business, this can affect a company's decision about development and/or expansion in a state. According to a 2008 study by Ernst & Young, U.S. businesses paid \$590 billion in state and local taxes, 2.7% higher than the previous fiscal year, despite the slowing growth of state and local economies.<sup>21</sup> Additionally, according to Ernst & Young, the "total state and local business tax burden is 83% higher than the estimated value of public services directly benefiting businesses" (footnote 21, p. 1).

A review of various reports and studies indicates that Connecticut does not rank favorably with respect to business tax burden and especially with respect to the property tax. The Tax Foundation's *2009 State Business Tax Climate Index* finds that Connecticut scores second to last, # 49, only besting New Jersey, in its property tax per capita index.<sup>22</sup> "[P]roperty taxes are especially important to businesses because the tax rate on commercial property is generally higher than on residential property" plus property taxes may be levied on business machinery and equipment (footnote 22, p. 35). For the past several years, Connecticut has consistently scored poorly in the Small Business & Entrepreneurship Council's (SBEC) rankings of the state's local property tax rate. From 2004-2006, the SBEC rated the state # 45 out of 51 in this particular measure.<sup>23</sup> Connecticut improved one notch to # 44 in the SBEC's study of this measure in its 2007 and 2008 reports.<sup>24</sup> In a similar vein, the Beacon Hill Institute found Connecticut ranked # 48 in its index of state/local property taxes per capita (footnote 7, p. 2). High property taxes reduce housing affordability, and as property taxes form the base of municipal education budgets, to "control these costs, municipalities are taking steps to manage student enrollments by limiting certain housing developments" (footnote 12, p. 31). Again, this creates issues when workers of all ages and incomes struggle to find appropriate affordable housing.

Regarding *individual* ranks of Connecticut's various taxes, the SBEC chronicles several measures as part of its annual series of studies that gauge state policy environments for

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<sup>21</sup> Ernst & Young, *Total State and Local Business Taxes*, January 2009, p. 1.

<sup>22</sup> Joshua Barro, Tax Foundation, *2009 State Business Tax Climate Index*, October 2008, p. 33.

<sup>23</sup> Small Business & Entrepreneurship Council (SBEC), *Small Business Survival Index 2004*, p. 18; SBEC, *Small Business Survival Index 2005*, p. 28, SBEC, *Small Business Survival Index 2006*, p. 30.

<sup>24</sup> SBEC, *Small Business Survival Index 2007*, p. 32 and SBEC, *Small Business Survival Index 2008*, p. 44.

entrepreneurship. Connecticut’s position within the individual measures does not vary greatly over the five years of reports. With the exception of the state’s local sales, gross receipts, and excise taxes, there is not substantial, marked improvement. Rather, in some in areas, Connecticut’s rankings worsened.

**Connecticut Rankings from SBEC’s *Small Business Survival Index***

Measure	2004	2005	2006	2007	2008
Top personal income tax rates	18 (t)*	18 (t)	18 (t)	19	19 (t)
Top capital gains tax rates	21 (t)	22 (t)	22 (t)	22 (t)	21 (t)
Top corporate income tax rates	29	30	30	31	30
Top corporate capital gains tax rates	N/A	N/A	N/A	32	31
State local sales, gross receipts, excise	14	14	11	12 (t)	10
State gas tax	41 (t)	40 (t)	51	50	50

\*t = tie

Source: SBEC, *Small Business Survival Index*, 2004-2008.

Regarding an *overall* rank of tax systems, the Tax Foundation and the SBEC produced such scores. The groups’ respective reports thoroughly reviewed various tax indexes, the findings of which appear below.

The Tax Foundation used five tax component indexes, corporate, individual, sales, and property, to calculate its overall rank of # 37 for Connecticut. In these five areas, the Tax Foundation’s findings scored the state well out of the “top ten,” indicating that taxes may be a sector in which Connecticut is at a competitive disadvantage. Connecticut’s Tax Foundation scores were as follows (footnote 22, p. 9):

- Corporate taxes: # 18
- Individual taxes: # 25
- Sales taxes: # 25
- Unemployment taxes: # 21
- Property taxes: # 49
- OVERALL: # 37

The SBEC’s *Business Tax Index* for 2008 and 2009 “ranks the states from best to worst in terms of the costs of their tax systems...The Index pulls together 16 different tax measures, and combines those into one tax score that allows the 50 states and District of Columbia to be compared and ranked.”<sup>25</sup> The sixteen measures include the state’s top personal income tax rate,

<sup>25</sup> Small Business & Entrepreneurship Council (SBEC), *Business Tax Index 2008*, April 2008, p. 2.

capital gains tax rate, corporate capital gains tax rate, added income tax on S-corporations, alternative minimum taxes, whether income tax brackets are indexed for inflation, property taxes, consumption taxes, death taxes, unemployment taxes, whether or not the state has a tax limitation mechanism, Internet access taxes, gas taxes, and diesel taxes. Based upon the above measures, the SBEC's findings were similar to those of the Tax Foundation. The SBEC ranked Connecticut's tax system as #33 in 2008, but the state improved three notches to #30 in 2009.<sup>26</sup>

The stated purpose of business tax climate studies is to "aid business leaders and government policymakers in their determination of whether a state's tax system enhances or harms the competitiveness of the state's business environment" (footnote 22, p. 40).

