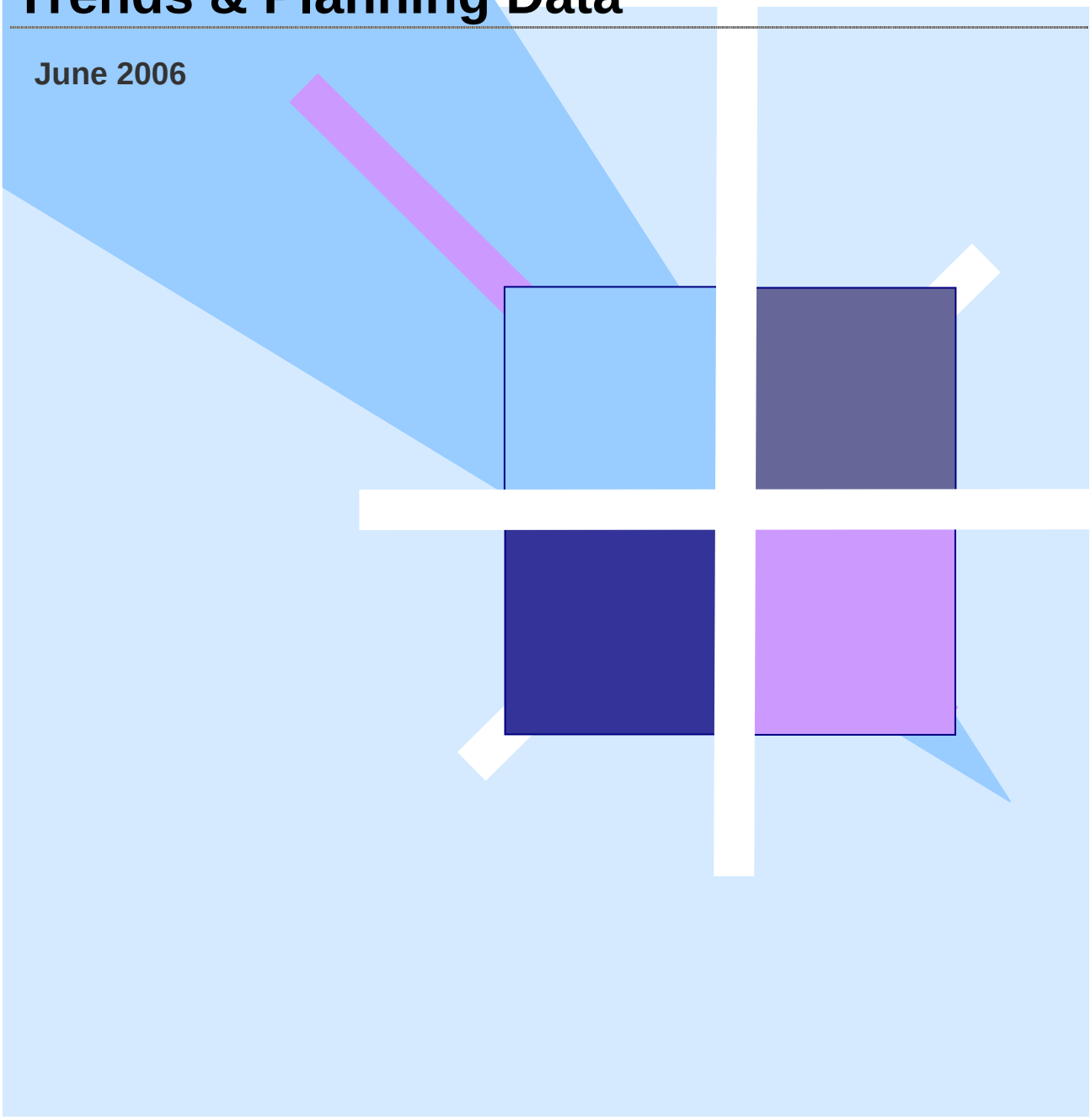
Transportation in Connecticut:

Trends & Planning Data

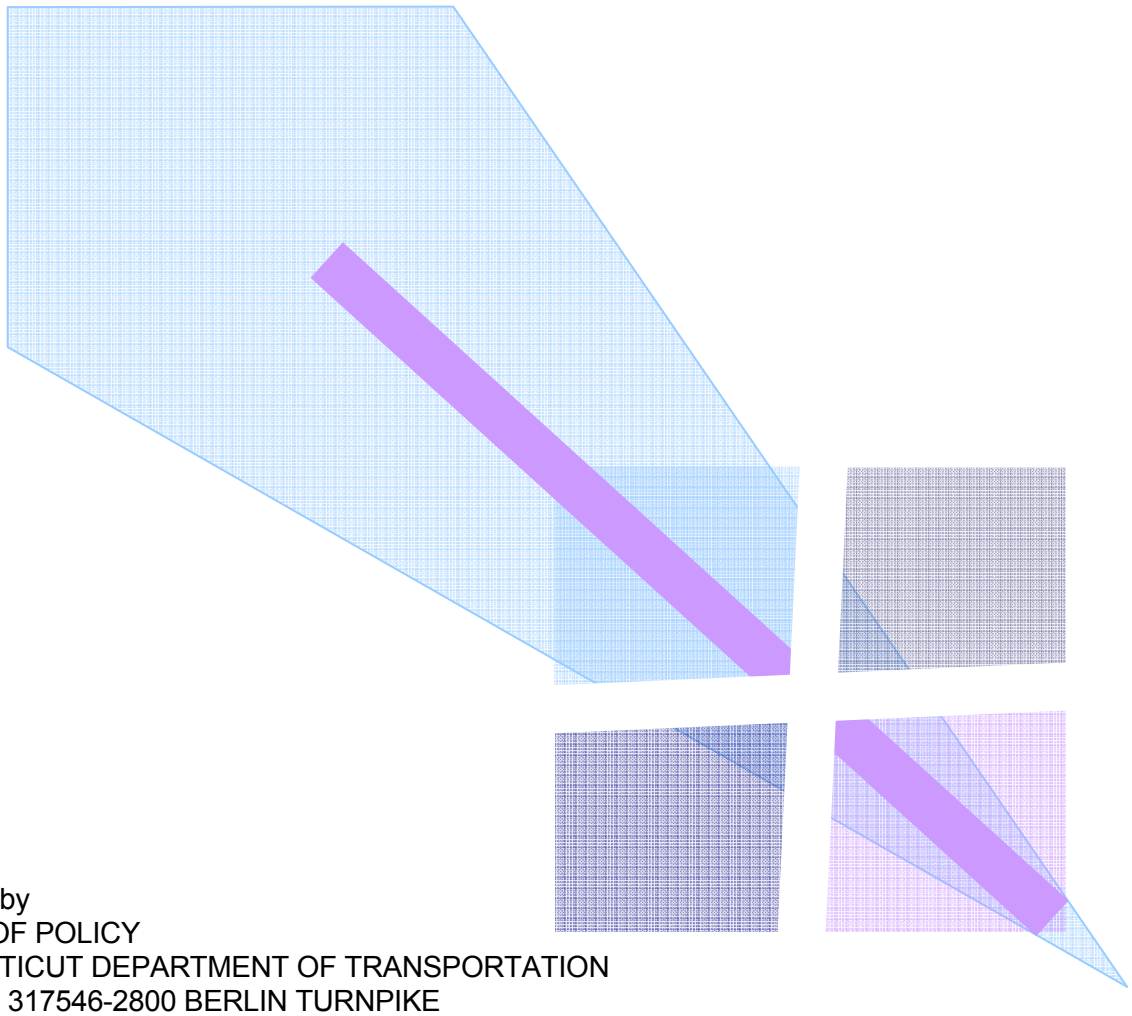
June 2006



State of Connecticut

Department of Transportation

Transportation in Connecticut: Trends & Planning Data



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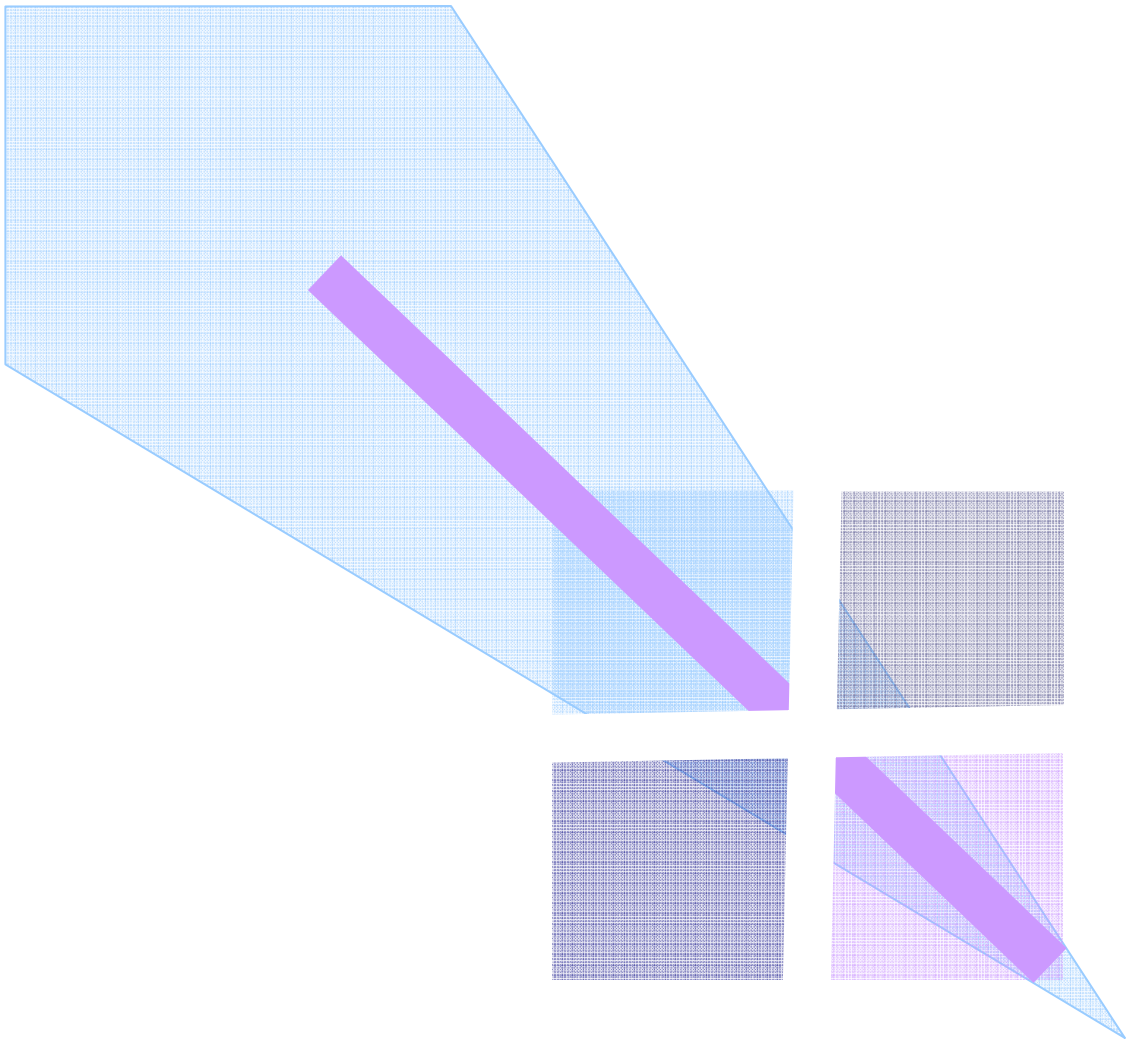


TRENDS & PLANNING DATA

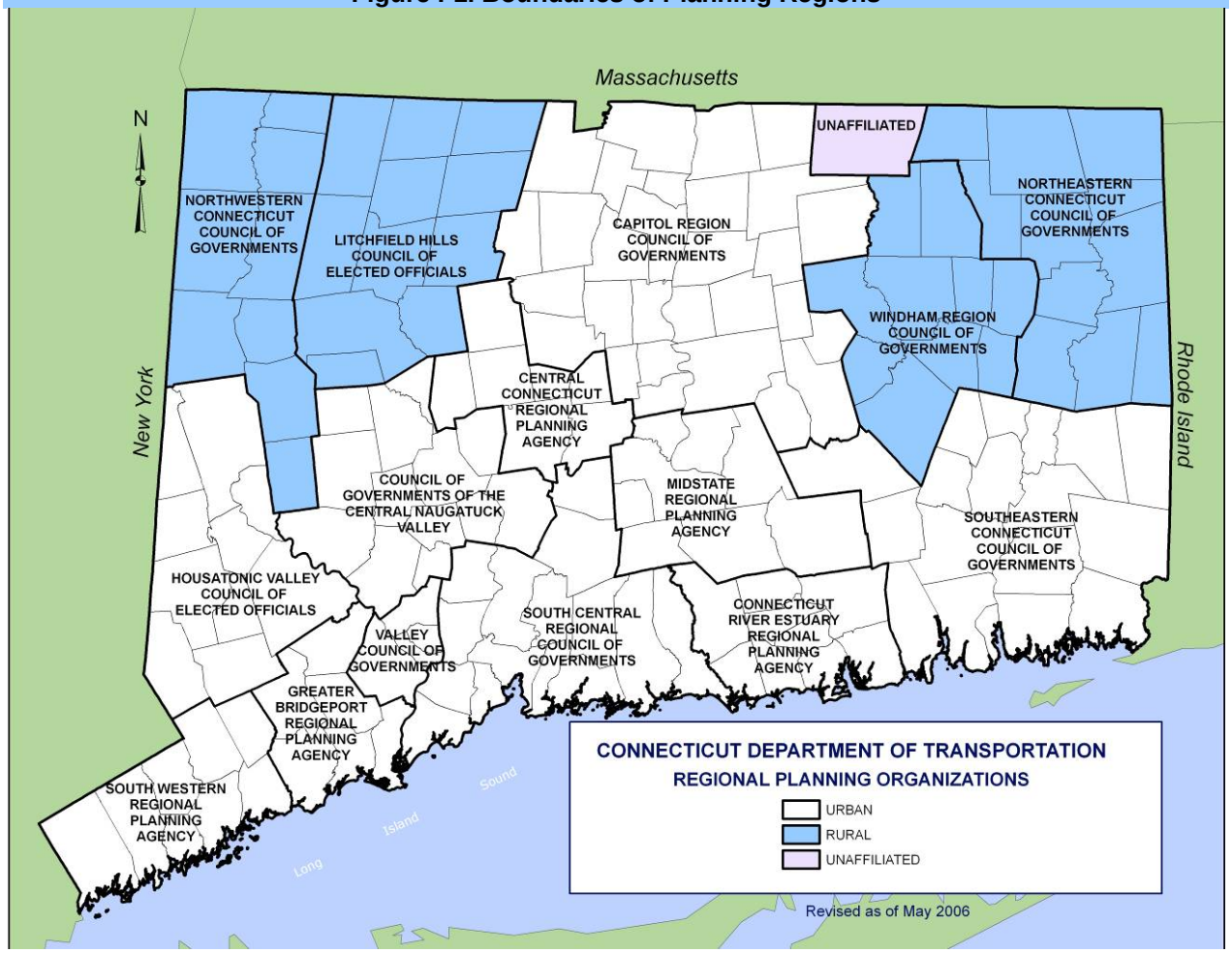
Chapter I of this document contains information on relevant trends, factors and other information used or considered by Connecticut Department of Transportation engineers and transportation planners to forecast and address travel demands in the State of Connecticut. Past and projected demographic trends such as population, employment, housing and vehicle ownership are presented because they provide a general basis, along with land use, economic and other factors, for understanding the underlying variables that effect changes in travel. Commuting patterns, mode of commuting, traffic accident statistics, congestion levels, traffic volumes and safety in critical travel corridors, and developments and trends in the movement of goods, transportation-related security, and federal and state revenue trends are discussed to give an overview of travel patterns and conditions that more directly affect the transportation network.

Chapter II contains information on the long-range transportation plans and major current and anticipated transportation projects and studies in the adjacent states of Massachusetts, Rhode Island and New York that may be relevant to Connecticut.

I. DEMOGRAPHIC TRENDS & PLANNING DATA FOR CONNECTICUT

In this chapter demographic information and planning data is provided for the State of Connecticut and for the individual planning regions. As shown in Figure I-1, in Connecticut, there are eleven urban planning regions, four rural planning regions and one unaffiliated town, the town of Stafford. Previously, the town of Union was also unaffiliated. However, in 2002, the town of Union became a member of the Northeastern Connecticut Council of Governments. For purposes of discussion, comparisons are made amongst the planning regions, separate from the unaffiliated town(s). Reference tables that contain data organized by planning region are included in Appendix B; the tables provide detail for much of the data presented graphically in this chapter.

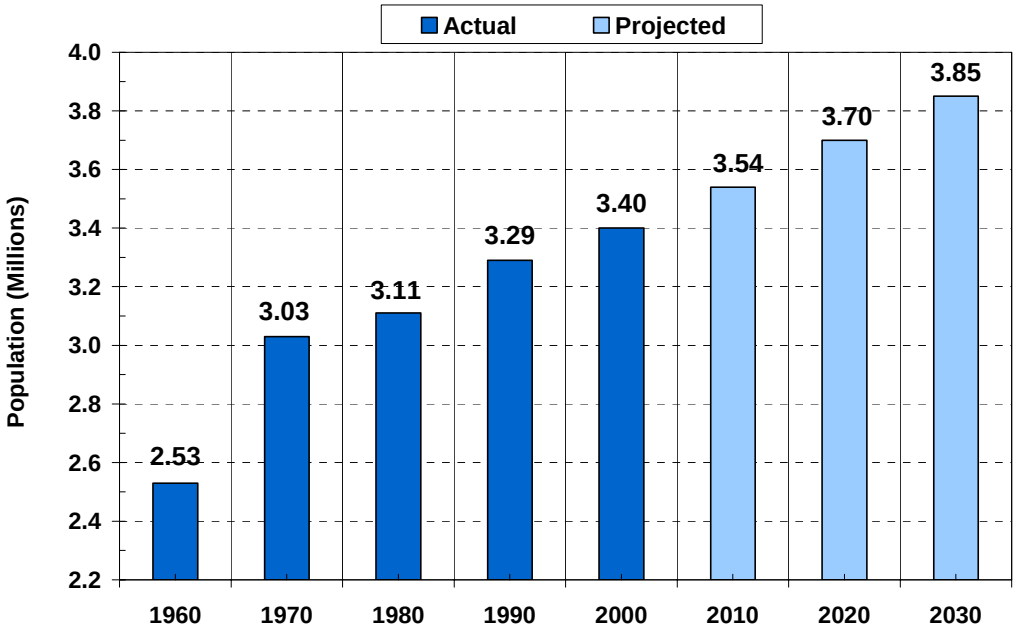
Figure I-1. Boundaries of Planning Regions



A. POPULATION

As presented in Figure I-2, from 1990 to 2000, the state's population increased by 3.6 percent from 3,287,116 to 3,405,545 persons. During this period the average annual growth rate was 0.36 percent. In 2000, the state averaged 665 persons per square mile. Modified state population projections from the Connecticut Office of Policy and Management call for an 8.5 percent increase in total state population from 3,405,545 in 2000 to 3,696,560 by 2020. The current forecast of an average annual growth rate of 0.42 percent for the period of 2000 to 2020 indicates that this trend of slow steady growth will continue. Connecticut's population is projected to increase to an estimated 3.8 million by 2030.

Figure I-2. Population Growth in Connecticut



Source: 1960 Census, 1970 Census, 1980 Census, 1990 Census, 2000 Census, and ConnDOT Series 27B Landuse Projections. Data for years following 2000 is projected. Graphics revised as of August 2004.

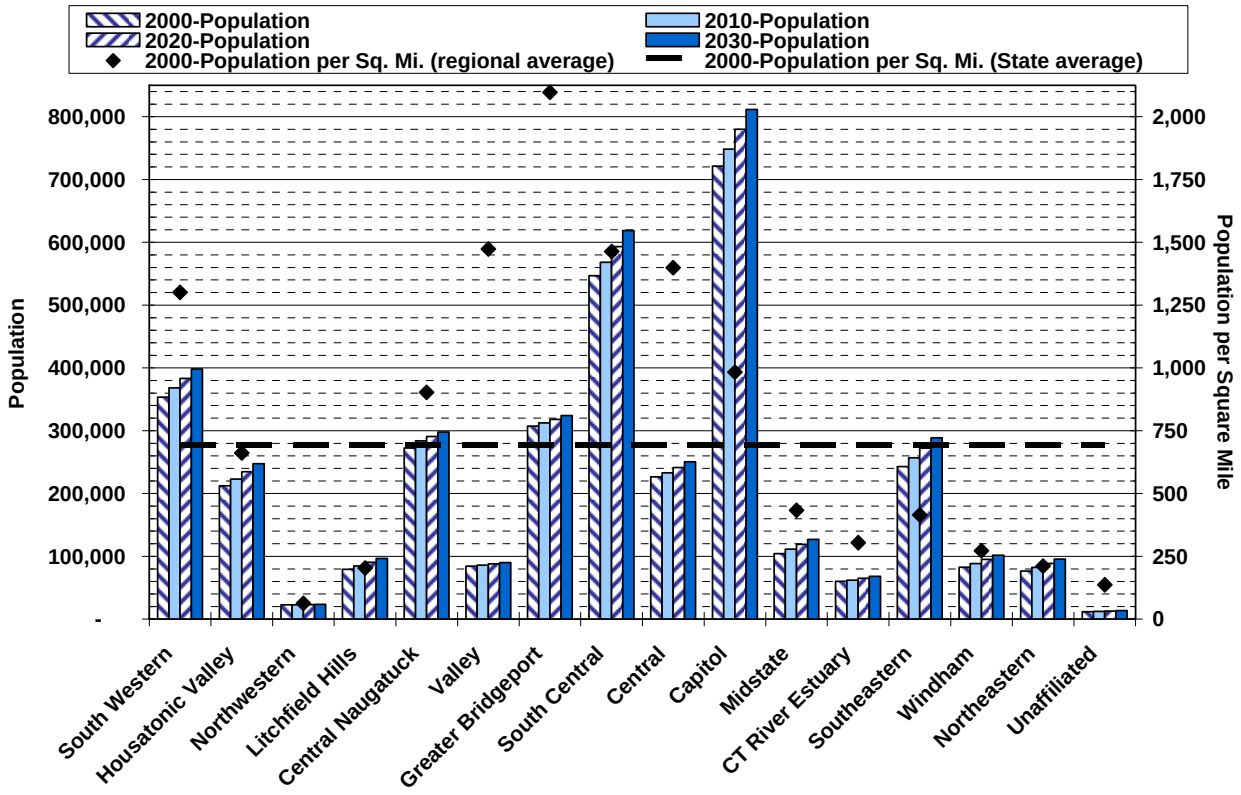
Within the state, actual and projected populations and rates of growth vary among the 15 planning regions and for the unaffiliated town(s). Between 1990 and 2000, as presented in Figure I-3, the population increased in 14 of the 15 planning regions and decreased in 1. The Housatonic Valley Planning Region and the Connecticut River Estuary Planning Region experienced the highest growth rates: 13.0 percent and 9.8 percent, respectively. The Central Connecticut Planning Region experienced a population decrease of 0.4 percent.

In 2000, the Capitol Region, comprising 29 towns with a total area of 761 square miles, had the largest population with 721,320 persons. The Northwestern Region, comprising nine towns with a total area of 361.0 square miles and 62 persons per square mile, had the smallest population (22,655). In 2000, 56.65 percent (1,929,275 persons) of the state's population lived in four regions: the Capitol Region, the South Central Region, the South Western Region, and the Greater Bridgeport Region.

I

In 2000, the Greater Bridgeport Region had the largest number of persons per square mile: 8,721. Four additional regions had more than 1,000 persons per square mile. These were the Valley Region (1,444 persons per square mile); the South Central Region (1,408 persons per square mile), the Central Region (1,362 persons per square mile), and the South Western Region (1,683 persons per square mile). The Northwestern Region, with 63 persons per square mile, had the lowest population density in the state. A comparison of Census data for population sizes and densities among the planning regions is presented in Figure I-3 and listed in Table B-1 in Appendix B.

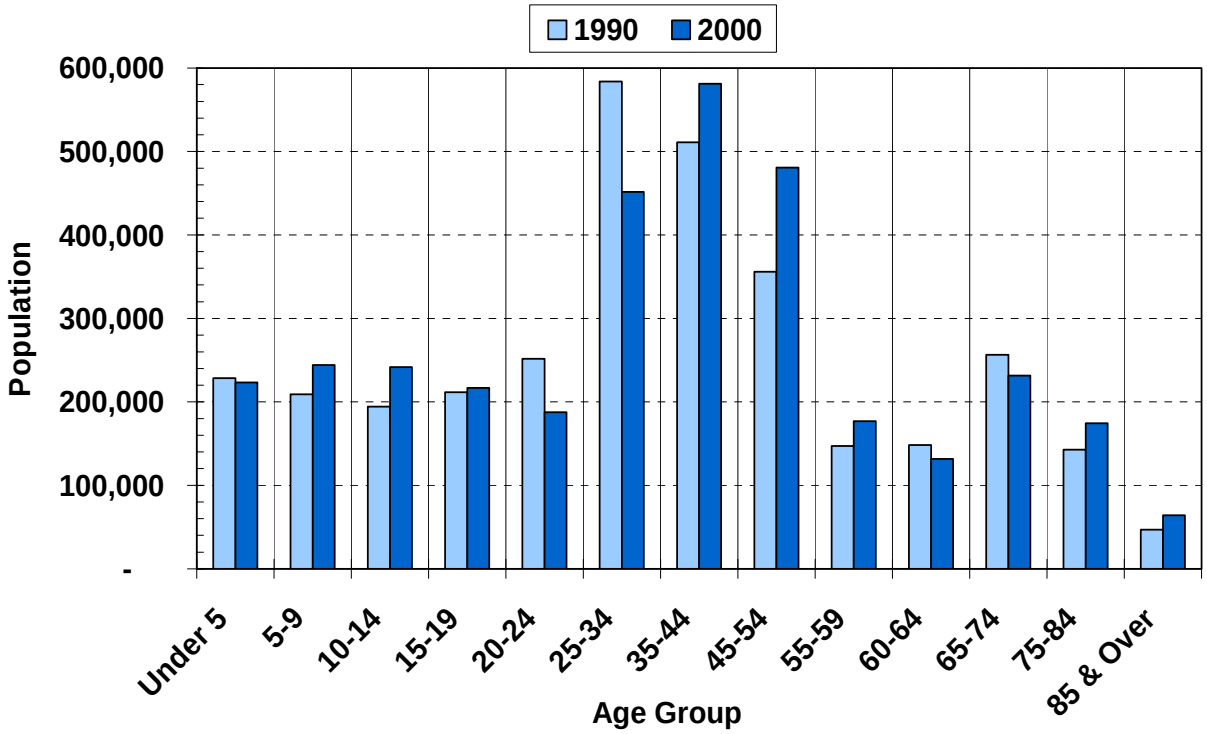
Figure I-3. Population Data by Planning Region



Source: 1990 Census, 2000 Census, and ConnDOT Series 27B Landuse Projections. Data for years following 2000 is projected. Graphics revised as of August 2004.

For the period 2000 through 2030, the populations of all 15 planning regions are projected to increase by percentages ranging from 3.1 percent in the Northwestern Region to 23.2 percent in the Windham Region. The Northeastern Region is projected to increase by 24.9 percent during this period, but a portion of this increase is due to the town of Union having become a new member in 2002. Population projections for each planning region and for the unaffiliated town(s) are presented graphically in Figure I-3 and listed in Table B-1 in Appendix B.

Figure I-4. Population by Age Group

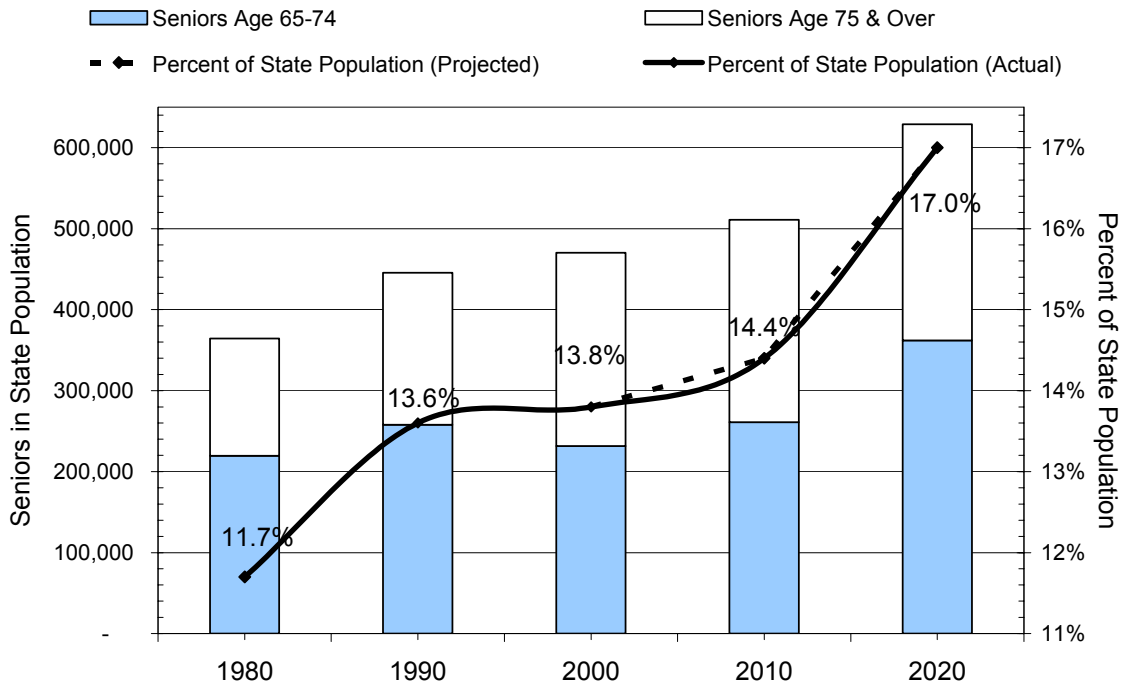


Source: 1990 Census and 2000 Census. Projections for years following 2000 not available. Graphics revised as of August 2004.

Connecticut's total population is not projected to change drastically during the next 20 years. However, changes in the makeup and location of the population will affect the character of the state and demands on public and private services. The composition, by age group, of Connecticut's population is presented graphically in Figure I-4. The figure shows that much of Connecticut's population in 2000 was in the 35-44 and 45-54 age groups. The persons previously distributed in the 45-54 age groups during the 2000 census will likely comprise a large portion of Connecticut's senior population in 2020. As Figure I-5 illustrates, the population in the senior demographic group, persons age 65 and over, has been on the rise since 1980 in Connecticut and is anticipated to continue this trend.

