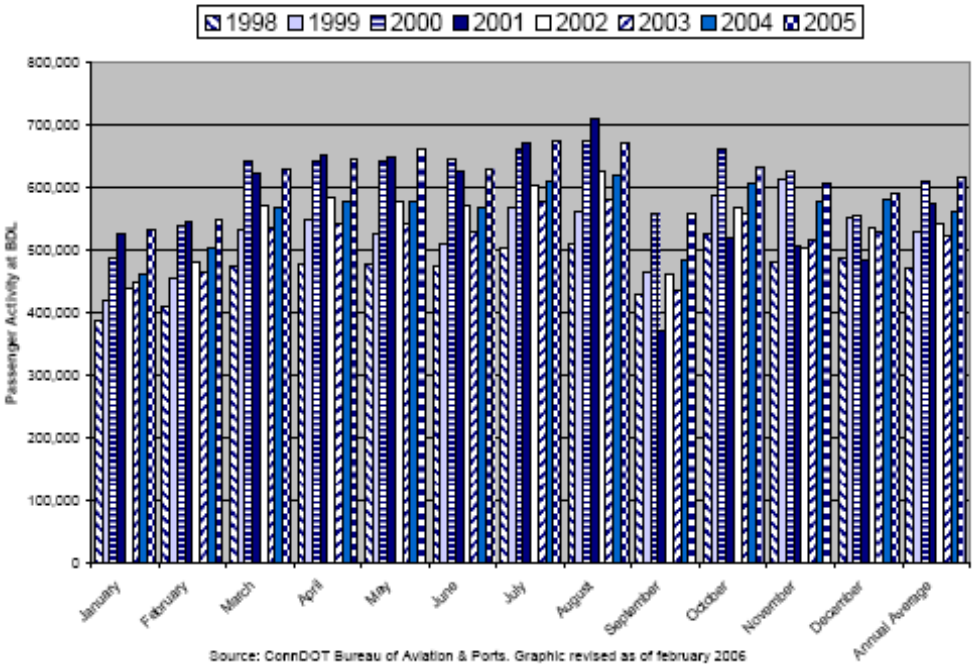
Figure 30: Comparison of Passenger Activity by Month at BDL

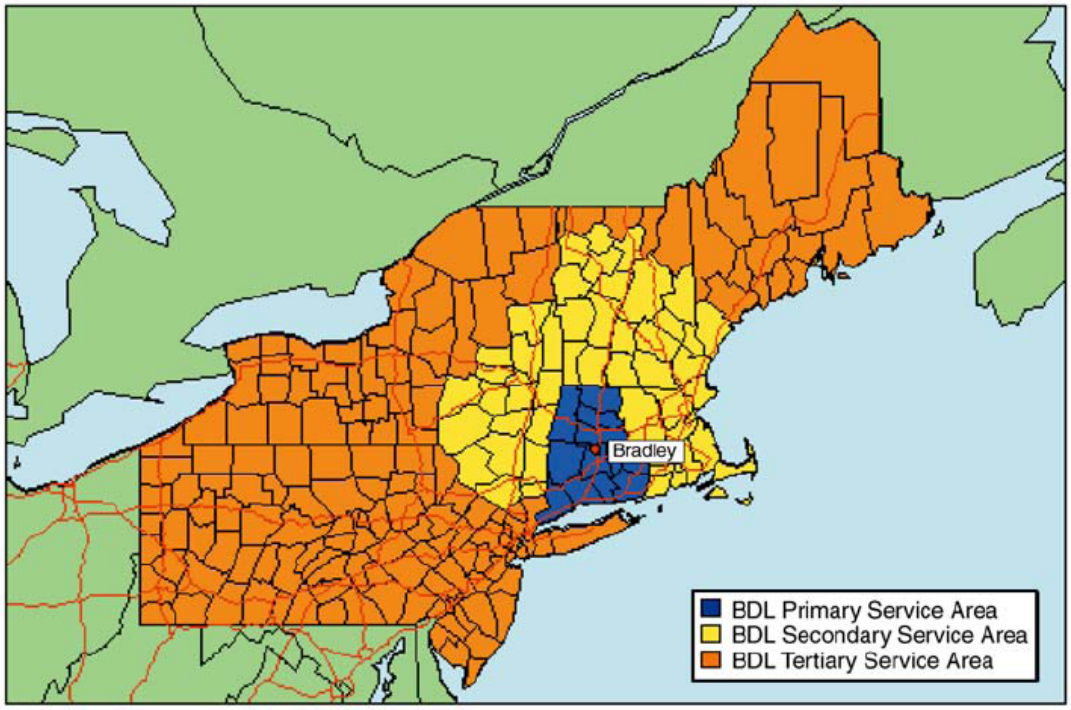


Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

Cargo

Although the success of airports is often considered from a passenger service viewpoint, BDL's importance as a cargo terminal has grown steadily accompanied by significant ancillary development (see Table 22 in the Appendix). BDL currently has three on-airport cargo areas. The primary service area for cargo represents the area where BDL is the most easily accessed airport using local pickup and delivery trucks. This area includes all of Connecticut and the western half of Massachusetts. The secondary service area is a region within which BDL can compete with both Logan and JFK with the ability for same day pickup and delivery. This area includes all of Connecticut, Massachusetts, most of New Hampshire and Vermont, about one quarter of New York, which is closest to Connecticut excluding New York City and Long Island, and York County in southern Maine. The tertiary service area for BDL includes all of New England, New York, New Jersey and Pennsylvania (footnote 40). Figure 31 shows the primary, secondary, and tertiary cargo service areas for BDL.

Figure 31: BDL Cargo Service Areas



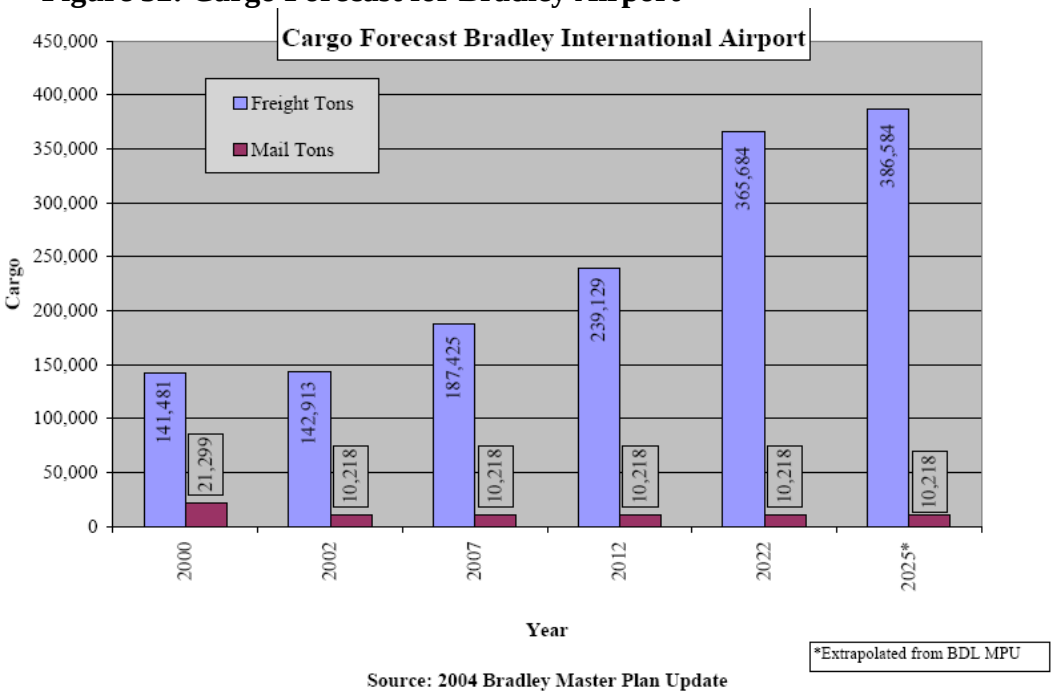
Source: International Air Cargo Market Analysis Report for BDL ConnDOT

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

The majority of forwarders, brokers and other cargo firms are located in a number of industrial facilities near the airport. This affords lower lease costs compared to being on airport property. BDL ranked 37th among U.S. airports in total air cargo for the year 2004, including both airfreight (309 million pounds) and airmail. More than 96% of the airfreight is handled on flights by all-cargo carriers, and three-quarters of that traffic moves on flights by the U.S. domestic integrated carriers such as FedEx, UPS, Airborne Express, among others. Also located at BDL are the 103rd Fighter Wing of the Air National Guard and the 126th Aviation Regiment of the Army National Guard (footnote 40).

Figure 32 shows the projected growth at BDL for freight tons and mail in revenue ton miles (RTM). At BDL, more than 96 percent of the airfreight is transported on flights by all-cargo carriers, and three quarters of that traffic moves on flights by U.S. domestic integrated carriers (FedEx, UPS and others). Due to BDL's strategic location between two international gateways, New York's John F. Kennedy International Airport (JFK) and Boston-Logan Airport (BOS), ConnDOT expects BDL's cargo tonnage will continue to increase in the future. This increase is projected due to not only the location of BDL, but also the fact that BDL is not as congested as others in the region servicing air cargo, such as JFK and BOS (footnote 40).

Figure 32: Cargo Forecast for Bradley Airport



Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

Funding

There are generally five funding sources for airport development: airport cash flow, revenue and obligation bonds, Airport Improvement Program grants, Passenger Facility Charge (PFC's), and state and local grants. Of the six airports owned and operated by the state, BDL is the only self-sustaining airport. BDL was established as an enterprise fund of the state in 1982.

This means BDL relies on its own revenue and not taxes to operate. The surplus in the airport's operating budget is used to pay obligations and fund reserves required by the issuance of bonds. BDL's operating budget is set by ConnDOT and the secretary of the Office of Policy and Management, and is not subject to legislative approval. ConnDOT projects BDL to fully fund its operating, maintenance and capital improvement costs, including debt service (footnote 40).

Commercial service airports are eligible for entitlement money every year based on the number of passenger boardings from the previous year. Table 23 in the appendix shows the amounts received by Connecticut airports in FY 2005. In FY 2005 BDL received $2.2 million in entitlement money from the FAA of which $1.53 million was received for passenger boarding and $667,000 was based on cargo operations (footnote 40).

Connecticut's Bicycle and Pedestrian Ways: Summary

Biking and walking are two necessary elements to make the state's transportation system truly intermodal. Investment in biking and pedestrian infrastructure has multiple external benefits for the state and its population such as reducing automobile congestion, eliminating CO_2 emissions that contribute to global warming, and promoting healthy lifestyles.

Connecticut has made small gains in becoming more bike and pedestrian friendly. And the demand for this infrastructure will grow as the price of oil increases and congestion on the highways worsens. If Connecticut citizens have the opportunity to utilize this infrastructure for commuting, shopping, and recreation purposes, Connecticut could attract young people to the state, help improve environmental conditions, and revitalize urban areas.[48] According to the most recent U.S. Conference of Mayors:

> "Bicycle commuters annually save on average $1,825 in auto-related costs, reduce their carbon emissions by 128 pounds, conserve 145 gallons of gasoline, and avoid 50 hours of grid locked traffic. Surveys show that a majority of people want to ride more but are dissuaded by concern over traffic danger and other barriers, and case studies have shown that when those barriers to bicycling are removed, people start riding more."[49]

The Conference of Mayors also resolved:

> "That even absent federal incentives, Governors and state-level leadership should embrace Complete Streets policies that acknowledge the contributions of bicycles as a means to reduce vehicle miles by integrating bicycle use into standard street design" (footnote 45).

Currently the ConnDOT is responsible for bike and pedestrian infrastructure in the state. Connecticut has implemented certain initiatives to promote the usage of bicycles and walking:

- All CTTransit buses in Hartford, Stamford, and New Haven have been equipped with bicycle racks, which will provide area passengers an added option when commuting.[50] This addresses a significant problem for commuters taking public

[48] Hartford experienced a 159% increase in bikes on bus racks from April to August 2008. Several cities are experiencing an increase in bike ridership. See the national Geographic Magazine January, 2009. Also, see "MORE BIKE RIDERS GETTING ON THE RIGHT TRACK," Hartford Courant, May 15, 2008.
[49] US Mayors Conference 76th Annual Meeting, "Ensuring Bicycling is Integrated into National Transportation, Climate, and Health Policy Initiatives," 20-24 June 2008, http://www.usmayors.org/resolutions/76th_conference/chhs_04.asp.
[50] State of Connecticut Press Release, "Governor Rell: Bicycle Racks Installed on CTTRANSIT," 20 August 2007, http://www.ct.gov/governorrell/cwp/view.asp?A=2791&Q=391614.

transportation known as the "last mile" problem. Obviously, public transportation such as a bus or train cannot pick up and drop off a commuter at the exact location of employment. Thus, biking or walking is the beginning and end of every commute.

- In 1999, ConnDOT created a strategic Bike and Pedestrian Plan for the State of Connecticut. Each region contributed strategies to improve bicycle and pedestrian infrastructure on existing roads.

- In Connecticut, bicycles are considered vehicles and are allowed on all public roads except controlled access highways such as expressways and the interstate system.[51]

- Important factors that influence the choice of bicycle or pedestrian commuting include:[52]

    - Trip distance;
    - Perceived traffic safety;
    - Travel cost — surveys suggest that financial incentives could make a difference in the choice of this mode;
    - Physical environment, including terrain, climate, circulation within activity centers and availability of alternative modes; and
    - Demographics — bicycle commuting generally declines rapidly in the segment of the population over age 45.

- Major accomplishments include the construction of wide sidewalks and paths on almost every new major river crossing in the last 20 years. Many state roads have also been improved to provide for wider shoulders that allow safer use by bicyclists and pedestrians (footnote 47, page 7).

Currently, Connecticut has not been as progressive with regard to biking/walking as other states with similar climates. Although rising energy prices could provide enough incentive for individuals to change their transportation habits, and the state should make provisions for these changes. There is strong evidence to suggest that by building the infrastructure, people will walk and bike more.[53]

[51] Connecticut Department of Transportation, "Connecticut Statewide Bicycle and Pedestrian Transportation Plan," August 1, 2008, page 2, http://www.ct.gov/dot/cwp/view.asp?a=1390&q=259670.
[52] Transportation: A Strategic Investment, "An Action Plan for Connecticut 2003-2013," January 2003, page 330.
[53] Bruce, Donald, "Trails Serve More Than Recreation," Hartford Courant, February 16, 2008, page C5. Also, see http://bikecommutetips.blogspot.com/2008/02/trails-serve-more-than-recreation.html.

- Connecticut has 17 miles of authorized bicycle routes with signage along official roads; New York has 2,200 miles; and North Carolina has 2,444.[54]

- The Governor's Commission on the Reform of ConnDOT reported that the one issue that generated the most complaints related to improved bicycle and pedestrian infrastructure (footnote 50).

- Accordingly, there have been suggestions that, "ConnDOT's sidewalk policy is not conducive to the provision of sidewalks and collides with efforts to encourage use of public transportation. The policy should be revisited by the Department" (footnote 50).

- Bicycle use in Connecticut as a mode for commuting remained fairly constant between 1990 and 2000, at approximately 0.2% of all commuters. Walking to work declined as an option in the state between those same years, from 3.6% to 2.7%. Compared to national averages, Connecticut has a lower percentage of bike commuters (0.2% vs. 0.4% nationally), and roughly the same percentage of pedestrian commuters (2.7% vs. 3% nationally) (footnote 48).

As part of the intermodal transportation initiative, many buses now have bike racks to accommodate bikers. Trains still have very limited amounts of space and currently restrict bikes on trains running during key commuter times in the morning and late afternoon. There have been numerous petitions to change that, however, until the state receives new trains this agenda will probably be delayed.

Current Bicycle and Pedestrian Infrastructure

- As of January 2007, there were more than 60 off-road, multi-use trails open in Connecticut, including the Farmington Canal Heritage Trail in Simsbury. In addition, more than a dozen other trails are in the planning or design stages, including sections of nationally recognized Millennium Trails, such as the East Coast Greenway. These Enhancement Program projects are funded primarily by the Federal Highway Administration (FHWA) under SAFETEA-LU and by the local communities in which the facilities are located. As of May 2007, $59,008,974 in federal Enhancement Program funds had been programmed to undertake bicycle and pedestrian projects (footnote 14, page IV-2).

- The state has 74 major existing bicycle and pedestrian facilities and enhancement projects. These facilities were developed by ConnDOT, Department of Environmental Protection (ConnDEP) and local communities. While the majority

[54] Hladky, Greg, "Bicyclists Contend That State Slights Them," New York Times, July 27 2008.

of these facilities are separate multi-use paths, several are bike lane routes that were developed along existing roads in the 1970s. Various funding sources were used in their construction including the use of interstate funds in conjunction with major projects, local funds, National Recreational Trails funds, enhancement funds and state bond money (footnote 47, page 109).

- ConnDOT collaborated with ConnDEP and municipal planning organizations in the development of trails on abandoned railroad rights of way, so far there are 30 miles of rail trails in the state (footnote 47, page 109).

- Every region in the state was required to submit a written bike/pedestrian plan to the ConnDOT to comprise the state's overall plan. Each region identified potential bike path routes on specific roads in the region that are safe, convenient, and central to both employment and housing areas. These regions are expected to work with ConnDOT to help implement their respective local plans. This state's plan includes methods to improve infrastructure to increase ridership and inter-modality within existing public transportation systems.

- The Connecticut Bicycle Map appeared in 1980 through a FHWA Bicycle Program Grant. This program promotes the use of bicycles for transportation purposes, including work trips, trips to commuter lots and rail stations. The program also included the production and distribution of a map of evaluated bicycle routes leading to major employment centers, commuter lots, and rail stations (footnote 47, p. 109).

Connecticut Greenways

- A greenway is "a corridor of open space that may protect natural resources, preserve scenic landscapes and historical resources, offer recreational opportunities, and provide a place for people to walk, bicycle and move from place to place" (footnote 48, p. 117).

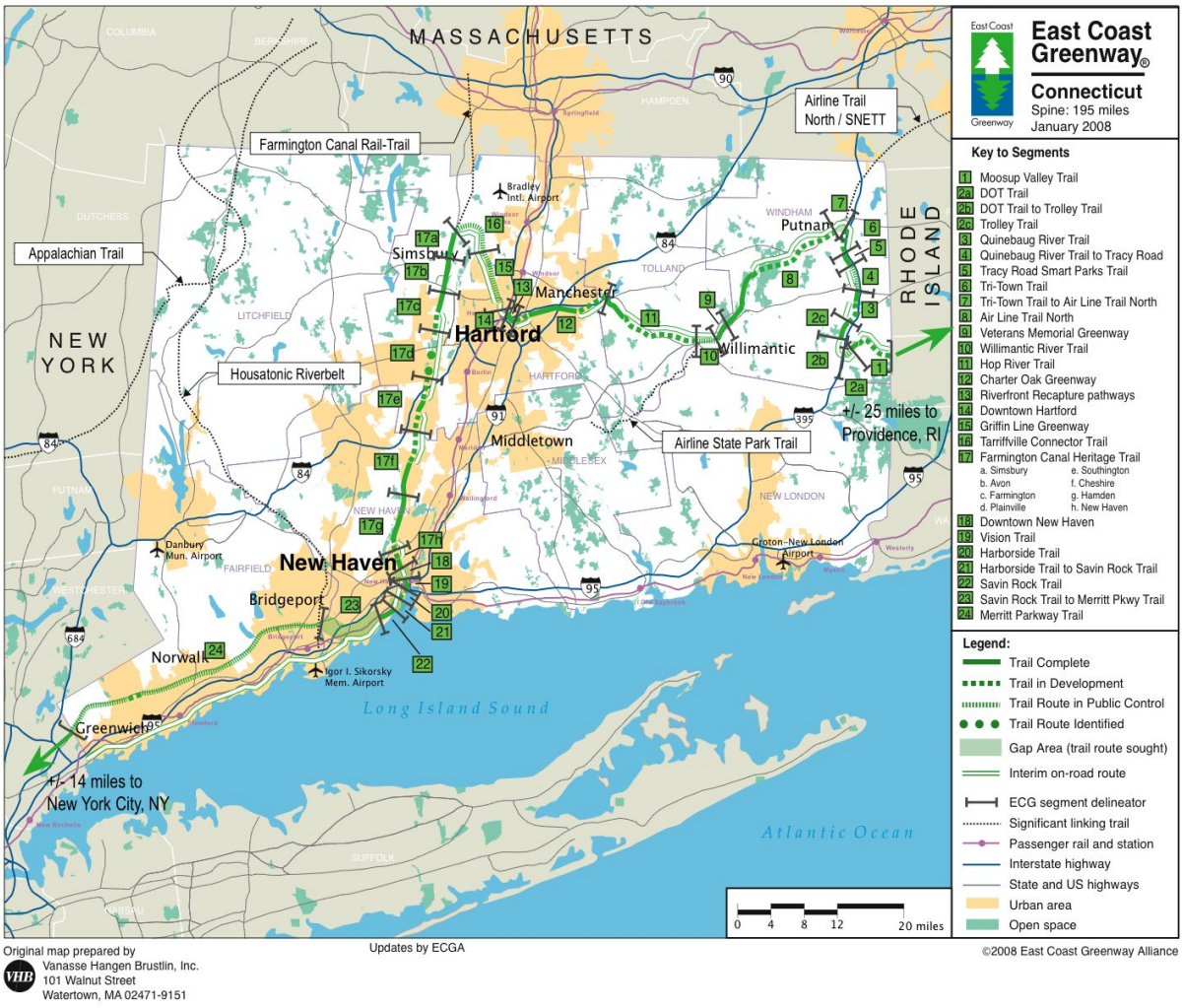
- Connecticut is an important piece of the East Coast Greenway initiative, which intends to build a continuous bike path from Florida to Maine. In 1992, the Governor established the Connecticut Greenway Committee. This committee, comprised of citizens from every part of Connecticut, was directed to develop a detailed proposal for a permanent Greenway program, which would provide assistance to municipalities and private organizations.[55]

[55] East Coast Greenway, "Connecticut," August 1, 2008, http://greenway.org/.

- Twelve segments of the Greenway have been officially designated in Connecticut. These segments are part of a continuous bike path that upon completion will cross the entire state from New York to Rhode Island (footnote 48, p. 117).

    - Moosup Valley Trail, Sterling and Plainfield, 4 miles;
    - Trolley Trail, Plainfield, 0.75 mile;
    - Quinebaug River Trail, Plainfield, 1 mile;
    - Tracy Road Smart Parks Trail, Killingly and Putnam, 2.3 miles;
    - Airline Trail, Windham County, 24 miles;
    - Veterans Memorial Greenway, Willimantic, 1.8 miles;
    - Hop River Trail, Tolland County, 13 miles;
    - Charter Oak Greenway, Manchester and East Hartford, 5 miles;
    - Riverfront Recapture, Hartford/East Hartford, 2 miles; and
    - Farmington Canal Greenway:
        - Simsbury-Avon section, 8 miles
        - Avon-Farmington section, 2.3 miles
        - Hamden-Cheshire section, 8 miles

Figure 33: East Coast Greenway



Source: East Coast Greenway

Gaps in the Greenway

- There is a continued push to build the Merritt Parkway Trail for bikes (footnote 51)**.** This is a crucial link for the Greenway's completion along the east coast, linking New York to the rest of Connecticut. Such a stretch of trail exists in Stamford and there is a strong movement to develop this trail along the entire length of the parkway.

- Working with a coalition in the Hartford Area**,** East Coast Greenways revised both the current travel route and the future off-road alignment and developed a signage plan for the route that will be implemented in 2008. This represents another critical link to the continuous route across Connecticut.

- A two-year $12 million bond issue to complete the Greenway in Connecticut was passed by both houses of the state legislature in 2008, which now needs to be signed by the Governor for the money to be used for this initiative. (See http://www.cga.ct.gov/2007/ACT/PA/2007PA-00007-R00SB-01502SS1-PA.htm section 68 for the exact language pertaining to greenways).

Urban Areas

- Bike and pedestrian facilities are a critical part of Connecticut's urban revitalization initiative. Bike and pedestrian facilities in urban areas helps to reduce congestion and promote safe and vibrant communities. Currently there are many initiatives in place to make urban areas more bike/pedestrian friendly, thereby making these areas more attractive for young professionals to live and work.

- According to the U.S. Conference of Mayors, a "transportation system that invests in and is conducive to bicycling reduces traffic congestion in our most heavily congested urban areas while promoting an overall improved quality of life that is valuable for everyone; and the greatest potential for increased bicycle usage is in our major urban areas where 40 percent of trips are two miles or less and 28 percent are less than one mile" (footnote 43).

- Police on bikes in urban areas greatly enhance their presence and approachability. Bicycling police also reduce the amount of carbon emissions from police activity. Bicycles can move more freely in congested areas and can reach places inaccessible to police cruisers. They provide stealth and allow officers to ride up to a scene before they are noticed. Bicycles are cost effective in that the average cost of outfitting one is approximately $1,200.00. They also set good examples to young riders as they promote helmet use and bike safety.[56]

- The following tables show that the Hartford region had a relatively low rate of bicycling and walking for commute trips in 1990. In 2000, the bike rate was still low, having increased just 0.01% while the other region with a similar bike mode share in 1990, our neighbor Providence, Rhode Island, posted a significant increase by 2000 (of 50%). On the walking side, all regions, including Hartford, experienced a decline in the rate of walking to work between 1990 and 2000. This is likely due to the disappearance through the 1990s of manufacturing sites and mills within older neighborhoods. It is likely also due to continued suburbanization taking place through the 1990s.[57]

[56] Cheshire Police Department, "Bicycle Patrol," August 1, 2008, http://www.cheshirect.org/police/programsbikepatrol.html.
[57] Capitol Region Council of Governments, "Regional Pedestrian and Bicycle Plan," March 2008.

Table 17: 1990 Census Journey to Work Data

1990 US Census Data					
Town	Number of workers	bike	Bike Mode Rate	walk	Walk Mode Rate
Burlington, VT MSA	70,491	560	0.79	4,976	7.06
Colorado Springs, CO MSA	197,436	781	0.40	12,278	6.22
Denver--Boulder, CO CMSA	964,912	6970	0.72	31,637	3.28
Hartford**	561,969	884	0.16	17,060	3.04
Madison, WI MSA	204,399	3970	1.94	16,859	8.25
Minneapolis--St. Paul, MN--WI MSA	1,307,624	5476	0.42	42,069	3.22
Portland--Vancouver, OR–WA CMSA	724,532	4409	0.61	23,725	3.27
Providence--Pawtucket--Fall River, RI--MA CMSA	544,668	897	0.16	21,144	3.88
AVERAGE	4,505,540	23,387	0.52	169,748	3.77

Hartford ** = Hartford--New Britain--Middletown, CT CMSA

Source: Capitol Region Council of Governments, "Regional Pedestrian and Bicycle Plan," March 2008.

Table 18: 2000 Census Journey to Work Data

2000 US Census Data					
Town	Number of workers	bike	Bike Mode Rate	walk	Walk Mode Rate
Burlington, VT MSA	90,903	440	0.48	5588	6.15
Colorado Springs, CO MSA	263,805	1,114	0.42	9,778	3.71
Denver--Boulder--Greeley, CO CMSA	1,346,025	9,341	0.69	32,044	2.38
Hartford, CT MSA	573,114	951	0.17	14,523	2.53
Madison, WI MSA	242,542	4,216	1.74	14,924	6.15
Minneapolis--St. Paul, MN--WI MSA	1,595,550	6,973	0.44	38,897	2.44
Portland--Salem, OR--WA CMSA	1,105,133	8,390	0.76	32,949	2.98
Providence--Fall River--Warwick, RI--MA MSA	555,540	1,332	0.24	18,240	3.28
AVERAGE	5,772,612	32,317	0.56	161,355	2.80

Hartford, CT MSA = Hartford--New Britain--Middletown, CT CMSA

Source: Capitol Region Council of Governments, "Regional Pedestrian and Bicycle Plan," March 2008.

Table 19: 2006 ACS Journey to Work Data

2006 American Community Survey					
City/MSA	Numer of workers	# Bikers	Bike Mode Rate	walk	Walk Mode Rate
Burlington-South Burlington, VT Metro Area	109,856	792	0.72	8,107	7.38
Colorado Springs, CO Metro Area	302,405	1,291	0.43	12,224	4.04
Denver-Aurora, CO Metro Area	1,224,406	8,922	0.73	28,128	2.30
Boulder, CO Metro Area	148,251	5,417	3.65	6,878	4.64
Hartford *	588,830	1,509	0.26	18,385	3.12
Madison, WI Metro Area	303,050	5,379	1.77	15,785	5.21
Minneapolis-St. Paul-Bloomington, MN-WI Metro Area	1,669,299	10,697	0.64	39,457	2.36
Portland-Vancouver-Beaverton, OR-WA Metro Area	1,057,060	16,706	1.58	33,286	3.15
Providence-New Bedford-Fall River, RI-MA Metro Area	778,226	2,015	0.26	21,591	2.77
AVERAGE	6,181,383	52728	0.85	183,841	2.97

Hartford * = Hartford-West Hartford-East Hartford, CT Metro Area

Source: Capitol Region Council of Governments, "Regional Pedestrian and Bicycle Plan," March 2008.

Trends

- In the 2006 census update, the American Community Survey, most regions posted increases in walk and bike commute rates. Portland, OR shows the most significant gain in the bike mode rate, an increase of 100%. On the walk side, the 2006 results indicate that the decline in walking rate may have bottomed out, with most regions, including Hartford, posting gains. This data shows that biking and walking rates in Hartford can continue to increase. Over the past 10 years, rates of walking and bicycling to work have increased slightly (footnote 14, page IV-2).

- Since 2000, ConnDOT in collaboration with the Capitol Region Council of Governments has sponsored Bike to Work Days during the months of April through September.

- Creating bicycle/pedestrian lanes to school alleviates the need for automobile use on a consistent basis. This initiative was established by the federal government and its aim is to encourage more students in elementary and middle schools (grades K-12) to walk and bike to school, as an alternative to using other modes of transportation, thus promoting a healthier lifestyle (footnote 14, page IV-2).

Safety

- The FHWA reported that, in 2005 in the United States, 4,881 pedestrians and 784 bicyclists died in accidents involving motor vehicles and an estimated 64,000 pedestrians and 45,000 bicyclists were injured. In 2005 in Connecticut, 35 pedestrians and three bicyclists were killed and 1,141 pedestrians and 673 bicyclists were injured in accidents involving motor vehicles. It should be noted that more than half of the bicycle and pedestrian crashes occurred in the seven most populated towns: Bridgeport, Hartford, New Haven, Stamford, Waterbury, Norwalk, and New Britain (footnote 14, page IV-2).

- Many local police forces offer safe biking training programs designed to educate the public about the correct usage of bicycles on roads.

SUMMARY

Transportation systems are critical to the productivity of businesses, the well being of individuals, quality of life issues and the overall health of economies. Citizens are looking for better transportation options to get to work within the major urban areas throughout the state, as well as to areas outside Connecticut. Eighty percent of commuters in Connecticut are single-riders in an automobile. It is therefore advantageous for the state to continue its successful carpooling programs, promote the use of pedestrian walkways and bike paths and expand rail options and thoughtful bus connections to facilitate a cleaner and less congested commute. All modes of transportation, including roads, rail, air and water, provide economic and user benefits. Connecticut's economic future is linked to its transportation system.

Appendix: Transportation

Table 1: Connecticut Port-Related Industries, 2001

	Port Related industries	Connecticut Employment (Units)	Estimated Degree of Port Dependency	Estimated Employment
SIC codes	Sector Names			
1521	General contractors single family houses	6258	0.02	125
1522	General contractors residential bldg.	290	0.02	6
1611	Highway and street construction	2511	0.2	502
1771	Concrete work	2232	0.2	446
1791	Structural steel erection	726	0.1	73
2834	Pharmaceutical preparations	5414	0.1	541
289	Miscellaneous chemical products	2064	0.1	206
3444	Sheet Metal work	1383	0.2	277
3471	Plating and Polishing	2956	0.2	591
3479	Metal Coating and allied services	788	0.2	158
3499	Fabricated Metal services	1065	0.2	213
3731	Shipbuilding and repairing	8865	0.2	1773
3732	Boatbuilding and repairing	62	0.2	12
4212	Local Trucking without storage	4759	0.4	1904
4222	Refrigerated warehousing and storage	11	1	11
4226	Special warehousing and storage, nec	247	0.2	49
4231	Trucking terminal facilities	258	0.1	26
4482	Ferries	187	1	187
4489	Water passenger transportation	67	1	67
4491	Marine Cargo Handling	256	1	256
4492	Towing and Tugboat Services	239	1	239
4499	Water Transportation services, nec	105	1	105
4613	Refined petroleum pipelines	18	1	18
4731	Freight transportation arrangement	2010	0.1	201
4931	Electric and other services combined	62	0.6	37
4953	Refuse systems	1403	0.3	421
5093	Scrap and waste materials	1709	0.6	1025
5171	Petroleum bulk stations and terminals	198	1	198
	Total Employment	**46138**		**9667**

Source: Minnesota IMPLAN Group, Inc. Note: nec=not elsewhere classified.

Source: Connecticut Center for Economic Analysis. "The Economic Impact of Connecticut's Deepwater Ports: An IMPLAN and REMI Analysis," May 2001.

Table 2: Passenger and Vessel Boardings (by Operator Annual[58]

Operator	Passenger Boardings	Vehicle Boardings	Service Type
Nelseco Navigation Co. New London Ferry Street-Block Island, Old Harbor	Not provided	Not provided	RO/RO[59]
Viking Ferry Lines Montauk (NY)-New London, Ferry Street	Not provided	Not provided	Passenger-Only
Bridgeport and Port Jefferson Steamboat Company	800,000	425,000	Passenger and Vehicle
Fox Navigation New London, Ferry Street-Vineyard Haven, Martha's Vineyard	45,000		Passenger-Only
Fishers Island Ferry District New London, State Street – Fishers Island (NY)	164,000	47,000	RO/RO
Cross Sound Ferry Services, Inc. New London, Ferry St. (CT) – Orient Pt. (NY) – conventional ferry service	919,183	379,885	RO/RO
New London, Ferry St. (CT) – Orient Pt. (NY) – fast ferry service	215,000		Passenger-Only

Source: Connecticut Maritime Coalition, "Connecticut's Ports: Transportation Centers for People and Goods," May 2002.

[58] U.S. Department of Transportation, National Ferry Database CD-ROM, 2001; survey period: March 1, 2000 – September 30, 2000.

[59] "Roll-on/Roll-off" or RO/RO is a service in which a vehicle can be driven on or off a vessel, utilizing a ramp between the dock and the vessel. The ramp is usually attached to or part of the vessel.

Table 3: Total Commuter Rail - New Haven and Shore Line East

	SFY 2003	SFY 2002	SFY 2001	SFY 2000	% CHANGE 00-03
revenue	$ 189,249,825	$ 185,873,354	$ 188,069,894	$ 180,480,293	4.9%
expense	$ 282,361,405	$ 260,261,179	$ 254,122,011	$ 247,817,818	13.9%
net deficit	$ 94,201,860	$ 73,334,121	$ 64,501,983	$ 60,808,205	54.9%
cdot share	$ 60,042,903	$ 48,699,182	$ 43,016,813	$ 37,757,531	59.0%
ny share	$ 34,158,957	$ 24,634,939	$ 21,485,170	$ 23,050,674	48.2%
passenger trips	33,598,762	33,022,647	33,242,227	32,174,971	4.4%
deficit/passenger	$2.80	$2.22	$1.94	$1.89	48.4%
cost/passenger	$8.40	$7.88	$7.64	$7.70	9.1%
operating ratio	67.0%	71.4%	74.0%	72.8%	

Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium", SFY 2002/2003.

Table 4: Total Commuter Rail - Fiscal Year 2003

	NEW HAVEN LINE	SHORE LINE EAST	TOTAL SFY 2003
revenue	$ 188,130,202	$ 1,119,623	$ 189,249,825
expense	$ 274,860,612	$ 7,500,793	$ 282,361,405
net deficit	$ 87,820,690	$ 6,381,170	$ 94,201,860
cdot share	$ 53,661,733	$ 6,381,170	$ 60,042,903
ny share	$ 34,158,957		$ 34,158,957
passenger trips	33,219,666	379,096	33,598,762
deficit/passenger	$2.64	$16.83	$2.80
cost/passenger	$8.27	$19.79	$8.40
operating ratio	68.4%	14.9%	67.0%

Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium," SFY 2002/2003.

Table 5: Annual Ridership by Station and Federal Fiscal Year - Amtrak

	FFY1999	FFY2000	FFY2001	FFY2002	FFY2003	FFY2004	FFY2005
Berlin	28,246	25,109	20,326	15,316	15,351	21,921	23,707
Bridgeport	44,975	45,155	51,802	48,716	50,773	55,543	58,615
Hartford	151,249	147,043	142,276	124,357	127,760	153,567	157,489
Meriden	25,066	20,039	16,353	11,420	14,083	22,842	26,825
Mystic	23,849	21,433	19,195	15,089	14,217	15,724	15,788
New Haven	251,130	289,765	370,496	411,113	501,064	617,638	654,124
New London	104,735	105,530	109,729	113,085	114,756	135,749	147,842
Old Saybrook	41,471	39,370	41,333	37,743	41,395	50,638	56,676
Stamford	184,424	189,954	215,824	270,579	272,349	292,507	284,837
Wallingford	8,331	7,885	6,002	3,665	4,770	7,809	11,169
Windsor	7,994	7,980	7,670	6,482	6,256	7,695	9,486
Windsor Locks	13,390	13,686	10,704	10,392	9,121	10,960	12,507
Total	884,860	912,949	1,011,710	1,067,957	1,171,895	1,392,393	1,459,068

Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

Table 6: Total Bus Transit in Fiscal Year 2000

SFY 2000

	CTTRANSIT HNS MGMT.	CTTRANSIT PRIVATE OPERATORS	EXPRESS BUS PRIVATE OPERATORS	URBAN TRANSIT DISTRICTS	RURAL TRANSIT DISTRICTS	ADA SERVICES	DIAL-A-RIDE SERVICES	OTHER SERVICES	TOTAL SFY2000
revenue	$ 20,599,162	$ 2,054,864	$ 864,882	$ 7,009,557	$ 434,093	$ 1,106,200	$ 188,157	$ 90,581	$ 32,347,495
expense	$ 57,168,711	$ 6,630,914	$ 1,891,430	$ 21,109,276	$ 2,020,242	$ 9,906,142	$ 3,811,864	$ 451,928	$102,990,507
net deficit	$ 36,569,549	$ 4,576,050	$ 1,026,545	$ 14,099,719	$ 1,586,149	$ 8,799,943	$ 3,623,707	$ 361,347	$ 70,643,009
cdot share	$ 36,569,549	$ 4,508,332	$ 1,026,545	$ 12,632,637	$ 484,356	$ 7,596,957	$ 1,199,907	$ 305,172	$ 64,323,455
passenger trips	27,341,448	2,290,746	329,986	7,100,623	287,922	484,818	411,610	109,285	38,356,438
deficit/passenger	$1.34	$2.00	$3.11	$1.99	$5.51	$18.15	$8.80	$3.31	$1.84
cost/passenger	$2.09	$2.89	$5.73	$2.97	$7.02	$20.43	$9.26	$4.14	$2.69
operating ratio	36.0%	31.0%	45.7%	33.2%	21.5%	11.2%	4.9%	20.0%	31.4%

Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium – Statewide Bus and Rail System Summary," SFY 2002/2003.

Table 7: Total Bus Transit in Fiscal Year 2001

SFY 2001

	CTTRANSIT HNS MGMT.	CTTRANSIT PRIVATE OPERATORS	EXPRESS BUS PRIVATE OPERATORS	URBAN TRANSIT DISTRICTS	RURAL TRANSIT DISTRICTS	ADA SERVICES	DIAL-A-RIDE SERVICES	OTHER SERVICES	TOTAL SFY2001
revenue	$ 20,839,208	$ 2,083,327	$ 906,209	$ 7,320,232	$ 423,514	$ 1,397,297	$ 238,879	$ 108,794	$ 33,317,461
expense	$ 61,173,870	$ 7,050,066	$ 1,926,865	$ 21,927,751	$ 2,252,804	$ 11,639,093	$ 4,304,362	$ 499,189	$110,774,000
net deficit	$ 40,334,662	$ 4,966,739	$ 1,020,656	$ 14,607,519	$ 1,829,290	$ 10,241,795	$ 4,065,483	$ 390,394	$ 77,456,538
cdot share	$ 40,334,662	$ 4,906,740	$ 1,020,656	$ 13,456,310	$ 539,455	$ 9,467,231	$ 1,358,925	$ 331,984	$ 71,415,963
passenger trips	27,342,986	2,313,141	339,249	7,595,425	316,855	534,973	420,638	129,963	38,993,230
deficit/passenger	$1.48	$2.15	$3.01	$1.92	$5.77	$19.14	$9.67	$3.00	$1.99
cost/passenger	$2.24	$3.05	$5.68	$2.89	$7.11	$21.76	$10.23	$3.84	$2.84
operating ratio	34.1%	29.6%	47.0%	33.4%	18.8%	12.0%	5.5%	21.8%	30.1%

Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium – Statewide Bus and Rail System Summary," SFY 2002/2003.

Table 8: Total Bus Transit in Fiscal Year 2002

SFY 2002

	CTTRANSIT HNS MGMT.	CTTRANSIT PRIVATE OPERATORS	EXPRESS BUS PRIVATE OPERATORS	URBAN TRANSIT DISTRICTS	RURAL TRANSIT DISTRICTS	ADA SERVICES	DIAL-A-RIDE SERVICES	OTHER SERVICES	TOTAL SFY2002
revenue	$ 21,169,006	$ 2,051,380	$ 926,102	$ 6,990,810	$ 472,790	$ 1,403,900	$ 215,270	$ 241,420	$ 33,470,678
expense	$ 64,341,579	$ 7,412,405	$ 1,998,716	$ 22,478,762	$ 2,497,776	$13,045,028	$ 4,200,715	$ 1,040,217	$ 117,015,198
net deficit	$ 43,172,573	$ 5,361,025	$ 1,090,756	$ 15,487,951	$ 2,023,552	$ 11,641,128	$ 3,985,445	$ 798,798	$ 83,561,228
cdot share	$ 43,172,573	$ 5,208,342	$ 1,090,756	$ 13,480,693	$ 554,290	$10,566,270	$ 1,371,895	$ 800,384	$ 76,245,203
passenger trips	26,508,821	2,187,690	353,815	6,454,793	311,438	559,389	427,066	229,595	37,032,607
deficit/passenger	$1.63	$2.45	$3.08	$2.40	$6.50	$20.81	$9.33	$3.48	$2.26
cost/passenger	$2.43	$3.39	$5.65	$3.48	$8.02	$23.32	$9.84	$4.53	$3.16
operating ratio	32.9%	27.7%	46.3%	31.1%	18.9%	10.8%	5.1%	23.2%	28.6%

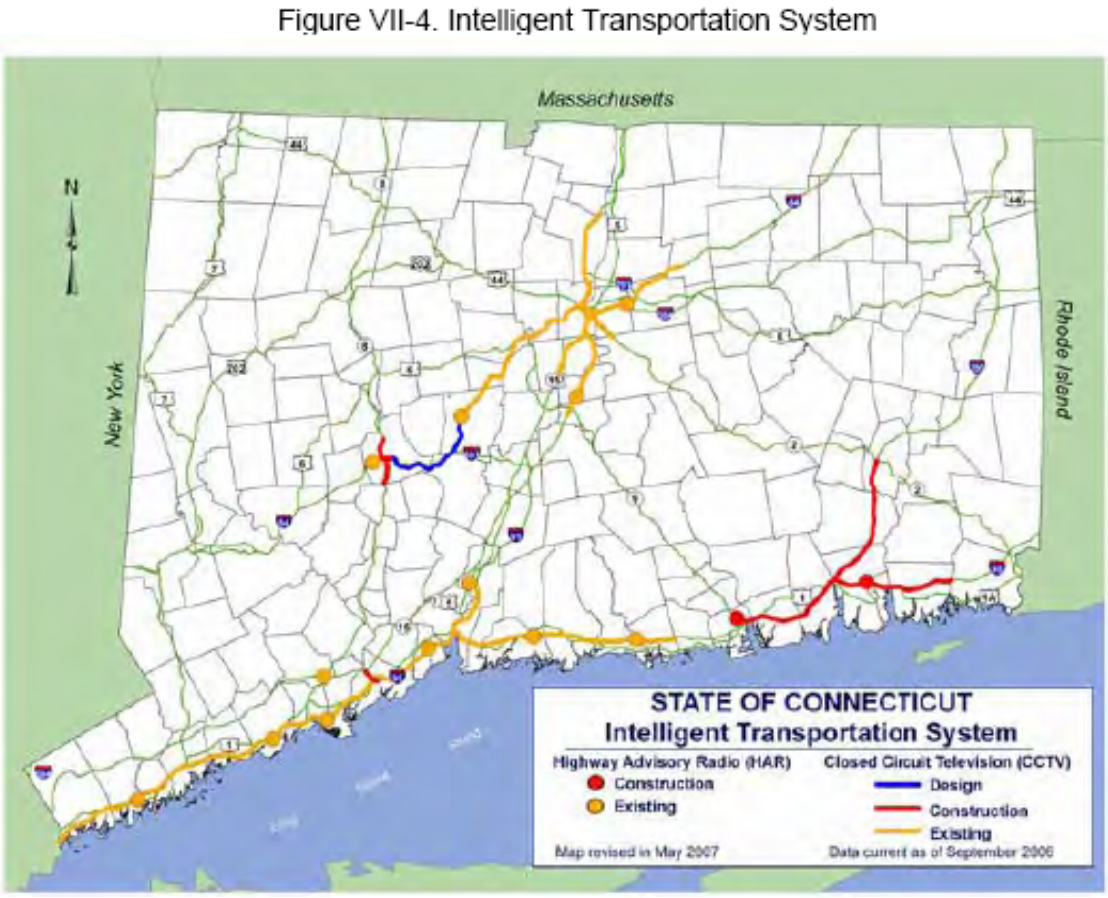
Source: Connecticut Department of Transportation, "Operations Statistics for the Biennium – Statewide Bus and Rail System Summary," SFY 2002/2003.

Table 9: Public Road Mileage

Types of Roads	Mileage
State-maintained Roads	
NHS - Interstate	346.17
Other NHS	613.63
NON-NHS	
State Routes & Roads	2,757.15
State Park Roads	69.03
State Forest Roads	172.80
State Institution Roads	44.32
U.S. Army Corps of Engineers Road	25.60
U.S. Department of Defense Roads	41.00
U.S. Fish & Wildlife Service Roads	0.13
Bureau of Indian Affairs Roads	3.70
State Maintained Road Mileage Subtotal	***4,078.71***
Town-Maintained Road Mileage	
NHS	3.24
Non-NHS	17,111.40
Town- Maintained Road Mileage Subtotal	***17,114.64***
Total	**21,193.35**
Source: ConnDOT Bureau of Policy & Planning. Graphic list data as of December 2005.	
Special Notes: Mileage does not include ramps serving as main line. NHS roadways are roadways that are on the National Highway System as defined by a network of nationally significant highways approved by Congress in the National Highway System Designation Act of 1995. It includes the Interstate system and nearly 114,000 miles of arterial and other roads and connectors to major intermodal terminals.	

Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

Figure 1: Intelligent Transportation System



Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

Table 10 presents the current and projected capacity status of state routes by planning region.

Table 10: Capacity of All State Highways & Routes by Planning Region

Planning Region	2006 Total Miles of State Routes	2006 Approaching Capacity Miles	2006 Approaching Capacity Percent	2006 Over Capacity Miles	2006 Over Capacity Percent	2026 Total Miles of State Routes	2026 Approaching Capacity Miles	2026 Approaching Capacity Percent	2026 Over Capacity Miles	2026 Over Capacity Percent
South Western	179.4	22.82	13%	45.36	25%	179.4	14.03	8%	77.96	44%
Housatonic Valley	214.89	17.23	8%	27.68	13%	220.47	16.28	7%	36.99	17%
Northwestern	183.91	0	0%	0	0%	183.91	0	0%	-	0%
Litchfield Hills	252.19	0.18	0%	0.56	0%	252.19	3.3	1%	4.72	3%
Central Naugatuck	248.01	12.15	5%	23.59	10%	248.01	15.39	6%	41.15	16%
Valley	65.15	5.57	9%	11.34	17%	65.15	4.89	8%	21.17	32%
Greater Bridgeport	143.99	10.08	7%	50.27	35%	143.99	13.73	10%	61.65	43%
South Central	384.45	41.46	11%	46.44	12%	384.45	39.98	10%	106.3	29%
Central	141.75	6.69	5%	15.99	11%	143.64	16.67	12%	41.09	29%
Capitol	640.34	48.37	8%	77.25	12%	649.86	50.18	8%	192.67	30%
Midstate	172.6	12.45	7%	13.45	8%	172.6	10.09	6%	34.4	22%
Ct River Estuary	140.91	1.02	1%	0.05	0%	140.91	9.76	7%	6.93	7%
Southeastern	463.76	12.76	3%	10.28	2%	463.76	26.26	6%	69.22	19%
Windham	201.73	2.15	1%	1.28	1%	210.57	9.5	5%	14.48	7%
Northeastern	268.16	0.59	0%	0.23	0%	268.16	6.17	2%	4.09	2%
Unaffiliated	30.13	0.99	3%	0	0%	30.13	0.31	1%	2.14	7%
State Total	3,731.37	194.51	5%	323.77	9%	3,757.40	236.54	6%	714.96	19%

ConnDOT Bureau of Policy & Planning, Congestion Management File. Graphic revised as of May 2007

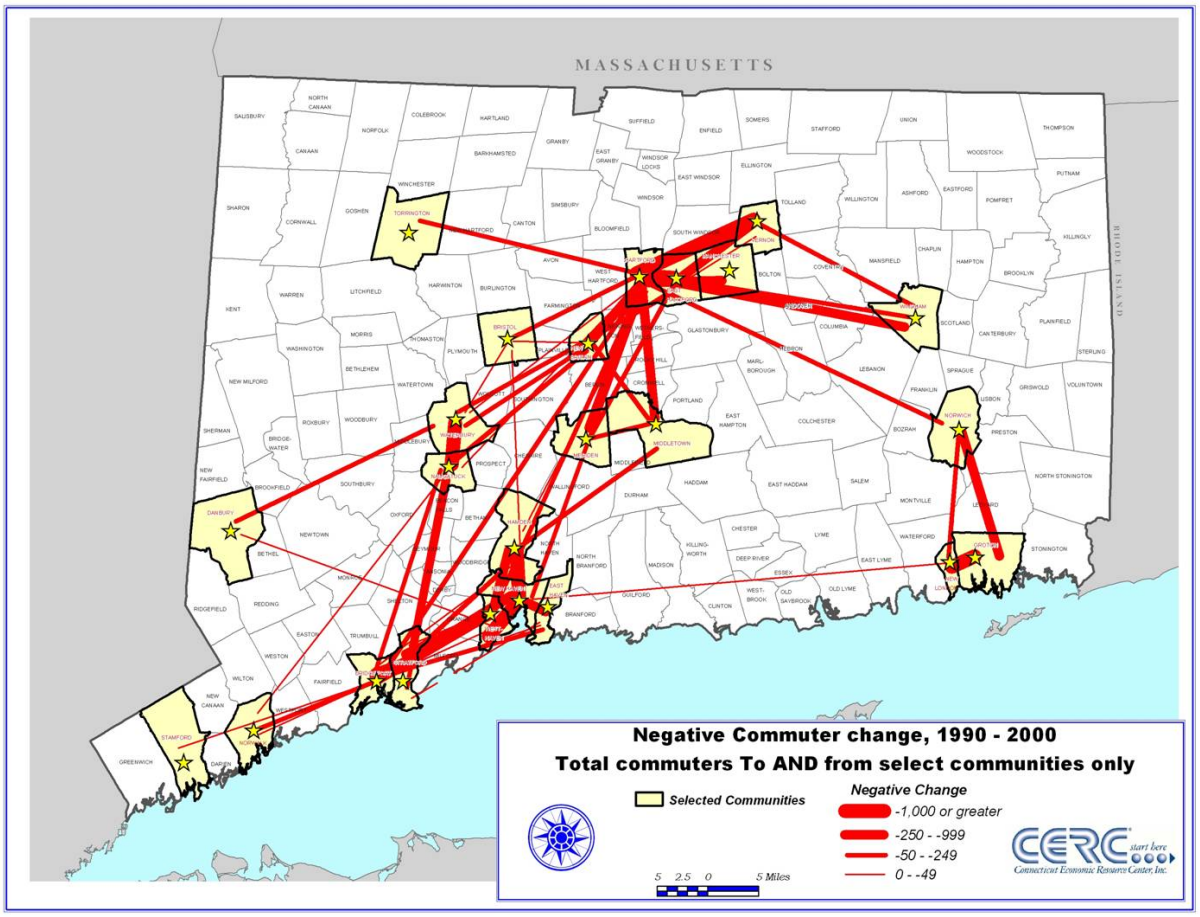
Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

Table 11: 2000 Commuting Patterns: Number of workers commuting across CT counties

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

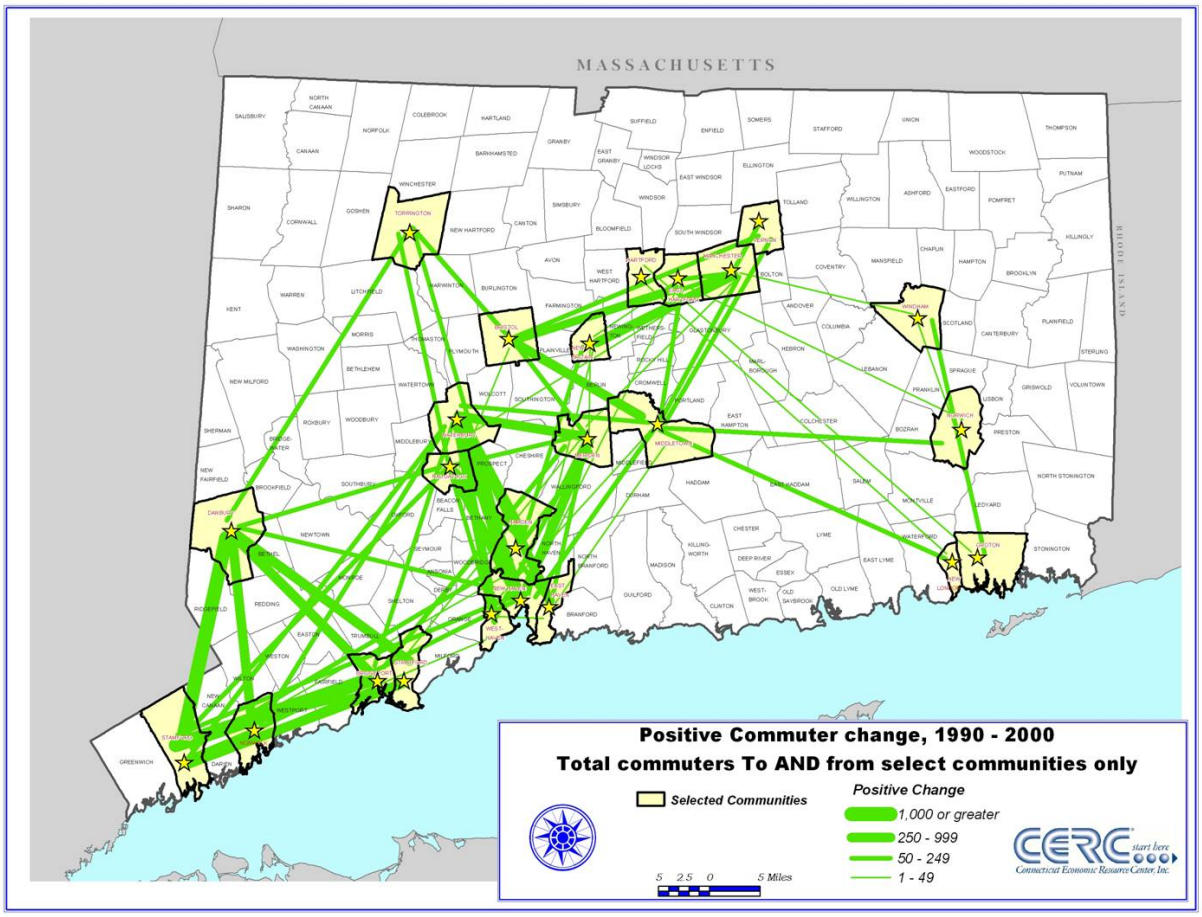
Source: Connecticut Department of Labor.

Figure 2: Negative Commuter Volume Change To and From Selected Communities, 1990-2000



Source: Connecticut Economic Resource Center.

Figure 3: Total Commuters To and From Selected Communities, 1990-2000



Source: Connecticut Economic Resource Center.

Table 12: Top Five Commodities Shipped To, From, and Within Connecticut

Commodity	Tons (millions)		Commodity	Value (billions $)	
	1998	2020		1998	2020
Nonmetallic Minerals	**24**	**27**	Chemicals/Allied Products	**14**	**45**
Petroleum/Coal Products	**21**	**31**	Secondary Traffic	**7**	**25**
Chemicals/Allied Products	**11**	**22**	Food/Kindred Products	**6**	**25**
Farm Products	**10**	**18**	Primary Metal Products	**6**	**12**
Clay/Concrete/Glass/Stone	**10**	**20**	Machinery	**6**	**20**

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

Source: Connecticut Department of Transportation, "Transportation in Connecticut: Trends & Planning Data," June 2006.

Table 13: Connecticut Airport Enplanements, 2000-2006

Airport Name	Year	Rank	Current Year Enplanement	Previous Year Enplanement	Percent Change
Bradley International					
	2006	52	3,409,938	3,617,453	-5.74%
	2005	49	3,617,453	3,326,461	8.75%
	2004	49	3,326,461	3,098,556	7.36%
	2002	49	3,221,081	3,416,243	-5.7%
	2001	48	3,416,243	3,651,943	-6.45%
Tweed-New Haven					
	2006	282	38,144	65,142	-41.44%
	2005	247	65,142	39,736	63.94%
	2004	282	39,736	15,446	157.26%
	2002	322	21,904	28,766	-23.9%
	2001	310	28,766	38,159	-24.62%
Danbury Municipal					
	2006	531	3,271	302	983.11%
	2005	793	302	14	2057.14%
	2004	1313	14	10	40.00%
	2002	1554	6	12	-50.0%
	2001	1426	12	98	-87.76%
Igor I Sikorsky Memorial					
	2006	696	1,013	31	3167.74%
	2005	1124	31	74	-58.11%
	2004	992	74	248	-70.16%
	2002	996	101	249	-59.4%
	2001	881	249	166	50.00%
Groton-New London					
	2006	898	161	17	847.06%
	2005	1254	17	135	-87.41%
	2004	904	135	5,952	-97.73%
	2002	426	7,067	9,610	-26.5%
	2001	425	9,610	12,111	-20.65%
Hartford-Brainard					
	2006	1020	77	58	32.76%
	2005	1011	58	49	18.37%
	2004	1069	49	192	-74.48%
	2002	617	1,667	502	232.1%
	2001	804	502	1,366	-63.25%
Waterbury-Oxford					
	2006	1063	63	175	-64.00%
	2005	856	175	303	-42.24%
	2004	803	303	13	2230.77%
	2002	866	230	177	29.9%
	2001	921	177	52	240.38%

Source: FAA - Passenger Boarding and All-Cargo Data

Table 14: Airport Annual Operations

Airport Name State Owned Airports	2000	2004
Bradley International Airport***	169,700	147,500
Groton-New London Airport	74,200	66,200
Hartford-Brainard Airport	127,100	101,000
Waterbury-Oxford Airport**	147,400	65,900
Windham Airport	30,690	33,100
Danielson Airport	20,464	21,700
Municipal Airports		
Tweed-New Haven Airport	61,800	64,600
Bridgeport-Sikorsky Airport	90,400	80,500
Danbury Municipal Airport****	114,600	87,100
Meriden-Markham Airport	18,000	19,500
Pivately Owned Airports Open For Public Use		
Candlelight Farms	11,010	11,450
Chester Airport	20,800	21,650
Ellington Airport	29,100	30,300
Goodspeed Airport	7,250	7,550
Griswold Airport	3,150	3,250
Robertson Field Airport	59,200	61,600
Salmon River Airfield	700	750
Simsbury Airport	9,450	9,850
Skylark Airpark	16,900	17,600
Stonington Airpark	50	50
Toutant Airport	130	130
Waterbury Airport	1,000	1,050
Woodstock Airport	100	100
Mountain Meadow Airport^	13,100	0
Statewide Totals	1,026,294	852,430

** Data from AMPU - 1995, 2003
*** Data from AMPU - 1995, 2002
****Forecasts from FAR Part 150 - 2000, 2003
^ Airport Closed April, 2004

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

Table 15: Connecticut Airport Capacity - 2004

Airport Name	Airport Capacity	Operations	Percent of Capacity
State Owned Airports			
Bradley International Airport *	263,000	147,500	56%
Groton-New London Airport	230,000	66,200	29%
Hartford-Brainard Airport	230,000	101,000	44%
Waterbury-Oxford Airport **	230,000	65,900	29%
Windham Airport	125,000	33,100	26%
Danielson Airport	107,400	21,700	20%
Total	1,185,400	435,400	37% Avg.
Municipal Airports			
Tweed-New Haven Airport	230,000	64,600	28%
Bridgeport-Sikorski Airport	200,000	80,500	40%
Danbury Municipal Airport**	180,000	87,100	48%
Meriden-Markham Airport	118,100	19,500	17%
Total	728,100	251,700	35% Avg.
Pivately Owned Airports Open For Public Use			
Candlelight Farms	59,600	11,450	19%
Chester Airport	99,000	21,650	22%
Ellington Airport	156,000	30,300	19%
Goodspeed Airport	62,600	7,550	12%
Griswold Airport	34,000	3,250	10%
Robertson Field Airport	148,000	61,600	42%
Salmon River Airfield	37,500	750	2%
Simsbury Airport	64,000	9,850	15%
Skylark Airpark	110,100	17,600	16%
Stonington Airpark	11,000	50	0%
Toutant Airport	28,000	130	0%
Waterbury Airport	37,400	1,050	3%
Woodstock Airport	44,600	100	0%
Total	891,800	165,330	19% Avg.
Mountain Meadow Airport^	49,500	13,100	26%
Statewide Totals	2,805,300	852,430	30% Avg.