### **Business Climate**

Commercial Property News (CPN)-Nielsen conducted a fifty state rank to determine the best states for corporations. In current its study, CPN-Nielsen awards Connecticut first place. The "ranking measures the statewide business climate for corporations. It is not a measure of states' popularity among corporations."<sup>27</sup> The CPN-Nielsen study factored in the cost of living, labor force education, population density, incentive aggressiveness, corporate taxes, electricity costs, sustainability acceptance (based on the number of commercial LEED and energy star buildings), and economic health (based on unemployment rates). As other reports referenced in this competitive analysis award Connecticut varying ranks within the above-mentioned categories, it is imperative to monitor future CPN-Nielsen studies to determine if Connecticut is able to maintain its top spot.

### **Economic Outlook**

The American Legislative Exchange Council (ALEC) has produced two editions of *Rich States, Poor States*, authored by Arthur Laffer, Stephen Moore, and Jonathan Williams. The report serves as a resource for citizens and lawmakers as an evaluation of state economic and fiscal policies. The report includes two rankings, an economic outlook index, and an economic performance rank. The economic outlook index is a forecast based upon fifteen policy factors, including highest marginal personal income tax rate, highest marginal corporate income tax rate, personal income tax progressivity, property tax burden, sales tax burden, tax burden from all remaining taxes, estate/inheritance tax, legislated tax policy changes, debt service as a share of tax revenue, public employees per 1,000 residents, quality of state legal system, state minimum wage, workers' compensation costs, right-to-work state, and tax/expenditure limits. The second rank, economic performance, is a historical measure based upon ten years of economic data that factors three variables, personal income per capita, absolute domestic migration, and non-farm payroll employment.

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<sup>26</sup> SBEC, *Business Tax Index 2008*, p. 3 and SBEC, *Business Tax Index 2009*, p. 3.

<sup>27</sup> CPN-Nielsen, "Top States for Corporations," *Commercial Property News*, April 2009, p. 15.

In 2009, the ALEC-Laffer index awarded Connecticut # 32 out of 50 in its economic outlook rank, which is an eight-position improvement over its 2008 score of # 40.<sup>28</sup> With # 1 being the top score, Connecticut scored fairly well in some of the index's various policy factors, such as: top marginal personal income tax (# 17), sales tax burden (# 12), and the remaining tax burden (# 8). Conversely, the state scored poorly in areas such as property tax burden (# 43) and minimum wage (# 44).

In the ALEC-Laffer economic performance rank, Connecticut ranked # 37. Its best measure within this index reflected the state's strong personal income per capita cumulative growth from 1997-2007 (footnote 28, p. 98).

### **Entrepreneurial Activity**

Entrepreneurial activity is a crucial factor in a state's competitiveness portfolio. For many, in a discussion of the knowledge and technology-based economy, entrepreneurial activity is the factor of greatest importance in determining competitiveness because it is the largest source of investment and capital, business growth, job creation, and ultimately, economic growth (footnote 20, p. 5). The modern, developed economy "is about economic dynamism and competition, epitomized by the fast-growing, entrepreneurial companies that are one of its hallmarks...the ability of state economies to rejuvenate themselves through the formation of new, innovative companies is critical to economic vitality" (footnote 5, p. 29).

Connecticut received mixed marks in several reports' *overall* examinations of economic dynamism: both high and low—however, within the various sub-indexes of dynamism or entrepreneurial climate, the state scored well. The Milken Institute scored Connecticut in the # 14 slot in terms of technology concentration and dynamism, a measure of a state's entrepreneurial, governmental, and policy-formulating success (footnote 4, p. 41). The SBEC ranked Connecticut # 38 in terms of policy friendliness towards entrepreneurs (footnote 20, p. 2), and the Kauffman Foundation found Connecticut # 24 in its index of economic dynamism (footnote 5, p. 29). CERC's *Benchmarking Report* ranked Connecticut higher at # 11 among the states, in terms of the concentration of entrepreneurs/business vitality (footnote 12, p. 54). However, a report cited within CERC's study found "Connecticut 48<sup>th</sup> (out of 50) among the best states for entrepreneurs in 2006, down from 43<sup>rd</sup> in 2005."<sup>29</sup>

Why such variation? Different organizations' definitions of entrepreneurship may vary, and some reports and studies may concentrate on certain variables within this broad factor. For example, the Kauffman Foundation gauges economic dynamism using six measures (gazelle firms, business churn, Deloitte Technology Fast 500/Inc. 500 firms, IPOs, entrepreneurs' start-ups, and patents), while the Milken Institute greatly values the amount of risk capital available to entrepreneurs.<sup>30</sup> The Kauffman Foundation states that "there appear to be many factors affecting

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<sup>28</sup> American Legislative Exchange Council (ALEC), *Rich States, Poor States*, 2009, p. 98.

<sup>29</sup> Entrepreneurs and NPRC's *2006 Hot Cities for Entrepreneurs*.

<sup>30</sup> Kauffman Foundation, p. 29 and DeVol et al, p. 2.

entrepreneurial activity, making it difficult to predict which states will fare better than others” (footnote 5, p. 34). Therefore, drilling down into some of the variables that constitute entrepreneurial climate and/or dynamism provide greater insight. Factors taken into consideration in examining entrepreneurship include workforce (see the “workforce quality” section earlier in this report<sup>31</sup>), patents, research, venture capital, business churn, gazelle firms, and IPOs. Connecticut has competitive advantages in many of these sub-measures but competitive disadvantages in others.