The number of persons in the senior population is growing rapidly; this is in contrast to the slow growth of the overall state population. As presented in Figure I-5, the number of persons age 65 and older was 11.7 percent of the total state population in 1980, 13.6 percent in 1990 and 13.8 percent of the total state population in 2000. From 2000 to 2020, the population of persons over 65 is projected to grow more than 33.0 percent, from 470,183 to 629,000, increasing in proportion from 13.8 percent to 17 percent of the total state population; the largest increase will be during the period 2010 to 2020. Of the senior demographic group, the proportion of those 75 years or older, is projected to increase by almost 11.9 percent, from 238,618 in 2000 to 267,000 in 2020, increasing this group's share of total state population from 7.0 percent to 7.2 percent. This age group comprises 50.7 percent of the total elderly statewide population.

Figure I-5. Seniors (Age 65 & Over) in State Population

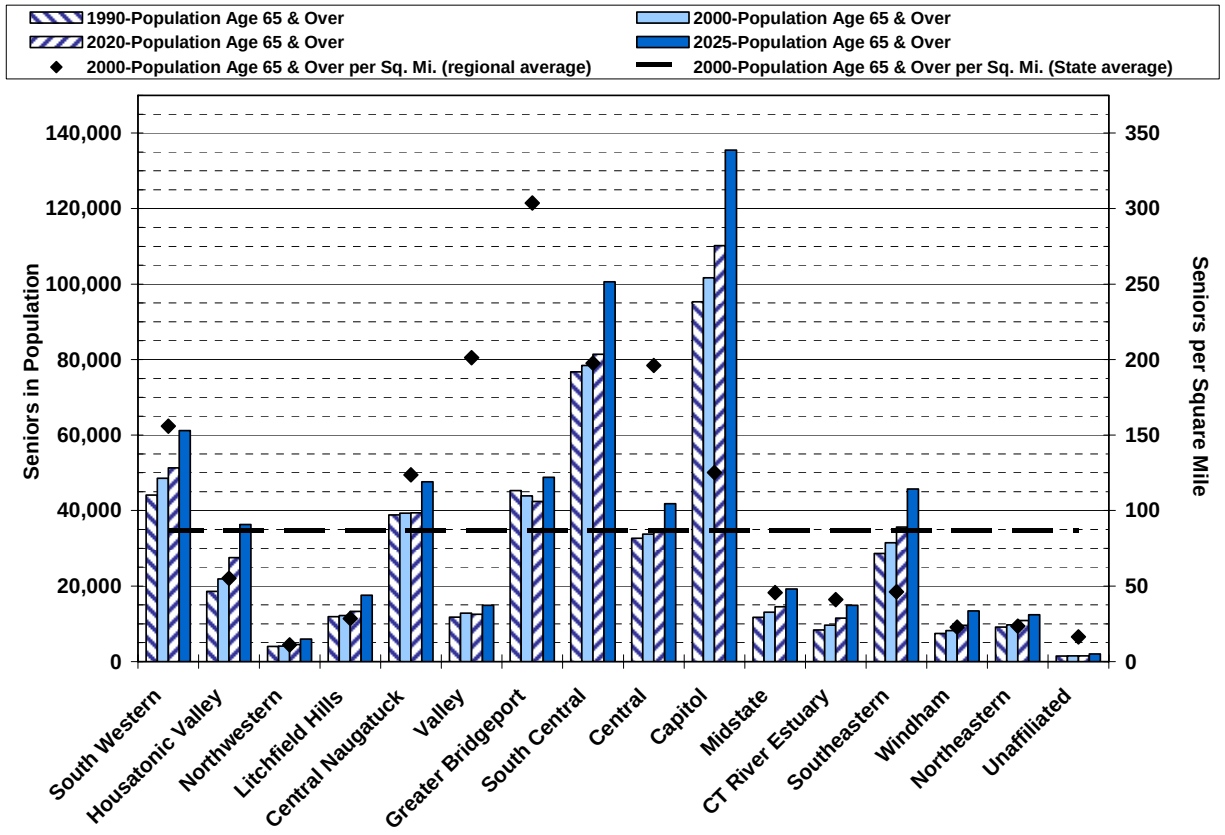


Source: 1980 Census, 1990 Census, and 2000 Census. Projections are Modified OPM Projections. Data for years following 2000 is projected. Graphic revised as of May 2006.

On a regional level, as shown in Figure I-6 and listed in Appendix Table B-2 in 2000 the Capitol Region, followed by the South Central Region, had the largest numbers of seniors. The Capitol Region had 101,665 or 21.6 percent of the state's senior population and the South Central Region had 78,455 or 16.7 percent. For the period 2000 through 2025, projected increases in persons 65 years of age and older range from 11.3 percent in the Greater Bridgeport Region to 65.7 percent in the Housatonic Valley Region.

These figures illustrate the continuing increase in both the numbers and proportion of the older population segments of society; a phenomenon often referred to as the "aging" of U.S. society. Because seniors represent a segment with specific needs and habits, the continuing expansion of this demographic group is exerting a growing influence on the future shape of society. A transportation-related consequence of this trend will be an increased demand for the expansion of paratransit (i.e. "dial a ride") and other transportation services designed to meet the needs of this demographic group. Another consequence will be the need to change components of highway, bus, rail, and air transportation systems to address the safety and mobility needs of older drivers and pedestrians.

Figure I-6. Senior (Age 65 & Over) Data by Planning Region



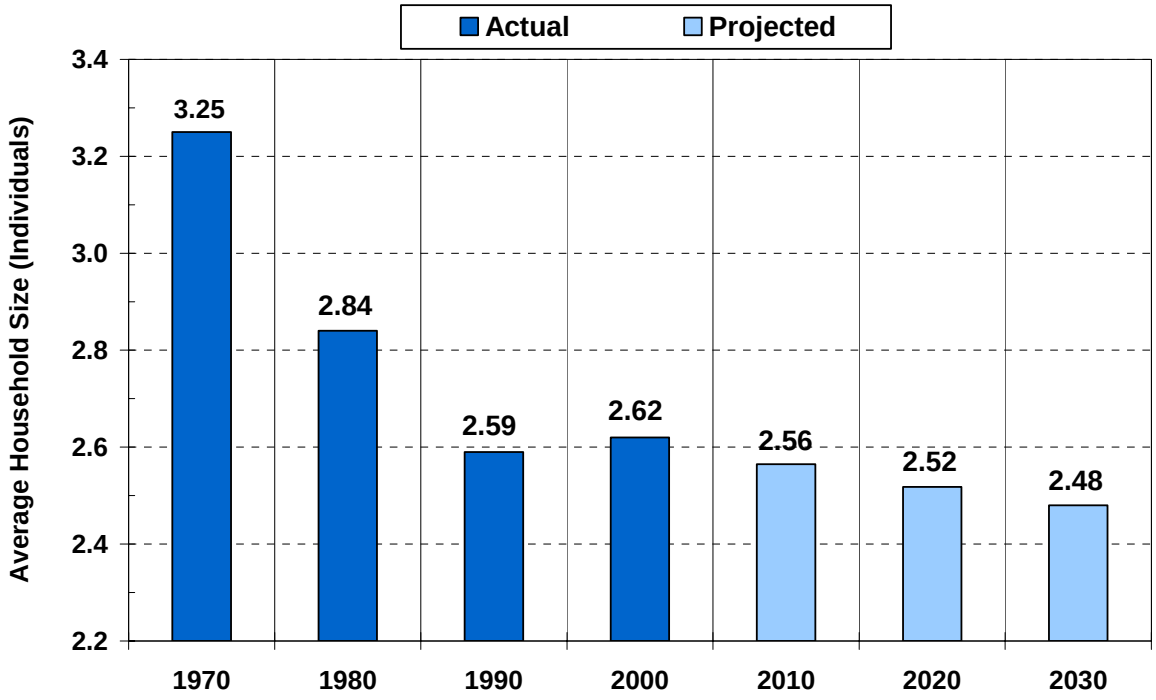
Source: 1990 Census, 2000 Census, and ConnDOT Series 27B Landuse Projections. Data for years following 2000 is projected. Projections for years following 2025 not available. Graphics revised as of August 2004.

Minority populations are the fastest growing populations in the State of Connecticut. Between 1980 and 1990, the overall state population increased by 5.8 percent, whereas, the Asian population increased by 16.3 percent, Hispanics by 71.2 percent, Afro-Americans by 26.1 percent in contrast to an increase in Whites of 2.1 percent. Between 1990 and 2000, these minority populations continued to increase as a percent of the overall state population, however, differences in the race categories used in the 2000 Census make it impossible to accurately compare 1990 Census data with 2000 Census data.

B. HOUSEHOLDS

ConnDOT estimated that between 1990 and 2000, the number of households in Connecticut increased by 5.8 percent, from 1,230,243 households to 1,301,670 households. In 2000, the state had an average number of 254 households per square mile. During the period 2000 to 2030, the number of households in the state is projected to increase by 12.8 percent, to 1,467,999 households. While the number of households has been increasing, the average number of people per household in the state has been decreasing.

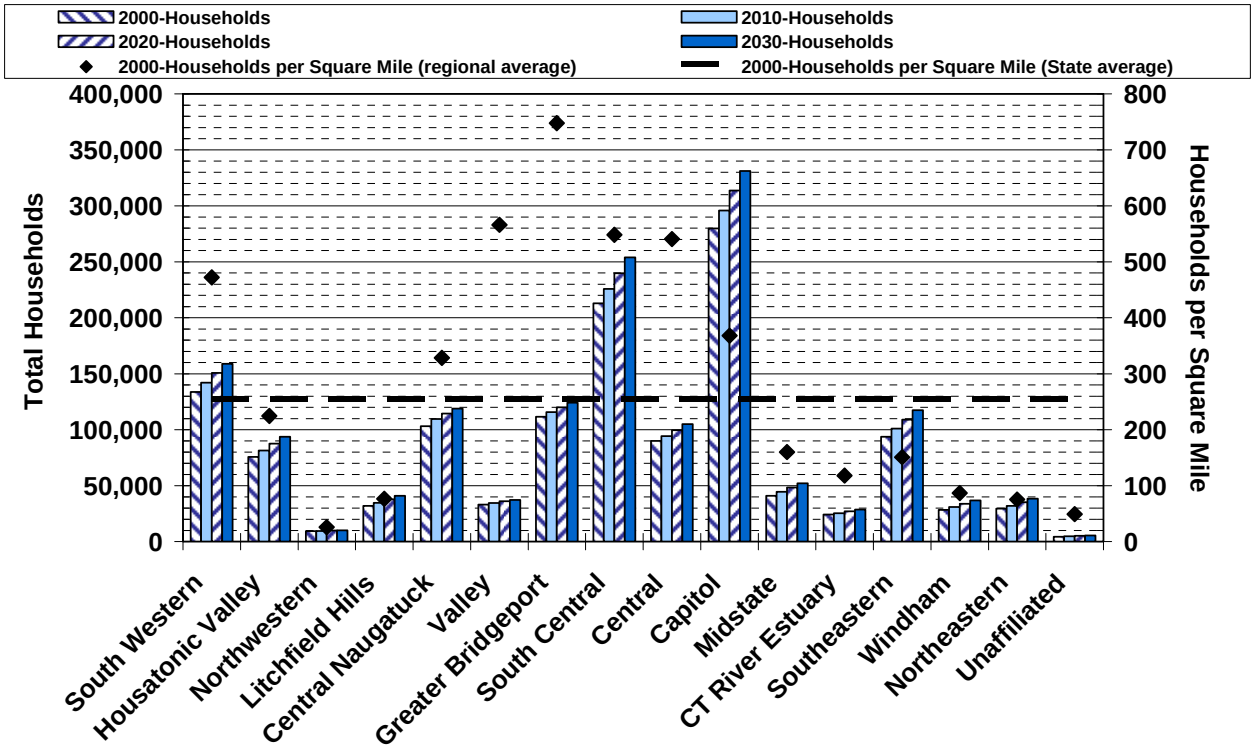
Figure I-7. Average Household Size in Connecticut



Source: 1970 Census, 1980 Census, 1990 Census, 2000 Census, and ConnDOT Series 27B Landuse Projections. Based on population divided by number of households. Data for years following 2000 is projected. Graphic revised as of August 2004.

As presented in Figure I-7, since 1970, there has been a decrease in household size in the State of Connecticut. In 1970, the average household size was 3.25. The average household size dropped successively to 2.84 in 1980, 2.59 in 1990, and then increased to 2.62 in 2000. It is projected that the average household size will decrease to 2.56 in 2010 and continue to decline through the year 2030, to an average of 2.48 persons. This trend of decreased household size is related to the overall increase in the number of households, and is not unique to Connecticut.

Figure I-8. Household Data by Planning Region



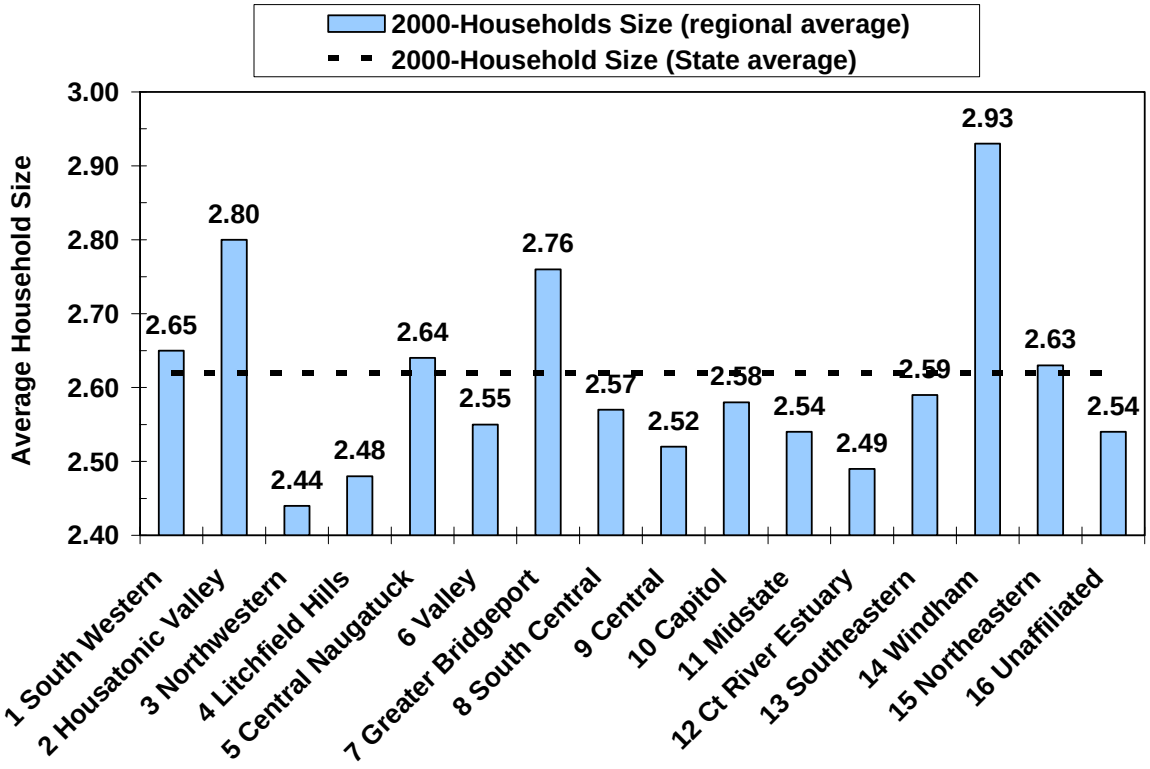
Source: 1990 Census, 2000 Census, and ConnDOT Series 27B Landuse Projections. Data for years following 2000 is projected. Graphic revised as of August 2004.

Higher rates of separation and divorce, the aging of the population and a trend toward delayed marriages by younger people have resulted in more younger and older people living alone, more single parent households, and more couples without children than in the past. These changing social patterns contribute to the decreasing number of people per household unit and the increasing number of non-family households.

Regional information on households is presented graphically in Figure I-8 and presented in Table B-3 in Appendix B. Between 1990 and 2000, increases in the number of households ranged from 1.3 percent in the Northwestern Region to 18.3 percent in the South Central Region. During the same period, two regions experienced a decrease in the number of households: the Midstate Region had a 25 percent decrease in the number of households and the Connecticut River Estuary Region had a 43.6 percent decrease.

In 2000, as presented in Figure I-8, the Capitol and South Central regions had the largest numbers of households, 279,871 and 212,894, respectively. The Northwestern Region had the smallest number: 9,290. Figure I-9 shows that the average household size ranged from 2.44 persons in the Northwestern Region to 2.93 persons in the Windham Region with six of the fifteen planning regions having an average household size greater than the overall state average of 2.5 persons per household.

Figure I-9. Average Household Size by Planning Region



Source: 2000 Census. Graphic revised as of August 2004.

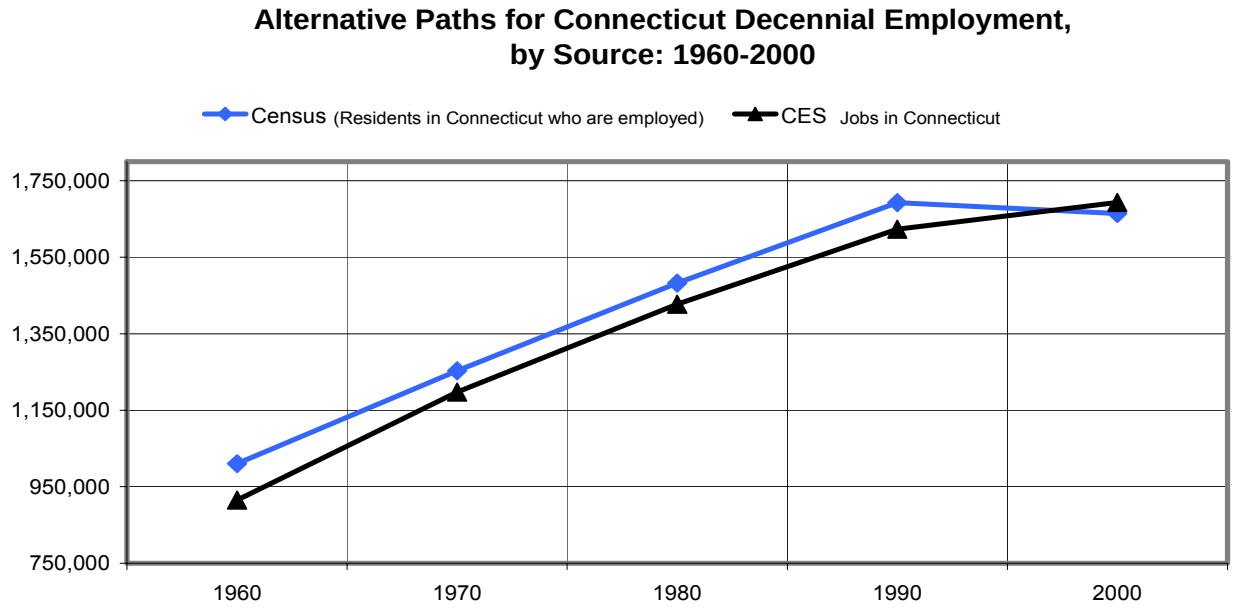
For the period 2000 through 2030, it is projected that the number of households in all 15 regions will increase. The projected increases range from 5.74 percent in the Northwestern Region to 20.02 percent in the Windham Region. The number of households is projected to increase by 10 percent or more in 12 of the 15 regions; the exceptions are the Northwestern, Valley, and Greater Bridgeport regions. Additional data on households is presented in Appendix B in Table B-3.

In 2000 the number of households per square mile, ranged from a low of 26 households per square mile in the Northwestern Region to a high of 748 households per square mile in the Greater Bridgeport Region.

C. EMPLOYMENT

Employment trends, annual fluctuations in employment, and employment projections are presented and discussed in this section. This information is important because it provides insights into changes in growth in Connecticut, people's travel patterns and, hence, current and future mobility needs and issues. The Connecticut Department of Transportation (ConnDOT) obtains data on existing employment from the Connecticut Department of Labor (DOL) and develops 20-year statewide and regional projections of future employment to use as variables in its transportation modeling process. Employment estimates are a key part of determining the number of work trip attractions to a traffic analysis zone (TAZ) in the generative phase of the Department's travel model. Employment at any given time depends heavily on the state of the economy.

Figure I-10. Connecticut Decennial Employment by Data Source



Source: Daniel Kennedy Ph.D, Senior Economist, Office of Reseach,Connecticut Department of Labor. January 2006

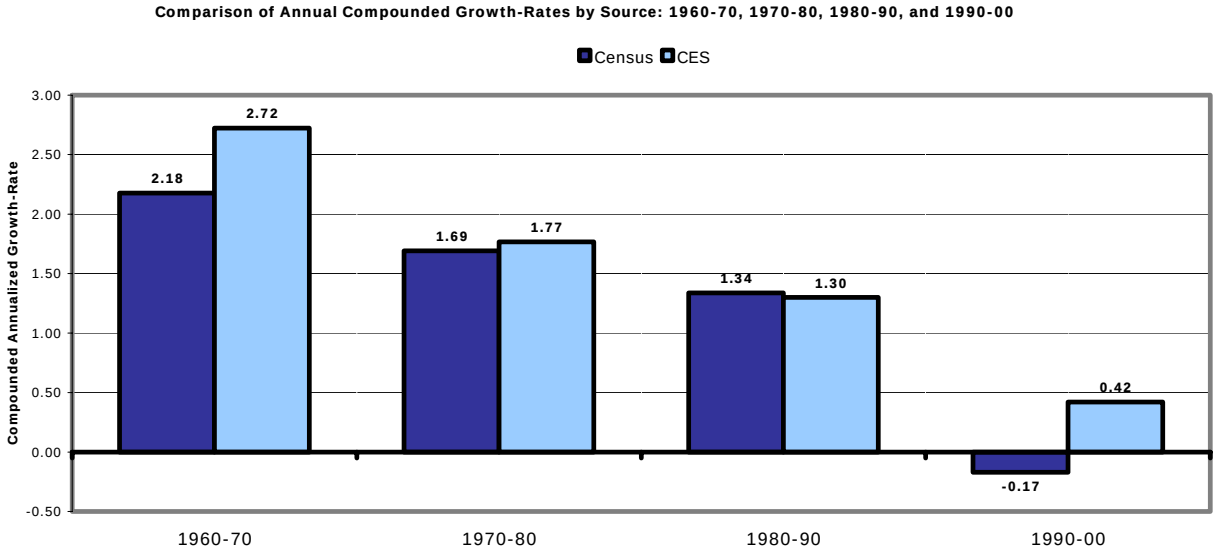
Figure I-10 depicts employment trends in Connecticut from 1960 through 2000. It shows the levels and changes in Connecticut employment based on data from two kinds of surveys: 1) an establishment-based Current Employment Statistics (CES) survey, which counts non-farm jobs in the State of Connecticut; and 2) the decennial census employment survey (Census), a household survey that counts people living in Connecticut who are employed.

The CES data on jobs, which is obtained from a survey of 5,000 Connecticut businesses, provides information on non-farm jobs in Connecticut, regardless of whether the workers live in Connecticut or another state. The data obtained from the Census survey provides information on labor market status of residents of Connecticut who are employed, regardless of whether they work in Connecticut or out-of-state. Summary information explaining the differences in concepts between the two surveys of HOUSEHOLD (labor force) vs. ESTABLISHMENT (jobs) is included in Appendix C in Table C-1 and Table C-2

Figure I-10 shows that employment increased steadily from 1960 through 1990. For that time period, both the Census and the CES data show increases (1.3 percent) and (1.25 percent), respectively, in the employment population. For 2000, the household-based Census data indicate that from 1990 to 2000 there was a 1.71 percent decline in employment. However, the CES data, which counts jobs in Connecticut, indicate that there was a 4 percent increase in non-farm jobs in Connecticut during this period.

Figure I-11, Annual Compounded Employment Growth Rates in Connecticut, shows the levels and changes in the growth rates of employment (based on an annual compounded growth-rate) in Connecticut from 1960 through 2000 (in decennial intervals) based on data from the Census and the CES surveys. It shows that over the past forty years, from 1960 through 2000, the rate of growth in employment in Connecticut declined. From 1960 through 1970, the rate of growth in employment was 2.18 percent based on Census data and 2.72 percent based on CES data. From 1970 through 1980, the rate of growth in employment was 1.69 percent based on the Census data and 1.77 percent based on the CES data. From 1980 through 1990, the rate of growth was 1.34 percent based on the Census data and 1.30 percent based on the CES data. From 1990 through 2000, however, the Census data, which reflects the employment based on persons living in households in Connecticut, not the state(s) in which these individuals work, indicate a negative rate of employment growth (-0.17 percent). The CES data, which reflect the rates of growth in non-farm jobs located in Connecticut, indicate that, although the rate of growth from 1990-2000 was significantly lower than it was from 1980-1990; there was a positive rate of employment growth (0.42 percent) during this period.

Figure I-11. Annual Compounded Employment Growth Rates in Connecticut,1960-2000

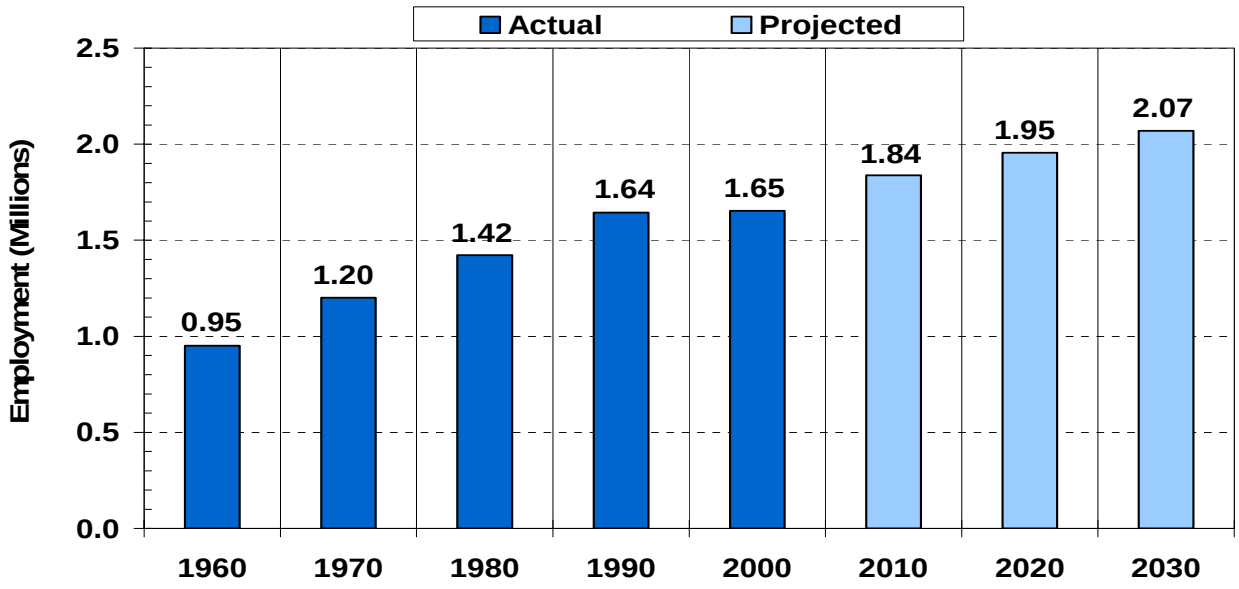


Source: Daniel Kennedy Ph.D, Senior Economist, Office of Reseach, Connecticut Department of Labor. January 2006

The data presented in Figure I-10 and Figure I-11 for the period 1990-2000 show the impact of either the loss of out-of state jobs and/or the decrease in travel to out-of-state job by Connecticut residents. It suggests that a certain percentage of Connecticut residents use Connecticut's transportation system to travel to jobs located in other states or countries and that there was a decrease in either the number of out-of-state jobs held by Connecticut residents or in work-related travel to out-of-state locations.

Figure I-12 presents actual employment data for the State of Connecticut in ten-year intervals from 1960 through 2000 and projected employment growth for ten-year intervals from 2010 through 2030. It shows that employment grew from .95 million in 1960 to 1.20 million in 1970, 1.42 million in 1980, 1.64 million in 1990 and 1.65 million in 2000. From 2000 to 2030 ConnDOT is forecasting a moderate rate of growth in employment. Using the Census Transportation Planning Package, which takes into account in-state and out-of-state travel to places of employment, the Department has projected that employment in Connecticut will increase at a slow, annual growth rate of 0.91 percent from the 2000 employment level to 1.95 million in 2020 and 2.07 million in 2030. This represents a 25.3 percent increase in employment from 2000 to 2030.

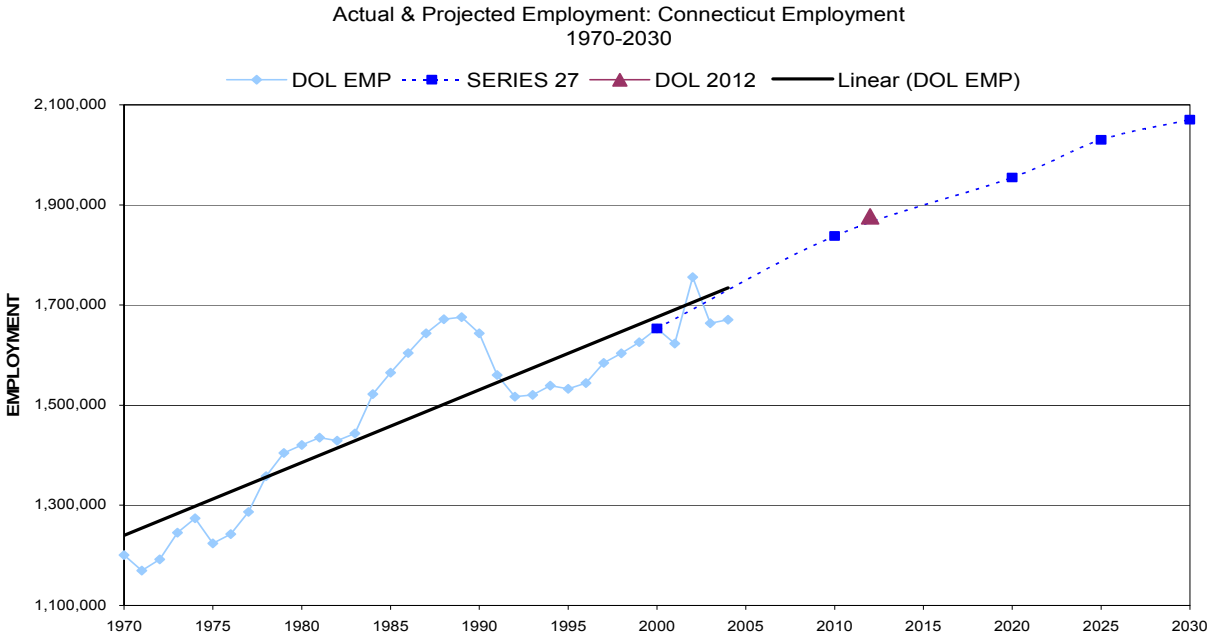
Figure I-12. Employment in Connecticut, 1960-2030



Source: 1960 Census, 1970 Census, 1980 Census, 1990 Census, 2000 Census, and ConnDOT Series 27B Landuse Projections as well as data from the Connecticut Department of Labor. Data for years following 2000 is projected. Graphic revised as of August 2004.