* Year 2002
** Year 2003
^ Airport Closed in April, 2004

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

Table 16: Connecticut's Population versus Based Aircraft at Bradley International Airport

Year	Population	Based Aircraft
1990	3,287,116	83
1995	3,274,662	94
2003	3,448,619	83

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

Table 17: Based Aircraft at Connecticut's Public Use Airports

State Owned Airports	1995	2003
Bradley International Airport	94	83
Groton-New London Airport	40	51
Hartford-Brainard Airport	173	185
Waterbury-Oxford Airport**	160	242
Windham Airport	69	64
Danielson Airport	48	62
Municipal Airports		
Tweed-New Haven Airport	84	72
Bridgeport-Sikorsky Airport	241	248
Danbury Municipal Airport	107	229
Meriden-Markham Airport	62	78
Pivately Owned Airports Open For Public Use		
Candlelight Farms	*	14
Chester Airport	*	110
Ellington Airport	*	20
Goodspeed Airport	*	37
Griswold Airport	*	5
Robertson Field Airport	*	110
Salmon River Airfield	*	7
Simsbury Airporrt	*	48
Skylark Airpark	*	71
Stonington Airpark	*	2
Toutant Airport	*	1
Waterbury-Plymouth Airport	*	10
Woodstock Airport	*	17
Mountain Meadow Airport^	*	23
	Statewide Totals	1766

* No data available
** Interpolated from ongoing AMPU
^ Airport Closed April, 2004
Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

Table 18: Runway Characteristics for Connecticut's Public Use Airports

AIRPORT NAME	ID	ASSOCIATED TOWN	OWNER	NPIAS ROLE	NO. OF ACRES	RUNWAY ORIENTATION	RUNWAY DIMENSIONS	RUNWAY SURFACE	DISPLACED THRESHOLD	ARC	AIRSPACE	TOTAL OPERATIONS FOR 2004	NO. OF BASED AIRCRAFT 2003	APPRO
STATE														
Bradley International	BDL	Windsor Locks	State	PR	2,432	06-24 15-33 01-19	9,510' x 200' 6,847' x 150' 5,145' x 100'	asph-grvd asph-grvd asphalt		D-IV D-IV B-II	C	147,500	83	ATC
Hartford-Brainard	HFD	Hartford	State	RL	201	02-20 11-29 NE - SW	4,418' x 150' 2,315' x 71' 2,309' x 150'	asph-grvd asphalt turf	410' - 559' 0' - 257'	B-II B-I	D/G	101,000	185	ATC
Groton-New London	GON	Groton	State	PR	483	05-23 15-33	5,000' x 150' 4,000' x 100'	asph-grvd asph-grvd	307' - 205'	C-III B-II	D/G	66,200	51	ATC
Waterbury-Oxford	OXC	Oxford	State	GA	424	18-36	5,800' x 100'	asph-grvd		D-II	D/E	65,900	242	ATC
Windham	IJD	Windham	State	GA	280	09-27 18-36	4,278' x 100' 2,797' x 75'	asphalt asphalt	261' - 0' 0' - 799'	B-II B-II	G/E	33,100	64	
Danielson	5B3	Killingly	State	GA	257	13-31	2,700' x 75'	asphalt		A-I	E	21,700	62	
MUNICIPAL														
Tweed-New Haven	HVN	New Haven	Municipal	PR	394	02-20 14-32	5,600' x 150' 3,175' x 100'	asph-grvd asphalt	0' - 349' 367' - 0'	C-III B-II	D/E	64,600	72	ATC
Igor-Sikorsky Memorial	BDR	Bridgeport	Municipal	CM	800	06-24 11-29	4,677' x 150' 4,761' x 150'	asphalt asphalt	0' - 320' 0' - 364'	C-II C-II	D/E	80,500	248	ATC
Danbury Municipal	DXR	Danbury	Municipal	RL	248	08-26 17-35	4,422' x 150' 3,135' x 100'	asph-grvd asphalt	368' - 734' 223' - 231'	B-II B-II	D/E	87,100	229	ATC
Meriden-Markham	MMK	Meriden	Municipal	GA	137	18-36	3,100' x 75'	asphalt		B-I	E	19,500	78	
PRIVATE														
Chester	3B9	Chester	Private	GA	146	17-35	2,566' x 50'	asphalt	559' - 0'	B-I	E	21,650	110	
Goodspeed Airport and Seaplane Base	42B	East Haddam	Private		60	14-32 16W-34W	2,120' x 50' 4,500' x 1,000'	asphalt water		A-I	E	7,550	37	
Ellington	7B9	Ellington	Private		15	01-19	1,800' x 50'	asphalt		A-I	E	30,300	20	
Skylark Airpark	7B6	East Windsor	Private		150	10-28	2,642' x 60'	asphalt	600' - 175'	A-I	E	17,600	71	
Robertson Field	4B8	Plainville	Private	RL	39	02-20	3,612' x 75'	asphalt		B-II	E	61,600	110	
Simsbury Tri-Town	4B9	Simsbury	Private	GA	103	03-21	2,205' x 50'	asphalt	0' - 270'	A-I	E	9,850	48	
Mountain Meadow Airstrip (Closed)	22B	Burlington	Private	GA	50	01-19	3,420' x 40'	asphalt	0' - 150'	A-I	G	13,100	23	
Woodstock	64CT	Woodstock	Private		56	01-19	2,200' x 75'	asphalt	0' - 200'	A-I	E	100	17	
Waterbury-Plymouth	N41	Plymouth	Private		62	02-20 17-35	1,600' x 250' 2,005' x 135'	turf turf		A-I	G	1,050	10	
Griswold	N04	Madison	Private	GA	40	06-24	1,863' x 50'	asphalt		A-I	E	3,250	5	
Toutant	C44	West Woodstock	Private		62	17-35	1,756' x 60'	asphalt		A-I	G	130	1	
Candlelight Farms	11N	New Milford	Private		25	17-35	2,900' x 50'	turf		A-I	G	11,450	14	
Salmon River Airfield	9B8	Marlborough	Private		60	17-35	2,000' x 60'	turf		A-I	G	750	7	
Stonington Airpark	CT80	Stonington	Private		100	04-22	1,700' x 50'	turf		A-I	E	50	2	

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

Table 19: Runway Characteristics for Major Airports Near to BDL

Airport Code	Runway ID	Runway Length	Runway Width
BDL	01/19	4,268	100
	06/24	9,510	200
	15/33	6,847	150
JFK	04L/22R	11,351	150
	04R/22L	8,400	200
	13L/31R	10,000	150
	13R/31L	14,572	150
LGA	04/22	7,001	150
	13/31	7,003	150
EWR	04L/22R	11,000	150
	04R/22L	10,000	150
	11/29 R	6,800	150
BOS	04L/22R	7,861	150
	04R/22L	10,005	150
	09/27	7,000	150
	14/32	5,000	100
	15L/33R	2,557	100
	15R/33L	10,083	150

Source: "Airport Information," http://aviatorspot.com.

Table 20 Parking Spaces at Bradley International Airport

Lot	Handicap Spaces	Total Spaces		Lot	Handicap Spaces	Total Spaces
Patron Surface Parking				Patron Garage Parking		
Short Term B	18	383		Short Term	7	397
Long Term 1	11	520		Long Term	38	2,980
Long Term 3	18	728		**Patron Garage Total**	45	3,377
Long Term 4	14	577		Non-Patron Parking		
Long Term 5A	8	377		Long Term 2 (Employee)	9	414
Long Term 5B	12	572		Rental & Taxi Car Queue	20	830
Patron Surface Total	81	3,157		**Non-Patron Total**	29	1,244
Source: ConnDOT Bureau of Aviation & Ports. Data is as of February 2005.						

Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

Table 21: Non-Stop Service Out of Bradley International Airport

Destination	Airline	Destination	Airline
Amsterdam, Netherlands*	Northwest	Miami	American
Atlanta	Delta	Milwaukee	Midwest Express
Baltimore	Southwest	Minneapolis	Northwest
Buffalo	US Airways	Montreal	Air Canada
Cancun	USA3000	Nashville	Southwest
Charlotte	US Airways	Newark	Continental
Chicago-Midway	Southwest	New York-JFK	Delta
Chicago-O'Hare	United, American	Orlando	Delta, Southwest
Cincinnati	Delta	Philadelphia	US Airways
Cleveland	Continental	Phoenix	US Airways
Columbus	Delta	Pittsburgh	US Airways
Dallas	American	Raleigh	American
Denver	Frontier	Rochester	US Airways
Detroit	Northwest	San Juan	American
Ft. Lauderdale	Delta	St. Louis	American
Ft. Myers	Delta	Tampa	Southwest, Delta
Houston	Continental	Toronto	Air Canada
Indianapolis	Northwest	Washington-Dulles	United
Las Vegas	Southwest	Washington-Reagan	US Airways
Los Angeles	Delta	West Palm Beach	Delta
*Service is scheduled to commence July 1, 2007. Source: ConnDOT Bureau of Aviation & Ports. Graphic revised in April 2007.			

* Northwest service to Amsterdam ended in fall 2008, but will commence again in June 2009.
Source: Connecticut Department of Transportation, "Transportation in Connecticut: The Existing System," June 2007.

Table 22: Percent Change in Total Cargo from 2001 to 2006 for BDL

Year	Rank (out of 115)	Current Year Landed Weight (lbs.)	Previous Year Landed Weight (lbs.)	% Change
2006	29	953,073,900	967,385,010	-1.48
2005	32	967,385,010	890,447,690	8.64
2004	33	890,447,690	824,106,330	8.05
2003	33	824,106,330	905,021,150	-8.94
2002	32	905,021,150	963,036,520	-6.02
2001	31	963,036,520	1,020,926,244	-5.67

Source: FAA - Passenger Boarding and All-Cargo *Data*

Table 23: Commercial Service Airports – Entitlement Monies (FY 2005)

	Amount Received	
Airport Name	**Passenger**	**Cargo**
Bradley International	$1,532,140	$667,870
Groton-New London	$1,000,000	0
Tweed-New Haven	$1,000,000	0
Total	***$3,532,140***	***$667,870***

Source: Connecticut Department of Transportation, "Connecticut Statewide Airport System Plan," June 2006.

Technology Transfer

Tech Transfer in Connecticut Universities

Technology transfer refers to the formal licensing of technology to third parties, under the guidance of professionals employed by universities, research foundations and businesses, in departments focused on these activities.[1] Through technology incubator programs and research parks, universities are now at the forefront of development of patents and new technologies in Connecticut. Working directly with researchers, university programs, along with community colleges and local non-profits with an interest in entrepreneurial and workforce development, have helped Connecticut rank in the top 10 states in the United States under the latest State Technology and Science Index.[2]

Connecticut has impressive science and technology resources that include Yale University and the University of Connecticut (UConn), as well as major research corporations, strong financial and insurance companies, and manufacturing industries. The infrastructure is in place for development and fruition of new inventions, but it could be better. The state is lacking in overall incubator space, early-stage seeding, as well as the commercialization services surrounding the universities, relative to comparable states. Connecticut could benefit from a focal point cluster-type incubator, instead of spreading the innovations across different industries.[3]

At Yale, the Office of Cooperative Research (OCR) handles the process from invention to production for eager researchers. The duties of OCR include oversight for patenting and licensing activities, university inventions, and contractual relationships between faculty and industry. OCR staff work with Yale researchers to identify inventions that may ultimately become commercial products and services useful to the public. OCR staff engage in industrial partnerships to license Yale inventions. An important goal of the Yale OCR is to identify new ideas, cultivate venture funding for them, and facilitate their development into companies that become part of the New Haven economy.[4]

At UConn, the Center for Science & Technology Commercialization manages the commercial applications of the discoveries, inventions and technologies developed at the university. Each year the Center receives approximately 75 new invention disclosures and files 20 U.S. patent applications. Ten to 15 commercial development agreements are completed annually.[5] The

[1] Yale University, Office of Cooperative Research. "Technology Transfer Overview," <http://www.yale.edu/ocr/about/documents/TECHNOLOGYTRANSFEROVERVIEW_OCRRevisions_23Sep08.pdf> Accessed March 16, 2009.
[2] Milken Institute: Devol, Ross and Rob Koepp. "State Technology and Science Index: Enduring Lessons for the Intangible Economy," March 2004.
[3] Innovation Associates. "A Report to the Connecticut Technology Transfer and Commercialization Advisory Board of the Governor's Competitiveness Council," October 2004.
[4] Yale University, Office of Cooperative Research, "About Yale OCR," <http://www.yale.edu/ocr/about/index.html> Accessed March 16, 2009.
[5] UConn, Office of Technology Commercialization. "Center for Science and Technology." <http://otc.uconn.edu/programs/cstc/> Accessed March 16, 2009.

Center offers a list of technologies available to the greater business community for license — over 20 — ranging from dental implant systems, to updates in mechanical CAD design. The Center also negotiates options and license agreements with small and large companies for the development of UConn technologies. With UConn backing its own faculty and student researchers, the university sets a good example for the rest of the state — that promising ideas and proper promotion can lead to exposure and marketability of new inventions. These inventions could fuel the next great industry for the state.

Successful tech transfer programs across the country have the following in common: strong and focused university research base, angel and early-stage capital, innovation centers, academic leadership and culture, entrepreneurship programs, technology incubator programs and research parks, and long-term development (footnote 3). Connecticut's universities are producing new technologies every year, and financing these developments can only strengthen the state's blossoming high-tech industries.

Recommendations for Expanding Connecticut's Economy through Tech Transfer

The following recommendations are based on a report for the Connecticut Technology Transfer and Commercialization Advisory Board of the Governor's Competitiveness Council (footnote 3). These are the first steps to ensure a growing economy in the state through technology transfer. These steps lay the base for a future action plan, in which Connecticut's institutes of higher education work along private firms to produce new technologies, which employ Connecticut workers and benefit Connecticut citizens.

- **Initiate Aggressive Courting of Federal Funds to Support Targeted Initiatives** — A subcommittee of the Advisory Board, in conjunction with state legislators and other policy leadership should launch a campaign to court federal funding for targeted university and state technology efforts.

- **Explore Development of Innovation Ventures Center** — An innovation center could provide the focus that is now lacking for the state's technology-based economic development activities. A center might encompass R&D, seed capital, mentoring, and related activities in emerging fields such as nanotechnology and/or biotechnology. The state should launch a feasibility study for such a center.

- **Increase Angel and Seed Capital** – The state should make available funding for a pre-seed/seed capital fund, that is managed and matched by private sector funds, and should consider restoring Connecticut Innovations funding. In addition, funding should be made available to develop angel capital networks, specifically through an angel investor tax credit program.

- **Enhance Networking Capacity** — Organizations need to step up networking events, particularly in targeted clusters, and should more actively engage major industries, service providers, and universities.

- **Educate Policy Makers** — The Advisory Board should sponsor events, and produce and disseminate information to educate policymakers, on an ongoing basis, regarding technology transfer activities that promote state economic development.

- **Increase Corporate Role in Universities** — Corporations should play a role in strategic planning at universities, and provide input on advisory committees at all universities. In addition, university and state organizations should tap corporations for mentoring and other activities that promote entrepreneurship. This could be accomplished through incenting corporate technology transfer opportunities.

- **Develop Strategic Plan at UConn** — UConn should implement an enhanced strategic planning process that targets core research competencies and outlines steps for building research capacity. Moreover, UConn should better emphasize the commercialization of their products.

- **Enhance Entrepreneurial Development Activities at UConn and Yale** — Yale and UConn should enhance entrepreneurial development programs and activities similar to those found at MIT and Stanford. Specifically, the development program should be modeled after the Deshpande Center at MIT.

- **Encourage Collaborative R&D Between Yale and UConn and Regional Universities** — Leveraging the combined strengths of Yale's life sciences, UConn's material sciences and engineering, and that of other universities in the region such as RPI and MIT, could more effectively address opportunities in emerging fields such as bioengineering and nanotechnology. The state and private sectors might provide incentives for collaboration by offering competitive grants.

- **Implement "Time to Come Home" Campaign** — The universities, particularly Yale and UConn could develop a "Time to Come Home" campaign to encourage alumni who are successful entrepreneurs to move some operations to the state, participate in mentoring, and provide internships. The state might consider financial incentives to lure out-of-state entrepreneurs to targeted technology zones such as New Haven.

- **Create Permanent Technology Transfer Advisory Board** — There is a need for ongoing strategic planning, implementation and oversight of technology transfer related issues by leaders from academic, public and private sectors. A permanent Advisory Board would play a critical leadership role in Connecticut's economic future.

- **Engage Bi-Partisan Support and Involve State Legislators** — In order to have a major sustained impact on the state's economy, strong bi-partisan support and involvement of state legislators will be essential.

SUMMARY

Technology transfer commercializes innovations for the benefit of society and the research effort producing them. Advanced technologies in Connecticut are usually developed by researchers working in universities or large firms, and the institution helps the individual produce the idea into a marketable good. The University of Connecticut and Yale University both provide tech transfer services to their students and faculty, and have been successful for both parties. However, Connecticut needs to provide better early funding for these projects, as well as market the availability of these services better if it wants to see a growth in high-tech businesses in the state.

Brownfields

Vacant and underutilized mills and industrial/commercial property is a significant land use issue for all Connecticut towns, and range from the abandoned gasoline station to the historic mill complex. The Connecticut Department of Environmental Protection (DEP) defines a brownfield site generally as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant … " The real or perceived risks related to the contamination on these properties effectively bars reinvestment in these properties for most developers. Even so, the expense in both time and financing is generally significant and is rarely done so without some form of public assistance. Connecticut, as other New England states, has a significant number of brownfield sites due to the changes in the industrial market and with corporate relocations that occurred in the region during the last century. Although brownfields are common to all communities in Connecticut, nearly 69% of the contaminated sites included on the inventory maintained by DEP are located in distressed municipalities.[1] Brownfields potentially worsen the economic and social blight already experienced in these areas, and are contrary to the state's responsible growth strategies. There are several factors through which brownfields negatively affect local economies:

- Decrease neighboring property values;
- Create a disincentive for investment in the surrounding area;
- Create significant opportunity costs in terms of jobs and tax revenue;
- Contribute to sprawl as new business opportunities seek to develop raw land in lieu of reusing former commercial and industrial sites; and
- Are a source of contamination to ground water and soil.

Other brownfield issues that negatively affect local communities include environmental impacts, safety concerns, increased crime, and unsightly aesthetics.

Connecticut does not have a comprehensive brownfield inventory. This is due to the potential liability related to labeling private property as potentially contaminated, and the significant effort that would be required to collect and maintain such an inventory. Regardless, the limited data that is maintained by DEP and the Connecticut Brownfield Redevelopment Authority (CBRA) demonstrates the following:[2]

- Number of Brownfield Sites: 281

[1] These communities are designated according to poverty rates, aging housing stock, low or declining population, per capita income and adverse impact from a major plant closing.

[2] CT DEP: "Brownfield Sites in Connecticut," http://www.ct.gov/dep/cwp/view.asp?A=2715&Q=324930. This number is conservative because many potential sites would object to being listed. Therefore, it is difficult to grasp the actual number of contaminated sites or the degree to which they are contaminated. This is a key issue for policy formation.

- Total Acreage:[3] 2,602.9
- Number of Towns Affected: 65

It is clear that the above data is incomplete and only records a portion of the brownfield issue for the state.

Connecticut's Response to Brownfield Issues

Connecticut's response to the brownfield issue began in the early 1990s with an informal collaboration between the Department of Economic Development (DED), now the Department of Economic and Community Development (DECD), and DEP to prioritize sites for DEP staff reviews for remedial investigations based on economic impact rather than health and safety priorities. This initiative evolved into the Urban Sites Remedial Action Program, summarized below, that provided state funding for investigations and later remedial action on eligible brownfield sites. Presently the Office of Brownfield Remediation and Development (OBRD) within DECD is the designated lead office for managing brownfield programs in Connecticut. OBRD, operating under the oversight of the DECD Office of Responsible Development (ORD), is the point of entry for state brownfield programs, and administers outreach and education efforts to help communities and businesses manage brownfield issues. OBRD is also responsible for developing funding programs and processes for expediting brownfield reuse.

The state uses a variety of funding sources for brownfield redevelopment that includes state bond funds, tax revenue and federal agency programs such as U.S. Department of Environmental Protection Agency (EPA) grants. EPA provides grants through competitive application rounds for assessment activities and revolving loan funds (RLF). Financial assistance is available for investigation, remediation and redevelopment through loans, grants and tax credits.

The Connecticut Brownfields Redevelopment Authority (CBRA) was formed in 1999 at the direction of the Connecticut legislature (Public Act 01-179[4]) to create and administer programs that bring about the remediation and economic redevelopment of the state's contaminated sites. CBRA is a wholly owned subsidiary of the Connecticut Development Authority. CBRA is a self-sustaining, quasi-public entity. CBRA's most significant brownfield redevelopment financing tool is the TIF (tax increment financing) program. The TIF provides "up front" grant funding to eligible projects based on pledge of future municipal real estate tax revenues, see summary below. This financing tool provides cash to support the remediation and reuse of these properties based on the projected economic activity of the reuse.

[3] Acreage data is incomplete; DEP was not able to obtain acreage for several sites.
[4] http://www.cga.ct.gov/2001/act/Pa/2001PA-00179-R00SB-00823-PA.htm

Brownfield Redevelopment Programs

Connecticut has several programs to promote brownfield redevelopment as well as general-purpose programs for development and business assistance:

- **Brownfield Municipal Pilot Program** — a competitive financial assistance program that provided grants to five municipalities to return brownfields properties to product use. The state budget allocated $4.5 million for this program, and $2.25 million was bonded in 2008 to support projects selected in October 2008.

- **Tax Incremental Financing** — a CBRA program that is available to brownfield sites statewide where redevelopment will generate increased municipal property tax revenues. The increment in value between the pre-development and post-development revenue can be used to support grant funding for brownfield remediation and development.

- **Dry Cleaner Establishment Remediation Fund** — provides grants to eligible dry cleaning business operators and landlords to remediate releases of dry cleaning chemicals. The grants may be used for pollution prevention and providing potable drinking water when necessary. The program receives funding from a dry cleaning surcharge (tax).

- **Economic Development Manufacturing Assistance Program** — a general economic development program administered by DECD. Bond funds are available for business, infrastructure, industrial and municipal development projects that may include brownfields.

- **Urban Act** — a general economic and community development program administered by DECD. Bond funds are available for public improvements that may include brownfields.

- **Special Contaminated Property Remediation and Insurance Fund** — provides loans for environmental assessment, abatement, demolition and minor remediation from bond funds.

- **Urban Sites Remedial Action Program (USRAP)** — the oldest state brownfield program jointly administered by DECD and DEP. The program is funded through bonding and recovered funds, and proceeds are used for investigation and remediation of designated sites. The state seeks cost recovery from "Potential Responsible Parties" (PRPs) through the DEP and the State Attorney Generals Office. The USRAP is limited to municipalities that are either designated as distressed or targeted investment communities.

- **Urban and Industrial Sites Reinvestment Tax Credit** — this program is a powerful economic development tool designed to drive investment to the state's urban centers and other economically distressed communities as an alternative funding vehicle to state bonding to support development activities. Under the program, the state may provide up to $100 million in tax credits over a 10-year period to support projects that create significant jobs and capital investment in these underserved areas. DECD assesses the projected economic activities of the proposed project to ensure estimated revenue to the state is positive or neutral.

The creation of additional brownfield programs is not recommended. Current state programs should be consolidated with a concurrent expansion of the eligible communities and activities for these programs.

Brownfield redevelopments are complex real estate developments. DECD seeks to leverage private and public funding sources to foster reuse, as well as non-financial assistance such as covenants not to sue, see commentary below. It should be noted that the state's general development funding programs such as the Urban Act program and the Manufacturing Assistance Act program have also been used to provide financial assistance to eligible applicants to support brownfield redevelopment.

Funding History

The following is a funding history of a selection of the brownfield programs that DECD administers.

- **Brownfield Municipal Pilot Program**
  - $2.25 million bonded in October 2008
  - The projects are:[5]
    - Two communities with more than 100,000 in population
    - One community between 50,000 and 100,000 in population
    - One community with less than 50,000 in population
    - One discretionary community

- **Urban Sites Remedial Action Program (USRAP)** — These funds are intended as "seed capital" to expedite the project. Recovery of state funds committed to a project will be sought.[6]
  - $30.5 million bonded to date
  - As of April 2009, $2.6 million remains to be allocated

[5] Governor's Press Release, October 29, 2008, http://www.ct.gov/ecd/cwp/view.asp?a=1104&q=426060.
[6] CT DEP: Brownfield Sites, http://www.ct.gov/dep/cwp/view.asp?a=2715&q=324930&depNav_GID=1626.

- **Special Contaminated Property Remediation and Insurance Fund (SCPRIF)** — this program provides loans to towns, businesses, and developers to assess sites and demolish structures in preparation for remediation and development.
    - $6 million has been budgeted for this program
    - $3 million has been bonded

- **U.S. Environmental Protection Agency Brownfield Loan/Grants** — DECD has received EPA grants, and below is a chronological list of those grants thus far:

    - 2004: accepted administrative responsibilities of the Hartford Revolving Loan Fund (RLF) — $472,171.
    - 2006: received $168,000 in supplemental funding
    - 2007: received $1,000,000 for statewide RLF
    - 2007: received $500,000 for brownfield assessment

The Brownfield Challenge

> "Brownfields are often underutilized or abandoned, and due to the uncertain cost, additional liability and the uncertain timeframe to complete remediation, these properties are more difficult to develop. In addition, obsolete structures, inadequate parking and loading, insufficient land area or poor location often hinder development of these properties."[7]

Brownfields are one of the most complex forms of real estate development projects. The state has several funding programs to "close the gap." However, financial assistance, although significant, is only one hurdle in redevelopment where government action is appropriate. Time, money and financial exposure are the driving factors that developers consider while vetting their siting options. Bringing certainty as related to schedule, cost, risk, and liability are also common factors that municipalities and developers need to address while working with these properties. Expedited regulatory coordination and approvals, covenants not to sue, third party liability relief, and floodplain requirements all enhance certainty, and improve the prospects for a brownfield to move forward to reuse. DECD is continually seeking out financial resources to leverage brownfield development. Although the state has made significant capital investment in brownfield reuse, the brownfield issue is significant enough to warrant a consideration to increase funding to avoid lost opportunities to turn around derelict properties.

[7] CT Office of Policy and Management. Conservation and Development: Policy Plans for Connecticut 2009-2010, http://www.crerpa.org/CRERPA/adopted2005-2010cdplan.pdf.

Liability is a major concern for potential developers, in terms of both cost and legal consequences. Although the state-sponsored programs reduce liability the issue is never erased. Future legal issues due to remediation are often the developer's responsibility — this crosscuts both small and large sites. Recently, various state government agencies have attempted to mitigate anticipated liability in developing brownfield sites through liability protection programs.

Liability Protection Programs

Third Party Liability Program

This program provides property owners with statutory protection regarding costs or damages to third parties, not including governmental bodies, exposed to pollution that existed prior to the landowner's taking title to the property.

Covenant Not to Sue

A covenant not to sue (CNTS) is a form of liability protection that protects a holder from liability related to pollution which was attributed to the property prior to the issuance of the covenant by DEP. They have assurance that once a site is remediated to current standards, the commissioner of DEP will not require additional cleanup in the future. A CNTS is a tool that allows redevelopment of contaminated properties without the risk of liability for historical contamination. The state offers two forms of covenants; a no-cost covenant which is non-transferable and offers limited protection, and a fee-based covenant that is transferable and provides greater coverage to the recipient. The fee-base covenant cost is set as a percentage of the site remediation cost. Sites enrolled in the state's Urban Sites Remedial Action Program can apply for a waiver of this fee. A CNTS does not offer protection against federal liability.

CERCLIS "Comfort Letter" and Archive Policy

At the request of DEP, EPA will remove (archive) any active federal superfund site from CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) if remedial action through one or more DEP Remediation Programs has been completed. If remedial action has not been completed, yet an interested party makes a commitment to remediate the site through a DEP Remediation Program, the department is willing to recommend to the EPA that they issue a "comfort letter" stating, "the EPA will not take further action to list the site on the National Priorities List."

Environmental Land Use Restrictions

An Environmental Land Use Restriction ("ELUR") is a binding agreement between a property owner and the commissioner of DEP that is recorded on the municipal land records. The purpose of an ELUR is to minimize the risk of human exposure to pollutants and hazards to the environment by preventing specific uses or activities at a property or a portion of a property. An

ELUR is a tool that permits the remedial goals for a property to depend on the exposure risk associated with its use.

Environmental Insurance Program

Environmental Insurance, funded through the Economic Development Manufacturing Assistance Act, provides loans and grants to subsidize the costs of Environmental Insurance Premiums. OBRD staff provides technical assistance to help clients choose the proper coverage for their project.

Case Study

Pfizer Global Development — New London, Connecticut

The Pfizer Global Research Development project is on the remediated former "New London Mills" site. This 24-acre site was once home to a printing press manufacturer, an armaments manufacturer, and a linoleum mill before closing its doors in the early 1970s. The reuse of this land allowed Pfizer to create a state-of-the-art research facility in one of the state's distressed urban areas. The goal was reached and successful, and serves as an excellent example of public and private entities working toward a common goal.

With DECD, DEP, the City of New London, the New London Development Corporation, the Connecticut Development Authority (CDA) and Pfizer working together, 790,000 square feet of office space was created, as well as 2,000 new high-tech, high-paying jobs. These jobs would not be in Connecticut without the site's remediation. Moreover, $270 million in private investment was leveraged for the project.

The state helped fund this project through various sources: the Economic and Manufacturers Assistance Act, Urban Act, and USRAP. Under the USRAP, $9.7 million helped remediate this site. In addition, CDA provided $30 million in sales and use tax exemptions for the project. DECD provided Pfizer with business assistance throughout the project as well.

SUMMARY

Brownfield remediation is an important element of economic development and in implementing the state's responsible growth strategies. It allows communities to revitalize their inventory of developed land as job generators, housing, community facilities and open space. A significant number of brownfields are located in economically-challenged areas, and if undeveloped, can be viewed as lost opportunities for their communities. DECD's OBRD and CDA's CBRA use funding mechanisms to induce the renovation and reuse of these blighted properties for new office, commercial, and residential developments. State programs, such as USRAP and TIF have invested millions of state dollars into environmental investigations and remediation of abandoned industrial sites. These resources demonstrate the state's commitment to revamp and

reuse blighted areas with the anticipation of bringing commerce, jobs and quality housing to Connecticut. Brownfield reuse is an intrinsic element of the state's responsible growth strategies. Their return to productive use for the community locates development in areas served by existing infrastructure and reduces the need to convert raw land to more intense uses.

Healthcare Delivery in Connecticut

In the Small Business and Entrepreneurship Council's 2009 "Health Care Policy Cost Index," Connecticut was ranked as the fourth costliest state in the United States in terms of healthcare to do business.[1] The rankings were based on five factors: number of imposed mandates on insurers, government requiring businesses to either provide healthcare coverage or pay a tax to support government programs, availability of health savings accounts, guaranteed issue for self-employed group of one, and insurer providing the same level of coverage for everyone in a defined region (regardless of their varying healthcare risks). Connecticut was ranked below only Massachusetts, Washington and Maine as the costliest state for small business healthcare.

Rising Cost of Healthcare for Workers in Connecticut

The rising cost of health insurance is an increasing burden on Connecticut's private sector employees.

Only 9% of Connecticut's population is uninsured (325,516 people), well under the national average of 15%.[2] Employers cover 61% of the population; Medicare, Medicaid and individuals cover the other 28% of the population.[3]

Connecticut's workers are above national averages for insurance coverage rates (footnote 1). In Connecticut, 95.7% of full-time employees are offered health insurance at their place of work, 88.8% qualify and 80.7% (821,194 employees) enroll in the firm's insurance plan.[4] Moreover, 84.6% of part-time workers are offered healthcare coverage, 34.8% qualify, and 62.4% (50,130 employees) that are eligible enroll in the firm's health insurance plan.[5] Overall, 871,324 employees are insured by their place of work in Connecticut; however, this represents only slightly more than half of Connecticut's workforce.[6]

Accessibility to health insurance coverage is not the issue for Connecticut residents, more so is the rising employee contributions needed to maintain their coverage. In the past five years, annual wages (per capita wages) have increased an average of 2.25% per year while the cost of

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[1] Small Business & Entrepreneurship Council. *Health Care Policy Cost Index: Ranking the State According to Policies Affecting the Cost of Health Care.* February 2009. www.sbecouncil.org

[2] Kaiser Family Foundation. *Connecticut: Health Insurance Coverage of the Total Population, states (2006-2007), U.S. (2007).* http://www.statehealthfacts.org/profileind.jsp?ind=125&cat=3&rgn=8.

[3] Kaiser Family Foundation. *Connecticut: Health Insurance Coverage of the Total Population, states (2006-2007), U.S. (2007).* http://www.statehealthfacts.org/profileind.jsp?ind=125&cat=3&rgn=8.

[4] Agency for Healthcare Research and Quality. *Percent of private-sector full-time employees at establishments that offer health insurance by firm size and State* (Table II.B.3.b), years 1996-2006: 1996 (Revised March 2000), 1997 (March 2000), 1998 (August 2000), 1999 (August 2001), 2000 (August 2002), 2001 (August 2003), 2002 (July 2004), 2003 (July 2005), 2004 (July 2006), 2005 (July 2007), 2006 (July 2008). <http://www.meps.ahrq.gov/mepsnet/IC/MEPSnetIC.jsp> (February 05, 2009)

[5] Agency for Healthcare Research and Quality, "Percent of private-sector part-time employees at establishments that offer health insurance by firm size and State," (Table II.B.4.b), years 1996-2006: 1996 (Revised March 2000), 1997 (March 2000), 1998 (August 2000), 1999 (August 2001), 2000 (August 2002), 2001 (August 2003), 2002 (July 2004), 2003 (July 2005), 2004 (July 2006), 2005 (July 2007), 2006 (July 2008), http://www.meps.ahrq.gov/mepsnet/IC/MEPSnetIC.jsp, February 05, 2009.

[6] US Bureau of Labor Statistics. "May 2007 Occupational Employment and Wage Estimates," http://www.bls.gov/oes/oes_dl.htm.

employee contributions has increased an average of 11% per year for family coverage.[7] The average total employee contribution for family health coverage is $2,970 per year, almost 16% of the mean annual wage in Connecticut.[8]

Annual and hourly wages are still rising slowly, however health insurance contributions, and premiums, are outpacing them in the long run. Between 2000 and 2006, Connecticut family premiums increased by 77% while median earnings rose only 13.2%.[9] At the current rate, wages will not be able to keep up with the exponential rise of healthcare costs in Connecticut and low- and middle-income workers will suffer.

The Rising Cost of Healthcare for Workers Nationwide

In many important respects, the American healthcare system is among the best in the world. When it comes to scientific advances, medical technology and the quality of our doctors and medical institutions, the United States is without peer. But this country's healthcare system, and its average performance, is becoming increasingly expensive and burdensome to businesses and families.[10]

The United States spends more than any other country on healthcare — almost two and one-half times more than the Organization for Economic Cooperation and Development (OECD) world average (Figure 1). Figure 1 contains data that is a combination of employers and workers paying into the healthcare system.

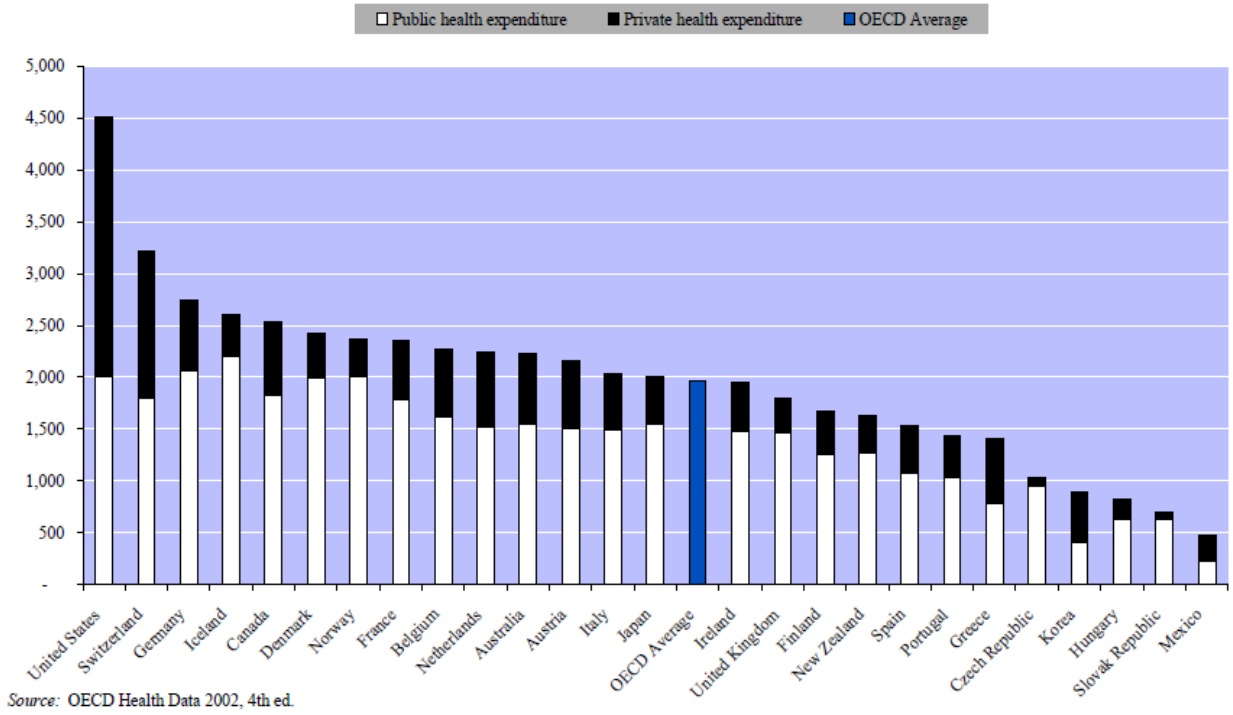
[7] Agency for Healthcare Research and Quality, "Average total family premium in dollars) per enrolled employee at private-sector establishments that offer health insurance by firm size and State," (Table II.D.1), years 1996-2006: 1996 (Revised March 2000), 1997 (March 2000), 1998 (August 2000), 1999 (August 2001), 2000 (August 2002), 2001 (August 2003), 2002 (July 2004), 2003 (July 2005), 2004 (July 2006), 2005 (July 2007), 2006 (July 2008), http://www.meps.ahrq.gov/mepsnet/IC/MEPSnetIC.jsp, February 05, 2009.

[8] Agency for Healthcare Research and Quality, "Average total family premium in dollars) per enrolled employee at private-sector establishments that offer health insurance by firm size and State," (Table II.D.1), years 1996-2006: 1996 (Revised March 2000), 1997 (March 2000), 1998 (August 2000), 1999 (August 2001), 2000 (August 2002), 2001 (August 2003), 2002 (July 2004), 2003 (July 2005), 2004 (July 2006), 2005 (July 2007), 2006 (July 2008), http://www.meps.ahrq.gov/mepsnet/IC/MEPSnetIC.jsp, February 05, 2009.

[9] Universal Health Care for Connecticut. *Connecticut's Health Crisis: Faces of a Broken Health Care System,* http://universalhealthct.org/publications-details.php?publicationID=181.

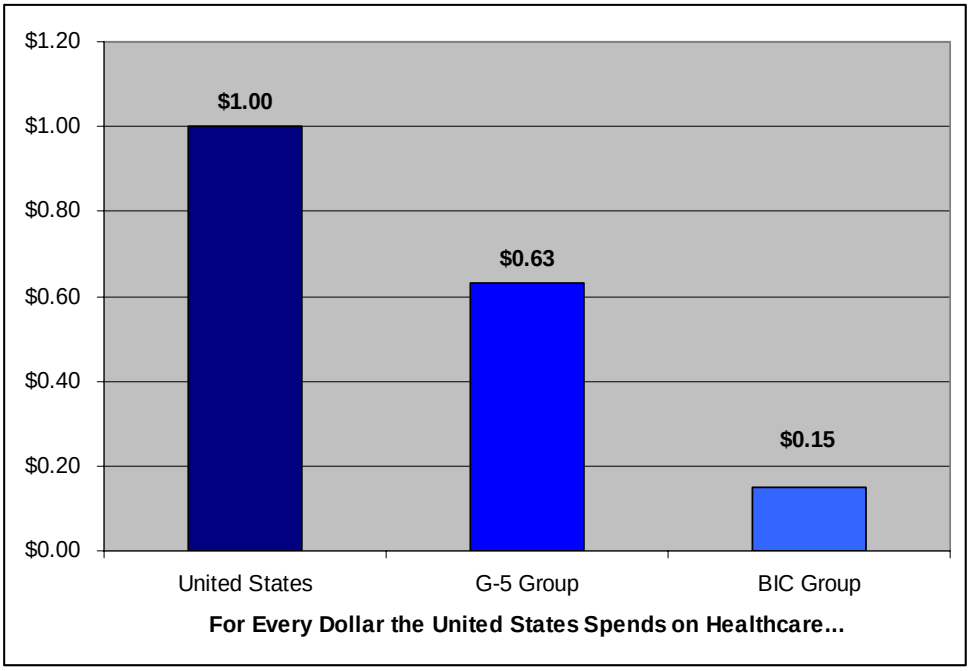
[10] Business Roundtable, "The Business Roundtable Health Care Value Comparability Study," 2009.

Figure 1: Per Capita Expenditure on Health, 2000, in US$ PPP



Moreover, Figure 2 shows how much U.S. employers and workers spend in healthcare compared to two large cohorts globally. The G-5 Group includes Canada, Germany, France, Japan, and the United Kingdom; the BIC Group is comprised of Brazil, India and China. For every $1.00 that U.S. employers and workers spend on healthcare, the G-5 countries spend only $0.63 and the BIC countries spend just $0.15.

Figure 2: Combined Weighted Comparison Score on Health Spending



Source: Business Roundtable, 2009

Businesses across the country are struggling because the cost accruing to healthcare is soaring every year. Significant expenditure on healthcare diverts investments from the research and development of new technologies that will keep the United States globally competitive.

SUMMARY

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

Workforce and Education

Summary

A baseline analysis of Connecticut's educational system and workforce reveals inequalities encompassing a highly decentralized education system; an education achievement gap along racial, ethnic, geographic, and economic lines; and widening income disparities in the workforce. Although Connecticut maintains its position as one of the richest states in terms of GDP per person, as well as having a highly productive and educated workforce, growing inequalities provide an unstable baseline for future economic growth.

Eighty-five percent of Connecticut's non-farm employment works in service-providing industries. The number of manufacturing jobs in the state continues to decline (the Appendix, Table 1 and Figure 1). This transition is characteristic of what is termed the knowledge economy. Sociologists Powell and Snellman (2004) define the knowledge economy "as production and services based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, as well as rapid obsolescence. The key component of a knowledge economy is a greater reliance on intellectual capabilities than on physical inputs or natural resources."[1] Businesses in today's knowledge economy require higher levels of educational attainment in the workforce and ongoing incumbent worker training in order to remain competitive.

This section provides a baseline assessment of education and workforce demographic trends in Connecticut. It provides information about the state's educational system: achievement, dropout and graduation rates, and college matriculation. This section includes an overview of the workforce including characteristics such as income, unemployment, job-training, and educational levels achieved.

Demographic Overview

There are several demographic trends with important implications for education and the workforce in Connecticut including the decline in the state's population growth rate, the increased number of non-English speaking immigrants, and the out-migration of the state's young and educated cohort. Trends indicate that Connecticut's workforce will be smaller, older, more diverse, more mobile, and less educated in the coming years.

- According to a Connecticut State Data Center report, the state ranked 47th in relative population growth between 1990 and 2000,[2] and has some of the lowest fertility rates, across all ethnic groups, in the country. Foreign in-migration is too low to offset a long-

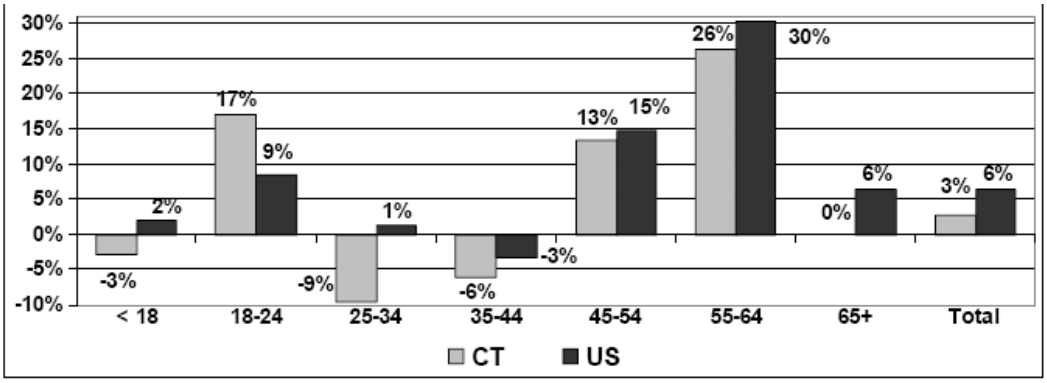
[1] Powell, Walter W. and Kaisa Snellman (2004). "The Knowledge Economy," *Annual Review of Sociology*, vol. 30, pp. 199-220.
[2] McPherron, Patrick et al. (2006). "Benchmarking Growth in Demand-Driven Labor Market," p. 10. See: http://www.ctdol.state.ct.us/lmi/pubs/benchmarking.pdf.

persistent pattern of domestic out-migration, which signifies an impending lack of workforce in the future.[3]

- "The Boomer generation, now approaching retirement, had fewer children per couple than their parents. Thus the size of the "Echo Boom" generation, the children of Boomers, is smaller than that of the Boomers. Looking forward, Echo Boomers are expected to have lower fertility rates than their parents thereby exacerbating the projected decline in the indigenous population" (footnote 2). Furthermore, Coelen and Berger report in their study, *New England 2020* that during the 1990's the white out-migration was so large that the large amount of minority in-migration was not enough to make population growth positive.[4]

- Connecticut's population of 55- to 64-year-olds is growing faster than that cohort in the United States. Connecticut is among the nation's 10 oldest states ranking 8th in median age (39). According to the demographic data depicted in Figure 1, Connecticut is losing population in the 25 to 34 and 35 to 44 age cohorts. Significantly, the under 18 population is shrinking in Connecticut (-3% between 2000 and 2006) while it grew at 2% over the same period in the nation. This suggests that the aging workforce and the significant out-migration of the 25- to 44-year-old cohort may stunt the state's future workforce growth unless we can import the labor we need to fill positions vacated.

Figure 1: Connecticut Age Shifts 2000-2006 vs. U.S.



Source: Census Bureau

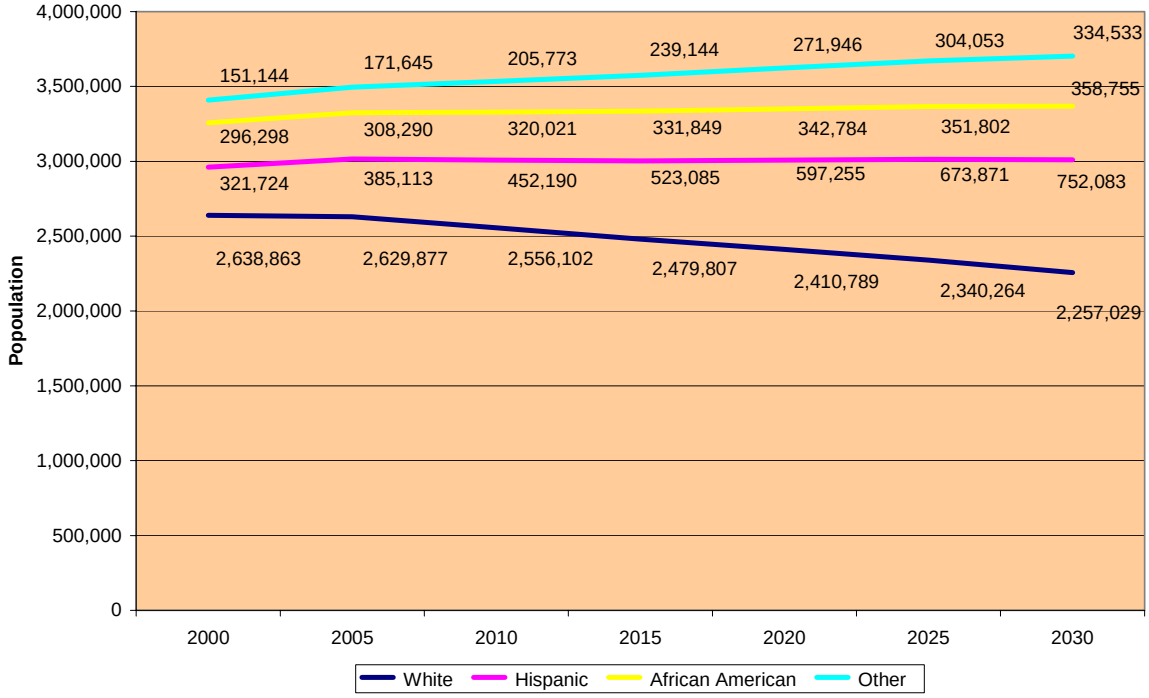
- Connecticut's population is becoming more diverse. According to a report by The Urban Institute, "Between 1990 and 2000, the number of Mexican and Central American

[3] CT State Data Center, "Where Have All the Children Gone," June 24, 2008. http://ctsdc.uconn.edu/Educacn/2008_Projections/PR_CtSDC_EnrollmentProjection_08june25.pdf, p. 1.
[4] Coelen, Stephen, and Berger, Joseph (2006). "New England 2020: A Forecast of Educational Attainment and its Implications for the Workforce of New England States," June, page vi.

immigrants in Connecticut grew by 310%, and the number of South Americans grew by 125%."[5]

- According to the Connecticut State Data Center, Connecticut's population will grow from 3.4 million in 2000 to 3.7 million in 2030.[6] More remarkable than the slow overall population growth is the decline in the state's white population because of out-migration and its less-than-replacement fertility rate. Figure 2 illustrates this trend.

Figure 2: Changing Composition of Connecticut's Population



Source: Connecticut State Data Center

[5] SW CT Regional Workforce Development Board, Community Audit and Needs Assessment Report, August 2006. See http://www.workplace.org/docs/2006CommunityAudit.pdf.
[6] See http://www.ctsdc.uconn.edu/Projections.html.

Education Summary

Connecticut has invested significant resources to make its educational system one of the best in the nation, from early childhood to higher education. Connecticut has 169 municipalities and 154 school districts, each of which uses property taxes to support public education. The result is a highly decentralized educational system with uneven availability of financial resources. A recent study by Steven Lanza about the amount of money each Connecticut municipality spends per pupil revealed significant disparities.[7] He summarizes that, "increasing district enrollments through consolidations would likely lower costs. And some towns do participate in regional school systems — Connecticut has eight regional districts at the high school level and nine districts in the lower grades."

The Connecticut educational apparatus and governance consists of the Executive Branch Departments of Education and Higher Education, a State Board of Education, a Board of Governors of Higher Education, as well as the Boards of Trustees of the Community College System, the State University system, the University of Connecticut and the University of Connecticut Health Center. Each district has its board of education as well. In addition, five autonomous Regional Educational Service Centers serve member districts in their service area.

An analysis of educational achievement reveals differences among urban, suburban and rural areas, as well as among racial, ethnic and income groups.[8] Connecticut has been successful in providing high quality of education for certain demographic groups, but has failed to provide an equal level of education for the entire population. Our education system needs to accommodate a growing population for whom English is a second language. Retention of college graduates and integration of diverse populations are two areas in which the state's educational system is presently deficient, although there are positive indications of improved integration in higher education.

Another area of concern is the apparent inability of the educational system to meet the rapidly changing labor needs of Connecticut businesses. The knowledge economy requires higher skill levels to compete for the higher paying jobs. Lifelong learning is a requirement. Connecticut must provide educational opportunities that prepare students at all levels to compete successfully in the global economy.

[7] The Connecticut Economy Quarterly, Summer 2008, (page 2).
[8] Higher Education Counts, Achieving Results, 2009 Report, http://www.ctdhe.org/info/pdfs/2009/2009Accountability.pdf.

Early Childhood Education

Many studies indicate that the long-term benefits of investing in early child care and education (ECE) programs far outweigh the costs to society without them.[9] Research shows that high quality early care and education correlate positively with children and young adults who are better prepared for school and are more likely to perform at a higher level throughout their school years. They are more likely as adults to find higher paying jobs and their children are more likely to have better social outcomes (i.e., higher participation rates in civic and cultural life) than are children in corresponding cohorts who did not have high quality child care.[10]

- Thirteen percent of 3-year-olds participate in state-sponsored pre-kindergarten or the federal Head Start program. Connecticut ranks 27th in the nation on this measure.[11] If Connecticut is to maintain its competitive advantage in the knowledge economy, more 3-year-olds need to participate in high-quality, state-sponsored pre-kindergarten or the federal Head Start programs to ensure their readiness for kindergarten.

- During the 2007 legislative session, Connecticut lawmakers passed a budget that included $57.8 million in new state funding for early child care and education for 2008 and 2009.[12]

The ECE industry contributes to Connecticut's economy in two ways. The industry not only creates jobs for providers; it provides a support system that permits parents to participate more fully in the labor force. Therefore, ECE is a valuable investment for the state. Although Connecticut has begun to invest in ECE programs, relative to other states, Connecticut still needs to improve (footnote 10).

- The Connecticut Center for Economic Analysis (CCEA) estimates that Connecticut's formal ECE industry is a significant driver of the state's economy. Its (2002) direct employment of about 15,000 workers (who earned $321.4 million) in the state's regulated ECE sector made it a larger employer than, for example, Connecticut's pharmaceutical industry. CCEA determined that the total employment impact through multiplier effects of the ECE industry is more than 29,000 full-time equivalent jobs (footnote 10).

[9] Mildred Warner at Cornell University's Community and Rural Development Institute has assembled a rich library of studies on ECE; see http://government.cce.cornell.edu/warner/paperlist.asp.
[10] McMillen, Stanley and Kathryn Parr, "The Economic Impact and Profile of Connecticut's ECE Industry," Sept. 27, 2004, page iii, working paper at http://ccea.uconn.edu/studies/Child%20Care%20Report.pdf.
[11] Rocha, Elana, Sharkey, Amanda, "The State We're In: An Education Report Card for the State of Connecticut", August 2005, p. 4. See http://www.americanprogress.org/kf/connecticut-final.pdf.
[12] Carrol, Judith, "Connecting the Dots: Growth, Work and Prosperity" December 2007, p. 25.

Achievement

The overall achievement of Connecticut children appears to be quite good relative to other states (footnote 10). The state's high-school graduation rate was 79% in 2005 and Connecticut ranked 8th in the nation on this measure (footnote 11, p. 4). However, suburban areas perform much better in this category than do urban areas.

- Urban areas such as Bridgeport, East Hartford, Hartford, Meriden, Middletown, New Britain, New Haven, New London, Norwalk, Norwich, Waterbury, and Windham are 12 school districts which the state identified as having critical problems (such as disproportionate grade retention, failure to graduate, and low CMT scores, among others). The State Department of Education (SDE) along with an educational consulting group is working directly with these districts to improve the quality of their educational programs and to help their students achieve at higher levels.[13]

Connecticut performs poorly in terms of the educational achievement gap among different demographic and economic categories. Educational achievement is not equally distributed among different income groups, races and geographic areas. Dropout rates (failure to graduate) are significantly higher among black and Hispanic high school students relative to their white counterparts. However, as Table 1 shows, statewide dropout rates improved from 1997 to 2004.

Table 1: Statewide Annual Dropout Rate by Ethnicity and Race, 1997-98 through 2003-04

Statewide Annual Dropout Rates %							
Year	**1997-98**	**1998-99**	**1999-00**	**2000-01**	**2001-02**	**2002-03**	**2003-04**
Asian American	2.6	2.7	2.0	2.0	2.4	1.6	1.0
American Indian	2.3	2.8	5.1	5.1	4.9	1.6	1.6
Black	5.5	5.6	4.7	4.7	4.1	3.2	3.0
Hispanics	8.8	8.3	8.0	8.0	5.4	5.2	4.3
White	2.5	2.2	2.1	2.1	1.9	1.5	1.3
Statewide	3.5	3.3	3.1	3.0	2.4	2.1	1.8

Source: CT State Department of Education

However, there is evidence that these dropout rates are understated. In a June 2009 report from the Connecticut Coalition for Achievement Now **(**ConnCAN), there exists a significant gap between graduation rates reported by the SDE and those estimated by Education Week's Research Center.[14] For example, Hartford's 2006 SDE graduation rate was 76.1%, while that estimated by Education Week is 41.2% creating a gap of 34.9%. In their study, Education Week's largest gap exists in West Haven (39.7%) and the smallest gap exists in Thomaston

[13] CT Department of Education Press Release, "State Education Department Working with 12 Districts to Close Achievement Gap," January 28, 2008, see: http://www.sde.ct.gov/sde/lib/sde/pdf/Pressroom/School_Improvement_Cambridge.pdf.
[14] See http://www.conncan.org/matriarch/documents/ConnCAN_Grad_Rates_Comparison_2006.pdf.

(0.1%). Four districts have negative gaps reflecting an understatement of their graduation rates (which amounts to an overstatement of their dropout rates).

Given the demographic trends in the state, researchers expect an increasing number of minority and low-income students in the state. The current lack of educational achievement for these children indicates a growing problem with severe workforce implications.

- The most significant achievement gap exists between our poorest and wealthiest students. On the 2006 Connecticut Mastery Test (CMT), students who paid full price for meals outperformed those who were eligible for free or reduced-price meals (an indicator of poverty) in reading, writing and mathematics. When scores were averaged across the three content areas, there was a 39 percentage-point difference in performance.[15]

- Twelve percent of African-American 4th graders are proficient in reading, compared to 54% of white students. Connecticut ranks 41st out of the 42 states that had data available on this measure (footnote 11, p. 4).