### ***Patents***

CFED, CERC, and the Beacon Hill Institute rank Connecticut # 9 in terms of the number of patents issued.<sup>32</sup> The Kauffman Foundation examines Connecticut’s patents and finds that the state ranks # 2 in terms of the number of individual inventor patents issued (per 1,000) (footnote 5, p. 35). In an examination of the number of patents issued relative to the size of its workforce, Connecticut ranks # 14 (footnote 5, p. 47). Such good marks are indicative of Connecticut’s new product innovation rates, and correlate to the state’s high-tech labs, corporate R&D labs, and the number of scientists, engineers, and graduate students pursuing research in Connecticut. However, OWC expresses concern regarding Connecticut’s patent growth is “slipping in the utilization of its research and development base to support innovation... While Connecticut is a *leader in absolute patents per worker* [emphasis added], growth of patents is lagging well behind the nation—rising only 5 percent in Connecticut compared to 22 percent for the nation from 1996 to 2005” (footnote 11, p. 10). This growth rate may be an area of concern and is an issue to be monitored.

### ***IPOs***

Connecticut scores well in the number of IPOs offered within the state, as both the Beacon Hill Institute and CFED rank Connecticut # 5 in this measure.<sup>33</sup> In terms of the value of companies’ IPOs, the Kauffman Foundation ranks Connecticut at # 7 (footnote 5, p. 33). IPO rankings from all three sources have shown improvement over previous reports. IPOs are a competitive advantage for the state, in that it is a sign that “financial markets have embraced entrepreneurial dynamism” (footnote 5, p. 33).

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<sup>31</sup> Workforce quality may be a component of a state’s entrepreneurial climate because it can lend itself to the creative economy in terms of new product creation, and hence, new business formation.

<sup>32</sup> CFED, p. 2; CERC, p. 54; Beacon Hill Institute, p. 22.

<sup>33</sup> Beacon Hill Institute, p. 22 and CFED, p. 2.

## ***Gazelle Jobs and Deloitte Fast 500 List***

Another component of the entrepreneurial climate is the number of gazelles in a state. Typically, gazelles are firms with annual sales growth of 20% for four consecutive years; gazelles also indicate an adaptive economy (footnote 5, p. 30). Connecticut receives mixed marks here—a # 7 from the CERC report, and # 23 according to the Kauffman Foundation.<sup>34</sup> If these figures are viewed in conjunction with the number of Connecticut companies on the Deloitte Fast 500 and/or Inc. 500 firms, the fast job/company growth picture is a bit clearer and brighter. Connecticut ranks # 7 in terms of the number of firms it has on such “Fast 500” lists. Such a positive ranking is good for the state, because such “fast” firms “represent a state’s most successful entrepreneurial efforts and hold the most promise for continued growth” (footnote 5, p. 32). It is a sign of a state’s high-tech industry strength.

## ***Business Churn***

The degree of the state’s business churn, or the number of new start-ups and business failures combined as a share of the total number of businesses in each state, is a competitive disadvantage for Connecticut, as evidenced in several reports examined. Fast employment growth is a by-product of business churn. Slow churn is an issue of concern, as when “business churn is low, fewer innovative companies are being created in the area, and potential workers are being lured away to other states” (footnote 12, p. 35). CERC’s report finds Connecticut to be # 44 out of 50 in terms of business churn, while the Kauffman Foundation ranks the state at # 49.<sup>35</sup>

## ***R&D***

Connecticut receives mixed marks in the R&D category, depending on the group and the various sub-measures of private, federal or university R&D. For example, in terms of private or industry R&D, some studies find that Connecticut performs quite well. CERC finds Connecticut to be # 4 out of 50 in terms of industry R&D; CFED rates the state # 2 for private R&D and # 6 for federal R&D; and the Milken Institute finds Connecticut to be # 7 in R&D inputs.<sup>36</sup> In fact, the Milken Institute found that Connecticut has made great improvements in its R&D measures, reinforced by Connecticut’s expenditures and policies in areas such as stem cell research, life sciences, and biomedicine. CERC and CFED standings both improved two spots over the previous report rankings.

Both CERC and Kauffman assign Connecticut lower marks when it comes to federal R&D—CERC rates Connecticut # 43 and Kauffman finds the state to rank # 38.<sup>37</sup> Another issue is the number of businesses created via university R&D—CFED rates Connecticut # 41 (footnote 8, p. 2). Commercialization from university R&D into actual business formation is important and

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<sup>34</sup> CERC, p. 54 and Kauffman Foundation, p. 30.

<sup>35</sup> CERC, p. 54 and Kauffman Foundation, p. 31.

<sup>36</sup> CERC, p. 54; CFED, p. 2; and DeVol et al, p. 19.

<sup>37</sup> CERC, p. 54 and Kauffman Foundation, p. 49.

needs to be encouraged—since 1980, more than 3,800 U.S. companies have formed out of university licenses (footnote 4, p. 14).

The variety of scores makes it difficult to determine whether Connecticut has a definitive competitive advantage in the R&D field. More information is needed to make a conclusive determination of Connecticut’s R&D competitiveness.

### ***Venture Capital (VC)***

“To be successful over the long haul, a state needs capable entrepreneurs and the risk capital to support the conversion of research into commercially viable technology products and services” (footnote 4, p. 2). While Connecticut scores relatively well in terms of VC, # 18 from the Kauffman Foundation, it is an issue of critical importance because VC is a “source of funding for new, fast-growing entrepreneurial companies”— it identifies innovation, brings products to market, and also serves as a source of job growth (footnote 5, p. 51). Entrepreneurs need the risk capital to convert research into products and services. Connecticut cannot afford to slip further in the VC ranks. In fact, according to OWC, “Connecticut is not keeping pace in the growth of venture capital— an indicator of investment in high growth potential emerging companies. Venture capital investments in Connecticut from 1996 to 2006 have increased only 56 percent as compared to growth of 115 percent for the entire nation” (footnote 11, p. 10).