Figure I-13 presents annual employment data obtained from the Connecticut Department of Labor (DOL) and ConnDOT's projections of future employment. This graph demonstrates the volatile nature of employment. Even on a statewide basis, the employment varies considerably. The DOL employment is shown annually due to the variation in employment from year to year. The Series 27 projections are a trend line based on the DOL reports on employment. As shown on the graph, the DOL's 2012 statewide projection is on ConnDOT's trend line. The near-term employment between 2001 and 2004 is somewhat below the Department's projections.

Figure I-13. Actual and Projected Employment in Connecticut



Source: Developed by the ConnDOT Division of Systems Information, from the Connecticut Department of Labor reports with 2012 projection and Series 27B Connecticut Department of Transportation Land Use Projections. Graphic revised as of March 2006.
Note: Figures beyond 2005 are projected.

The fluctuations in employment are due to various trends and events. The rate of growth during the period 1970 and 2000 was fueled to some degree by the large increase in the number of women entering the work force and a robust economy which absorbed the influx of workers. During the 1980's there was substantial employment growth in the State of Connecticut. Between 1980 and the peak year, 1989, the state's total non-farm employment grew by 255,510 to 1,676,180 jobs.[1] From 1990 to 1992, however, employment declined. The state lost approximately 150,000 jobs, with employment sinking to a low of 1,516,700 in 1992.[2] This figure put employment back roughly to its 1984 level. In the early 1990's, the state was recovering from the economic recession of 1989-1992 when employment declined from its peak to a level consistent with the mid-80's. From 1990 to 2000, new jobs were created at a slow but steady pace. During this period, statewide employment grew by only 0.6 percent, or an average annual increase of 0.06 percent.

Between 2001 and 2004, the actual employment was below ConnDOT's projections due to a recession during that period. After early 2001, the economy saw a slight decline. The state economy suffered an additional setback after the September 11, 2001, terrorist attacks on the World Trade Center and the Pentagon. A decline in air travel resulted in the loss of jobs in travel-related fields. However, from 2001 to 2005 air passenger traffic gradually increased on an annual basis. From 2000 to 2004 air traffic increased by 7.53 percent.[3] As of October 2005, the year-to-date air passenger traffic had increased 4.1 percent from the same period the previous year.[4]

[1] Connecticut Department of Labor.

[2] Ibid.

[3] "Passenger Traffic Report – 2005", Bureau of Aviation & Ports, ConnDOT.

[4] "The Connecticut Economic Digest", December 2005, Volume 10, Number 12, Page 7.

Regional Employment

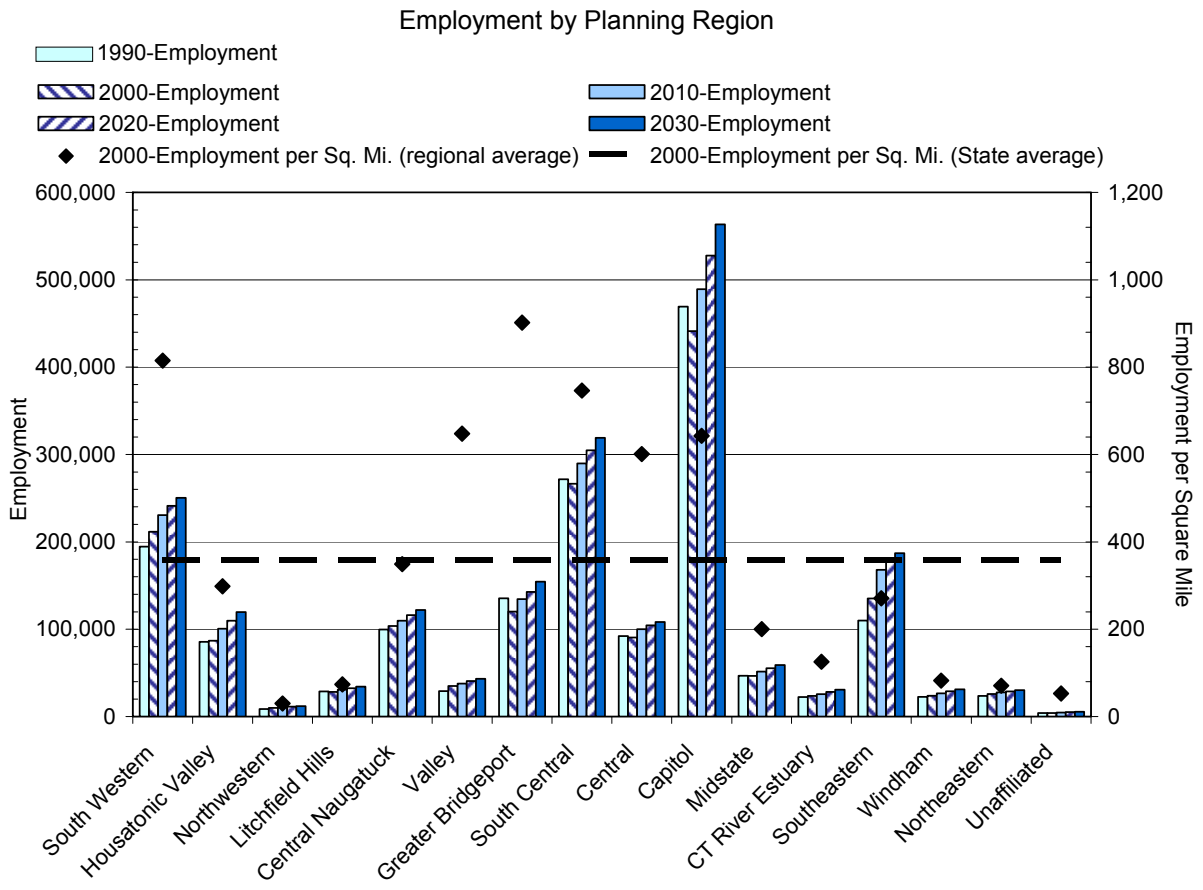
Figure I-14 presents actual and projected Connecticut employment data from 2000 through 2030 by planning region. It shows that from 1990 to 2000, employment increased in nine regions and decreased in six planning regions. The increases in employment ranged from highs of 20.7 percent and 22.9 percent, respectively, in the Valley and Southeastern regions to a low of 1.5 percent in the Housatonic Valley Region. The decreases in employment ranged from 0.6 percent in the Midstate region to 11.1 percent in the Greater Bridgeport Region. Six regions experienced an average annual decline. The largest decline in employment occurred in the Greater Bridgeport Region, which had an average annual decline of 1.11 percent. The other five regions that experienced a negative annual growth rate were Litchfield Hills, South Central, Central, Capitol and Midstate. The average annual growth of employment ranged from a low of 0.15 percent in the Housatonic Valley Region to a high of 2.29 percent in the Southeastern Region.

In 2000, the Capitol, South Central, and South Western regions had the greatest numbers of jobs: 441,290, 266,580, and 211,480, respectively. The total employment in these regions represented 55.6 percent of the state's total employment in 2000. The Northwestern Region had the lowest number of jobs: 9,900. With respect to employment density in 2000, the South Western and Greater Bridgeport regions had greater than 700 jobs per square mile. The Northwestern Region, comprising nine towns, had the lowest number of jobs per square mile (27) of the planning regions in 2000. The state had an average employment of 323 jobs per square mile.

ConnDOT has projected employment increases in all planning regions through 2030. The Capitol Region is projected to experience the highest growth in employment followed by South Central, Southwestern, Southeastern Connecticut, and Greater Bridgeport. The lowest employment growth is projected in the following regions: Litchfield Hills, Northeastern Connecticut, Windham, Connecticut River Estuary, and Northwestern Connecticut. Additional employment data for each of the regions is presented in Appendix B Table B-4 and in Figure B-1, Figure B-2 and Figure B-3.

A long-term factor that could make this growth optimistic is the aging of Connecticut's population which could lower the overall growth of the labor force in Connecticut. The increased average age is a nationwide trend with the large group of "baby boomers" approaching retirement age. However, changes in the Social Security system and in companies' pension plans and health benefits could result in more workers remaining in the workforce for longer periods of time. This situation could result in increased demand to modify and improve transportation systems to accommodate the mobility needs of older workers.

Figure I-14. Employment Data by Planning Region, 1990-2030



Source: 1990 Census, 2000 Census, and ConnDOT Series 27B Landuse Projections. Data for years following 2000 is projected. Graphic revised as of February 2006.

Trends in Types of Employment in Connecticut

With respect to types of employment, trends in Connecticut are mixed. Employment in the state has been slowly returning to its previous peak; however, there has been a shift in the types of jobs created. Within the last 30 years, there has been a shift of jobs from the manufacturing sector to the service sector. In general, the base industries in Connecticut have shifted to other areas, with many jobs being relocated outside of the country. However, there is still a component of high end, aeronautical manufacturing in the state with Pratt and Whitney and companies such as Sikorsky. Electric Boat has about half its peak employment of 14,000, but still has a substantial work force.[5] This shift in employment from manufacturing to service employment does not affect ConnDOT's travel modeling because the type of employment is not part of the travel model inputs except for retail employment. The shift from manufacturing does, however, affect the distribution of employment in the state in that employment is more spread out in the state.[6]

[5] Herman Lehlbach, unpublished paper, "Connecticut Employment Projections," Division of Systems Information, Connecticut Department of Transportation, February 2006.

[6] Ibid.

Growth and trends with respect to types of employment differ from region to region. A recent trend in the Hartford area of the Capitol Region is the loss of insurance and finance jobs due to the consolidation of large companies such as Travelers and Aetna.[7] In the southeastern part of the state, more than 20,000 jobs have been created as a result of the development and expansion of the Native American Casinos. In Ledyard, the Foxwoods Resort and Casino, which is owned and operated by the Mashantucket Pequot Tribal Nation, has undergone several successive expansions including the construction of two large tourist hotels. Tribal and Foxwoods officials were scheduled to break ground in November 2005 on a $700 million development project that will provide Foxwoods' customers with more gaming, more entertainment and additional resort amenities, including more convention and meeting space at a single site than any other casino on the east coast. The project will add 2,300 permanent jobs at Foxwoods, bringing total employment to more than 13,500 people.[8] The Mohegan Sun Casino, which is owned and operated by the Mohegan Tribal Nation, is also located in southeastern Connecticut in the town of Montville. Nearly 10,000 people are employed at this casino.[9] These jobs replace some of the manufacturing jobs lost but at a reduced level of compensation. The casinos have brought in many persons from foreign countries.

Casinos have had and are continuing to have a significant impact on tourism, transportation, and related development, particularly in the southeastern part of the state.[10] They are growth centers that contrast sharply with rural surroundings and may foster new land use patterns over a broad area. These impacts, both positive and negative, make cooperative planning efforts among state, regional, municipal and tribal officials a vital and continuing obligation.[11]

A major addition in the southeastern part of the state is the building of the Pfizer Research Center in New London. This research center supplements Pfizer's existing facilities in Groton.

The southwestern part of the state, notably Greenwich, Stamford, and to a lesser extent, Norwalk, have become employment centers developed as corporate parks due to the relocation of companies from New York to the 'suburbs'. Much of this type of development has slowed because of the high cost of housing and the infrastructure. Interstate 95 is at or over capacity and there is little likelihood of relief any time in the near future. In any case, the further development of office space will be limited by the capacity of the transportation system and any future attempts to increase it. Less expensive housing is also related to the transportation deficiencies. As people move further away from urban and suburban areas to obtain affordable housing they put even greater strain on the transportation system. Cities such as Danbury are growing at a fast rate, but there is limited north-south access within the southwestern part of Connecticut by auto, and the rail service on the Danbury Line is one track with passing sidings. In any case, the potential for further growth in the southwestern part of the state will be limited by transportation. Cities such as New Haven have a solid base of employment with some potential for further growth out of New York. This has not occurred up to now but may in the future.[12]

[7] Ibid.

[8] Foxwoods Resort Casino, "THE MASHANTUCKET PEQUOT TRIBAL NATION TO BEGIN $700 MILLION FOXWOODS DEVELOPMENT PROJECT," Press Release on November 3, 2005, <http://www.foxwoods.com/Home/PressCenter/PressReleases.aspx#> (30 November 2005)

[9] Mohegan Sun Casino & Entertainment, "Look up Frequently Asked Questions under Employment section," http://www.mohegansun.com/common/faq.jsp. copyright 2005 (30 November 2005)

[10] *Conservation and Development Policies Plan for Connecticut, 1998-2003*, State Office of Policy and Management, last modified October 31, 2001.

[11] "Planning for Connecticut's Future," *Conservation and Development Policies Plan Connecticut, 1998-2003*, p. 6, State Office of Policy and Management, last modified October 31, 2001.

[12] Lehlbach, "Connecticut Employment Projections," Connecticut Department of Transportation, February 2006.

In 2000, of the 1.65 million jobs in Connecticut, 273,561 (16.6 percent) were in retail and wholesale trade sectors; the remaining 1.38 million jobs (83.4 percent) were in other sectors.[13] ConnDOT has projected that, of the estimated available jobs in the year 2020, 325,340 are projected to be in retail and wholesale trade sectors, and 1.63 million are anticipated to be in other sectors.

As of March 2006 there were nine industry clusters in Connecticut: Aerospace, Agriculture, Bioscience, Insurance and Financial Service, Maritime, Metal Manufacturing, Plastics, Software and Information Technology, and Tourism. Of these industry clusters, Financial and Insurance Services, which comprises 8% of our employment population, is the largest. The smallest growing industry cluster is Plastics, which comprises 0.5% of our employment population.

Other Relevant Employment Data

Unemployment rates for Afro-Americans and Hispanics are significantly higher than those of the overall labor force, despite growing representation of these groups' in the labor force. The impacts of minority unemployment are felt most in the larger cities as minority populations tend to be concentrated in these areas and the growth in jobs increasingly has been in the suburbs. These employment patterns, coupled with the population trends previously discussed, indicate that there is a continuing need for state, regional and local agencies to work together to develop and encourage land use and transportation strategies that address the employment and mobility needs of the state's minority populations.

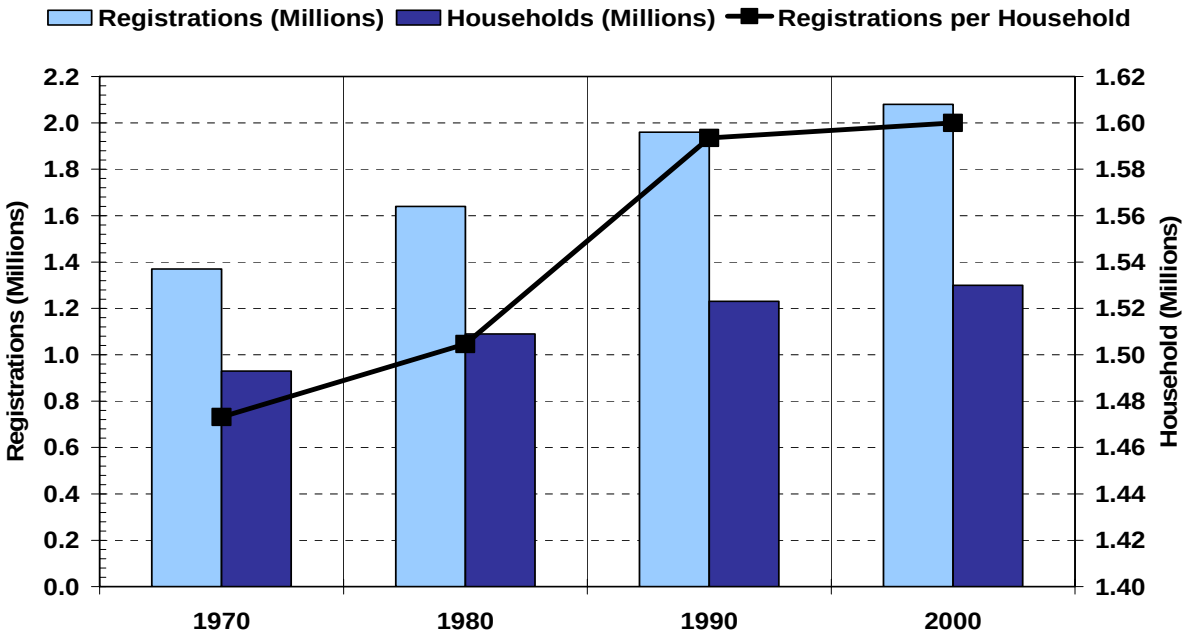
[13] Division of Information Systems, Connecticut Department of Transportation, March 2006.

D. MOTOR VEHICLE OWNERSHIP

From 1990 to 2000, Connecticut's population increased 3.6 percent from 3,287,116 in 1990 to 3,405,545 in 2000. During this same period, motor vehicle ownership, as reflected by the number of passenger vehicles registered in the state's cities and towns, increased by over 5.9 percent from 1,963,809 to 2,080,612.

The average number of vehicles available per household has been increasing. As shown in Figure I-15, 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.

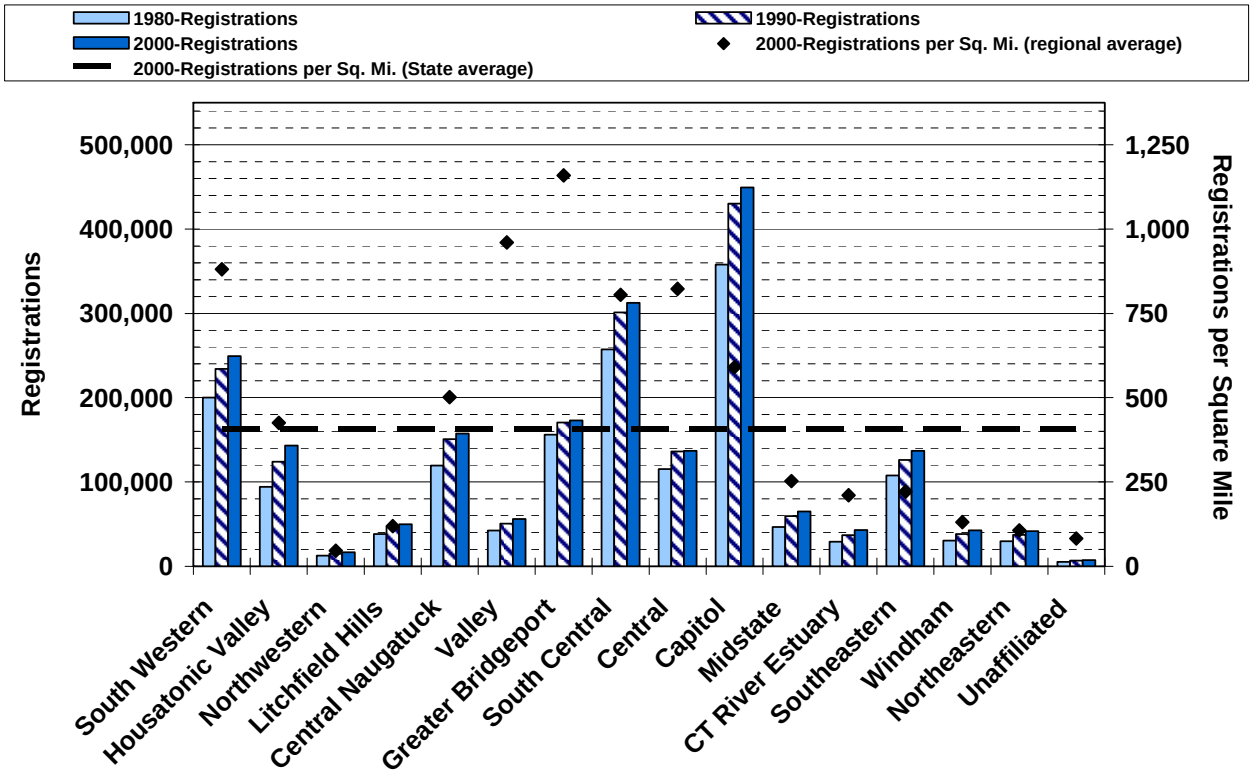
Figure I-15. Comparison of Passenger Vehicle Registrations to Households



Source: 1970 Census, 1980 Census, 1990 Census, 2000 Census, and Connecticut Department of Motor Vehicles. Graphic revised as of April 2006

From 1990 to 2000, passenger vehicle ownership increased more than 10 percent 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 is presented in Figure I-16 and Table B-5 in Appendix B.

Figure I-16. Passenger Vehicle Registrations by Planning Region



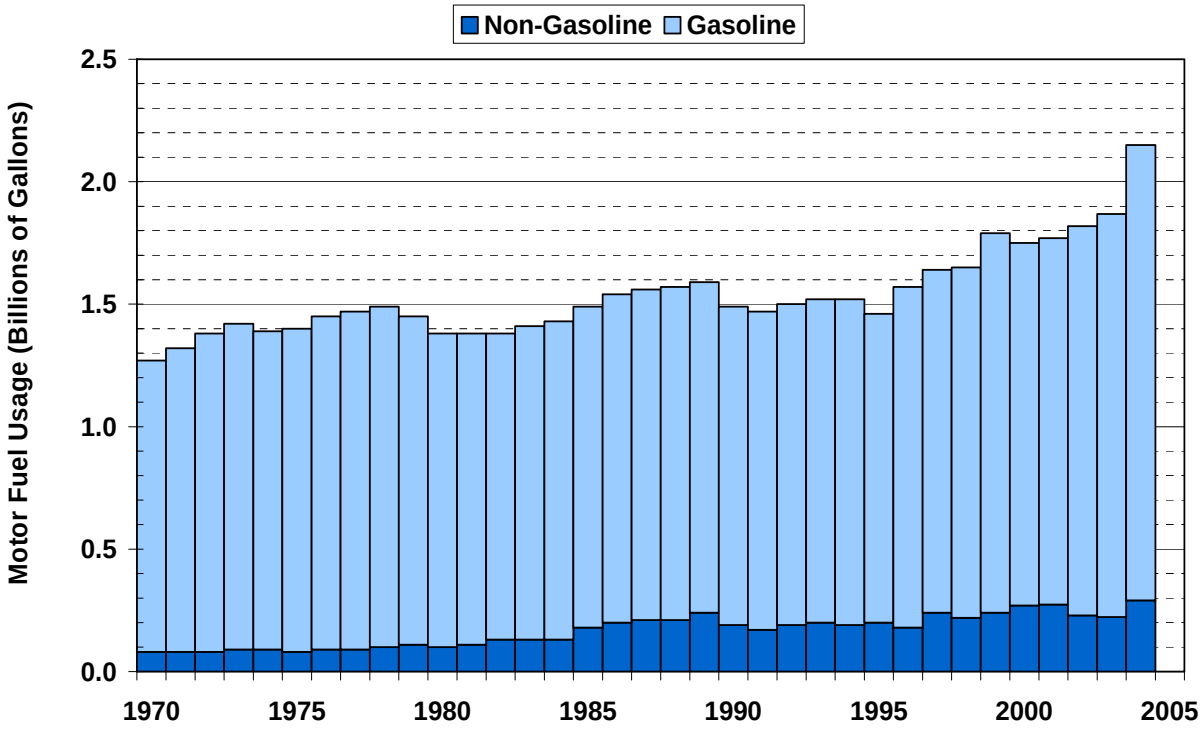
Source: Connecticut Department of Motor Vehicles - Class 1 Auto Registrations (Passenger Cars).
Projections for years following 2000 is not available. Graphic revised as of August 2004.

Comparatively, the greatest numbers of vehicles per square mile in 2000 were found 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. These demographic trends form the foundation for assessing future transportation needs and for developing a transportation program that will meet those needs.

E. AUTO USAGE

Transportation requires a massive amount of energy, and, except in the cases of bicycling and walking, this energy is provided by one of the various types of transportation fuels. The term "motor fuel" applies to gasoline and all other fuels that are used for transportation. In Connecticut, fuel vendors record the amounts of fuels sold and submit this information to the state for tax purposes. Figure I-17 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.

Figure I-17. Motor Fuel Usage in Connecticut



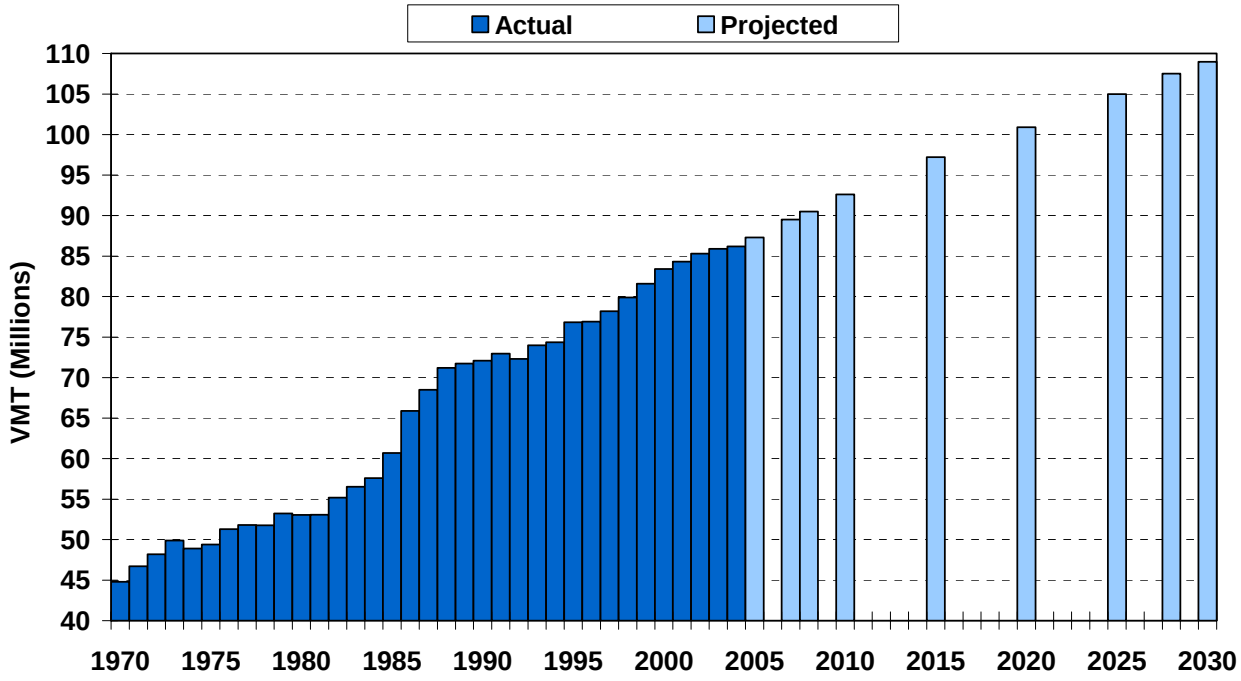
Source: Highway Statistics Table MF-21. Data following 2004 not yet available. Graphic revised as of April 2006.

Special Notes: As a result of revised estimation procedures, data from one year to another may not be comparable.

Despite technological advances in fuel efficiency, which considerably reduced the amount of fuel needed by vehicles, the overall trend during the 1970's and 1980's was an increase in the volume of motor fuel sold. An exception to this trend was the period of the energy crisis in the mid-1970's and early 1980's whereby significant dips in fuel use were observed across the nation. Motor fuel usage in Connecticut reached a high 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.

The transportation industry has traditionally relied upon fuels that are inexpensive and readily available. Petroleum has dominated the fuel market during the past century, and despite growing concerns about pollution, it will no doubt continue to play a major role as a transportation fuel for many years to come. At the present time, 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. Environmental concern over the pollution caused by the use of traditional fossil-based fuels is the driving force behind this research. 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.

Figure I-18. Vehicle Miles Traveled (VMT) in Connecticut

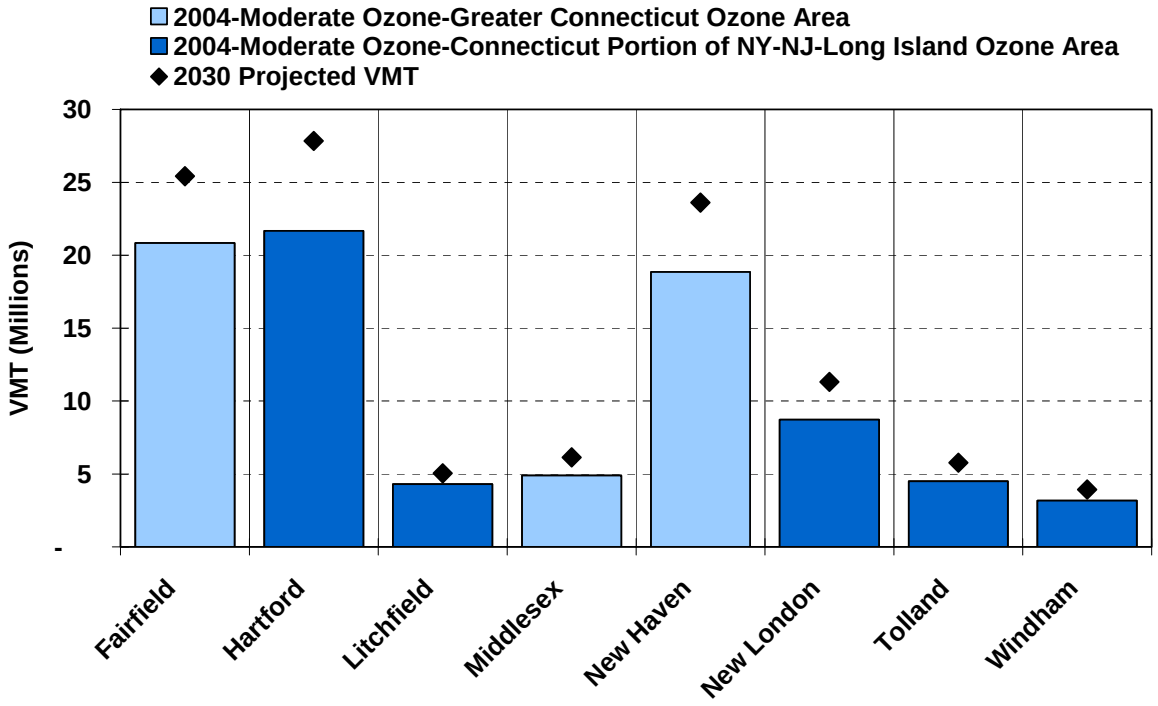


Source: Years 1970 to 1977 derived from statewide fuel usage data; years 1978 to 2004 from Highway Performance & Monitoring System Data; years greater than 2004 are projected with ConnDOT Travel Model (Series 28). Graphic revised in October 2005.