- Eighteen percent of Latino 4th graders are proficient in reading, compared to 54% of white students. Connecticut ranks 40th out of the 41 states with data available on this measure (footnote 11).

College Preparation and Higher Education Participation

On the surface, Connecticut is successfully preparing students for college; however its high educational achievement does not reflect a much starker reality in urban schools and among specific minority groups. As noted above, Connecticut's urban schools perform significantly worse in retaining students and in preparing them for college and are severely deficient in achievement categories relative to their suburban counterparts.

- Sixty-two percent of the state's high school graduates enroll in college the fall after they graduate. Connecticut ranks 13th in the nation on this measure (footnote 11).

- Forty percent of the state's high-school graduates are academically ready for college. Connecticut ranks 4th in the nation on this measure.

- Students applying for state colleges who are deficient in math and or English must take non-credit bearing developmental courses to attain sufficient skill levels for college courses. Bailey (2008) presents evidence that nationally 58% of students attending community college took at least one remedial course, 44% took between one and three

[15]CT State Board of Education, "A Superior Education for CT 21st Century Learners," January 3, 2007, see: http://www.sde.ct.gov/sde/lib/sde/pdf/commish/comp_plan06-11.pdf, p. 3.

remedial courses and 14% took more than three remedial courses.[16] The Board of Governors of Higher Education reports, "About 19% of credit students attending a [Connecticut] community college enroll in at least one developmental math or English course."[17]

In 2006, Connecticut ranked third nationally for the percentage of its population 25 and older with a bachelor's degree or higher.[18] However, more detailed analysis shows another side to the story. There is an 18% gap between whites and minorities in the percentage of 25- to 64-year-olds with a bachelor's degree or higher in Connecticut, which is one of the largest gaps in the United States. Among the same population, 13% of Hispanics, and 16% of blacks have bachelor's degrees or higher, compared with 41% of whites.[19] Moreover, only 40% of the Hispanic population that began college completed it with a four-year degree compared to 56% of the white population.

It is important to note that Connecticut has improved accessibility to higher education by making educational opportunities more affordable. The growth in the number of low-income students at Connecticut colleges exceeded the national average over the last five years – 13.3% in Connecticut compared to 2.5% across the U.S.[20]

Connecticut's educational system has not provided a workforce with the knowledge/skills needed by local businesses, but has recently begun to rectify this shortcoming. There have been numerous educational initiatives to develop required skills and properly train workers for careers relevant to Connecticut industries.

- The number of students graduating with a Bachelor's degree in engineering increased by almost 18% in 2007 to 614, and is up almost 29% from 2003. However, degree production in this field is still well below the 1,119 annual openings projected by the Department of Labor (DOL) through 2016.[21]

- In 2007, biological sciences experienced a fifth straight year of growth with a 13% increase in degrees awarded. Computer science degrees were down 14% in 2007, their fourth year of decline. Physical science degrees are up by 8 % over last year and up 35% from a 23-year low in 2004.[22]

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[16] Bailey, Thomas (2008). "Challenge and Opportunity: Rethinking the Role and Function of Developmental Education in Community College," Community College Research Center, CCRC Working Paper No. 14. Available at http://ccrc.tc.columbia.edu/Publication.asp?uid=658.
[17] "Higher Education Counts Achieving Results 2009 Report," page 89, http://www.ctdhe.org/info/pdfs/2009/2009Accountability.pdf
[18] Department of Higher Education, "Higher Education Counts, Achieving Results, 2009 Report," p. 28, http://www.ctdhe.org/info/pdfs/2009/2009Accountability.pdf.
[19] The National Center for Public Policy and Higher Education, "Measuring Up 2008," <http://measuringup2008.highereducation.org/print/state_reports/long/CT.pdf>
[20] Connecticut Department of Higher Education, Facts, June 2008, see http://www.ctdhe.org/info/pdfs/2008/GrowingNeedforFinAid.pdf.
[21] See http://www.ctdol.state.ct.us/lmi/misc/occmineducation.htm.
[22] Board of Governor's Department of Education, "CT Public Higher Education: 2008 System Trends, p. 32.

Though strides have been made, there is still a need to graduate more students with degrees in areas such as healthcare, finance, pre-engineering, and teaching (footnote 2, page 24). Some disciplines do not have sufficient seats or instructors (nursing and allied health).[23]

In today's knowledge-based economy, workforce development through educational initiatives will be crucial to the continued economic development of the state. Connecticut has taken strides to improve educational opportunity and accessibility, but the state will lose this investment in education if it fails to retain those graduates and matriculate them into its workforce.

Teachers

Connecticut, as of June 2009, is in a severe recession and fiscal imperatives force the state and its municipalities to reduce the teacher workforce. This comes at time when there are record numbers of students wanting to obtain or extend a post-secondary education.

Providing quality education will become more difficult given a lack of qualified teachers in critical skills areas. There is a dearth of qualified instructors particularly in key subjects such as math and science. Teachers often cannot afford to live in the district in which they teach.

Based on data collected in October 2007, the state identified a shortage of teachers in the following areas for the 2008-09 school year: [24]

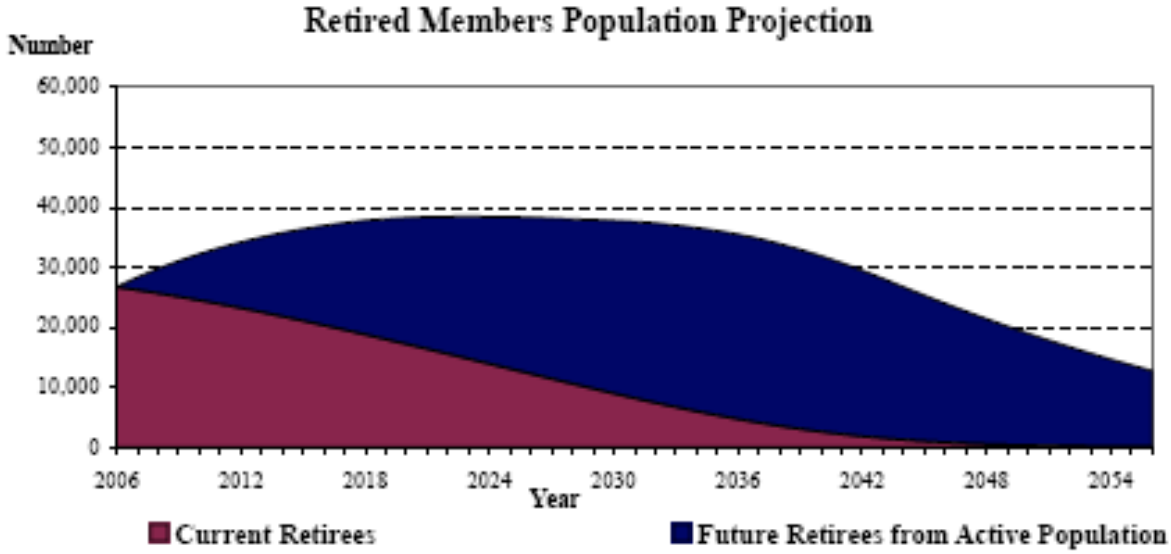
- Bilingual Education, PK-12
- Comprehensive Special Education, 1-12
- English, 7-12
- Intermediate Administrator
- Library Media Specialist
- Mathematics, 7-12
- Music, PK-12
- Science, 7-12
- Speech and Language Pathology, and
- World Languages, 7-12

- The number of teachers expected to retire will peak by 2023. While the state recently added $2 billion to the $6.9 billion unfunded obligation to the teacher retirement plan,[25] teacher retirement will continue to burden the state, as well as create a challenge to maintain a strong teacher workforce. Chart 1 shows the projected

[23] See http://www.wbz.com/pages/4381432.php? and http://www.detnews.com/article/20090615/SCHOOLS/906150354/1026/Lack-of-instructors-hampers-growth-in-nursing-careers.
[24] "Teacher Shortage Areas," May 15, 2009, see http://www.sde.ct.gov/sde/lib/sde/pdf/circ/circ08-09/c11.pdf.
[25] House Republican Press Release, "Teachers Retirement System Pulled Back from the Brink," June 12, 2007, see http://www.housegop.ct.gov/pressrel/DelGobboK070/2007/20070612_DelGobboK070_01.pdf.

number of retirees and subsequent decline in the number of teachers available to work.

Chart 1: Expected Teacher Retirement



Source: Connecticut State Teachers Retirement System[26]

In order to assuage the mass retirements expected, the state has implemented initiatives to maintain a strong teacher workforce with loan deferment and mortgage incentives for those teaching in teacher-deficient subject areas. Initiatives such as the mortgage assistance program, federal loan deferment program and the rehiring of retirees intend to reduce these specific subject-area shortages (footnote 25).

Challenges for Connecticut's Education System

Connecticut's Education System faces challenges at all levels and on numerous fronts. As mentioned, the state's decentralized education system creates inefficiency and excessive costs for many municipalities (the Appendix, Chart 1). The state's changing demographics will place increasing demands on the system to provide educational opportunities beginning with ECE and continuing to higher education for a more diverse demographic. To keep up with the changing labor needs of business, Connecticut will have to ensure that training and education curricula reflect skills in demand and that capacity is sufficient. In addition, the state must focus on two priorities: successfully integrating immigrants into the workforce and attracting young people from out-of-state.

[26] Gabriel Roeder Smith & Company, "Connecticut State Teachers' Retirement System Report on the Actuarial Valuation," June 30, 2006, see http://www.ct.gov/trb/lib/trb/formsandpubs/actuarial_valuation_rep_2006.pdf, p. 3.

- Of the 17,928 Connecticut public college graduates in 2007, 70% (12,471) were employed in Connecticut in the third quarter after graduation and earned an average of $10,171 per quarter, or about $40,684 per year (footnote 19, page 22).

- Because of federal immigration policy, in particular quotas for H1B work visas, Connecticut (and other states) faces a challenge to retain highly qualified international students.

- Degrees awarded to non-resident aliens (international students here on a student visa) fell to 2,055 in 2007 (down 4.5%) after more than tripling over the previous two decades. The decrease in 2007 produced fewer degrees for non-resident aliens this year than in any of the four preceding years of 2003 to 2006.[27]

- In the fall of 2007, there were 35,899 degrees and/or certificates awarded in Connecticut of which 2,686 (7.5%) were awarded to black, non-Hispanic students, 1,986 (5.53%) were awarded to Hispanic students, 1,529 (4.26%) were awarded to Asian/Pacific Islander students, and 24,482 (68.2%) were awarded to white, non-Hispanic students (footnote 26).

Because of a decreasing young and highly educated population, Connecticut businesses will no longer be able to draw from the local population to satisfy their demand for labor and will be forced to attract workers from outside the state.

The "Learn Here, Live Here" initiative unveiled in 2007 is a plan to retain the young and educated cohort. Its critical components are:[28]

- Income tax receipts from recent college graduates would be deposited into an interest bearing account managed by the state treasurer;
- Those with at least an associate degree are eligible;
- Savings would grow over time and must be used within 10 years;
- Participants who move out of the state and then return are eligible to access whatever portion of their collected income tax receipts they placed in the account;
- The state treasurer would manage the accounts and provide statements annually to participants; and,
- The interest and investment income would be deposited go into the state general fund.

[27] See http://nces.ed.gov/programs/stateprofiles/sresult.asp?mode=full&displaycat=4&s1=09.
[28] House Republican Press Release: "Learn Here, Live Here, Would Stem CT Brain Drain," Jan. 25, 2007, see: http://www.housegop.ct.gov/pressrel/CaucusWide/2007/20070125_CaucusWide_01.htm.

Workforce: Summary

Currently, Connecticut labor markets are not faring well. Job losses continued in manufacturing. March 2008 data showed an increase in Connecticut's nonfarm employment of 1%, which was a smaller increase than a year earlier. Nationally, nonfarm employment growth was 1.1%.[29] Despite a sizable job gain in May 2008, there were four consecutive months of job losses through April 2008.[30] In April 2008, the unemployment rate increased from 4.4% to 5.4% from a year earlier. Year-over-year employment declined in two (Enfield and Willimantic-Danielson) of the state's nine Labor Market Areas (LMAs). The New Haven LMA experienced zero growth over the period.

As of June 2009, in the throes of a deep recession, Connecticut has lost more than 69,000 jobs since December 2007 (the start of the recession) and its unemployment rate exceeds 7.9%. The state faces long-term structural change as its financial and insurance services industries shrink are will likely not return to their former size or compensation levels because of new regulation.

The state recently increased its minimum wage, which is higher than that in several other states, potentially creating an incentive for certain industries to reduce their demand for low-skilled labor (e.g., teenagers) and substitute higher-skilled labor that provides greater productivity. This could affect Connecticut's competitiveness.

Connecticut needs to attract workers in order to grow its workforce. The growth rate of Connecticut's labor force has been quite slow for years. There will be a smaller pool of new workers available and thus a need to tap into new target groups. New pools of workers will include unskilled persons, especially those in jobs at the lower end of the skill (and wage) spectrum.[31]

The 21- to 39-year-old cohort does not view Connecticut as an attractive place to live and work and this will likely contribute to the shortage of future labor resources in the state. Connecticut residents may need to work later into their retirement years as result of an increasingly high cost of living, which may bolster the shrinking workforce. Although, Connecticut's workforce is not as racially diverse as other parts of the nation, the fastest growing demographic in the state is non-white.

Connecticut has the highest per capita income of any state, but a closer analysis of the data shows wealth is limited to small demographic, geographic, and industry concentrations. Specifically, the financial services and insurance sector in Fairfield County is skewing (this is

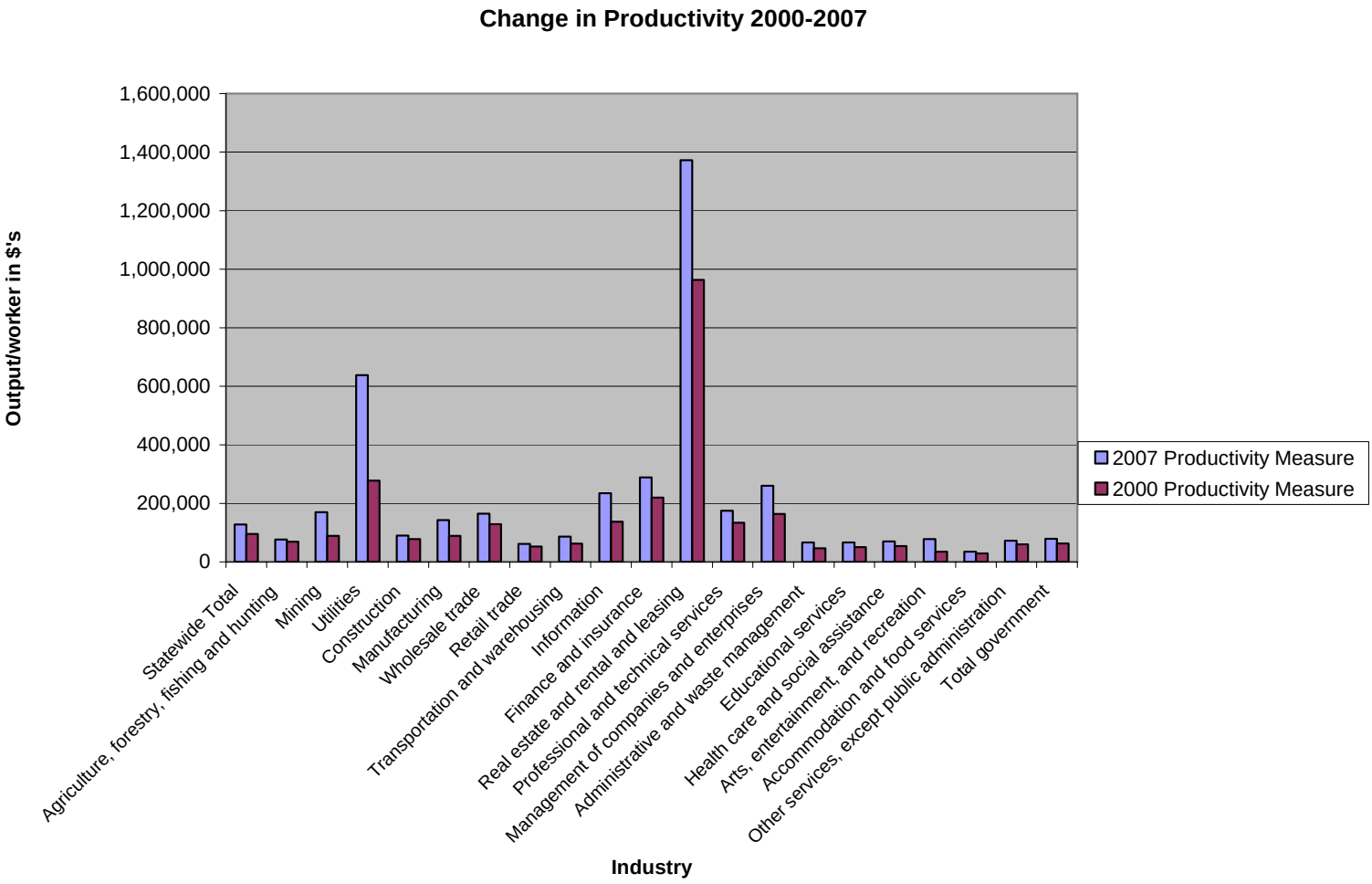
[29] Joo, Jungmin Charles, Connecticut Department of Labor. "2007: Another Good Year for State Employment Growth," The *Connecticut Economic Digest*, March 2008, p.1, see http://www.ctdol.state.ct.us/lmi/misc/cedmar08.pdf.
[30] Connecticut Department of Labor, Office of Research, *Labor Situation*, April 2008, [Only the current month (i.e., May 2008) is kept online, see http://www.ctdol.state.ct.us/lmi/laborsit.htm]
[31] Thierren, Roger, "CT Workforce Demands and the Implications for Education," July 2003, p. 19.

changing because of the recession and resulting structural change in the industry) the distribution of income and wealth (footnote 2, pp. 34 and 75).

Connecticut and the nation have witnessed high productivity growth over the last decade as a result of technological advancement, which has raised mean (per capita) income above the median. A growing gap between the mean and median incomes of the state entails an increasingly right-skewed income distribution that has adverse consequences mentioned above.

Another of Connecticut's heralded strengths is its highly productive workforce. The growth of the productivity indicator (output per worker) far exceeds the growth of median income except for the top 10% of the income distribution. Connecticut has witnessed significant productivity growth in all industrial sectors between 2000 and 2007, particularly in the utilities, real estate, information, finance and insurance, and management industrial sectors (Figure 3). However, the profit from increased productivity has benefited shareholders and upper management disproportionately more than workers, thus widening income inequality. Currently, the state's workforce is characterized by a high level of educational attainment; one of the highest of the 50 states and it contributes to the productivity of the workforce.

Figure 3: Connecticut's Productivity Change by Industry, 2000-2007



Source: DECD calculations.

Workforce Demographic Overview

Connecticut's workforce is less racially and ethnically diverse than either the workforce of the nation, or the workforce of the Northeast. The state's labor force is currently 76.8% white, 9.1% African-American, 10% Hispanic, and 3.2% Asian/Pacific Islander, reflecting generally the racial/ethnic composition of the Connecticut population.[32]

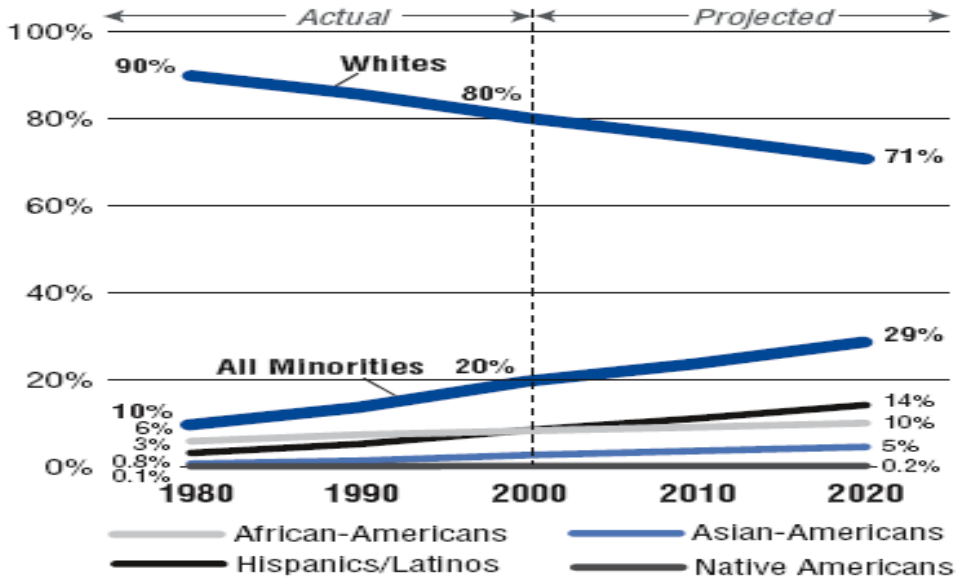
However, the composition of Connecticut's labor force is changing dramatically and minorities will play a larger role in the future. The share of Connecticut's total workforce consisting of whites (particularly those under age 45) is declining (see Figure 2 above that refers to

[32] Hero, Joachim, Hall, Douglas, Geballe, Shelley (2007), "State of Working Connecticut," pg. II-2.

population), while researchers project the share comprised of other racial/ethnic groups to reach 29% by 2020.

By 2012, 40% of young workers in Connecticut will be minorities; by 2020, 50% of young workers will be minorities (footnote 4). Chart 2 details the shrinking of the white workforce relative to other minority groups reflecting the out-migration of the white population relative to the in-migration of non-whites. The Hispanic/Latino population's share of the workforce is expected to increase from 3% in 1980 to 14% in 2020 (footnote 32 p. II-2).

Chart 2: Demographic Composition of CT Workforce



Notes: Population projections are based on historical rates of change for immigration, birth, and death. Pacific Islanders are included with Asian-Americans. Alaska Natives are included with Native Americans. Projections for Native Americans are based on 1990 Census. The Census category "other races" is not included.

Sources: U.S. Census Bureau, 5% Public Use Microdata Samples (based on 1980, 1990, and 2000 Census) and U.S. Population Projections (based on 2000 Census).

Source: National Center for Public Policy and Higher Education

Integrating the Spanish-speaking (that is, Spanish as a first language) population into the workforce and providing them with job opportunities will be a challenge for Connecticut. Providing equal opportunity to access training for high skill occupations in demand should be a critical priority for the state. Data shows that unemployment is concentrated among specific ethnic groups and in specific geographic areas.

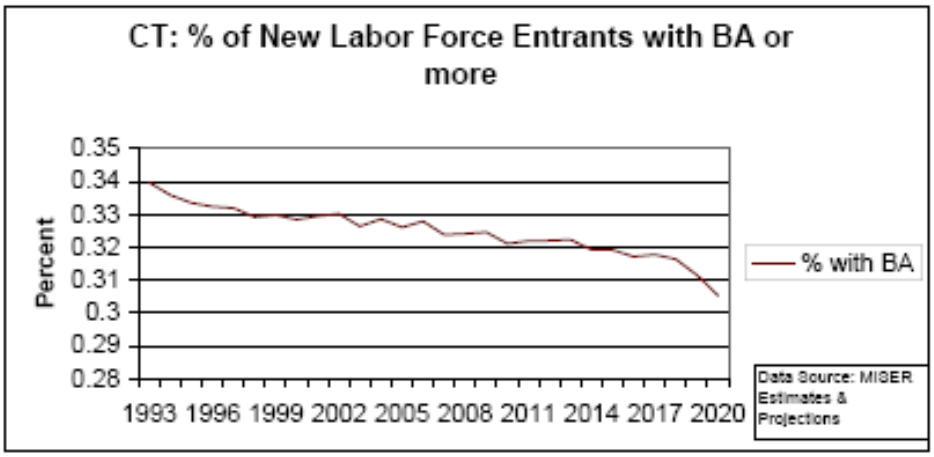
- In 2006, unemployment rates for Connecticut African-Americans (8.3%) and Hispanics (8.2%) were two and a half times higher than for whites (3.3%). The unemployment rate of Hispanic workers is markedly higher in Connecticut (at 8.2%), than it is in the Northeast and the nation (6.7% and 5.2%, respectively). Fortunately, longer-term trend data suggest the racial and ethnic disparity in Connecticut unemployment rates has been narrowing since 1979 (footnote 32, p IV-5).

- In 2007, some of Connecticut's largest cities had the highest unemployment rates, led by Hartford's 9.1% (down from 9.3% in 2006), New Haven's 7.7% (up from 7.3% in 2006), and New Britain's 7.6% (up from 7.0% in 2006). Moreover, these Connecticut cities have consistently shown the highest levels of unemployment (footnote 32, p IV-2).

Workforce Educational Composition

Connecticut's current labor force is highly educated: 36.8% hold bachelor's degrees or higher, 25.8% have some college education (but no degree higher than an associate degree), and 10% have less than a high school education (footnote 32, p II-4). As noted above, high productivity and high educational attainment go hand-in-hand. Maintaining a highly productive workforce will be a challenge for Connecticut as there has been a marked decline in the level of education of entrants into the workforce, a trend that researchers expect to continue (Chart 3).

Chart 3: CT Labor Force Entrants with a College Degree



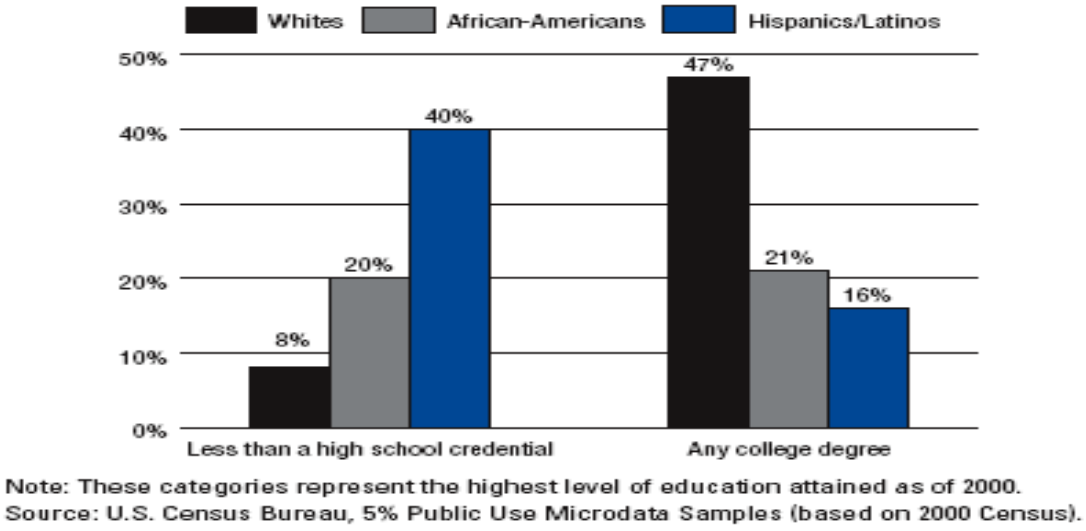
Source: CT First Steps. Note: the vertical axis numbers are 100 times too small. In other words, 0.35 is actually 35%.

The National Center for Public Policy and Higher Education (NCPPHE) projects that the percentage of the workforce with a college degree will decline by 2020. NCPPHE projects that the share of the workforce with less than a high school diploma will increase, while the share with an associate or a bachelor's degree will decrease (Chart 3). If the average educational level of the state workforce declines, NCPPHE projects Connecticut's personal income per capita will drop from $28,869 in 2000 to $27,813 in 2020 — a decline of $1,056, or 4% in inflation-adjusted dollars.[33]

[33] The National Center for Public Policy and Higher Education, "Policy Alert Supplement," November 2005, pg. 2.

Chart 4 shows a skewed distribution of educational attainment among ethnic distinctions. This might well reflect inequality in educational opportunities.

Chart 4: Educational Attainment by Race and Ethnic Group



Source: National Center for Public Policy and Higher Education

The disparity in educational attainment has severe implications for future household income and the ability of Connecticut's workforce to satisfy businesses' demand for skilled labor. More than a third (34%) of Connecticut's job openings in the next 10 years requires post-secondary education, while 38% require short-term on-the-job training.[34] However, the difference in average wage for those occupations requiring only short-term on-the-job training (most notably cashiers, retail salespersons and wait-staff) and those occupations requiring post-secondary education (such as registered nurses, accountants and lawyers) is almost $20 per hour (footnote 34). The incentive to pursue higher education is clear, yet there is still a gap in Connecticut minority achievement.

Minority Participation in Higher Education

As the demographics of Connecticut begin to change, minorities will play a bigger role in the future workforce. By 2012, 40% of young workers in Connecticut will be minorities; by 2020, 50% of young workers in Connecticut will be minorities (footnote 4). This growing role for minorities should allow more opportunity for jobs and prosperity in the near future. However, high school graduation rates among working age (25 to 64) Hispanics in Connecticut is 70.1%, compared to 85.6% for blacks and 94.6% for whites.[35]

[34] Connecticut Department of Labor – Labor Market Information, "Connecticut Job Outlook by Training Level 2006-2016," http://www.ctdol.state.ct.us/lmi/pubs/soaring_2006-16.pdf.
[35] U.S. Census Bureau. American Community Survey Public Use Microdata Sample, http://factfinder.census.gov/home/en/acs_pums_2007_3yr.html.

This is significant considering Connecticut's workforce will rely on minority groups to fill its ranks in the future (footnote 4). New educational policies need to reflect greater diversity in the workforce and embrace the changing demographics of our state. It is important to provide access to all citizens looking for a high quality education. Connecticut's most available jobs over the next 10 years require on-the-job training. However, the high-paying, more stable jobs will be available to those with some post-secondary education.

Income Disparity

Connecticut is a study of contrasts between the haves and the have-nots. The transition from a manufacturing to a service economy has caused layoffs and pay cuts for the portion of the workforce already at the bottom of the wage distribution. That is, as high-skilled manufacturing workers become increasingly available, they compete with and often displace lower-skilled workers in service sector jobs (substitution effect). As manufacturing jobs give way to more service sector jobs, many workers experience a significant decline in incomes. CERC reports, "The sectors losing jobs in Connecticut in recent years pay an average annual salary of $63,000, while the growing service sector pays an average of $36,000. Take away nursing from that sector and the average pay is more like $27,000 per year."[36]

The Center for Budget Policy and Priorities reports that for 2006:[37]

- The richest 20% of families has an average income eight times larger than the poorest 20% of families;
- This ratio was 4.6 in the late 1980s;
- The very richest families, the top 5%, have average incomes 14.8 times larger than the poorest 20% of families;
- The richest 20% of families has an average income 7.7 times larger than the middle 20% of families;

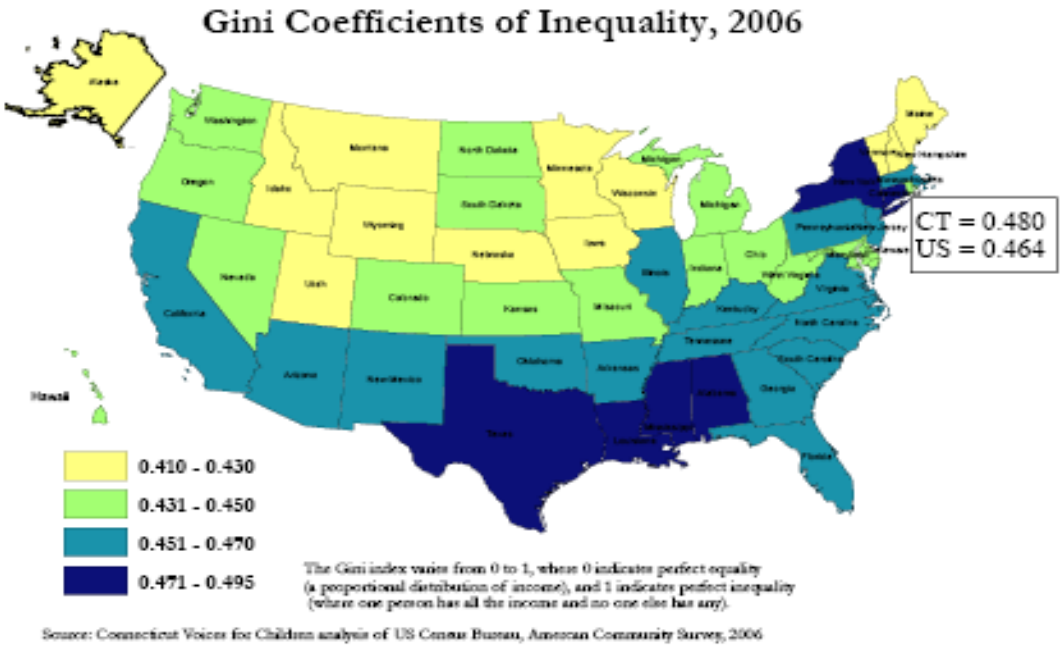
In addition to having the second-most unequal household income distribution in the country, Connecticut of all states, has had the greatest growth in household income inequality over the past several decades (footnote 32, p. 1).

In 2006, as measured by the Gini coefficient,[38] Connecticut had the second most unequal income distribution in the nation (Gini = 0.480), slightly less unequal than New York State (Gini = 0.495). Connecticut's high-income households — the top 20% — received 51.6% of all the income in the state. The poorest 20% of households in Connecticut had 3.3% of all income in

[36] "State of the Workforce, 2007: The Have's, the Have-nots, and the Used-to have's," p. 1, http://www.workforcealliance.biz/pdf/sow2007.pdf.
[37] Center on Budget and Policy Priorities and Economic Policy Institute, "Pulling Apart: A State By State Analysis of Income Trends," http://www.cbpp.org/4-9-08sfp.htm.
[38] Gini coefficients measure the divergence from perfect equality (zero is perfect equality): the larger the coefficient, the greater the inequality (one means perfect inequality). See Damgaard, Christian. "Gini Coefficient." From *MathWorld*—A Wolfram Web Resource, created by Eric W. Weisstein, http://mathworld.wolfram.com/GiniCoefficient.html.

the state. Figure 4 shows Connecticut in comparison to the rest of the nation in terms of income inequality.

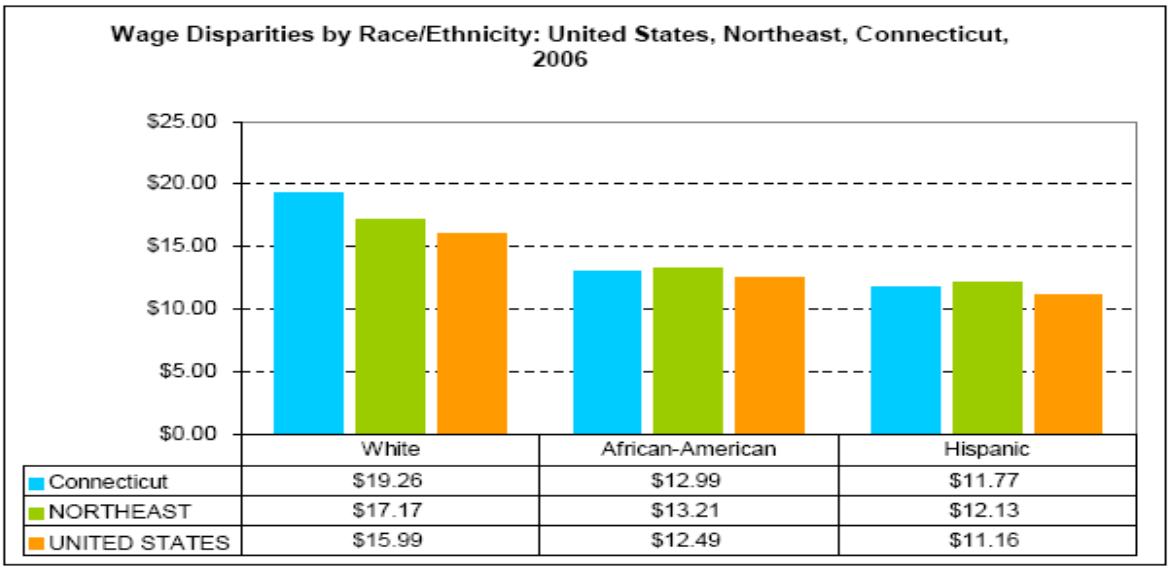
Figure 4: Gini Coefficients of Inequality



Source: Connecticut Voices for Children

Figure 5 shows that the state's white and minority workforce out-earns the national average. However, while the white workforce earns more than its cohort in neighboring states, the minority population earns less than their cohorts in neighboring states. Clearly, the minority workforce in Connecticut is at a disadvantage relative to their white counterparts in terms of income.

Figure 5: Wage Disparity by Race and Ethnicity



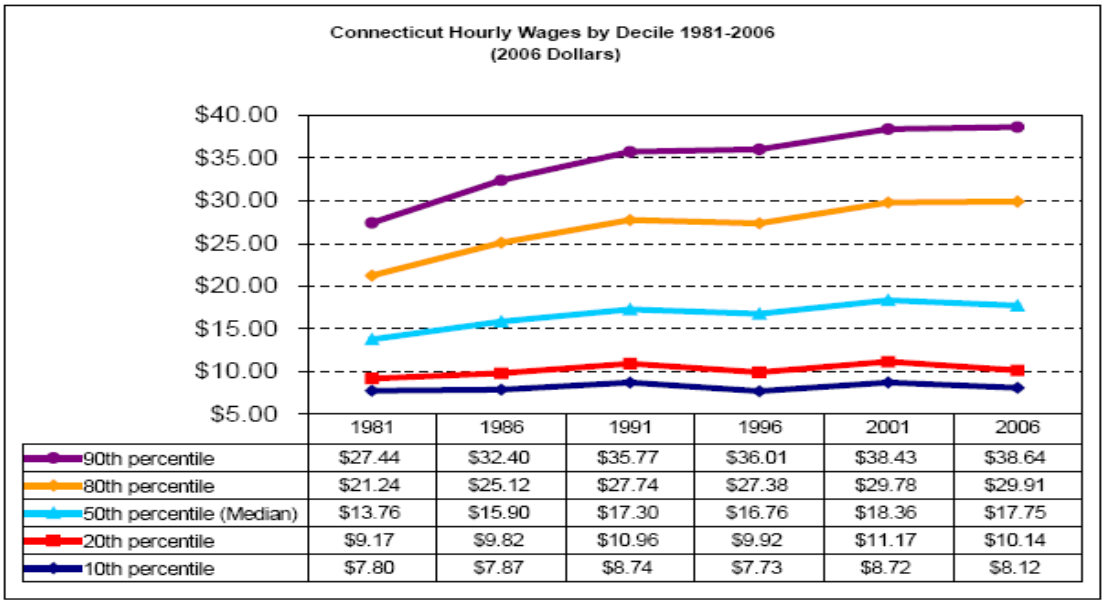
	White	African-American	Hispanic
Connecticut	$19.26	$12.99	$11.77
NORTHEAST	$17.17	$13.21	$12.13
UNITED STATES	$15.99	$12.49	$11.16

Source: Connecticut Voices for Children and EPI Analysis of Current Population Survey

Connecticut has persistent disparities in wages based on race and ethnicity. The median hourly wage for white workers in 2006 was $19.26 compared to $12.99 for African-American workers and $11.77 for Hispanic workers. Connecticut's white workers not only enjoy a wage advantage over their non-white counterparts in Connecticut, but also a significant wage advantage over white workers nationally and regionally (footnote 32, p. V-22).

Figure 6 details Connecticut hourly wages by income decile. While the 90th percentile saw wages increase, the next highest wage earners (80th percentile) saw a leveling of wages, and the other income categories saw a decline in wages. This situation has implications for housing affordability, healthcare access, and access to post-secondary education.

Figure 6: Connecticut Hourly Wages by Income Decile



	1981	1986	1991	1996	2001	2006
90th percentile	$27.44	$32.40	$35.77	$36.01	$38.43	$38.64
80th percentile	$21.24	$25.12	$27.74	$27.38	$29.78	$29.91
50th percentile (Median)	$13.76	$15.90	$17.30	$16.76	$18.36	$17.75
20th percentile	$9.17	$9.82	$10.96	$9.92	$11.17	$10.14
10th percentile	$7.80	$7.87	$8.74	$7.73	$8.72	$8.12

Source: Connecticut Voices for Children and EPI Analysis of Current Population Survey

Contributing Factors to Rising Income Disparity

Dew-Becker and Gordon (2005)[39] show that over the period from 1966 to 2001, as well as over the shorter period of 1997 to 2001, only the top 10% of the U.S. income distribution enjoyed a growth rate of real (inflation-adjusted) wage and salary income equal to or above the average rate of economy-wide productivity growth. Median real wage and salary income barely grew at all while average wage and salary income kept pace with productivity growth, because half of the income gains went to the top 10% of the income distribution, leaving little for the bottom 90%. Half of this inequality effect is attributable to gains of the 90th percentile over the 10th percentile; the other half is due to increased skewness within the top 10%. In addition, the authors find that an acceleration (or deceleration) of the productivity growth trend of 1% actually decreases (or increases) the inflation rate by at least 1%.

Dew-Becker and Gordon (2005) suggest that economists have placed too much emphasis on "skill-biased technical change" and too little attention to the sources of increased skewness at the very top, that is, within the top 1% of the income distribution. Dew-Becker and Gordon distinguish two complementary explanations, the "economics of superstars," that is, the pure rents earned by sports and entertainment stars, and the escalating compensation premia of CEOs and other top corporate officers. These sources of divergence at the top, combined with the role of deunionization, immigration, and free trade in pushing down incomes at the bottom, have led

[39] Dew-Becker, I. and Robert J. Gordon (2005). "Where Did the Productivity Growth Go? Inflation Dynamics and the Distribution of Income," National Bureau of Economic Research Working Paper No. 11842, www.nber.org/papers/w11842.

to the wide divergence between the growth rates of productivity, average compensation, and median compensation. From 1989 to 1997, total real compensation of CEOs increased by 100%, while compensation in occupations related to math and computer science increased only 4.8% and engineers' compensation decreased by 1.4%.

Consequences of Wage Inequality

The mean (per capita) wage is growing faster than the median in Connecticut, signifying an increasingly unequal distribution of wealth in the state, which in turn reduces the overall quality of life in the state. According to labor economist MacPherron et al., "although skewed distributions are expected in market economies, this demonstrates a gap in the incentive structure that could entice lower compensated laborers to leave. Importantly, this could include educated, younger workers, as they are typically not in the highest percentiles" (footnote 2, p 55).

- Income inequality has adverse life expectancy/health implications for the entire population, not just the poor demographic.[40]

- Income disparity "can reduce social cohesion, trust in government and other institutions, and participation in the democratic process."[41]

- The widening income gap compounds many of Connecticut's problems related to transportation and housing. According to MacPherron et al., "housing affordability is compromised because Connecticut's median income households are not able to afford the median price house" (footnote 2, p. 5). Many workers that are critical to the high quality of life in Connecticut sometimes cannot afford to live in the areas in which they work. This means that people have to commute long distances in order to live in affordable areas. Long commutes on an aging and inadequate transportation infrastructure as well as unaffordable housing, for which Connecticut is known, will not attract needed professionals to the state (footnote 2, p 75).

Innovation

Innovation is a key characteristic of the workforce that improves efficiency and maximizes output. Innovation is difficult to measure quantitatively, although we can measure the products of innovation through entrepreneurism, patents, and technology usage data.

- According to CERC, Connecticut ranks high relative to other states in terms of existing entrepreneurs, patents, and technology usage, yet in terms of growth in these categories Connecticut lags behind much of the nation. This trend indicates slowing productivity and a stagnating economy. As measures of innovation, the lack of

[40] Hero, Joachim, "Connecticut Voices for Children," October 2007, pg. 1.
[41] Bernstein, Jared, et al., "Pulling Apart: A State by State Analysis of Income Trends" April 2008, p.12.

growth of innovative products and processes does not bode well for continued economic growth in the state.[42] See Charts 2 and 3 in the Appendix for details.

- Connecticut's high level of productivity depends on the workforce's ability to innovate, and the declining growth in such areas as entrepreneurs and patents indicates a stagnating economy (footnote 41).

Incumbent Worker Training

Incumbent worker training is an important way to increase the productivity levels of Connecticut's existing workforce and maintain a competitive advantage in the global economy. The challenges of a global marketplace require a greater investment in workforce training to maximize opportunities for job growth. While the American Recovery and Reinvestment Act (ARRA) provides funding for incumbent job training, it is not known how much of this tempory funding will flow to certain sectors. Connecticut needs long-term investment to enhance the skills of its existing workforce to meet the challenges of the 21st century.

- Over the last two years Connecticut's five workforce investment boards utilized $1.5 million in federal funding, which was matched with an additional $2 million in employer contributions, to support incumbent worker training throughout the state.[43]

- State and local workforce professionals estimated that $3 to $5 million would be necessary to meet the needs of Connecticut businesses (Massachusetts invests $21 million per year; Rhode Island invests $8 million) (footnote 42).
- The continuing cutbacks and increasing limitations on the use of federal funds require Connecticut to develop a new strategy for the sustainability of incumbent worker training. Demand for incumbent worker training in the five workforce investment areas in Connecticut has far exceeded available resources.

- Incumbent worker training is an important way to minimize the expected labor shortage due to low population growth by increasing the productivity of existing workers, as well as increasing workers' earning potential (footnote 43, p. 9).

Unions

Unions have played an important role in protecting the rights of workers. The decline in union representation parallels the decreasing average wage for certain income groups.

[42] Connecticut Economic Resource Center, "Benchmarking Connecticut 2007: A Comparative Analysis of Innovation and Technology," February 13, 2007.
[43]CT Workforce Development Council, "Incumbent Worker Training;" see http://www.cwdc.org/pdf/issues/Incumbent%20Worker%20Training.pdf.

- As shown in Figure 7 below, Connecticut's rate of union coverage has fluctuated between 16.4% and 17.7% since 2000. Despite occasional gains, Connecticut's overall trend – like that of the nation and region – has been downward. In 2006, 10 states had a greater share of their workforces covered by collective bargaining agreements than Connecticut. In 2006, Connecticut's union coverage surpassed the national coverage rate of 13.1%, but was less than the average coverage rate in the Northeast (19.5%) (footnote 32, p III-13).

Connecticut is not a right-to-work state. Right-to-work laws are statutes enforced in 22 states, mostly in the southern or western United States, allowed under provisions of the Taft-Hartley Act that prohibit agreements between trade unions and employers making membership or payment of union dues or fees a condition of employment, either before or after hiring. There are arguments for and against having right-to-work laws. Proponents of right-to-work laws point to the constitutional right to freedom of association, as well as the common-law principle of private ownership of property. They argue that workers should be free both to join unions and to refrain from joining unions, and for this reason often refer to non-right-to-work states as "forced-union" states. [44]

Proponents also argue that right-to-work states experience higher economic growth and job creation than do non-right-to-work-law states.[45] For example, in recent years all new auto factories have been located in right-to-work states. Moreover, proponents contend right-to-work states typically have lower unemployment rates.[46]

On the other hand, opponents argue right-to-work laws create a free-rider problem, in which non-union employees (who are bound by the terms of the union contract even though they are not members of the union) benefit from collective bargaining without paying union dues.[47]

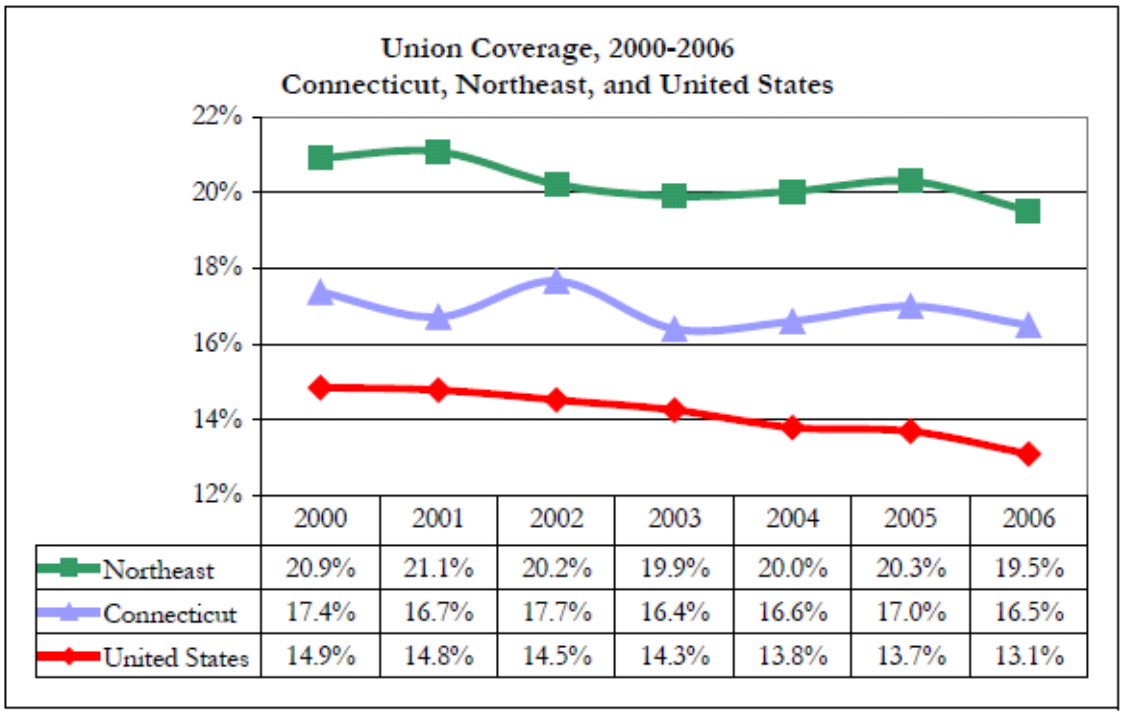
[44] See "Stop Teacher Strikes in Pennsylvania," http://www.stopteacherstrikes.org/index.php?pr=Forced_Unionism.

[45] See for example the National Institute for Labors Relations Research Fact Sheet at http://www.nilrr.org/files/NILRR%20FACT%20SHEET%20RTW%20States%20Benefit%202008.pdf, and "Western, Southern and Midwestern States Rank in Top Eight For 2003-2008 Employment Gains

[46] See "Unemployment Rates," at http://www.mackinac.org/article.aspx?ID=8951 that discusses such rates in states with and without right-to-work laws.

[47] See "Labor Groups" under The South Carolina Governance Project — Interest Groups in South Carolina at http://www.ipspr.sc.edu/grs/SCCEP/Articles/interest_groups_in_south_carolin.htm.

Figure 7: Union Coverage, 2000-2006, Connecticut, the Northeast and U.S.



	2000	2001	2002	2003	2004	2005	2006
Northeast	20.9%	21.1%	20.2%	19.9%	20.0%	20.3%	19.5%
Connecticut	17.4%	16.7%	17.7%	16.4%	16.6%	17.0%	16.5%
United States	14.9%	14.8%	14.5%	14.3%	13.8%	13.7%	13.1%

Source: CT Voices for Children and Economic Policy Institute (EPI) analysis of BLS data.

Conclusion

From the mid-1990s to the present, there were rapid technological advancements that increased worker productivity. During this period, there was a significant opening of our economy to free trade and increased foreign immigration. These two factors benefited the highest income earners and put increasing downward pressure on the income of the lowest income earners.

Connecticut's wealthy and low-income areas and population became significantly more polarized during this time. Connecticut's urban areas became concentrations of low-income, minority workers, while suburban areas saw rising levels of wealth and increasing housing prices.

Educational opportunities for the entire population can balance the levels of income for the workforce. However, the state's investment in education will be lost if it cannot retain its educated population and provide them with jobs and affordable housing close to their places of work. Therefore, bridging the gap between education and employment becomes the primary initiative for responsible economic development.

Appendix

Table 1: Composition of Employment by Industry

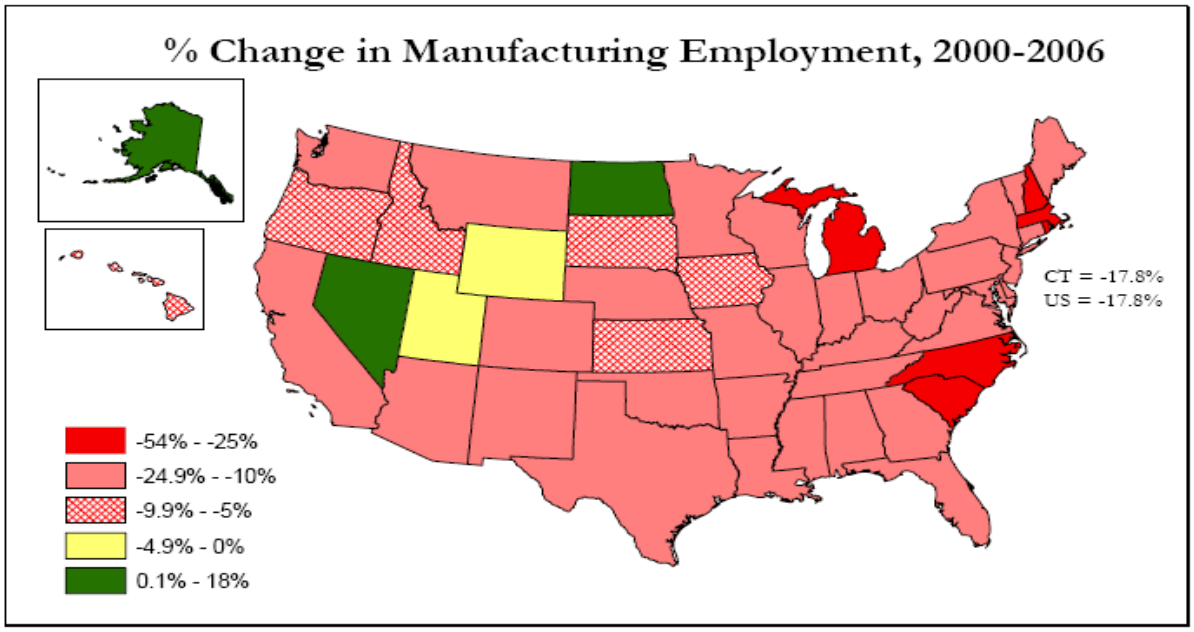
CONNECTICUT

Not Seasonally Adjusted

	APR 2008	APR 2007	CHANGE NO.	CHANGE %	MAR 2008
TOTAL NONFARM EMPLOYMENT	**1,701,300**	**1,689,400**	**11,900**	**0.7**	**1,683,800**
GOODS PRODUCING INDUSTRIES	**256,700**	**258,500**	**-1,800**	**-0.7**	**252,800**
CONSTRUCTION, NAT. RES. & MINING	**67,300**	**67,800**	**-500**	**-0.7**	**63,200**
MANUFACTURING	**189,400**	**190,700**	**-1,300**	**-0.7**	**189,600**
Durable Goods	**143,500**	**143,600**	**-100**	**-0.1**	**143,500**
Fabricated Metal	32,700	33,300	-600	-1.8	32,600
Machinery	18,000	18,100	-100	-0.6	18,100
Computer and Electronic Product	13,900	14,200	-300	-2.1	13,900
Transportation Equipment	43,600	42,800	800	1.9	43,600
Aerospace Product and Parts	31,800	31,300	500	1.6	31,700
Non-Durable Goods	**45,900**	**47,100**	**-1,200**	**-2.5**	**46,100**
Chemical	15,200	15,700	-500	-3.2	15,200
SERVICE PROVIDING INDUSTRIES	**1,444,600**	**1,430,900**	**13,700**	**1.0**	**1,431,000**
TRADE, TRANSPORTATION, UTILITIES	**307,200**	**306,100**	**1,100**	**0.4**	**307,400**
Wholesale Trade	68,600	67,500	1,100	1.6	68,500
Retail Trade	186,000	186,400	-400	-0.2	186,200
Motor Vehicle and Parts Dealers	22,100	21,900	200	0.9	21,900
Building Material	16,500	16,800	-300	-1.8	15,500
Food and Beverage Stores	41,200	40,800	400	1.0	41,700
General Merchandise Stores	24,100	24,600	-500	-2.0	24,300
Transportation, Warehousing, & Utilities	52,600	52,200	400	0.8	52,700
Utilities	8,300	8,100	200	2.5	8,200
Transportation and Warehousing	44,300	44,100	200	0.5	44,500
INFORMATION	**38,800**	**38,000**	**800**	**2.1**	**38,800**
Telecommunications	13,100	13,200	-100	-0.8	13,100
FINANCIAL ACTIVITIES	**142,600**	**144,100**	**-1,500**	**-1.0**	**142,100**
Finance and Insurance	122,400	123,100	-700	-0.6	122,200
Credit Intermediation	30,000	31,600	-1,600	-5.1	29,900
Securities and Commodity Contracts	22,200	21,600	600	2.8	22,200
Insurance Carriers & Related Activities	65,400	65,100	300	0.5	65,300
Real Estate and Rental and Leasing	20,200	21,000	-800	-3.8	19,900
PROFESSIONAL & BUSINESS SERVICES	**205,900**	**206,000**	**-100**	**0.0**	**201,500**
Professional, Scientific	94,300	92,600	1,700	1.8	93,900
Legal Services	14,400	14,400	0	0.0	14,400
Computer Systems Design	22,200	21,500	700	3.3	22,000
Management of Companies	25,000	25,100	-100	-0.4	24,700
Administrative and Support	86,600	88,300	-1,700	-1.9	82,900
Employment Services	29,800	31,800	-2,000	-6.3	29,900
EDUCATIONAL AND HEALTH SERVICES	**295,700**	**289,200**	**6,500**	**2.2**	**292,200**
Educational Services	59,100	58,400	700	1.2	56,100
Health Care and Social Assistance	236,600	230,800	5,800	2.5	236,100
Hospitals	58,500	57,100	1,400	2.5	58,700
Nursing & Residential Care Facilities	59,800	58,900	900	1.5	59,200
Social Assistance	42,500	40,500	2,000	4.9	42,600
LEISURE AND HOSPITALITY	**133,700**	**131,300**	**2,400**	**1.8**	**129,200**
Arts, Entertainment, and Recreation	22,800	22,500	300	1.3	21,100
Accommodation and Food Services	110,900	108,800	2,100	1.9	108,100
Food Serv., Restaurants, Drinking Places	99,400	97,200	2,200	2.3	96,900
OTHER SERVICES	**63,900**	**63,900**	**0**	**0.0**	**63,600**
GOVERNMENT	**256,800**	**252,300**	**4,500**	**1.8**	**256,200**
Federal Government	19,300	19,600	-300	-1.5	19,300
State Government	72,500	70,000	2,500	3.6	71,900
Local Government**	165,000	162,700	2,300	1.4	165,000

Figure 1: Changing from a Manufacturing to a Service Economy

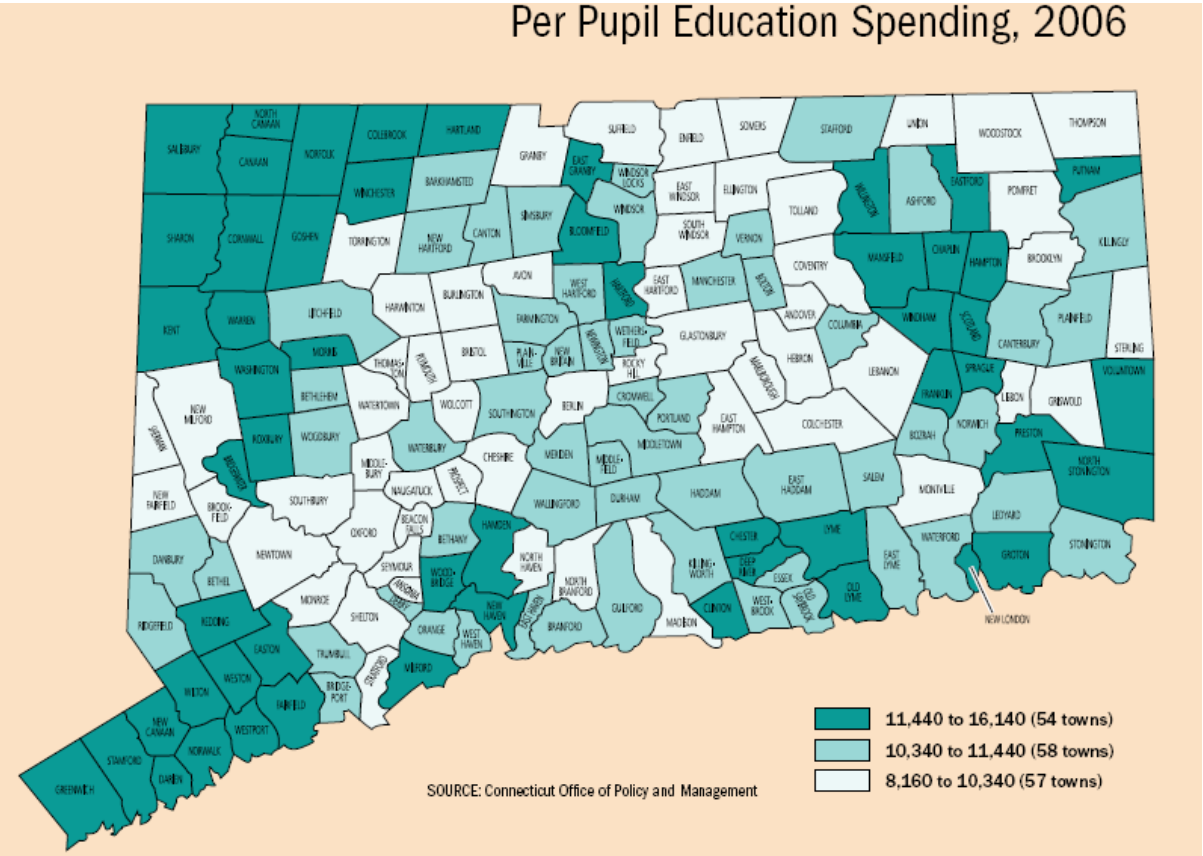
Connecticut has lost manufacturing jobs on a similar scale to the national decline.