### **Summary**

This section highlights factors that impact competitiveness and economic growth. It is important to keep in mind that not every factor has an equal offset, and some factors may be of greater weight and significance than others. As not all things are equal, strength in one factor does not necessarily counteract a weakness in another.

That said, although variables and indexes vary within published independent studies, consistent patterns do emerge with an examination of multiple reports. Connecticut holds a competitive advantage in several areas, including an educated workforce, international orientation, patents, IPOs and “Fast 500” companies. In other measures, such as housing affordability, workers’ compensation, energy infrastructure, taxes and business churn, Connecticut may need to refocus its efforts in order to reap greater growth benefits and sustain its current advantages.



### **III. Strategic Vision for Connecticut**

#### **Vision**

Connecticut will be a vibrant, diverse, and safe community that offers a sustainable quality of life and access to economic opportunity for all. The state will promote transit-oriented growth, balancing the conservation of existing assets and natural resources with innovative economic development. Connecticut will be identified as a place where families, students, workers, entrepreneurs, companies, NGOs, and government come together to enhance its competitive advantage, distinguishing the state as a dynamic environment in which to live, work, and play.

#### **Housing**

Housing opportunities in Connecticut will be affordable, environmentally friendly, and available to meet the needs of all its citizens. Housing developments will be clustered around pedestrian-friendly areas, and in close proximity to employment and commercial centers, schools, and public transportation. Connecticut will revitalize its urban and regional centers with mixed-use, mixed-income development, providing a safe and clean environment to attract an economically and socially diverse workforce. Connecticut's cities and towns will embrace regional solutions to promote smart growth, concentrating new housing developments around established infrastructure.

#### **Transportation**

Transportation in Connecticut will be efficient, environmentally friendly, and flow in a synchronized manner. Public transportation will be readily accessible; and link regions, people, and businesses together. By developing and integrating pedestrian, bicycle, bus, rail, aviation, and maritime infrastructure, citizens and businesses can maximize their economic and recreational productivity. Connecticut will leverage its strategic location and deepwater ports, linking New England to New York and destinations beyond.

#### **Education and Workforce Development**

Connecticut will attract and retain businesses by maintaining its highly productive and competitive workforce. With lifelong and enriching educational opportunities for all our citizens, Connecticut will nurture a diverse and well-educated population, sustaining a dynamic workforce that is adaptable to an evolving world economy. Apprenticeship and internship programs, as well as post-secondary curricula that emphasize the needs of local enterprises and Connecticut's core competencies, will give students reason to stay in Connecticut.

## **Government**

All government entities will foster an environment that improves Connecticut's quality of life, maximizes economic growth, and conserves the state's natural resources.

Governments will provide public services in a responsive and efficient manner, becoming more accessible to the public via the internet and other media services. Governments will effectively address issues such as income inequality and racial segregation in the state.

Government structure will promote inter-municipal cooperation and service sharing to provide cost-effective and efficient solutions to local and regional issues. State government will promote technological advancements and entrepreneurial enterprises to solve problems of the 21st century.

## **Business**

Connecticut will market a cohesive image in which business costs are low relative to high productivity and quality of life. Businesses will be able to capitalize on the state's abundant affordable housing, accessible transportation, and renowned institutions of higher learning to build a highly-educated workforce. The state will support the private sector and intrastate commerce in a variety of ways. Moreover, Connecticut businesses will invest in and partner with educational institutions to maintain a competitive and innovative edge in the global economy.

## **Culture and Tourism**

Connecticut will strengthen its brand image as a heritage and cultural vacation destination with myriad activities and natural resources, which include waterfront areas, historic sites, artistic and cultural venues, and rural colonial charm. Connecticut will market a cohesive New England character, complementing New York and Boston. Culture and tourism will be a driver of economic growth in the state without burdening existing transportation and environmental infrastructure.

## **Energy**

Energy efficiency programs will offer incentives to help lower operating costs and improve productivity, allowing Connecticut businesses to remain globally competitive and avoid outsourcing jobs. Connecticut will be a leading exporter of green technology with its competitive advantage in fuel cell and biofuel research. Education initiatives will develop green-collar jobs and promote energy efficient households and businesses.

Alternative fuels like biodiesel will be widely available for residential and transportation uses. State government will set minimum energy efficiency standards and be a model in its choice of energy technology used in state buildings and vehicles.

## Strategies and Initiatives

This section identifies strategies that intend to move the state from its current position described in detail in earlier chapters to a more competitive position captured in the vision. The strategies contain actionable and measurable initiatives that have sufficient detail for implementers to create solutions to the inevitable problems and roadblocks along the way to realization of the envisioned results.

The strategies are dynamic in that they and their implementation must adapt to changing conditions as will be evident as DECD and others revisit the Plan every five years. The Plan and its implementation will evolve with the creativity and energy people apply to it. The intention is for the Plan to transcend election cycles and ideologies and offer pragmatic approaches to sustain and improve Connecticut's competitiveness. This is the most important outcome, as the wellbeing of Connecticut's households will diminish if the state's competitiveness is not sustained.