Special Notes: Data represents the average daily vehicle miles of travel. Some years are leap years. Model projections do not include Worchester UA VMT.

Another index of vehicle use is Daily Vehicle Miles of Travel, or VMT. As Figure I-18 illustrates, daily VMT in Connecticut has been growing steadily since 1970. However, during the period from 1990 to 2000, the rate of growth was approximately 17.4 percent over the ten-year period, compared to an approximate 36 percent 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 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 percent increase from the VMT in 2000.

Figure I-19. 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.

On a county level, in 2004, as illustrated in Figure I-19, Hartford County had the most vehicle miles traveled in the state: 21.7 million miles or 24.9 percent of the average daily miles traveled. Comparatively, Windham County had the fewest with slightly less than 3.2 million miles or 3.7 percent, of the statewide average daily VMT.

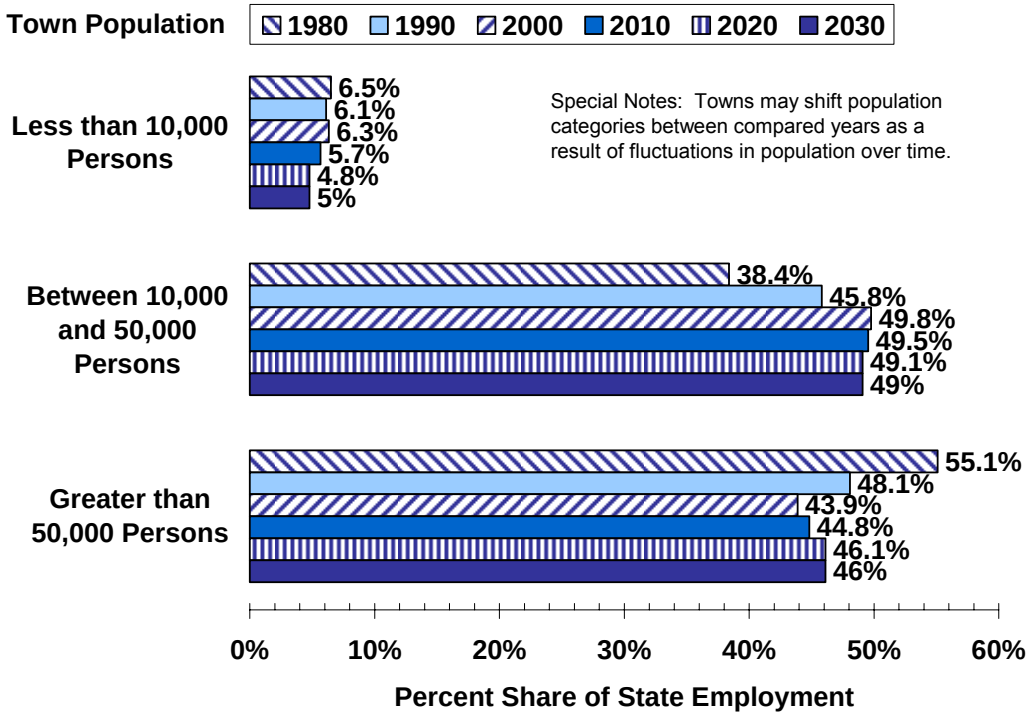
In 2004 all of the counties in Connecticut were designated as Moderate Ozone Non-attainment areas. As shown in Figure 1-19, the three counties with the highest VMT in 2004: Fairfield County, Hartford County and New Haven County, are projected to have the largest increases in VMT in 2030.

F. 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 special 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 I-20 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 percent from 48 percent to 44 percent 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 percent from 46 percent to 50 percent; the employment share of towns with populations less than 10,000 remained virtually unchanged at 6 percent. It should be noted that during compared years, populations in any given town can fluctuate; this potentially leads to a shifting of towns between the population categories from one year to another.

From 2000 through 2030, ConnDOT has projected a 2 percent increase (from 44 percent to 46 percent) in the percentage of total state employment located in towns with populations greater than 50,000, an insignificant increase (less than 1 percent) for towns with populations between 10,000 and 50,000 persons, and a small decrease (less than 2 percent) for towns with less than 10,000 persons.

Figure I-20. Employment Share by Town Size



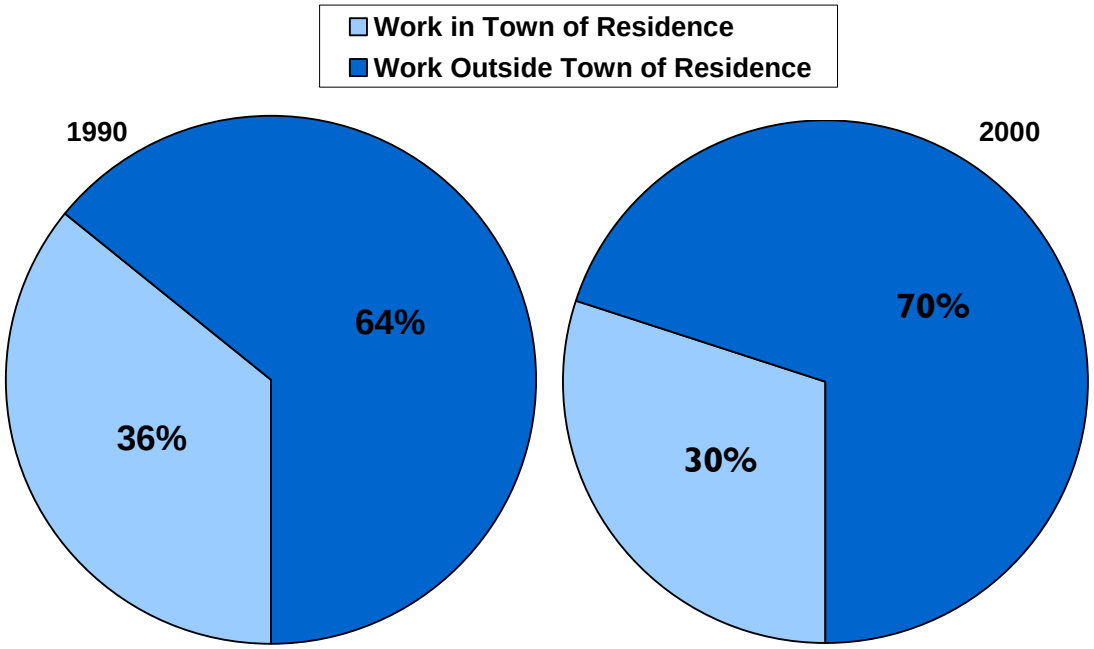
Source: 1980 Census, 1990 Census, 2000 Census, and ConnDOT Series 27B Landuse Projections. Data for years following 2000 is projected. Graphic revised as of August 2004.

During the period 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 I-21, shows that the number of workers who commuted to a job located outside their towns of residence increased overall by approximately 6 percent 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 percent from 601,642 to 492,925.

The aforementioned demographic changes have affected the amount of time it takes commuters to make trips. The average state wide commute increased 13.74 percent from 21.1 minutes in 1990 to 24.4 minutes in 2000.

Figure I-21. Comparison of Place of Employment to Residence



Source: 1990 Census and 2000 Census. Projections not available.
Graphic revised as of August 2004.

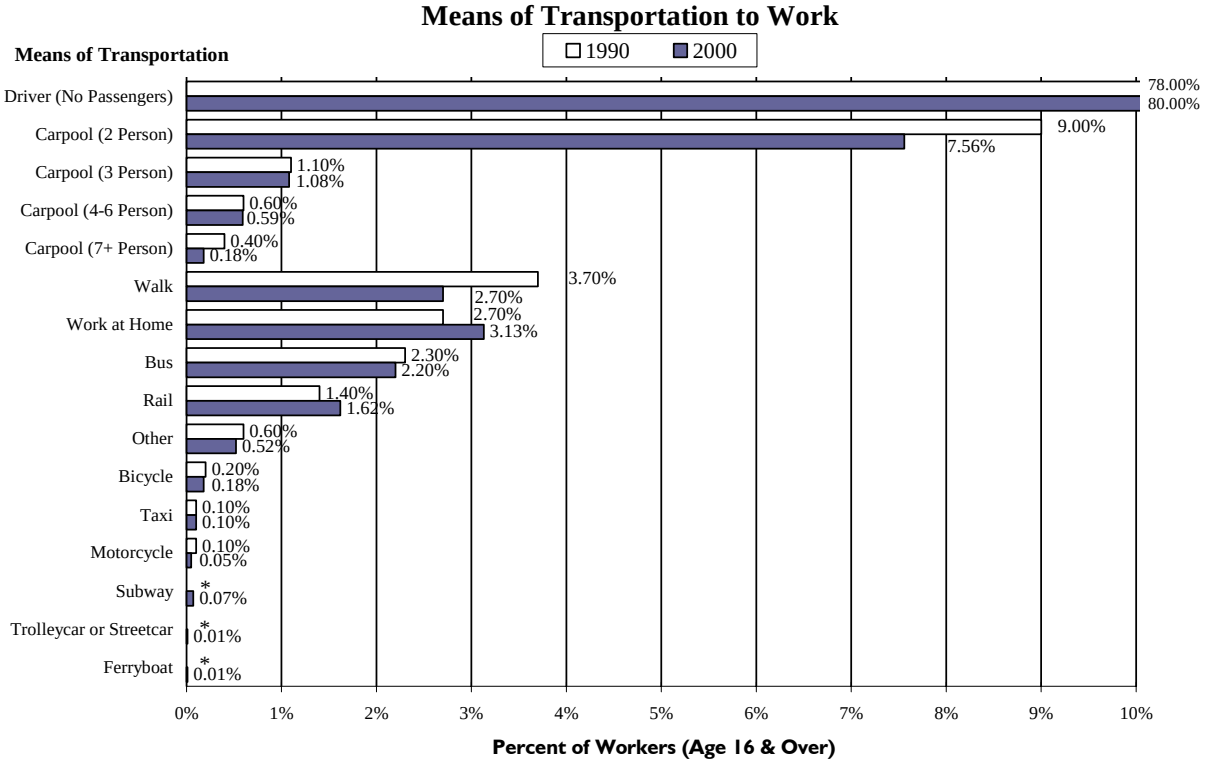
Information on the means by which persons in Connecticut travel to work is presented in Figure I-22. This figure presents 1990 Census and 2000 Census data on means of transportation to work for Connecticut workers who are age 16 and over. In 1990 the private automobile was the primary means of transportation to work. Of the workers commuting to work in a private automobile, 78 percent of the workers drove to work alone, 9 percent participated in 2-person carpools, 1.10 percent participated in 3-person carpools, .60 percent participated in 4-6 person carpools and .40 percent participated in carpools of 7 or more persons. After the private automobile, “Walking” was the next largest category (3.70 percent) followed by “Work at Home” (2.70 percent), “Bus” (2.30 percent), “Rail” (1.40 percent), “Other”(.60 percent) “Bicycle” (.20 percent), “Taxi” (.10 percent), and “Motorcycle” (.10 percent).

In 2000, 80 percent of workers drove to work alone, 7.56 percent traveled in 2-person carpools, 1.08 percent traveled in 3-person carpools, .59 percent participated in 4-6 person carpools, and .18 percent traveled in a carpool of 7 or more persons. After the private automobile, “Work at Home” was the next largest category (3.13 percent) followed by “Walking” (2.70 percent), “Bus” (2.20 percent), “Rail” (1.62 percent), “Other” (.52 percent), “Bicycle” (.18 percent), “Taxi” (.10 percent), and “Motorcycle” (.05 percent). Additionally, in 2000, .07 percent of workers used a subway to get to work, .01 percent used a trolley car or streetcar, and .01 percent 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.

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 percent) in the percentage of workers driving alone and a decrease (1.69 percent) 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.

Figure I-22. 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 the1990 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.

The increase in the percentage of workers driving alone and the decrease in the percentages of workers who carpool, ride the bus and walk to work have contributed to the growth in traffic volumes on Connecticut roads.

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 childcare and managing a household is directly related to the increase in the number of commuters driving alone.

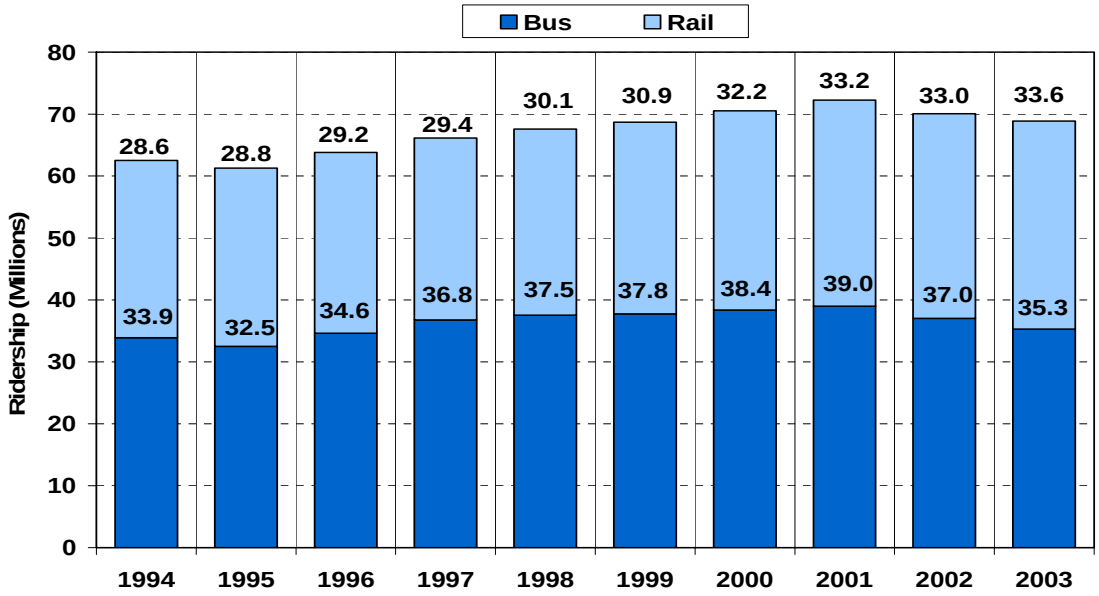
Reducing the number of single occupancy vehicles has proved to be a difficult objective. Several factors contribute directly to a successful carpool. These include a large employer that serves as a “magnet”, a long commuting distance (greater than 10 miles), and a work location where free parking is 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.

Local bus service tends to be centered on urban areas. Express bus service primarily connects suburban towns with urban centers. While rail ridership has increased during the past ten years, bus ridership has 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 percent of the total bus ridership in the state. The median household income for bus riders is lower than any other mode of transportation, and 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.

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.

The relative share of transit passengers carried by bus and by rail in 1994 through 2003 is shown in Figure I-23. The figure compares annual passenger volumes for bus and rail for SFY1994 through SFY2003. 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.

Figure I-23. Comparison of Annual Passenger Volumes for Transit Modes (SFY1994-SFY2003)



Source: ConnDOT Bureau of Public Transportation's "Operations Statistics". Graphic Revised as of September 2004.

The advent of the Information Age has brought about a multitude of technological advances that are gradually changing the face of the world and how communications and business transactions are conducted today. Personal computers, modems and fax machines have made possible a growing employment trend, telecommuting. With telecommuting, information transfer is used as a substitute for the traditional journey to work on either a part-time or a full-time basis. 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 society at large. In 2003, 3 percent of the state's labor force worked at home, up from 1.5 percent in 1980 and 2.70 percent in 1990. 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.

Additional demographic information on commuters and their work trips is published in the Connecticut Department of Transportation's March 2005 publication, *Connecticut Census Review: A Look at Demographic & Transportation-Related Statistics for Connecticut from 1990 - 2000.*

G. TRAFFIC ACCIDENT STATISTICS

The Connecticut Department of Transportation (ConnDOT) obtains data on motor vehicle traffic accidents from police accident reports provided by investigating police agencies and analyzes it to determine accident dynamics, causal factors and accident location of each accident. This information is entered into ConnDOT's traffic accident database, which is constantly updated and verified to ensure its accuracy. The traffic accident database is used by highway engineers and transportation planners to identify and prioritize safety needs, and to develop strategies, programs and projects to improve safety on highways in Connecticut.

Current accident statistics and trends, which are based on reported traffic accidents included in ConnDOT's traffic accident database, are presented in *CONNECTICUT TRAFFIC ACCIDENT FACTS,* which is published every two years by Department's Office of Policy and Systems Information. This report includes statistics and trends for the following categories of traffic accidents: all reported accidents, reported accidents involving alcohol, reported accidents involving a tractor-trailer, reported accidents involving a pedestrian, and reported accidents involving a motorcycle. For all of these categories, a breakdown of accidents resulting in injuries versus fatalities is provided. Tables and graphs are used to highlight various accident attributes such as severity of accident, time of occurrence, day of the week, month of the year, route classification, environmental conditions, town and county of occurrence, age and sex of drivers, and contributing factors. The most recent report, *CONNECTICUT TRAFFIC ACCIDENT FACTS 2004,* was published in April 2006.

Highway traffic accident trends and an analysis of changes in traffic accident data from year to year are published annually in the Department's *CONNECTICUT HIGHWAY SAFETY STRATEGIC PLAN.* This strategic plan, which identifies problems, performance measures, performance goals, performance objectives and planned countermeasures for impaired driving, police traffic services, vehicle occupant protection, roadway safety, motorcycle safety, traffic records, hazard elimination and other areas and factors, is developed using data obtained from the ConnDOT's traffic accident database.

Traffic accident data compiled by ConnDOT is also provided to the National Highway Safety Administration (NHTSA), which compiles and analyzes traffic data collected from all state transportation agencies. Information on national traffic safety statistics and trends for 2004 was published by NHTSA's National Center for Statistics and Analysis in *TRAFFIC SAFETY FACTS 2004: A Compilation of Motor Vehicle Crash Data from the Fatality Analysis Reporting System and the General Estimates System.* General information on highway traffic accident statistics also is available at web site www.nhtsa.dot.gov/people/ncsa, which includes the following annual NCSA fact sheets: *Overview, Alcohol, Occupant Protection, Older Population, Speeding, Children, Young Drivers, Pedestrians, Pedacyclists, Motorcycles, Large Trucks, School Transportation-Related Crashes, State Traffic Data, and State Alcohol Estimates.*

H. GOODS MOVEMENT

The freight transportation industry in the United States has undergone dramatic changes in the last twenty 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 consolidation and restructuring within, and partnerships between, all freight transportation modes.

The development of an extensive cross-country expressway network, the trend toward larger and heavier trucks, steady fuel prices, 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, truck/intermodal traffic has increased dramatically in recent years and is expected to continue to increase.

Connecticut can expect to continue to experience primarily the truck portions of intermodal freight trips, 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.

Table I-1 Freight Shipments To, From, and Within Connecticut 1998, 2010, and 2020, presents information on freight shipments that have either an origin or a destination in Connecticut. As shown in Table I-1, trucks move a large percentage of the tonnage and value of shipments, followed by water and rail tonnage and air value.

Table I-1 Freight Shipments To, From, and Within Connecticut 1998, 2010, and 2020

CONNECTICUT	Tons (millions)			Value (billions $)		
	1998	2010	2020	1998	2010	2020
State Total	117	165	200	80	154	248
By Mode						
Air	<1	<1	<1	8	18	30
Highway	89	126	155	67	127	205
Other*	2	3	3	<1	<1	1
Rail	12	17	22	2	4	7
Water	15	19	20	2	4	5
By Destination/Market						
Domestic	95	129	151	64	120	188
International	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.

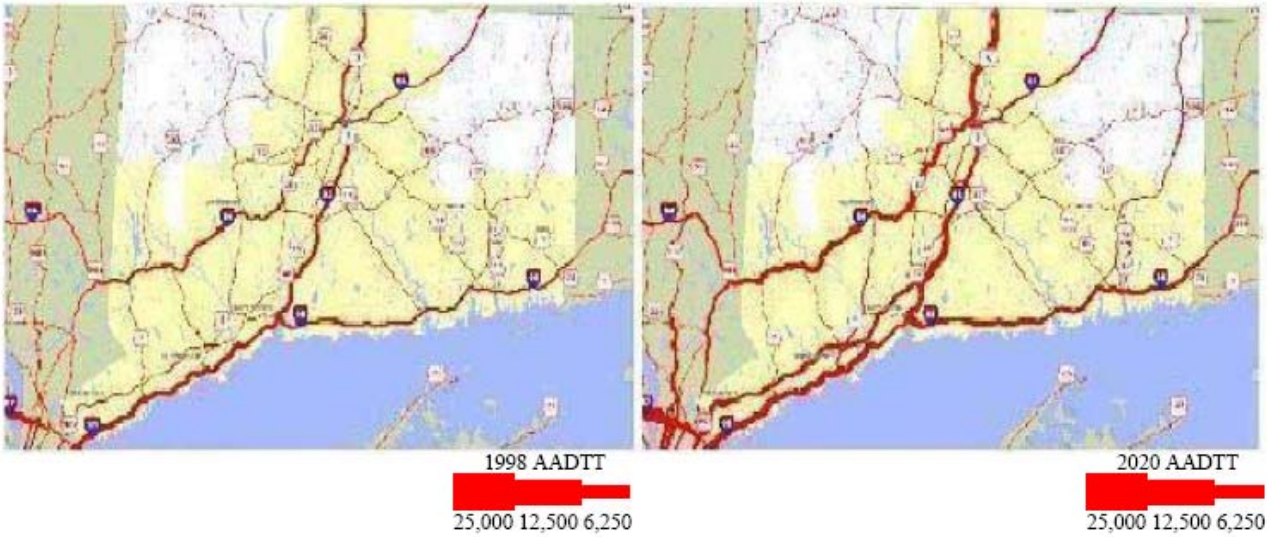
Source: Office of Freight Management Operations, Federal Highway Administration, *Freight Transportation Profile—Connecticut Freight Analysis Framework,* November 2002

Data from the United States Department of Transportation (USDOT) show that trucks currently carry approximately 76 percent of the traffic in Connecticut. This share is projected to grow to 77.5 percent by the year 2020, even as rail traffic grows from a 10.3 percent share to 11 percent. Although all modes will experience a growth in volume, it is anticipated that trucking will provide the majority of service, regardless of state policies and programs. In 2005 and 2006, however, fuel prices increased due to oil shortages resulting from the war in Iraq and damage to oil refineries caused by Hurricane Katrina. The extent to which significant increases in fuel prices will impact trucking and other freight transportation modes is unknown at this time.

The Interstate highway system carries the most interstate truck movements. Of these corridors, Interstate 95 (I-95) between the New York state line 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.

As shown in Figure I-24 much of the growth in truck traffic will occur in urban areas and on the Interstate highway system. Truck traffic moving to and from Connecticut has accounted for 6 percent of the average annual daily truck traffic (AADTT) on the Freight Analysis Framework (FAF) road network. Approximately 5 percent of truck traffic involved in-state shipments, and 14 percent involved trucks traveling across the state to other markets. About 75 percent of the AADTT were not identified with a route-specific origin or destination. [14]

Figure I-24 Estimated Average Annual Daily Truck Traffic: 1998 & 2020



Source: US Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations

[14] Office of Freight Management and Operations, Federal Highway Administration, U.S. Department of Transportation, "Freight Transportation Profile-"Connecticut" Freight Analysis Framework" *FREIGHT NEWS,* FHWA-OP-03-054, EDL 13742, November 2002.

Additional information such as freight flow maps for states, modes, and gateways; detailed databases on traffic flows and commodity movements; information on the methodologies used to develop FAF, and forecast assumptions is available on the following web site: *http://www.ops.fhwa.dot.gov/freight*.

Table I-2 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.

Table I-2 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

The 1996 Connecticut Intermodal Management System report concluded that due to the concentration of truck trip generation and truck traffic in some of the state's most congested urban core areas, such as the I-95 corridor, intermodal planning must be coordinated with congestion management planning.

Toward this end, the Department is currently developing projects that will help to adequately monitor truck service while maintaining the flow of traffic. The "Weigh in Motion" (WIM) equipment and pre-clearance system installed at the truck weigh station in Union, Connecticut enable inspectors to check the credentials and the gross the weight of commercial vehicles while the vehicles are traveling at highway speeds. Vehicles that possess the required credentials and are of proper weight are allowed to bypass the weigh station; non compliant vehicles are required to stop for an examination. WIM equipment and a pre-clearance system may also be installed on I-95 in Greenwich, Connecticut. Installation of these systems will enable inspectors to concentrate on identified scofflaws.

In addition, the U.S. DOT is developing an Intelligent Transportation System (ITS) that will cover many aspects of highway travel and navigation. One element of this ITS is the Commercial Vehicle Information Systems and Network (CVISN). Connecticut is playing a lead role in the implementation of CVISN. This system will allow states to share information on commercial vehicles and operations including taxing, licensing, special permitting, insurance, operating authorities, etc. An important piece of this information sharing will allow inspectors to identify commercial vehicles that have passed a previous inspection and do not need to be inspected again. This will allow for smoother trips and eliminate unnecessary side trips and paperwork.

I. TRANSPORTATION-RELATED SECURITY

Since the September 11, 2001, terrorist attacks, homeland security has been a national and state priority. In general, efforts to improve security at national, state and local levels have entailed greater coordination and information sharing within and among governmental agencies and with organizations that are involved in responding to emergencies. ConnDOT responded to the need to increase security for users and providers of transportation services and facilities in Connecticut by instituting a variety of changes to address emergency management procedures and preparedness and by developing Emergency Response Plans that outline ConnDOT's Homeland Security Advisory System. The plans were established in accordance with the five threat levels of risk established under the Federal Homeland Security Advisory System. These plans are based on the responsibilities of each of ConnDOT's bureaus and are continually being updated and modified.

ConnDOT established a Homeland Security Task Force to review and address needs for increased coordination between ConnDOT's bureaus to respond to any natural disaster and/or terrorist events. Each bureau is tasked to review its current emergency response plans and to identify areas that need to be updated. ConnDOT has developed a resource document and contact list to address resource management objectives. Each bureau, as part of the planning process, has submitted a Security and Emergency Preparedness Plan to respond to incidents, natural disasters or terrorists to protect life, property and service to residents of the State of Connecticut. In addition, the Task Force has become involved in the planning process for future homeland security activities and exercises and is developing action plans regarding emergency response, protection of critical infrastructure elements, and other homeland security and emergency response issues. A strategic emergency operations response, mitigation, recovery and continuity plan will be developed and submitted to Connecticut's Department of Emergency Management and Homeland Security.

The following are some of the transportation-related security changes that have been implemented in Connecticut:

- ***Airports*.** Bradley International Airport was among the first airports in the U.S. to experience implementation of the Federal Transportation Security Administration's Federal Security Director (FSD) program. Since August 2002, Bradley has had the FSD on site and has had a full federal work force of employee passenger screeners in place. While Bradley still has mandated responsibilities for security in accordance with Federal Aviation Regulations, the September 11, 2001, attacks resulted in the airport receiving many new resources, primarily in the form of federal personnel, to perform many of the functions for which Bradley and/or the airlines were previously responsible. Since September 11, 2001, all state-owned general aviation airports in Connecticut have undergone extensive security enhancements.
- ***Ports*.** ConnDOT continues to work closely with the United States Coast Guard (USCG) on the security of the ports in Connecticut. There has been a concerted effort to develop better communication links, and the USCG is reaching out to local and state entities. The Coast Guard, in accordance with the Homeland Security Alert System condition (blue, green, yellow, orange or red), sets Maritime Security (MARSEC) levels (one, two, or three). Coincident with the MARSEC level, the Coast Guard may issue MARSEC directives to provide additional mandatory security requirements and/or detail to existing security requirements. Facility owners or operators must comply with these requirements. Their facilities were required to operate in compliance with 33 CFR Part 105, including the implementation of the security measures in an approved Facility Security Plan by July 1, 2004.

- ***Rail Services and Facilities*.** Amtrak, Metro-North Railroad and ConnDOT have been excellent partners in exchanging information. All aspects of security issues pertaining to commuters and inter-city trains are being addressed. Periodic meetings are held among representatives from both the railroads and ConnDOT to review any unusual incidents, upcoming special train movements and potential security issues.
- ***Bus Services*.** After September 11, 2001, a security plan was developed for Connecticut's state-owned bus operations. Connecticut Transit was the first transit system in the country to receive an FTA-sponsored security review after September 11. The results indicated that the system was generally well-positioned to provide secure environments for employees, customers and assets.
- ***Highways*.** ConnDOT's Office of Maintenance and Highway Operations has a *Homeland Security Advisory System Response Plan*. This plan implements appropriate protective measures and identifies assets for which maintenance field and office staff is responsible at each level. It is consistent with the Federal Homeland Security Advisory System. Prior to September 11, 2001, ConnDOT had in place Radiological Response Plans and Procedures using a traffic management plan for a Millstone Nuclear Power Station disaster event. Implementation plans for various impacts had been coordinated and developed with the Connecticut State Police, Office of Emergency Management and ConnDOT. Diversion plans for incidents on limited access highways (along I-95, I-395, I-91, I-84, and Route 8) had been developed in cooperation with local and state police, first elected officials, the permanent Statewide Incident Management Task Force and ConnDOT field personnel.