Source: Connecticut Voices for Children and EPI Analysis of Current Population Survey

Chart 1: Disparities Among Connecticut's 154 School Districts

There exists fragmentation and inefficiency in Connecticut's current education system due to the large number of districts that spend on average 60% of their budget on education.



	TOTAL SPENDING ($MILLIONS)	NON-ED $ PER CAPITA	ED $ PER PUPIL
Bridgeport - Stamford LMA			
Ansonia	50.5	1,223	8,910
Bridgeport	460.2	2,066	10,857
Darien	90.3	1,384	12,725
Derby	36.2	1,485	10,430
Easton	32.4	1,692	11,509
Fairfield	206.8	1,444	13,249
Greenwich	275.8	2,517	15,884
Milford	154.1	1,142	11,546
Monroe	63.6	939	9,385
New Canaan	98.9	1,931	13,947
Newtown	91.1	1,193	9,729
Norwalk	250.4	1,282	13,114
Oxford	31.3	828	9,610
Redding	36.7	1,142	13,406
Ridgefield	107.8	1,698	11,170
Seymour	45.0	1,022	9,514
Shelton	93.4	852	9,575
Southbury	50.6	683	10,331
Stamford	357.7	1,256	13,874
Stratford	159.8	1,592	10,178
Trumbull	120.6	1,225	10,610
Weston	55.6	1,501	14,802
Westport	147.2	2,363	14,421
Wilton	90.3	1,787	12,497
Woodbridge	35.5	2,657	11,976
Danbury LMA			
Bethel	54.3	1,052	10,853
Bridgewater	5.8	860	14,797
Brookfield	48.0	895	10,228
Danbury	177.3	943	10,405
New Fairfield	41.7	1,036	9,539
New Milford	82.9	1,028	9,636
Sherman	11.0	828	10,333
Enfield LMA			
East Windsor	27.3	1,037	9,464
Enfield	106.8	826	10,012
Somers	25.6	736	9,516
Suffield	40.6	992	9,443
Windsor Locks	35.7	978	11,199

Source: *The Connecticut Economy*, Summer 2008

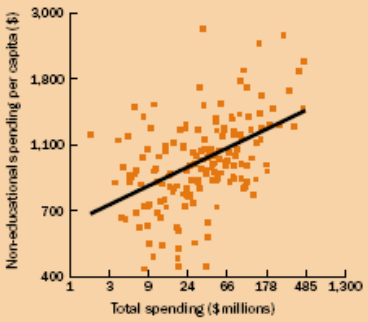
Chart 1: Continued

	TOTAL SPENDING ($MILLIONS)	NON-ED $ PER CAPITA	ED $ PER PUPIL
Hartford LMA			
Andover	9.1	695	9,806
Ashford	12.1	630	10,914
Avon	57.6	1,162	10,218
Barkhamsted	9.1	516	10,447
Berlin	58.8	1,178	9,786
Bloomfield	61.3	1,250	12,855
Bolton	15.7	884	11,324
Bristol	129.2	753	9,973
Burlington	25.6	753	9,572
Canton	28.7	951	10,480
Colchester	44.4	839	9,170
Columbia	14.0	682	10,411
Coventry	32.1	821	9,500
Cromwell	36.3	1,059	10,778
East Granby	14.9	863	11,828
East Haddam	23.4	787	10,849
East Hampton	32.3	787	10,101
East Hartford	150.6	1,398	10,119
Ellington	38.8	907	9,574
Farmington	77.1	1,177	10,513
Glastonbury	113.7	1,354	9,778
Granby	34.1	914	9,933
Haddam	21.5	755	10,929
Hartford	451.3	1,447	14,365
Hartland	6.3	874	11,845
Harwinton	13.4	726	9,572
Hebron	27.2	704	8,949
Lebanon	18.6	461	9,355
Manchester	136.0	844	11,201
Mansfield	38.0	434	13,465
Marlborough	18.0	803	9,971
Middlefield	12.1	710	11,432
Middletown	100.4	789	11,435
New Britain	181.6	897	10,603
New Hartford	22.5	1,238	10,848
Newington	80.0	1,007	10,602
Plainville	47.3	954	10,951
Plymouth	33.9	1,050	9,895
Portland	25.8	934	11,365
Rocky Hill	49.9	1,337	10,331
Simsbury	76.2	855	10,422
South Windsor	78.4	941	9,904
Southington	105.5	798	10,415
Stafford	31.8	841	10,481
Thomaston	21.7	1,081	9,383
Tolland	44.6	919	9,235
Union	2.0	1,182	9,310
Vernon	70.3	830	11,126
West Hartford	191.4	1,270	10,842
Wethersfield	69.2	1,032	10,897
Willington	13.5	1,046	11,536
Windsor	79.7	846	11,429
New Haven LMA			
Bethany	16.4	764	10,842
Branford	78.2	1,214	10,960
Cheshire	85.9	1,063	9,753
Chester	10.7	912	11,842
Clinton	38.5	888	11,535
Deep River	13.7	1,094	11,999
Durham	22.7	690	11,432
East Haven	77.8	1,189	10,585
Essex	17.0	790	11,311
Guilford	65.3	973	10,662
Hamden	155.8	1,240	12,040
Killingworth	21.2	1,073	10,929
Madison	55.9	885	9,421
Meriden	167.0	1,238	10,815
New Haven	411.7	1,911	14,258
North Branford	38.4	881	9,398
North Haven	72.9	1,362	9,618
Old Saybrook	31.0	1,231	11,069
Orange	48.8	1,301	11,135
Wallingford	124.2	989	10,344
West Haven	139.3	1,116	10,404
Westbrook	19.7	1,227	10,951
Norwich - New London LMA			
Bozrah	6.4	906	10,362
Canterbury	12.7	513	11,246
East Lyme	54.0	983	10,801
Franklin	5.6	872	11,650
Griswold	28.4	520	9,667
Groton	107.0	933	12,339
Ledyard	43.3	1,066	10,406
Lisbon	11.0	651	9,589
Lyme	7.8	1,356	14,483
Montville	49.6	839	10,239
New London	73.8	1,332	12,010
North Stonington	16.9	1,117	12,419
Norwich	93.9	951	10,771
Old Lyme	26.1	837	14,483
Preston	13.0	718	11,936
Salem	12.5	812	10,618
Sprague	10.3	1,490	12,381
Stonington	47.2	1,008	10,414
Voluntown	7.0	585	11,860
Waterford	61.5	1,235	11,025
Torrington LMA			
Bethlehem	8.6	592	10,934
Canaan	4.2	1,135	16,135
Colebrook	4.7	925	12,392
Cornwall	5.3	1,175	15,383
Goshen	7.9	689	12,207
Kent	8.7	1,062	13,456
Litchfield	23.3	900	10,878
Morris	7.4	811	12,207
Norfolk	6.2	1,458	13,458
North Canaan	8.8	685	12,205
Roxbury	7.8	1,001	14,797
Salisbury	10.4	897	14,686
Sharon	9.3	1,249	15,500
Torrington	97.0	1,148	10,300
Warren	3.7	822	12,207
Washington	11.4	1,002	14,797
Winchester	29.7	1,009	11,942
Woodbury	24.1	739	10,934
Waterbury LMA			
Beacon Falls	15.1	793	9,512
Middlebury	22.9	1,285	10,331
Naugatuck	90.1	1,181	9,975
Prospect	23.6	748	9,512
Waterbury	322.5	1,653	11,334
Watertown	51.4	851	8,163
Wolcott	45.9	949	8,516
Willimantic - Danielson LMA			
Brooklyn	18.5	583	9,695
Chaplin	6.4	655	14,419
Eastford	4.5	628	11,943
Hampton	5.5	825	14,478
Killingly	40.4	544	10,947
Plainfield	39.9	607	11,140
Pomfret	10.0	469	9,827
Putnam	18.8	437	12,290
Scotland	5.0	619	14,121
Sterling	8.1	427	9,822
Thompson	19.2	498	9,347
Windham	62.1	962	11,787
Woodstock	18.9	571	9,067
169 Town Average	**61.5**	**1,014**	**11,180**

ABOUT THE CENTERFOLD

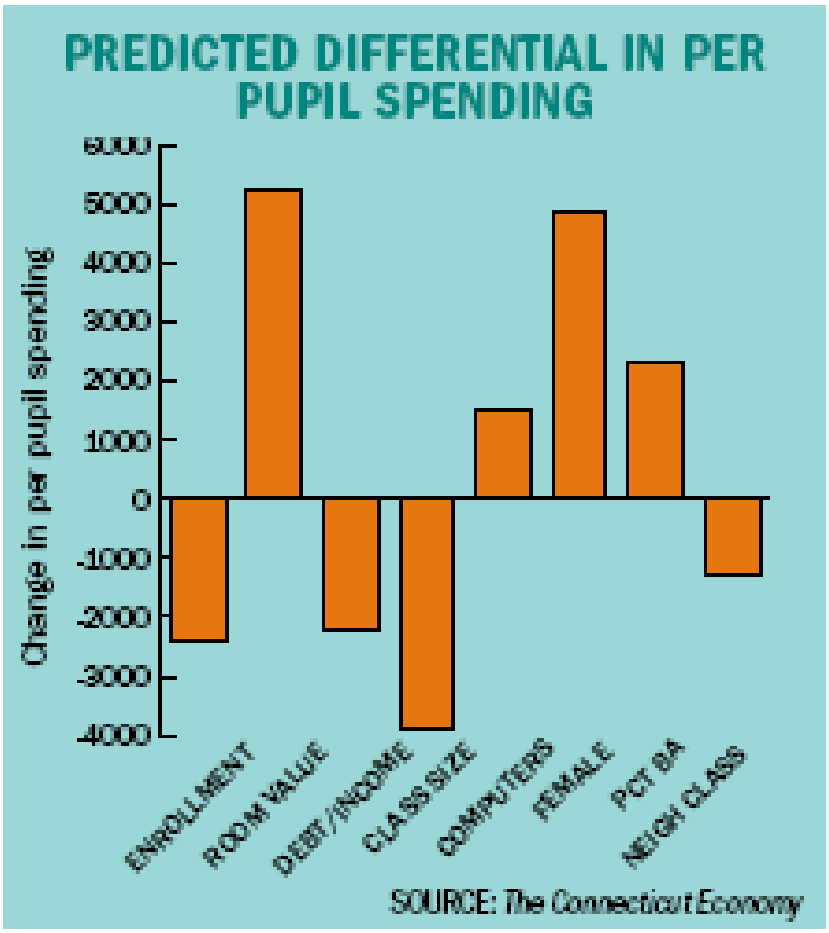
Education spending, mapped here on a per-pupil basis, accounts for 60% of local public expenditures. Per pupil spending averaged $11,180 in 2006, but varied from a low of $8,163 in Watertown to a high of $16,135 in Canaan. Spending was highest in the cities, the northwest hills, the Fairfield County panhandle, and some of the towns surrounding UConn in Mansfield.

The scatterplot compares the other two variables in the table: total local spending and per capita non-educational spending. Total spending is largely a function of population, so towns with more residents have the largest budgets. But these same towns also tend to spend more per capita because of more extensive services and higher costs.



According to the following table, the difference between the least-efficient and the optimally sized school district comes to more than $2,400 per student. Thus, increasing district enrollments through consolidations would likely lower costs.[48]

Figure 2: Predicted Differential in Per Pupil Spending



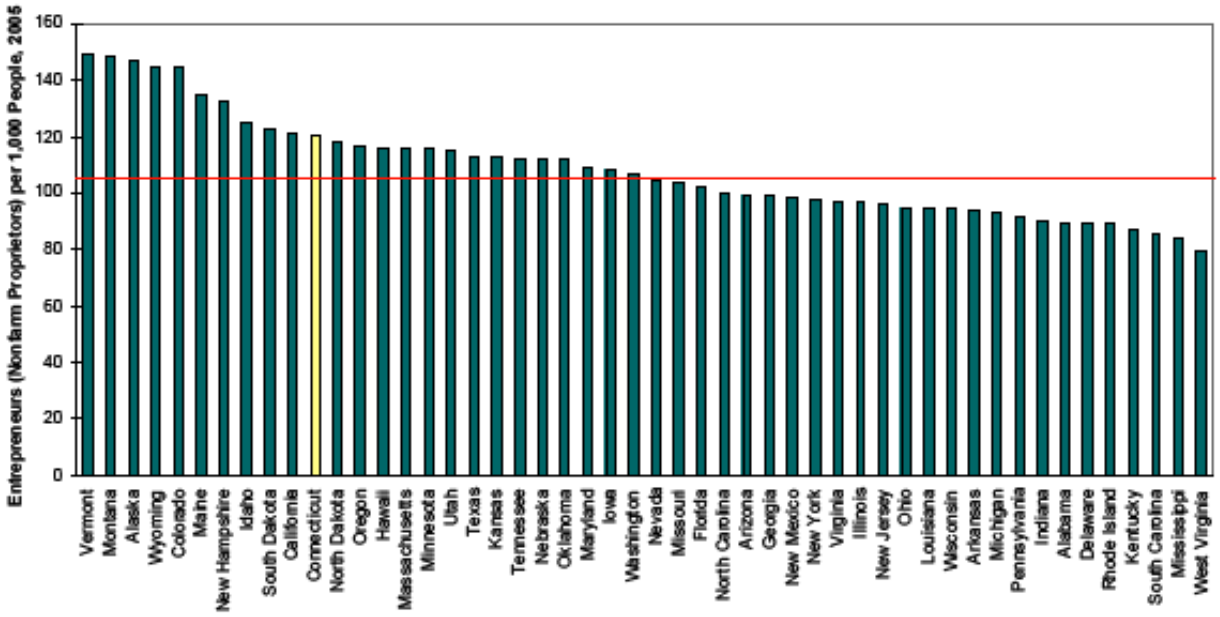
Source: *The Connecticut Economy*, Summer 2008

[48] The Connecticut Economy, Summer 2008

Measures of Innovation (Present and Future)

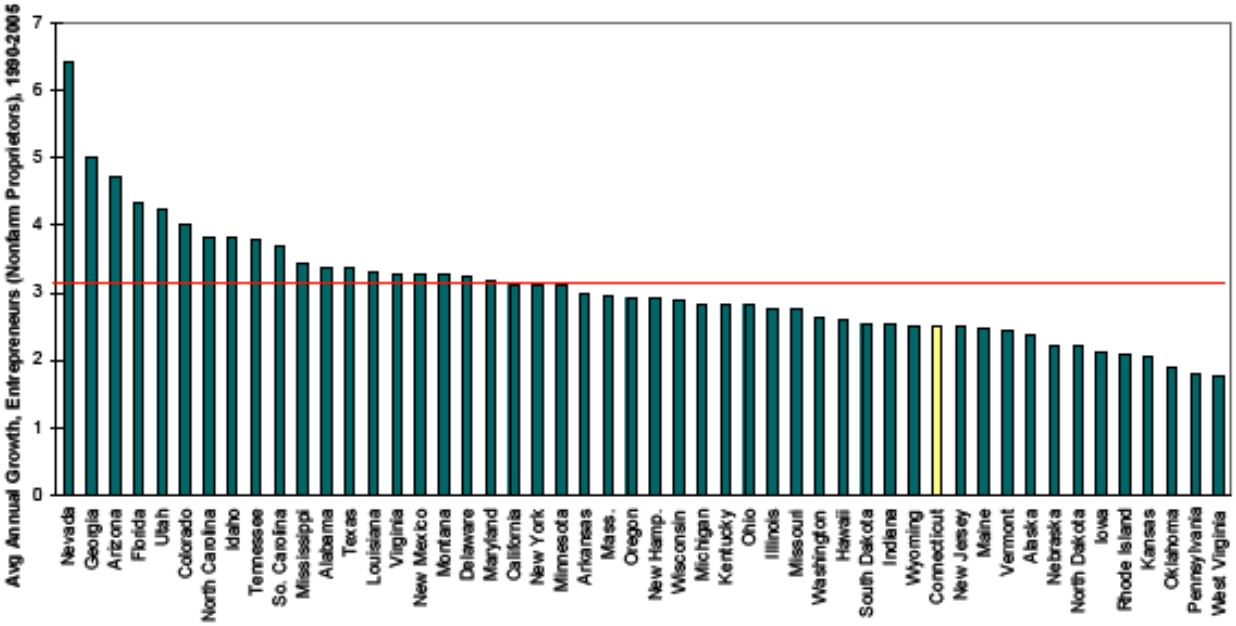
Connecticut compares well in terms of innovation measured by the product of this characteristic (the number of entrepreneurs per 1,000 population), but in terms of growth of this characteristic, Connecticut is near last place. Chart 2 illustrates this for entrepreneurialism, and this trend is similar for other categories such as the number of patents to patent growth as well as the use of technology.

Chart 2: The Number of Entrepreneurs Per 1,000 People, 2006



Source: U.S. Small Business Administration

Chart 3: Growth in the number of entrepreneurs puts Connecticut near the bottom.



Source: U.S. Small Business Administration

Social Services

Department of Social Services (DSS)

The mission of the Connecticut Department of Social Services (DSS) is to provide a continuum of care services to meet the basic needs of food, shelter, economic support and healthcare, promote and support the choice to live with dignity in one's own home and community, and promote and support the achievement of economic viability in the work force.

Each division of DSS provides programs, services and/or resources for the individuals, children and families of Connecticut. The divisions and their main responsibilities appear in Table 1.

Table 1: Divisions and Responsibilities of the Department of Social Services

Adult Services	The Adult Services Division is made up of two teams — the Adult Services Team and the Supplemental Nutrition Assistance Program or SNAP team. SNAP was called the Food Stamp Program until October 1, 2008 at which time Congress changed the name of the program. The division runs programs that give cash, medical and nutritional help. The State Supplement program, Medicaid for the Aged, Blind and Disabled (MAABD) and the Connecticut Assistance for Organ Transplant Recipients (ConnTRANS) programs help adults with disabilities and the elderly.
Affirmative Action	The Affirmative Action Division is responsible for the development, implementation and monitoring of employee/client rights protection programs for regional as well as central office locations.
Aging Services	The Aging Services Division ensures Connecticut's elders have access to the supportive services necessary to live with dignity, security, and independence. The Division administers Older Americans Act programs for supportive services, in-home services, and congregate and home-delivered meals. It also administers programs that provide senior community employment, health insurance counseling, and respite care for caregivers.
Bureau of Rehabilitation Services	The Bureau of Rehabilitation Services creates opportunities that allow individuals with disabilities to live and work independently. The division administers the Vocational Rehabilitation Program, Disability Determination Program (encompassing Social Security Insurance and Medicaid for Employed Disabled), the Independent Living Program, and the CT Tech Act Project.

Central Processing Division	Central Processing's mission is to provide highly focused and efficient services in the areas of revenue maximization, fraud reduction, electronic benefit provision, payment approvals, payments history research, oversight of the biometric identification program, specific Medicaid coverage groups as well as the provision of specialized operational support to both Central Office Divisions and Regional Offices.
Certificate of Need and Rate Setting	The primary functions of this division include establishing payment rates for certain medical and residential services, cost report auditing, and performing certificate of need reviews for nursing facility, residential care homes and ICF/MR development projects.
Electronic Benefit Transfer	The goals of the EBT project are to: provide a more reliable, stable, and convenient benefit delivery system; to provide a more cost effective and efficient benefit issuance system; to eliminate ATP card redemption, SNAP handling, and check cashing in Connecticut banks; to provide authorized SNAP retailers with EBT technology at the point-of-sale and streamlined accounting and settlement procedures for SNAP; to reduce the administrative costs of benefit issuance; and to reduce fraud and SNAP benefit trafficking associated with the paper benefit issuance process.
Family Services	The Family Services Division coordinates the planning, development, and implementation of programs, services and contracts that support families in achieving or maintaining self-sufficiency and independent living. The Division provides technical support to regional offices to ensure that services to clients are provided in a consistent manner and to external contractors, which assist in service delivery to families and children.
Financial Management and Analysis	The Division of Financial Management and Analysis (DFMA) supports the department through the provision of a full range of operational and budgetary financial functions. These financial management activities are provided through budgeting, client accounting services, funds management and reporting, payroll and accounting support, and actuarial and analytical support.
Human Resources	The Human Resource Division is responsible for providing technical guidance and support to the employees of the central and regional offices. Staff is involved in addressing issues that impact human resource management for the agency as a whole, through coordination of policy issues, involvement in labor relations activity and, in general, with the objective of ensuring that the quality of human resource service throughout the department remains consistent.

Legal Counsel, Regulations and Administrative Hearings	The Office of Legal Counsel, Regulations, and Administrative Hearings (OLCRAH) provides the opportunity for applicants and recipients of DSS programs to contest actions taken by the department.
Information Technology Services	The Information Technology Services (ITS) Division of DSS has two distinct sections, Information Technology Technical Services and Support Services. These sections have provided extensive technical support to both the program and administrative areas of the agency
Medical Administration Policy	The Medical Administration Policy Division is involved in analyzing issues, determining policy and designing and undertaking new initiatives relating to Medicaid. The Medical Administration Policy Division is composed of two teams, Benefit Design and Program Analysis and Managed Care.
Medical Administration Operations	The Medical Care Administration Division is responsible for overseeing the administration, policy, regulations and operations of the Medical Assistance Programs for the agency's clients.
Organizational and Skill Development	This division supports the organization through services that contribute to the development of a learning community that builds the competency of staff and the organization to meet the DSS mission. The core services include: training and staff development, organizational development, and media and graphic support.
Public and Government Relations	The Public and Government Relations (PGR) office is responsible for the full range of communications, legislative and information and referral activities. The Public and Government Relations office also acts as a commissioner's liaison to community-based organizations, private sector organizations and other public interest groups.
Quality Assurance	The Office of Quality Assurance maximizes the resources available to families and individuals that need assistance by assuring quality, accuracy, efficiency and effectiveness in the delivery of DSS programs. This is accomplished by ensuring that: adequate internal controls are in place and functioning; fraud is deterred and pursued; overpayments to providers and clients are reduced or recouped; and unnecessary costs are avoided.
Social Work and Prevention Services	This division develops services and methods of service delivery designed to respect the client's right to self determination and empower and protect individuals, families and those who are economically disadvantaged or otherwise vulnerable.

Strategic Planning	The Office of Strategic Planning (OSP) assists the Commissioner in developing and defining the purpose and future direction of the agency, coordinates the development of the agency's vision, mission, long-range goals and operating principles, and develops the agency's strategic plan.

Source: CT DSS, http://www.ct.gov/dss/site/default.asp

The 2006 fiscal year budget shows that DSS was responsible for the oversight of more than $4.5 billion in state funds for the programs it administers.[1]

Department of Developmental Services (DDS)

The Connecticut Department of Developmental Services, previously known as the Department of Mental Retardation, provides various services and support to eligible individuals with mental disabilities. Its mission is to join with others to create the conditions under which all people served experience:

- Presence and participation in Connecticut town life;
- Opportunities to develop and exercise competence;
- Opportunities to make choices in the pursuit of a personal future;
- Good relationships with family members and friends; and
- Respect and dignity.

Persons with disabilities may be afflicted with an array of physical, mental, and/or developmental conditions that constrain their possibilities for obtaining suitable employment, housing, transportation, or support. DDS provides case management, family support, community living services, respite services, employment, training and day services, transportation, and health and clinical services.

Table 2 displays statewide and county population data for citizens with mental disabilities. There were an estimated 156,119 mentally disabled persons in 2006 in Connecticut. The severity of disability varies by person.

[1] Connecticut Department of Social Services, http://www.ct.gov/dss/cwp/view.asp?a=2349&q=304846.

Table 2: Persons with Mental Disabilities

	Male	Female	Total	Percent of Non-institutionalized Population
Connecticut	77,659	78,460	156,119	4.82%
Fairfield County	17,219	18,607	35,826	1.11%
Hartford County	21,443	20,124	41,567	1.28%
Litchfield County	4,416	4,250	8,666	0.27%
Middlesex County	3,978	2,749	6,727	0.21%
New Haven County	18,024	21,421	39,445	1.22%
New London County	6,169	7,058	13,227	0.41%
Tolland County	2,089	1,740	3,829	0.12%
Windham County	4,321	2,511	6,832	0.21%

Source: ACS 2006

The DDS fiscal year 2007 budget exceeded $866 million, and provided services to more than 19,000 individuals. Additionally, during the previous fiscal year, DMR operated programs that generated $337 million in federal reimbursement to the state, a 138% increase from the $141 million generated in fiscal year 1995.[2]

DDS offers supportive housing to persons within the DDS system. In March 2008, the number of people receiving services from DDS was 15,193 and 5,649 of these people were enrolled in supportive housing. The number of DDS persons living in a campus style facility, the Southbury Training School or DDS centers, was 770. Three thousand one hundred sixty-three persons were in Community Living Assignments (CLA), also known as group homes. Community Training Homes offered supportive housing options for 395 DDS participants. Some persons receiving DDS services receive housing support from other state agencies. The Department of Mental Health and Addiction Services, the Department of Correction and the Department of Children and Families provided housing support for 120 people. There were 419 people receiving housing support from Connecticut's elderly programs. One hundred eleven people were in residential schools and 113 people were in other supportive housing programs while receiving DDS services.

Department of Mental Health and Addiction Services (DMHAS)

The Department of Mental Health and Addiction Services (DMHAS) promotes and administers comprehensive, recovery-oriented services in the areas of mental health treatment and substance abuse prevention and treatment throughout Connecticut.

[2] Department of Developmental Services, "Report to Connecticut Citizens 2006-2007," <http://www.ct.gov/dds/lib/dds/commissioner/report_to_ct_citizens2006-2007.pdf>

While the department's prevention services serve all Connecticut citizens, its mandate is to serve adults (over 18 years of age) with psychiatric or substance use disorders, or both, who lack the financial means to obtain such services on their own. DMHAS provides collaborative programs for individuals with special needs, such as persons with HIV/AIDS infection, people in the criminal justice system, those with problem gambling disorders, substance abusing pregnant women, persons with traumatic brain injury or hearing impairment, those with co-occurring substance abuse and mental illness, and special populations transitioning out of the Department of Children and Families.

DMHAS operates on the belief that most people with mental illnesses and/or substance use disorders can and should be treated in community settings, and that inpatient treatment should be used only when absolutely necessary to meet the best interests of the patient. Effective care requires that services such as residential, supportive, rehabilitative and crisis intervention programs are available within their local communities.[3]

DMHAS' FY 2009 Current Services Budget is approximately $590 million. The department receives approximately $20 million in federal block grant funds and received more than $155 million in federal grant funds between 1997 and 2008. Major grant awards are for mental health transformation, access to recovery I and II (substance use), co-occurring (mental health and substance use), prevention of underage drinking, and suicide prevention. Over 90,000 individuals receive care annually in the DMHAS service system. In addition, thousands of citizens benefit from prevention and health promotion services.[4]

Department of Children and Families (DCF)

Working together with families and communities to improve child safety, ensuring more children have permanent families, and advancing the overall well-being of children is the central focus of the Department of Children and Families (DCF). DCF protects children who abused or neglected, strengthens families through support and advocacy, and builds on existing family and community strengths to help children who face emotional and behavioral challenges, including those committed to the department by the juvenile justice system.

DCF is one of the nation's few agencies to offer child protection, behavioral health, juvenile justice, and prevention services. This comprehensive approach enables DCF to offer quality services regardless of how a child's problems arise. Whether children are abused or neglected, are involved in the juvenile justice system, or have emotional, mental health or substance abuse issues, the department can respond to these children in a way that draws upon community and state resources to help them.

DCF supports in-home and community based services through contracts with service providers.

[3] Department of Mental Health and Addiction Services website: http://www.ct.gov/dmhas/site/default.asp
[4] Department of Mental Health and Addiction Services, "Briefing Book 2009," http://www.ct.gov/dmhas/lib/dmhas/publications/briefingbook09.pdf

In addition, the department runs five facilities: a secure facility for boys who are committed to the department as delinquents by the juvenile courts (the Connecticut Juvenile Training School); a children's psychiatric hospital (Riverview Hospital); two residential facilities (Connecticut Children's Place and High Meadows); and an experiential program for troubled youth in Connecticut (the Wilderness School).[5]

Table 3 shows the 2007 average numbers for services facilitated by DCF.

Table 3: On Any Given Day There Are	
2,782	Children in foster care
1,067	Children in relative care
814	Children in residential care
207	Children in DCF Facilities
129	Adolescents in Independent Living
168	Children in Safe Homes
105	Children in Shelters

Source: DCF Averages for 2007 Calendar Year

HUD Emergency Shelter Grants (ESG)

The U.S. Department of Housing and Urban Development (HUD) is responsible for the Emergency Shelter Grant (ESG) Program, which provides homeless persons with basic shelter and essential supportive services. It can assist with the operational costs of the shelter facility, and for the administration of the grant. ESG provides short-term homeless prevention assistance to persons at imminent risk of losing their housing due to eviction, foreclosure, or utility shutoffs. HUD defines a "homeless" person as one who lacks a fixed, regular, and adequate nighttime residence, for example, one who frequents a public or private place not designed for, or ordinarily used as, regular sleeping accommodations for human beings; or, an individual who has a primary nighttime residence that is supervised by a publicly or privately operated shelter designed to provide temporary living accommodations. Shelter facilities that may receive assistance include an institution that provides a temporary residence for individuals intended to be institutionalized. This definition of homeless does not include individuals imprisoned or detained pursuant to state law or an act of Congress.

In accordance with HUD guidelines for proper homeless survey techniques, Connecticut conducted its first ever point-in-time count of the sheltered and unsheltered homeless populations on the night of January 30, 2007. The final report is titled Connecticut Counts 2007. According to the report, volunteers counted 3,325 homeless households. In accounting for the homeless sheltered population, Connecticut Counts 2007 does not incorporate residents of transitional housing programs that are not specifically designated for homeless people into the results. For example, residents of mental health, substance abuse,

[5] Connecticut Department of Child and Families Website. http://www.ct.gov/dcf/site/default.asp

and child welfare programs were only counted if the program specifically serves homeless people.

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

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

To better trace the roots of homelessness, surveyors interviewed the homeless about the primary reason for leaving their last permanent residence. Table 4 displays the results.

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

Source: CT Counts 2007

DSS has historically reported the leading causes of homelessness as alcohol/drug abuse, unemployment, and insufficient income. Across all groups in the CT Counts 2007 survey, "rent problems" was the number two reason cited as the cause of homelessness. "Rent problems" refers to a household's failure to make periodic housing payments. This failure could be attributed to a number of financial or housing problems such as a lack of affordable housing supply in Connecticut. In addition to forces in the housing market, rent problems could be caused by personal issues such as substance abuse or unemployment. The most frequent choice for respondents was the "other" category, which could be interpreted in a number of ways, not the least of which could be a problem with alcohol or drug abuse.

At the same time, chemical dependency may trigger several of the above scenarios, including family/friend conflict, eviction, or hospitalization. Among single adults, a striking 13% of sheltered and 14% of unsheltered persons were incarcerated, and once released were forced

into poverty and homelessness. It is common for released prisoners to have difficulty finding a job and affordable housing, leading many to eventually return to jail.

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

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

An accurate record of the chronically homeless is difficult to determine even with the best survey methodologies. CT Counts 2007 surveyed those persons who have been without a permanent residence for various lengths of time. If respondents indicated that this period was greater than three years, they were categorized as chronically homeless. The results convey that an alarming 52% of unsheltered single adults were chronically homeless. The second highest rate (36%) occurred among sheltered single adults. It is important to note that single homeless adults reported a high incidence of mental, physical, or developmental disability. Forty percent of sheltered and 45% of unsheltered single adults cited that they had some type of health condition that limits their ability to work, get around, care for themselves or otherwise provide for their needs. In addition, 41% of sheltered and 26% of unsheltered adults were in need of mental health services at the time of the count. Table 5 reports CT Counts 2007 survey results.

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

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

*Provision of information on unsheltered homeless subpopulations was optional in the 2006 CoC application.
Source: Continuum of Care 2006

One aspect of the Continuum of Care program is that it funds housing-related projects designed to serve the homeless population. Table 6 shows the funding awards received by Connecticut homeless housing programs in 2006.

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

Source: Continuum of Care 2006

Additionally, the ESG program helps domestic violence victims and provides safe housing options for them. According to the American Institute on Domestic Violence, 85 to 95% of nationwide domestic violence victims are female. Victims of domestic violence are forced to turn outside of the home for shelter, safety, and support. Connecticut's lack of affordable housing reduces the level of independence and mobility that abused women need in order to leave their current situation. Often victims will have poor credit, rental, and employment histories as a result of their abuse. These factors further complicate the process of their securing new housing opportunities.

The 2007 National Census of Domestic Violence Services surveyed 10 out of 16 local domestic violence programs in Connecticut. It provides a snapshot of the adults and children served during one 24-hour period (September 25th). One hundred and eighty-six domestic violence victims received housing services, while 649 adults and children sought non-residential advocacy and services such as individual counseling, legal advocacy, and children's support groups.

For the 2006-07 fiscal year, the Connecticut Coalition Against Domestic Violence (CCADV) sheltered 1,601 persons. There were 2,157 persons requesting shelter, but did not stay. More than 32% did not stay because of a lack of beds. Of the 2,157 that needed a safe place to stay, 1,445 were referred to other domestic violence or homeless shelters. The CCADV is just starting to collect statistics on the living situation of domestic violence victims after they seek assistance from the CCADV. After living in a shelter, 96 victims have returned to the previous abusive living situation. The leading reason is a lack of affordable housing.

Housing Opportunities for Persons with AIDS (HOPWA)

HIV/AIDS continues to be a major concern in Connecticut. The disease was first reported in the state during the early 1980s, and the number of HIV/AIDS cases continues to rise despite a slowing rate of growth. As of 2007, 10,731 people were reported by the Connecticut Department of Public Health to be living with HIV/AIDS (PLWHA). However, this number is almost certainly an underestimate of actual HIV/AIDS cases in the state considering the fact that HIV reporting was not required prior to 2002 and that some PLWHA are not aware of their infection. Table 7 gives a sense of the trend in HIV/AIDS cases in Connecticut over the last year.

Table 7: Trends in HIV/AIDS Cases

Year	Reported AIDS	Reported HIV	Deaths	Prevalent HIV AIDS
1997	1,175	4	344	5,575
1998	642	4	311	5,973
1999	580	3	316	6,369
2000	581	4	305	6,775
2001	554	4	288	7,156
2002	592	264	287	7,895
2003	690	267	270	8,536
2004	672	291	296	9,095
2005	569	772	256	9,564
2006	539	852	133	10,171
2007	445	855	28	10,731

Source: CT Dept. Public Health 2007

The PLWHA population in Connecticut is extremely concentrated in the three largest urban areas in the state: Bridgeport, Hartford, and New Haven. These three cities contain 5,000 citizens living with HIV/AIDS, which is 47% of the total PLWHA population in Connecticut. Table 8 provides specific numbers of PLWHA in selected Connecticut cities.

Table 8: PLWHA in Selected Cities	
Town of Residence	**People Living with HIV/AIDS**
Bloomfield	72
Bridgeport	1,343
Bristol	83
Danbury	221
East Hartford	199
East Haven	70
Greenwich	64
Groton	50
Hamden	119
Hartford	2,089
Manchester	89
Meriden	208
Middletown	156
Milford	63
New Britain	397
New Haven	1,568
New London	194
Norwalk	348
Norwich	144
Stamford	525
Stratford	96
Torrington	64
Wallingford	59
Waterbury	704
West Hartford	75
West Haven	188
Windham	126
Other Towns	1,417

Source: CT Dept. of Public Health 2007

Department of Corrections

The Department of Corrections (DOC) ensures the security of the state's 18 correctional facilities. The mission of DOC is to protect the public, protect staff, and provide safe, secure and humane supervision of offenders with opportunities that support successful community reintegration. DOC provides the programming, counseling, education and treatment to

inmates that they can utilize to improve themselves. DOC provides programs and structured activities with clearly defined behavioral expectations for offenders. The department's focus is on successful strategies to reduce recidivism and support offenders in returning to their communities. The 2008 DOC budget was $691,135,411.

DOC contracts for approximately 600 halfway house beds throughout the state. These programs assist offenders in the process of reintegrating into society, and may include employment assistance, substance abuse treatment, mental health and housing assistance. The Court Support Services Division supervises approximately 52,000 probationers and, as part of Connecticut's balanced program to alleviate overcrowding in the state's prisons, DOC has developed a major network of Alternative Incarceration Programs. By diverting less serious offenders to community punishment and supervision programs, Connecticut ensures that prison space remains available for more serious offenders.

The department continues to face the challenges of providing adequate and appropriate risk/need assessment, case planning and pre-release services and intensive supervision and case management once offenders are back in the community. The most critical needs within 72 hours of release are medical services, registration for benefits, supervision compliance and access to appropriate and safe housing. The majority of offenders who violate parole have housing issues, with nearly 50% listing local shelters as their address at the time of parole violation. DOC recognizes that the problems of re-entry are not strictly a correction or a criminal justice issue but a community issue, and that creative solutions require collaboration, coordination and partnership with a wide range of state, local, non-profit and community groups.

Veterans Affairs

The Department of Veterans Affairs (DOVA) offers many benefits and social services to Connecticut's 31,000 veterans with the mission of, "Serving those who served." Opportunities facilitated by the DOVA include the following: housing, health care, educational, financial assistance, motor vehicle, employment, retirement and burial. Funding for veteran services is composed of federal and state dollars.

Non-Governmental Organizations

It is important to mention that Connecticut has a vast network of private and not-for-profit organizations that provide social services to the state's residents. Thousands of non-governmental organizations are assisting to promote welfare for all of Connecticut.

SUMMARY

Social services is not only a large government expenditure each fiscal year, but numerous private and non-profit organizations are necessary to provide proper facilities and complement programs for Connecticut's citizens. DSS contains 19 different divisions and oversees $4.5 billion in services and programs. These programs are vital to providing housing, counseling and medical assistance. With a growing number of citizens relying on welfare and governmental housing, the need for workforce development for these groups is essential.

Land Use in Connecticut

Overview

Land use is crucial to economic development and transportation is crucial to land use. The critical linkage among the three necessitates a thorough understanding of the principles of growth management such that proceeding from where we are protects and sustains our vital water, land and natural resources and is supported to the extent possible by the established infrastructure. Connecticut's Plan of Conservation and Development is an important contribution to the understanding of the status quo and contains a comprehensive set of policies for sustaining and improving our quality of life with rational use of our land and economic and transportation development tat proceeds according to sound growth management principles.

Growth Management Principles

The Plan of Conservation and Development lists the following growth management principles that we take as a framework for understanding the current land use situation in the state.

1. Redevelop and revitalize regional centers and areas with existing or currently planned physical infrastructure;

2. Expand housing opportunities and design choices to accommodate a variety of household types and needs;

3. Concentrate development around transportation nodes and along major transportation corridors to support the viability of transportation options;

4. Conserve and restore the natural environment, cultural and historical resources, and traditional rural lands;

5. Protect and ensure the integrity of environmental assets critical to public health and safety; and

6. Promote integrated planning across all levels of government to address issues on a statewide, regional and local basis.

Land Use and Infrastructure

The availability of infrastructure is an integral part of economic development. In regions without roads, utilities, sewers, or water, economic growth will not occur. As discussed below, Connecticut's municipalities are responsible for planning and regulating land use and economic development within their borders. The lack of integration between these two functions has had a cumulative effect on unintended development and the inefficient use of transportation resources.

Over the past several decades, population migration from cities to suburbs has made it increasingly difficult and expensive to accommodate society's demand for mobility. As land use patterns change, the transportation system faces new demands in certain areas while other areas have underutilized capacity. The effort and cost to maintain this expansive network, limits the state's responsiveness to the deficiencies in the transportation system. Municipalities have experienced increased fiscal burden to maintain (and plow) the expanding road network.

Today's suburban communities are characterized by their low-density, single-use patterns of development that seldom support any form of transportation other than the automobile.

Commuting patterns that traditionally involved a central hub now often cut across regions from suburb to suburb. Highway-accessible shopping malls, corporate offices, and industrial complexes have drawn considerable retail and employment away from regional metro centers, further limiting public transportation's ability to respond to convoluted travel demands. As a result, suburban arterial roads must handle significantly more traffic than they were designed to accommodate.

Experience confirms that the state cannot build its way out of congestion, as short-term improvements in highway expansion often exacerbate development pressures at the suburban fringe. The solution requires a consistent, long-term approach to match land development with the ability of the transportation network to provide an acceptable level of mobility. There is no single cure for congestion, but transportation options can become viable over time as more concentrated land use patterns emerge through prioritized infill development around transportation nodes and along major transportation corridors.

Land Use and Zoning

There is a strong connection between zoning regulations and land use in Connecticut. Zoning regulations dictate the location of specific types of development within municipal borders. Hence, their effect on local development patterns is significant. Municipal zoning regulations are determined at the local level by planning officials and boards. With the exception of the call for municipal plans of conservation and development, the state government remains aloof from the local economic development process except as environmental protection is concerned. As most states tend to regionalize zoning practices, Connecticut's situation is unique.

Under Connecticut's home rule system of government, each municipality has the autonomy to regulate local land use in a manner that is both fiscally and environmentally responsive to its residents' needs and desires. To a certain degree, municipal land use decisions can be influenced by state infrastructure plans and capital investments in transportation facilities, public water supply and sewer lines, sewage treatment plant upgrades, and property acquisitions for open space and other restricted development purposes.

There are consequences of this land use system. First, regulation decisions ultimately rest in the hands of a specific town planning board or commission. While the municipal population does have some say in economic development matters, significant decisions are beyond the public's reach. For example, there is no opportunity for a referendum on a contentious development issue. Anyone can seek to appeal a planning or zoning commission decision to superior court by following the procedure specified in CGS § 8-8, which includes giving the commission and other affected parties advanced notice of the appeal. No state board, commission, or agency is authorized to hear appeals or act on its own to overrule a local land use decision. Although anyone can seek to appeal a land use decision, the court will not hear it unless the appellant can demonstrate they have standing.

The state could override local zoning, because towns are creatures of the state. However, under current law, the state has delegated land use in Connecticut as a matter of local jurisdiction. CGS § 8-2 gives towns broad discretion in adopting and amending zoning ordinances, which dictate how land may be used. Notwithstanding, the statutes do place some restrictions on zoning ordinances.

The implication is that a town's development pattern or development agenda does not always reflect the wishes and needs of the local population. Further, there is little inter-town coordination of economic development entailing competing and perhaps redundant developments. Although significant heterogeneity among towns fosters Tiebout-style competition in which people vote with their feet,[1] it does not bode well for development continuity from one town to the next, and discouraged households may leave the state altogether.

Transit-supportive Land Use

State investments in public transportation equipment and operations cannot be cost-effective without supportive land use planning and design. Transit-supportive land use is a process whereby communities plan and zone for intensive, mixed-use development in close proximity to transit stations or along transit corridors where physical infrastructure is typically already in place. A wide variety of transportation options, including train, bus, car, bicycle and walking should be integrated into the area's design in order to provide travel choices and improve the overall effectiveness of the transit system for all its users.

Transit-supportive land use presents opportunities for infill development and redevelopment in underutilized areas, including a wide variety of housing types and prices, and reduces the number of automobile trips. By mixing employment, residential, retail, and leisure activities into concentrated areas, transit service can become more viable. Furthermore, station area

[1] Traditionally, economists have looked at competition and public service provision in two ways. The first, pioneered by Charles Tiebout in the mid-1950s, argued that local governments compete with each other based on cost. People "vote with their feet" to choose the local government that provides them with the right number of services at preferred levels and costs. This approach implies that rivalry among local governments improves service quality. An alternative, but complementary line of reasoning, argues that as government functions are consolidated, or more functions move to "higher levels" of government (e.g., federal rather than state, state rather than local, etc.).

development is a way to bring visitors into a community to shop or dine without adding to traffic on local roads.

Transit-supportive land use is more than addressing the transportation engineering aspect of moving people safely and efficiently. It is about creating an environment that facilitates opportunities for social interaction and "walkability." This can be an attractive environment for many, including young professionals, college students, senior citizens, and others who might choose to live and work nearby, in addition to enhancing their mobility.

Communities that currently have stations along the New Haven Line and its branches and the Shoreline East commuter rail line have the greatest potential for transit-supportive land use. Shoreline East communities in particular have an affirmative obligation to create new ridership by clustering residential development within walking distance to stations, if this heavily subsidized service would become more viable.

Several opportunities exist for transit-supportive land use in communities along the proposed New Haven-Hartford-Springfield commuter rail line. Furthermore, a network of planned bus rapid transit (BRT) facilities in the capitol region could create additional opportunities for station area development and inter-city commuting. Lastly, municipalities with existing local bus service should evaluate their routes and stops to ensure that areas with high density, mixed uses, and pedestrian access are well served by transit.

Open Space

Aggregate demand for both public and private open space increases with population, providing justification for increased provision. Open space provision, however, is becoming a problem. Prices for land are rising, funding is shrinking, and density is increasing. Each of these factors makes it increasingly difficult for increased open space provision.

Notwithstanding these issues, in 1997 the General Assembly set a goal of preserving 21% of the land area in Connecticut as open space by 2023. There are more than 3,200,000 acres in the state. This leaves approximately 670,000 acres needed to reach the goal. The best estimates of total open space preserved in FY 2006 are nearing 500,000 protected acres (from the CT Green Plan). Although Connecticut is 75% of the way toward its goal, there is still work to do. In addition, Connecticut's efforts have also resulted in the preservation of 222 farms incorporating 31,025 acres of farmland.

Responsible Growth

In order to address the challenges of growth and development vis-à-vis protecting and sustaining our vital water, land and natural resources and preserving to the extent possible the established

infrastructure, Governor Rell established the Office of Responsible Growth in October 2006.[2] The responsibilities of the Office include:

a) **Chairing an Interagency Steering Council**, consisting of the commissioners of the Department of Economic and Community Development (DECD), Department of Environmental Protection, Department of Agriculture, Department of Transportation and the Department of Public Health as well as the Executive Directors of the Connecticut Housing Finance Authority (CHFA) and the Connecticut Development Authority, to coordinate policy development and capital planning in an effort to efficiently utilize state expertise and financial resources.

b) **Creating regional roundtables** that will invite the ongoing participation of city and town officials and foster the development of planning agendas tailored to the specific needs of different parts of our state, starting with new transit corridors.

c) **Developing support and incentives for communities** to engage in regional planning, to update zoning maps and ordinances and to build the capacity of municipal staff, boards and agencies to make complex land-use decisions. This effort will include the establishment of a new municipal training program that will be created in conjunction with regional planning organizations, the Connecticut Land Use Academy and resources that already exist in our state's colleges and universities.

d) **Updating the "Green Plan" for Connecticut** by June of 2007 to better identify sensitive ecological areas and unique features, guide acquisition and preservation efforts, support local build-out maps and assessments, and make these and other maps accessible to state agencies, regional planning agencies, local communities and nongovernmental organizations through geographic information systems (GIS).[3]

e) **Reviewing transportation policies and projects** to increase opportunities to promote mass transit and road design that support state and local economic development while preserving and enhancing the character, as well as the "walkability" of our communities.

f) **Expanding housing opportunities** to meet the needs of all Connecticut residents and support an expanding workforce with housing that provides ready access to passenger rail and bus service.

g) **Reviewing all state funding** that has an impact on the growth and development of Connecticut and establishing criteria that will target funds for uses that are consistent with goals that emerge for responsible growth.

[2] Executive Order 15. View at http://www.ct.gov/governorrell/cwp/view.asp?A=1719&Q=320908.
[3] The updated Green Plan is available at http://www.ct.gov/dep/lib/dep/open_space/green_plan.pdf.

h) **Targeting economic incentives** to support development in designated responsible growth areas; and

i) **Creating a new "Green and Growing" web page** to highlight best practices and develop a virtual toolbox and roadmap to promote responsible growth region by region and community by community.

Local Fiscal Issues

Connecticut and other New England states and their municipalities face increasingly difficult fiscal issues as a variety of costs beyond local control escalate faster than grand lists do. Thus, concerns about increases in school costs motivate some towns to restrict growth.[4] Using legislation at the town level, local officials aim to control the growth of residential housing, rising school costs and sprawl. Yet sprawl is increasing, school enrollments are dropping in Connecticut[5] and New England.[6] Connecticut is losing its social capital as younger workers and families face longer commutes. Long commutes unnecessarily limit involvement of these workers in their communities and within their families. Another effect of sprawl is that some young families are unable to live near their aging family members and returning young adults are unable to afford housing in the towns in which they grew up, which fractures the heart of New England's strong family roots and ideals. While the aim of these local measures is ostensibly to protect a small town and a family oriented way of life, in fact the opposite is the result.

In the demographic section of this report, we have shown that one of the most significant and potentially harmful consequences of the lack of affordable housing, high energy costs and transportation bottlenecks is the out-migration of young adults. This exodus will leave Connecticut with slowing workforce growth, declining numbers of children — the future workforce — and a population aging at an even faster rate due to disproportionately increasing numbers of older residents. The influx of international immigrants and the greater-than-replacement fertility rate of Hispanics have camouflaged the exodus of young (educated) adults. However, Connecticut and the rest of New England are aging more rapidly than other areas, greatly diminishing the region's prospects for economic growth.

School-Age Children Multipliers

Two of the myths pushing towns to larger residential zoning and big box retail are that school enrollments are rising and young families generate significant numbers of school-aged children. The Rutgers University Center for Urban Policy Research created a series of school-age

[4] Francese, Peter, and Lorraine S. Merrill (2008). Communities & Consequences: The Unbalancing of New Hampshire's Human Ecology, and What We Can Do About It, Peter E. Randall Publisher.
[5] The Connecticut State Data Center (www.ctsdc.uconn.edu) has documented enrollment growth.
[6] Coelen, Stephen and Berger, (2005). "New England 2020,"

multipliers for each state in the United States.[7] The demographic fields differentiated by housing type, price, and tenure have been found by Rutgers University to be associated with differences in household size, school-age children (SAC), and public school-age children (PSAC). The multipliers are calculated for new housing, defined as housing units enumerated in the 2000 Census and built from 1990 to 2000. Values and gross rents reported in the 2000 Census are updated to 2005 using a residential price inflation index available from the Federal Housing Finance Board. A separate price index is applied for the nation, for each of the 50 states, and for the District of Columbia.

The table created by the Center for Urban Policy Research for Connecticut is listed below. In general, the Residential Demographic Multipliers for Connecticut reveal that new housing units, regardless of type and tenure, generate fewer total persons per housing unit and school-age children per housing unit than is commonly assumed. The Connecticut Partnership for Balanced Growth found the following common themes in the multipliers.

- All single family units with less than five bedrooms generate fewer than one public school-age child per unit.
- As the value of units increases, the number of persons per unit and school-age age children per unit tends to decrease.
- There is little difference between the number of school-age children between one and two bedroom units. Three bedroom units produce on average less than one public school-age child per unit.

When interpreting the following table, for 100 single-family detached, three-bedroom units, about 21 school-age children would be generated, and six of them would be in grades K-2. (The attached table is courtesy of the Rutgers University study.)

Contrary to popular belief, there is not a one-to-one ratio of number of housing units created and school-age children in the school system. The creation of housing units does not create the equivalent stress on the school system. The multiplier shows that the additional property tax revenue from a new housing unit does not have the same magnitude of the additional marginal cost of the school-age children in school from that housing unit.

[7] Rutgers University, Center for Urban Policy Research, Residential Demographic Multipliers—Connecticut, Estimates of the Occupants of New Housing (Residents, School-Age Children, Public School-Age Children) by State, Housing Type, Housing Size, and Housing Price.

CONNECTICUT (2--1) ALL SCHOOL CHILDREN:
SCHOOL-AGE CHILDREN (SAC)

STRUCTURE TYPE /BEDROOMS/ VALUE (2005)/TENURE	TOTAL SAC	GRADE K–2	3-6	7-9	10-12	Gr. 9 Only
Single-Family Detached, 2 BR						
All Values	0.21	0.06	0.07	0.04	0.04	0.01
Less than $218,000	0.27	0.08	0.06	0.05	0.08	0.01
$218,000 to $356,500	0.20	0.06	0.08	0.03	0.02	0.01
More than $356,500	0.17	0.06	0.05	0.04	0.02	0.03
Single-Family Detached, 3 BR						
All Values	0.66	0.21	0.23	0.13	0.09	0.04
Less than $257,500	0.78	0.18	0.26	0.20	0.13	0.08
$257,500 to $356,500	0.65	0.23	0.23	0.12	0.08	0.04
More than $356,500	0.58	0.20	0.21	0.09	0.08	0.02
Single-Family Detached, 4 BR						
All Values	1.07	0.30	0.34	0.25	0.18	0.08
Less than $435,500	1.03	0.29	0.34	0.25	0.16	0.07
$435,500 to $554,500	1.06	0.30	0.33	0.25	0.17	0.09
More than $554,500	1.11	0.31	0.36	0.25	0.20	0.07
Single-Family Detached, 5 BR						
All Values	1.66	0.36	0.62	0.40	0.28	0.11
Less than $554,500	1.65	0.31	0.49	0.51	0.34	0.06
$554,500 to $1,386,500	1.68	0.31	0.74	0.39	0.24	0.13
More than $1,386,500	1.64	0.51	0.48	0.34	0.30	0.13
Single-Family Attached, 2 BR						
All Values	0.23	0.09	0.09	0.02	0.03	0.01
Less than $178,500	0.53	0.22	0.20	0.06	0.05	0.03
$178,500 to $257,500	0.11	0.05	0.03	0.00	0.03	0.00
More than $257,500	0.07	0.01	0.04	0.00	0.01	0.00
Single-Family Attached, 3 BR						
All Values	0.62	0.12	0.18	0.21	0.11	0.11
Less than $218,000	1.34	0.20	0.39	0.51	0.24	0.24
$218,000 to $435,500	0.34	0.14	0.10	0.05	0.05	0.02
More than $435,500		Insufficient Sample				
Single-Family Attached, 4 BR						
All Values		Insufficient Sample				
Less than $356,500		Insufficient Sample				
$356,500 to $435,500		Insufficient Sample				
More than $435,500		Insufficient Sample				
5+ Units–Own, 1 BR						
All Values	0.00	0.00	0.00	0.00	0.00	0.00
Less than $119,000		Insufficient Sample				
$119,000 to $257,500		Insufficient Sample				
More than $257,500		Insufficient Sample				
5+ Units–Own, 2 BR						
All Values	0.07	0.02	0.01	0.02	0.01	0.01
Less than $150,500	0.14	0.03	0.03	0.06	0.02	0.00
$150,500 to $218,000	0.07	0.03	0.00	0.02	0.01	0.02
More than $218,000	0.00	0.00	0.00	0.00	0.00	0.00
5+ Units–Own, 3 BR						
All Values		Insufficient Sample				
Less than $178,500		Insufficient Sample				
$178,500 to $257,500		Insufficient Sample				
More than $257,500		Insufficient Sample				

Incentive Housing Zones

The Connecticut General Statutes Section 8-13n provides municipalities with the ability to establish incentive housing zones. Developers can increase their economies of scale by building more units on a specific plot of land — lowering the development cost of each unit. Incentive housing zones allow for higher densities within the zone. Developments within a zone must include affordable units. In order for a development to be considered an affordable housing development it must contain not less than 20% of the units deeded as affordable housing units. DECD anticipates that the higher densities allowed for within the zones will encourage developers to create more affordable housing within the state.

Zone Specifications

The incentive housing zones create incentive housing developments (affordable housing units) where the housing costs are 30% or less than the household's income and where such income is less than or equal to 80% of the area median income (AMI).

The specific eligibility criterion for the establishment of incentive housing zones is thoroughly described in Section 8-13n. Most pertinent to the following analysis are the density requirements. The minimum allowable densities per acre outlined in the act are as follows:

- Six units for single family detached housing;
- 10 units for duplex housing; and
- 20 units for multifamily housing.

Determination of Incentive Housing Zone Need

Analytical Methodology

Using the Connecticut Housing Supply and Demand Model, DECD projected the number of households in 2015 that would be considered cost burdened with more than 30% of household income being spent on housing costs. Affordable housing is intended to reduce the cost burdens on these households. A distinction must be noted in the definition of affordable housing by the incentive housing zones and the Connecticut Housing Supply and Demand Model. Both require that for housing to be affordable, housing costs must be at or below 30% of the household income. However, the incentive housing zone requires that household income be at or below 80% of the AMI, and the housing model does not make this assumption. DECD and CHFA used the projections at the county level from the Connecticut Housing Supply and Demand Model to determine the number of units needed for the incentive housing zone. Due to data limitations, the additional AMI constraint could not be accounted for.
Based on current ratios of owners and renters and the expectation that the ratios will hold, future needs were calculated for each household type. To calculate the actual number of acres necessary to meet the affordable housing need, the required number of units needed was divided

by the corresponding density per acre. After accounting for the 20% affordable unit requirement, the calculation of acreage necessary for the incentive housing zones to meet the affordable housing need for 2015 is complete.

One restriction of the incentive housing zone is the aggregate land area of the incentive housing zones in the municipality must not exceed 25% of the total land area of the municipality. While DECD and CHFA were unable to work at the municipal level due to data limitations from the Connecticut Housing Supply and Demand Model, data was available at the county level. 2000 Census data gave the total land area of each county. Comparing the incentive housing zone acres and 25% of the total county land area, the needed zones in each county are less than 25% of the land area. Table 1 shows the total land area, measured in acres for each county and 25% of that area, which can be used for the incentive housing zone program.

Table 1: Total Land Area

	Total Land Area (acres)	25% of Total Land Area
Fairfield	400,512	100,128
Hartford	470,682	117,670
Litchfield	588,749	147,187
Middlesex	236,326	59,082
New Haven	387,610	96,902
New London	426,182	106,546
Tolland	262,445	65,611
Windham	328,160	82,040
Connecticut	3,100,666	775,166

Source: Connecticut QuickFacts from Census 2000

Results of Analysis

Table 2 shows the zoning acres needed to meet the expected affordable housing gap in 2015. Seven test scenarios were created for how the incentive housing zones could be configured. The affordable owner and rental housing units needed for each county and for the whole state are projections from the Connecticut Housing Supply and Demand Model. The column heading explanations appear below.

- Single Family Owner: only single family units are developed and all units are owner occupied;
- Duplex Owner: only duplex units are developed and all units are owner occupied;
- Blended — Single-Family and Duplex-Owner: single-family and duplex units are created, all units are owner occupied;
- Blended — Single- and Multi-family Owner: single- and multi-family units are created, all units are owner occupied;

- Multi-family Rental: multi-family units are solely created and all occupied by renters;
- Blended — Single-Family Owner and Rental: single-family units are created, some are owner occupied, some are renter occupied, based on the current ratios;
- Blended — Multi-family Owner and Rental: multi-family units are created, some are owner-occupied, some are renter occupied, based on the current ratios.