Absent from the strategies and initiatives below are specific targets for improvement, in for example, literacy rate, CMT scores, commuter rail miles, and state rank in tax studies. There is danger in specifying targets that may be too low or too high. For purposes of the Strategic Plan, there are no targets or timelines set until such time as public input is received and the proposed initiatives are enacted either statutorily or administratively. Further, implementation of initiatives that have cost implications must be done in the context of Connecticut's overall state budget.

The overall strategy for Connecticut's future is articulated in three distinct, yet interrelated public policy arenas:

- Talent and Technology
- Cultivate Competitiveness
- Responsible Growth

## **Talent and Technology**

For Connecticut to remain competitive, efforts must facilitate a world-class workforce and public education system by growing and attracting new talent. Excellence in our education and training systems and identifying viable career opportunities and pathways for all must be priorities. In order to grow this talent, the goals are simple: ensure all Connecticut children are ready for kindergarten; increase high school completion rates, particularly in urban areas; close the achievement gap in reading and math and increase the adult literacy rate. Connecticut has a proud history of innovation and technology. The workforce must be prepared for the jobs of tomorrow: bioscience and health care; digital media; green technology, among others. Competitiveness in those sectors that Connecticut is world renowned, such as aerospace and defense, and insurance and financial services, is of the utmost importance. The talent initiatives are outlined below:

1. Establish a Workforce and Education Cabinet consisting of the commissioners of the SDE, DHE, DoL, DECD, OPM (or designates) and the heads of the Office of Workforce Competitiveness (OWC), the Connecticut Development Authority (CDA), and Connecticut Innovations, Inc. (CI), as well as the chairs of the State Board of Education, the Board of Governors of Higher Education, the chairs of the boards of trustees of UConn, the UConn Health Center, the state university system (CSUS) and the state community college system (CCCS). The Cabinet (or Steering Council) would oversee the Early Childhood Investment Framework and the High School Redesign projects. The Cabinet would oversee and implement each initiative below and report annually to the Governor and the legislature's committees of cognizance on the accomplishments of the previous year and plans for the following year. In addition, the Cabinet would adopt new governmental management approaches that focus on program/policy integration through information, communication and facilitation through a management structure that bundles together department heads (commissioners, secretaries, etc.) into policy/budget "teams" without consolidating department structures into mega-bureaucracies.
2. Establish a central, integrated research capacity for economic and workforce analysis and planning to guide the work of the Cabinet.
  - a. Build a comprehensive ability to examine both occupational supply and demand information.
  - b. Pull positions (vacancies) from DoL, DHE, SDE and UConn and/or formulate MOA for data sharing.
  - c. Create a nexus for data and information that addresses key measures of competitiveness in the knowledge economy in a single agency, e.g., the State Data Center. Regularly mine information across agencies and analyze in new ways to inform state policy and budget development with respect to improving the state's educational and workforce training systems.
3. Implement the provisions of the Early Childhood Investment Framework (Ready by 5, Fine by 9) and Connecticut Career Choices.

4. Designate the Connecticut Career Choices (CCC) program as the state vehicle for implementing programs and services to advance 21<sup>st</sup> Century teaching and learning, with a particular focus on Science, Technology, Engineering and Math (STEM). Consolidate the existing Connecticut Pre-Engineering Program (CPEP) and Project-Lead-the-Way (PLTW) with CCC. Consolidate funding streams from OWC and SDE to fully support the CCC model and bring to statewide scale. Using the CCC program as a foundation, develop and implement a plan for an “Early College High School” capacity based on best practices and models. Use economic recovery funds to the extent possible.
5. Implement the State Department of Education High School Redesign
6. Building on our recently enacted alternative route to certification (ARC) program, the Office for Workforce Competitiveness will develop and implement a program that identifies private and public sector retirees having STEM skills and facilitate placement in those schools that have the highest need for science and math teachers. Additionally, each program of professional certification and continuing education curriculum should contain a career development component. The career development component will include best practices for integrating career development information into the classroom, particularly in the areas of emerging business and technology.
7. Implement the Middle College initiative.
8. Expand the Connecticut Jobs Funnel program, which has been successful in our construction sector, to the bioscience, digital media and green technology sectors. Align adult literacy programs with the Jobs Funnel programs and strengthen their integration with the One Stop Job Center STEM programs funded through the USDOL. Direct the Connecticut Employment and Training Commission (CETC) to assume responsibility for adult education and literacy improvement under Title II of the Workforce Investment Act of 1998. Adult education programs are critical in order to meet the changing demographic profile of Connecticut’s workforce, particularly those cohorts with significant workforce attachment and retention issues. Consolidate funding sources to maximize outcomes and incorporate programmatic oversight under the aegis of the CETC.
9. Create a \$100 million public-private partnership student loan pool. A potential funding source for the pool is the state pension fund and our Connecticut chartered banks. Loan forgiveness would be proportional to years remaining in the state after graduation and for critical occupations. Priority would be given to students earning degrees in STEM fields and healthcare. Forgiveness of 100% would be granted if a student remains in the state for 10 years after graduation.
10. To retain Connecticut’s relatively large workforce nearing or in retirement, implement the “Redefining Retirement Years: Productive Engagement of the Older Workforce” recommendations from the Connecticut Commission on Aging (May 2007).