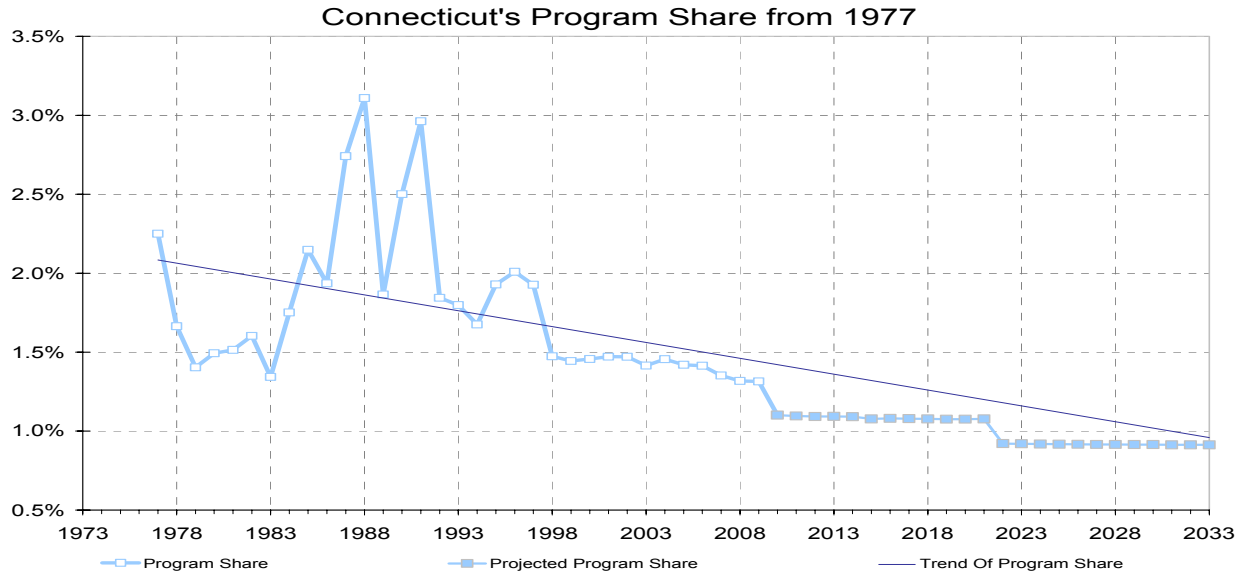
J. FEDERAL AND STATE REVENUE TRENDS

This section presents information on some revenue trends of interest to transportation planners and policy makers. It includes historical data and projections and an analysis of Connecticut's share of the Federal-Aid Highway Program; identifies the sources and amounts of state revenue collected by the Connecticut Department of Revenue Services for SFY2000–SFY2005; and identifies the sources, amounts of revenue and revenue trends for Connecticut's Special Transportation Fund and the Bradley International Airport Enterprise Fund.

A. FEDERAL-AID HIGHWAY PROGRAM FUNDING [15]

Figure I-25 presents the State of Connecticut's historic and projected share of the Federal-Aid Highway Program from 1997 through 2033. It shows that Connecticut's share of the Federal-Aid Highway program was 2.250 percent in 1977, that it peaked at 3.109 percent in 1988, and that it has been declining since then. In 2006, the State's program share was 1.414 percent.

Figure I-25. State of Connecticut's Share of the Federal-Aid Highway Program



Source: Phillip B. Moberg, Transportation Supervising Planner, State & Federal Programs, Office & Policy, Bureau of Policy & Planning, ConnDOT, February 2006

The decrease in the program share is primarily due to three reasons, the first and most important of which is that the state's highway system had largely matured by that time, while many other states' systems were experiencing considerable growth. The second reason has to do with the restructuring of the program, beginning with the passage of the *Intermodal Surface Transportation Act of 1991* (ISTEA). This act acknowledged that many states' highway systems had either reached or were approaching maturity, and that future effectiveness of the system was dependent on its ability to incorporate the strengths of other modes as an integral part of a larger system. A change in the basic approach to funding apportionment was necessary to

[15] Phillip B. Moberg, unpublished analysis of Federal-Aid Highway Program Funding, State & Federal Programs Unit, Bureau of Policy and Planning, Connecticut Department of Transportation, January 2006.

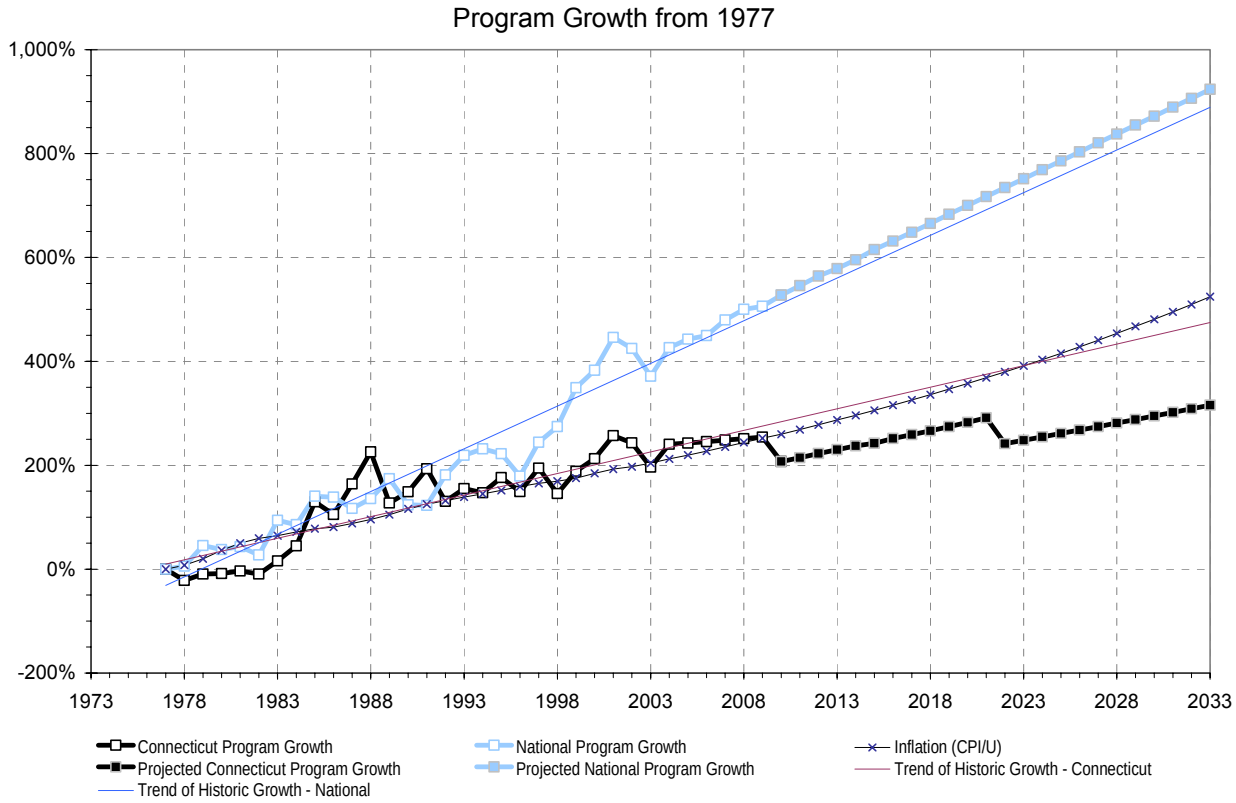
implement this change in direction. As a result of these changes, Connecticut's share of the total program became more stable than in prior years, but also began a steady, gradual decline.

The third reason involves a philosophical change in the basis of funding that began with the passage of the *Transportation Equity Act for the 21st Century* (TEA-21). While this act maintained the program structure and direction of ISTEA, each state's funding became dependent on a weighted ratio of its share of contributions to the Highway Trust Fund to its share of Federal-Aid Highway funding. The practical effect of this was to produce a back-loaded funding structure in which most states' total funding was dependent upon the Minimum Guarantee categories. This hurt a number of states (Connecticut being among them) so badly that it was necessary to grow the total program at an unprecedented rate in order to keep these states from incurring funding losses in real terms. This rate of growth ultimately proved untenable when the out years' Highway Trust Fund contributions in the “out” years badly lagged the original projections.

With the passage of the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU), this ratio was set to be gradually de-weighted to more directly approach the direct ratio of the two shares. As a consequence, six states, including Connecticut, do not receive sufficient funding from either the formulas or the equity adjustments to prevent a loss in real terms. A similar attempt was made to grow the program to compensate those states, as well as others hurt by the equity adjustments, but this failed early in the reauthorization process. These states are guaranteed a specified percentage increase in total funding for each year. Connecticut's share of the Federal-Aid Highway Program is projected to drop to just over 1.3 percent by the end of SAFETEA-LU.

Figure I-26 presents historic and projected Federal-Aid Highway Program growth rates and trends from 1977 through 2033 for both the national program and the State of Connecticut’s program. The percent of inflation during this period is also shown. The data and projections, which were developed by ConnDOT’s Office of Policy, are based on the assumption that a program similar to the current Federal-Aid Highway Program would remain in place for the foreseeable future. As shown in Figure I-26, the national growth rate tracked its trend line consistently until TEA-21, and tracked it very closely for the projected years of SAFETEA-LU. Since this appeared to demonstrate the established political consensus, and since there appeared to be no compelling arguments to the contrary, the future national program total was developed based on a rolling six-year projection of the last six years of historic and enacted funding. This, too, closely tracked the historic trend line, growing at a slightly higher rate. The figure also shows that when inflation was plotted using the Consumer Price Index/Urban (CPI/U), this tracked Connecticut's historic trend to an amazingly close degree. Future inflation rates used to create this plot were developed from a rolling twelve-year projection of historic data for the CPI/U.

Figure I-26. Historic & Projected Federal-Aid Highway Program Growth Rates (1977-2033)



Source: Phillip B. Moberg, Transportation Supervising Planner, State & Federal Programs, Office & Policy, Bureau of Policy & Planning, ConnDOT, February 2006

Figure I-26 also shows that the growth rate of Connecticut's program did not track its trend line consistently until the advent of ISTEA, and after that, tracked it closely with one exception. This situation made the projection of the State's program slightly more complicated. Because the changes to the funding formulas enacted with TEA-21 and SAFETEA-LU had effectively decoupled Connecticut from formula funding, and Connecticut's share has been steadily decreasing, a simple projection of historic data would have been unrealistic. The threshold provision of SAFETEA-LU was used as the basis of the rationale for two-stage change in the future development of funding totals for Connecticut.

The first stage, beginning at the end of SAFETEA-LU, was projected by projecting growth in core-program totals on essentially the same basis as that used for the national program, and using a back-loaded adjustment to keep Connecticut's totals consistent with inflation. For the second stage, the back-loaded inflation adjustment was eliminated and, the core programs were grown at the same rate as the national program. It should be noted that the national growth rate, that far out, was lagging projected inflation, and this is why Connecticut's totals were driven by the national rate.

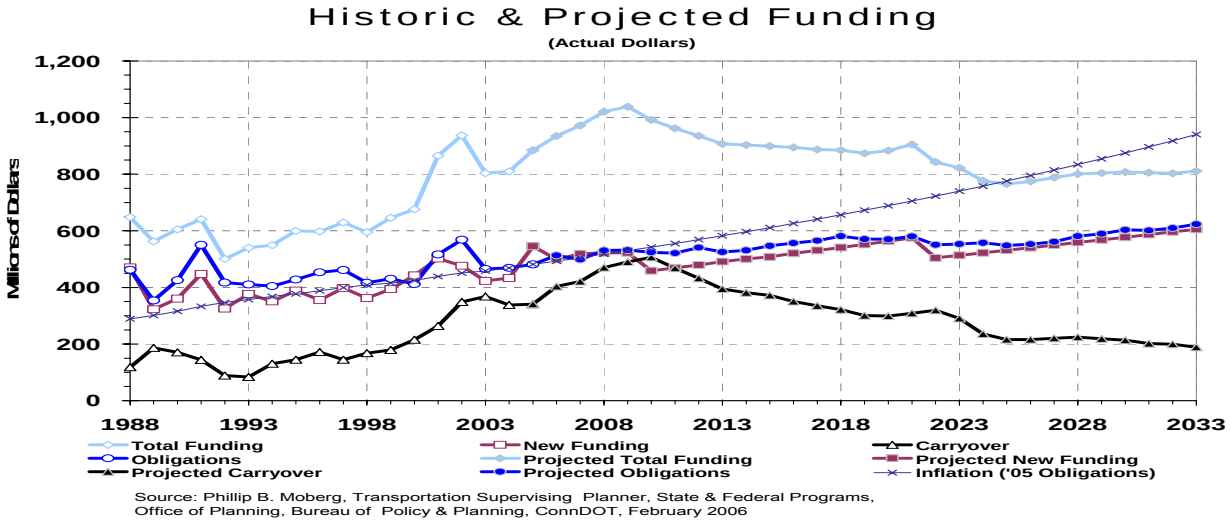
The result of these assumptions produced two twelve-year steps down in Connecticut's share of the program, mimicking the twelve-year pattern of current historic and enacted funding. With the exception of the one year of unusually high revenue-aligned budget authority (RABA) under TEA-21, this also appears to mimic the historic and enacted growth rate for the same period.

All forecasts, and especially economic forecasts, are speculative to some extent. The future direction of the federal program is by no means clear, given that there have been serious proposals to restructure it in various ways since the development of TEA-21, and since there have been an increasing number of policy makers willing to consider these seriously. In

addition, there is a broad range of economic, demographic, technological and other factors driving transportation needs, and therefore the definition of what sort of program would be most effective to meet them. This being the case, the driving factor with respect to the total program size will be the extent to which program growth is politically tenable. The original growth target for the current program was effectively a non-starter. It took over two years to develop a sufficient consensus for the program that was enacted, and once enacted, it was roundly criticized for the high level of earmark and other designated funding.

Figure I-27 presents Connecticut's historic and projected Federal-Aid Highway Program funding, obligations and inflation from 1988, the earliest year for which sufficient detail was available, through 2033. It shows historic and projected trends in total program funding, new program funding, and carryover funding in relation to historic and projected trends in program obligations and inflation. In 1988 the State of Connecticut's total program funding was $648.4 million and it increased to $937.1 million in 2002. The State's total program funding is projected to increase to $1.04 billion in 2009 and decline thereafter. New funding in 1989 was $322.7 million, it increased to $550.1 million in 1991, and it dropped to $325.4 million in 1992, and has ranged from $350.4 million to $545.6 million from 1994 through 2005. New funding is projected to range from $499.2 in 2006 to $605.8 million in 2033. Inflation, expressed in terms of 2005 total obligations ($481.3 million), is shown as steadily and consistently increasing during this time period from $289.5 million in 1998 to $940.4 million in 2033.

Figure I-27. Connecticut's Historic & Projected Federal Highway Program Funding[16]



Source: Phillip B. Moberg, Transportation Supervising Planner, State & Federal Programs, Office of Planning, Bureau of Policy & Planning, ConnDOT, February 2006

These historic and projected trends have significant implications regarding the size and type of a program that could be sustained by Connecticut under these circumstances. The results of this

[16]These projections were made by Phillip Moberg, ConnDOT, Office of Policy, in January 2006. They were applied to a set of spreadsheets previously developed for the Quarterly Financial Report, and expanded to 2033 for the purposes of this analysis. These spreadsheets made future calculations by program category for each future year. Un-obligated funds, if any, were carried over to the following year. In the case of over programmed categories, these spreadsheets assigned excess balanced to equity funding categories where appropriate and possible, or rolled over the un-obligated balance to the subsequent year's program.

The spreadsheets used for the analysis are based on data going back to 1988, the earliest year for which sufficient detail is available. The projected program was developed by program category based primarily on a demonstrated record of obligation at that level. Ideally, this involved a rolling five-year projection, but aberrations in prior years' obligations generated many exceptions to this in the case of ongoing programs. New programs were initially developed based on a percentage of apportionments to establish a trend, and then projected. Retired programs were usually based on a percentage of carryover, typically thresholded at $250,000 unless the program itself was smaller. The object of the projected program was to keep projected lapses at a negligible level.

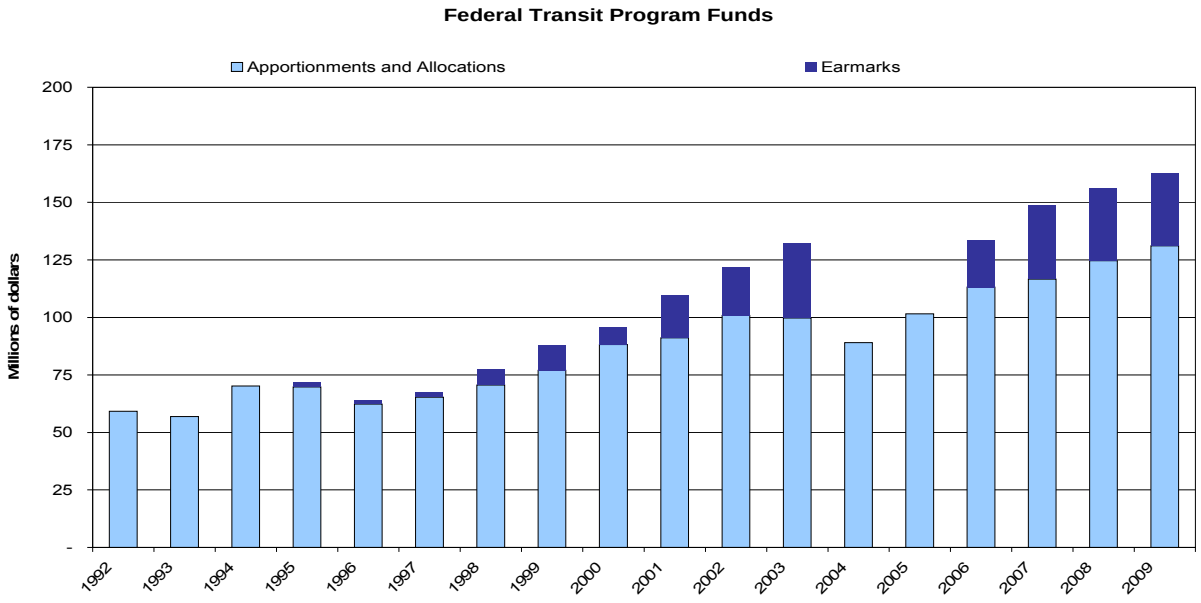
effort produced obligations ranging from around $525 million/year in 2010 to around $625 million/year in 2033. Plotted against this was the 2005 obligations adjusted for the historic or projected CPI/U for each respective year. The future program would significantly lag projected inflation. In fact growth would be nearly flat over the over a quarter of a century. It would only be sustainable at that level if Connecticut (and other states at the threshold level) receives some relief from ceiling (obligation limitation) and access to a portion of the considerable un-obligated balance accumulated as a result of ceiling. In the event no such relief is forthcoming, such states' programs would necessarily sustain a declining program in current dollar terms.

The policy implications are clear for Connecticut and other threshold states. Real growth in program is now unlikely, everything else being equal. A change of federal policy with respect to obligation limitation and un-obligated balances will be necessary for states at the bottom of the program to maintain a safe and reasonably effective highway system in good repair. In addition to this, federal policies governing direct user fees and alternate funding sources will need to be re-examined and revised to allow threshold states the means to sustain their programs to the level of inflation, as a minimum.

B. FEDERALTRANSIT PROGRAM FUNDING

Figure I-28 shows trends in Connecticut's net Federal Transit Program funding from FFY1992 through FFY2009. Under ISTEA, in FFY1992 the State of Connecticut's net FTA program funding was $59,210,519 and it increased to $67,324,409 in FFY1997. Under TEA-21, the State's total program funding increased to $77,377,135 in FFY1998 and to $132,102,965 in FFY2003. Under SAFETEA-LU, Connecticut's net FTA program funding was $101,557,000 in FFY2005, $133,643,000 in FFY2006, and will increase to $148,578,000 in FFY2007, to $156,346,000 in FFY2008, and to $162,797,000 in FFY2009.

Figure I-28 Federal Transit Program Funds



Source: Miscellaneous federal and State funding tables, 1992-1996

C. STATE OF CONNECTICUT REVENUE

State of Connecticut revenue is derived from various categories of taxes and fees which are primarily collected by the Connecticut Department of Revenue Services (DRS), and the Department of Motor Vehicles (DMV). Other revenue is derived from Unemployment Compensation tax, which is collected by the Connecticut Department of Labor; franchise tax, which is collected by the Secretary of the State; and professional license permits and fees, which are collected by a number of other Connecticut state agencies. Sales taxes and fees collected through other agencies are not counted in DRS collections.

Total State of Connecticut Revenues for Calendar Years 2004 and 2005 are presented in Table I-3. From 2004 to 2005 total state revenues increased by 11 percent. The categories with the largest increases were Corporate Tax (13.03 percent) followed by Personal Income Tax (11.84 percent) and Real Estate Conveyance Tax (13.95 percent).

Table I-3 Total State Revenues for Calendar Year 2004 and 2005

Millions of Dollars	Monthly Comparison			Calendar Year Comparison		
	June 2004	June 2005	% Change	2004	2005	% Change
Total All Revenues *	977.4	1,078.8	10.37	10,685.3	11,820.2	10.62
Corporate Tax	97.6	118.9	21.82	627.1	708.8	13.03
Personal Income Tax	465.3	520.1	11.78	5,103.2	5,707.2	11.84
Real Estate Conveyance. Tax	17.5	19.5	11.43	189.2	215.6	13.95
Sales and Use Tax	252.7	266.4	5.42	3,203.6	3,333.5	4.05
Indian Gaming Payments **	33.5	34.1	1.79	411.4	421	2.33

Source: Connecticut Department of Revenue Services; Division of Special Revenue
Special Notes: *Includes all sources of revenue; only selected sources are displayed. Most July receipts are credited to the prior fiscal year and are not shown. ** Indian Gaming Payments are amounts received by the State as a result of the slot compact with the two federally-recognized tribes in Connecticut, which calls for 25 percent of net slot receipts to be remitted to the State. Indian Gaming Slots are the net revenues from slot machines only received by two federally-recognized Indian Tribes.

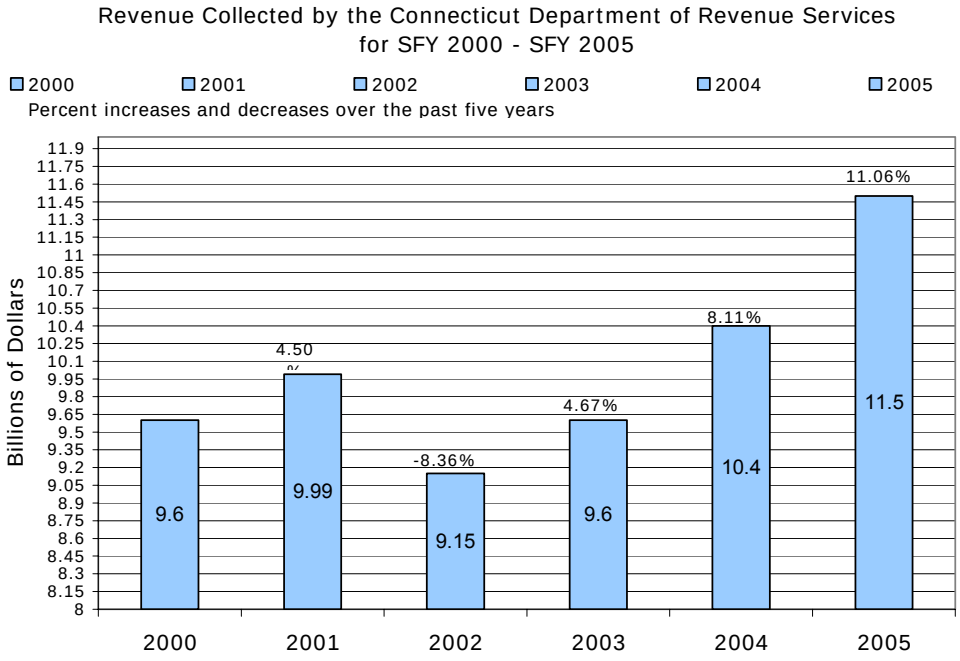
The DRS collects the revenue from fourteen categories. These categories are listed in Table 1-4. For State Fiscal Year (SFY) 2000; $9,556,347,998 in State revenue was derived from these categories. As shown in, Figure I-29, from SFY2000 to SFY2001 the revenue was up 4.5 percent, from SFY2001 to SFY2002 the revenue was down 8.36 percent, from SFY2002 to FY2003 the revenue was up 4.67 percent, from FY2003 to FY2004 the revenue was up 8.11 percent, and from FY2004 to FY2005 the revenue increased 11.6 percent. Since FY2000, State

revenue from these categories of taxes and fees has been increasing. From FY2000 to FY2005, revenues collected by DRS increased by 20 percent. [17]

Table I-4 Department of Revenue Services Revenue Categories

- Personal Income Tax
- Sales & Use Tax
- Corporation and Business Entity Taxes
- Public Service Corps.
- Real Estate Conveyance
- Admissions & Dues
- Licenses
- Gift and Estate Tax
- Insurance Taxes
- Cigarettes and Tobacco Taxes
- Alcoholic Beverages
- Petroleum Gross Earnings
- Motor Fuel Tax
- Miscellaneous Taxes

Figure I-29. Revenue Collected by the Connecticut Department of Revenue Services for SFY2000-SFY2005



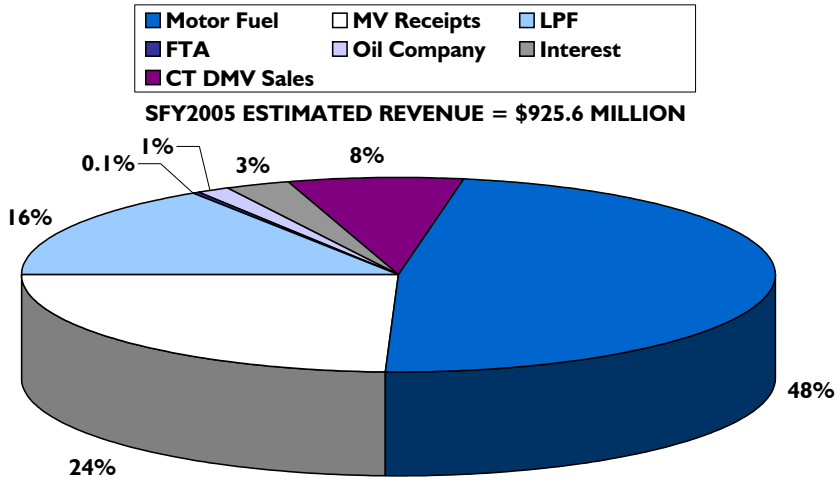
Source: State of Connecticut, Department of Revenue Services Monthly Comparative Statement of Tax Revenue, SFY June 2000, June 2001, June 2001-2002, June 2002-2003, June 2003-2004 (SFY 2003-04 Sales and Use Tax Do Not Include Taxes Collected by other State Agencies), and June 2005-2006

[17] "STATE OF CONNECTICUT, DEPARTMENT OF REVENUE SERVICES MONTHLY COMPARATIVE STATEMENT OF TAX REVENUE," October 2005/2004 <http://www.ct.gov/drs/lib/drs/research/o5comparstate/mon_stmt_oct_2005.pdf, copyright 2005

D. SPECIAL TRANSPORTATION FUND

Revenues from Motor Fuel Taxes collected by the DRS are pledged to the State of Connecticut's Special Transportation Fund (STF). The STF is a dedicated fund for financing investments in the State's transportation system and covering the costs of ConnDOT's operations and services, excluding support of Bradley International Airport. As shown in Figure I-30, the Motor Fuels Tax accounted for 48 percent of the STF estimated revenues for State Fiscal Year (SFY) 2005. Other sources of STF revenues are License Permit and Fee (LPF) Income and Motor Vehicle Use Taxes, which are collected by the State Department of Motor Vehicles; Federal Transit Administration (FTA) Operating Grants; Interest Income and General Fund (GF) Transfers.

Figure I-30. Special Transportation Fund Estimated Revenues (SFY2005)

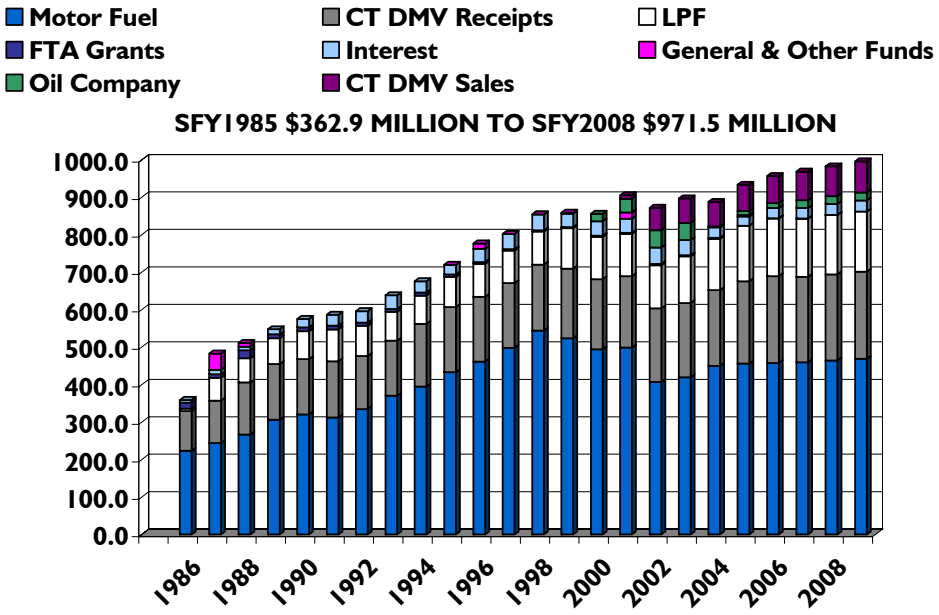


Source: Bureau of Finance & Administration. Data based on State Fiscal Year. Graphic revised as of December 2004.

A unique feature of the STF was that when it was established, not only were existing revenues from certain taxes and fees dedicated to the STF, but rate increases scheduled throughout a ten-year future period were also enacted. This ensured that the pledged revenues would be sufficient to sustain the substantial transportation investments that were planned, as well as meet the operational needs of ConnDOT and cover the costs associated with the various services provided by ConnDOT. This multi-year philosophy has been continued in all the revenue changes that have been enacted.

As shown in Figure I-31, revenues have grown from $362.9 million in SFY1985, the first year of the STF, to an estimated $925.6 million for SFY2005; this is an increase of $562.7 million, or 155 percent over the period. Revenues are anticipated to reach $971.5 million in SFY2008.

Figure I-31. Special Transportation Fund Revenues (SFY1985-SFY2008)



Source: Bureau of Finance & Administration. Data based on State Fiscal Year. Values for years following 2004 are projected. Graphic revised as of December 2004.