Table 2: Affordable Housing Incentive Housing Zoning Needs for 2015										
				Necessary Incentive Housing Zone Acres						
	Affordable Owner Housing Units Needed	Affordable Rental Housing Units Needed	Total Units Needed	Single Family Owner	Duplex Owner	Blended: Single Family and Duplex Owner	Blended: Single- and Multifamily Owner	Multifamily Rental	Blended: Single Family Owner and Rental	Blended: Multifamily Owner and Rental
Fairfield	32,915	10,140	43,055	27,429	16,458	20,572	14,352	2,535	35,879	10,764
Hartford	21,506	24,157	45,663	17,922	10,753	13,441	15,221	6,039	38,053	11,416
Litchfield	9,178	714	9,892	7,648	4,589	5,736	3,297	179	8,243	2,473
Middlesex	6,989	1,175	8,164	5,824	3,495	4,368	2,721	294	6,803	2,041
New Haven	25,452	13,737	39,189	21,210	12,726	15,908	13,063	3,434	32,658	9,797
New London	8,684	1,900	10,584	7,237	4,342	5,428	3,528	475	8,820	2,646
Tolland	4,831	988	5,819	4,026	2,416	3,019	1,940	247	4,849	1,455
Windham	3,668	789	4,457	3,057	1,834	2,293	1,486	197	3,714	1,114
Connecticut	113,223	53,600	166,823	94,353	56,612	70,764	55,608	13,400	139,019	41,706

Source: CT Housing Supply and Demand Model, ACS 2006

Emergency Preparedness

Homeland Security Overview

Homeland Security is a combined effort of state and national governments to prevent terrorist attacks within the state and nation. This is accomplished by four overarching goals: prevention, preparedness, response and recovery.[1]

Connecticut has always had a multi-hazard approach to emergency planning, including natural disasters and terrorism. This means the state has plans in place to cover all types of disasters. In fact, the state developed a Consequence Management Guide addressing terrorism preparedness and response in 1999. Since September 11, 2001, the focus has been updating this guide into a consequence plan.

Section 28-1a of the Connecticut General Statutes created a new state agency: the Department of Emergency Management and Homeland Security (DEMHS). Governor Rell named James Thomas Commissioner to head the new agency. Commissioner Thomas served in the Glastonbury Police Department where he served as chief for 15 years. The new state department combined the Office of Emergency Management within the Military Department and the Homeland Security Division of the Department of Public Safety.

Connecticut's Emergency Response Planning

DEMHS is leading a number of multi-agency task forces charged by Governor Rell with preparing state government to deal with terrorism. These include revising the Natural Disaster Plan and the Consequence Management Plan. DEMHS and the Department of Public Safety and the Department of Transportation are working together to develop a Mass Evacuation and Mass Care Plan. DEMHS and the Department of Agriculture have developed the state's Pandemic Avian Response Plan. DEMHS and the Department of Health are working on the state's Pandemic Flu Plan. DEMHS has divided the state into five emergency planning regions and is organizing planning teams in each region to develop Regional Emergency Response Plans. This effort is being spearheaded by the DEMHS regional offices and the regional planning organizations. Many local agencies are assisting in the process as well. Additionally, DEMHS is working with local agencies to establish, equip, and train five regional response teams capable of responding to any type of terrorist incident. Each plan is compliant with the National Incident Management System (NIMS) and supportive of both state and national strategies. Governor Rell's Executive Order #10 mandates NIMS compliance for all state agencies.

[1] Connecticut Department of Emergency Management and Homeland Security: Overview. <http://www.ct.gov/demhs/cwp/view.asp?a=1939&q=308364&demhsNav=|> Accessed March 10, 2009.

Critical Assets Identification

DEMHS has made protection of Connecticut's critical assets a top priority of the state's Homeland Security Initiative against terrorism. A critical asset evaluation was conducted in 2003 identifying over 700 critical assets in the state. DEMHS has been working with its government and private sector partners to evaluate these sites and develop plans of actions to increase security at each asset. These critical assets include infrastructure (dams, power plants, etc.), locations, or events where large groups of people gather, and symbols of power, such as the Capitol. DEMHS offers these critical assets review to government and private sectors at no charge. A specially trained group of state troopers assigned to DEMHS conducts the assessments. As of this writing, the state police are updating the critical assessments.

Connecticut Intelligence Center

This multi-agency center is located at the FBI's Connecticut office. The center includes federal, state and local law enforcement personnel working side by side to develop leads and solve cases. The center is connected to every local law enforcement agency by specially trained intelligence liaison officers who report to regional intelligence officers to report to and work at the Connecticut Intelligence Center (CTIC). The CTIC produces weekly intelligence bulletins that are distributed electronically to law enforcement and others (like fire chiefs, fire marshals, emergency managers and health directors) who work in the field and may come upon important information.

Standardized Incident Response

Connecticut is prepared to respond to any incident, including terrorism, using the National Interagency Incident Management System (NIIMS). Training is being provided by FEMA personnel to all emergency responders in the state to standardize the system, manage incidents and will enable all Emergency First Responders to function in a multi-discipline and multi-jurisdictional response and better coordinate their efforts through a seamless integration of resources. To further this goal all equipment purchased and distributed to first responders has been standardized to ensure compatibility.

Executive Order # 10 signed by Governor Rell on September 19, 2005 implemented NIIMS as the state standard for all responses.

Standardizing Communications

Given the issues of communications at the attacks of September 11, 2001, Connecticut has developed two programs to overcome inter-operation communication troubles. The first was to allow all incident commanders to talk to one another. Today a fire chief in one town can talk to a police chief or EMS director in any other town in the state. Radios were provided for incident command communications. A second system, utilizing cross-banding devices allows

firefighters, police officers, medical personnel or public works employees to be able to talk to one another at the scene.

Working with Local Government Partners

The backbone of Connecticut's Homeland Security program rests with the Coordinating Council. This council has representatives from over 25 difference agencies, both state and local. The council meets monthly and provides the guidance to DEMHS on developing its statewide strategy and funding distribution models.

State Emergency Operations Center

This facility activated for several days immediately following the September 11, 2001 terrorist attacks. The Emergency Operations Center is in warm status, meaning it can be activated and operational at a moment's notice. The center is the managing arm over Connecticut's deployment of regional emergency first response teams, and would activate the responders if a terrorist event occurred.

Homeland Security and the Need for a Scientific Workforce

The security of the United States is reliant on technological advancement and up-to-date protection measures. The research and development of new defense and safety strategies to support these initiatives involves various areas of expertise that can not be outsourced. However, the United States is currently lacking education in just these areas.[2] Jay Cohen, Under Secretary for Science and Technology at the U.S. Department of Homeland Security, discussed the importance of teaching children in math and science, at a November 6, 2008 speech at Eastern Connecticut State University. "If we don't get this right, if we don't produce the requisite number of scientists and engineers for a technologically enabled society, we will not be a first-world economy."[3] The United States is not producing scientists and engineers at high enough rates to grow the economy, because not enough students are interested in the subjects, and test scores are stagnant.

In 2005, 27.3% of all high school graduates in the United States studied biology, chemistry and physics; and 4.3% were enrolled in engineering-centric classes. Also in 2005, only 62.8% of high school graduates took algebra I classes, 29.5% were enrolled in analysis/pre-calculus classes and just 13.6% were taking calculus.[4]

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[2] Organisation for Economic Co-operation and Development. *OECD in Figures 2007: World Education Rankings*. <http://oberon.sourceoecd.org/vl=694993/cl=11/nw=1/rpsv/figures_2007/en/c008/page24.htm>

[3] Eastern Connecticut State University. *ECSU Newsflash – December 2008.* <http://universityrelations.easternct.edu/NewsflashPDF/December2008.pdf>

[4] National Center for Education Statistics, "Digest of Education Statistics: 2007," http://nces.ed.gov/programs/digest/d07/tables_2.asp.

This disinterest begins at an early age with low test scores in math and science, discouraging many children to pursue a career in the hard sciences. In 2007, 72% of Connecticut's eighth-graders achieved at or above the basic level of mathematical understanding, as defined by the National Center for Education Statistics. This percentage was the 27th highest in the country, and two points above the national average of 70%.[5] As of 2007, the average science test score for a Connecticut eighth-grader was down three points since 1996. Moreover, only 63% of these students achieved at or above the basic level of scientific understanding.[6]

Overall, Connecticut's growth over the past few years concerning math and science test scores, higher education attainment and affordability, and science and engineering graduation rates has been sluggish. According to a CERC 2007 calculation, Connecticut's growth in these important innovation areas ranked the state 40th (50th being the slowest growth) in the nation.[3] Although gaining in "doctoral scientists and engineers per 1,000 workers," the overall future workforce of Connecticut looks bleak without a significant focus on the sciences during one's elementary education.

SUMMARY

The Department of Emergency Management and Homeland Security (DEMHS) directs and coordinates all available resources to protect the life and property of the citizens of Connecticut in the event of a disaster or crisis, through a collaborative program of prevention, planning, preparedness, response, recovery and public education. Homeland security is dependent upon up-to-date protection measures, and thus a scientific workforce, as advanced technologies are necessary in order to adapt to and combat threats. Emphasis must be placed on improved educational outcomes in science, technology, engineering and mathematics for a technologically-enabled society.

[5] Connecticut Economic Resource Center. *Benchmarking Connecticut 2007*.
<http://www.cerc.com/images/customer-iles/CTBenchmarksFullReport.pdf.
[6] NAEP Report Card, "State Profiles," http://nces.ed.gov/nationsreportcard/state.

Connecticut Taxation

1. Introduction

What is the nature of taxation in Connecticut? What is the distribution of the burden and incidence of taxes residents (that is, householders) pay across towns? That is, who pays what and where do they live (the geographic distribution of burden)? And how do Connecticut's taxes compare with other states? This section attempts to answer these questions and others through a detailed accounting of taxation in Connecticut. We begin by looking at how tax burden by tax type at the federal, state, and local level is distributed across Connecticut residents by town and income group. We then examine and compare Connecticut's system of taxation to other states. Before proceeding, we begin with a brief review of theories of taxation in order to provide some context for the analysis discussion and results to follow.

Taxes permit governments to provide goods and services that would otherwise not be provided or provided in sufficient quantity. Such goods are provided by government because of their unique properties. First, except for congestion issues, public goods are noncompetitive and nonrivalrous. That is, my consumption of a public park, road, monument, or education does not deny another of the same consumption until congestion inhibits our consumption. Second, governments provide those goods and services for which private markets are missing or inefficient. Roads, bridges, harbors, airports, libraries, parks, forests, reservoirs, schools and public safety are examples of goods and services governments provide that the private sector would or could not provide efficiently. Inefficiencies arise for several reasons. Private markets would not necessarily provide for the common good in the sense that a private provider of roads, bridges, harbors, libraries would likely have monopoly power in some geographic area ruling out competitive pressure. In addition, the public sector can theoretically provide goods and services with economies of scale that reduce their cost. Some public goods such as parks or libraries may not be privately provided at all because their marginal private costs outweigh their marginal private benefits (marginal social costs and benefits would not be considered by private providers). Other instances in which markets are inefficient arise in situations in which equity issues are important, such as education and public safety when ability to pay is meaningless. In these cases, governments can provide goods and services more efficiently than a private market.

Taxes that pay for public goods and services are raised from income (a flow of wealth), property (a stock of wealth), consumption (sales of goods and services including conveyances), and inheritances among others. Taxes relate to business and personal income directly and indirectly; the former include federal, state and local personal and business income taxes, the federal payroll tax (social security), and unemployment insurance. Taxes indirectly related to income include inheritance, consumption, excise and property taxes to the extent that higher income people have larger inheritances, consume more and higher-priced goods and services, and have larger and more expensive homes, as well as other taxable real property (boats, planes, stables) than lower income people. Taxes directly related to income essentially follow the spatial and statistical distribution of income (across towns). Connecticut residents earning wages in other states

experience the same Connecticut personal income tax burden as their counterparts who work inside Connecticut with identical incomes net of before-tax deductions. Federal taxes are identical (for identical incomes net of identical before-tax deductions) no matter where one works or lives. Connecticut's personal income tax is deductible from the federal tax burden, so to the extent people itemize deductions on their federal tax returns, the federal government subsidizes Connecticut's personal income tax. With respect to Connecticut's sales tax, people shopping in certain other states (border effects and via the Internet) could experience a lower sales tax burden than Connecticut residents who don't live close to the borders or do not have transportation or computers.[1] Sales taxes are inherently regressive because they consume disproportionately more of a lower income than of a higher income.

Summary of Findings

The majority of taxes paid by Connecticut residents falls into three categories: the personal property and real estate tax levied by local town governments, state and federal personal income taxes, and sales and use taxes collected primarily at the state level. Connecticut's local property tax accounts for 24.3% of the total tax burden felt by Connecticut households[2] and is the primary source of variation in tax burden across towns for a given income.

The Department of Economic and Community Development (DECD) constructs a measure of tax capacity that describes the value of taxable property in a town relative to the state average value of taxable property and of tax effort that describes a town's propensity to tax personal property and real estate. This report finds that, on average, Connecticut's tax effort does not rise proportionately with tax capacity. That is, towns with high property values tax property at a lower rate than towns with lower property values. At the extremes, a property worth $200,000 in 2005 to 2006 paid $5,578 in property tax in Bridgeport and $944 in Greenwich.

Our personal income tax simulations reveal that the federal component of this tax accounts for the bulk (57%) of all tax collected from Connecticut residents. The federal personal income tax is the most progressive tax faced by Connecticut residents, with rates that climb from 0% for households earning less than $25,000 per year to nearly 35% for those making (significantly) more than $100,000 per year. The state personal income tax, which accounts for 12.5% of the total tax burden on Connecticut residents, is progressive, rising from 0% to 5 % across income groups, and it provided the state with 53.4% of its FY 2008 revenue from state sources.[3]

The distribution of both federal and state income tax burden across towns necessarily mirrors that of median household income.

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[1] Of the nine northeastern states, Rhode Island and New Jersey have the highest sales tax at 7%, Pennsylvania, Connecticut and Vermont have a 6% sales tax, Maine and Massachusetts have 5%, New York has 4% and New Hampshire has no sales tax. Each of these states exempts food and prescription drugs. Additionally, Pennsylvania, Vermont, New York, New Jersey and Connecticut exempt non-prescription drugs.

[2] Based on the results of the tax model described in Section 2.

[3] DRS FY 2008 Annual Report, http://www.ct.gov/drs/lib/drs/research/annualreport/drs_fy08_annual_report.pdf

Connecticut residents and households pay a variety of taxes to their local, state, and federal governments in return for public services. Determining how this burden varies across households and how Connecticut's aggregate tax burden and incidence compares with other states is inherently difficult. Yet understanding these problems is crucial to enlightened public debate and sound policy prescription. This section addresses the three issues raised above. In two independent sections, DECD:

- performs an accounting of tax burdens in Connecticut, reporting the federal, state, and local tax burdens for households of varying income in each town; and
- compares Connecticut's state and local taxes with other states.

The remainder of this section is organized as follows: Section 2 analyzes how taxes vary from town to town. This includes an analysis of household tax burden, tax capacity, and tax collection at all levels. The information provided is useful to those interested in a detailed accounting of Connecticut's tax structure, and provides insight into taxation in Connecticut's 169 municipalities. Section 3 compares Connecticut's aggregate tax structure with the other 49 states in the nation. This last step puts Connecticut's tax structure in a broader context for policy analysis.

2. Taxation in Connecticut

The state collected $7.51 billion in personal income tax and $3.58 billion in sales and use taxes in FY 2007-08 (footnote 3). These sums represent 53.5% and 25.5% of more than $14 billion in tax revenue and user fees collected that year by the Department of Revenue Services. These sources together represent 44% of all revenue Connecticut received in 2007 ($25.492 billion).[4] Local revenues for FY 2007 totaled $11.421 billion, including $7.842 billion from property taxes and $2.681 billion in (state) intergovernmental transfers.[5] In this section, we examine federal, state, and local taxes as they apply to Connecticut residents. Results in this section describe aggregate Connecticut tax burden by income groups and tax burden by town applied to households earning the median income.

Property Taxes

The primary source of geographical variation in tax burden for a given income and the size and quality of real property (which correlates with income) accrues to the property tax. In other words, the tax on property of given market value varies across Connecticut towns according to the equalized mill rate (EMR) that accounts for the different dates of property revaluation in Connecticut's towns. The EMR represents the most recent grand levy as a fraction of the current, full property value.

[4] See Census of State Government Finances at http://www.census.gov/govs/state/0707ctst.html.
[5] Municipal Fiscal Indicators, 2003-2007. http://www.ct.gov/opm/lib/opm/igp/munfinsr/fi2003-07_final.pdf.

The FY 2006 EMR distribution across Connecticut towns is approximately normal (bell-shaped). The smallest value 4.72 is in Greenwich; the largest value 27.89 is in Waterbury; the median and mean values 14.15 and 14.18 suggest that the distribution of EMR values is approximately symmetric. Therefore, assuming valuation of property in 2005-2006, these numbers imply that a $200,000 property in Greenwich pays $944 in property tax, while an identically valued property in Waterbury pays $5,578. Map 2.1 displays the spatial distribution of Equalized Mill Rates across Connecticut for 2006, with darker towns representing higher equalized mill rates. Table 2.1 ranks towns according to EMR.

Map 2.1 shows that the lowest equalized mill rates (and therefore relative property tax burdens for a given property value) cluster along the western and eastern edges of the state with the western quarter having the most towns with EMRs less than 14. However, there are several towns along Connecticut's central coast with EMRs less than 14. Central, northern Connecticut towns have the highest EMRs in the state. In the western band of towns (the northwestern, Housatonic valley and southwestern planning regions) with lower than average EMRs, Newtown (13.99), Bethel (13.68), Easton (13.62), Monroe (13.53), Trumbull (13.85) Morris (13.94) and Canaan (14.19) stand out with slightly larger EMRs. Bridgeport (19.93) and Stratford (18.46) are significantly higher than average in this band of lower than average EMRs.

In the eastern band of towns (the southeastern and northeastern planning regions) with lower relative EMRs, Lisbon (9.56) and Putnam (7.35) have among the lowest EMR values. Along the southeast coast, New London (15.71) is significantly higher than Groton (9.75) and Stonington (9.86). Ashford (17.92), Hampton (17.01), Windham (17.01), Chaplin (17.74) and Scotland (17.83) immediately border the eastern band of towns with significantly higher EMRs. To generalize, for a given property value (in market or assessed value terms) or per dollar of assessed or market value, residents of high income and/or wealthy towns such as Greenwich and Darien pay the least property tax in Connecticut while residents of low income and/or less wealthy towns such as Hartford and Bridgeport pay the most.

The equalized mill rate, however, does not paint a complete picture of property taxation across Connecticut towns. In its *Cities Count: Urban Indicators Report*,[6] the Rhode Island Public Expenditure Council measures the tax capacity index and tax effort index that are related to EMR. Tax capacity measures the amount of taxable property available to a municipality per capita, which is the equalized net grand list per capita for each municipality. The tax capacity index (TCI) is the municipal equalized net grand list per capita divided by the statewide capacity. Tax effort measures the property tax levy per capita. The tax effort index (TEI) is municipal tax effort divided by the statewide effort.

These indices are useful because they offer insight into differences in equalized mill rates across towns. Another useful index, the relative equalized mill rate (REMR) is the ratio of the municipal tax effort index to the municipal tax capacity index (TEI/TCI). This ratio is equivalent

[6] Available from www.ripec.org.

to the municipal EMR divided by the statewide EMR (that is, the total statewide levy divided by the total statewide equalized net grand list). This measure shows the relationship of the municipal EMR to a state average EMR and shows how much more or less the municipality's equalized mill rate is with respect to a statewide average. Recall that EMR represents the tax levy as a fraction of the current, full property value.

TEI and TCI have different statistical distributions than EMR. Both have distributions skewed to the left, indicated by the fact that the medians (101.2 and 91.2) are less than the means (103.8 and 111.8) and that there are some high value outliers but few or no low outliers. In Connecticut, TEI ranges from a low of 37.1 in Mansfield to a high of 240.7 in Weston meaning that the per capita property tax levy in Mansfield is 37% of the statewide average per capita property tax levy, while in Weston it is 2.41 times higher. TCI ranges from a low of 28.1 in Hartford to a high of 562.3 in Greenwich indicating that the per capita municipal grand list in Hartford is 28.1% of the statewide average per capita grand list, while in Greenwich it is more than five times higher than the statewide average per capita grand list. Maps 2.2 and 2.3 show the spatial distribution of TEI and TCI for Connecticut towns. In both maps, darker towns have higher index values. In Tables 2.2 and 2.3, towns rank in ascending order according to TEI and TCI, respectively.

TEI generally transitions from high to low values moving from west to east across the state (Map 2.2). This reflects higher per capita property tax levies with respect to the state average per capita levy in western Connecticut relative to those in eastern Connecticut. The TCI follows a roughly similar spatial pattern (Map 2.3) reflecting higher per capita taxable property in western Connecticut with respect to the state average per capita taxable property relative to that in eastern Connecticut.

Map 2.4, which displays REMR, the ratio of TEI to TCI for each town, reveals that these indices offset each other to a large extent. The spatial pattern in Map 2.4 is necessarily similar to EMR shown in Map 2.1. Thus, a higher per capita levy from more (or higher value) taxable property per capita implies a lower EMR given a fixed town budget target. A notable exception is Stamford, which shows a REMR of 153.9. Table 2.4 ranks towns by REMR. EMR and REMR both reveal that property in low-income and/or less wealthy towns is taxed at a higher rate than property in wealthy towns. This trend indicates that property taxation is regressive in Connecticut.[7]

Figure 2.1, which shows the relationship between tax effort and tax capacity, indicates that as TCI increases across towns, TEI does not increase proportionately. In towns with high tax capacities, tax effort is roughly constant at about twice the statewide average tax capacity, while in towns with low tax capacities, increases in tax capacity meet with proportional increases in tax effort. Along the 45° line, tax effort equals tax capacity relative to statewide averages.

[7] For median income households. Table 2.5 reveals that property taxation is slightly progressive across income groups.

2005-2006 Equalized Mill Rate (EMR) for Connecticut Towns

Map 2.1

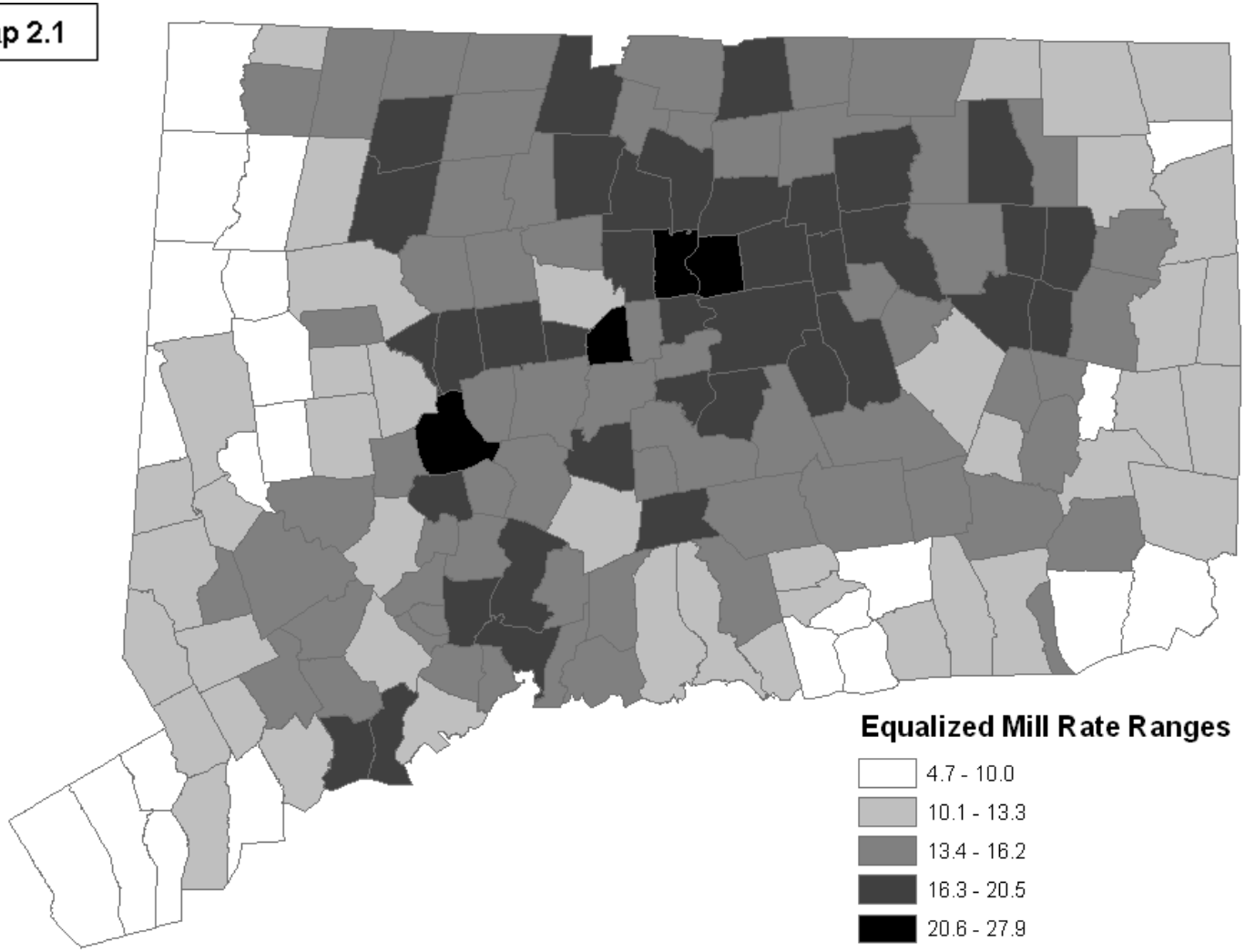


Table 2.1: Equalized Mill Rates (EMR) for Connecticut Towns, 2005-2006

Rank	Town	2005-2006 Equalized Mill Rate	Rank	Town	2005-2006 Equalized Mill Rate	Rank	Town	2005-2006 Equalized Mill Rate
1	GREENWICH	4.72	57	PLAINFIELD	12.77	114	COLEBROOK	15.68
2	WASHINGTON	6.38	58	WALLINGFORD	12.83	115	NEW LONDON	15.71
3	SALISBURY	6.76	59	NORTH STONINGTON	13.09	116	CHESHIRE	15.74
4	DARIEN	7.05	60	LEBANON	13.10	117	SALEM	15.74
5	PUTNAM	7.35	61	WESTON	13.24	118	SPRAGUE	15.74
6	NEW CANAAN	7.51	62	NORWALK	13.24	119	ELLINGTON	15.76
7	SHARON	7.74	63	FARMINGTON	13.30	120	EAST GRANBY	15.92
8	LYME	7.79	64	NEW FAIRFIELD	13.30	121	CANTON	15.93
9	ROXBURY	8.14	65	WINDSOR LOCKS	13.45	122	COLCHESTER	15.93
10	OLD SAYBROOK	8.26	66	SOUTHBURY	13.52	123	ANDOVER	15.95
11	WESTPORT	8.57	67	MONROE	13.53	124	BURLINGTON	15.99
12	KENT	8.58	68	NORFOLK	13.56	125	NEWINGTON	16.01
13	SHERMAN	8.72	69	EAST HADDAM	13.57	126	WEST HAVEN	16.10
14	WARREN	8.78	70	EASTON	13.62	127	STAFFORD	16.20
15	BRIDGEWATER	8.99	71	HARWINTON	13.67	128	MIDDLETOWN	16.23
16	CORNWALL	9.24	72	BETHEL	13.68	129	MARLBOROUGH	16.42
17	ESSEX	9.25	73	FRANKLIN	13.69	130	PLAINVILLE	16.43
18	LISBON	9.56	74	NORTH HAVEN	13.80	131	CROMWELL	16.49
19	WESTBROOK	9.71	75	TRUMBULL	13.85	132	ENFIELD	16.72
20	GROTON	9.75	76	AVON	13.89	133	WETHERSFIELD	16.88
21	STONINGTON	9.86	77	MORRIS	13.94	134	GLASTONBURY	16.95
22	STAMFORD	10.01	78	NEWTOWN	13.99	135	BRISTOL	17.00
23	GOSHEN	10.21	79	KILLINGWORTH	14.03	136	HAMPTON	17.06
24	FAIRFIELD	10.48	80	COLUMBIA	14.03	137	WINDHAM	17.09
25	SHELTON	10.63	81	NORTH BRANFORD	14.06	138	DURHAM	17.17
26	WATERFORD	10.70	82	SOUTHINGTON	14.08	139	HEBRON	17.18
27	WOODSTOCK	10.77	83	BROOKLYN	14.10	140	THOMASTON	17.19
28	THOMPSON	11.07	84	PROSPECT	14.14	141	HAMDEN	17.37
29	GUILFORD	11.14	85	SOMERS	14.15	142	WINDSOR	17.66
30	UNION	11.36	86	CANAAN	14.19	143	CHAPLIN	17.74
31	MADISON	11.41	87	NORWICH	14.20	144	SCOTLAND	17.83
32	WILTON	11.42	88	BEACON FALLS	14.24	145	VERNON	17.90
33	BETHLEHEM	11.56	89	ORANGE	14.28	146	ASHFORD	17.92
34	OLD LYME	11.63	90	DERBY	14.34	147	BOLTON	17.93
35	WOODBURY	11.71	91	HARTLAND	14.38	148	WINCHESTER	17.94
36	KILLINGLY	11.76	92	SUFFIELD	14.43	149	PORTLAND	17.97
37	REDDING	11.78	93	MIDDLEBURY	14.44	150	NAUGATUCK	18.02
38	DANBURY	11.79	94	CANTERBURY	14.46	151	MANCHESTER	18.14
39	EAST LYME	11.80	95	MONTVILLE	14.51	152	SOUTH WINDSOR	18.21
40	BOZRAH	11.85	96	BRANFORD	14.62	153	COVENTRY	18.25
41	GRISWOLD	11.97	97	EASTFORD	14.76	154	WEST HARTFORD	18.39
42	BROOKFIELD	11.98	98	EAST WINDSOR	14.79	155	TORRINGTON	18.44
43	RIDGEFIELD	12.02	99	WILLINGTON	14.85	156	STRATFORD	18.46
44	WATERTOWN	12.10	100	SEYMOUR	14.96	157	GRANBY	18.64
45	NORTH CANAAN	12.13	101	MIDDLEFIELD	14.97	158	NEW HAVEN	18.74
46	LITCHFIELD	12.21	102	BARKHAMSTED	15.02	159	SIMSBURY	18.74
47	VOLUNTOWN	12.25	103	ROCKY HILL	15.07	160	TOLLAND	19.13
48	MILFORD	12.33	104	EAST HAMPTON	15.14	161	MERIDEN	19.35
49	NEW MILFORD	12.41	105	BETHANY	15.21	162	PLYMOUTH	19.72
50	OXFORD	12.45	106	EAST HAVEN	15.24	163	WOODBRIDGE	19.74
51	CLINTON	12.50	107	NEW HARTFORD	15.29	164	BRIDGEPORT	19.93
52	DEEP RIVER	12.52	108	WOLCOTT	15.29	165	BLOOMFIELD	20.55
53	POMFRET	12.67	109	LEDYARD	15.35	166	EAST HARTFORD	22.23
54	PRESTON	12.77	110	ANSONIA	15.40	167	NEW BRITAIN	23.04
55	STERLING	12.77	111	MANSFIELD	15.48	168	HARTFORD	24.71
56	CHESTER	12.77	112	HADDAM	15.49	169	WATERBURY	27.89
			113	BERLIN	15.62			

Tax Effort Index (TEI) for Connecticut Towns

Map 2.2

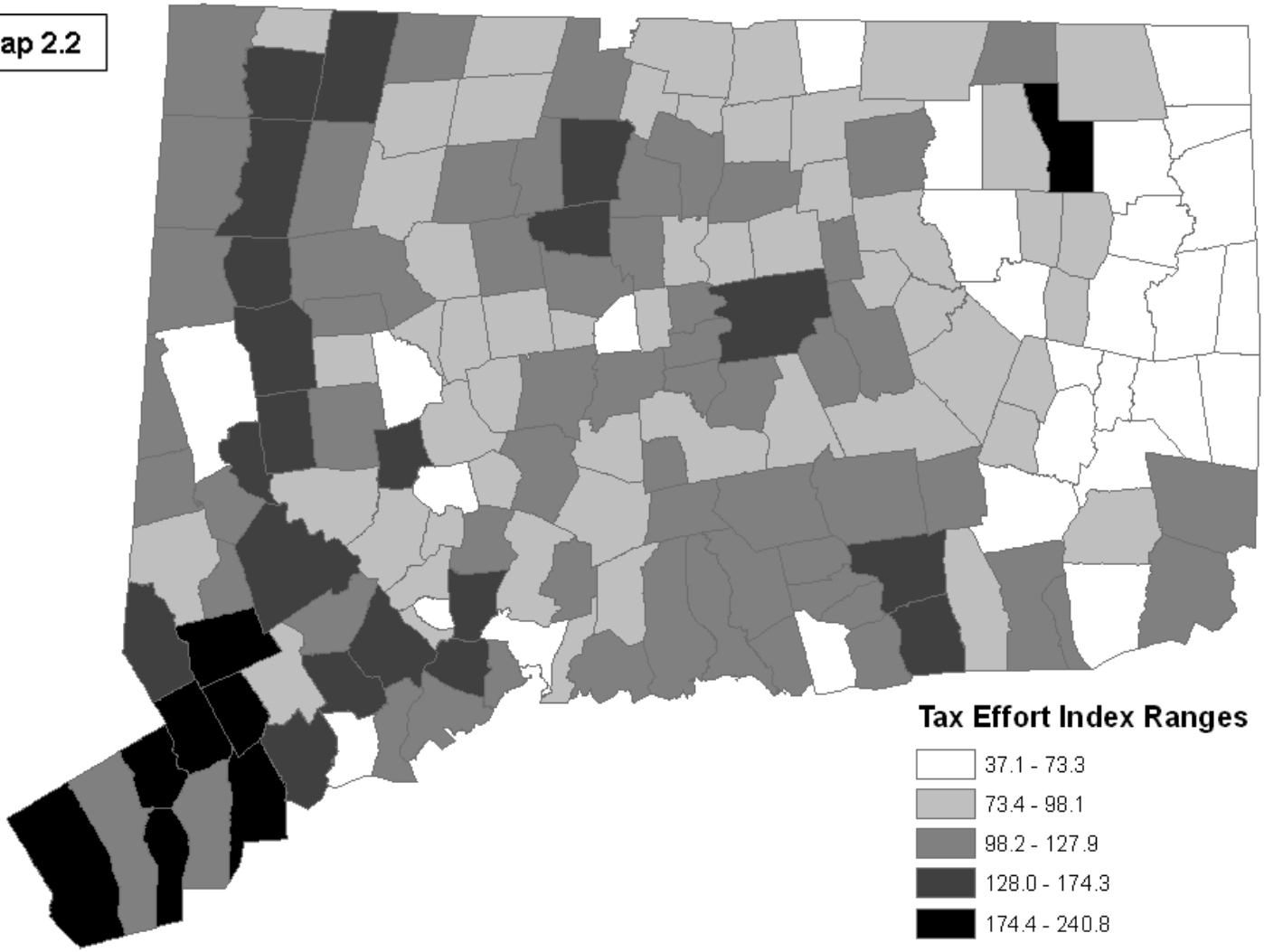


Table 2.2: Tax Effort Index (TEI) for Connecticut Towns

Rank	Town	Tax Effort Index	Rank	Town	Tax Effort Index	Rank	Town	Tax Effort Index
1	MANSFIELD	37.14	57	SCOTLAND	86.29	114	EAST HADDAM	113.28
2	PUTNAM	43.01	58	BEACON FALLS	87.27	115	NEW FAIRFIELD	113.37
3	WINDHAM	49.18	59	WALLINGFORD	87.60	116	CANTON	113.67
4	THOMPSON	50.38	60	SEYMOUR	87.98	117	GRANBY	114.02
5	KILLINGLY	53.36	61	PROSPECT	88.16	118	SOUTH WINDSOR	114.53
6	PLAINFIELD	54.96	62	SOUTHBURY	88.29	119	STRATFORD	114.65
7	BROOKLYN	56.42	63	THOMASTON	88.52	120	SALISBURY	114.96
8	GRISWOLD	56.62	64	HARTLAND	88.82	121	GUILFORD	116.13
9	LISBON	57.78	65	EAST HARTFORD	88.91	122	MONROE	116.83
10	ANSONIA	61.21	66	PLAINVILLE	89.01	123	HADDAM	118.39
11	NEW BRITAIN	61.56	67	MANCHESTER	89.25	124	BLOOMFIELD	118.71
12	CANTERBURY	62.53	68	ANDOVER	89.47	125	SOUTHINGTON	118.94
13	SOMERS	63.03	69	EASTON	89.91	126	BETHANY	119.92
14	NORWICH	63.68	70	NORTH BRANFORD	90.00	127	DURHAM	120.38
15	NEW HAVEN	63.74	71	COLUMBIA	91.04	128	WEST HARTFORD	120.73
16	NEW MILFORD	64.15	72	HAMDEN	91.11	129	NORWALK	121.62
17	VOLUNTOWN	67.66	73	WINDSOR LOCKS	91.12	130	WATERFORD	121.68
18	POMFRET	68.09	74	EAST HAVEN	91.42	131	OLD SAYBROOK	122.62
19	NAUGATUCK	69.16	75	BETHLEHEM	92.79	132	BROOKFIELD	123.09
20	PRESTON	69.23	76	EAST WINDSOR	93.09	133	KENT	123.52
21	GROTON	69.31	77	HARWINTON	93.19	134	FARMINGTON	123.60
22	STERLING	69.47	78	FRANKLIN	93.55	135	WEST HAVEN	123.92
23	WESTBROOK	69.90	79	EAST HAMPTON	94.17	136	NORTH HAVEN	123.95
24	MONTVILLE	70.39	80	BARKHAMSTED	95.70	137	GOSHEN	124.29
25	SPRAGUE	70.72	81	OXFORD	95.85	138	STAMFORD	126.64
26	WATERTOWN	71.32	82	NEWINGTON	98.06	139	COLEBROOK	127.11
27	BRIDGEPORT	71.43	83	UNION	99.39	140	MADISON	127.42
28	WILLINGTON	73.31	84	TOLLAND	101.09	141	MORRIS	127.91
29	VERNON	73.81	85	NORTH STONINGTON	101.15	142	WARREN	130.64
30	LEBANON	74.34	86	SALEM	101.26	143	WASHINGTON	130.96
31	ENFIELD	74.68	87	HEBRON	101.37	144	NEWTOWN	133.31
32	STAFFORD	75.11	88	BOLTON	102.25	145	TRUMBULL	135.76
33	DERBY	75.26	89	NEW LONDON	102.72	146	SIMSBURY	137.76
34	EAST LYME	75.59	90	MARLBOROUGH	102.76	147	AVON	143.11
35	BRISTOL	76.11	91	CLINTON	102.89	148	BRIDGEWATER	143.39
36	WOODSTOCK	76.14	92	ROCKY HILL	102.97	149	MIDDLEBURY	144.01
37	MERIDEN	76.67	93	PORTLAND	103.32	150	GLASTONBURY	144.40
38	CHAPLIN	78.12	94	NEW HARTFORD	103.38	151	CANAAN	144.53
39	DANBURY	78.21	95	CROMWELL	103.55	152	FAIRFIELD	144.83
40	HARTFORD	79.44	96	DEEP RIVER	103.88	153	NORFOLK	145.74
41	TORRINGTON	79.53	97	WOODBURY	103.96	154	LYME	146.03
42	WATERBURY	79.74	98	BURLINGTON	104.82	155	ROXBURY	152.21
43	HAMPTON	80.14	99	CHESHIRE	105.48	156	OLD LYME	152.32
44	ASHFORD	80.45	100	WETHERSFIELD	105.95	157	ORANGE	155.23
45	COVENTRY	80.60	101	STONINGTON	106.13	158	SHELTON	162.01
46	BOZRAH	80.87	102	BETHEL	106.54	159	CORNWALL	166.04
47	COLCHESTER	80.92	103	LITCHFIELD	106.66	160	WOODBRIDGE	167.33
48	WINCHESTER	81.60	104	ESSEX	106.73	161	RIDGEFIELD	174.30
49	NORTH CANAAN	81.72	105	SHERMAN	106.92	162	REDDING	177.39
50	WOLCOTT	82.14	106	WINDSOR	107.74	163	GREENWICH	177.88
51	SUFFIELD	82.59	107	MIDDLEFIELD	108.10	164	DARIEN	188.26
52	MIDDLETOWN	82.61	108	BRANFORD	109.46	165	EASTFORD	194.67
53	LEDYARD	84.05	109	CHESTER	110.17	166	NEW CANAAN	214.69
54	EAST GRANBY	84.06	110	SHARON	110.30	167	WILTON	218.46
55	PLYMOUTH	84.98	111	KILLINGWORTH	111.37	168	WESTPORT	223.51
56	ELLINGTON	85.29	112	MILFORD	111.67	169	WESTON	240.75
			113	BERLIN	111.85			

Tax Capacity Index (TCI) for Connecticut Towns

Map 2.3

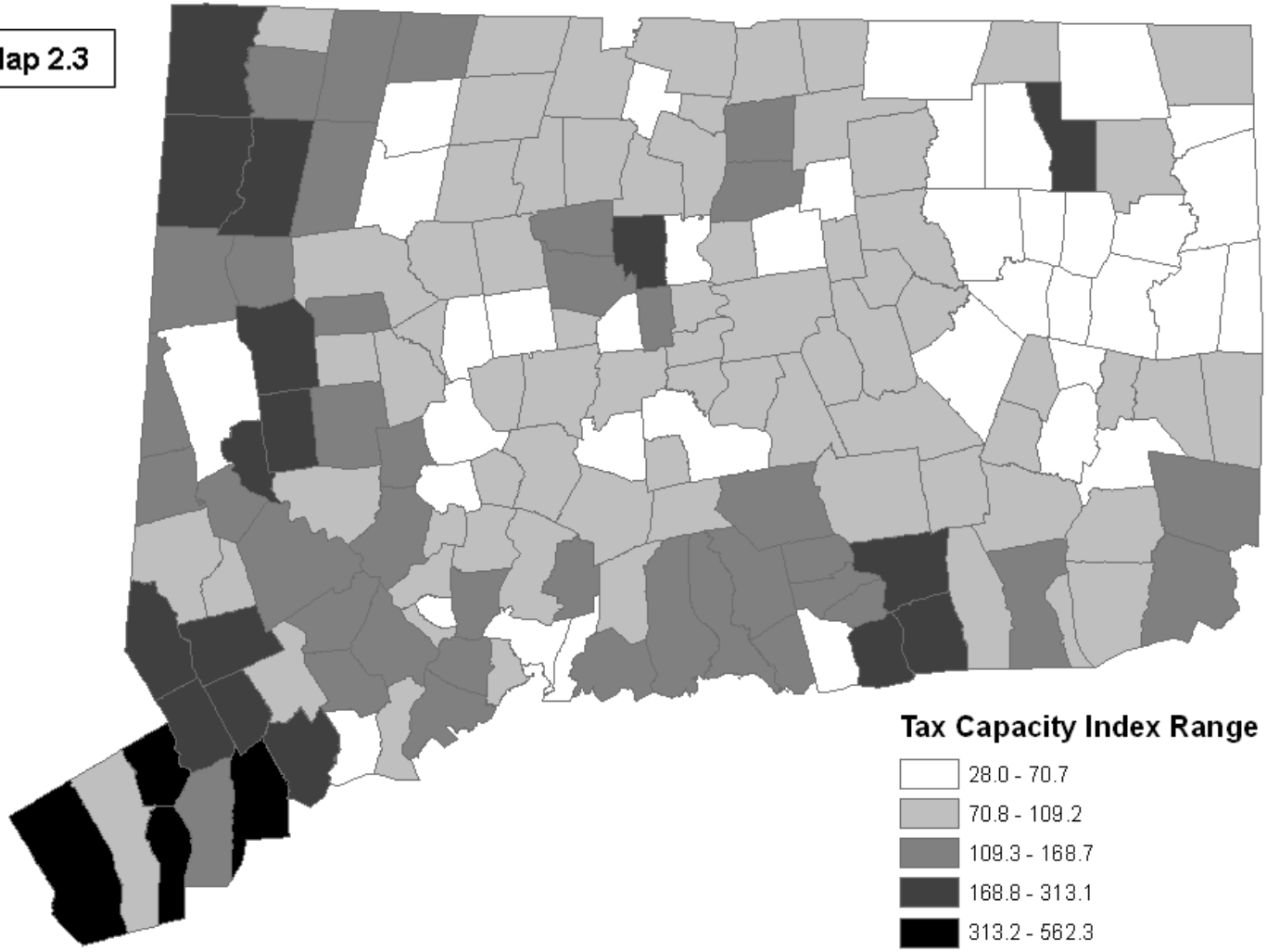


Table 2.3: Tax Capacity Index (TCI) for Connecticut Towns

Rank	Town	Tax Capacity Index	Rank	Town	Tax Capacity Index	Rank	Town	Tax Capacity Index
1	HARTFORD	28.09	57	LEDYARD	81.09	114	MONROE	112.26
2	NEW BRITAIN	30.97	58	CROMWELL	81.32	115	NORTH HAVEN	112.63
3	WATERBURY	34.54	59	THOMASTON	81.37	116	DEEP RIVER	113.28
4	NEW HAVEN	37.26	60	STAMFORD	82.29	117	OXFORD	113.60
5	MANSFIELD	38.39	61	DANBURY	82.62	118	FARMINGTON	114.22
6	WINDHAM	40.30	62	EAST HAMPTON	83.01	119	CANAAN	115.29
7	BRIDGEPORT	41.15	63	PLAINVILLE	83.16	120	CHESTER	115.72
8	ANSONIA	45.65	64	COLCHESTER	83.35	121	HADDAM	117.22
9	PLAINFIELD	47.00	65	BARKHAMSTED	84.60	122	NEWTOWN	118.19
10	NAUGATUCK	47.73	66	GROTON	85.22	123	BRANFORD	118.91
11	VERNON	49.77	67	SOUTHINGTON	85.26	124	ORANGE	119.17
12	KILLINGLY	50.58	68	POMFRET	85.76	125	GUILFORD	119.93
13	NEW MILFORD	50.98	69	TOLLAND	85.88	126	NORTH STONINGTON	121.32
14	BRISTOL	52.14	70	WOLCOTT	86.16	127	STONINGTON	122.94
15	NORWICH	52.45	71	BLOOMFIELD	86.28	128	COLEBROOK	124.70
16	STERLING	52.52	72	ELLINGTON	86.53	129	CLINTON	126.51
17	CHAPLIN	53.16	73	SEYMOUR	86.55	130	SHELTON	128.68
18	TORRINGTON	55.71	74	BURLINGTON	87.84	131	EAST WINDSOR	128.71
19	WINCHESTER	56.81	75	WINDSOR	87.88	132	KILLINGWORTH	129.68
20	PUTNAM	57.25	76	ANDOVER	88.01	133	NORFOLK	129.72
21	ASHFORD	57.75	77	NEW HARTFORD	88.12	134	NORWALK	130.85
22	MIDDLETOWN	58.19	78	VOLUNTOWN	88.48	135	GOSHEN	131.95
23	EAST HAVEN	58.48	79	PROSPECT	88.71	136	NEW FAIRFIELD	134.72
24	SCOTLAND	59.10	80	BERLIN	89.03	137	AVON	134.87
25	HAMPTON	60.32	81	SIMSBURY	89.78	138	MILFORD	135.22
26	WESTBROOK	60.58	82	HARWINTON	89.81	139	WOODBRIDGE	136.10
27	EAST GRANBY	60.98	83	PORTLAND	90.34	140	MADISON	137.15
28	PRESTON	63.55	84	WINDSOR LOCKS	90.37	141	TRUMBULL	151.18
29	MERIDEN	63.64	85	CHESHIRE	91.19	142	WATERFORD	152.34
30	MANCHESTER	63.81	86	ROCKY HILL	91.22	143	MIDDLEBURY	153.12
31	SPRAGUE	64.38	87	NORTH BRANFORD	91.90	144	ESSEX	157.41
32	WILLINGTON	66.57	88	NEW LONDON	91.95	145	WARREN	159.73
33	BROOKLYN	66.66	89	EAST HARTFORD	92.39	146	MORRIS	161.54
34	STAFFORD	69.41	90	BEACON FALLS	92.46	147	BROOKFIELD	162.66
35	PLYMOUTH	69.76	91	BETHEL	94.27	148	KENT	167.05
36	WOODSTOCK	69.87	92	LISBON	95.25	149	SHERMAN	168.75
37	LEBANON	70.40	93	CANTON	95.73	150	REDDING	182.58
38	CANTERBURY	70.82	94	STRATFORD	95.86	151	RIDGEFIELD	184.02
39	SOMERS	71.78	95	HARTLAND	96.05	152	SHARON	185.89
40	COVENTRY	72.29	96	HEBRON	96.20	153	OLD SAYBROOK	191.65
41	THOMPSON	73.10	97	SOUTHBURY	96.25	154	WEST HARTFORD	206.89
42	ENFIELD	73.31	98	FRANKLIN	96.46	155	OLD LYME	210.75
43	GRISWOLD	73.66	99	WALLINGFORD	97.66	156	FAIRFIELD	213.30
44	DERBY	75.46	100	GLASTONBURY	98.07	157	WILTON	223.99
45	SUFFIELD	77.21	101	BETHANY	100.09	158	BRIDGEWATER	224.38
46	HAMDEN	77.28	102	COLUMBIA	100.88	159	ROXBURY	228.67
47	WEST HAVEN	77.70	103	EAST HADDAM	101.18	160	EASTFORD	233.68
48	EASTON	77.75	104	UNION	101.34	161	WESTON	256.98
49	NORTH CANAAN	77.90	105	MARLBOROUGH	102.35	162	LYME	259.54
50	WATERTOWN	78.30	106	BETHLEHEM	104.47	163	WASHINGTON	274.03
51	MONTVILLE	78.48	107	LITCHFIELD	106.25	164	SALISBURY	301.05
52	GRANBY	78.56	108	DURHAM	107.13	165	CORNWALL	313.17
53	BOZRAH	79.77	109	SALEM	108.95	166	DARIEN	334.34
54	BOLTON	80.17	110	MIDDLEFIELD	109.31	167	NEW CANAAN	365.87
55	WETHERSFIELD	80.26	111	SOUTH WINDSOR	110.08	168	WESTPORT	410.15
56	EAST LYME	81.08	112	NEWINGTON	110.60	169	GREENWICH	562.30
			113	WOODBURY	112.06			

Relative Equalized Mill Rate (REMR) for Connecticut Towns

Map 2.4

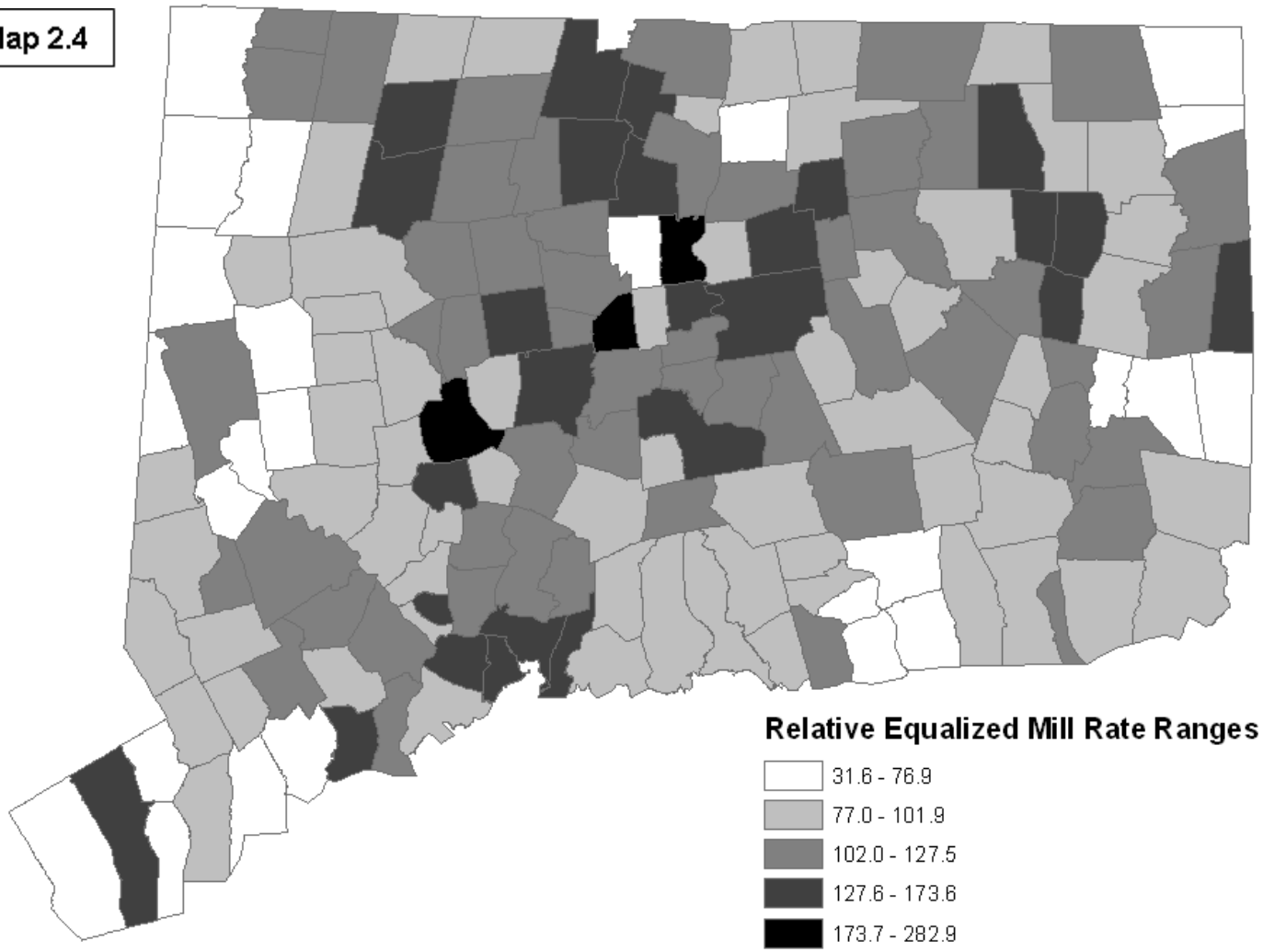


Table 2.4: Relative Equalized Mill Rates (REMR) for Connecticut Towns

Rank	Town	Relative Equalized Mill Rate (TEI/TCI)	Rank	Town	Relative Equalized Mill Rate (TEI/TCI)	Rank	Town	Relative Equalized Mill Rate (TEI/TCI)
1	GREENWICH	31.63	57	EAST LYME	93.23	114	BETHEL	113.02
2	SALISBURY	38.19	58	WESTON	93.69	115	BARKHAMSTED	113.12
3	WASHINGTON	47.79	59	MIDDLEBURY	94.05	116	EAST HAMPTON	113.45
4	CORNWALL	53.02	60	GOSHEN	94.20	117	PORTLAND	114.36
5	WESTPORT	54.50	61	BEACON FALLS	94.39	118	WESTBROOK	115.39
6	LYME	56.26	62	DANBURY	94.66	119	EASTON	115.63
7	DARIEN	56.31	63	RIDGEFIELD	94.72	120	CHESHIRE	115.67
8	WEST HARTFORD	58.35	64	CHESTER	95.21	121	PLAINFIELD	116.94
9	NEW CANAAN	58.68	65	WOLCOTT	95.33	122	NEW HARTFORD	117.32
10	SHARON	59.33	66	EAST HARTFORD	96.23	123	TOLLAND	117.70
11	LISBON	60.66	67	MANSFIELD	96.75	124	HAMDEN	117.89
12	SHERMAN	63.36	68	GUILFORD	96.83	125	CANTON	118.75
13	BRIDGEWATER	63.91	69	FRANKLIN	96.99	126	BURLINGTON	119.32
14	OLD SAYBROOK	63.98	70	COLCHESTER	97.09	127	STRATFORD	119.60
15	ROXBURY	66.56	71	REDDING	97.16	128	BETHANY	119.82
16	ESSEX	67.80	72	WILTON	97.53	129	MERIDEN	120.48
17	FAIRFIELD	67.90	73	NORTH BRANFORD	97.93	130	NORWICH	121.42
18	THOMPSON	68.93	74	UNION	98.08	131	PLYMOUTH	121.81
19	OLD LYME	72.27	75	ELLINGTON	98.57	132	WINDHAM	122.03
20	EAST WINDSOR	72.32	76	MIDDLEFIELD	98.89	133	WINDSOR	122.59
21	KENT	73.94	77	PROSPECT	99.38	134	WOODBRIDGE	122.94
22	PUTNAM	75.14	78	DERBY	99.73	135	CANAAN	125.35
23	BROOKFIELD	75.67	79	LITCHFIELD	100.39	136	BERLIN	125.63
24	VOLUNTOWN	76.48	80	MARLBOROUGH	100.40	137	NEW MILFORD	125.85
25	GRISWOLD	76.87	81	WINDSOR LOCKS	100.83	138	SHELTON	125.91
26	MORRIS	79.18	82	HADDAM	101.00	139	CROMWELL	127.33
27	POMFRET	79.39	83	BOZRAH	101.38	140	BOLTON	127.55
28	WATERFORD	79.87	84	SEYMOUR	101.64	141	ORANGE	130.26
29	CLINTON	81.33	85	ANDOVER	101.66	142	WETHERSFIELD	132.00
30	GROTON	81.33	86	ENFIELD	101.87	143	STERLING	132.28
31	WARREN	81.79	87	COLEBROOK	101.93	144	HAMPTON	132.85
32	MILFORD	82.58	88	LEDYARD	103.66	145	ANSONIA	134.10
33	EASTFORD	83.30	89	HARWINTON	103.77	146	BLOOMFIELD	137.59
34	NORTH STONINGTON	83.38	90	SOUTH WINDSOR	104.05	147	EAST GRANBY	137.84
35	NEW FAIRFIELD	84.15	91	MONROE	104.07	148	ASHFORD	139.30
36	OXFORD	84.38	92	NORTH CANAAN	104.90	149	SOUTHINGTON	139.50
37	BROOKLYN	84.63	93	HEBRON	105.37	150	MANCHESTER	139.86
38	KILLINGWORTH	85.88	94	KILLINGLY	105.49	151	MIDDLETOWN	141.96
39	STONINGTON	86.32	95	LEBANON	105.59	152	TORRINGTON	142.76
40	SOMERS	87.82	96	AVON	106.11	153	WINCHESTER	143.65
41	CANTERBURY	88.29	97	SUFFIELD	106.96	154	NAUGATUCK	144.89
42	NEWINGTON	88.65	98	PLAINVILLE	107.04	155	GRANBY	145.14
43	BETHLEHEM	88.82	99	FARMINGTON	108.21	156	BRISTOL	145.97
44	MONTVILLE	89.69	100	STAFFORD	108.21	157	SCOTLAND	146.01
45	WALLINGFORD	89.70	101	THOMASTON	108.78	158	CHAPLIN	146.94
46	TRUMBULL	89.80	102	PRESTON	108.93	159	GLASTONBURY	147.24
47	COLUMBIA	90.24	103	WOODSTOCK	108.98	160	VERNON	148.30
48	WATERTOWN	91.09	104	SPRAGUE	109.84	161	SIMSBURY	153.45
49	DEEP RIVER	91.70	105	NORTH HAVEN	110.04	162	STAMFORD	153.89
50	SOUTHBURY	91.72	106	WILLINGTON	110.12	163	EAST HAVEN	156.34
51	BRANFORD	92.05	107	COVENTRY	111.48	164	WEST HAVEN	159.50
52	HARTLAND	92.47	108	NEW LONDON	111.71	165	NEW HAVEN	171.08
53	WOODBURY	92.77	109	EAST HADDAM	111.96	166	BRIDGEPORT	173.57
54	MADISON	92.90	110	NORFOLK	112.35	167	NEW BRITAIN	198.78
55	SALEM	92.94	111	DURHAM	112.37	168	WATERBURY	230.82
56	NORWALK	92.94	112	NEWTOWN	112.80	169	HARTFORD	282.86
			113	ROCKY HILL	112.88			

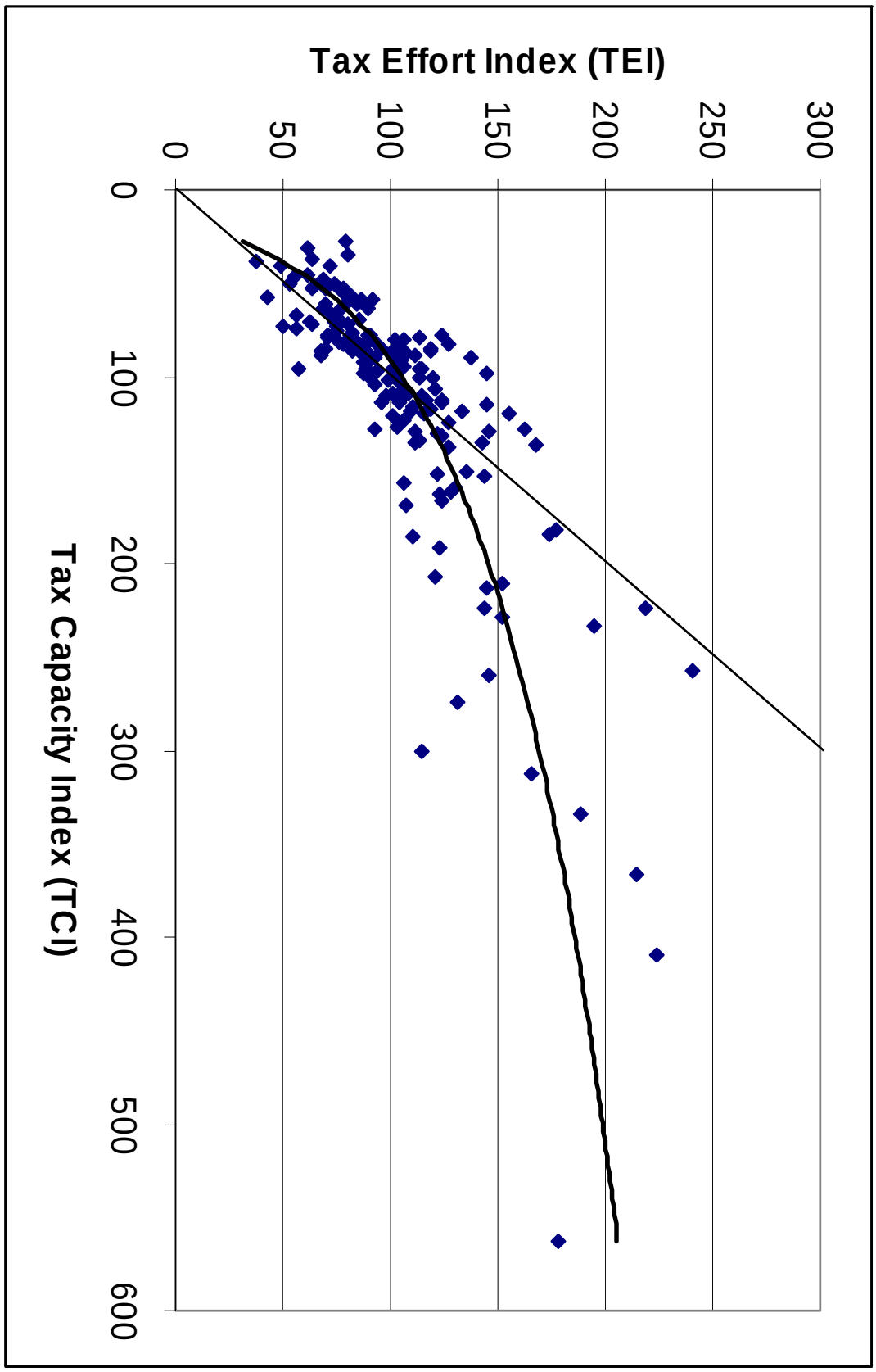


Figure 2.1: Relationship between TCI and TEI for Connecticut Towns

Personal Income Tax

Taxes directly depending on personal income include state and federal income taxes, the payroll or social security tax, unemployment insurance and workers' compensation. These taxes are independent of location of residence within Connecticut. The federal and Connecticut personal income tax burdens for a given income are the same no matter where the income is earned assuming it is earned domestically or repatriated. The Connecticut and federal personal income taxes are ostensibly progressive, that is, unless one uses some sort of effective tax planning, the fraction of income paid in tax increases with income. Social security and unemployment insurance taxes are regressive[8] because they take disproportionately larger shares of low incomes than of higher incomes. Map 2.5 shows the geographical distribution of median household income from the Connecticut Economic Resource Center (CERC) Town Profiles[9] (households is a broader category than families and includes them). The mean ($80,178) and median ($75,360) are reasonably close indicating that the distribution is approximately symmetric. Median household incomes range from $30,806 in Hartford to $190,014 in Weston. The reported incomes are Census based and do not contain unearned components such as interest, dividends and capital gains (or losses).