Twenty years ago, Connecticut was at the forefront of the economic development technology arena when the Governor and General Assembly created Connecticut Innovations (CI), one of the country's first public venture capital entities. Since then, CI has achieved financial success and become a model emulated by other states. CI invested \$190 million in 96 high-tech companies and provided \$20 million to support other technology initiatives. The \$117 million leveraged more than \$1 billion of additional investment and created more than 5,000 additional job-years. CI has consistently invested in the companies of the future. To ensure Connecticut is a leader in bioscience, IT, digital media and green technology, the following initiatives are recommended:

1. Create a new CTech Fund for the 21<sup>st</sup> Century. This new fund would be a \$60-\$100 million public/private venture capital fund to accelerate the growth of the technology sector here and position the state as a high-technology center. The fund would be seeded with \$20 million in public dollars with the goal of leveraging an additional \$40-\$80 million in private funds. The new fund would be a subsidiary of CI, but with board members composed of those members who contribute to the fund. Potential funding partners include companies who are headquartered here (e.g., GE, UTC, Pitney Bowes, Boehringer Ingelheim); public utilities; Connecticut-chartered banks; insurance companies; tribal nations and private colleges and universities. Ohio, Kentucky and Pennsylvania have similar programs.
2. Create an International Opportunities Program. Invest \$25 million to recruit international technology companies to locate their North American headquarters and operations in Connecticut. This program would be modeled after CI's existing equity based fund. To date, three international companies have been recruited with three potential opportunities in the pipeline. The announcement of such a fund to the international community would send a very strong message that Connecticut is the state for talent and technology.
3. Create a Technology Company Working Capital Fund Program. Invest \$20 million to extend working capital loans and lines of credit to technology companies in Connecticut. Obtaining working capital loans for small technology-based companies is difficult because of the lack of collateral and lack of positive cash flow. With CI's experience in evaluating these types of companies, this fund would be self-sufficient after 10 years.
4. Implement an Angel Investor Tax Credit. A tax credit of 25% to individuals, corporations and institutions investing in qualified, early-stage enterprises in targeted core competency areas of biotechnology, IT, digital media and green technology is recommended. Additionally, to encourage investors to make investments in high-risk, start-up companies, a tax credit to cover a percentage of the loss over a three-year period for investments made in qualified enterprises should be provided.

5. Create a Talent and Technology Consortium to foster greater interaction between government, business and academia. Membership will include CI, SBIR, Higher Ed, OWC, Yale, UConn, Wesleyan, University of Hartford and CEOs. The mission of the Consortium will be to provide a forum for discussing new ideas, focus on recruiting eminent faculty in basic and applied research, designate centers of excellence, identify research dollars and foster a spirit of innovation and technology. Another goal of the Consortium will be to identify funding sources for technology commercialization and eminent faculty.
6. Enter into a Knowledge Corridor agreement with Massachusetts to promote the development of biomedical devices along Interstate 91. The Knowledge Corridor will dovetail with the agreement the two states have for the New Haven to Springfield High Speed Rail Corridor.
7. Expand the Small Business Innovation Research (SBIR) mission to build collaborative connections for tech-based small businesses with universities, large, mid-tier and small businesses. Designate the SBIR as the state's science and technology policy and support service driver. Expand SBIR's matching engineers program to include digital media, IT and green technology. Establish an R&D ombudsman within the office to act as a clearinghouse for identifying research core competency areas across public and private universities and to provide additional university/industry research matching programs. Dedicate \$5 million to SBIR for matching grants to SBIR recipients and provide pre-seed funding to start-ups in the targeted sectors.
8. Connecticut has a job creation tax credit, which very few companies have used. Priority should be given to those companies that add jobs in bioscience, digital media, green technology and IT among others.
9. Support the development of a robust clinical research enterprise with universities, hospitals, groups such as CURE and BEACON and the pharmaceutical industry. Create an Office of Clinical Trials with an investment of \$5-\$8 million of federal funds to house one database, develop a uniform contract and condense all existing institutional review boards into one review board.
10. Identify and utilize all federal funds for clean and renewable energy research. Implement the Connecticut Development Authority loan guarantee program for energy. Support and implement Northeast Utilities and United Illuminating SmartGrid projects.
11. Expand CTEC's mission to ensure green jobs training programs and curricula are driven by the industry's priority workforce needs.
12. Develop and launch a pilot program to field test green remedial action technologies led by the Department of Environmental Protection, CI and state universities.

## **Cultivate Competitiveness**

Much has been written about how Connecticut is losing its competitive advantage because of the high cost of doing business in the state. While investment in intellectual and physical infrastructure continues, we will only be treading water without action to address this cost of doing business issue directly. As the recently completed budget negotiations have taught, crisis might not be the best time to make tough decisions. The following initiatives will provide a blueprint for putting Connecticut on the right path.