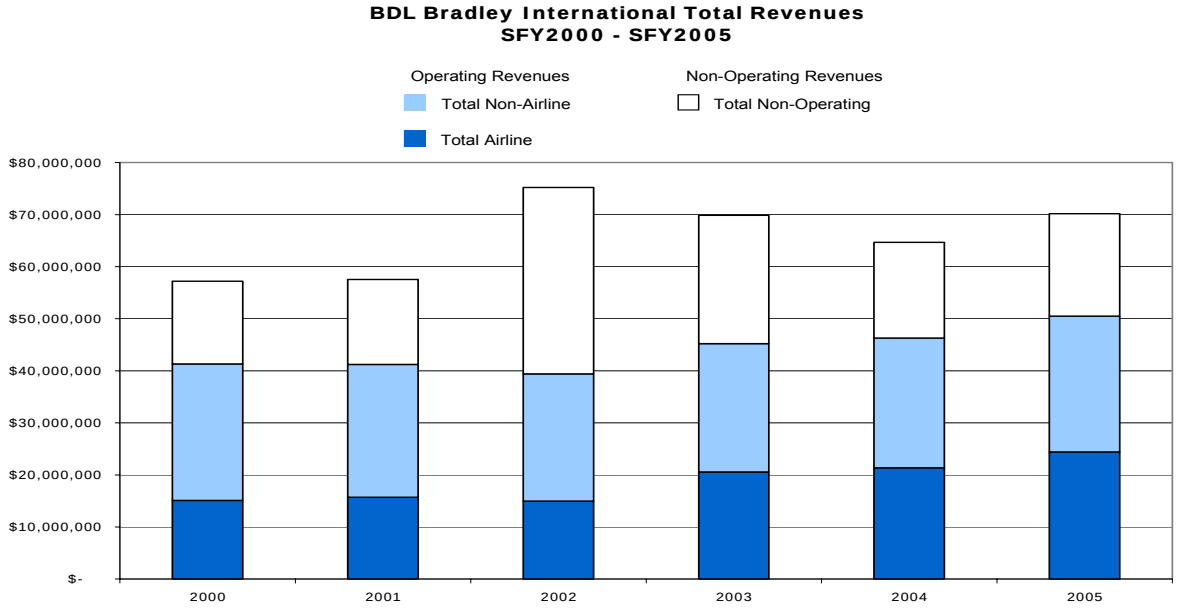
Special Note: Transfers of revenues to the Transportation Strategy Board were made and are anticipated to be made as follows: 2003 - $60.5M; 2004 - $22.9M; 2005 - $31.0M; 2006 - $29.3M; 2007 - $24.3M; and 2008 - $24.3M.

More comprehensive information on the STF is published in the Department's biennial master transportation plans, which are published on or before January 1 of each odd-numbered year.

E. BRADLEY INTERNATIONAL AIRPORT ENTERPRISE FUND

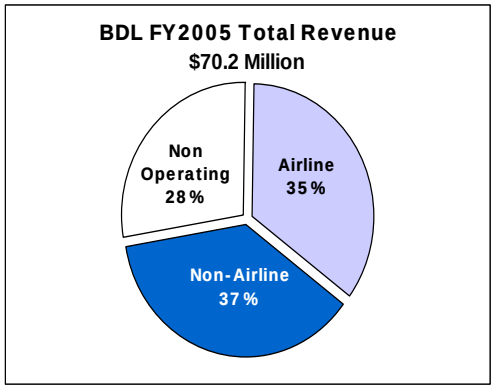
Bradley International Airport is an enterprise fund of the State of Connecticut, operated by the Department of Transportation. This means that all of the operations, maintenance and development expenses of the airport are funded through user charges and the capital financing mechanisms available to the airport. The airport generates revenue from operating and non-operating sources. Operating revenues are generated through user charges that are categorized in terms of airline and non-airline revenues. Non-operating revenues include investment income, passenger facility charges and capital contributions. As shown in Figure I-32, total operating and non-operating revenues increased from $57.2 million in SFY2000 to $70.2 million in SFY2005.

Figure I-32. Trends in Total BDL Revenue



Source: Connecticut Department of Transportation, Bureau of Aviation and Ports, Office of Fiscal and Administrative Services, January 2006.

Figure I-33. BDL SFY 2005

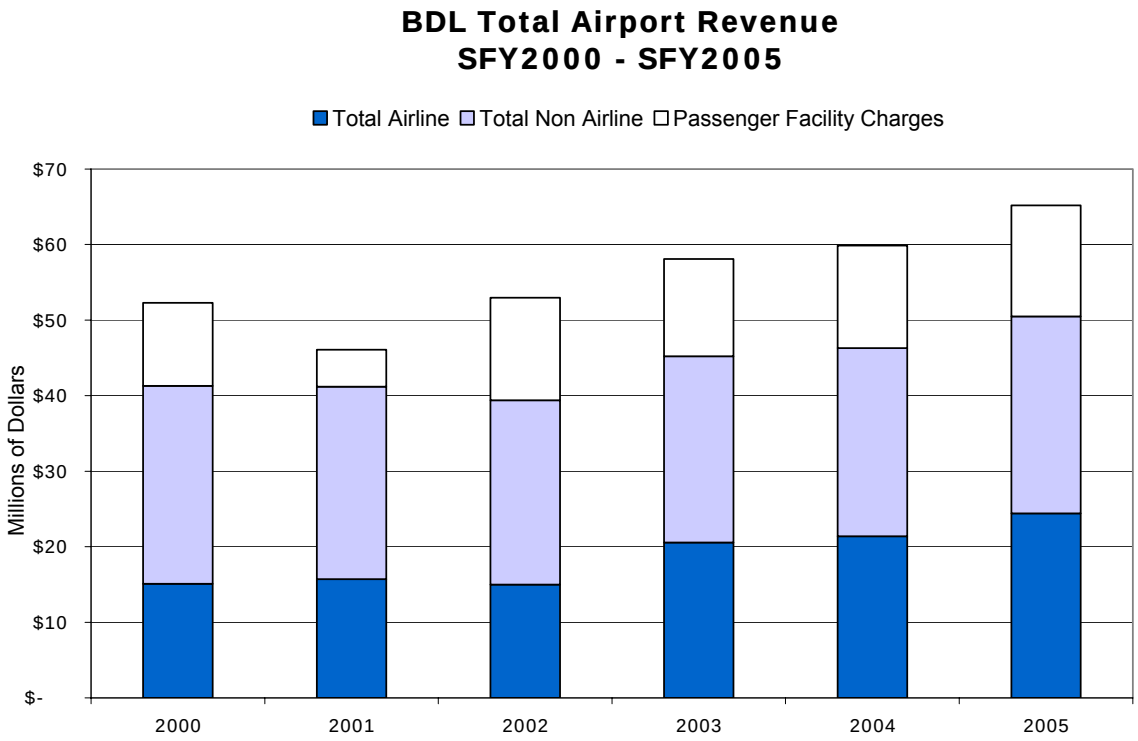


In SFY2005, as shown in Figure I-33, 28 percent of BDL's total revenue was derived from non-operating sources and 72 percent was derived from airline (35 percent) and non-airline (37 percent) operating sources.

Operating Revenue

Operating revenues are derived from airline and non-airline sources. As shown in Figure I-34, Bradley International Airport's Total Operating Revenues have increased from $41.3 million in FY2000 to $50.5 million in FY2005, an increase of 22.2 percent.

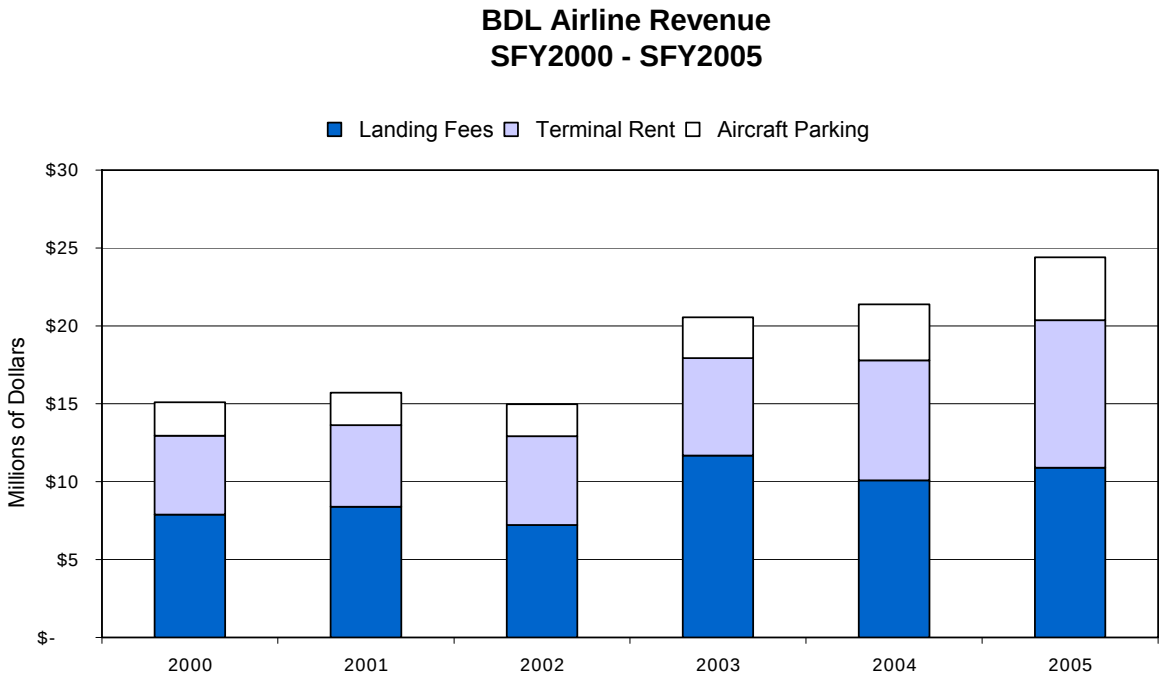
Figure I-34. Trends in BDL Airport Revenue



Source: Connecticut Department of Transportation, Bureau of Aviation and Ports, Office of Fiscal and Administrative Services, January 2006.

To generate revenue from the airlines serving the airport, the airport uses what is known as a "compensatory" system of setting airline rates and charges. In a compensatory system, operating and non-operating expenses attributable to airline use of the airport are allocated to airline cost centers. These cost centers include the terminal building, aircraft parking apron and landing area, and the airlines pay terminal building rent, aircraft parking and landing fees equivalent to the allocated costs. As shown in Figure I-35, Airline Revenues have increased from $15.1 million in SFY2000 to $24.4 million in SFY2005 or 61.7 percent. This increase is attributable to increased operating expenses and increased debt service associated with the Terminal Expansion and Improvement Program underway at the airport.

Figure I-35. Trends in BDL Airline Revenue



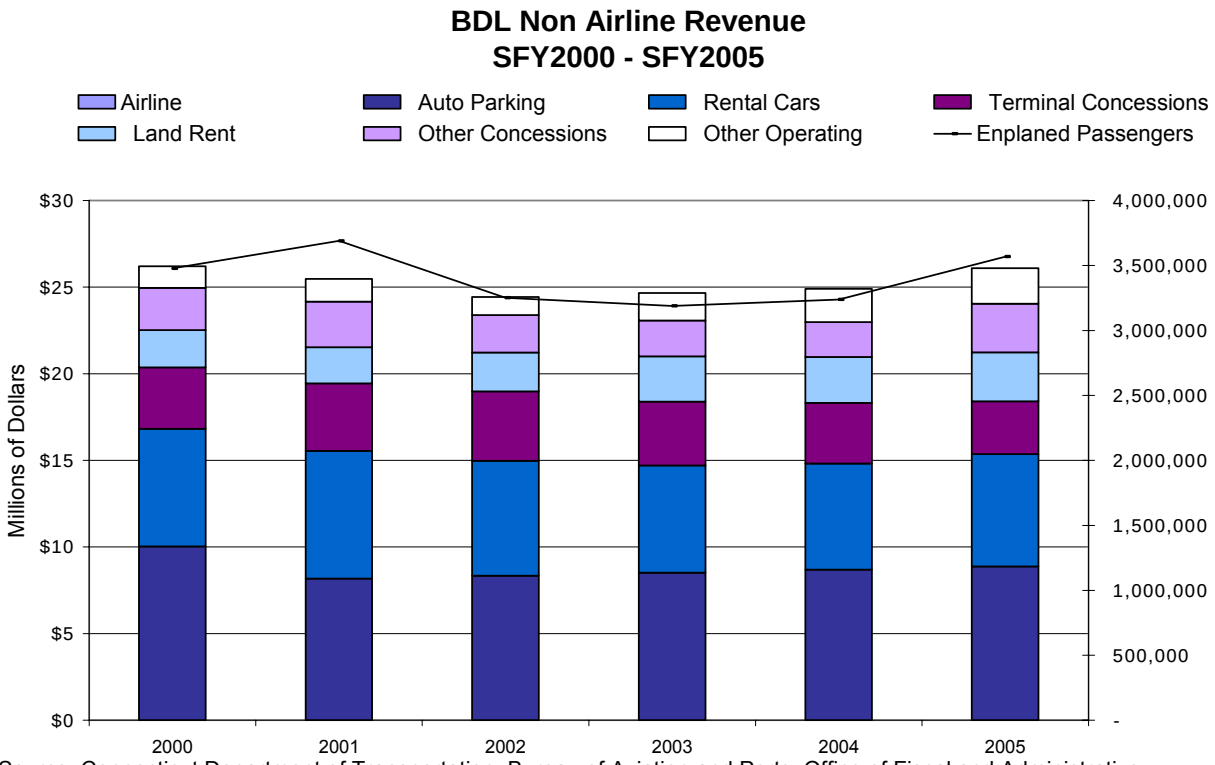
Source: Connecticut Department of Transportation, Bureau of Aviation and Ports, Office of Fiscal and Administrative Services, January 2006.

Bradley International Airport's non-airline revenues are generally market driven, and considering the compensatory nature of airline revenues as discussed above, all airport operating income is derived from non-airline sources. Non-airline revenues include auto parking, rental cars, terminal concessions, land rent, other concessions and other operating revenue. As shown in Figure I-36, non-airline revenues have declined from $26.2 million to $26.1 million from FY2000 to FY2005. A number of factors have contributed to the decline and rebounding of the airport's non-airline revenue. Passenger traffic declined significantly following the September 11, 2001, terrorist attacks. Enplaned passengers declined 11.9 percent from FY2001 to FY2002, and declined another 1.9 percent from SFY2002 to SFY2003. Overall, enplaned passengers increased only 2.6 percent from SFY2000 to SFY2005. Passenger traffic affects a variety of non-airline revenues such as terminal concession sales, rental car sales, on and off airport vehicle parking.

The airport entered into a new master food and beverage concession agreement focusing on investment in new facilities and improved customer service and satisfaction in connection with its terminal expansion and improvement program. This initiative required lower minimum annual guaranteed revenue to the airport from food and beverage concessions. The airport's new terminal and concourse opened in April of 2003, and the terminal improvement program continues with refurbishment of Terminal A, which is expected to be completed in the fall of 2007.

The airport entered into a new agreement with the on-airport parking facility operator providing for the financing, construction and operation of a new parking garage at the Airport in connection with the terminal expansion. This initiative, together with declining traffic, also resulted in lower revenue to the airport from the parking concession.

Figure I-36. Trends in BDL Non-Airline Revenue



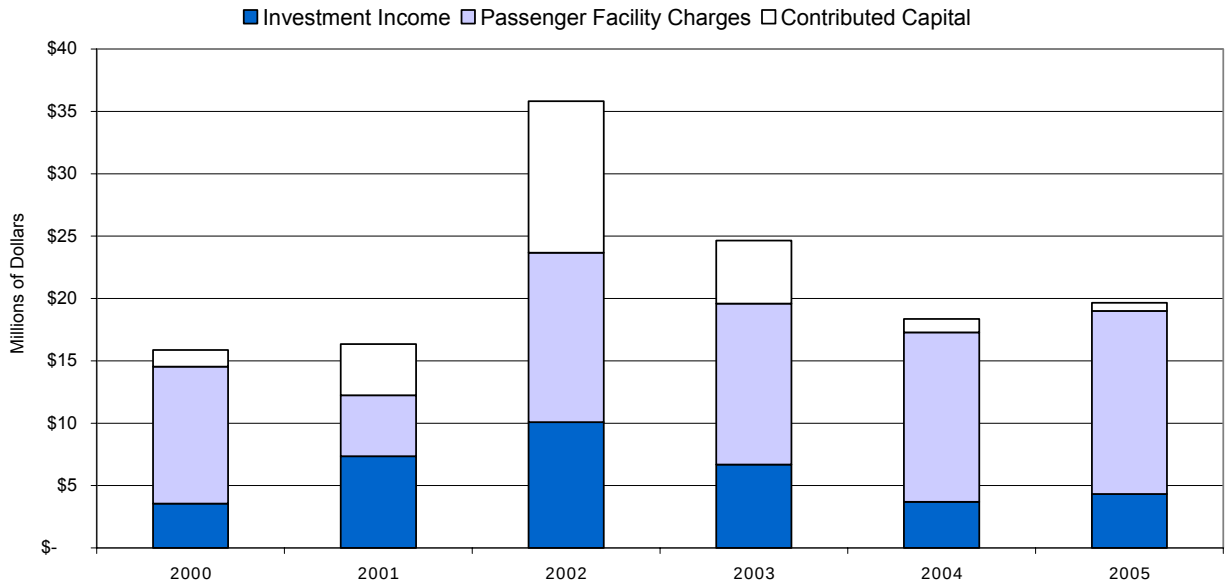
Source: Connecticut Department of Transportation, Bureau of Aviation and Ports, Office of Fiscal and Administrative Services, January 2006.

Non-Operating Revenues

As shown in Figure I-37, the airport's Non-Operating Revenues increased from $15.9 million in SFY2000 to $19.7 million in SFY2005, an increase of 23.9 percent. Non-Operating Revenues include Investment Income, Passenger Facility Charges and Capital Contributions.

The airport generates relatively significant Investment Income from the various accounts maintained within the Airport Enterprise Fund. Total Investment Income over the past six years was $35.7 million, ranging from a low of $3.6 million in SFY2000 to a high of $10.1 million in SFY2002. The major accounts within the Enterprise Fund generating Investment Income include the Construction Fund for the terminal expansion program, the Improvement Fund for the airport share of other capital projects, debt service reserves and general reserve funds. These funds are typically invested in the State's Short-Term Investment Fund (STIF) and in long-term Guaranteed Investment Contracts (GICs). The annual level of Investment Income is directly related to the balances maintained within these accounts and the interest rates being earned on the STIF and GICs.

Figure I-37.Trends in BDL Non-Operating Revenue



Source: Connecticut Department of Transportation, Bureau of Aviation and Ports, Office of Fiscal and Administrative Services, January 2006.

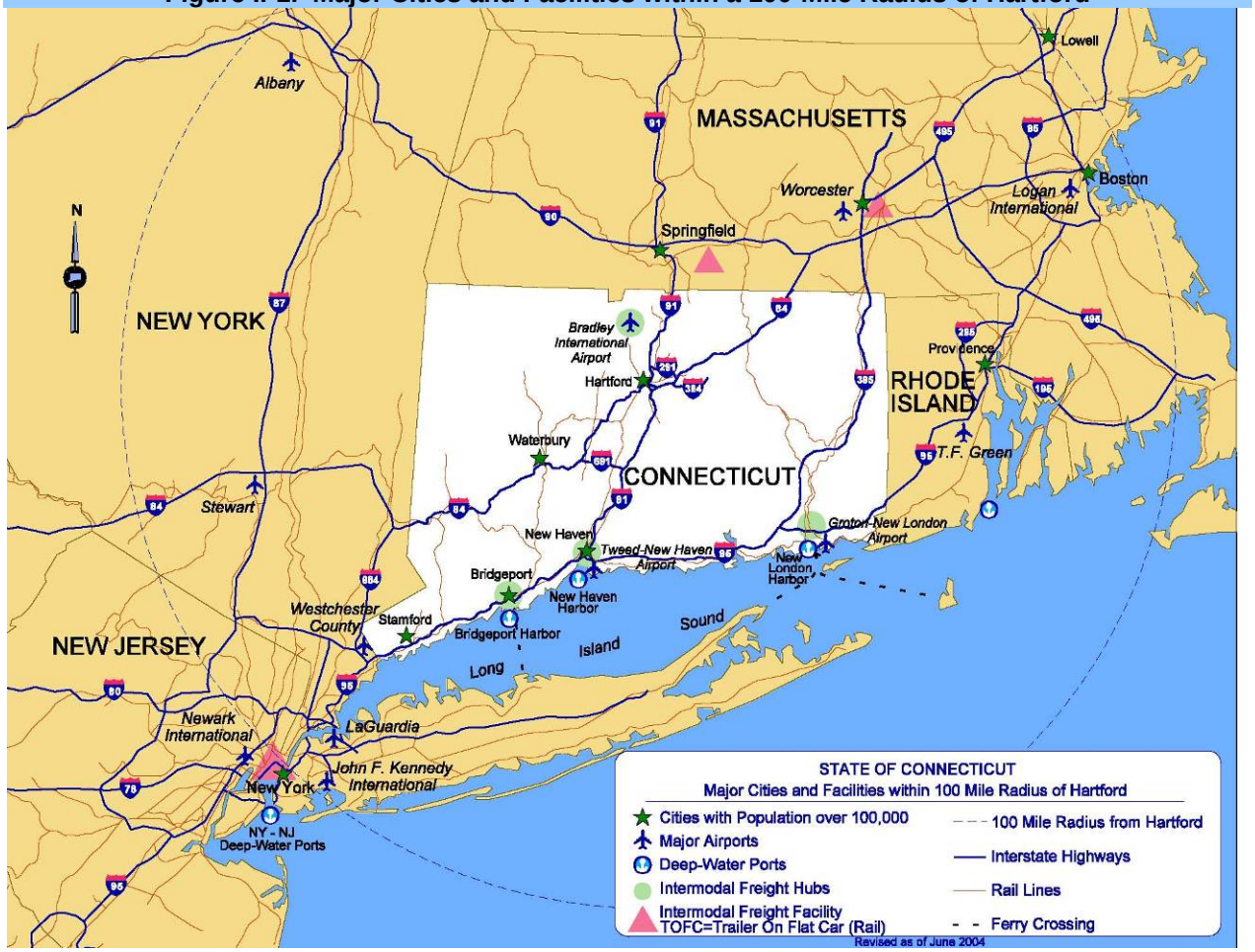
A major source of capital financing available to the BDL is at its Passenger Facility Charges (PFCs). PFCs are collected by airlines as part of the fare charged for passenger air travel. The PFC is then remitted to the airport authorized to impose the charge. Authorization to impose PFCs is administered and granted through the Federal Aviation Administration (FAA). Collection authorization may only be granted for the eligible costs of approved projects. BDL has requested and been granted authority to collect $302 million in PFCs, the majority of which represents debt service associated with eligible portions of the current terminal expansion and improvement program. As of September 30, 2005, the airport had collected $111 million of its authorized collections leaving a balance to be collected of $191 million. As shown in Figure I-37, PFC revenue over the past six years has ranged from a low of $4.9 million in SFY2001 to a high of $14.7 million in SFY2005, which is directly related to the airport's authority to impose the charge, the level of the charge itself and passenger traffic at the airport.

Another major source of capital financing available to BDL is its federal grants. Grants are received from the FAA under its Airport Improvement Program (AIP), and from the Federal Highway Administration for eligible roadway work undertaken in connection with the terminal expansion program. As indicated on Exhibit A, total Contributed Capital (grants) over the past six years is $24.4 million and ranged from a low of $0.7 million in SFY2005 to a high of $12.2 million in SFY2002. The annual level of Contributed Capital is directly related to the cost of eligible projects being undertaken and the funding limits of the grant programs themselves, which for the FAA's AIP program, varies when PFCs are and are not authorized.

II. LONG-RANGE PLANS OF ADJACENT STATES

This chapter contains information on the transportation priorities, plans and projects of the adjacent states of Rhode Island, Massachusetts and New York. To facilitate efforts to ensure the connectivity of Connecticut's transportation planning efforts with those of adjacent states, staff of the state transportation departments in these states were contacted to obtain information on the status of their long range plans and their current and anticipated efforts to improve, upgrade or expand their system, particularly in the vicinity of Connecticut's borders. In addition, information on transportation plans and projects was obtained from each of the state's web sites and from agency staff. The transportation activities listed in this chapter have been identified by the states of Rhode Island, Massachusetts and New York as major transportation-related policies, projects and/or studies that the states have undertaken and/or will be implementing. For reference purposes, Figure II-1 shows the major cities and transportation facilities within a 100-mile radius of Hartford.

Figure II-1. Major Cities and Facilities within a 100-Mile Radius of Hartford



A. RHODE ISLAND

The Rhode Island Statewide Planning Program, in cooperation with other agencies, prepares a long-range (20-year) transportation plan that sets state policy to guide the public and private decisions involving transportation. This plan is part of the State Guide Plan, which is a collection of plans and policy documents adopted by the State Planning Council to address the social, economic and physical development of the state.

In 2004, a major update of the long-range transportation plan, entitled *Transportation 2025: Long Range Plan Transportation 2004*, was completed, and the planning horizon was extended to the year 2025. Transportation planning in Rhode Island is based on a common vision that recognizes transportation as "a core function that threads through other elements of society to connect the state with global and regional economies, the home with the workplace, and the individual with the community, and all of us with another. It must equally benefit all communities." The plan presents recommendations around the 14 topic areas listed in the bullets below:

- Bicycle
- Design
- Economic Development
- Emergency Response
- Environment
- Equity
- Finance
- Highway
- Intermodal
- Land Use and Corridors
- Planning
- Safety
- Transit
- Pedestrian

Within each topic, there is an overall goal, followed by objectives, policies, strategies and performance measures, collectively referred to as "recommendations." The following project descriptions were downloaded in full or in part from a web site maintained by the State of Rhode Island (July 2005).

Relocation of Interstate 195 (I-195) – This project includes the following improvements: one mile of new I-195, one and one-half miles of resurfaced and realigned I-95, new interchange with I-95 and I-395, 15 new bridges to be constructed including numerous ramp bridges and a 50-foot wide pedestrian bridge at India Point Park; various highway access and city traffic flow improvements; an intermodal transportation and visitors center; a multi-use path for pedestrians and bicycles (both sides of river); boat ramps; and dredging of the Providence River to allow passage of larger vessels. The relocated I-195 should be partially open to traffic in 2007 and fully operational by 2009.

Rhode Island South County Commuter Rail – Rhode Island Department of Transportation completed a planning study (2001) to evaluate the feasibility of extending the current MBTA Boston, Massachusetts - Providence, Rhode Island commuter rail service over 43.8 miles of Amtrak's Northeast Corridor between Providence and Westerly, Rhode Island. The state is currently pursuing the plan's Initial Phase, with the extension of MBTA service to Warwick and Wickford Junction. This includes a multimodal transportation facility at Warwick intermodal train station, with parking, rental car, intercity bus, taxi/limousines, intercity and commuter rail, and direct access to T.F. Green Airport. RIDOT has initiated a further study (2006) in consideration of a Future Phase, further extension of the service to Westerly, Rhode Island, and possibly New London, Connecticut.

T. F. Green Airport Improvements – T. F. Green Airport currently serves over five million passengers per year and growth is anticipated to increase to 11 million passengers by 2020. The airport currently has approximately 250 daily operations and this is also expected to increase significantly (630 by 2020). Updating of the airport master plan has been underway since 2001. An environmental impact statement is being prepared for major projects proposed

as part of the master plan update. Additionally, other projects that are pending at the T. F. Green Airport include initiation of a surface-marking project, runway repavement, development of an intermodal station, and initiation of a 4th floor building project at the airport. Information on T.F. Green Airport will be updated in the New England Regional Airport System Plan as part of a Federal Aviation Administration Regional Project.

B. MASSACHUSETTS

The State of Massachusetts released its draft 20-year long-range transportation plan, entitled *A Framework for Thinking–A Plan for Action: Transportation in the Commonwealth of Massachusetts,* in June 2005. The information that follows has been taken in full or in part from digital files of this plan as downloaded from the Massachusetts Executive Office of Transportation (EOT) web site in June 2005.

Transportation in Massachusetts is at a crossroads. For the first time in nearly two decades, the Central Artery/Tunnel project is no longer the centerpiece of the transportation agenda. In the soon-to-be post Big Dig era, Massachusetts transportation officials are extremely cognizant of the need to promote greater geographic equity in transportation planning and funding decisions. The Romney Administration, in partnership with the Massachusetts Legislature, has made sustainability—the advancement of policies that protect the natural environment, support healthy communities, and promote economic prosperity in harmony with livability—a centerpiece of the agenda for the Commonwealth.

The policies of the Romney Administration, including *Fix-It-First* and *Communities First*, encourage planning that strengthens the existing transportation network, respects local landscapes and community character, provides multiple transportation options, enhances intermodal connections, and promotes equity of investment across the Commonwealth. The *Fix-It-First* policy of the Romney Administration emphasizes the importance of preserving and improving existing infrastructure before we elect to build or purchase new facilities. This policy is relevant for all of the transportation agencies, regardless of mode, and will provide a guide for the transportation investments of the next several decades. The Romney Administration and the Legislature have also emphasized the streamlining of the internal processes of the Massachusetts transportation agencies. *An Act Restructuring the Transportation Systems of the Commonwealth* (Chapter 196 of the Acts of 2004) initiated the reform of the transportation agencies, introducing new inter-agency efficiencies and promoting cost-savings.

Following the release of *A Framework for Thinking—a Plan for Action*, the Executive Office of Transportation will undertake a statewide process to solicit public comment and secure broad public participation in the further development of the document. The further development of the document will include a discussion of how best to deal with the major infrastructure projects currently proposed for the Commonwealth.

The following is a listing by geographic region of large, high priority transportation projects in Massachusetts that may be relevant to or of interest to Connecticut. These are termed “mega” projects, defined as those projects that have a cost that exceeds, or are expected to exceed, one hundred percent of each of the Metropolitan Planning Organization’s annual regional target amount, excluding bridges.

a. Berkshire Region

Pittsfield Airport ($24m) – This project will increase runway length and make other associated safety improvements to allow aircraft to land in all weather conditions and permit corporate jets to fly non-stop to and from the west coast. The project was recommended by the Regional Competitive Council (RCC) as key to the region’s efforts to attract businesses interested in locating in the Berkshires.

b. Central Massachusetts Region

Commuter rail improvements (cost not available) – Increased commuter rail service to Worcester has been a top priority for the City and was recommended by the RCC. The MBTA has conducted several studies and is discussing feasibility and costs with CSX. The goal is to increase the service to 20 round trips a day. Expansion of this line should be coupled with capacity improvements at South Station.

c. Franklin Region

Northern ITS (6.25m) – This project would extend the Interstate 91 ITS project to the Vermont border to provide a communication backbone for the region, with the potential through the Wiring Massachusetts Initiative to substantially improve broadband availability. The Regional Plan recommended more ITS in this region and the RCC identified this connection as a cornerstone infrastructure improvement necessary for regional economic development.

d. Northern Middlesex Region

Improvements to Interstate 495 (I-495) (cost not available) - The majority of the section of I-495 that runs through the region is congested at peak periods. I-495 functions as a major link both within the Commonwealth and to other states via direct connections to I-90, I-93, I-95, Route 2, and Route 3. With this critical role in inter-regional and interstate mobility, I-495 provides a vital function in the movement of people and goods. The Regional Plan highlighted this corridor as one that needed further attention. Opportunities for strategic and multimodal improvements may be identified in a study that MassHighway and the MPO are about to begin. A full range of alternatives, including interchange, highway, and non-highway improvements as well as multimodal options, will be developed and analyzed as the study progresses. A recommended plan of future transportation improvements (both short-term and long-term), based on the alternatives analysis, will be the end product of this study.

e. Metropolitan Boston Region

Silver Line III ($756m) – This phase of the Silver Line project would create an underground link between South Station and Boylston Street and connect the two phases that have already been built–namely the Washington Street service and the service to the Seaport District and Airport. In February 2005, the MBTA was recommended for further funding at a level of 60 percent federal funds/40 percent non-federal funds through the New Starts program. This project is scheduled to be completed in 2013.

f. Pioneer Valley Region

Interstate 91 (I-91) ITS ($8m) – This project would provide ITS capability along I-91 from the Connecticut border to the Vermont border and provide a communication backbone for the region, with the potential through the Wiring Massachusetts Initiative to substantially improve broadband availability. Supported by the Regional Plan and recommended by the RCC, this initiative has received a Congressional earmark.