Using median household income for each Connecticut town, we calculate the federal and state personal income tax burdens experienced in calendar 2006, using the National Bureau of Economic Research (NBER) TAXSIM model[10] of state and federal personal income tax burdens for tax year 2006. The simulations, analogous to filing state and federal tax returns, require assumptions about the type of household filing. We assume families file under "head of household" with all household income reported to the filer. The household claims one dependent and no age exemptions, and it claims dividend income of $500, other property income of $50, and $0 for taxable pensions, gross social security income, other non-taxable transfer income and rent paid. We further assume that the filing householder claims the estimated property tax paid on an average house in each income group aggregated to the town level,[11] $2,000 of itemized deductions, and $0 for child care and unemployment compensation received.

Using the method described above, we calculate state and federal income tax burden for Connecticut by income group and for the median income household in each Connecticut town. The resulting federal median household income tax burdens are decidedly not normally distributed. The median ($8,021) lies to the left of the mean ($8,907) indicating a distribution skewed to the left. Federal median household income tax burdens range from $42,844 in Weston

[8] See Anderson, P.M. and Bruce D. Meyer (2003). "Unemployment Insurance Tax Burdens and Benefits: Funding Family Leave and Reforming the Payroll Tax," NBER Working Paper 10043, http://www.nber.org/papers/w10043.
[9] See http://www.cerc.com/townprofiles/default.asp.
[10] TAXSIM is the NBER's program for calculating liabilities under U.S. federal and state income tax laws from individual data. See http://www.nber.org/taxsim. Version 9.0 introduces federal income tax through 2013; federal tax per law up to but not including ARRA (Feb 2009); state income taxes through 2008; optional modifications to federal law.
[11] We estimate an average house price for each of Census' ten income groups in each town based on an arc income-price elasticity using the town median household income as the income basis. We calculate the average property tax burden for each income group's average house market value using the equalized mill rate. We aggregate these burdens over each income group and average them for each town. See the Appendix.

to $1,867 in Hartford. Map 2.6 shows the geographical distribution of Connecticut's federal median household income tax burden that mimics closely the geographical distribution of median household income. Similarly, values of federal tax burden listed in Table 2.6 closely mirror those for median household income.

Connecticut median household income tax burdens also lie in a left-skewed distribution, with the median ($1,758) just below the mean ($1,888). Connecticut median household personal income tax burdens range from $9,208 in Weston to $241 in Hartford. Map 2.7 reveals the geographical distribution of Connecticut's median household income tax burden. This distribution also mimics closely the geographical distribution of median household income. Table 2.6 includes state personal income tax burden by town.

Connecticut Sales Tax and Fuel Tax Household Burden

Connecticut's 6% sales tax is levied on most retail sales and on some services, exempting food, prescription drugs, and non-prescription drugs. The fuel tax applies per gallon, and does not depend on the price of gas. Neglecting diesel fuel, we estimate that for fiscal year 2007 gasoline prices averaged $2.84 per gallon. The $0.34 per gallon gasoline tax thus translates to an effective gasoline sales tax of $0.12 per dollar for FY 2007. To determine the sales and fuel tax burdens by income group on Connecticut residents, we first estimate how consumer spending varies across income cohorts. The Bureau of Labor Statistics (BLS)[12] provides detailed consumer expenditure data by item consumed and income cohort.[13] From these aggregate U.S. data, we estimate spending on taxable consumer goods and gasoline for several income groups in Connecticut. We apply the sales tax (6%) and effective fuel sales tax (16.7%) to estimated purchases to determine burdens for each town and at the state level (see Tables 2.5 and 2.6).

Connecticut taxes spending on certain goods, including a 6% tax on most consumer goods as well as inputs to production and a $0.34 per gallon tax on gasoline (FY 2007). The sales and gas tax account for 4.7% and 1.1% of the total (household) tax burden on Connecticut residents, and represent 25.5% and 3.4% of total state revenues,[14] respectively. Despite low-income households and residents spending a greater proportion of their income on consumption, the sales and fuel tax are regressive across all income ranges in the state. At the extremes, households earning less than $10,000 per year expend 8.0% of their income on these two taxes combined, while households earning more than $100,000 expend 1.4% of their incomes on these taxes.

Notwithstanding the regressive nature of these taxes, households earning more than $50,000 per year account for roughly 79% and 77% of sales and fuel tax receipts respectively. This is

[12] Information available at http://www.bls.gov/cex/2002/highincome/hincome.pdf
[13] BLS income data includes dividends and other "unearned" income, whereas Census data includes only "earned" income. Thus, when we map BLS income cohorts onto Census cohorts, spending by CT households is biased downwards. Our results are therefore a slight overstatement of the regressive nature of sales and fuel taxes for high income groups with little significant bias on low income groups that have little unearned income.
[14] Revenue percentages include taxes from business spending, while burden percentages do not.

explained by the additional discretion these households have to spend relative to lower income groups.

A summary of DECD's findings for household taxes follows:

- The aggregate tax burden for Connecticut residents is regressive for low-income groups (those whose total income is less than $25,000 per year) who are exempt from income taxes and for whom property, fuel, and sales taxes dominate their tax bills. The aggregate tax burden for Connecticut residents is progressive for households earning more than $25,000 due to the disproportionate increase in income taxes as income rises.
- The local property tax accounts for most of the variation in tax burden across towns for a given household income.
- 63.7% of taxes paid by Connecticut households accrue to the federal government, but for taxpayers who itemize, federal tax law allows them to deduct state personal income tax paid.

Summary of Household Taxation in Connecticut

Overall, Connecticut residents experience a system of taxation that is regressive at low incomes and progressive at high incomes. Table 2.5 offers a summary of Connecticut taxation by income group, and Table 2.6 provides an estimate of taxes paid by the median income resident in each town. Figure 2.2, which graphs tax burden (as a percent of household income) versus household income, summarizes the tax burden of a typical household in each income group reported. Taxation over the first three cohorts is regressive. This is despite the fact that households with low-income levels are exempt from state and federal income taxes. Because of their income tax-exempt status, the sales tax is the primary method of taxation of low-income households, and as the BLS data shows, such households spend a significantly higher proportion of their income on consumption than high-income households do.[15] Thus, the sales and fuel tax represent a higher proportion of household income for these low-income groups than for high-income groups. As income increases, the state and federal income taxes represent an increasing proportion of household income, while sales and fuel tax become a smaller fraction, despite the fact that high income groups spend more than low income groups on taxable goods.

However, households with incomes in the regressive range account for 22% of total Connecticut households. For the remaining 78% of state residents, increasing income results in a more than proportionate increase in tax burden as a percent of household income. Due to this tax structure and the fact that over half of Connecticut households earn more than $50,000 per year, households in the top three income groups we use pay the majority of total taxes in the state, and households in the top income group (greater than $100,000) pay more than half of all taxes collected. Of all the federal, state, and local taxes collected from Connecticut residents in our model, households earning more than $100,000 pay 64.2%, while households earning less than $50,000 pay less than 8%.

[15] The three lowest income groups have expenditure levels well above their incomes, implying dis-saving and borrowing.

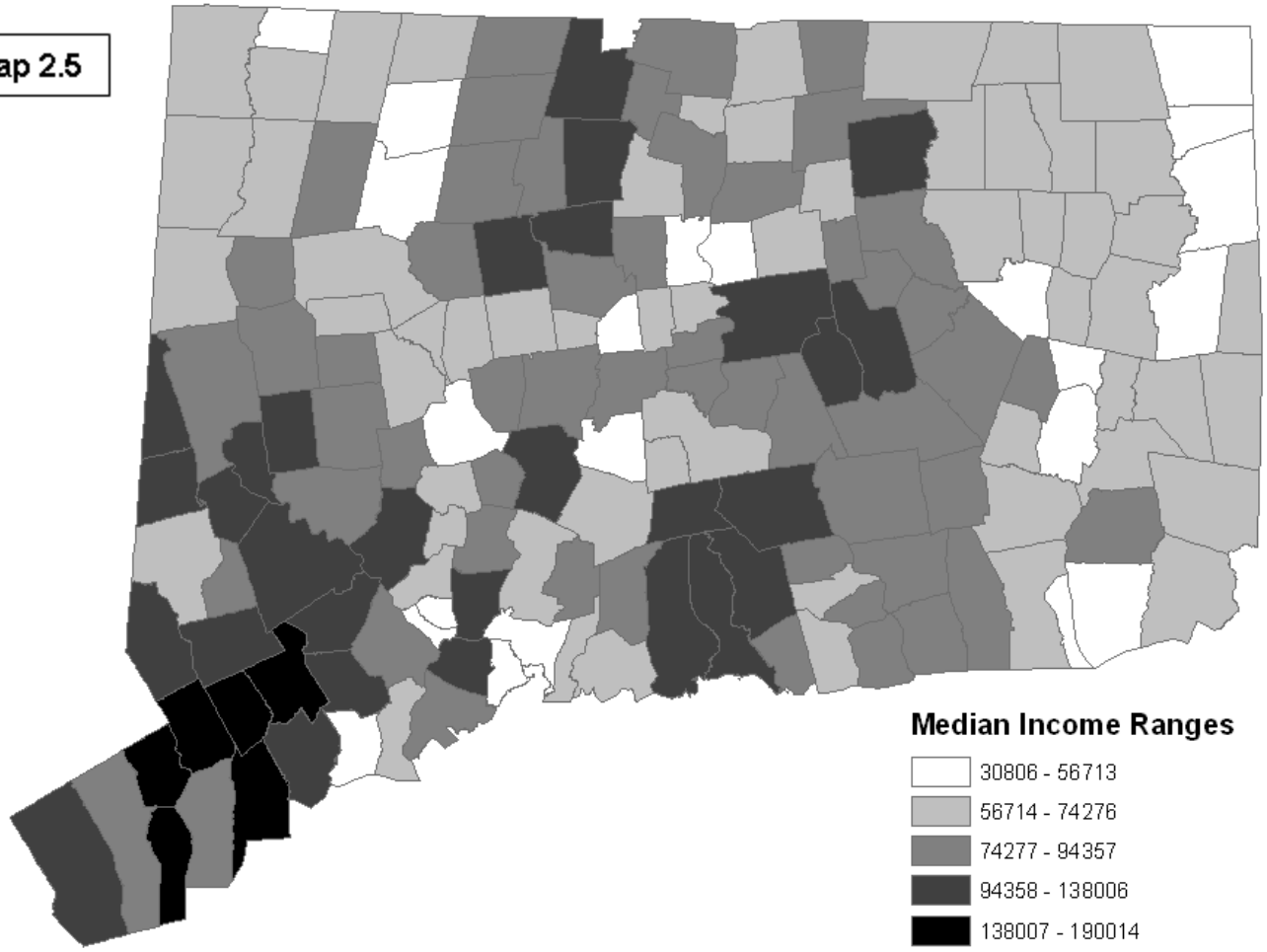
Figure 2.2 demonstrates that federal personal income tax accounts for the majority of the burden at high incomes. At the state level, households earning more than $100,000 per year pay nearly two-thirds of Connecticut's personal income tax and roughly one-third of all sales and gas taxes. This latter income group pays 59% of all local property taxes collected by Connecticut towns. Therefore, despite the regressive nature of taxation at the lowest income groups, wealthy households bear the majority of tax burden in Connecticut

Connecticut taxpayers pay more taxes on average because they earn more income per capita than taxpayers in other states. Connecticut ranked number one in state taxes per capita in 1999, and maintained this position until 2002, after which it gradually dropped to its FY 2007 rank of five. In FY 2006, Wyoming, Alaska, Hawaii and Vermont paid more per capita in state taxes than Connecticut. However, Connecticut's state and local tax burden as a fraction of personal income ranked 15th in 2006 relative to the other states reflecting a modest ability to pay (a rank of 50 indicates the lowest tax burden as a fraction of personal income). Since 1997, Connecticut has consistently improved its rank from 9th in FY 1999 to 12th in FY 2005. Refer to Tables 3.6 through 3.9 below.

To the extent that consumption and real property values relate positively to income, total sales, excise and property tax burdens rise as incomes increase. In high-income towns, equalized mill rates tend to be lower than in lower-income towns. This reflects greater household property values in such towns and the ease with which such towns can raise the revenue required to support the town's budget.

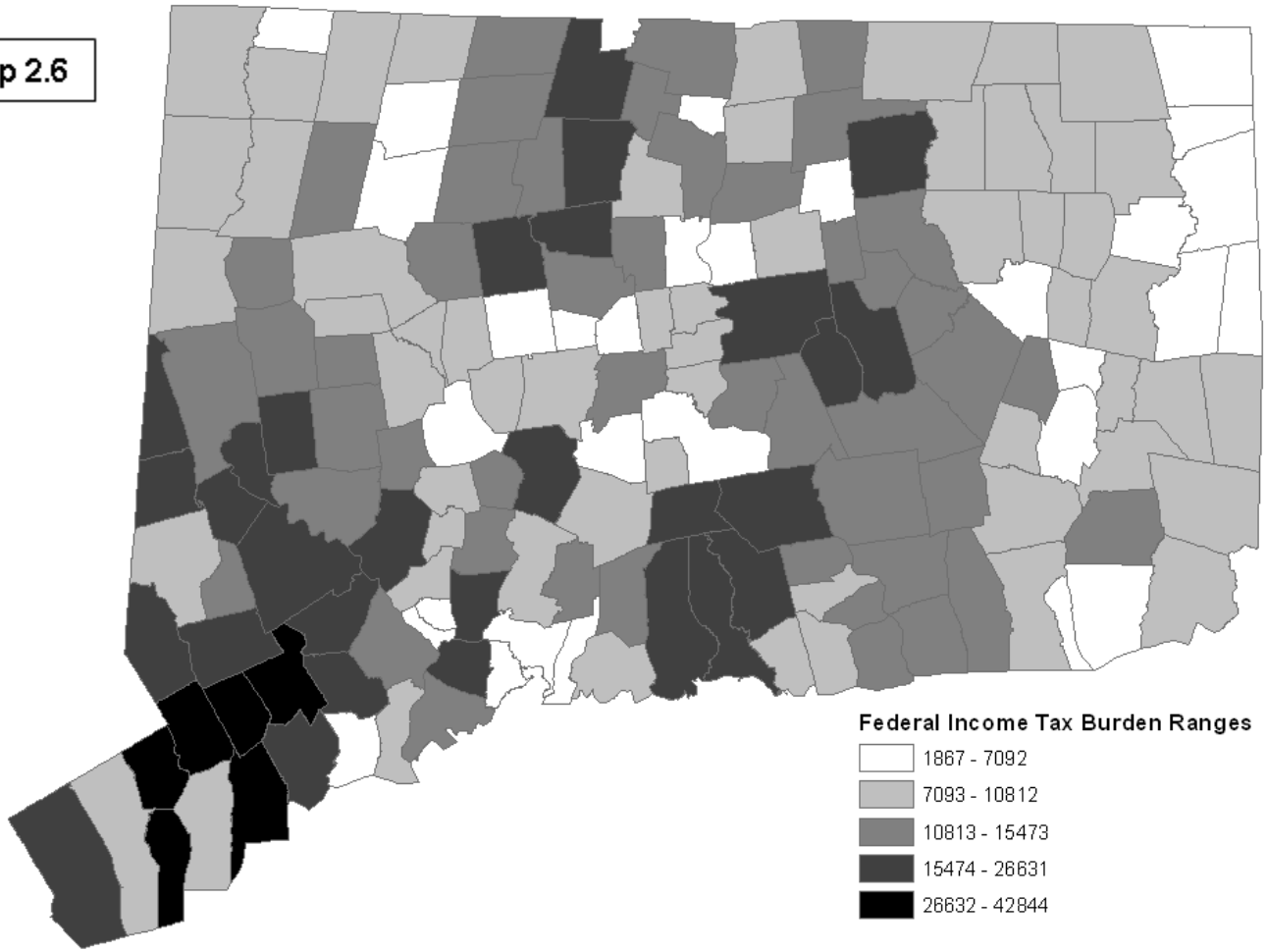
Median Household Income for Connecticut Towns – 2006

Map 2.5



Median Federal Personal Income Tax Burden in Connecticut Towns

Map 2.6



Median State Personal Income Tax Burden in Connecticut Towns

Map 2.7

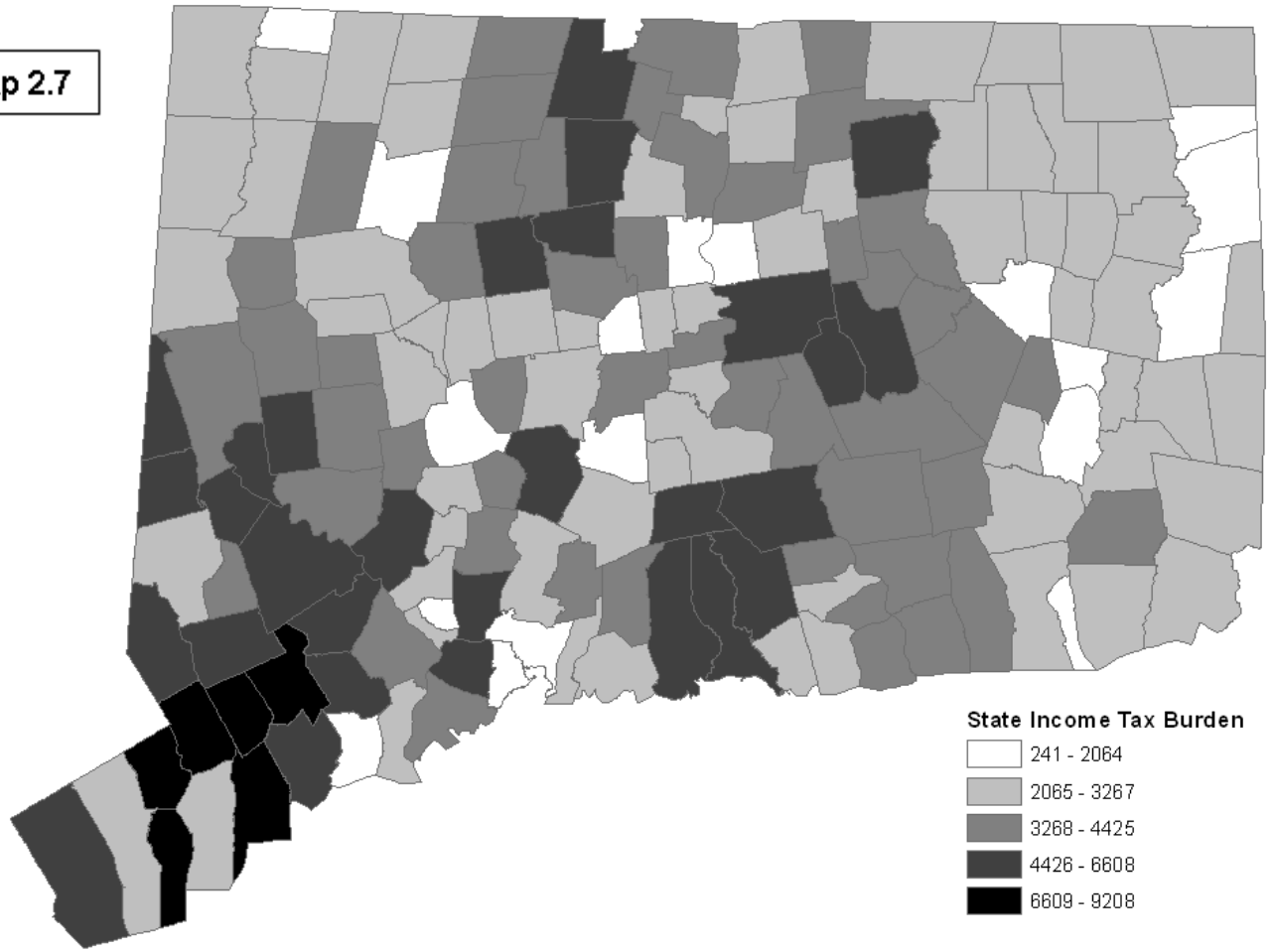


Table 2.5: Summary of Connecticut Taxation by Income Group

Tax Type	Income Cohort	Less than $10,000	$10,000-14,999	$15,000-24,999	$25,000-34,999	$35,000-49,999	$50,000-74,999	$75,000-100,000	More than $100,000[5]	Row Totals
	Est. Med. HH Income	$7,500	$12,500	$20,000	$30,000	$42,500	$62,500	$87,500	$200,000	
	No. of CT households:	75,192	58,495	110,570	114,180	165,235	246,658	186,681	368,432	1,325,443
	Percent of CT Total	6%	4%	8%	9%	12%	19%	14%	28%	100%
Federal Personal Income Tax[1]	Total[6] ($)	-	-	-	182,862,864	609,214,621	1,757,996,777	2,381,460,852	16,997,223,466	21,928,758,580
	% of tax paid by cohort	-	-	-	0.8%	2.8%	8.0%	10.9%	77.5%	100%
	$/Household	-	-	-	1,602	3,687	7,127	12,757	46,134	
	% of HH Income	-	-	-	5.3%	8.7%	11.4%	14.6%	23.1%	
	Burden as % of Total	-	-	-	0.5%	1.6%	4.6%	6.2%	44.4%	57%
State Personal Income Tax[1]	Total[6] ($)	-	-	-	-	83,465,156	505,463,907	676,251,923	3,539,710,440	4,804,891,425
	% of tax paid by cohort	-	-	-	-	1.7%	10.5%	14.1%	73.7%	100%
	$/Household	-	-	-	-	505	2,049	3,623	9,608	
	% of HH Income	-	-	-	-	1.2%	3.3%	4.1%	4.8%	
	Burden as % of Total	-	-	-	-	0	0	0	0	12.5%
Local Property Tax[2]	Total ($)	9,431,309	25,878,866	105,508,075	188,975,536	422,660,277	1,003,564,028	1,135,485,399	6,437,388,828	9,328,892,316
	% of tax paid by cohort	0.1%	0.3%	1.1%	2.0%	4.5%	10.8%	12.2%	69.0%	100%
	$/Household	125	442	954	1,655	2,558	4,069	6,082	17,472	
	% of HH Income	1.7%	3.5%	4.8%	5.5%	6.0%	6.5%	7.0%	8.7%	
	Burden as % of Total	0.0%	0.1%	0.3%	0.5%	1.1%	2.6%	3.0%	16.8%	24.3%
Sales & Use Tax[3]	Total[7] ($)	37,232,249	32,103,343	75,347,509	89,757,182	150,880,482	292,566,773	273,008,825	869,021,163	1,819,917,525
	% of tax paid by cohort	2.0%	1.8%	4.1%	4.9%	8.3%	16.1%	15.0%	47.8%	100.0%
	$/Household	495	549	681	786	913	1,186	1,462	2,359	
	% of HH Income	6.6%	4.4%	3.4%	2.6%	2.1%	1.9%	1.7%	1.2%	
	Burden as % of Total	0.1%	0.1%	0.2%	0.2%	0.4%	0.8%	0.7%	2.3%	4.7%
Fuel Tax[4]	Total[7] ($)	8,107,845	6,764,675	18,664,885	24,306,461	43,240,644	82,223,087	72,879,125	176,095,168	432,281,890
	% of tax paid by cohort	1.9%	1.6%	4.3%	5.6%	10.0%	19.0%	16.9%	40.7%	100.0%
	$/Household	108	116	169	213	262	333	390	478	
	% of HH Income	1.4%	0.9%	0.8%	0.7%	0.6%	0.5%	0.4%	0.2%	
	Burden as % of Total	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.5%	1.1%
Totals	Total ($)	54,771,403	64,746,883	199,520,469	485,902,043	1,309,461,179	3,641,814,571	4,539,086,123	28,019,439,065	38,314,741,736
	% Paid by Cohort	0.1%	0.2%	0.5%	1.3%	3.4%	9.5%	11.8%	73.1%	100.0%
	$/Household	728	1,107	1,804	4,256	7,925	14,765	24,315	76,051	
	Percent of HH Income	9.7%	8.9%	9.0%	14.2%	18.6%	23.6%	27.8%	38.0%	

1 Estimated using TAXSIM under the assumptions described in report.
2 Estimated residential property tax paid for 2006.
3 Estimated from BLS household expenditure data.
4 Estimated from BLS household expenditure data. Assumes average 2007 fuel price of $2.84 per gallon.
5 Estimated from income cohorts ($100,000-$149,999), ($150,000-$199,000), and (greater than $200,000)
6 May not equal actual 2006 amount collected due to simplifications made for TAXSIM model
7 Estimated amount does not equal actual 2007 amount collected because it omits business spending

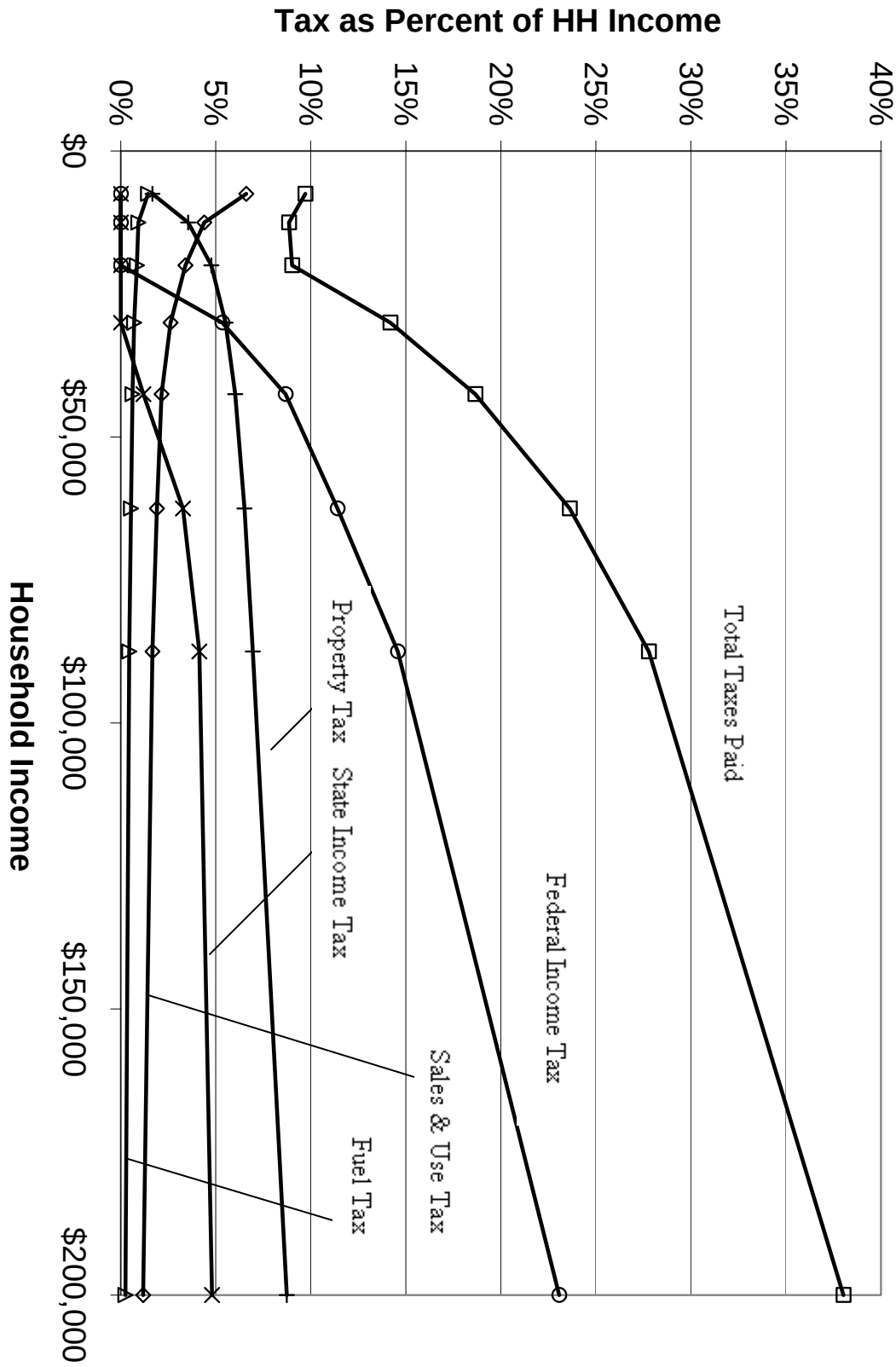


Figure 2.2: Tax burden in Connecticut as a percent of household income by income group

Table 2.6: Connecticut tax burdens for median household by town

	Number of Households	Median HH Income	Property Tax Median Tax Burden	Property Tax Average Tax Burden	Skewness	Federal PIT Median Household	State PIT Median Household	Fuel Tax Median Household	Sales & Use Tax Median Household
ANDOVER	1,250	$79,846	$4,612	$4,529	0.63	$13,770	$4,085	$367	$1,287
ANSONIA	7,368	$48,781	$4,179	$4,240	46.00	$5,217	$1,962	$282	$968
ASHFORD	1,693	$62,055	$3,781	$3,754	14.31	$8,697	$2,763	$337	$1,208
AVON	6,732	$105,802	$5,434	$6,521	13.39	$20,739	$5,479	$453	$2,236
BARKHAMSTED	1,453	$76,574	$3,727	$3,853	40.78	$12,764	$3,883	$367	$1,287
BEACON FALLS	2,176	$64,021	$4,454	$4,285	0.08	$9,303	$2,872	$337	$1,208
BERLIN	7,363	$77,373	$4,301	$4,491	18.99	$13,207	$3,972	$367	$1,287
BETHANY	1,912	$85,995	$6,173	$6,402	0.61	$15,473	$4,425	$392	$1,512
BETHEL	6,569	$79,260	$5,500	$5,679	6.42	$13,452	$4,021	$367	$1,287
BETHLEHEM	1,323	$80,462	$4,322	$4,191	1.44	$13,846	$4,100	$392	$1,512
BLOOMFIELD	8,308	$61,576	$4,084	$5,192	47.01	$8,444	$2,718	$337	$1,208
BOLTON	2,059	$76,789	$4,770	$5,028	0.88	$12,704	$3,871	$367	$1,287
BOZRAH	886	$63,932	$3,035	$3,085	0.90	$9,311	$2,874	$337	$1,208
BRANFORD	12,701	$65,385	$4,085	$5,022	24.49	$9,704	$2,944	$337	$1,208
BRIDGEPORT	51,397	$38,397	$5,096	$5,375	48.77	$3,635	$937	$241	$874
BRIDGEWATER	746	$94,315	$5,279	$6,798	3.52	$18,017	$4,934	$392	$1,512
BRISTOL	24,594	$53,864	$3,671	$3,924	39.06	$6,454	$2,359	$337	$1,208
BROOKFIELD	5,699	$93,144	$5,139	$5,614	3.74	$17,459	$4,822	$392	$1,512
BROOKLYN	2,797	$56,133	$2,861	$2,872	1.18	$6,957	$2,450	$337	$1,208
BURLINGTON	3,100	$95,701	$5,014	$5,459	0.97	$18,323	$4,995	$392	$1,512
CANAAN	306	$63,430	$3,501	$4,146	13.80	$9,114	$2,838	$337	$1,208
CANTERBURY	1,877	$64,714	$2,992	$3,092	1.59	$9,535	$2,914	$337	$1,208
CANTON	3,706	$76,566	$4,689	$5,323	8.01	$12,129	$3,757	$367	$1,287
CHAPLIN	930	$59,319	$4,594	$4,614	0.87	$7,883	$2,617	$337	$1,208
CHESHIRE	9,432	$91,579	$5,229	$5,626	1.73	$17,052	$4,741	$392	$1,512
CHESTER	1,582	$73,328	$4,119	$4,907	4.35	$11,724	$3,675	$367	$1,287
CLINTON	5,456	$69,014	$3,848	$4,323	3.60	$10,724	$3,267	$337	$1,208
COLCHESTER	5,563	$75,236	$3,944	$4,066	37.90	$12,550	$3,841	$367	$1,287
COLEBROOK	594	$66,781	$4,016	$4,526	2.07	$10,176	$3,029	$337	$1,208
COLUMBIA	2,050	$80,533	$3,818	$4,176	1.65	$13,948	$4,120	$392	$1,512
CORNWALL	658	$62,766	$3,330	$4,346	13.27	$8,814	$2,784	$337	$1,208
COVENTRY	4,709	$73,771	$3,478	$3,344	0.24	$11,928	$3,716	$367	$1,287
CROMWELL	5,787	$68,914	$4,405	$4,926	15.83	$10,607	$3,210	$337	$1,208
DANBURY	28,306	$61,479	$3,679	$3,863	50.76	$8,633	$2,752	$337	$1,208
DARIEN	6,664	$165,970	$9,440	$12,791	5.17	$41,562	$9,011	$453	$2,236
DEEP RIVER	1,935	$60,494	$3,970	$4,730	5.08	$8,127	$2,660	$337	$1,208
DERBY	5,217	$52,324	$4,052	$4,331	10.57	$5,836	$2,248	$337	$1,208
DURHAM	2,407	$89,671	$5,993	$6,433	6.14	$16,529	$4,636	$392	$1,512
EAST GRANBY	1,989	$78,530	$4,213	$4,160	0.69	$14,107	$4,152	$367	$1,287
EAST HADDAM	3,485	$72,454	$3,324	$3,169	1.69	$11,565	$3,644	$367	$1,287
EAST HAMPTON	4,751	$76,347	$3,831	$4,003	1.29	$12,750	$3,881	$367	$1,287
EAST HARTFORD	19,562	$46,160	$4,052	$4,232	68.36	$4,941	$1,789	$282	$968
EAST HAVEN	11,356	$54,637	$3,560	$3,852	49.32	$6,769	$2,416	$337	$1,208
EAST LYME	6,610	$75,990	$3,750	$4,459	13.53	$12,757	$3,882	$367	$1,287
EAST WINDSOR	4,188	$58,297	$2,907	$3,114	33.02	$7,691	$2,582	$337	$1,208
EASTFORD	676	$64,437	$3,187	$3,043	0.23	$9,523	$2,912	$337	$1,208
EASTON	2,499	$142,396	$10,554	$10,777	0.59	$33,023	$7,697	$453	$2,236
ELLINGTON	5,997	$71,335	$4,048	$4,495	36.00	$11,105	$3,445	$367	$1,287
ENFIELD	16,269	$60,317	$3,367	$3,672	71.08	$8,141	$2,663	$337	$1,208
ESSEX	3,109	$77,549	$3,953	$4,708	2.57	$13,113	$3,953	$367	$1,287
FAIRFIELD	19,825	$97,152	$7,473	$9,449	14.15	$18,430	$5,017	$392	$1,512
FARMINGTON	9,957	$76,997	$3,978	$4,928	31.84	$12,880	$3,907	$367	$1,287
FRANKLIN	701	$70,415	$2,832	$2,880	1.19	$10,913	$3,373	$367	$1,287
GLASTONBURY	12,553	$92,977	$6,280	$6,982	11.91	$17,649	$4,860	$392	$1,512
GOSHEN	1,153	$74,203	$3,312	$3,849	3.89	$11,957	$3,722	$367	$1,287
GRANBY	3,977	$94,723	$5,741	$6,049	3.44	$17,993	$4,929	$392	$1,512
GREENWICH	22,848	$116,006	$6,856	$11,177	8.12	$23,951	$6,104	$453	$2,236
GRISWOLD	4,556	$57,351	$2,447	$2,494	2.30	$7,314	$2,514	$337	$1,208
GROTON	15,806	$52,230	$2,679	$3,740	28.49	$5,720	$2,182	$337	$1,208

Table 2.6 (cont'd): Connecticut tax burdens for median household by town

	Number of Households	Median HH Income	Median Tax Burden	Average Tax Burden	Skewness	Median Household	Median Household	Median Household	Median Household
GUILFORD	8,160	$88,628	$3,595	$4,123	7.56	$16,278	$4,586	$392	$1,512
HADDAM	3,053	$88,417	$4,813	$4,990	25.81	$16,274	$4,586	$392	$1,512
HAMDEN	22,475	$60,108	$4,815	$5,488	47.91	$8,144	$2,664	$337	$1,208
HAMPTON	734	$63,558	$3,426	$3,863	12.60	$9,273	$2,867	$337	$1,208
HARTFORD	44,628	$27,611	$2,806	$3,712	29.72	$1,867	$241	$205	$773
HARTLAND	726	$74,887	$3,724	$4,116	29.87	$12,197	$3,770	$367	$1,287
HARWINTON	2,113	$77,504	$3,485	$3,514	1.25	$13,163	$3,963	$367	$1,287
HEBRON	3,237	$86,827	$5,439	$5,589	19.81	$15,875	$4,506	$392	$1,512
KENT	1,232	$64,019	$3,231	$4,422	4.36	$9,322	$2,876	$337	$1,208
KILLINGLY	6,807	$46,562	$2,215	$2,187	30.80	$4,959	$1,795	$282	$968
KILLINGWORTH	2,457	$90,671	$5,570	$5,321	0.88	$17,216	$4,774	$392	$1,512
LEBANON	2,569	$70,379	$3,117	$3,087	13.70	$10,935	$3,377	$367	$1,287
LEDYARD	5,420	$71,400	$2,974	$3,081	20.53	$11,274	$3,550	$367	$1,287
LISBON	1,564	$62,011	$2,455	$2,458	0.19	$8,674	$2,759	$337	$1,208
LITCHFIELD	3,530	$66,756	$3,935	$4,701	3.22	$10,007	$2,999	$337	$1,208
LYME	861	$82,339	$3,882	$5,456	3.05	$14,686	$4,268	$392	$1,512
MADISON	6,624	$103,822	$5,752	$7,193	4.03	$20,350	$5,401	$453	$2,236
MANCHESTER	23,698	$55,942	$3,484	$4,028	43.06	$7,292	$2,510	$337	$1,208
MANSFIELD	5,620	$55,588	$3,756	$4,331	12.40	$7,400	$2,530	$337	$1,208
MARLBOROUGH	2,160	$92,400	$5,197	$5,729	4.18	$17,363	$4,803	$392	$1,512
MERIDEN	23,009	$49,644	$3,955	$4,132	29.87	$5,406	$2,064	$282	$968
MIDDLEBURY	2,540	$78,721	$4,734	$5,187	2.91	$13,635	$4,058	$367	$1,287
MIDDLEFIELD	1,789	$67,887	$4,738	$5,012	1.30	$10,297	$3,085	$337	$1,208
MIDDLETOWN	20,129	$54,801	$3,837	$4,444	37.64	$7,020	$2,461	$337	$1,208
MILFORD	21,482	$70,003	$4,532	$5,071	47.55	$10,897	$3,370	$367	$1,287
MONROE	6,486	$97,477	$6,595	$6,868	0.36	$18,802	$5,091	$392	$1,512
MONTVILLE	6,722	$62,652	$3,080	$3,157	6.62	$8,785	$2,779	$337	$1,208
MORRIS	957	$65,487	$3,907	$4,819	12.33	$9,706	$2,945	$337	$1,208
NAUGATUCK	11,734	$58,316	$4,801	$4,787	47.89	$7,682	$2,580	$337	$1,208
NEW BRITAIN	27,452	$38,124	$4,143	$4,629	63.81	$3,708	$958	$241	$874
NEW CANAAN	6,844	$164,028	$11,028	$14,161	4.30	$39,642	$8,716	$453	$2,236
NEW FAIRFIELD	4,700	$99,002	$4,960	$5,546	2.38	$19,065	$5,144	$392	$1,512
NEW HARTFORD	2,372	$80,360	$4,214	$4,556	5.22	$13,913	$4,113	$392	$1,512
NEW HAVEN	47,039	$33,525	$4,448	$5,449	29.50	$3,074	$608	$241	$874
NEW LONDON	11,207	$38,463	$3,489	$4,107	16.75	$3,700	$956	$241	$874
NEW MILFORD	10,775	$76,549	$4,229	$4,379	1.66	$12,775	$3,886	$367	$1,287
NEWINGTON	12,036	$65,682	$4,115	$4,345	24.98	$9,758	$2,954	$337	$1,208
NEWTOWN	8,651	$104,444	$6,973	$7,269	6.50	$20,574	$5,445	$453	$2,236
NORFOLK	749	$66,497	$6,616	$9,163	6.17	$9,876	$2,975	$337	$1,208
NORTH BRANFORD	5,037	$72,088	$4,890	$5,149	62.17	$11,446	$3,620	$367	$1,287
NORTH CANAAN	1,371	$42,862	$1,926	$2,042	12.56	$4,438	$1,458	$282	$968
NORTH HAVEN	8,848	$74,175	$4,925	$5,353	35.25	$11,930	$3,717	$367	$1,287
NORTH STONINGTON	1,923	$66,659	$3,528	$3,564	0.60	$9,963	$2,991	$337	$1,208
NORWALK	32,801	$68,343	$5,729	$6,667	48.55	$10,503	$3,191	$337	$1,208
NORWICH	15,794	$43,608	$2,818	$3,084	24.90	$4,559	$1,540	$282	$968
OLD LYME	3,069	$78,373	$4,047	$5,006	4.60	$13,309	$3,993	$367	$1,287
OLD SAYBROOK	4,367	$72,136	$4,604	$5,803	5.36	$11,452	$3,621	$367	$1,287
ORANGE	4,940	$89,729	$5,749	$6,257	20.74	$16,104	$4,552	$392	$1,512
OXFORD	4,073	$87,970	$4,816	$4,615	12.51	$16,061	$4,543	$392	$1,512
PLAINFIELD	5,844	$49,551	$2,601	$2,613	9.19	$5,400	$2,062	$282	$968
PLAINVILLE	7,363	$54,602	$3,567	$3,638	15.25	$6,842	$2,429	$337	$1,208
PLYMOUTH	4,803	$62,176	$5,668	$5,852	6.40	$8,781	$2,778	$337	$1,208
POMFRET	1,690	$66,371	$3,550	$3,892	2.79	$9,884	$2,977	$337	$1,208
PORTLAND	3,789	$71,600	$4,589	$4,601	0.23	$11,341	$3,563	$367	$1,287
PRESTON	1,841	$63,408	$3,050	$3,171	0.59	$9,082	$2,832	$337	$1,208
PROSPECT	3,063	$77,897	$4,514	$4,562	0.48	$13,294	$3,990	$367	$1,287
PUTNAM	4,034	$48,762	$1,456	$1,545	17.06	$5,243	$1,970	$282	$968
REDDING	3,262	$119,908	$9,169	$10,251	3.95	$24,984	$6,298	$453	$2,236
RIDGEFIELD	8,421	$124,503	$8,920	$9,975	5.08	$26,631	$6,608	$453	$2,236
ROCKY HILL	7,985	$69,276	$3,903	$4,565	31.14	$10,812	$3,318	$337	$1,208

Table 2.6 (cont'd): Connecticut tax burdens for median household by town

	Number of Households	Median HH Income	Median Tax Burden	Property Tax Average Tax Burden	Skewness	Federal PIT Median Household	State PIT Median Household	Fuel Tax Median Household	Sales & Use Tax Median Household
ROXBURY	943	$106,542	$4,739	$5,833	3.48	$20,764	$5,483	$453	$2,236
SALEM	1,585	$76,720	$4,394	$4,650	4.30	$12,964	$3,924	$367	$1,287
SALISBURY	1,834	$60,870	$2,900	$4,082	4.31	$8,254	$2,683	$337	$1,208
SCOTLAND	583	$65,752	$3,947	$3,962	0.69	$9,741	$2,951	$337	$1,208
SEYMOUR	6,186	$60,120	$4,446	$4,640	12.49	$8,012	$2,640	$337	$1,208
SHARON	1,287	$62,745	$2,432	$3,523	5.23	$8,787	$2,779	$337	$1,208
SHELTON	14,203	$76,641	$4,467	$4,683	81.52	$12,807	$3,892	$367	$1,287
SHERMAN	1,404	$87,934	$4,060	$4,434	2.11	$16,054	$4,541	$392	$1,512
SIMSBURY	8,561	$96,313	$6,689	$7,432	10.68	$18,298	$4,990	$392	$1,512
SOMERS	3,070	$73,288	$3,754	$3,910	2.52	$11,896	$3,710	$367	$1,287
SOUTH WINDSOR	9,198	$84,993	$4,856	$5,168	8.77	$15,248	$4,380	$392	$1,512
SOUTHBURY	7,470	$71,235	$4,270	$4,648	41.16	$10,937	$3,377	$367	$1,287
SOUTHINGTON	15,654	$68,853	$4,020	$4,412	8.80	$10,714	$3,265	$337	$1,208
SPRAGUE	1,114	$48,989	$2,960	$3,171	1.18	$5,232	$1,967	$282	$968
STAFFORD	4,803	$61,104	$3,185	$3,231	1.08	$8,312	$2,694	$337	$1,208
STAMFORD	45,647	$68,699	$5,725	$6,763	52.43	$10,514	$3,193	$337	$1,208
STERLING	1,288	$55,553	$3,460	$3,444	0.60	$6,950	$2,449	$337	$1,208
STONINGTON	8,046	$60,608	$3,139	$4,269	5.77	$8,196	$2,673	$337	$1,208
STRATFORD	19,317	$61,332	$5,478	$5,646	80.01	$8,425	$2,714	$337	$1,208
SUFFIELD	4,915	$76,906	$4,082	$4,469	18.08	$12,842	$3,899	$367	$1,287
THOMASTON	3,074	$61,825	$3,759	$3,866	1.22	$8,774	$2,777	$337	$1,208
THOMPSON	3,755	$52,461	$2,176	$2,079	0.87	$5,988	$2,275	$337	$1,208
TOLLAND	5,298	$89,154	$4,831	$5,196	9.63	$16,510	$4,633	$392	$1,512
TORRINGTON	15,504	$47,372	$3,339	$3,544	25.38	$5,114	$1,886	$282	$968
TRUMBULL	12,250	$90,412	$7,098	$7,699	74.74	$16,903	$4,711	$392	$1,512
UNION	316	$66,217	$3,367	$3,712	1.59	$9,829	$2,967	$337	$1,208
VERNON	13,618	$54,176	$4,170	$4,476	57.18	$6,493	$2,366	$337	$1,208
VOLUNTOWN	1,062	$65,535	$3,140	$3,285	1.73	$9,675	$2,939	$337	$1,208
WALLINGFORD	16,887	$66,225	$3,974	$4,279	92.49	$9,871	$2,974	$337	$1,208
WARREN	520	$72,280	$3,026	$4,158	3.27	$11,497	$3,630	$367	$1,287
WASHINGTON	1,681	$78,675	$3,504	$5,346	6.55	$13,482	$4,027	$367	$1,287
WATERBURY	41,649	$38,512	$4,206	$4,031	3.31	$3,710	$959	$241	$874
WATERFORD	8,007	$63,412	$1,987	$2,306	9.97	$9,116	$2,839	$337	$1,208
WATERTOWN	8,539	$67,955	$3,292	$3,578	19.90	$10,453	$3,148	$337	$1,208
WEST HARTFORD	24,604	$70,770	$7,444	$8,468	31.73	$11,226	$3,504	$367	$1,287
WEST HAVEN	21,145	$48,257	$4,895	$5,133	22.99	$5,137	$1,893	$282	$968
WESTBROOK	2,845	$63,044	$3,565	$4,229	2.60	$9,210	$2,855	$337	$1,208
WESTON	3,276	$170,758	$12,457	$15,168	2.85	$42,844	$9,208	$453	$2,236
WESTPORT	9,387	$140,026	$10,426	$13,503	37.54	$32,175	$7,567	$453	$2,236
WETHERSFIELD	11,051	$61,888	$4,993	$5,577	56.23	$8,603	$2,746	$337	$1,208
WILLINGTON	2,540	$59,410	$3,236	$3,516	15.97	$7,982	$2,634	$337	$1,208
WILTON	5,942	$160,900	$10,856	$12,449	18.96	$39,975	$8,767	$453	$2,236
WINCHESTER	4,533	$52,622	$2,883	$3,142	7.67	$6,062	$2,289	$337	$1,208
WINDHAM	8,901	$39,119	$2,535	$2,557	21.58	$3,658	$944	$241	$874
WINDSOR LOCKS	5,041	$72,902	$2,538	$2,640	32.30	$11,702	$3,671	$367	$1,287
WINDSOR	10,716	$55,742	$3,448	$3,606	35.59	$7,092	$2,474	$337	$1,208
WOLCOTT	5,815	$69,693	$3,723	$4,014	2.82	$10,780	$3,312	$337	$1,208
WOODBRIDGE	3,053	$115,721	$9,109	$9,639	1.26	$24,025	$6,118	$453	$2,236
WOODBURY	3,999	$77,234	$4,954	$5,275	4.64	$12,985	$3,928	$367	$1,287
WOODSTOCK	3,103	$63,538	$3,003	$3,152	6.26	$9,154	$2,845	$337	$1,208

Business Taxes in Connecticut

When discussing Connecticut taxes, one needs to examine closely business taxes because they affect the state's competitive standing and influence firms' decisions to locate or expand in the state. Businesses take several forms: corporations, sole proprietorships, partnerships, S-corporations and limited liability corporations (LLCs), for example. The state's business tax environment upon which location and expansion decisions depend is influenced by several factors. These factors surface in comprehensive studies that evaluate states' business tax climates. This section summarizes key studies' recent findings on Connecticut's business tax climate.

It is important to note that several studies rank states in terms of competitiveness and attractiveness to businesses, but not all include business taxes as an explicit measure. The Corporation for Enterprise Development (CFED) publishes the *Development Report Card for the States* that evaluates each state in terms of "performance, business vitality and development capacity."[16] These indicators do not take business taxes specifically into account.

The Beacon Hill Institute publishes the *Annual State Competitiveness Report* that employs an index intended to evaluate the long-term competitiveness of each state. This index uses the ratio of state and local taxes per capita to income per capita as one indicator in its "Government and Fiscal Policy" sub-index (the other sub-indices are Security, Infrastructure, Human Resources, Technology, Business Incubation, Openness, and Environmental Policy).[17] Business taxes in particular are not used.

The Kauffman Foundation's annual *New Economy Index* does not consider business tax specifics,[18] and the Milken Institute's *Cost-of-Doing-Business Index* uses annual state tax revenue as a share of personal income as a tax burden measure, and does not separate business taxes.[19] For this reason, these studies are not analyzed here, but three studies that do explore the tax burden on businesses in particular are analyzed in detail below.

<u>The Tax Foundation Analysis</u>

The Tax Foundation's *2009 Business Tax Climate Index*[20] ranks each state based on its business climate. The business climate index is composed of five separate indices:

- the corporate tax index
- the individual income tax index
- the sales tax index
- the unemployment insurance tax index

[16] www.cfed.org/go/drc
[17] http://www.beaconhill.org/Compete08/BHIState08-FINAL.pdf
[18] http://www.kauffman.org/uploadedfiles/2008_state_new_economy_index_120908.pdf
[19] http://www.milkeninstitute.org/publications/publications.taf?function=indexes
[20] http://www.taxfoundation.org/publications/show/22658.html; Joshua Barro, Author.

- the property tax index

Each index is based on two sub-indices; the tax rate structure, and the applicable tax base for each type of tax. A number one rank shows that state to be the best among the 50 states' tax systems for each category, and a rank 50 is the worst. Connecticut's place in the overall ranking and in each index is listed below.

- Overall business climate index: # 37
- Corporate tax index: #18
- Individual income tax index: #25
- Sales tax index: #25
- Unemployment insurance tax index: #21
- Property tax index: #49

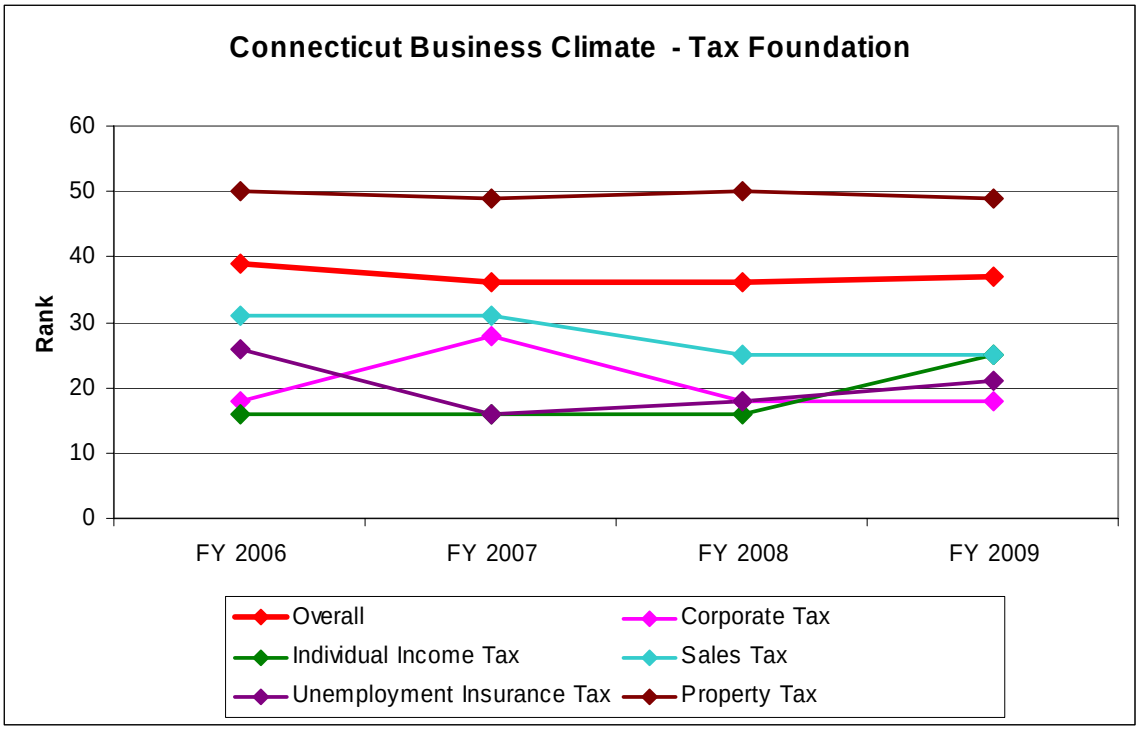
Most of the above rankings suggest that Connecticut places in the mid-range among the 50 states in terms of factors that influence the Tax Foundation's characterization of the business climate. The exception is property taxes, where the state is ranked second to last among the 50 states. Property taxes are taxes on the real assets of individuals and businesses. For businesses, this includes property taxes on land and buildings, and personal property taxes on equipment, furniture and fixtures. Connecticut's property tax collections per capita and property tax collections as a percentage of income are high compared to the other 49 states and both these measures are captured in the tax rate sub-index portion of the property tax index. Connecticut's municipalities rely significantly on the property tax to support local services. Government transfers provide another important source for a few municipalities.

The tax on capital stock, or the net wealth of a corporation, is included as a factor in the property tax index. Connecticut's capital stock tax rate of 0.31% ranks among the highest, second only to West Virginia's 0.55%. Connecticut does get credit for attempting to lessen the impact of this tax by imposing a cap on the maximum amount payable (the cap is $1,000,000), and allowing businesses to pay the higher of the capital stock tax or the corporate income tax. The property tax base sub-index takes into account seven different types of property taxes that can affect businesses: taxes on intangible property, inventory tax, real estate transfer taxes, estate taxes, inheritance taxes, generation-skipping taxes and gift taxes.[21] Taxes on intangible property, for example, can be levied on a business's holdings of stocks, bonds and trademarks. The five assets transfer taxes (real estate transfer taxes, estate taxes, inheritance taxes, generation-skipping taxes and gift taxes) can be particularly detrimental to family-owned businesses or any business that transfers real property frequently. Of these seven property tax types, Connecticut imposes a real estate transfer tax and a gift tax, and is mentioned as one of only three states that impose the latter. This earns the state a low score in this category, which in turn places the state 37th overall in terms of business tax climate.