1. Create a Blue Ribbon Panel to evaluate Connecticut's tax structure. In addition to evaluating the personal income and corporate income tax structure, the panel will evaluate the costs and benefits of every tax credit that is currently in force and effect. The panel will also evaluate the costs and benefits of potential tax credits/exemptions and how they might spur growth in targeted sectors. Credits and exemptions could include sales tax exemptions on renewable energy projects, sales tax exemptions on hybrid vehicles and an angel investor tax credit. The panel will report to the Governor within six months of its constitution.
2. Reform Connecticut's budget process by implementing Generally Accepted Accounting Principles, privatizing services and consolidating agency functions.
3. Several communities in the state have a disproportionate share of tax-exempt property and have a heavy reliance on the state to provide PILOT payments. The issue of tax-exempt property should be evaluated and options should be identified.
4. Reduce the number of state representatives to a number that is more proportionate to the population as a whole. For example, New York has a population of 12.8 million with an Assembly (lower house) of 150 members. By contrast, Connecticut has a population of 3.2 million and a lower house of 151 members.
5. Encourage regionalism and give priority for federal and state programs to those communities that form regional partnerships.
6. Create a homestead exemption whereby purchasers of homes within designated urban areas may receive state income tax reductions. The exemption will apply to first-time homebuyers and be considered for home purchases in targeted urban areas with the goal of increasing homeownership and neighborhood stability.
7. Implement a Location Efficient Mortgage (LEM) Program administered by CHFA. The LEM provides state-backed relief in mortgage premiums based on proximity to urban areas. The LEM combines a low down payment, competitive interest rates and flexible criteria to encourage home ownership in proximity to transit.
8. Implement a "Learn Here, Live Here" program administered by CHFA. The program would allow Connecticut resident students attending any post-secondary institution to contribute the larger of their state income tax liability or \$3,000 into a First-Time Homebuyer Trust Fund each year for 10 years. The money could be withdrawn anytime over those 10 years to purchase a home in Connecticut. Any interest income



would be deposited annually into the state's General Fund to partially offset the cost of the program.

9. Eliminate the commercial utility surcharge on small business.
10. Invest in a first-class economic development website that has user-friendly links to all state economic development programs and tax incentives.
11. Create a state marketing fund to support economic development marketing efforts. The fund should be supported with \$20 million on an annual basis and support marketing efforts for economic development and culture and tourism.
12. Require the state to prepare a biennial state energy plan to anticipate and address future energy challenges, with a focus on one- to two-year planning, five-year plans, and 10-20 year goals.
13. Consolidate all clean energy finance programs within Connecticut Innovations. Consolidate all energy regulatory authority within the DPUC.
14. Phase in a biodiesel blend produced in Connecticut for the state's entire diesel truck/van/car fleet and for heating state buildings. Pennsylvania has such a program. Evaluate the use of incentives for municipalities and local school bus companies to switch to Connecticut biodiesel.
15. Purchase and install stationary fuel cells for each new public building constructed and retrofit existing buildings to reduce their consumption of electricity and provide heating and cooling as appropriate.
16. Expand Connecticut's fuel cell bus fleet.
17. Develop the technology fuel cell-powered rail cars and busses.
18. Adopt a statewide green building code. California has adopted a green building code.
19. Coordinate and integrate energy activities and programs at state agencies:
  - a. Promote the diversification of energy generation technologies using fuel cell, solar PV, solar thermal and geothermal sources as applicable and appropriate;
  - b. Incorporate advanced building energy management practices at all state buildings; and,
  - c. Advance development of all in-state renewable resources.

## **Responsible Growth**

Transit Oriented Development. Sustainable Communities. Responsible Growth. All are phrases that are currently very much “en vogue.” But Connecticut doesn’t just talk the talk, it walks the walk when it comes to responsible growth. Our HOMEConnecticut program is the model for the national sustainable communities program now being discussed in Congress. Our Brownfields Pilot program is one of the first in the nation. As a northeast state, Connecticut has one of the best commuter rail systems in the world. But there is much that needs to be done to remain a state where open space abounds, housing opportunities exist for all, and where there is reduced reliance on automobiles consistent with the Council of Northeastern Governors’ (CONEG) goal of doubling public transportation ridership by 2030. Responsible Growth initiatives need to capitalize on the past and provide a path to the future.

1. Appoint an Executive Branch Responsible Growth Cabinet with a Secretary who reports directly to the Governor and consists of the Commissioners of Department of Transportation, DECD, DEP, Agriculture, CDA, the Connecticut Housing Finance Authority. The cabinet will recommend the disbursement of responsible growth funds, developing model municipal zoning regulations and developing a joint state/municipal application process.
2. Create a statewide Connecticut Port Authority consisting of the Ports of Bridgeport, New Haven and New London, and Bradley, Tweed and Oxford/Sikorsky Memorial Airports.
3. Modify the State Traffic Commission membership to include DECD as a voting member. The STC mission will be modified as appropriate its policies and mission to promote development consistent with smart growth principles.
4. Allow municipalities to participate in the decision-making process if a development project considered within the municipality has a development cost exceeding \$5 million and the municipality is making a defined investment, for example, property tax abatement, TIF component, cash grant, or local capital improvement.
5. Expand the Metropolitan Transit Authority (MTA) Board of Directors to include Connecticut in a voting capacity.
6. Consolidate all state administered discretionary municipal grant programs into a Responsible Growth for the 21<sup>st</sup> Century Fund and establish a competitive process for towns to apply for funds. Priority will be given to towns that have adopted model zoning, have increased density and are in close proximity to rail and/or bus transit. Provide \$100 million for brownfield redevelopment as recommended by the Brownfields Task Force. A scorecard would be created to assess municipal actions/improvements to streamline development. Points would be awarded for creating Incentive Housing Zones, enacting expedited zoning processing and increased training of land-use staff.