Julia Buxton (South End) Bridge Reconstruction ($70m) – Still in preliminary conceptual stages, this project would consist of the upgrade of the existing four lane bridge between

Springfield and Agawam. In addition, this could consist of improvements to the Interstate 91 corridor between exits 1-5 to address the existing lane reductions from three to two travel lanes.

Agawam, Route 5/57 ($10m) – This project involves the creation of direct access from the west end of the Connecticut River Bridge to Route 57 (westbound) a heavy traffic movement due to recent development in southeast Agawam. The project was recommended by both the Regional Plan and the RCC.

Route 57 Phase II - Route 187 to Southwick Town Line ($34m) – This project consists of the construction of a limited access highway (two lanes in each direction) from the Route 57/187 interchange in Agawam to the Agawam/Southwick line.

Improvements to Union St. Rail Underpass in Merrick Neighborhood ($15m) – A major recommendation of the Merrick-Memorial Neighborhood Redevelopment Plan was to upgrade the existing Union Street railroad underpass in West Springfield. This underpass currently provides only 12 feet of vertical clearance. Given its current configuration, the Union Street Underpass significantly limits the number of entry points for heavy-vehicle traffic serving the existing industrial areas in the Merrick and Memorial neighborhoods, and in particular, the Merrick Industrial Area, which is home to more than 169 industries, including the CSX freight rail operations. The upgrade of the Union Street Underpass will create a new truck route into the Merrick Industrial Area using Route 147 (Memorial Avenue). This will allow trucks to enter the industrial area from Interstate 91 via the Memorial Bridge and Route 5/147 rotary, as opposed to the North End Bridge and Route 5/20 rotary.

Improvements to Route 5 Access Ramps ($5m) – Another major recommendation of the Merrick-Memorial Neighborhood Redevelopment Plan was to upgrade an existing roadway to allow truck access from Route 5 into the industrial areas of West Springfield. Currently, large trucks must negotiate between the Route 5/20 rotary or the Route 5/147 rotary to access the industrial areas. Existing ramps on Route 5 in Agawam provide access to “M” Street which serves the Bondi’s Island Wastewater Treatment Plant and Springfield Landfill. The enhancement of these existing ramps would allow large trucks to enter and exit the industrial areas of West Springfield via Union Street Extension to Agawam Avenue to Route 5.

Route 5 Traffic Signal Improvements – Based on the recommendation of a congestion management study conducted by the PVPC, this study would address the feasibility of widening Route 5 in Longmeadow to provide additional capacity from Forest Glen Road to Converse Street. In addition, the feasibility of upgrading and coordinating the existing traffic signals along Route 5 would also be addressed.

Commuter Rail - Springfield to New Haven ($30m) – This project consists of the implementation of commuter rail service between Springfield, Massachusetts and Hartford and New Haven, Connecticut. The service would operate on the existing 62-mile Amtrak owned Springfield Line connecting the three cities. The rail corridor crosses the MA/CT border in Longmeadow and continues to Union Station in Springfield. Union Station would be the primary station located in Massachusetts with the possibility of another station located in downtown Springfield.

Interstate 91 (I-91)/Connecticut River Corridor Passenger Rail Study – This Passenger Rail Study will consider the options for providing a phased implementation strategy for passenger rail service between Springfield, Massachusetts and White River Junction, Vermont. It is intended that this project will build on the existing planning efforts by CDOT for New Haven-Hartford-Springfield and support implementation of commuter rail service to Springfield.

Route 10/202 Resurface: Westfield CL to CT SL ($5.5m) – This project consists of the rehabilitation of the Route 10/202 corridor in Southwick. It may include spot widening for turning lanes as warranted and the improvement of existing traffic signals along the corridor.

Southwick Rails to Trails Bike path along Penn. Central Line ($2.6m) – This bike path project will consist of the construction of a multiuse facility with a proposed connection to Farmington Valley Greenway.

Great River Bridge: Construction: BR# W-25-010 over the Westfield River ($20m) – The Great River Bridge spans the Westfield River in Westfield and is part of Route 10/202. This bridge serves as the main corridor to the Massachusetts Turnpike and points north of the city. The project will include reconstruction and widening of the existing bridge, with the addition of a sister span along the east side of the existing bridge. The existing bridge will contain three one-way southbound travel lanes and the sister span will contain three one-way northbound travel lanes. Redesign of the roadways north of the bridge is also included in the project.

g. Southeast Massachusetts Region

Commuter rail to New Bedford and Fall River ($670m) – While both capital and operating costs would be a challenge, the local studies now going forward are a model of the corridor studies that are recommended as a precursor to any major expansion project. The RCC recommended the project. This project, as with several other expansion proposals, are prime candidates for corridor financing mechanisms such as District Improvement Financing. Any such expansion of commuter rail service south of Boston should be coupled with an expansion of the tracks at South Station to add the necessary capacity.

C. NEW YORK

The New York State Department of Transportation's (NYSDOT) mission is to ensure that its customers–those who live, work, and travel in New York State–have a safe, balanced, and environmentally sound transportation system. It is recognized that the transportation system, which is essential to the efficient movement of people and goods, is vitally important to commerce and industry.

In December 2005, the NYSDOT published a preliminary draft long-range transportation plan, *Transportation Strategies for a New Age: New York's Transportation Plan for 2030*. This preliminary draft plan states that New York State is transforming its approach to providing transportation.

This transformation recognizes that transportation's customers—those who use the transportation system for travel or to ship goods—do not care who owns or operates individual transportation facilities. These customers do care that transportation is seamless and that it effectively responds to their needs in the ever changing global economy. They care that transportation operators can appropriately prioritize among potential investments, can successfully measure the success or failure of their efforts to improve the systems operation, and can, therefore, be held accountable for their investment of public funds. [18]

The state will build on its many accomplishments to respond to the changing global economy, travel demands and customers needs.

New York State's vision for transportation in 2030 is of a seamless system in which travelers can conveniently shift between modes and operators to complete trips that meet their individual and business needs. Future transportation investments will be customer-driven. A system to measure how well the investment performs will help ensure accountability. Priorities will be determined within major transportation corridors which serve the predominate customers of the system. [19]

The draft plan provides a "broad policy road map" that will underlie the State's efforts to achieve this vision. It identifies the following five Priority Result Areas:

- Mobility and Reliability
- Environmental Conditions
- Security
- Economic Sustainability
- Safety

This draft Plan also outlines nine important strategies to achieve desired outcomes within these Priority Result Areas. These strategies, which follow, "will underpin future transportation investments." They are discussed in greater detail throughout NYSDOT's draft plan. The plan states that, notwithstanding the uncertainty of future transportation revenue sources and funding levels, each of these Priority Result Areas must be addressed through an integrated capital and operating plan. The highest priorities in New York State will be largely determined by examining the needs of designated corridors and their component facilities.

[18] New York State Department of Transportation, "New York State's Transportation Plan: Strategic Policies for 2005-2030," New York State Department of Transportation, <http://www.dot.state.ny.us/transplan/index.html> (4 January 2006)

[19] Ibid.

Strategies to Achieve Desired Outcomes within the Priority Result Areas	
1	To implement effective integrating mechanisms for improving coordination among the State's transportation operators
2	To focus investments on meeting customer needs within the designated travel corridors;
3	To promote improved safety through altering the travel behaviors of vehicle operators posing the highest risk to transportation safety;
4	To increase the compatibility between existing and desired land uses and transportation;
5	To use state-of-the-art transportation asset management principles to make future investment decisions;
6	To emphasize state-of-the-art operational techniques, including advanced technologies, to meet customer expectations for mobility and reliability;
7	To adopt comprehensive performance management practices to ensure progress within the Priority Result Areas;
8	To place customers in the "driver's seat" in determining investment priorities, and
9	To play a leadership role in promoting sound environmental and energy policies in all transportation investments

In its draft plan, New York recognizes the "importance of overcoming the adverse impacts of governmental and other institutional fragmentation that defines the transportation sector in New York State today. The following impacts were identified: insufficient comprehensive planning, difficulty in attaining consensus on major investments to be advanced, traffic tie-ups resulting from simultaneous construction on two or more highways within the same travel corridor, missed connections between train and bus, or commuter rail and subway, and other operational issues that prevent a seamless trip from origin to destination.

The plan for 2030 foresees a far more collaborative approach to planning and investment decision making. This plan states that the Commissioner of the NYSDOT, utilizing existing and statutory authority, will integrate transportation policy development among operators throughout the state to ensure greater policy coherence and consistency. The creation of the Transportation Federation in 2004, comprised of the NYSDOT, the New York Thruway Authority and the New York State Bridge Authority, under the overall direction of the State Transportation Commissioner, will promote improved policy and programmatic coordination upstate and represents only the first step in this effort. Similarly, the Chairman of the Metropolitan Transportation Authority will play a leading role in the downstate region promoting improved integration and coordination between the transportation operators.

The plan further states that "as NYSDOT continues to reorganize to meet the challenges of the 21st century, it is anticipated that the Commissioner's transportation integrating role will be strengthened in order to achieve the policy objectives identified in this plan."

At the forefront of planning activities in the New York portion of the NY-NJ-CT urbanized (transportation management) area is the New York Metropolitan Transportation Council

(NYMTC). It is the council of regional governments that serves as the metropolitan planning organization (MPO) for the New York City, Long Island, and the Lower Hudson Valley to oversee transportation-planning activities in the region.

- NYMTC's Mid-Hudson South Transportation Coordinating Committee is an advisory member of the South Western Regional MPO and this agency is also an advisory member of NYMTC's MHSTCC.

- Further, NYMTC joins ten other MPOs, including Orange County Transportation Council, some of Connecticut's MPOs as well as others from New Jersey, in the multi-state air quality non-attainment area for fine particulate matter (PM2.5) and must jointly determine conformity with them until new State Implementation Plans for air quality are adopted.

- NYMTC's Best Practice Model covers twenty-eight counties in the NY-NJ-CT region, which includes nine other MPOs, and results in commonality among analytical tools, many areas of data collection, and socio-economic/demographic forecasting, e.g. 1997/98 household travel survey.

- In the NY-NJ-CT region, NYMTC joins up with other MPOs in various advisory working groups, such as the Regional Transportation Planning Coalition, the Freight Transportation Working Group, the Forecasting Working Group, the Metropolitan Mobility Network, the Long Island Sound Ferry Coalition, etc. Participation in these groups has led to specific multi-MPO studies and projects, such as the Long Island Sound Waterborne Transportation Plan, and supplemental coordination on major regional projects such as I-287/Tappan Zee Bridge Environmental Assessment.

The Poughkeepsie-Dutchess County Transportation Council PDCTC) and Orange County Transportation Council (OCTC) are the MPOs of the Mid-Hudson Valley area which borders Connecticut. NYSDOT and the Metropolitan Transportation Authority are also members of these councils as well as of NYMTC.

Following are brief descriptions of projects underway or planned to be undertaken in the State of New York. This information was obtained from the web sites of the New York State Thruway Authority, the New York State Metropolitan Transit Authority, and the Port Authority of New York and New Jersey.

a. Highways

The information that follows on highway projects and studies being undertaken by the State of New York has been taken in full or in part from the New York State Thruway Authority's web site (April 2005) or provided by NYSDOY's Region 8 office.

I-84/I-87 Interchange Project – The NYS Thruway (I-87) and I-84 are major interstate highways providing important connections between population and commercial centers of the northeastern United States. The two highways intersect in the Town of Newburgh, Orange County, New York. Currently, there are no direct connections between I-87 and I-84. In recent years, local and interstate traffic volumes have increased significantly, resulting in increased congestion, longer travel times, and safety problems on the Interchange roadways. The purpose of this project is to reconstruct the I-84/I-87 Interchange, to provide direct access between the two interstates, and to relieve traffic congestion from the local roads, through the use of cost effect measures and with minimal impact to the community and the environment. This project will include higher speed E-ZPass lanes that allow customers to pass through the barrier at speeds up to 40 miles per hour. http://www.thruway.state.ny.us/projects/i84-i87/about.html#_rollover_image Phase 1

was completed on October 12, 2004, at a cost of $5.5 million. Phase 2 was awarded at the end of 2005. As of mid February 2006, Phase 3 letting was in the process of being scheduled.

New England Thruway (I-95) Capacity Project - New England Thruway (I-95) Capacity Project – From Milepost 14.0 to the Connecticut Line for 2012. In addition, the NYS Thruway Authority plans to do a corridor study of the entire New England Thruway post 2010.

The NYS Thruway Authority has also begun a study to investigate the potential of changing the current Thruway toll collection system to an open road toll system. Preliminary results of the study are expected to be available by the end of the year.

Long-Term Needs Assessment and Alternative Analysis I-287/Tappan Zee Bridge Corridor In late 1997, Governor Pataki formed the I-287 Task Force to recommend alternatives to a high occupancy vehicle lane on the Cross Westchester Expressway and to address the transportation issues in the lower Hudson Valley. The Task Force was chaired by E. Virgil Conway of the Metropolitan Transportation Authority and also included Ambassador Charles Gargano, Chairman of the Empire State Development Corporation, Joseph Boardman, the Commissioner of the Department of Transportation, John Cahill, the Commissioner of the Department of Environmental Conservation and John Platt, Executive Director of the Thruway Authority. The Task Force retained an outside consultant team to perform a preliminary study of such alternatives. This report provides the technical foundation for the Task Force to consider in making recommendations regarding those alternatives and the long-term needs. The following study builds on the work of the Task Force.

Tappan Zee Bridge/I-287 Environmental Review – The New York State Thruway Authority (NYSTA) and MTA Metro-North Railroad, in coordination with and subject to the review and acceptance by the Federal Highway Administration (FHWA) and the Federal Transit Authority (FTA), will prepare an Alternatives Analysis (AA) and then an Environmental Impact Statement (EIS) for the I-287 Corridor in Westchester and Rockland Counties, which includes the Tappan Zee Bridge. Congestion in the corridor is anticipated to continue to worsen, and the structural needs of the Tappan Zee Bridge must be addressed. Although the bridge is safe, due in large part to a detailed program of maintenance and inspection, it is nearing the end of its expected service life. The purpose of the study is to identify and evaluate alternative proposals to address the transportation needs of the Tappan Zee Bridge/I-287 Corridor. The environmental review process for the Tappan Zee Bridge/I-287 Corridor will be carried out in two stages: Stage 1 is an alternatives analysis (AA) and the initial environmental review process and Stage 2 consists of the Environmental Impact Statement (EIS).

Tappan Zee Bridge Deck Replacement – The New York State Thruway Authority (NYSTA) is going to expand service and ensure safety by replacing a significant portion of the deck of the Tappan Zee Bridge. Construction is expected to begin in the summer 2006 and be completed by the fall of 2008.

Access To Stewart International Airport – This project provides a direct link from I-84 to Stewart International Airport in Orange County. A new diamond interchange will be constructed at Drury Lane, and a new access road will be constructed from Drury Lane into the airport. Drury Lane will also be improved. The project was awarded in November 2005.

Conversion of Route 17 to I-86 – The conversion of Route 17 to I-86 is underway. Sections in western New York State have already been designated I-86. The sections in Orange County should be converted over the next five years. The conversion consists of updating the roadway section, clearances, and access to Interstate standards.

Route 22 from I-84 to County Road 65 – This project, which was in the DEIS phase in February 2006, would widen Route 22 in Putnam County to a four-lane divided highway. Traffic congestion and safety would be improved. Route 22 provides commuting access for commuters

in both New York and western Connecticut. It also has heavy recreational use on Fridays and Sundays. Concerns about New York City watershed impacts have affected the project schedule.

I-84 from I-684 to Connecticut State Line – This section of I-84 and the I-684 interchange experience congestion. NYSDOT would like to partner with ConnDOT to complete the planning requirements to allow widening to six lanes and the reconstruction of the I-84/I-684 interchange.

I-84 Repaving – I-84 is being repaved from the Pennsylvania state line to Connecticut. It is being done in stages over the next five years. Sections in Dutchess and Putnam Counties have been completed. Two remaining sections that finish Putnam County to the Connecticut state line will be under construction in 2006.

I-287 Reconstruction – The NYSDOT has been reconstructing I-287 from the Tappan Zee Bridge to Route 120 in Westchester County. The reconstruction is generally complete from the Tappan Zee Bridge to the Bronx River Parkway. The next section through the City of White Plains was scheduled to be let in April 2006. The following section from Bloomingdale Road to Route 120 is scheduled to be let in 2008. The section from Route 120 to I-95 is to be repaved in either 2006 or 2007.

Intelligent Transportation Systems – The NYSDOT has opened its Transportation Management Center for the Hudson Valley Region located in Hawthorne, Westchester County. ITS equipment is being installed on I-287 as part of its reconstruction. A number of VMS signs on major highways have also been installed. The ITS system will be extended along the limited access highways in Westchester County over the next five years. An extensive motorist assistance program, HELP, has been operating for a number of years providing peak hour, weekday coverage on limited access highways in Westchester, Putnam, Dutchess, and Rockland Counties.

I-684 – I-684 is being reconstructed from I-287 to I-84. The section from I-287 to Harris Road south of the Saw Mill River Parkway is complete or under construction except for Exit 2 at the Westchester County Airport. Exit 2 is scheduled to be let in 2007 and will eliminate congestion at the interchange and incorporate extensive water quality mitigations due to the proximity of the Kensico Reservoir. Harris Road to the Saw Mill River Parkway is scheduled for 2008. The I-684/Saw Mill River Parkway/Route 35 interchange will be studied beginning in 2006 to determine needed improvements. I-684 from Route 35 to Hardscrabble Road has been improved. The section from Hardscrabble Road to I-84 is scheduled to be repaved in 2009.

Trailways – NYSDOT, in cooperation with Westchester, Putnam, Dutchess, and Columbia Counties, has been developing a regional trailway system. The North County Trailway in Westchester County is complete from central Westchester to the Putnam line. The South County Trailway is being built in stages south from the North County Trailway to New York City. The Putnam Trailway from the North County Trailway to Brewster in Putnam County is open to Carmel and the segments to Brewster are in design. Putnam County is also designing the Maybrook Trailway which parallels Metro-North's Beacon-Danbury Line from Brewster to the Dutchess County line. Dutchess County is designing another portion of the Maybrook Trailway from Hopewell Junction to the Hudson River in Poughkeepsie. Dutchess County is also extending the Harlem Valley Rail Trail into Columbia County. Columbia County and the New York State Office of Parks and Historic Preservation are working on extending the rail trail in Columbia County.

b. Public Transportation

The following information on public transportation projects and studies being undertaken by the State of New York was taken in full or in part from the New York State Metropolitan Transit Authority's web site. All of these projects are being built by MTA Capital Construction, which was formed in July 2003 by the MTA's Board of Directors to manage the design and construction of the MTA's network expansion projects.

East Side Access MTA Long Island Rail Road - Grand Central Connection – The East Side Access (ESA) project will connect the Long Island Rail Road's (LIRR) Main and Port Washington lines in Queens to a new LIRR terminal beneath Grand Central Terminal in Manhattan. The new connection will increase the LIRR's capacity into Manhattan, dramatically shorten travel time for Long Island commuters, provide a new commuter rail station in Sunnyside Queens—and much more. Metropolitan New York is home to the nations most extensive—and most used—rail transit network, serving nearly 6 million riders per day. Because the network is operating at or near capacity and is not fully interconnected, millions of travelers are delayed by indirect routing and/or overcrowding. When completed in 2012, the East Side Access project—the largest construction project ever undertaken by the Metropolitan Transit Authority (MTA)—will carry more customers than all but four other commuter railroads in the country, and will profoundly affect the lives not only of Long Island commuters but also of transit users, motorists and residents throughout the New York metropolitan region. The ESA project will stimulate regional growth and development in a variety of ways, including enabling easy transfers at Grand Central between Long Island and Metro-North destinations in the Bronx, Westchester, Hudson Valley and Connecticut.

Second Avenue Subway – The Second Avenue Subway will reduce overcrowding and delays on the Lexington Avenue Line, improving travel for both city and suburban commuters, and improving access to mass transit for residents of the Far East Side of Manhattan. A Federal Environmental Impact Statement has been completed that addresses questions and comments rose during the hearing process. The Federal Transit Administration issued a Record of Decision (ROD) in July 2004, which states that, the requirements of the National Environmental Policy Act of 1969 (NEPA) have been satisfied for the Second Avenue Subway Project. The MTA completed Preliminary Engineering (PE) work on the full-length subway line. The MTA plans to begin construction of Phase I of the Second Avenue Subway in 2006.

No. 7 Subway Extension – Hudson Yards Rezoning and Development Program - The Metropolitan Transportation Authority, MTA Capital Construction and the City of New York Department of City Planning propose to promote the transit-oriented redevelopment of the Hudson Yards area ("the Hudson Yards"), which extends generally from West 28th Street on the south, Eighth Avenue on the east, West 43rd Street on the north and the Hudson River Park on the west. The proposed action includes construction and operation of an extension of the No. 7 Subway Line to serve the Hudson Yards; adoption of zoning map and text amendments to the New York City Zoning Resolution and related land use actions to permit the development of the Hudson Yards as a mixed-use community; other public actions, including work on the nearby convention center; construction of new exhibition space and a new hotel, and new or replaced transportation facilities for pedestrian movement, vehicle storage and other public purposes. Final design is scheduled to be completed in December 2006.

Fulton Street Transit Center – The new Fulton Street Transit Center in the general vicinity of Fulton Street and Broadway, incorporating six existing Lower Manhattan subway stations is under construction. The $785 million project will improve access to and connections between 12 subway lines for hundreds of thousands of daily commuters and Lower Manhattan residents and visitors, and will link New York City Transit facilities with PATH service and the World Trade Center site. The Final Environmental Impact Statement was published on September 29, 2004.

This project was under construction as of February 2006 and is expected to be completed in July 2009.

South Ferry Terminal – An improved South Ferry Terminal for the No. 1 and No. 9 subway lines, to be located underneath Peter Minuit Plaza in Lower Manhattan, adjacent to Battery Park and the Staten Island Ferry Terminal was under construction as of mid February 2006. The $451 million project will correct existing physical and operating deficiencies which limit train capacity and reduce subway reliability for millions of customers each year. The new station will reduce customer travel times, provide additional station entrances with ADA accessibility, and will offer a new free transfer between the No. 1 and No. 9 subway lines and the "R" and "W" lines at Whitehall Street. The Federal Transit Administration has issued a *Finding of No Significant Impact for the South Ferry Terminal Project*. Preliminary construction work on the South Ferry Terminal is being undertaken by the New York State Department of Transportation as part of the completion of the new Staten Island Ferry Terminal. Full construction was underway as of February 2006 and the project is scheduled to be completed by December 2007.

c. Waterborne Transportation

The following information is from the web site of the New York Metropolitan Transportation Council (NYMTC), the metropolitan planning organization for the New York portion of the metropolitan area.

NYMTC explored the potential for expanded use of the Long Island Sound and its tributaries for waterborne and freight transportation in the Long Island Sound Waterborne Transportation Plan (LISWTP). This plan was jointly sponsored by the NYMTC, the Greater Bridgeport Regional Plan Agency (GBRPA) and the South West Regional Planning Agency (SWRPA) and identifies a regional program of feasible, beneficial, and sustainable marine transportation improvements and services that reduce the region's reliance on highways. The intent was to develop a plan for waterborne transportation in the 2002 to 2025 period which would include strategies through which ferries can handle a greater share of the region's transportation demand and offer increased emergency response capability. The LISWTP was adopted for inclusion in the NYMTC Regional Transportation Plan on September 8, 2005.

d. Port of New York and New Jersey

The following information on the Port Authority of New York and New Jersey's $1 billion improvement program for the Port of New York and New Jersey was taken in full or in part from the Port Authority of New York and New Jersey's web site.

Channel and Berth Deepening – The Port Authority has been working with the U.S. Army Corps of Engineers to fund and implement crucial channel deepening projects in the harbor necessary to accommodate the demand for international cargo through our region. The agency is also working with its container terminal operator partners to deepen selected berths as part of the various port improvements in progress. The Port Authority and the Corps are currently working on several critical channel deepening projects in the New York/New Jersey harbor.

Terminal Improvement Projects – The Port Authority of New York and New Jersey, in conjunction with its marine terminal operator partners, is in the midst of a significant improvement program at the Port of New York and New Jersey. As part of this program, terminal improvements will be undertaken. When the terminal reconfiguration projects are

completed, the Port of New York and New Jersey will have the capacity to meet the projected rise in demand for international cargo to the region.

Inland Access Improvements – A number of projects have been identified to improve the rail movement of cargo via the on-dock Express Rail System. In addition, a Port Authority Bistate Rail Freight Initiative and a Port Inland Distribution Network (PIDN) are planned. Future plans include completing a New Jersey Department of Transportation's (NJDOT) Portway International Intermodal Corridor and a Comprehensive Port Improvement Plan (CPIP). The Portway is a decade-long program that includes the phased development of various projects designed to improve truck access and road safety. The CPIP will assess the costs and benefits of planned improvements to accommodate forecasted growth (by 2040) in cargo at the port.

e. Rail Freight

The following information was obtained from the New York City Economic Development Corporation's web site on the Cross Harbor Study.

Cross Harbor Freight Movement Project –The Cross Harbor Freight Movement Project is a joint Federal Highway Administration Federal Railroad Administration (FRA) and the New York City Economic Development Corporation (NYCEDC) effort to examine the way freight is transported in the New York metropolitan region area. The project includes an analysis of rail alternatives to address the current regional goods mobility problem and enhance the capacity, reduce congestion and costs, and improve reliability and strategic redundancy of the freight system. The project focuses specifically on investments that enable robust rail service in the East-of-the-River; namely, improvements to the two key East-Hudson rail lines–the Bay Ridge Branch in Brooklyn and Queens and the Montauk Branch in Queens, rail yards and other supporting facilities, and an improved connection to the national freight rail network in northern New Jersey. The study effort began in 1998 when NYCEDC commissioned the *Cross Harbor Freight Movement Major Investment Study* (MIS) to identify and evaluate strategies for improving freight movement throughout the entire region's rail freight network. At the conclusion of the MIS in 2000, the following project alternatives were identified: 1) No Action Alternative, 2) Transportation System Management (TSM) Alternative, 3) Expanding Float Operation Alternative, and 4) Rail Freight Tunnel Alternative. In 2001, NYCEDC, in cooperation with the FHWA and the FRA, began work on a Draft Environmental Impact Statement (DEIS) to further examine these initial alternatives, in conformance with the National Environmental Policy Act of 1969. In the DEIS, which was published in April 2004, the Tunnel Alternative was deemed to be the preferred alternative because it would produce significantly greater benefits with respect to the project goals and objectives than the other three alternatives. A New Jersey alignment of the Tunnel Alternative was identified by the NYCEDC as the Preferred Alternative. Work on the study was suspended prior to the completion of a Final EIS.

The project was undertaken because the metropolitan tri-state region, including portions of southern New York, northern New Jersey, and southwestern Connecticut, is facing a major urban freight mobility challenge. The region's economic prosperity has fueled a tremendous demand for goods movement but the freight transportation system east of the Hudson River has not kept pace with this growth in goods movement. The freight system in the East-of-the-Hudson region has failed to evolve with changing freight patterns and technology. Instead, the concentration of port, rail and air freight facilities needed to sustain the region's economic link to the rest of the world has developed largely in the West-of-the-Hudson region. The only direct connection from this freight hub to the heavily populated region east of the Hudson River is via truck. Currently, trucks move almost 80 percent of all goods. Because the demand for goods movement in the metropolitan region is expected to grow roughly 70 percent above existing

levels by 2025, the freight system needs to be substantially upgraded to prevent traffic congestion from constraining economic growth. [20]

Additional information on this project is available on the following web site: http://www.crossharborstudy.org/.

[20] New York City Economic Development Corporation, *Cross Harbor Freight Movement Project Draft Environmental Impact Statement,* April 2004 <http:www.crossharborstudy.org> May 23, 2006.