[21] http://www.taxfoundation.org/publications/show/22658.html, page 39.

Trend in Connecticut's Business Tax Systems – Tax Foundation Analysis

The Tax Foundation's report on state business tax climate cited above lists the overall index and sub-indices for the last four fiscal years. The graph below shows the movement of the indices over time.



The overall index (in red) shows that Connecticut's standing relative to other states has improved over time. This occurs because perhaps other states changed their tax policies while Connecticut did not, and the changes negatively affected their rank with respect to Connecticut. The other possibility is that Connecticut changed its tax policies such that its rank improved while other states made no changes. The last possibility is that all states changed their tax policies but the net effect is that Connecticut improved relative to other states.

Connecticut's sales tax rank has improved, from 31st in FY 2006 to 25th in FY 2009. The state's corporate tax rank has remained steady at 18 with an exception in FY 2007, when it ranked 28. This may reflect the 20% surtax that all corporations (except those making the minimum tax of $250) had to pay before any tax credits were applied to the 2006 income year[22] (this surtax was not applied in 2005 or 2007). The improvement in the sales tax index in FY 2008 may reflect the exemptions that were added to encourage energy efficiency (these included sales tax exemptions on solar energy electricity generating systems and solar water or space heating systems) [footnote 7, p. 9].

[22] *Connecticut Department of Revenue Services Annual Report, Fiscal Year 2006-2007,* page 20. Report available at http://www.ct.gov/drs/lib/drs/research/annualreport/drs_fy07_annual_report.pdf.

Connecticut's personal income tax rank stayed steady at 16 and then worsened in FY 2009 when it ranked 25. The worst grade Connecticut received was with respect to property taxes, where its rank has remained at 49 or 50 throughout, reflecting Connecticut's high property taxes as a share of personal income.

The Small Business and Entrepreneurship Council (SBEC) Analysis

The Small Business and Entrepreneurship Council's *Business Tax Index 2009: Best to Worst State Tax Systems for Entrepreneurship and Small Business* ranks states and the District of Columbia from best to worst, in terms of the costs of their tax systems on entrepreneurship and small business.[23] SBEC calculates an index based on 16 factors. A lower numerical rank indicates a less burdensome tax climate, and a higher numerical rank indicates a more burdensome tax climate from the small business perspective. Some factors rank the states, and others either exist or do not exist in a particular state (these are indicated with yes/no answers). Connecticut's ranking in the overall index, and in each of the 16 factors, appears below;

- overall index ranking #30
- top personal income tax rate #19
- top individual capital gains tax rate #21
- top corporate income tax rate #30
- state's top corporate capital gains tax rate #31
- any added income tax on S-Corporations - no
- does the state impose an alternative minimum tax on individuals - yes
- does the state impose an alternative minimum tax on corporations - no
- are the state's personal income tax brackets indexed for inflation - no
- state and local property taxes as a share of personal income #44
- state and local consumption-based taxes (i.e., sales, gross receipts and excise taxes) as a percent of income #10
- does the state imposes a death tax - yes
- unemployment tax #15
- does the state have a tax limitation mechanism - no
- does the state impose an Internet access tax - no
- gas tax (per gallon of gasoline) #47
- diesel tax (per gallon of diesel fuel) #49

These rankings show Connecticut's gasoline and diesel taxes are high relative to other states, and with its relatively high share of property taxes of personal income and relatively high top corporate income tax rate and top corporate capital gains tax rate, the state ranks 30th overall in the costs of it tax system to small businesses and entrepreneurships.

[23] http://www.sbecouncil.org/uploads/BusinessTaxIndex2009Final.pdf, page 2.

The ALEC-Laffer State Economic Competitiveness Study

The American Legislative Exchange Council's *Rich States, Poor States: the ALEC-Laffer State Economic Competitiveness Index*[24] (2009) identifies 15 policy variables that are influenced directly by state lawmakers that "have a proven impact on the migration of capital — both investment capital and human capital — into and out of states" (footnote 9, p. 24). The index is calculated by weighting each state's rank in these policy variables equally, and a rank of one indicates the best economic competitiveness among the states, and a rank of 50, the worst. These variables and Connecticut's rank in each policy variable appear below (footnote 9, p. 98).

- Highest Marginal Personal Income Tax Rate #17
- Highest Marginal Corporate Income Tax Rate #26
- Personal Income Tax Progressivity #34
- Property Tax Burden #43
- Sales Tax Burden #12
- Tax Burden From All Remaining Taxes #8
- Estate Tax/Inheritance Tax (Yes or No) – Yes #50
- Recent Tax Policy Changes 2007-08 (per $1,000 personal income) #34
- Debt Service as a Share of Tax Revenue #20
- Public Employees Per 1,000 Residents #15
- Quality of State Legal System #19
- State Minimum Wage #44
- Workers' Compensation Costs #31
- Right-to-Work State (Yes or No) – No #50
- Tax or Expenditure Limit #13
- Overall State Economic Competitiveness Index #32

Connecticut's relatively high property tax burden per $1,000 personal income and relatively high state minimum wage ($7.65 compared to the federal minimum of $6.55) ranks the state lower relative to other states. The existence of an estate/inheritance tax and not being a right-to-work state earns the state a #50 ranking (all states that answer yes to the former are ranked #50, as are those that answer no to the latter; all other states are ranked #1). Connecticut achieves a relatively high ranking for its sales tax burden (12th at $17.38 per $1,000 personal income), remaining tax burden (8th at $15.76 per $1,000 personal income), public employees per 10,000 residents (15th at 532.1 full-time equivalents), and number of tax/expenditure limits (TELs) on public spending (13th with one TEL, namely a cap on state spending).

[24] http://www.alec.org/am/pdf/tax/09RSPS/26969_REPORT_full.pdf; 2009; Arthur B. Laffer, Stephen Moore and Jonathan Williams, Authors.

The Ernst and Young Analysis

The *Total State and Local Business Taxes: 50 State Estimates for 2008*[25] report published by Ernst and Young (EY) in conjunction with the Council on State Taxation (COST) presents two indicators that evaluate states' business tax burdens. The first is each state's business taxes as a percentage of total state and local taxes. Connecticut's business share of total state and local taxes in FY 2008 was 32.3%, which was second only to Maryland's 30.7%. The highest shares were paid by businesses in Wyoming (74.3%) and Alaska (89.3%). The national average was 44.1% (footnote 10, p. 15).

EY defines the second indicator in this report as "the total effective business tax rate (TEBTR) imposed on business activity by state and local governments" (footnote 10, p. 13). TEBTR is the ratio of state and local business taxes to private sector gross state product (GSP or the total value of a state's production of goods and services by the private sector). The national average TEBTR for FY 2008 was 4.9%; Connecticut's 3.7% TEBTR tied with Oregon for the second lowest among the states. The lowest business tax share of private sector GSP is North Carolina's 3.6%, and the highest, Alaska's was 22.3%.

Both indicators suggest that Connecticut's business tax burden is one of the lowest in the country. This differs from the conclusions of the previous two studies cited (the Tax Foundation and SBEC studies) that place Connecticut's business tax burden in the mid-to high-range compared to other states. The Ernst and Young report differs from these two studies in that it takes the actual dollar amount of business taxes paid into account. This suggests that while different indicators such as high property taxes and fuel taxes may suggest a relatively burdensome business tax climate in Connecticut, in terms of dollars paid, businesses in the state do not carry a relatively large share of the tax burden. This could be because other taxpayers simply pay more compared to other states (e.g., personal income tax payments can be high as a result of Connecticut's high per capita income levels), or because in spite of the higher tax burdens cited in the previous studies, businesses in Connecticut take advantage of exemptions and targeted tax credit programs that do not get included in tax climate index evaluations.

Conclusion

Three of the four studies cited above suggest that Connecticut's business climate does not place it among the most attractive states in which to do business, but rather in the mid-range. The one exception is the Ernst and Young analysis that evaluates the state's business tax burden as a share based on actual amounts paid. Some programs that Connecticut has enacted to attract business may have hurt its ranking in the former studies. The Tax Foundation index, for example, rewards states with low tax rates and the broadest possible bases (the fundamental rule of taxation), and penalizes states that have tax programs targeted toward specific industries.

[25] January 2009: available at www.ey.com http://www.ey.com/Publication/vwLUAssets/Total_state_and_local_business_taxes:_50_state_estimates_for_fiscal_year_2008/$File/Total_state_and_local_business_tax_fiscal_year_2008.pdf

Connecticut's targeted tax programs would therefore appear to hurt the state's standing in this index. The same targeted tax programs, on the other hand, may have boosted Connecticut's ranking in the Ernst and Young study.

The fact that most of the cited studies do not rate Connecticut as an attractive state for business is a cause for concern and may drive the perception that the state is not business-friendly (New England states in general do not fare well in most of these rankings). If Connecticut is to improve its standing in these evaluations, however, targeted reforms toward a specific sub-index component (e.g. reducing a specific top tax rate or expanding the relevant tax base) where Connecticut is ranked low should result in a significant improvement in the state's position, without necessitating a complete overhaul of the entire business tax system.

3. Connecticut Taxation Compared with Other States

In reviewing Connecticut's taxes, one naturally asks "relative to what?" Connecticut taxpayers may not care. However, there are reasons for the differences from which Connecticut may learn useful strategies to raise additional revenue, reduce and/or equalize burdens on some taxpayers, and/or broaden its tax bases for stability and growth. The fundamental rule (or goal) of taxation is to have the lowest possible rate on the broadest possible base. Connecticut's tax situation is a competitive issue among the states: workers and businesses take taxes into account and vote with their feet in location decisions.

Methods of Comparison and Problems[26]

There is a variety of methods to make such comparisons. The most commonly used measures include taxes per capita, taxes per $1,000 of personal income, and top tax rates. Before discussing flaws in the specific tax measures, we note the generic problems inherent in any overall measure of tax competitiveness. The primary problem revolves around a state's ability to export taxes.

First, states rich in economically sensitive natural resources, such as petroleum, coal, natural gas and lumber, can impose severance taxes upon removal of these resources that are primarily paid by the ultimate consumers of these products. To the extent these consumers are located in other states, these taxes are exported. For this reason alone, most aggregate comparisons fail to be completely informative.

Second, states with significant tourist industries like Hawaii, Florida, California, and New York, can export a portion of their sales tax base (and certain selected excise taxes) to nonresident visitors. For example, Hawaii has a very high sales tax rate, which results in significant revenue generated from nonresident tourists.

Third, states with significant economic migration of workers may have the opportunity to shift taxes to nonresidents who work in the state.

Fourth, some state and local tax sources are deductible from federal taxes. To the degree a state and local tax structure is weighted to federally deductible tax sources, a part of the tax cost is exported to the federal government. These factors are not recognized in aggregate tax comparisons.

Fifth, it is extremely difficult to incorporate tax burdens into overall tax capacity measures. While business taxes are allocated to states based on formula apportionment, the question of who actually pays the tax and where they are located is difficult to determine. This is a specific

[26] The following discussion is adapted from the State of New York, Department of Tax and Finance, *New York State Tax Source Book*, for state fiscal year (SFY) 2007-2008, http://www.tax.state.ny.us/statistics/policy-special/tax_sourcebook/new_york_state_tax_sourcebook_electronic_toc.htm.

instance of the more generic problem in the overall tax burden of determining the underlying incidence (who pays the tax) of a tax structure.

Per capita taxes are the dollar amount of total tax collections divided by the population of a state. Measuring state tax burdens by using per capita tax collections can seriously mislead the reader. This measure does not reflect ability to pay the tax or the demographic composition of taxpayers. In addition, it does not indicate the amount of state tax paid by nonresident workers and consumers, or the amount exported to the federal government through deductibility.

Taxes per $1,000 of personal income are the dollar amount of total collections divided by the personal income of the state's residents in thousands of dollars. Dividing state tax collections by personal income provides a better indicator because it provides some measure of taxpayers' ability to pay. However, like per capita measures, it does not show who actually pays state taxes. This measure of tax burden is necessarily imprecise as not all residents pay tax (particularly corporate and certain selective sales taxes). Again, this measure includes taxes paid by nonresidents, but not the income they earn. In Connecticut in tax year 2007, nonresidents and part-year residents accounted for approximately 10 % of personal income tax liability.[27] Moreover, Connecticut's estimated July 1, 2008 population was 1.15% of the national total, but the state accounts for almost 1.63% of total personal income.[28]

A further problem with this measure is that it does not control for wealth differences across states. For example, if all states had identical tax structures composed only of a progressive personal income tax, then states with higher per capita incomes would appear as higher tax states. Additionally, this measure does not correct for the deductibility of certain taxes from federal taxes. Federal deductibility allows state taxpayers to shift a portion of the cost of the personal income tax to the federal government.

The U.S. Commerce Department's definition of personal income does not include capital gains or nonresident income, each of which may go toward paying a particular state's income and corporate taxes. Connecticut's nonresidents and part-year residents are liable for tax on taxable income derived from sources within Connecticut. Additionally, Connecticut residents pay tax on capital gains realizations. As a result, the tax-to-income ratio is biased upward because it includes tax but excludes the associated income. Connecticut residents realize a substantial fraction of national capital gains. This means the upward bias in the tax-to-income ratio is even greater for Connecticut. Tax-to-personal income is, however, a more useful interstate comparison than taxes per capita, because it partially adjusts for the relative wealth or poverty of different states.
Researchers usually represent top tax rates by the state's top marginal tax rate for corporate and personal income taxes. Comparing state tax rates can prove especially misleading because state tax bases differ widely, particularly for personal income and sales taxes. For example, states

[27] Data from www.census.gov and CT Department of Revenue Services.
[28] Data from www.bea.gov.

with high graduated income tax rates often have more deductions, exclusions and credits than states with lower, less-graduated rate structures. In addition, states tax similar bases differently.

More generally, tax collection patterns can vary from state to state, and fluctuate from year to year. Such factors as law changes, audit activities, withholding rules, and the relationship between tax and fiscal years can skew apparent collections in a given period. Moreover, one has to exercise caution when comparing U.S. Census Bureau data to state tax collections data provided by individual states. The Census Bureau includes various license revenues in tax amounts even though particular states may not report these revenues in their tax collections data.

Furthermore, the U.S. Census Bureau's classification scheme does not always capture methods states may choose to impose taxes on similar entities. For example, the State of Washington does not have a corporate income tax, but it collects about $1 billion from a tax on business receipts, in addition to a retail sales tax. These differences in classification can hide the fact that the states often select different approaches to taxing similar entities or activities.

Using the standard measure of tax burden — collections per capita or as a share of personal income — has less meaning for business tax burden than for other taxes. Whereas individuals out of their personal income at least, in part, pay personal income and sales taxes, business tax incidence is far less straightforward. Although individuals, as workers, consumers, and shareholders ultimately pay business taxes with their income, where they live may bear little relationship to where the business ultimately pays tax. In addition, per-capita and share-of-income burden measures provide little insight on different businesses' ability to pay tax.

Where Connecticut Stands

Bearing in mind the foregoing issues, the following tables illustrate Connecticut's position on several taxes with respect to the other states. Table 3.1 shows the composition of state taxes in terms of the percentage of a state's revenue from general sales taxes, personal income taxes, corporate income taxes, excise and gross receipts taxes, license taxes and other taxes for FY 2007. Connecticut ranked 38th relative to the other states which have a general sales tax (rank one indicates the highest portion of state revenue derived from this tax), with 23.59% of its revenue raised from that source in 2007 (seven states had smaller fractions of their total revenue derived from sales taxes; five states charge no sales tax). Connecticut received 49.3% of its total revenue from the personal income tax and ranked 6th (seven states have no income tax); it received 6.42% of its revenue from the corporate income tax and ranked 27th (four states have no corporate income tax); it received 15.05% of its revenue from excise and gross receipts taxes and ranked 26th. Only 2.82% of Connecticut's revenue derived from license taxes (ranked 48th) and 2.81% derived from other sources (ranked 30th). Connecticut tends to rank in the middle in general except with regard to personal income and license taxes as a percentage of the state's total tax revenue.

Table 3.2 shows that Connecticut's mix of tax revenue has been leaning toward more local taxes

in terms of the proportion of all taxes raised from state and local sources. In 1999, the split was 65/35 percent state/local. In recent years, the proportion has moved in favor of a larger local share of total taxes, with an approximate 60/40 percent split between Connecticut's state and local taxes.

Table 3.3 ranks the states according to their total state taxes collected per $1,000 of personal income in FY 2007. This measure conveys some idea of the relative burden placed on those earning income in a state (not on just those who live there) in terms of ability to pay. Connecticut ranked 24th in FY 2007 with $72.18 paid in total state taxes per $1,000 of personal income earned in the state (that is, 26 states had lower burdens in this sense than Connecticut). This compares to the U.S. average of $68.41 and the high in Hawaii of $133.04 and the low of $41.66 per $1,000 of personal income in New Hampshire.

Table 3.4 indicates that Connecticut has become less burdensome relative to other states since 1999 as it declined from $78.76 per $1,000 of personal income to $72.65 in FY 2006. Connecticut's performance in FY 2002's $62.15 in state taxes per $1,000 income ranks the lowest in the years considered.

Table 3.5 separates total state tax burdens per $1,000 of personal income into seven categories for FY 2007.

Table 3.6 examines state and local taxes paid per $1,000 of personal income for FY 2006. Connecticut ranks higher (some would say lower) by adding local taxes paid for a total of $118.89 per $1,000 of personal in FY 2006. This compares to the U.S average of $116.22, a high of $165.92 in Wyoming and a low of $91.03 in South Dakota. Since 1997, Connecticut has consistently changed its ranking moving from 9th in FY 1999 to 12th in FY 2005 (see Table 3.7).

Table 3.8 indicates that Connecticut in FY 2007 ranked number five in per capita state taxes paid with $3,668.31 paid per person compared to the U.S. average of $2,487.50, the high of $5,037.37 per person in Alaska and the low of $1,577.62 per person in South Dakota. The high rank correlates with Connecticut's per capita income, which ranked number one in the country in 2007 at $54,117,[29] and is not affected by the fact that 31 states have higher top marginal personal income tax rates (see below). In 2007, U.S. per capita income was $38,611, Alaska's per capita personal income was $40,352 (and ranked 15th), while South Dakota's per capita personal income was $33,905 (ranked 34th).[5] Connecticut ranked number one in state taxes per capita in 1999, and maintained this position until 2002, after which it gradually dropped to its FY 2007 rank of five (Table 3.9).

Table 3.10 reports state taxes per capita in seven tax categories for FY 2007. Connecticut's highest rankings are in personal income taxes (ranked number one at $1,808.83 per capita), death and estate taxes (ranked number four at $50.93 per capita), and corporate income tax (ranked

[29] Source: U.S. Bureau of Economic Analysis, www.bea.gov.

number nine at $235.53 per capita). Connecticut's lowest ranking is in corporate license and business occupation taxes, where it ranks 36th at $30.06 per capita.

Connecticut ranks number three in state and local taxes paid per capita in FY 2006, at $5,699.71 compared to the U.S. average of $4,039.44, the high of $6,419.76 in New York and the low of $2,812.65 in Alabama (see Table 3.11). Since 1997, Connecticut's relative position with respect to per capita state and local taxes has remained in the top three (see Table 3.12).

Connecticut's top marginal personal income tax rate was 5% as of January 1, 2008 when comparative statistics were last available for the 50 states. The current top rate represents an increase from 4.5% in the spring of 2003. Connecticut ranked 32nd out of 41 states that have a personal income tax; that is, 31 states have higher top rates (the highest is 10.3% in California, the lowest is 3.00% in Illinois; see Table 3.13).

Table 3.14 shows the tax-free income level, that is, the level of income above which a family of four begins owing state income tax. Connecticut ranks 17th with a tax-free income of $24,100, which is $3,656 above the poverty level for a family of four. This compares to number one-ranked California with a tax-free income level of $44,700 that is $24,256 above the poverty threshold, and to last place Alabama where wage earners begin paying state income tax at $4,600 or $15,844 ***below*** the poverty threshold.

Conclusion

Connecticut taxpayers pay more taxes on average because they earn more income per capita than taxpayers in other states. However, Connecticut's tax burden per $1,000 of personal income is toward the middle of the pack reflecting a modest ability to pay. To the extent that consumption and real property values relate positively to income, total sales, excise and property tax burdens are higher as incomes increase. In high-income towns, equalized mill rates tend to be lower than in lower income towns. This reflects greater household property values in such towns and the ease in terms of the equalized mill rate with which such towns can raise the revenue required to support the towns' budgets.

Table 3.1: Fraction of Total State Tax Revenue by Type of Tax, Fiscal Year 2007

State	General Sales Tax	Personal Income Tax	Corporate Income Tax	Excise & Gross Receipts Taxes	License Taxes	Other
U.S. Total	31.50	35.44	7.11	14.59	6.25	5.10
Alabama	25.69	34.05	5.70	23.82	5.38	5.36
Alaska	(X)	(X)	23.64	6.38	3.70	66.29
Arizona	45.85	25.78	7.96	13.35	3.25	3.81
Arkansas	39.29	29.34	4.91	12.86	4.04	9.57
California	28.47	46.47	9.72	6.77	6.54	2.03
Colorado	24.10	52.09	5.21	13.37	3.73	1.49
Connecticut	***23.59***	***49.31***	***6.42***	***15.05***	***2.82***	***2.81***
Delaware	(X)	35.29	10.40	15.80	34.63	3.88
Florida	60.86	(X)	6.83	16.19	5.25	10.87
Georgia	34.24	47.22	5.46	9.81	2.67	0.60
Hawaii	50.21	30.63	1.98	13.16	3.07	0.95
Idaho	36.12	39.77	5.32	11.06	7.47	0.25
Illinois	26.48	31.88	9.95	22.00	8.27	1.42
Indiana	38.47	32.74	7.00	16.52	4.16	1.11
Iowa	27.62	41.22	5.02	15.16	9.51	1.47
Kansas	32.52	39.82	7.65	11.82	4.39	3.79
Kentucky	28.47	30.74	9.99	17.91	4.64	8.25
Louisiana	32.05	29.60	6.93	17.43	5.21	8.78
Maine	29.45	37.92	5.13	17.75	6.35	3.39
Maryland	22.84	44.25	5.18	15.66	4.78	7.28
Massachusetts	19.72	55.17	10.20	9.29	3.27	2.35
Michigan	33.47	27.01	7.49	15.17	5.77	11.08
Minnesota	25.14	40.67	6.66	15.93	5.47	6.13
Mississippi	49.35	21.92	5.77	14.74	6.19	2.03
Missouri	30.57	45.16	3.65	14.40	5.89	0.32
Montana	(X)	35.90	7.70	22.85	13.29	20.25
Nebraska	36.46	40.55	5.23	11.51	5.09	1.17
Nevada	50.96	(X)	(X)	30.35	12.71	5.98
New Hampshire	(X)	4.95	27.43	33.83	9.52	24.27
New Jersey	28.67	39.65	9.88	12.36	5.20	4.24
New Mexico	35.42	22.09	8.17	12.28	4.56	17.48
New York	17.23	54.75	8.57	13.66	2.10	3.69
North Carolina	23.01	46.83	6.92	16.20	5.92	1.12
North Dakota	27.16	17.77	7.65	18.19	7.17	22.05
Ohio	31.36	40.43	5.25	13.87	8.62	0.46
Oklahoma	22.06	38.34	6.30	10.94	10.70	11.66

Oregon	(X)	72.27	5.24	10.11	10.76	1.62
Pennsylvania	28.09	31.82	7.41	18.88	9.23	4.57
Rhode Island	31.66	39.25	6.48	17.39	3.40	1.83
South Carolina	37.22	37.28	3.59	15.46	5.42	1.03
South Dakota	56.63	(X)	6.10	24.46	12.38	0.42
Tennessee	59.62	1.97	9.88	14.03	11.10	3.41
Texas	50.69	(X)	(X)	28.22	14.23	6.86
Utah	33.17	43.48	6.77	11.40	3.44	1.73
Vermont	13.07	22.71	3.26	19.95	4.56	36.45
Virginia	18.65	53.97	6.75	12.97	3.55	4.10
Washington	61.39	(X)	(X)	16.90	4.99	16.72
West Virginia	24.27	29.23	11.58	23.59	3.91	7.41
Wisconsin	28.71	43.73	6.38	12.97	5.94	2.26
Wyoming	34.49	(X)	(X)	6.30	6.24	52.98

(X) Does not impose tax.

Source: "State Tax Collections" (2007), U.S. Department of Commerce, Bureau of the Census.

Table 3.2: State & Local Taxes by Level of Government (%), Selected Fiscal Years

	2006		2002		1999	
	State	**Local**	**State**	**Local**	**State**	**Local**
U.S. Total	59	41	59	41	61	39
Alabama	67	33	67	33	69	31
Alaska	68	32	53	47	51	49
Arizona	60	40	59	41	62	38
Arkansas	80	20	81	19	76	24
California	68	32	65	35	69	31
Colorado	49	51	50	50	54	46
Connecticut	***61***	***39***	***60***	***40***	***65***	***35***
Delaware	79	21	81	19	82	18
Florida	56	44	56	44	59	41
Georgia	55	45	57	43	58	42
Hawaii	79	21	81	19	81	19
Idaho	70	30	69	31	71	29
Illinois	54	46	54	46	56	44
Indiana	59	41	60	40	63	37
Iowa	60	40	60	40	63	37
Kansas	60	40	60	40	63	37
Kentucky	73	27	74	26	75	25
Louisiana	61	39	60	40	62	38
Maine	62	38	58	42	62	38
Maryland	57	43	54	46	57	43
Massachusetts	63	37	62	38	66	34
Michigan	66	34	71	29	73	27
Minnesota	77	23	72	28	73	27
Mississippi	73	27	72	28	75	25
Missouri	56	44	58	42	61	39
Montana	70	30	68	32	66	34
Nebraska	58	42	56	44	58	42
Nevada	63	37	61	39	65	35
New Hampshire	46	54	53	47	34	66
New Jersey	56	44	53	47	54	46
New Mexico	73	27	74	26	77	23
New York	46	54	49	51	47	53
North Carolina	69	31	69	31	71	29
North Dakota	69	31	65	35	66	34
Ohio	57	43	56	44	56	44
Oklahoma	69	31	69	31	70	30
Oregon	61	39	57	43	63	37

Pennsylvania	59	41	59	41	61	39
Rhode Island	59	41	59	41	59	41
South Carolina	62	38	62	38	68	32
South Dakota	53	47	53	47	53	47
Tennessee	62	38	60	40	61	39
Texas	48	52	49	51	52	48
Utah	66	34	65	35	67	33
Vermont	87	13	77	23	78	22
Virginia	57	43	58	42	59	41
Washington	65	35	65	35	68	32
West Virginia	77	23	76	24	77	23
Wisconsin	62	38	63	37	67	33
Wyoming	68	32	60	40	60	40

Source: Government Finances (Selected Fiscal Years), U.S. Census Bureau.

Table 3.3: State Taxes per $1,000 Personal Income Fiscal Year 2007

Rank	State	State Taxes ($)
	U.S. Average	$68.41
1	Alaska	133.04
2	Vermont	118.46
3	Hawaii	107.60
4	Wyoming	96.93
5	Arkansas	92.45
6	West Virginia	91.19
7	New Mexico	89.59
8	Minnesota	88.80
9	Delaware	87.34
10	North Dakota	84.88
11	Maine	84.88
12	Mississippi	81.65
13	Louisiana	80.74
14	Idaho	80.53
15	California	79.96
16	Montana	79.52
17	Kentucky	79.16
18	North Carolina	78.95
19	Utah	77.58
20	Oklahoma	76.79
21	Wisconsin	75.60
22	New York	74.42
23	Washington	72.67
24	***Connecticut***	***72.18***
25	New Jersey	72.01
26	Kansas	71.78
27	Michigan	69.92
28	Rhode Island	69.53
29	Massachusetts	69.40
30	Indiana	69.29
31	South Carolina	67.73
32	Pennsylvania	67.56
33	Nebraska	66.96
34	Iowa	65.71
35	Ohio	65.08
36	Nevada	64.76
37	Arizona	62.92
38	Oregon	62.92
39	Virginia	62.74

40	Alabama	62.52
41	Georgia	62.15
42	Maryland	61.40
43	Illinois	60.06
44	Tennessee	58.15
45	Missouri	55.87
46	Florida	53.88
47	South Dakota	49.57
48	Colorado	48.92
49	Texas	48.92
50	New Hampshire	41.66

Source: "State Tax Collections" (2007), U.S. Department of Commerce, Bureau of the Census.

Table 3.4: State Taxes per $1,000 Personal Income for Selected Fiscal Years

	2006		2002		2001		2000		1999	
	Amount ($)	Rank	Amount ($)	Rank	Amount ($)	Rank	Amount ($)	Rank	Amount ($)	Rank
U.S. Average	$68.68		$61.47		$67.52		$69.52		$68.12	
Vermont	118.42	1	87.50	2	94.62	3	95.69	3	69.63	22
Wyoming	112.24	2	75.25	11	82.82	9	76.12	20	69.62	23
Hawaii	110.95	3	96.33	1	103.85	1	102.13	1	99.41	1
Alaska	102.25	4	55.47	40	76.76	19	80.39	15	52.86	46
West Virginia	95.05	5	86.14	3	86.94	5	88.25	7	86.09	7
New Mexico	94.63	6	85.66	4	100.12	2	98.45	2	94.97	2
Arkansas	93.00	7	81.71	6	83.46	7	85.82	9	85.79	8
Delaware	91.66	8	84.07	5	88.97	4	91.93	4	92.89	3
Minnesota	90.96	9	78.60	8	85.97	6	90.71	5	90.25	4
Maine	88.36	10	76.40	9	82.34	11	86.32	8	86.66	6
Louisiana	86.41	11	67.05	20	69.77	25	65.20	35	62.24	37
Kentucky	84.13	12	78.70	7	80.57	12	83.60	11	84.28	10
California	82.61	13	68.92	18	82.62	10	84.54	10	78.64	14
Mississippi	80.90	14	76.07	10	79.87	13	82.26	13	84.06	11
North Dakota	79.74	15	67.99	19	77.35	17	79.36	17	75.79	17
Montana	77.85	16	66.57	21	73.34	21	72.58	23	73.12	20
Utah	77.80	17	71.52	14	77.47	16	80.22	16	78.01	15
Idaho	77.76	18	69.83	15	83.17	8	83.17	12	79.89	12
North Carolina	77.17	19	68.97	17	72.00	23	76.48	19	75.98	16
Wisconsin	75.81	20	74.72	12	78.00	14	88.53	6	84.72	9
Oklahoma	73.10	21	69.77	16	77.76	15	75.92	21	73.85	19
Washington	73.00	22	65.86	23	68.81	26	71.83	24	75.53	18
Connecticut	***72.65***	***23***	***62.15***	***29***	***76.02***	***20***	***78.86***	***18***	***78.76***	***13***
Michigan	71.76	24	73.47	13	76.93	18	82.07	14	88.38	5
Rhode Island	71.42	25	66.50	22	73.31	22	69.91	26	67.89	26
Indiana	$70.41	26	58.83	34	62.39	35	65.04	36	65.50	31
Kansas	69.90	27	62.47	28	67.64	28	68.34	28	68.11	25
Massachusetts	69.14	28	59.71	33	71.85	24	73.58	22	71.58	21
New York	69.02	29	63.18	24	68.42	27	67.68	29	66.38	30
Nebraska	68.62	30	60.47	31	63.86	32	66.15	33	61.83	39
Nevada	68.16	31	62.66	25	64.26	31	66.23	32	67.36	28
Ohio	67.44	32	59.85	32	61.83	38	64.38	37	62.03	38
Pennsylvania	67.27	33	58.64	35	62.16	36	65.48	34	65.48	32
Oregon	66.21	34	52.54	44	62.03	37	66.35	31	62.81	35
New Jersey	65.91	35	56.10	39	61.53	39	62.69	40	60.81	40
Iowa	65.56	36	62.66	25	66.75	29	70.55	25	68.77	24
Arizona	64.76	37	61.73	30	65.49	30	67.30	30	66.77	29

South Carolina	64.27	38	56.85	38	63.76	33	69.75	27	67.80	27
Alabama	64.10	39	62.66	25	60.90	40	64.09	38	62.86	34
Maryland	62.59	40	57.21	36	60.42	41	61.67	42	60.47	42
Illinois	60.60	41	54.49	43	58.42	43	60.33	43	58.87	44
Florida	60.32	42	52.29	45	55.79	45	59.12	45	59.45	43
Georgia	60.00	43	57.17	37	62.83	34	63.45	39	63.16	33
Virginia	59.85	44	54.83	41	59.32	42	61.78	41	60.69	41
Tennessee	57.68	45	50.34	46	52.94	47	55.19	47	54.17	45
Missouri	55.96	46	54.61	42	57.97	44	59.43	44	62.62	36
Colorado	48.47	47	46.82	49	53.91	46	55.29	46	50.29	48
Texas	48.13	48	47.03	48	50.66	48	50.94	48	51.34	47
South Dakota	47.95	49	48.41	47	49.72	49	50.50	49	50.10	49
New Hampshire	42.48	50	43.83	50	43.38	50	45.38	50	30.63	50

Source: Calculated as FY total taxes divided by prior year personal income from State Government Finances (Selected Years), and Survey of Current Business
(Selected Years), respectively, U.S. Department of Commerce, Bureaus of the Census & Economic Analysis.
Source: "State Tax Collections" (2006), U.S. Department of Commerce, Bureau of the Census.

Table 3.5: State Taxes by Selected Tax Amounts per $1,000 Personal Income, Fiscal Year 2007

Rank	Total State Tax	Amount	General Sales Tax	Amount	Motor Fuel Tax *	Amount	Personal Income Tax	Amount
	U.S. Average	$68.41	U.S. Average	$21.55	U.S. Average	$3.33	U.S. Average	$24.25
1	Alaska	133.04	Hawaii	54.03	Montana	7.22	Oregon	45.47
2	Vermont	118.46	Washington	44.61	West Virginia	6.84	New York	40.74
3	Hawaii	107.60	Mississippi	40.29	North Dakota	6.61	Massachusetts	38.29
4	Wyoming	96.93	Arkansas	36.33	Arkansas	5.78	California	37.16
5	Arkansas	92.45	Tennessee	34.67	Mississippi	5.73	North Carolina	36.97
6	West Virginia	91.19	Wyoming	33.43	North Carolina	5.62	Minnesota	36.11
7	New Mexico	89.59	Nevada	33.00	Maine	5.49	***Connecticut***	***35.59***
8	Minnesota	88.80	Florida	32.79	Idaho	5.28	Virginia	33.86
9	Delaware	87.34	New Mexico	31.73	Nebraska	5.27	Utah	33.74
10	North Dakota	84.88	Idaho	29.09	Wisconsin	5.20	Wisconsin	33.06
11	Maine	84.88	Arizona	28.85	Utah	5.04	Hawaii	32.96
12	Mississippi	81.65	South Dakota	28.07	South Dakota	4.87	Maine	32.19
13	Louisiana	80.74	Indiana	26.66	Pennsylvania	4.70	Idaho	32.03
14	Idaho	80.53	Louisiana	25.88	Washington	4.64	Delaware	30.82
15	California	79.96	Utah	25.74	Louisiana	4.58	Oklahoma	29.44
16	Montana	79.52	South Carolina	25.21	Kentucky	4.56	Georgia	29.34
17	Kentucky	79.16	Maine	25.00	Iowa	4.54	Kansas	28.58
18	North Carolina	78.95	Texas	24.80	Ohio	4.51	New Jersey	28.55
19	Utah	77.58	Nebraska	24.41	Kansas	4.49	Montana	28.55
20	Oklahoma	76.79	Michigan	23.41	Tennessee	4.41	Rhode Island	27.29
21	Wisconsin	75.60	Kansas	23.35	Indiana	4.33	Maryland	27.17
22	New York	74.42	North Dakota	23.06	New Mexico	4.21	Nebraska	27.15
23	Washington	72.67	California	22.77	South Carolina	4.16	Arkansas	27.12
24	***Connecticut***	***72.18***	Kentucky	22.54	Vermont	4.04	Iowa	27.08
25	New Jersey	72.01	Minnesota	22.33	Alabama	4.00	Vermont	26.91
26	Kansas	71.78	West Virginia	22.13	Arizona	3.90	West Virginia	26.66
27	Michigan	69.92	Rhode Island	22.01	Missouri	3.84	Ohio	26.31
28	Rhode Island	69.53	Wisconsin	21.71	Texas	3.73	Colorado	25.48
29	Massachusetts	69.40	Georgia	21.28	Georgia	3.61	South Carolina	25.25
30	Indiana	69.29	New Jersey	20.65	Delaware	3.53	Missouri	25.23

31	South Carolina	67.73	Ohio	20.41	Colorado	3.52	Kentucky	24.33
32	Pennsylvania	67.56	Pennsylvania	18.98	Florida	3.48	Louisiana	23.90
33	Nebraska	66.96	North Carolina	18.16	Wyoming	3.45	Indiana	22.69
34	Iowa	65.71	Iowa	18.15	Oklahoma	3.42	Pennsylvania	21.50
35	Ohio	65.08	Missouri	17.08	Oregon	3.39	Alabama	21.29
36	Nevada	64.76	***Connecticut***	***17.02***	Nevada	3.37	New Mexico	19.79
37	Arizona	62.92	Oklahoma	16.94	Rhode Island	3.31	Illinois	19.15
38	Oregon	62.92	Alabama	16.06	Minnesota	3.22	Michigan	18.89
39	Virginia	62.74	Illinois	15.91	Maryland	3.07	Mississippi	17.90
40	Alabama	62.52	Vermont	15.48	Virginia	3.04	Arizona	16.22
41	Georgia	62.15	Maryland	14.03	Michigan	3.03	North Dakota	15.09
42	Maryland	61.40	Massachusetts	13.69	Illinois	2.96	New Hampshire	2.06
43	Illinois	60.06	New York	12.82	New Hampshire	2.48	Tennessee	1.15
44	Tennessee	58.15	Colorado	11.79	***Connecticut***	***2.47***	Alaska	(X)
45	Missouri	55.87	Virginia	11.70	California	2.39	Florida	(X)
46	Florida	53.88	Alaska	(X)	Massachusetts	2.27	Nevada	(X)
47	South Dakota	49.57	Delaware	(X)	Hawaii	1.90	South Dakota	(X)
48	Colorado	48.92	Montana	(X)	Alaska	1.52	Texas	(X)
49	Texas	48.92	New Hampshire	(X)	New Jersey	1.40	Washington	(X)
50	New Hampshire	41.66	Oregon	(X)	New York	0.61	Wyoming	(X)

* Does not include other taxes on motor fuel products, such as taxes on petroleum businesses.
(X) Does not impose tax.
Source: "State Tax Collections" (2007), U.S. Department of Commerce, Bureau of the Census.

Table 3.5 (contd.): State Taxes by Selected Tax Amounts per $1,000 Personal Income, Fiscal Year 2007

Rank	Death & Gift Taxes	Amount	Corporate Income Tax	Amount	Corp. License & Business Occup. Taxes	Amount	Income/License & Business Occup. Taxes	Amount
	U.S. Average	$0.45	U.S. Average	$4.87	U.S. Average	$1.98	U.S. Average	$6.85
1	Pennsylvania	1.61	Alaska	31.45	Delaware	26.00	Delaware	35.08
2	New Jersey	1.45	New Hampshire	11.43	Nevada	5.20	Alaska	32.65
3	Maine	1.30	West Virginia	10.56	Texas	4.83	New Hampshire	13.12
4	New York	1.24	Delaware	9.08	Tennessee	4.58	West Virginia	11.56
5	***Connecticut***	***1.00***	Kentucky	7.90	Pennsylvania	3.29	California	10.85
6	Maryland	0.91	California	7.78	Ohio	3.25	Tennessee	10.33
7	Rhode Island	0.90	New Mexico	7.32	South Dakota	3.08	Kentucky	9.40
8	Massachusetts	0.84	New Jersey	7.12	California	3.07	New Jersey	9.36
9	Vermont	0.82	Massachusetts	7.08	Louisiana	3.05	Montana	9.16
10	Iowa	0.79	North Dakota	6.49	Montana	3.03	North Dakota	8.92
11	Washington	0.75	New York	6.38	Mississippi	2.62	Louisiana	8.65
12	Indiana	0.74	Montana	6.13	North Dakota	2.43	Pennsylvania	8.30
13	Oregon	0.65	Illinois	5.98	Maine	2.35	New Mexico	7.82
14	Wisconsin	0.63	Minnesota	5.91	Oregon	2.33	Massachusetts	7.71
15	North Carolina	0.62	Tennessee	5.74	New Jersey	2.24	Illinois	7.70
16	Kansas	0.58	Louisiana	5.60	Oklahoma	2.18	Minnesota	7.43
17	Oklahoma	0.57	Kansas	5.49	North Carolina	1.96	North Carolina	7.43
18	Tennessee	0.57	North Carolina	5.47	Illinois	1.72	Mississippi	7.34
19	Minnesota	0.54	Utah	5.25	New Hampshire	1.70	Oklahoma	7.02
20	Illinois	0.53	Michigan	5.24	Wisconsin	1.67	Maine	6.70
21	Virginia	0.51	Pennsylvania	5.01	South Carolina	1.63	Ohio	6.67
22	Nebraska	0.45	Arizona	5.01	Alabama	1.58	New York	6.64
23	Kentucky	0.35	Indiana	4.85	Minnesota	1.52	Wisconsin	6.49
24	Ohio	0.19	Oklahoma	4.84	Kentucky	1.50	Kansas	6.34
25	Wyoming	0.13	Wisconsin	4.82	Vermont	1.48	South Dakota	6.11
26	Louisiana	0.08	Mississippi	4.71	Arkansas	1.44	Arkansas	5.98
27	Florida	0.07	***Connecticut***	***4.63***	Wyoming	1.36	Utah	5.80
28	Delaware	0.03	Arkansas	4.54	Idaho	1.34	Michigan	5.74

29	Montana	0.03	Rhode Island	4.50	Iowa	1.30	Oregon	5.63
30	South Dakota	0.02	Maine	4.36	Missouri	1.26	Idaho	5.63
31	South Carolina	0.01	Idaho	4.29	Alaska	1.21	Arizona	5.56
32	Nevada	0.01	Virginia	4.24	Nebraska	1.16	Rhode Island	5.44
33	New Hampshire	0.01	Vermont	3.86	Washington	1.06	Vermont	5.34
34	Utah	0.01	Florida	3.68	West Virginia	1.00	***Connecticut***	***5.23***
35	Texas	0.01	Alabama	3.57	Rhode Island	0.93	Nevada	5.20
36	Alaska	0.01	Nebraska	3.50	Maryland	0.89	Alabama	5.14
37	Alabama	0.00	Ohio	3.42	Kansas	0.85	Indiana	5.08
38	Georgia	0.00	Georgia	3.39	Virginia	0.72	Virginia	4.96
39	California	0.00	Iowa	3.30	Florida	0.66	Texas	4.83
40	Idaho	0.00	Oregon	3.30	Hawaii	0.65	Nebraska	4.66
41	West Virginia	0.00	Maryland	3.18	Georgia	0.65	Iowa	4.60
42	Hawaii	0.00	South Dakota	3.03	Massachusetts	0.63	Florida	4.34
43	Colorado	0.00	Colorado	2.55	***Connecticut***	***0.59***	Maryland	4.08
44	Michigan	0.00	South Carolina	2.43	Arizona	0.56	South Carolina	4.06
45	Mississippi	0.00	Hawaii	2.13	Utah	0.55	Georgia	4.04
46	Arizona	(X)	Missouri	2.04	Michigan	0.51	Missouri	3.30
47	Arkansas	(X)	Nevada	(X)	New Mexico	0.50	Hawaii	2.79
48	Missouri	(X)	Texas	(X)	New York	0.26	Colorado	2.78
49	New Mexico	(X)	Washington	(X)	Colorado	0.23	Wyoming	1.36
50	North Dakota	(X)	Wyoming	(X)	Indiana	0.23	Washington	1.06

(X) Does not impose tax.
Source: "State Tax Collections" (2007), U.S. Department of Commerce, Bureau of the Census.

Table 3.6: State & Local Taxes per $1,000 Personal Income, Fiscal Year 2006

Rank	State	State & Local Taxes	State	State Taxes	State	Local Taxes
	U.S. Average	$116.22	U.S. Average	$69.12	U.S. Average	$47.10
1	Wyoming	165.92	Vermont	118.27	New York	83.86
2	New York	156.52	Wyoming	112.28	New Jersey	55.75
3	Alaska	150.98	Hawaii	111.07	Maine	54.34
4	Maine	142.94	Alaska	102.35	Louisiana	54.24
5	Louisiana	140.46	West Virginia	95.18	Wyoming	53.64
6	Hawaii	140.00	New Mexico	94.65	Illinois	51.74
7	Vermont	135.30	Arkansas	93.77	Texas	51.53
8	New Mexico	129.17	Delaware	91.78	Ohio	51.12
9	New Jersey	125.34	Minnesota	90.97	Nebraska	50.51
10	West Virginia	122.83	Maine	88.60	Rhode Island	50.49
11	Wisconsin	122.60	Louisiana	86.21	New Hampshire	49.78
12	Rhode Island	121.91	Kentucky	84.06	Colorado	49.51
13	California	121.45	California	82.59	Georgia	49.25
14	Nebraska	119.19	Mississippi	81.01	Alaska	48.63
15	***Connecticut***	***118.89***	North Dakota	80.02	Indiana	48.23
16	Indiana	118.70	Utah	77.89	Maryland	48.09
17	Ohio	118.16	Idaho	77.88	Florida	47.79
18	Utah	118.13	Montana	77.86	Wisconsin	46.76
19	Minnesota	118.05	North Carolina	77.29	Kansas	46.58
20	Arkansas	116.91	Wisconsin	75.84	Pennsylvania	46.33
21	North Dakota	116.82	Oklahoma	73.43	***Connecticut***	***46.31***
22	Kansas	116.55	Washington	73.02	Virginia	44.84
23	Delaware	116.09	New York	72.66	Missouri	44.71
24	Kentucky	114.51	***Connecticut***	***72.58***	Arizona	44.51
25	Pennsylvania	113.58	Michigan	71.76	Iowa	44.39
26	North Carolina	112.59	Rhode Island	71.42	South Dakota	42.72
27	Illinois	112.35	Indiana	70.47	Oregon	41.96
28	Washington	111.99	Kansas	69.97	Utah	40.24
29	Idaho	111.58	New Jersey	69.59	Massachusetts	40.09
30	Maryland	111.08	Massachusetts	69.17	Nevada	40.03
31	Mississippi	110.65	Nebraska	68.68	Washington	38.97
32	Montana	110.58	Nevada	68.20	California	38.87
33	Arizona	110.25	Pennsylvania	67.25	South Carolina	38.68

34	Iowa	110.04	Ohio	67.03	Michigan	37.23
35	Massachusetts	109.26	Oregon	66.17	North Dakota	36.79
36	Georgia	109.21	Arizona	65.74	Tennessee	35.69
37	Michigan	108.99	Iowa	65.65	North Carolina	35.30
38	Nevada	108.23	Alabama	64.11	New Mexico	34.52
39	Oregon	108.13	South Carolina	64.08	Idaho	33.70
40	Florida	108.06	Maryland	62.99	Montana	32.71
41	Oklahoma	105.74	Illinois	60.61	Oklahoma	32.31
42	Virginia	104.75	Florida	60.28	Alabama	31.86
43	South Carolina	102.76	Georgia	59.96	Kentucky	30.45
44	Missouri	100.68	Virginia	59.91	Mississippi	29.63
45	Texas	99.70	Tennessee	57.68	Hawaii	28.92
46	Colorado	98.01	Missouri	55.97	West Virginia	27.65
47	Alabama	95.97	Colorado	48.50	Minnesota	27.08
48	Tennessee	93.38	South Dakota	48.31	Delaware	24.31
49	New Hampshire	92.30	Texas	48.17	Arkansas	23.14
50	South Dakota	91.03	New Hampshire	42.51	Vermont	17.02

Source: "State & Local Government Finance Estimates" (2006), U.S. Department of Commerce, Bureau of the Census.

Table 3.7: State & Local Taxes per $1,000 Personal Income, Selected Fiscal Years

	2005		2000		1999		1998		1997	
State	Amount ($)	Rank	Amount ($)	Rank	Amount ($)	Rank	Amount ($)	Rank	Amount ($)	Rank
U.S. Average	$112.90		$112.13		$110.48		$111.70		$104.95	
Wyoming	150.45	1	117.05	14	113.41	16	122.04	10	109.50	13
New York	150.19	2	141.04	1	140.34	1	141.92	2	136.21	2
Hawaii	134.48	3	125.92	6	123.01	5	125.89	6	123.05	4
Maine	132.11	4	139.10	2	139.08	2	144.46	1	127.47	3
Alaska	131.22	5	131.58	3	102.62	39	122.29	9	146.75	1
Vermont	130.37	6	120.66	9	121.82	6	125.08	7	117.53	10
Wisconsin	122.49	7	128.93	4	127.08	3	129.10	4	120.40	7
Rhode Island	122.23	8	118.69	13	115.56	11	117.15	14	110.01	11
New Mexico	121.88	9	127.09	5	121.73	7	131.39	3	121.43	6
West Virginia	121.38	10	116.37	15	116.65	10	112.30	25	109.33	14
Nebraska	118.70	11	109.84	28	107.66	30	112.36	24	109.52	12
Connecticut	***118.66***	***12***	***119.69***	***11***	***121.48***	***8***	***124.52***	***8***	***117.95***	***9***
Ohio	118.63	13	112.44	20	109.86	23	110.35	26	103.70	30
New Jersey	117.67	14	113.70	19	113.68	13	115.10	16	104.42	26
Louisiana	116.95	15	109.92	27	108.02	27	109.02	29	104.12	28
California	115.84	16	120.69	8	113.58	15	114.50	18	104.92	24
Utah	114.82	17	120.05	10	116.78	9	118.15	13	106.86	19
Indiana	114.58	18	105.63	39	104.70	37	105.75	37	104.87	25
Minnesota	114.02	19	123.72	7	123.26	4	127.69	5	121.87	5
Arkansas	113.91	20	106.44	36	112.62	18	106.51	35	99.73	36
North Dakota	113.60	21	119.10	12	114.89	12	122.02	11	118.02	8
Nevada	112.61	22	105.27	40	101.79	41	100.82	43	96.61	40
Delaware	111.97	23	115.11	16	112.34	19	118.84	12	106.24	20
Pennsylvania	111.18	24	106.82	34	107.18	32	107.27	32	101.22	32
Arizona	111.14	25	110.88	24	108.65	25	106.77	34	100.27	33
Kansas	110.91	26	108.87	30	107.59	31	115.74	15	105.91	21
Michigan	110.73	27	113.81	18	113.60	14	112.75	23	105.51	23
Illinois	110.36	28	107.76	32	104.95	34	104.66	38	100.13	34
Kentucky	109.80	29	111.67	21	110.99	21	112.84	22	106.94	17
Idaho	109.71	30	113.87	17	112.63	17	113.76	20	106.88	18
North Carolina	108.67	31	105.75	37	105.52	33	107.40	31	98.65	39
Maryland	108.66	32	109.36	29	104.63	38	107.86	30	100.08	35
Massachusetts	107.78	33	110.88	23	108.53	26	113.28	21	104.14	27
Mississippi	107.35	34	110.67	25	110.54	22	109.73	28	104.00	29
Iowa	107.22	35	110.96	22	107.95	28	109.80	27	105.55	22
Florida	105.91	36	98.74	45	100.24	44	100.50	45	94.63	43

Montana	105.47	37	110.00	26	108.85	24	113.78	19	109.18	15
Washington	105.21	38	107.47	33	111.25	20	115.00	17	108.11	16
South Carolina	104.11	39	104.58	41	104.75	36	103.50	39	96.13	41
Georgia	103.86	40	108.77	31	107.74	29	106.15	36	98.69	38
Virginia	103.29	41	102.88	43	101.64	42	100.81	44	93.23	45
Oregon	101.15	42	105.65	38	100.19	45	100.96	41	99.54	37
Oklahoma	100.65	43	106.51	35	104.78	35	107.17	33	102.00	31
Missouri	99.87	44	99.50	44	101.56	43	101.57	40	95.59	42
Texas	99.40	45	96.83	46	96.79	46	98.71	46	93.78	44
Colorado	95.73	46	103.10	42	102.24	40	100.87	42	92.47	46
Alabama	92.54	47	93.65	48	91.11	48	91.33	48	86.64	48
New Hampshire	91.58	48	88.00	50	88.37	49	88.39	50	84.53	49
Tennessee	91.52	49	88.09	49	87.99	50	90.01	49	84.27	50
South Dakota	88.09	50	94.49	47	95.06	47	97.80	47	89.36	47

Table 3.8: State Taxes Per Capita, Fiscal Year 2007

Rank	State	Total State Taxes
	U.S. Average	$2,487.50
1	Alaska	$5,037.37
2	Vermont	$4,118.78
3	Hawaii	$3,969.06
4	Wyoming	$3,873.32
5	***Connecticut***	***$3,668.31***
6	Minnesota	$3,420.83
7	Delaware	$3,360.34
8	New Jersey	$3,351.03
9	New York	$3,273.01
10	Massachusetts	$3,203.79
11	California	$3,138.90
12	North Dakota	$2,787.16
13	Washington	$2,735.25
14	Maine	$2,719.15
15	Maryland	$2,686.59
16	New Mexico	$2,642.41
17	Rhode Island	$2,614.83
18	Arkansas	$2,607.52
19	Wisconsin	$2,585.43
20	West Virginia	$2,568.50
21	Louisiana	$2,529.66
22	North Carolina	$2,495.61
23	Kansas	$2,483.20
24	Pennsylvania	$2,480.35
25	Oklahoma	$2,461.63
26	Virginia	$2,460.08
27	Nevada	$2,457.63
28	Montana	$2,422.05
29	Michigan	$2,367.87
30	Idaho	$2,358.66
31	Kentucky	$2,332.96
32	Illinois	$2,296.56
33	Nebraska	$2,294.09
34	Utah	$2,226.35
35	Indiana	$2,221.84
36	Mississippi	$2,190.81
37	Iowa	$2,165.21
38	Ohio	$2,163.67

39	Oregon	$2,066.17
40	South Carolina	$1,971.30
41	Florida	$1,958.13
42	Arizona	$1,955.68
43	Georgia	$1,952.58
44	Alabama	$1,916.29
45	Colorado	$1,893.63
46	Tennessee	$1,842.70
47	Missouri	$1,821.04
48	Texas	$1,686.50
49	New Hampshire	$1,650.82
50	South Dakota	$1,577.62

Source: "State Tax Collections" (2007), U.S. Department of Commerce, Bureau of the Census.

Table 3.9: State Taxes Per Capita, Selected Fiscal Years

	2006		2002		2001		2000		1999	
State	Amount ($)	Rank	Amount ($)	Rank	Amount ($)	Rank	Amount ($)	Rank	Amount ($)	Rank
U.S. Average	$2,364.26		$1,853.50		$1,969.44		$1,921.45		$1,835.27	
Wyoming	4,138.88	1	2,193.19	9	2,275.90	9	1,950.71	17	1,694.23	29
Vermont	3,876.85	2	2,486.19	5	2,533.02	7	2,415.15	7	1,703.80	27
Hawaii	3,846.80	3	2,747.53	1	2,865.83	2	2,751.44	2	2,671.17	3
Alaska	3,667.31	4	1,691.78	34	2,249.92	11	2,270.00	10	1,461.07	44
Connecticut	***3,470.47***	***5***	***2,609.88***	***3***	***3,092.06***	***1***	***2,986.27***	***1***	***2,932.21***	***1***
Minnesota	3,362.33	6	2,576.97	4	2,722.16	4	2,711.63	4	2,613.69	4
Delaware	3,354.75	7	2,693.43	2	2,731.71	3	2,719.55	3	2,695.01	2
California	3,071.65	8	2,214.24	8	2,621.77	6	2,474.25	6	2,183.96	8
Massachusetts	3,014.31	9	2,305.51	6	2,700.31	5	2,544.16	5	2,385.65	5
New Jersey	2,867.37	10	2,133.74	12	2,269.37	10	2,156.83	12	2,078.54	11
New York	2,829.01	11	2,258.18	7	2,359.45	8	2,199.40	11	2,126.81	10
Maine	2,730.48	12	2,030.01	14	2,073.77	17	2,087.12	14	2,027.53	12
New Mexico	2,631.25	13	1,955.82	18	2,188.22	13	2,057.82	15	2,002.60	13
Maryland	2,597.21	14	1,982.64	16	2,006.64	18	1,955.14	16	1,833.07	18
Rhode Island	2,582.54	15	1,988.42	15	2,118.31	15	1,941.71	18	1,912.76	14
Washington	2,574.31	16	2,080.83	13	2,117.47	16	2,132.23	13	2,143.29	9
North Dakota	2,544.34	17	1,762.30	26	1,941.72	19	1,826.13	26	1,746.19	22
West Virginia	2,520.16	18	1,971.01	17	1,899.49	23	1,849.15	22	1,742.24	23
Arkansas	2,477.45	19	1,857.60	21	1,824.31	28	1,822.13	27	1,806.45	19
Wisconsin	2,475.49	20	2,171.26	11	2,178.50	14	2,357.01	8	2,214.63	7
Nevada	2,468.67	21	1,815.61	22	1,819.67	30	1,860.49	21	1,895.81	15
Kentucky	2,367.28	22	1,948.37	19	1,930.87	21	1,903.66	19	1,857.15	17
Michigan	2,347.43	23	2,175.53	10	2,228.39	12	2,289.84	9	2,365.66	6
Pennsylvania	2,342.26	24	1,794.53	23	1,836.27	26	1,829.40	25	1,799.96	20
North Carolina	2,322.87	25	1,867.22	20	1,908.76	22	1,890.43	20	1,886.90	16
Kansas	2,277.03	26	1,770.38	25	1,852.89	25	1,810.01	28	1,729.23	25
Louisiana	2,274.52	27	1,638.63	36	1,611.20	41	1,457.23	45	1,379.19	46
Virginia	2,250.19	28	1,752.28	27	1,820.44	29	1,786.70	29	1,682.36	30
Nebraska	2,245.82	29	1,730.78	29	1,767.78	32	1,742.28	32	1,597.87	37
Montana	2,245.81	30	1,587.16	39	1,654.65	40	1,564.04	42	1,546.60	41
Illinois	2,201.51	31	1,782.41	24	1,854.69	24	1,834.99	24	1,748.90	21
Oklahoma	2,175.93	32	1,732.31	28	1,832.87	27	1,695.69	35	1,613.21	34
Indiana	2,161.90	33	1,622.76	37	1,668.72	38	1,661.90	36	1,638.27	32
Ohio	2,149.16	34	1,717.59	30	1,724.81	34	1,733.14	34	1,614.64	33
Idaho	2,146.81	35	1,693.57	33	1,936.49	20	1,837.13	23	1,734.54	24
Utah	2,116.31	36	1,694.90	32	1,790.91	31	1,781.77	30	1,711.15	26

Mississippi	2,066.01	37	1,646.55	35	1,661.82	39	1,656.10	37	1,652.02	31
Florida	2,060.17	38	1,484.83	44	1,520.93	44	1,552.83	43	1,574.43	39
Iowa	2,058.46	39	1,704.55	31	1,764.89	33	1,772.18	31	1,696.69	28
Oregon	2,056.39	40	1,459.21	46	1,696.79	37	1,737.99	33	1,610.72	35
Arizona	1,899.73	41	1,553.70	40	1,593.51	42	1,578.78	41	1,578.53	38
Alabama	1,858.22	42	1,533.08	42	1,426.53	46	1,447.82	46	1,380.42	45
Georgia	1,823.33	43	1,608.90	38	1,713.80	35	1,650.53	38	1,600.08	36
South Carolina	1,792.06	44	1,399.70	47	1,513.07	45	1,590.58	40	1,498.68	42
Colorado	1,788.05	45	1,536.09	41	1,712.75	36	1,644.98	39	1,476.07	43
Tennessee	1,753.17	46	1,345.12	48	1,362.71	49	1,360.45	48	1,311.44	47
Missouri	1,743.86	47	1,529.81	43	1,569.66	43	1,532.00	44	1,566.03	40
New Hampshire	1,586.02	48	1,477.59	45	1,410.49	47	1,372.24	47	891.49	50
Texas	1,563.24	49	1,316.00	49	1,379.74	48	1,315.18	49	1,280.95	48
South Dakota	1,499.15	50	1,283.31	50	1,291.24	50	1,228.14	50	1,184.25	49

Source: State Government Finances (Selected Years), U.S. Department of Commerce, Bureau of the Census.