7. Invest in our ports by creating a Maritime Investment Fund for port infrastructure pursuing federal funding under the Maritime Highway program and creating a new CDA program to provide low-cost financing for qualified seaport investments targeted to companies that expand maritime industrial jobs in Connecticut. Pursue federal funding under the Maritime Highway Program, ferryboat discretionary funding and Port Homeland Security funding.
8. Implement a freight feeder barge service between Connecticut and the Port of New York/New Jersey.
9. Support expansion at Bradley International Airport by developing new international routes, beautifying the airport and grounds, increasing tourism marketing and implementing the terminal expansions.
10. Initiate efforts to create an interstate, intermodal freight initiative with bordering states as recommended in the Connecticut Long Range Transportation Plan. Collaborate with Logan Airport and New York City airports to coordinate service and utilize Bradley to alleviate congestion from other airports as suggested in the Connecticut Statewide Airport Strategic Plan.
11. Implement a Transportation Financing Fund to finance capital improvements once Congress has adopted a federal funding mechanism as part of the next round of federal re-authorization deliberations.
12. Design and build the New Haven to Springfield rail line.
13. After the New Haven to Springfield rail line is completed, build a spur to Bradley International Airport.
14. Facilitate a consistent statewide parking pricing and management practices in order to stimulate and grow rail ridership in Connecticut through partnerships with municipalities and private entities. Add 3,000 to 4,000 additional parking spaces across the New Haven Line and Shore Line East system. A market-based approach will ensure sufficient additional parking. Partner with municipalities to design and construct sufficient satellite parking facilities to maximize growth in rail ridership.
15. Allocate \$100 million of Urban Reinvestment Tax Credits for TOD/Responsible Growth projects. Implement the federal Economic Recovery Zone Bond program as a financing vehicle for responsible growth projects.
16. Amend the Remedial Action and Redevelopment Municipal Grant Program into the Remedial Action and Redevelopment Program, and expand its applicability such that
  - a. There is statewide eligibility.
  - b. Eligible applicants include municipalities, regional planning organizations, regional economic development organizations, non-profit and for profit businesses.

- c. Eligible uses include; 1) assessments; 2) remediation; 3) asbestos abatement; 4) build material remediation; and 5) DECD administrative costs.
  - d. Loans (in addition to grants) are a form of financial assistance.
  - e. The Urban Sites Remedial Action Program should be consolidated into this revised program, including DEP's ability to seek cost recovery.
17. Designate the Connecticut Brownfields Remediation Account as the single account supporting state brownfield funding. The Account could receive:
- o Bond funds
  - o State general funds allocated for brownfields
  - o DEP supplemental environmental funds (fine revenue)
  - o Loan repayments
  - o Brownfield land sale proceeds
18. Consolidate and/or streamline DECD's loan program under the Special Contaminated Property Remediation and Insurance Fund (SCPRIF) into the targeted brownfield development loan program.
19. Develop and launch a pilot program to field test green remedial action technologies in coordination with DEP and state universities.
20. Improve the Dry Cleaning Program by amending existing statutes as follows:
- a. Increase the surcharge from the current 1% to 2%. This will increase program revenue to approximately \$400,000 per quarter, and allow more funds to be granted to businesses for remediating sites.
  - b. Increase the funding cap for projects from \$300,000 to \$500,000.
  - c. Amend program to provide low-interest loans for the purchase of green dry cleaning machinery as an eligible expense.
  - d. Create and implement a pilot program for the investment in innovative technology for the remediation of chlorinated solvents.
21. Implement a smartcard that can be used across the entire state transportation network and commission the bus of the future. Market and promote bus ridership. Provide smartcards free to state employees and charge for state employee parking at state facilities.
22. Ensure there is a mechanism to fund both HOMEConnecticut incentive housing payments and the Housing Trust Fund to increase workforce housing in the state. Grant priority consideration to creating flexible mechanisms that include gap financing and regulatory relief so that the production of affordable home ownership units can be significantly increased throughout the state. Coordinate grants and loans from the Housing Trust Fund, Flex and HOME programs, treating each pool of funding as a source of flexible capital. This allows developers to seek 'subsidized' capital from a

pool of funds and put all parts of the capital structure of a housing project together while mitigating uncertainty and delays. Lump bond allocations for shovel ready projects.

23. Expand the gap financing program administered by CDA. Allow municipalities that have state-approved responsible growth/TOD projects to develop Special Services Districts and levy additional taxes and/or fees to fund development. Taxes/fees could include local sales tax, additional conveyance tax, hotel tax, and parking fees.
24. Develop legislation that allows municipalities to enact an ordinance to allow a petition with no less than 40% of the voting residents of the municipality to bring decisions of the planning and zoning entity to referendum.
25. Establish and implement a Green Tax Credit for housing projects that meet or exceed LEED Green Building Rating System Certification.

## Metrics

Connecticut's competitiveness can be measured by how Connecticut compares with other states various industry metrics. There are many ways to measure outcomes of the results of implementing the strategies and initiatives described above. Among these are:

- Increased adult literacy, improved CMT and CAP scores, higher completion rates in the state's urban public high schools and less grade retention in public K-12.
- Increased employer satisfaction with workforce quality and availability determined via an annual survey (e.g., CBIA surveys).
- Decreased outmigration of post-secondary graduates.
- Increased in firm formation and job creation.
- Increased numbers of visitors at its arts, historic and heritage and recreational venues.
- Increased creation of high-quality jobs and the sustainability of the state's economic and environmental assets.
- The inventory of high-priority brownfield sites declines.
- Increased units of affordable housing, greater housing density in urban and suburban areas, reduced reliance on the property tax to fund local public goods and services, and increased civic participation in local development.
- Shift from greenfield development to infill in urban areas.
- Increased homeownership in urban areas.
- Increased enplanements at Bradley, Tweed and Oxford/Sikorsky Airports, increased tonnage passing through Connecticut's deepwater ports and the development of new warehousing and distribution facilities at Bradley and Tweed.
- Improved public transit ridership.