Appendix A
List of Acronyms

APPENDIX A. LIST OF ACRONYMS

A	
AA	Alternatives Analysis
ADA	Americans with Disabilities Act
AIP	Airport Improvement Program
B	
BLS	Bureau of Labor Statistics
BRT	Bus Rapid Transit
C	
CES	Current Employment Statistics
ConnDOT	Connecticut Department of Transportation
CPIP	Comprehensive Port Improvement Plan
CPI / U	Consumer Price Index / Urban
CPS	Current Population Survey
CSX	Chessie Seaboard Multiplier (railroad transportation company)
CVISN	Commercial Vehicle Information Systems and Networks
CTDECD	Connecticut Department of Economic and Community Development
D	
DEP	Department of Environmental Protection
DGEIS	Draft Generic Environmental Impact Statement
DIF	District Improvement Financing
DMV	Department of Motor Vehicles
DOL	Department of Labor
DRS	Department of Revenue Services
E	
EIS	Environmental Impact Statement
EOT	Executive Office of Transportation
ESA	East Side Access
F	
FAA	Federal Aviation Administration
FEIS	Final Environmental Impact Study
FHWA	Federal Highway Administration
FSD	Federal Security Director
FTA	Federal Transit Administration
G	
GA	General Aviation
GBRPA	Greater Bridgeport Regional Planning Agency
GCF	Glycol Collection Facility
GF	General Fund
GICs	Guaranteed Investment Contracts
GIS	Geographic Information System
GO	General Obligation

G

GCIDA	Greene County Industrial Development Agency
GON	Groton-New London Airport
GPS	Global Positioning System
GTI	Guilford Transportation Industries
GVW	Gross Vehicle Weight

H- I

HOV	High Occupancy Vehicle
ISTEA	Intermodal Surface Transportation Act
ITS	Intelligent Transportation Systems

J- L

LAUS	Labor Area Unemployment Statistics
LPF	License Permit and Fee
LRTA	Lowell Regional Transit Authority
LIRR	Long Island Rail Road
LISWTP	Long Island Sound Waterborne Transportation Plan

M

MARSEC	Maritime Security
MHSTCC	Mid-Hudson South Transportation Coordinating Committee
MPO	Metropolitan Planning Organization
MTA	Metropolitan Transportation Authority
MBTA	Massachusetts Bay Transit Authority
MVRTA	Merrimack Valley Region Transit Authority

N

NEPA	National Environmental Policy Act
NJDOT	New Jersey Department of Transportation
No.	Number
NYMTC	New York Transportation Metropolitan Transportation Council
NYS	New York State
NYSDOT	New York State Department of Transportation
NYSTA	New York State Transit Authority

O- P

OCTC	Orange County Transportation Council
PDCTC	Poughkeepsie-Duchess County Transportation Council
PE	Preliminary Engineering
PFCs	Passenger Facility Charges
PIDN	Port Inland Distribution Network

Q-R

QCEW	Quarterly Census of Employment and Wages
RABA	Revenue-Aligned Budget Authority
RCC	Regional Competitive Council
RIDOT	Rhode Island Department of Transportation
ROD	Record of Decision
RTP	Regional Transportation Plan

S	
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users
SEIS	Supplemental Environmental Impact Statement
SFY	State Fiscal Year
SIP	State Implementation Plan
STF	Special Transportation Fund
STIF	Short Term Investment Fund
SWRPA	South West Regional Planning Agency
T	
TAZ	Traffic Analysis Zone
TEA-21	Transportation Equity Act for the 21st Century
TSE	Truck Stop Electrification
U	
UI	Unemployment Insurance
USCG	United States Coast Guard
USDOT	United States Department of Transportation
V-Z	
VMT	Vehicle Miles of Travel
WIM	Weigh in Motion

Appendix B
Demographic Data & Trends
By Planning Regions

APPENDIX B. DEMOGRAPHIC DATA & TRENDS BY PLANNING REGION

Table B-1. Population Data by Planning Region

Regional Planning Organization	Square Miles	2000	2010	2020	2030	Persons per Square Mile 2000	Average Annual Growth 2000-2010
South Western	283.0	353,556	368,220	383,380	398,200	1,301	0.41%
Housatonic Valley	337.0	212,248	223,000	234,790	247,540	662	0.51%
Northwestern	360.8	22,654	22,810	23,020	23,360	63	0.07%
Litchfield Hills	416.9	79,188	84,600	90,450	96,440	203	0.68%
Central Naugatuck Valley	314.3	272,594	283,870	290,920	298,030	903	0.41%
Greater Bridgeport	58.5	84,500	86,200	88,070	89,970	1,474	0.20%
South Central	149.1	307,607	312,620	318,170	324,040	2,097	0.16%
Central	388.4	546,799	568,420	593,300	618,700	1,463	0.40%
Capitol	166.5	226,695	232,950	241,660	250,530	1,399	0.28%
Midstate	761.0	721,320	748,340	779,800	811,500	983	0.37%
CT River Estuary	257.0	104,442	111,490	119,110	126,850	434	0.67%
Southeastern	204.0	60,051	62,070	65,040	68,090	304	0.34%
Windham	619.4	242,759	256,770	272,050	288,740	415	0.58%
Northeastern	325.7	82,580	88,600	95,090	101,740	272	0.73%
Unaffiliated	390.3	76,572	82,260	88,830	95,660	211	0.74%
	88.6	12,000	12,160	12,880	13,610	137	0.13%
State Total	**5,120.5**	**3,405,565**	**3,544,380**	**3,696,560**	**3,853,000**	**692**	**0.41%**

Source: 1990 Census, 2000 Census, and ConnDOT Series 27B Land use Projections. Data for years following 2000 is projected. Graphics revised in August 2004.

Table B-2 Senior (65 & Older) Population Data by Planning Region

Regional Planning Organization	Square Miles	1990	2000	2010	2020	Persons per Square Mile 2000	Average Annual Growth 2000-2010
South Western	283.0	44,109	48,545	51,300	61,200	156	0.57%
Housatonic Valley	337.0	18,588	21,901	27,500	36,300	55	2.56%
Northwestern	360.8	4,001	4,083	4,500	6,000	11	1.02%
Litchfield Hills	416.9	11,884	12,194	13,300	17,600	29	0.91%
Central Naugatuck	314.3	38,859	39,278	39,400	47,600	124	0.03%
Valley	58.5	11,774	12,823	12,500	14,900	201	-0.25%
Greater Bridgeport	149.1	45,274	43,858	42,400	48,800	304	-0.33%
South Central	388.4	76,751	78,455	81,400	100,600	198	0.38%
Central	166.5	32,657	33,779	34,200	41,800	196	0.12%
Capitol	761.0	95,299	101,665	110,200	135,500	125	0.84%
Midstate	257.0	11,725	13,055	14,500	19,200	46	1.11%
CT River Estuary	204.0	8,380	9,671	11,500	14,900	41	1.89%
Southeastern	619.4	28,611	31,469	35,600	45,700	46	1.31%
Windham	325.7	7,397	8,215	9,600	13,400	23	1.69%
Northeastern	390.3	9,146	9,702	10,900	12,400	23	1.23%
Unaffiliated	88.6	1,452	1,490	1,500	2,000	16	0.07%
State Total	**5,120.5**	**445,907**	**470,183**	**500,300**	**617,900**	**87**	**0.64%**

Source: 1990 Census, 2000 Census, and ConnDOT Series 27A Land use Projections. Data for years following 2000 is projected. Projections for years following 2025 not available. Graphics revised in August 2004.

Special Notes: After 2001, the municipality of Union (previously considered unaffiliated) became a part of the Northeastern Planning Region. Also, the procedure used to calculate square mileage in 2000 differed from the procedure used in 1990. Specifically, the methodology regarding water area was revised.

Table B-3 Household Data by Planning Region

Regional Planning Organization	Square Miles	1990	2000	2010	2020	2030	Household Size	Households per Square Mile 2000	Average Annual Growth 2000-2010
South Western	283.0	125,410	133,575	142,033	150,707	158,856	2.65	472	0.63%
Housatonic Valley	337.0	69,542	75,729	81,474	87,486	93,753	2.80	225	0.76%
Northwestern	360.8	9,172	9,290	9,543	9,823	10,120	2.44	26	0.27%
Litchfield Hills	416.9	30,144	31,871	34,695	37,821	40,907	2.48	76	0.89%
Central Naugatuck	314.3	99,057	103,155	109,580	114,364	118,910	2.64	328	0.62%
Valley	58.5	30,209	33,104	34,475	35,944	37,287	2.55	566	0.41%
Greater Bridgeport	149.1	108,093	111,459	115,671	119,983	124,065	2.76	748	0.38%
South Central	388.4	179,919	212,894	225,717	239,882	253,897	2.57	548	0.60%
Central	166.5	79,907	89,997	94,344	99,690	104,929	2.52	541	0.48%
Capitol	761.0	259,795	279,871	295,809	313,656	331,010	2.58	368	0.57%
Midstate	257.0	54,775	41,077	44,595	48,365	52,118	2.54	160	0.86%
CT River Estuary	204.0	42,737	24,076	25,385	27,102	28,807	2.49	118	0.54%
Southeastern	619.4	84,165	93,577	100,976	108,951	117,379	2.59	151	0.79%
Windham	325.7	25,764	28,220	30,900	33,869	36,904	2.93	87	0.95%
Northeastern	390.3	27,260	29,422	31,970	35,194	38,475	2.63	75	0.87%
Unaffiliated	88.6	4,294	4,353	4,780	5,161	5,542	2.54	49	0.98%
State Total	**5,120.5**	**1,230,243**	**1,301,670**	**1,381,947**	**1,467,998**	**1,552,959**	**2.62**	**254**	**0.62%**

Source: 1990 Census, 2000 Census, and ConnDOT Series 27B Land use Projections. Data for years following 2000 is projected. Graphic revised in August 2004.

Special Notes: After 2000, the municipality of Union (previously considered unaffiliated) became a part of the Northeastern Planning Region. Also, the procedure used to calculate square mileage in 2000 differed from the procedure used in 1990. Specifically, the methodology regarding water area was revised.

Table B-4 Employment Data by Planning Region

Regional Planning Organization	Square Miles	2000	2010	2020	2030	Employment per Square Mile 2000	Average Annual Growth 2000-2010
South Western	283.0	211,482	230,670	241,430	250,490	815	0.91%
Housatonic Valley	337.0	86,950	100,470	109,690	119,680	298	1.55%
Northwestern	360.8	9,900	10,730	11,330	11,960	30	0.84%
Litchfield Hills	416.9	28,130	30,700	32,510	34,370	74	0.91%
Central Naugatuck	314.3	103,750	109,690	116,060	122,000	349	0.57%
Valley	58.5	35,160	37,900	40,590	43,200	648	0.78%
Greater Bridgeport	149.1	120,270	134,490	142,700	154,530	902	1.18%
South Central	388.4	266,580	289,850	304,740	318,960	746	0.87%
Central	166.5	90,320	100,090	104,390	108,280	601	1.08%
Capitol	761.0	441,290	489,240	527,710	563,470	643	1.09%
Midstate	257.0	46,410	51,480	55,370	58,940	200	1.09%
CT River Estuary	204.0	23,653	25,640	28,130	30,700	126	0.84%
Southeastern	619.4	135,190	167,830	177,260	186,900	271	2.41%
Windham	325.7	23,880	26,760	28,980	31,350	82	1.21%
Northeastern	390.3	26,020	27,610	28,810	30,290	71	0.61%
Unaffiliated	88.6	3,940	4,660	5,060	5,470	53	1.83%
State Total	**5,120.5**	**1,652,925**	**1,837,810**	**1,954,760**	**2,070,590**	**359**	**1.12%**

Source: 1990 Census, 2000 Census, and ConnDOT Series 27B Land use Projections. Data for years following 2000 is projected. Graphic revised in August 2004.

Special Notes: After 2000, the municipality of Union (previously considered unaffiliated) became a part of the Northeastern Planning Region. Also, the procedure used to calculate square mileage in 2000 differed from the procedure used in 1990. Specifically, the methodology regarding water area was revised.

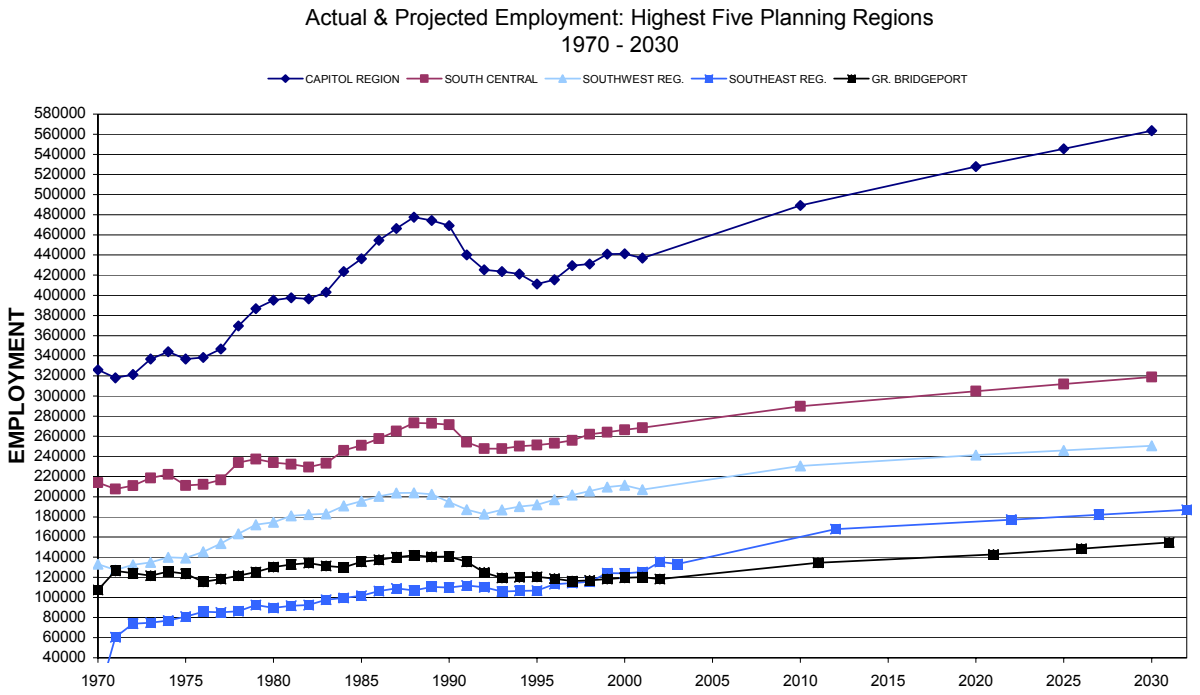
Table B-5 Passenger Vehicle Registration Data by Planning Region

Regional Planning Organization	Square Miles	1980	1990	2000	Registrations per Square Mile 2000	Average Annual Growth 1990-2000
South Western	283.0	200,077	233,988	249,307	881	0.65%
Housatonic Valley	337.0	94,297	124,137	143,247	425	1.54%
Northwestern	360.8	12,611	14,943	16,507	46	1.05%
Litchfield Hills	416.9	38,074	46,433	49,689	119	0.70%
Central Naugatuck Valley	314.3	119,643	150,769	157,546	501	0.45%
Greater Bridgeport	58.5	42,345	50,645	56,173	960	1.09%
South Central	149.1	156,224	170,489	172,863	1,159	0.14%
Central	388.4	257,220	301,237	312,598	805	0.38%
Capitol	166.5	115,358	136,077	136,975	823	0.07%
Midstate	761.0	357,766	430,186	449,338	590	0.45%
CT River Estuary	257.0	46,580	59,618	64,907	253	0.89%
Southeastern	204.0	29,342	36,863	42,983	211	1.66%
Windham	619.4	107,814	126,176	136,831	221	0.84%
Northeaster	325.7	30,483	38,199	42,654	131	1.17%
Unaffiliated	390.3	29,766	37,272	41,694	107	1.19%
	88.6	5,257	6,777	7,300	82	0.77%
State Total	**5,120.5**	**1,642,857**	**1,963,809**	**2,080,612**	**406**	**0.59%**

Source: Connecticut Department of Motor Vehicles - Class 1 Auto Registrations (Passenger Cars). Projections for years following 2000 are not available. Graphic revised in August 2004.

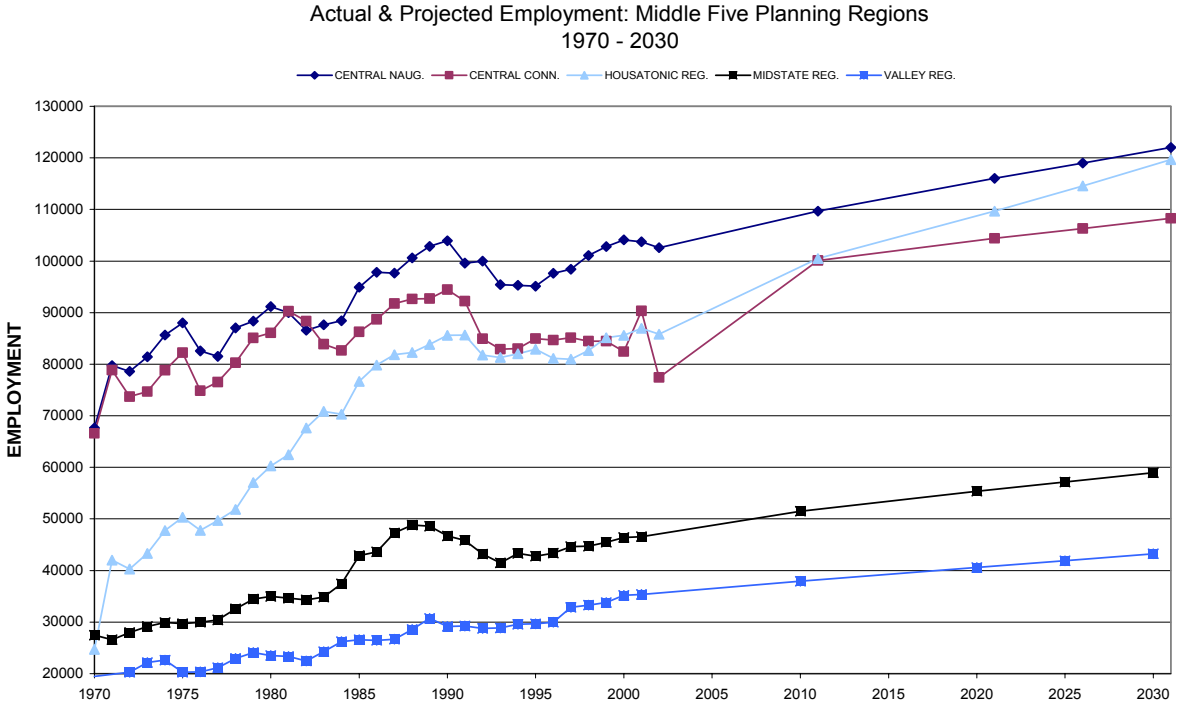
Special Notes: After 2000, the municipality of Union (previously considered unaffiliated) became a part of the Northeastern Planning Region. Also, the procedure to calculate square mileage in 2000 differs from 1990; specifically the methodology regarding water area was revised.

Figure B-1 Employment Growth: Highest Five Planning Region



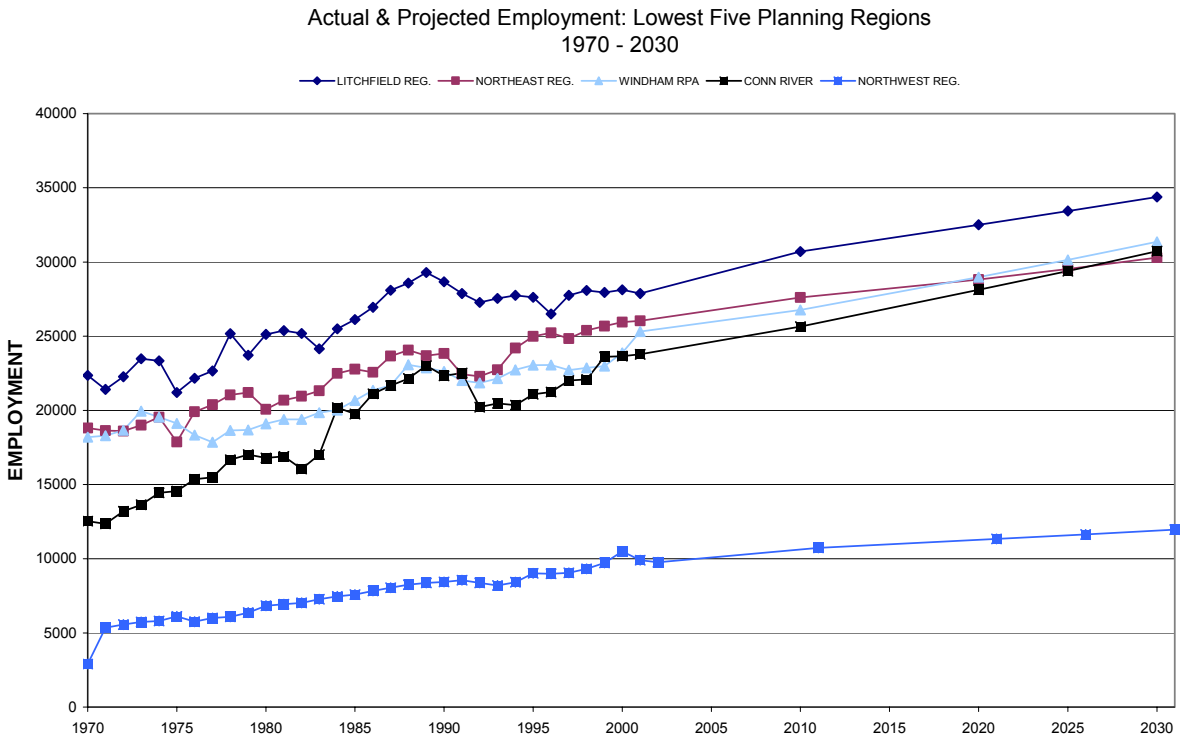
Source: Developed by the ConnDOT Division of Systems Information from the Connecticut Department of Labor reports with 2012 projection and Series 27B Connecticut Department of Transportation Land Use Projections. Graphic revised as of March 2006.
Note: Figures beyond 2005 are projected.

Figure B-2 Employment Growth: Middle Five Planning Regions



Source: Developed by the ConnDOT Division of Systems Information from the Connecticut Department of Labor reports with 2012 projection and Series 27B Connecticut Department of Transportation Land Use Projections. Graphic revised as of March 2006.
Note: Figures beyond 2005 are projected.

Figure B-3 Employment Growth: Lowest Five Planning Regions



Source: Developed by the ConnDOT Division of Systems Information from the Connecticut Department of Labor reports with 2012 projection and Series 27B Connecticut Department of Transportation Land Use Projections. Graphic revised as of March 2006.
Note: Figures beyond 2005 are projected.

Appendix C
Household vs. Establishment Series

APPENDIX C. HOUSEHOLD VS. ESTABLISHMENT SERIES

Table C-1 Household vs. Establishment Series

ITEM	CPS (Household Survey)	CES (Establishment Survey)
BASIC UNIT	Household	Business Establishment
SURVEY METHOD	Interviewers	Mail Out/ Telephone
SURVEY AGENCY	Census Bureau for BLS	SESA's* and BLS
TARGET POPULATION	Persons 16 yrs. and older	UI Covered Establishments
SAMPLE	1,200 CT Households	5,000 CT Establishments
SURVEY PERIOD	Calendar week including the 12th of the month.	Workers, full- or part-time who receive pay during the payroll period that includes the 12th of the month.
DATA COLLECTED	Comprehensive data on the labor force, the employed and unemployed classified by age, sex, race, family relationship, marital status, occupation, and industry attachment.	Industry information on non-farm wage and salary employment, average weekly hours, average hourly earnings, and average weekly earnings for the nation, states, and metropolitan areas.
SOURCE: U.S. Bureau of Labor Statistics (BLS), and CTDOL-Research. *SESA = State Employment Statistical Agency.		

NOTES to Table 1

1. Data from the Current Population Survey (CPS) and the Current Employment Statistics (CES) Survey complement one another, each providing significant types of information that the other cannot suitably supply. Population characteristics, for example, are obtained only from the Household Survey (CPS), whereas detailed industrial classifications are much more reliably derived from Establishment (CES) Reports.

2. Data from these two sources differ from each other because of variations in definitions and coverage, source of information, methods of collection, and estimating procedures. Sampling variability and response errors are additional reasons for discrepancies. The major factors which have a differential effect on the levels and trends of the two series are presented in Table C-2.

Table C-2 Household vs. Establishment Series II

ITEMS	CPS (Household Survey)	CES (Establishment Survey)
COVERAGE	The definition of **employment** comprises *wage and salary workers* (including domestics and other private household workers), self-employed persons, and unpaid workers who worked 15 hours or more during the reference week in family-operated enterprises. Employment in both agricultural and nonagricultural industries is included.	Covers only wage and salary employees on the payrolls of non-farm establishments.
MULTIPLE JOBHOLDING	Provides information on the work status of the population without duplication, since each person is classified as *employed, unemployed*, or *not in the labor force*. Employed persons holding more than one job are only counted once.	Persons who worked in more than one establishment during the reporting period are counted *each time* their names appear on payroll.
UNPAID ABSENCES FROM JOBS	Included among the employed are *all civilians* who had jobs but were not at work during the reference period (i.e., they had jobs, but were not working because they were temporarily absent due to illness, vacation, bad weather, child-care problems, labor-management disputes, or because they were taking time off for various other reasons, even if they were not paid by their employers for their time off.	Persons on leave paid for by the company are included, but those on leave without pay for the entire payroll period are not.

SUMMARY NOTES [21]

Note 1. For each state, the District of Columbia, and U.S. Territories, their Current Employment Statistics (CES) Programs produce monthly estimates of Non-Farm Employment. For the U.S., the U.S. Bureau of Labor Statistics (BLS) produces the national estimates of monthly Non-Farm Employment, based on a national sample of 400,000 establishments. The CES Unit in the Office of Research at the Connecticut Department of Labor produces Connecticut's employment series. The CES takes a probability sample of approximately 5,000 Connecticut business establishments from the population of approximately 100,000 establishments that report wage and employment information to the State. It is stored in the Unemployment Insurance (UI) Tax-Reporting database called the Quarterly Census of Employment and Wages (QCEW), formally known as the ES-202 Program. The CES is a voluntary survey, which is conducted around the

[21] Summary notes were provided by Daniel W. Kennedy, Ph. D., Senior Economist, Office of Research, Connecticut Labor Department, February 2006.

12th of every month. Every March, the CES benchmarks their sample of establishments to the QCEW population frame to account for any changes in the information that occurred between the time the sample was drawn and administered, and when new or updated data was reported and recorded in the UI Tax database. This year's benchmark was more significant than usual. This affected the last Short-Term forecast of Connecticut Employment. This is not unusual when the economy enters a turning point in the business cycle. In fact, many states were affected.

SOURCE NOTE: The texts for Notes 2 and 3, below, are from two articles written by Salvatore A. DiPillo, Research Analyst Supervisor, at CTDOL-Research, and they originally appeared in the ***Connecticut Economic Digest***, and can also be accessed from the CTDOL Web site. The following was obtained from the CT DECD Web site.

Note 2. The redesigned estimation methodology is planned to be implemented with labor force, employment and unemployment estimates for January 2005 to be published in March 2005. Historical series from January 1976 forward will be replaced with estimates based on the redesigned models. Additionally, revised data from 2000 forward will reflect Census population estimates updated to account for changes in births, deaths and migration that have occurred since the decennial Census.

Each month, statistics on the labor force, the employed, and the unemployed are developed as part of the Labor Area Unemployment Statistics (LAUS) program. A major component of the LAUS methodology is data from the Current Population Survey (CPS). The CPS provides information on the labor force status (whether people are employed, unemployed or not in the labor force) of the civilian non-institutional population 16 years of age and over. The CPS is collected each month from a probability sample of between 500 and 600 Connecticut households[22]. The survey period is a calendar week including the 12th day of the month. Each employed person is counted only once, even if they hold more than one job. Multiple jobholders are counted in the job at which they worked the greatest number of hours during the reference week.

The CPS sample includes categories of workers entirely or partly excluded from the ES-202 program: among these are the self-employed, employees of certain nonprofit organizations, and railroad workers. The household survey counts a person only once, and classifies him or her according to the major activity, while the payroll data (CES and ES-202) counts a person who is employed by two or more establishments at each place of employment. As a household survey, the CPS's focus is on individuals, whereas the CES and ES-202 focus on jobs. When providing geographic information, the CPS program tabulates data by the location of the residence; the CES and ES-202 programs provide State and labor market area data by the location of the job. Both labor force and nonfarm employment data are released within one month of the reference period; ES-202 data become available several months after the reference quarter.

The household survey also provides much information on the demographic characteristics (sex, age, and race) of the labor force. (These are available for Connecticut as annual averages in the Bureau of Labor Statistics' publication, Geographic Profile of Employment and Unemployment.) The establishment data provide limited information on personal characteristics of workers;

[22] The Connecticut sample has been doubled to 1,200 households (see Note 3 below).

however, they are excellent sources for detailed industrial and geographic data. In addition, they provide hours and earnings information, which relates directly to the employment figures. The payroll and household surveys thus complement each other.[23]

Note 3. In September 2000, the U.S. Census Bureau expanded the monthly sample for the CPS to meet the requirements of the State Children's Health Insurance Program (SCHIP) legislation. This legislation requires that the Census Bureau improve state estimates of the number of children who live in low-income families and lack health insurance. The expansion of the monthly CPS sample was one part of the Census Bureau's plan for strengthening the SCHIP estimates. The monthly CPS sample was increased in 31 states and the District of Columbia, and the total number of households eligible for the survey rose from about 50,000 nationally to about 60,000. In Connecticut, the CPS sample doubled, from approximately 600 to about 1,200. The additional households were introduced into the survey over a 3-month period beginning in September 2000.

The Bureau of Labor Statistics (BLS) which develops national labor force data and under whose direction the states develop state and local area labor force data, determined that it would not use the additional sample to produce the official labor force estimates prior to the release of July 2001 data in August. This delay would allow for sufficient time to evaluate the differences, if any, between estimates obtained from the current and the expanded household sample. BLS evaluated the monthly data for the nation and states from the two samples and found no statistically significant differences in estimates, nor any unusual effects due to the CPS expansion. The expanded sample results in reductions in the estimated standard deviations for the CPS and model estimates and in actual model prediction errors. Thus, for both national and subnational estimation, the expanded sample will be used beginning with July 2001 estimates. National data is set for release on August 3; Connecticut's data will be available August 17.

With the release of July estimates, revised June state and sub-state labor force estimates also will reflect the expanded sample data. This will allow for the analysis of over-the-month change on a consistent basis. The state and area labor force estimates for January through May will not be revised at that time. Rather, the January - May expanded sample will be incorporated into the labor force estimates as part of the annual benchmarking of 2001 data. These data will be made available in March 2002.

Based on results for the early months of the year, the larger CPS sample in Connecticut is likely to produce higher unemployment rates than originally estimated for those months, with the number of residents employed somewhat lower and the number of unemployed higher. The experience of the other affected states was mixed, some with higher rates and others with lower rates or no change. It is important to keep in mind that the revised labor force estimates for June 2001 and following months at both state and substate levels will not be directly comparable to

[23] DiPillo, Salvatore A., ***Defining Employment*** (May 1999), CT Department of Economic and Community Development Website (http://www.ct.gov/ecd/cwp/view.asp?A=1106&Q=250976), Accessed January 19, 2006

those of earlier periods; comparisons should not be made without acknowledging the potential effect the differing sample sizes may have on the data[24].

Note 4. Since the U.S. Census carries out the Decennial Census on April 1st, the employment levels for the decennial years are the result of averaging together the employment levels for March and April, one month on either side of April 1st. Both the establishment-based Non-Farm Employment Series and the household-based residence employment series calculate average annual employment by summing the 12 months' levels of employment, and then dividing by 12.

[24] DiPillo, Salvatore A., ***Expanded Current Population Survey and its Effect on Labor Force Data Estimates*** (August 2001), CT Department of Economic and Community Development Web site (http://www.ct.gov/ecd/cwp/view.asp?A=1106&Q=250976), Accessed Janu19, 2006.

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