Table 3.10: State Taxes by Selected Tax Amounts per Capita, Fiscal Year 2007

Rank	Total Tax	Amount	General Sales Tax	Amount	Motor Fuel Tax*	Amount	Personal Income Tax	Amount
	U.S. Average	$2,487.50	U.S. Average	$783.54	U.S. Average	$121.09	U.S. Average	$881.59
1	Alaska	5,037.37	Hawaii	1,992.88	Montana	219.96	***Connecticut***	***1,808.83***
2	Vermont	4,118.78	Washington	1,679.13	North Dakota	216.99	New York	1,791.92
3	Hawaii	3,969.06	Wyoming	1,335.88	West Virginia	192.69	Massachusetts	1,767.45
4	Wyoming	3,873.32	Nevada	1,252.39	Nebraska	180.61	Oregon	1,493.24
5	***Connecticut***	***3,668.31***	Florida	1,191.64	Wisconsin	177.84	California	1,458.65
6	Minnesota	3,420.83	Tennessee	1,098.58	North Carolina	177.57	Minnesota	1,391.19
7	Delaware	3,360.34	Mississippi	1,081.14	Maine	175.74	New Jersey	1,328.57
8	New Jersey	3,351.03	Arkansas	1,024.55	Washington	174.51	Virginia	1,327.63
9	New York	3,273.01	New Jersey	960.82	Pennsylvania	172.37	Hawaii	1,215.77
10	Massachusetts	3,203.79	New Mexico	935.88	Arkansas	162.99	Maryland	1,188.81
11	California	3,138.90	Arizona	896.68	Kansas	155.40	Delaware	1,185.78
12	North Dakota	2,787.16	California	893.74	South Dakota	155.09	North Carolina	1,168.63
13	Washington	2,735.25	South Dakota	893.38	Idaho	154.66	Wisconsin	1,130.67
14	Maine	2,719.15	***Connecticut***	***865.24***	Mississippi	153.77	Maine	1,031.20
15	Maryland	2,686.59	Minnesota	860.12	Ohio	149.98	Rhode Island	1,026.25
16	New Mexico	2,642.41	Texas	854.85	Iowa	149.76	Kansas	988.81
17	Rhode Island	2,614.83	Indiana	854.73	Utah	144.55	Colorado	986.41
18	Arkansas	2,607.52	Idaho	852.03	Louisiana	143.63	Utah	968.12
19	Wisconsin	2,585.43	Nebraska	836.35	Vermont	140.63	Oklahoma	943.67
20	West Virginia	2,568.50	Rhode Island	827.75	Tennessee	139.64	Idaho	938.02
21	Louisiana	2,529.66	Louisiana	810.87	Indiana	138.82	Vermont	935.51
22	North Carolina	2,495.61	Kansas	807.65	Wyoming	137.78	Nebraska	930.31
23	Kansas	2,483.20	Maine	800.79	Colorado	136.14	Georgia	921.91
24	Pennsylvania	2,480.35	Michigan	792.62	Delaware	135.86	Iowa	892.42
25	Oklahoma	2,461.63	North Dakota	757.12	Kentucky	134.51	Ohio	874.84
26	Virginia	2,460.08	Wisconsin	742.39	Maryland	134.20	Montana	869.56
27	Nevada	2,457.63	Utah	738.53	Texas	128.65	Missouri	822.47
28	Montana	2,422.05	South Carolina	733.63	Nevada	128.02	Pennsylvania	789.26
29	Michigan	2,367.87	Pennsylvania	696.68	Florida	126.34	Arkansas	764.94
30	Idaho	2,358.66	Ohio	678.58	***Connecticut***	***125.54***	West Virginia	750.82
31	Kentucky	2,332.96	Georgia	668.59	Missouri	125.31	Louisiana	748.66
32	Illinois	2,296.56	Kentucky	664.31	Rhode Island	124.50	South Carolina	734.96

33	Nebraska	2,294.09	Massachusetts	631.89	New Mexico	124.18	Illinois	732.03
34	Utah	2,226.35	West Virginia	623.35	Minnesota	123.94	Indiana	727.41
35	Indiana	2,221.84	Maryland	613.67	Alabama	122.69	Kentucky	717.09
36	Mississippi	2,190.81	Illinois	608.23	Arizona	121.30	Alabama	652.46
37	Iowa	2,165.21	Iowa	597.94	South Carolina	120.99	Michigan	639.67
38	Ohio	2,163.67	North Carolina	574.15	Virginia	119.14	New Mexico	583.68
39	Oregon	2,066.17	New York	563.79	Georgia	113.45	Arizona	504.22
40	South Carolina	1,971.30	Missouri	556.77	Illinois	113.11	North Dakota	495.37
41	Florida	1,958.13	Oklahoma	542.97	Oregon	111.27	Mississippi	480.27
42	Arizona	1,955.68	Vermont	538.29	Oklahoma	109.75	New Hampshire	81.66
43	Georgia	1,952.58	Alabama	492.24	Massachusetts	104.83	Tennessee	36.28
44	Alabama	1,916.29	Virginia	458.90	Michigan	102.71	Alaska	(X)
45	Colorado	1,893.63	Colorado	456.43	New Hampshire	98.18	Florida	(X)
46	Tennessee	1,842.70	Alaska	(X)	California	93.90	Nevada	(X)
47	Missouri	1,821.04	Delaware	(X)	Hawaii	69.92	South Dakota	(X)
48	Texas	1,686.50	Montana	(X)	New Jersey	65.07	Texas	(X)
49	New Hampshire	1,650.82	New Hampshire	(X)	Alaska	57.50	Washington	(X)
50	South Dakota	1,577.62	Oregon	(X)	New York	26.75	Wyoming	(X)

***** Does not include other taxes on motor fuel products, such as taxes on petroleum businesses.
(X) Does not impose tax.
Source: "State Government Finances" (2007), U.S. Department of Commerce, Bureau of the Census.

Table 3.10 (contd.): State Taxes by Selected Tax Amounts per Capita, Fiscal Year 2007

Rank	Death & Gift Taxes	Amount	Corporate Income Tax	Amount	Corp. License & Business Occup. Taxes	Amount	Income/License & Business Occup. Taxes	Amount
	U.S. Average	$16.25	U.S. Average	$176.97	U.S. Average	$71.94	U.S. Average	$248.91
1	New Jersey	67.53	Alaska	1,190.62	Delaware	1,000.20	Delaware	1,349.69
2	Pennsylvania	59.25	New Hampshire	452.79	Nevada	197.22	Alaska	1,236.34
3	New York	54.59	Delaware	349.48	Texas	166.43	New Hampshire	520.08
4	***Connecticut***	***50.93***	New Jersey	331.18	Tennessee	145.21	New Jersey	435.59
5	Maine	41.62	Massachusetts	326.66	Pennsylvania	120.64	California	425.89
6	Maryland	39.93	California	305.25	California	120.64	Massachusetts	355.73
7	Massachusetts	38.70	West Virginia	297.53	Ohio	108.02	Tennessee	327.20
8	Rhode Island	34.00	New York	280.66	New Jersey	104.41	West Virginia	325.66
9	Vermont	28.66	***Connecticut***	***235.53***	South Dakota	98.10	Pennsylvania	304.55
10	Washington	28.27	Kentucky	232.95	Louisiana	95.58	Illinois	294.33
11	Iowa	26.02	Illinois	228.47	Montana	92.34	North Dakota	292.98
12	Indiana	23.69	Minnesota	227.76	North Dakota	79.72	New York	292.11
13	Wisconsin	21.62	New Mexico	215.79	Oregon	76.53	Minnesota	286.28
14	Oregon	21.25	North Dakota	213.26	Maine	75.20	Montana	278.91
15	Minnesota	20.70	Kansas	190.00	Mississippi	70.32	Kentucky	277.09
16	Illinois	20.24	Montana	186.57	Oklahoma	69.82	Louisiana	270.92
17	Kansas	20.04	Pennsylvania	183.91	New Hampshire	67.29	***Connecticut***	***265.59***
18	Virginia	19.82	Tennessee	181.98	Illinois	65.87	North Carolina	234.75
19	North Carolina	19.59	Michigan	177.35	North Carolina	61.97	New Mexico	230.57
20	Oklahoma	18.43	Louisiana	175.34	Minnesota	58.52	Oklahoma	225.02
21	Tennessee	18.06	North Carolina	172.78	Wisconsin	57.09	Wisconsin	221.93
22	Nebraska	15.42	Rhode Island	169.37	Wyoming	54.25	Ohio	221.61
23	Kentucky	10.27	Virginia	166.08	Vermont	51.54	Kansas	219.34
24	Ohio	6.29	Wisconsin	164.84	Alabama	48.30	Maine	214.78
25	Wyoming	5.13	Arizona	155.58	South Carolina	47.32	Rhode Island	204.42
26	Louisiana	2.59	Indiana	155.57	Alaska	45.72	Nevada	197.22
27	Florida	2.38	Oklahoma	155.19	Kentucky	44.14	Mississippi	196.82
28	Delaware	1.03	Utah	150.79	Iowa	42.73	Michigan	194.46
29	Montana	0.79	Maine	139.58	Missouri	41.20	South Dakota	194.39
30	South Dakota	0.64	Maryland	139.19	Arkansas	40.63	Virginia	194.32

31	South Carolina	0.35	Vermont	134.18	Washington	39.77	Vermont	185.72
32	Nevada	0.30	Florida	133.83	Nebraska	39.63	Oregon	184.83
33	New Hampshire	0.29	Arkansas	128.05	Idaho	39.30	Maryland	178.32
34	Alaska	0.19	Mississippi	126.49	Maryland	39.12	Arizona	172.95
35	Texas	0.19	Idaho	125.54	Rhode Island	35.05	Arkansas	168.68
36	Utah	0.19	Nebraska	120.04	***Connecticut***	***30.06***	Utah	166.53
37	California	0.17	Ohio	113.59	Kansas	29.34	Texas	166.43
38	Georgia	0.15	Alabama	109.31	Massachusetts	29.06	Idaho	164.84
39	Alabama	0.14	Iowa	108.79	Virginia	28.24	Indiana	162.86
40	Hawaii	0.13	Oregon	108.30	West Virginia	28.13	Nebraska	159.68
41	Colorado	0.12	Georgia	106.57	Hawaii	24.15	Florida	157.67
42	Idaho	0.12	Colorado	98.62	Florida	23.84	Alabama	157.61
43	West Virginia	0.11	South Dakota	96.29	Georgia	20.34	Iowa	151.52
44	Michigan	0.07	Hawaii	78.58	Arizona	17.37	Georgia	126.91
45	Mississippi	0.05	South Carolina	70.76	Michigan	17.11	South Carolina	118.09
46	Arizona	(X)	Missouri	66.46	Utah	15.74	Colorado	107.69
47	Arkansas	(X)	Nevada	(X)	New Mexico	14.78	Missouri	107.65
48	Missouri	(X)	Texas	(X)	New York	11.45	Hawaii	102.73
49	New Mexico	(X)	Washington	(X)	Colorado	9.07	Wyoming	54.25
50	North Dakota	(X)	Wyoming	(X)	Indiana	7.30	Washington	39.77

(X) Does not impose tax.

Source: "State Government Finances" (2007), U.S. Department of Commerce, Bureau of the Census.

Table 3.11: State & Local Taxes Per Capita, Fiscal Year 2006

Rank	State	State & Local Taxes	State	State Taxes	State	Local Taxes
	U.S. Average	$4,039.44	U.S. Average	$2,402.41	U.S. Average	$1,637.03
1	New York	6,419.76	Wyoming	4,189.67	New York	3,439.73
2	Wyoming	6,191.25	Vermont	3,883.36	New Jersey	2,430.45
3	***Connecticut***	***5,699.71***	Hawaii	3,880.35	***Connecticut***	***2,220.02***
4	Alaska	5,474.56	Alaska	3,711.36	Maryland	2,003.16
5	New Jersey	5,464.39	***Connecticut***	***3,479.69***	Wyoming	2,001.58
6	Hawaii	4,890.74	Delaware	3,403.39	Illinois	1,888.08
7	Massachusetts	4,765.13	Minnesota	3,389.13	New Hampshire	1,869.71
8	Maryland	4,627.32	California	3,093.80	Colorado	1,861.73
9	California	4,549.81	New Jersey	3,033.94	Rhode Island	1,817.01
10	Vermont	4,442.21	Massachusetts	3,016.78	Alaska	1,763.20
11	Maine	4,424.22	New York	2,980.03	Massachusetts	1,748.35
12	Minnesota	4,398.00	Maine	2,742.36	Texas	1,713.37
13	Rhode Island	4,387.26	New Mexico	2,666.91	Virginia	1,702.50
14	Delaware	4,304.80	Maryland	2,624.16	Maine	1,681.87
15	Illinois	4,099.54	Washington	2,617.03	Florida	1,662.93
16	Nevada	4,053.16	Rhode Island	2,570.24	Nebraska	1,661.01
17	Wisconsin	4,024.85	Nevada	2,554.22	Ohio	1,632.76
18	Washington	4,013.63	North Dakota	2,550.42	Pennsylvania	1,618.15
19	Virginia	3,977.30	Arkansas	2,530.81	Georgia	1,536.26
20	Pennsylvania	3,967.13	West Virginia	2,524.45	Wisconsin	1,534.98
21	Nebraska	3,919.28	Wisconsin	2,489.87	Kansas	1,523.45
22	Kansas	3,812.23	Kentucky	2,386.25	Nevada	1,498.94
23	Ohio	3,773.80	North Carolina	2,373.81	Indiana	1,490.26
24	Florida	3,760.44	Pennsylvania	2,348.99	California	1,456.01
25	North Dakota	3,723.08	Michigan	2,346.13	Missouri	1,404.95
26	Colorado	3,685.19	Kansas	2,288.78	Iowa	1,399.91
27	Indiana	3,667.88	Virginia	2,274.80	Washington	1,396.60
28	New Mexico	3,639.48	Montana	2,272.24	Arizona	1,352.58
29	Michigan	3,563.23	Nebraska	2,258.27	Louisiana	1,350.75
30	Louisiana	3,497.58	Illinois	2,211.46	South Dakota	1,348.24
31	Iowa	3,470.19	Oklahoma	2,210.87	Oregon	1,325.82

32	New Hampshire	3,466.33	Idaho	2,203.99	Michigan	1,217.10
33	North Carolina	3,458.05	Utah	2,180.29	North Dakota	1,172.66
34	Oregon	3,416.84	Indiana	2,177.63	Utah	1,126.34
35	Georgia	3,406.50	Louisiana	2,146.83	South Carolina	1,100.91
36	Arizona	3,350.15	Ohio	2,141.04	Tennessee	1,100.29
37	Texas	3,315.18	Florida	2,097.51	North Carolina	1,084.24
38	Utah	3,306.63	Oregon	2,091.02	Hawaii	1,010.39
39	West Virginia	3,257.84	Iowa	2,070.28	Minnesota	1,008.87
40	Kentucky	3,250.64	Mississippi	2,065.06	Oklahoma	972.81
41	Montana	3,226.89	Arizona	1,997.57	New Mexico	972.57
42	Oklahoma	3,183.68	Alabama	1,878.94	Montana	954.66
43	Missouri	3,163.80	Georgia	1,870.24	Idaho	953.75
44	Idaho	3,157.74	South Carolina	1,823.69	Alabama	933.71
45	Arkansas	3,155.32	Colorado	1,823.45	Delaware	901.41
46	South Carolina	2,924.60	Tennessee	1,778.23	Kentucky	864.38
47	Tennessee	2,878.52	Missouri	1,758.85	Mississippi	755.35
48	South Dakota	2,872.62	Texas	1,601.81	West Virginia	733.39
49	Mississippi	2,820.40	New Hampshire	1,596.62	Arkansas	624.51
50	Alabama	2,812.65	South Dakota	1,524.38	Vermont	558.84

Source: "State & Local Government Finance Estimates" (2006), U.S. Department of Commerce, Bureau of the Census.

Table 3.12: State & Local Taxes Per Capita, Selected Fiscal Years

State	2005 Amount ($)	2005 Rank	2000 Amount ($)	2000 Rank	1999 Amount ($)	1999 Rank	1998 Amount ($)	1998 Rank	1997 Amount ($)	1997 Rank
U.S. Average	$3,705.31		$3,099.80		$2,991.58		$2,863.36		$2,721.23	
New York	5,768.07	1	4,577.79	2	4,514.69	2	4,318.28	2	4,158.96	2
Connecticut	***5,420.01***	***2***	***4,595.15***	***1***	***4,536.46***	***1***	***4,424.92***	***1***	***4,205.30***	***1***
Wyoming	5,274.70	3	3,045.87	19	2,827.30	23	2,901.00	17	2,584.45	24
New Jersey	4,915.69	4	3,902.77	3	3,877.67	3	3,698.07	3	3,400.76	4
Massachusetts	4,472.91	5	3,786.75	4	3,606.38	4	3,531.18	4	3,290.77	6
Alaska	4,402.43	6	3,687.08	6	2,841.30	22	3,279.25	7	3,953.44	3
Hawaii	4,357.71	7	3,384.17	10	3,302.63	7	3,293.38	6	3,228.77	7
Maryland	4,288.24	8	3,453.53	9	3,201.57	11	3,126.02	11	2,912.23	12
Rhode Island	4,218.18	9	3,256.06	13	3,226.32	10	3,116.54	12	2,954.35	9
Vermont	4,154.61	10	3,079.71	17	3,004.06	16	2,910.51	16	2,746.43	16
Minnesota	4,098.04	11	3,694.43	5	3,598.80	5	3,489.74	5	3,356.27	5
California	4,073.79	12	3,544.74	7	3,167.21	12	3,021.89	14	2,812.66	15
Maine	3,977.76	13	3,342.86	11	3,258.08	9	3,225.34	8	2,862.09	13
Delaware	3,899.06	14	3,340.09	12	3,278.19	8	3,217.50	9	2,932.93	10
Illinois	3,863.23	15	3,241.49	14	3,130.76	14	2,958.52	15	2,855.73	14
Wisconsin	3,863.12	16	3,457.60	8	3,317.64	6	3,185.88	10	3,002.38	8
Nebraska	3,754.89	17	2,906.47	24	2,775.46	24	2,751.44	22	2,711.17	19
Nevada	3,754.16	18	2,915.33	23	2,924.68	19	2,727.04	24	2,720.27	18
Pennsylvania	3,721.05	19	2,978.67	21	2,934.18	18	2,802.37	20	2,654.21	20
Washington	3,663.63	20	3,178.46	15	3,147.69	13	3,037.89	13	2,915.89	11
Virginia	3,659.79	21	2,978.24	22	2,845.58	21	2,675.41	25	2,497.88	27
Ohio	3,640.10	22	3,015.83	20	2,869.45	20	2,750.16	23	2,596.76	22
Michigan	3,491.83	23	3,167.05	16	3,031.72	15	2,873.72	18	2,721.53	17
Kansas	3,423.28	24	2,833.46	26	2,747.71	26	2,805.32	19	2,600.02	21
Indiana	3,410.05	25	2,691.35	30	2,620.86	31	2,499.90	32	2,510.54	26
Florida	3,375.27	26	2,623.99	35	2,663.29	28	2,544.59	31	2,427.81	31
Colorado	3,355.10	27	3,072.82	18	2,987.40	17	2,762.80	21	2,595.05	23
North Dakota	3,335.84	28	2,754.07	28	2,631.47	30	2,549.33	30	2,463.52	29
New Hampshire	3,314.97	29	2,652.41	32	2,589.58	32	2,415.92	36	2,347.77	34
Iowa	3,283.56	30	2,765.05	27	2,674.48	27	2,606.12	27	2,521.15	25
Louisiana	3,181.28	31	2,436.21	41	2,409.26	41	2,303.00	41	2,211.77	41
New Mexico	3,167.16	32	2,639.13	33	2,568.39	34	2,637.02	26	2,462.02	30
North Carolina	3,146.31	33	2,663.69	31	2,648.85	29	2,557.40	28	2,387.42	33
Arizona	3,079.78	34	2,598.64	36	2,561.32	37	2,371.48	38	2,289.63	36
West Virginia	3,074.14	35	2,412.78	42	2,367.90	43	2,182.76	45	2,122.39	44

Oregon	3,059.81	36	2,751.18	29	2,574.25	33	2,478.75	33	2,487.35	28
Texas	3,026.35	37	2,504.63	40	2,456.18	39	2,343.89	39	2,247.07	40
Georgia	3,017.89	38	2,840.65	25	2,761.05	25	2,552.45	29	2,425.97	32
Missouri	3,001.83	39	2,558.33	37	2,565.42	36	2,448.90	35	2,329.03	35
Kentucky	2,939.77	40	2,516.68	39	2,464.23	38	2,376.86	37	2,275.11	37
Idaho	2,933.28	41	2,545.78	38	2,427.59	40	2,334.25	40	2,248.97	39
Utah	2,915.74	42	2,630.15	34	2,567.51	35	2,458.50	34	2,265.08	38
Montana	2,909.54	43	2,363.46	45	2,311.95	46	2,291.19	42	2,196.92	42
Arkansas	2,905.30	44	2,230.20	47	2,382.20	42	2,142.80	47	2,029.45	46
Oklahoma	2,848.79	45	2,391.02	43	2,313.25	45	2,239.83	43	2,145.07	43
South Carolina	2,773.37	46	2,378.59	44	2,333.29	44	2,186.73	44	2,059.79	45
South Dakota	2,697.05	47	2,298.85	46	2,255.30	47	2,157.51	46	1,983.20	47
Tennessee	2,670.28	48	2,185.13	49	2,142.30	49	2,079.20	48	1,978.06	48
Mississippi	2,582.59	49	2,214.20	48	2,198.23	48	2,057.05	49	1,962.59	49
Alabama	2,574.38	50	2,117.18	50	2,006.96	50	1,915.66	50	1,841.31	50

Table 3.13: Top State Personal Income Tax Rates as of January 1, 2008

Rank	State	Rate (%)	Rank	State	Rate (%)
1	California [1]	10.30	26	Virginia	5.75
2	Rhode Island [2]	9.90	27	North Dakota	5.54
3	Vermont	9.50	28	Maryland	5.50
4	Oregon	9.00		Oklahoma [3]	5.50
5	Iowa	8.98	30	Massachusetts [4]	5.30
6	New Jersey	8.97		New Mexico [5]	5.30
7	Maine	8.50	32	Alabama	5.00
8	Hawaii	8.25		***Connecticut***	***5.00***
9	Minnesota	7.85		Mississippi	5.00
10	Idaho	7.80		Utah	5.00
11	North Carolina	7.75	36	Colorado	4.63
12	Arkansas	7.00	37	Arizona	4.54
13	South Carolina	7.00	38	Michigan [6]	4.35
14	Montana	6.90	39	Indiana	3.40
15	New York	6.85	40	Pennsylvania	3.07
16	Nebraska	6.84	41	Illinois	3.00
17	Wisconsin	6.75	42	Alaska	(X)
18	West Virginia	6.50		Florida	(X)
19	Kansas	6.45		Nevada	(X)
20	Ohio	6.24		New Hampshire [7]	(X)
21	Georgia	6.00		South Dakota	(X)
22	Kentucky	6.00		Tennessee [8]	(X)
23	Louisiana	6.00		Texas	(X)
24	Missouri	6.00		Washington	(X)
25	Delaware	5.95		Wyoming	(X)

(X) Does not impose tax.

[1] The tax rate includes an additional 1% tax on taxpayers with incomes over $1million to support the provision of local government mental health services

[2] State liability is 25% of Federal rates prior to enactment of the Economic Growth and Tax Relief Act of 2001.

[3] The tax rate is scheduled to decrease to 5.25% in 2009 and thereafter.

[4] Certain unearned income is taxed at 12%.

[5] The tax rate is scheduled to decrease to 4.9% for tax years 2008 and thereafter.

[6] Effective October 1, 2011 the rate will decrease 0.1% and annually thereafter until it reaches 3.95% in 2015.

[7] A tax rate of 5% applies on interest and dividends only.

[8] A tax rate of 6% applies on interest and dividends only.

Source: OTPA compilation from Commerce Clearing House State Tax Guide and Federation of Tax Administrators.

Table 3.14: Income Tax-Free Levels of Income, Two-Parent Family of Four, 2006 Tax Year

Rank	State	Tax-Free Income Level [1]	Amount Above/Below Poverty Line [2]
1	California	44,700	24,256
2	New York	36,300	15,856
3	Vermont	35,200	14,756
4	Minnesota	33,200	12,756
5	Pennsylvania	32,000	11,556
6	Rhode Island	31,500	11,056
7	Maryland	31,000	10,556
8	New Mexico	30,800	10,356
9	Delaware	28,600	8,156
10	South Carolina	26,800	6,356
11	Maine	26,400	5,956
12	Massachusetts	26,200	5,756
13	Kansas	26,100	5,656
14	Nebraska	25,600	5,156
15	Wisconsin	25,000	4,556
16	Virginia	24,200	3,756
17	***Connecticut***	***24,100***	***3,656***
18	North Dakota	24,000	3,556
19	Arizona	23,600	3,156
20	Idaho	23,600	3,156
21	Colorado	23,500	3,056
22	Utah	23,500	3,056
23	New Jersey	20,000	-444
24	Kentucky	19,900	-544
25	Mississippi	19,600	-844
26	North Carolina	19,400	-1,044
27	Iowa	18,300	-2,144
28	Oklahoma	18,200	-2,244
29	Oregon	17,500	-2,944
30	Missouri	17,000	-3,444
31	Louisiana	16,900	-3,544
32	Arkansas	16,000	-4,444
33	Georgia	15,900	-4,544
34	Illinois	15,600	-4,844
35	Ohio	15,600	-4,844
36	Indiana	15,000	-5,444
37	Michigan	14,400	-6,044
38	Hawaii	11,500	-8,944

39	Montana	11,300	-9,144
40	West Virginia	10,000	-10,444
41	Alabama	4,600	-15,844

(1) The tax-free income level is the level of income above which a family of four begins owing state income tax. Only deductions, exemptions and credits generally available to all taxpayers are included. Amounts are rounded to the nearest $100.

(2) Amount of tax-free income level differs from the estimated 2006 poverty threshold of $20,444 as noted by the U.S.

Department of Commerce, Bureau of the Census, Poverty thresholds for 2006, issued in 2007.

Source: Center on Budget and Policy Priorities and OTPA calculations.

Appendix: The Calculation of Property Tax Burden by Income Group

The general approach to estimate property tax burden by income group by town is to estimate the average house price a member of an income group might own and then apply the equalized mill rate to 70% of that value. We use the arc price elasticity of demand (see below) to estimate that average price. We take two approaches in estimating arc elasticity. The first calculates the M-estimators for the pairwise arc elasticities between every possible unique pair of towns. These arc price elasticities use median residential property prices for each town as the Q's in the description below and median household incomes for each town as the P's in the description below. This gives us a distribution of sensitivities to a change in median income (between towns) to a change in median house price (between towns). There are 14,196 combinations of 169 towns taken two at a time. We then calculate M-estimators for this distribution of arc elasticities. M-estimators are robust alternatives to the sample mean and median for estimating the center of location. The estimators differ in the weights they apply to observations (the 14,196 arc elasticities). We calculate Huber's M-estimator, Andrews' wave estimator, Hampel's redescending M-estimator, and Tukey's biweight estimator. These M-estimator arc elasticity values hover around 1.2.

The second approach estimates a global arc elasticity by regressing the log of median income on the log of median residential house price for 169 towns. The highly significant elasticity estimate is 1.18. We choose 1.2 as our estimate of the statewide arc price elasticity of housing demand. We then use the following equation to estimate the 'average' house price a member of an income group might own in each town: where ***P*** is the estimated house price the

$$P = MP\left[\frac{1+1.2\left(\frac{bin-MI}{bin+MI}\right)}{1-1.2\left(\frac{bin-MI}{bin+MI}\right)}\right],$$

representative income group member might own, ***MP*** is the median house price for the town, ***bin*** is the assigned income (usually the midpoint) of the income group and ***MI*** is the median income of the town. We then multiply the estimated house price by 0.7 and the equalized mill rate and arrive at the estimated local property tax burden by income group by town.

Price Elasticity of Demand

The price elasticity of demand measures the responsiveness of the quantity demanded of a good to a change in its price, with all other factors held constant. The price elasticity of demand, E_d is

$$\frac{\text{proportionate change in quantity demanded}}{\text{proportionate change in price}}$$

Because the quantity demanded decreases when the price increases, this ratio is negative, the absolute value is usually taken, and E_d is reported as a positive number. Because the calculation uses proportionate changes, the result is a unitless number and does not depend on the units of price and quantity. As an example calculation, consider a product's E_d is 0.5. If the price were to increase by 10%, one would observe a decrease of approximately 5% in the quantity demanded. In this example, E_d is "approximate" because the exact result depends on whether the initial point or the final point is used in the calculation. This matters because for a linear demand curve the price elasticity varies continuously as one moves along the curve. For small changes in price and quantity, the difference between the two results often is negligible, but for large changes, the difference may be significant. To deal with this issue, one can use the *arc* price elasticity of demand. The arc elasticity uses the average of the initial and final quantities and the average of the initial and final prices in calculating the proportionate change in each. When the elasticity is calculated over a certain arc or section of the demand curve, it is referred to as the *arc elasticity* and is defined as the magnitude (absolute value) of the following:

where ***Q1*** is the initial quantity, ***Q2*** is the final quantity,

P1 is the initial price and ***P2*** is the final price.

$$\frac{\dfrac{Q2 - Q1}{(Q1 + Q2)/2}}{\dfrac{P2 - P1}{(P1 + P2)/2}},$$

The average values for quantity and price are used so that the elasticity is the same whether or not one moves from a lower price to higher price or vice-versa. For example, going from \$8 to \$10 is a 25% increase in price, but going from \$10 to \$8 is only a 20% decrease in price. This asymmetry disappears using the average price as the basis for the percentage change in each case.

Availability of Capital

Connecticut companies need an infusion of capital from external investors to grow and prosper. Because of limited resources, small and medium-sized companies sometimes have trouble competing with the established larger corporations for marketing, exposure, research capacities and capital for growth. This source of funds is necessary for the continuation of all of Connecticut's industries, especially the expanding technology and manufacturing sectors, due to the high initial start-up cost of business. "Inventions advance the store of human knowledge, but do not affect the local economic system until they are implemented as an innovation. Risk capital by itself will not turn new ideas into commercially viable products; that is the role of entrepreneurs."[1]

Venture Capital

Venture capital (VC) is a resource that helps researchers transform an idea or prototype into production. An increase in the availability of early-stage venture capital is required to address the make or break point in moving research discoveries from concept to commercialization.[2] It is at this make or break point where patents on new products and processes are completed, but research is most competitive and funding for licensing is the least available. Investors must determine if the innovation can be applicable to real-world situations as well as lower the risk factors of marketability before commercialization occurs.[3] VC firms however rarely invest in start-ups, but they look for high rates of return over a five-year period with an exit strategy of cashing out after a firm becomes publicly traded through an initial public offering or a merger or acquisition by an established firm.[4]

Entrepreneurs are needed the most when VC firms are exiting their investment relationship with the firm, since they only invest for the short-term. It is the work of the entrepreneur that will develop the innovation into product or process, and ultimately into a viable business. Job creation statistics bear out the importance of entrepreneurship in the U.S. economy. In the second half of the 1990s, businesses with fewer than 100 employees created 75% of all new jobs in the United States.[5] However, it must be noted that some of these new jobs may be service sector firms, not all are technology-driven industrial firms.

Throughout the state's educational institutions, there is a wealth of knowledge and a constant stream of innovation; however, researchers are constrained by high licensing fees and lack of business knowledge to move their project forward into the marketplace. Once an innovation is

[1] Ross DeVol, Anita Charuworn and Soojun Kim, "State Technology and Science Index: Enduring Lessons for the Intangible Economy," Milken Institute, June 2008.
[2] Connecticut Office for Workforce Competitiveness (OWC), "A Talent-Based Strategy to Keep Connecticut Competitive in the 21st Century," February 2007.
[3] U.S. Department of Energy, "Financial Assistance Funding Opportunity Announcement," DE-FA-0000065, April 27, 2009.
[4] Martin Kenney and Richard Florida, *Understanding Silicon Valley: The Anatomy of an Entrepreneurial Region* (Stanford: Stanford University Press, 2000).
[5] Chris Edwards, "Entrepreneurs Creating the New Economy," ed. Joint Economic Committee Staff Report, 2000.

patented, it is left to the researchers to search for funding and to find investors to market their innovation. The state can improve the situation by providing (1) state-supported seed capital funds, (2) expanded angel investor networks, and (3) the use of tax incentives. Capital could take the form of equity investments, specialized technology facilities loans, and pre-seed proof of concept awards (footnote 2, OWC, p. 11). Connecticut Innovations Inc. (CI), a quasi-public agency, offers several funding opportunities to start-up firms in the bioscience and energy fields (see below).

Competitiveness

Connecticut needs to stay competitive in order to keep talented researchers in the state, and stimulate them to create and grow new businesses. To do this, the state should be able to both attract and incubate new businesses and provide an environment that is conducive to the growth of existing firms.[6] Start-up firms need the initial infusion of capital from established sources to be sustainable. Creating an environment in which capital is available and business owners know how to access it is an important component of a vibrant economy. Businesses start, grow and generate jobs and wealth in a state if they have access to financial resources targeted to R&D and starting up new firms.[7] Relevant state agencies should be involved in this process, including non-profits, quasi-publics and other financing sources.

The important point is that to be successful long-term a state or region needs capable entrepreneurs and the risk capital infrastructure to support them. Perhaps most important, public policy officials must understand the role of entrepreneurial activities and build the social network infrastructure to nurture success (footnote 1, p. 21).

Current Access to Capital

Connecticut offers direct financing to growing businesses, but also acts as an intermediary for those looking for capital. Partnering with local nonprofits and angel networks, as well as creating connections to emerging industries, the state is well positioned to facilitate economic growth.

The state offers financing directly through the DECD via the Economic and Manufacturing Assistance Act (MAA). The MAA offers incentive-driven direct loans for projects when there is a strong economic development potential. Eligible uses of these funds include:[8]

- Planning, including but not limited to feasibility studies, engineering, appraisals, market studies and related activities;

[6] Beacon Hill Institute, "Eighth Annual State Competitiveness Report," http://www.beaconhill.org/Compete08/BHIState08-FINAL.pdf.
[7] Connecticut Economic Resource Center. "Benchmarking Connecticut 2007: A Comparative Analysis of Innovation and Technology," <http://www.cerc.com/images/customer-files/CTBenchmarksFullReport.pdf> Accessed June 1, 2009.
[8] DECD Financing: http://www.ct.gov/ecd/cwp/view.asp?a=1097&q=253520&ecdNav=|

- Acquisition of real property, machinery or equipment or any combination, provided such assistance does not exceed the fair market value;
- Construction of site and infrastructure improvements relating to a municipal or business development project;
- Construction/renovation/demolition of buildings;
- Relocation expenses for the purpose of assisting manufacturing or other economic-based businesses to locate, construct, renovate or acquire a facility;
- Working capital in conjunction with a business development project; and,
- Business support services such as workforce training, day care, energy conservation, pollution control, recycling and the like, in conjunction with other state agencies.

The state also offers capital through its financing partners (footnote 7, p. 1):

- The Connecticut Development Authority (CDA) provides financing to businesses when private-sector lenders cannot. They offer direct loans for general businesses throughout the state, as well as working capital to start-up firms, and financing for brownfield remediation and technology-intensive projects.
- CI stimulates high-tech growth in Connecticut through the Clean Energy Fund and the Eli Whitney Fund. CI also finances start-up bioscience firms through their BioSeed and BioScience Facilities Funds.
- The Community Economic Development Fund (CEDF) offers loans and technical assistance to small businesses, and grants to community organizations for economic development projects.
- Connecticut Venture Group (CVG) assists the development of high-growth enterprises through the promotion of capital formation.

In addition, there is a network of local and regional revolving loan funds across the state to assist businesses with their financing needs (footnote 7, p. 1). Along with these loan funds, researchers and existing businesses can turn to local credit markets — community banks and credit unions — for capital funding. Connecticut's local credit markets are healthy, relative to the national economy, because Connecticut-chartered banks are well capitalized and they avoided investing heavily into subprime mortgages (which is part of the reason for the economic downturn of 2008-09). Moreover, these banks have made sensible loans, and freed up their ability to loan to start-ups through additional funding from the state and its partners.[9]

Based on the combination of state funds and private investment firms available, the Beacon Hill Institute indicates that Connecticut is among the top 10 states for VC opportunities. At $147 per worker, venture capital invested in Connecticut is the 9th most concentrated in the country, but below the U.S. average of $190 per worker. Massachusetts leads with $876 invested per worker (footnote 6, p. 32).

[9] Governor 's Office Press Release: Governor Rell Announces Five-Point Plan to Maintain Free Flow of Credit to Connecticut Businesses. October 6, 2008, http://www.ct.gov/governorrell/cwp/view.asp?A=3293&Q=424612

Moreover, Connecticut ranked 11th out of the fifty states in the Milken Institute's *Risk Capital and Entrepreneurial Infrastructure Composite Index* (footnote 1, p. 27). This index combines the following metrics to determine its rankings: the ease of incubator access; funding for the Small Business Investment Company (SBIC) program; the number of patents filed; IPO activity; the number and growth of companies receiving VC investment; the amount of VC investment relative to GSP; the growth in total VC funding; the number of new business starts; and the investment in clean technology and nanotechnology, Although Connecticut ranks 11th with a composite score of 66.36, it is well behind the leader California with a score of 81.27.

SUMMARY

Start-up businesses in Connecticut need initial financing to blossom while young firms need capital to expand. As Connecticut has a strong technology-based industrial structure, and experiences high energy and labor costs among others, access to capital is more important than ever. The state offers direct and indirect financing opportunities for growing businesses in different disciplines. With the recent emphasis on green jobs and clean technologies, there are a greater number than ever of graduate students and professors at Connecticut's higher education institutions looking to commercialize their innovations. Connecticut is currently one of the leaders in venture capital availability, but such funds must continue to be obtainable and plentiful for start-ups and young firms. The state should continue to welcome and aid these new and young businesses as they are proven engines of economic growth.

Energy Costs and Supply

The Energy Information Administration reports that in 2007 Connecticut ranked 2nd highest in the nation in terms of overall energy prices (Hawaii was first; Connecticut was second to Hawaii for the highest electricity price in cents per kilowatt).[1] Despite having some of the highest relative energy prices in the nation for motor fuels, heating oil, natural gas, coal, and retail electricity, Connecticut ranked 22nd in total energy expenditures per person while its per capita total energy consumption in 2007 ranked 45th in the nation (lower rank is better). The state consistently ranks in the lower 50th percentile in consumption (per capita) for each energy subcategory reflecting the state's energy efficient culture.

The Supply Side

Petroleum Supply

Connecticut consumers experienced significant increases in heating oil and gasoline prices over the past two years. The volatile prices due to interruptions in supply and an increase in demand for petroleum worldwide raised the cost of heating homes and businesses and the cost of manufacturing for those industries that rely on petroleum for process applications. Key variables in petroleum price determination include demand, production levels, storage levels, weather or mean temperature, and alternative fuel prices.

Although oil supplies and prices normally are stable, recent experiences with Hurricanes Katrina and Rita indicate that low probability events, such as storms or political turmoil, can dramatically and adversely affect both the supply and price of fuel.[2]

As background, the petroleum industry distributes multiple products to five sectors: residential, commercial, industrial, power generation, and transportation. These products include residual fuel, distillate fuel, and motor gasoline. Residual fuel fires boilers in the commercial and industrial sectors. Distillate fuels include a number of products such as #2 heating oil, diesel fuel, liquid petroleum gas (LPG), and propane. Distillate fuels are used for a variety of purposes, including transportation, marine operation, and in general space heating equipment. Gasoline is used primarily as a transportation motor fuel, and in small generators and power equipment. The transportation sector consumes 60 percent of all petroleum in Connecticut.

The primary concerns with using petroleum products are price volatility, dependence on foreign energy sources, supply interruption, air pollution and greenhouse gas emissions. Since the mid-1970s, Connecticut policy has aimed at reducing dependence on foreign petroleum supplies

[1] "State Energy Price and Expenditure Estimates 1970 Through 2007," August 2009, http://www.eia.doe.gov/emeu/states/sep_prices/notes/pr_print2007.pdf. "State Energy Consumption Estimates," http://www.eia.doe.gov/emeu/states/sep_use/notes/use_print2007.pdf.

[2] "The 2007 Energy Plan for Connecticut," prepared by the Connecticut Energy Advisory Board, February 6, 2007, www.ctenergy.org.

because more than 80% of the state's oil comes from foreign sources. This situation leaves Connecticut vulnerable to a supply interruption.
Emissions from petroleum combustion have been a concern since the passage of the 1990 Clean Air Act. New burner technology and automotive fuel system designs have reduced certain emissions significantly, although petroleum still emits significantly more air pollutants than comparable natural gas equipment. More recently, greenhouse gas emissions (GHG) have become a source of concern for Connecticut. The need to control GHG emissions has implications on choices of fuels that heat homes and power vehicles in the state.

Alternative fuels offer great promise in mitigating some issues associated with traditional petroleum products. Whether used as an outright replacement for petroleum products or as a component blended with petroleum products, alternative fuels face supply issues as well. The production of biofuels (ethanol, biodiesel, and bioheat) is currently limited, placing some restriction on how quickly these alternatives can become a significant resource. Compressed natural gas (CNG) is an alternative transportation fuel, but from a supply perspective has the same concerns as natural gas. The Connecticut Energy Advisory Board (CEAB) estimates that the current alternative fuel vehicles (AFV) programs in the state displace approximately 75,000 gallons of petroleum fuel annually (this figure does not include displacement from gasoline powered vehicles).

Annual Connecticut price data[3] for gasoline and diesel fuel presents a picture of the significant cost increases to consumers for petroleum products in recent years. However, prices recently have moderated due to increased supply and decreased demand. Table 1 shows recent retail price history for gasoline unadjusted for inflation.

[3] Price data is for New England. This is the smallest dataset available from the Energy Information Administration (EIA), reflecting the federal government's responsibility not to risk disclosing specific company information.

Table 1: Historical Nominal Dollar Gasoline Prices

Date	Conventional Retail Gasoline Prices (Cents per Gallon)
1994	118.9
1995	119.6
1996	126.8
1997	126.7
1998	110
1999	120.5
2000	156.5
2001	147.3
2002	140.7
2003	161.9
2004	192.6
2005	233.1
2006	263.1
2007	286.7
2008	334.3

Source: Energy Information Administration

Connecticut receives petroleum products at its three deep-water ports of New Haven, New London, and Bridgeport. The Connecticut River is an important inland water route for petroleum product barges supplying central Connecticut. In addition, a small-capacity product (the Buckeye) pipeline originating in New Haven supplies Hartford and Bradley Airport before terminating in central Massachusetts.[4] Two-thirds of Connecticut's petroleum supply enters through the Port of New Haven.

Connecticut, along with much of the Northeast, is vulnerable to distillate fuel oil shortages and price spikes during winter months due to high demand for home heating oil. Connecticut is at the end of the "energy pipeline;" it imports virtually all of its energy. This leaves the Connecticut economy at significant risk from the surging price of oil, a development that global demand drives. It thus faces potentially crippling energy costs, a prospect that drives home the strategic importance of developing alternative, cost-effective sources of energy. Heavy reliance on petroleum products, whether in power plants, transportation, or home heating, exacts a heavy toll in environmental and healthcare costs. Connecticut releases into the atmosphere annually an estimated 30 million metric tons of CO_2, contributing to global warming. Particulate and other emissions make Connecticut residents 9th most susceptible to cancer risks linked to air quality and inflict on them other air-quality related health problems, particularly asthma, from which

[4] EIA CT State Energy Profile - http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=CT.

300,000 residents suffer.[5] Regionally, Massachusetts, Rhode Island, and Connecticut, and parts of New Hampshire and Maine, fail to meet the EPA eight-hour standard for ground-level ozone, that is, smog. Connecticut must meet the 8-hour ozone standard by June 2010, a challenge that underlines the importance of developing alternative energy sources.

Acknowledging this situation, on April 22, 2004, then Governor Rowland signed an executive order directing state agencies and universities to purchase increasing amounts of electricity generated from renewable resources. The order established the objective for state government of increasing Class I renewable-energy to 20% of electricity purchases by 2010, to 50% by 2020, and to 100% by 2050. Governor Rell and the legislative leadership continue to express strong interest in developing alternative energy sources for Connecticut. Governor Rell's Energy Vision is an expression of the state's desire and need to lead in the transition from a petroleum-based culture to one based substantially on a spectrum of renewables and significantly improved energy efficiency.[6]

About 52% of Connecticut households use oil as their primary energy source for home heating. In January and February 2000, distillate fuel oil prices in the Northeast rose sharply when extreme winter weather increased demand unexpectedly and hindered the delivery of new supply, as frozen rivers and high winds slowed the docking and unloading of barges and tankers. In July 2000, in order to reduce the risk of future shortages, the president directed the U.S. Department of Energy to establish the Northeast Heating Oil Reserve. The reserve gives Northeast consumers adequate supplies for about 10 days, the time required for ships to carry heating oil from the Gulf of Mexico to New York Harbor. Two of the reserve sites, with a total storage capacity of 750 thousand barrels, are located in New Haven. The reserve's other storage facilities are located in Providence, Rhode Island, and Woodbridge, New Jersey.[7]

[5] McMillen, Stanley, et al., (2004). "Biodiesel: Fuel for Thought, Fuel for Connecticut's Future," working paper, http://ccea.uconn.edu/studies/Biodiesel%20Report.pdf.
[6] See http://www.ct.gov/governorrell/lib/governorrell/ctenergyvisionsept19.pdf.
[7] EIA CT State Energy Profile.

Natural Gas Supply

Connecticut consumers experienced significant increases in natural gas prices over the past several years (prices increased 60% since 2003). These higher prices led to an increased cost of heating homes and businesses and higher costs to manufacturers for those industries that rely on natural gas for processes. Key variables in the price of natural gas include demand growth, the state of the economy, production levels, storage levels, weather or mean temperature and alternate fuel prices (primarily oil). Although natural gas supplies and prices are typically stable over long periods of time, supply or demand shocks, as small as 10%, can dramatically impact the price of the product in the wholesale market. Recent experience with Hurricanes Katrina and Rita demonstrated that low probability events, such as storms or political turmoil, can dramatically affect both supply and price of fuel. The growth in natural gas use in the region will most likely keep upward pressure on prices (footnote 1). Table 2 presents recent historical natural gas prices unadjusted for inflation

Table 2: Recent Natural Gas Price History in Nominal Dollars

	Price (Dollars per Thousand Cubic Feet)		
Year	**Residential Consumers**	**Commercial Consumers**	**Industrial Consumers**
1990	8.58	6.3	-
1991	8.74	6.9	-
1992	8.96	7.2	-
1993	9.43	7.02	-
1994	10.14	7.39	-
1995	10	7.57	-
1996	10.08	7.41	-
1997	10.33	7.23	4.73
1998	10.6	6.89	4.34
1999	10.54	6.53	4.15
2000	11.43	6.62	5.95
2001	12.2	7.68	6.77
2002	11.15	7.18	4.97
2003	12.77	10.47	7.52
2004	14.06	11.31	9.32
2005	16.24	13	11.68
2006	17.71	13.6	10.86
2007	16.39	12.61	10.54

Source: EIA.

As Connecticut has no indigenous natural gas resources, the state is subject to two cost-determining elements of natural gas:

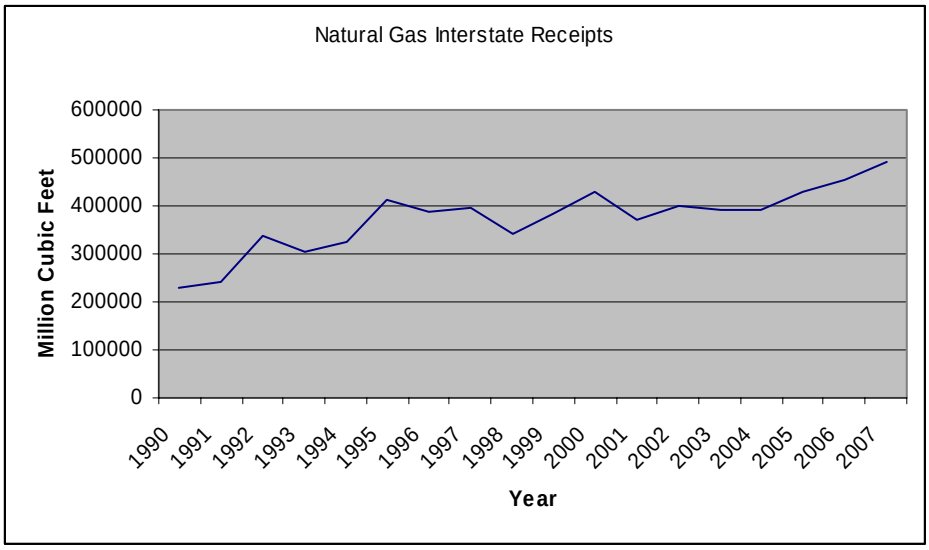
- The actual units of natural gas (the commodity) supplied
- The transportation of the commodity

One transport method is via pipelines that start in the Gulf of Mexico and Canada and terminate in New York or Massachusetts. A second option is tanker ships that deliver liquid natural gas by way of ports located in Massachusetts. For each of these transport options, Connecticut is near the end of the line. This means the state experiences larger than average transportation costs. With growing demand filling the carrying potential of pipelines, transport costs will rise accordingly. Local distribution companies must then outbid others that are potentially closer to the termination points.

It is the responsibility of the Department of Utility Control in Connecticut (DPUC) to ensure that supply adequately satisfies demand. The DPUC requires each local gas distributor to secure sufficient natural gas supply to meet customer requirements based on the coldest day in the last 30 years. This level of supply ensures that customers serviced by a firm are guaranteed natural gas throughout the coldest days of winter. The cost of this requirement is somewhat offset by local distributors selling unused gas to customers who are able to switch between natural gas and an alternate fuel source.

The supply of natural gas to Connecticut is represented by interstate receipts. Since 1990, supply has been trending upward, with more consistent growth in recent years. Chart 1 displays the trend.

Chart 1: Trend of Natural Gas Supply to Connecticut



Source: EIA

According to CEAB, the state has an infrastructure that can provide adequate natural gas supply in terms of both commodity and capacity, to meet the DPUC standard for residential, commercial and industrial customers. However, projected growth in demand in these sectors will strain the ability of the local distributers to meet the capacity needs of their customers. To address the growing demand for natural gas in the future, new capacity and infrastructure will be required to

serve the state. There may be a need for more local storage capacity to assist in meeting peak loads (footnote 1).

Electricity

Connecticut consumers experienced significant increases in electric generation prices in recent years that have been driven by the dramatic escalation in fuel prices in the global marketplace and the inefficiency of the state's electricity generation and transmission infrastructure. Based on current fossil fuel commodity price trends, the CEAB anticipates that the electricity prices will continue to increase. In addition, inadequate transmission infrastructure in Connecticut interferes with the state's ability to import less expensive power from outside the state. Other factors that contribute to Connecticut's electricity price increases include the continued growth in electricity use or demand, the existing wholesale market design, and the restructuring of the electric industry (footnote 1).

Since 2002, the average retail price for electric power per KWh has increased, reflecting both increased demand and increased resource cost. However, a survey of the historical data shows more stability in the price. Table 3 presents recent historical electricity prices for the three major electricity markets.

Table 3: Historical Electricity Prices

Average Retail Prices (2006 cents/KWh)			
	Residential	**Commercial**	**Industrial**
1990	14.23	12.96	10.74
1991	14.44	13.05	10.89
1992	14.87	13.25	11.04
1993	14.96	13.18	10.88
1994	14.75	12.85	10.16
1995	15.06	13.02	10
1996	14.9	12.72	9.71
1997	14.76	12.5	9.44
1998	14.37	12.04	9.26
1999	13.59	11.49	8.8
2000	12.6	10.76	8.49
2001	12.36	10.49	8.64
2002	12.2	10.39	8.55
2003	12.34	10.83	8.71
2004	12.33	10.5	8.37
2005	14.04	11.86	9.68
2006	16.86	14.03	11.71

Source: EIA

Growth in electricity demand in the state and region, especially during the peak (the time of greatest electricity use — typically on hot days), requires that the state's electricity infrastructure continue to be upgraded to keep pace. The need for more infrastructure investments to keep up with record demand levels that only occur a few hours of the year will continue to drive up the cost of electricity. There are a variety of alternatives to manage consumption for many consumers including conservation and energy efficiency improvements, load management, time-of-use rates, and the addition of distributed generation. Connecticut must continue to explore and invest in these demand management tools and other technologies as a means to control costs in the future (footnote 1).

Another component of Connecticut's high electricity cost is Federally Mandated Congestion Charges, or FMCCs. These are costs paid by all ratepayers for electrical energy or capacity, pursuant to markets designed by Independent System Operator (ISO) New England[8] and approved by the Federal Energy Regulatory Commission (FERC), that seek to build electrical infrastructure, particularly in southwest Connecticut. The state regulatory authorities do not have control over FMCCs. However, FMCCs include the costs of some state grants to businesses for enhanced conservation and demand response programs, distributed generation, new time-of-

[8] See http://www.iso-ne.com.

use/seasonal rates to reduce peak demand and initiatives that seek to spur development of new electrical infrastructure, including generation plants (footnote 1).

Electricity Supply

In March 2006, several Connecticut parties, including the DPUC and the Office of Consumer Counsel (OCC), signed a comprehensive agreement to establish a new forward auction market (Forward Capacity Market or FCM) system for electric capacity, replacing the older Locational Installed Capacity (LICAP) model. The FCM settlement agreement was negotiated over four months among approximately 100 parties under the auspices of a federal administrative law judge and received FERC's final approval on June 15, 2006. A large majority of the parties joined the settlement agreement including four New England states, regional consumer representatives, electric utilities, power plant owners and ISO-NE. CEAB believes that FCM is a cheaper, more reliable alternative to LICAP (footnote 1).

The FCM settlement agreement includes measures to ensure that electric generating plants will be available when they are most needed, in part by levying heavy penalties for failure to show up in accordance with their bid. This new capacity market is designed to meet New England's needs for reliable electric power at the lowest reasonable price. The settlement resolved a four-year dispute over how best to ensure that power plant owners will build enough new plants to meet peak power requirements and replace old, inefficient plants that cannot respond quickly or run efficiently at times of peak demand for power.

The FCM will use a competitive descending clock auction that will compensate power plants only when they meet their commitment to be available three years in the future. This auction will allow new plants and demand reduction measures to compete with older plants in the auction. LICAP, by contrast, used a non-competitive price-setting mechanism that some argued did not set a realistic market-based price for generating capacity.
Key Elements of New Forward Capacity Market (FCM):

1. The CEAB estimates the net cost to Connecticut consumers over four years at approximately $800 million, one-half of the incremental cost of the original LICAP proposal. Ratepayers will not be obligated to buy as much capacity as they may have under the original proposal. In addition, only the electric capacity that is needed will be purchased. Estimates suggest that the original LICAP proposal would have required approximately 15% more capacity to be purchased than needed.

2. There will be only one price zone for all of New England during the Transition Period (until the end of 2009), with the diminished likelihood of two price zones in Connecticut. Thus, in the near term, capacity prices will be the same for New England states.

3. Electric generators will be compensated in part based on their availability, especially during peak demand periods. Poorly performing power plants that are unavailable to run will be

excluded from the auction, providing incentives for building new power plants or retrofitting old existing plants, where the need is greatest.

4. A competitive auction process will determine prices with power plants bidding against each other to provide power.

Some details of the Forward Capacity Market are still being worked out, and there is a continuing need for the state to monitor these details and consider other measures to ensure that the Forward Capacity Market works well for this state's customers.

New England State Committee on Electricity (NESCOE)

Connecticut is currently actively engaged in a process that would create a new regional organization called the New England States Committee on Electricity (NESCOE) whose mission will be to represent the interests of citizens of New England by advancing policies that will provide electricity at the lowest possible price over the long-term, consistent with maintaining reliable service and environmental quality. Through collaboration with stakeholders and presentation of its views to regulators, NESCOE will advance policies that seek to facilitate the efficient development of power generation, demand management and transmission resources needed to serve reliably the electricity requirements of consumers. It will seek to accomplish its objectives in the context of a wholesale electricity market that is primarily characterized by competitive market mechanisms, subject to the constraints and directions of law, regulation and public policy (footnote 1).

As currently proposed NESCOE will be active and express its views in two areas: resource adequacy and system planning and expansion. The new organization will be directed by a committee representing the New England states, with one or more representatives appointed by each governor to represent each state. It will have a staff sufficient to undertake the research, analysis, communication, consultation and advocacy necessary to achieve its mission. Currently, CEAB anticipates that the NESCOE proposal will be filed with FERC in the coming months for review and approval.

U.S. Department of Energy August 2006 National Electric Transmission Congestion Study

The Federal Energy Policy Act of 2005 directed the U.S. Secretary of Energy to conduct a nationwide study of electric transmission congestion by August 2006. The report on the study examined transmission congestion and constraints and identified constrained transmission paths across the country. The study identified three types of congestion areas that merit further attention. The first were categorized as the most severely congested areas, called Critical Congestion Areas. Only two such areas were identified: Southern California and the Atlantic coastal area from the New York City area to northern Virginia.

The second category, called Congestion Areas of Concern, describes areas in the country that need close watching and further study to determine the magnitude of their congestion problems. Four such areas were identified: New England; the Phoenix-Tucson area; the Seattle-Portland area; and the San Francisco Bay Area.

The third type, Conditional Congestion Areas, describes areas where congestion is not presently acute but could become so if considerable new electric generation were to be built without associated transmission capacity. These areas include Montana-Wyoming; Dakotas-Minnesota; Kansas-Oklahoma; Illinois, Indiana, and Upper Appalachia; and the Southeast.

ISO New England 10-Year Outlook

Each year ISO New England (ISO) produces its Regional System Plan (RSP), which is a 10-year analysis of the New England electric system that includes forecasts of future load and how the system as planned can meet demand by adding generating resources, demand-side resources and transmission improvements. Major findings of RSP06 include the need for generating capacity in New England, and in Connecticut specifically, by 2009 to assure that the regional and state electric systems continue to meet resource adequacy standards. RSP06 also emphasized the need for increased diversity in the fuels used to generate electricity, especially in southwest Connecticut.

RSP06 identifies greater Connecticut[9] as a major load pocket in New England. Furthermore, RSP06 identifies Connecticut as the most critical area in the region in terms of the need for increased supply-side resources to meet its long-term needs. Without the timely addition of new resources, ISO warns that the state and the region will fail to meet established reliability criteria and increase the need to enact emergency procedures to operate the system during peak periods as well as the possibility of needing to disconnect customers at peak times.

RSP06 also emphasizes the critical importance of modifying the electricity generating resource mix in New England to reduce the region's heavy dependence on natural gas, which has both reliability and price implications. In the winter for example, over reliance on gas-fired generating units can pose reliability problems when heating customers compete with electricity generators for natural gas supply. Tight supply often leads to price increases across the natural gas market. To address reliability concerns, ISO recommends that natural gas-fired generating units either procure firm gas contracts and/or take steps to become dual-fuel capable by modifying generating units to be able to burn oil to produce electricity under certain circumstances. Having additional gas-fired generating units with either of these two "reliability-based" capabilities would dramatically assist ISO in reliably operating the bulk power system during periods of extreme winter weather and/or abnormal conditions of the natural gas supply or delivery systems. Connecticut currently has 14 natural gas-fired generating units that are capable of producing approximately 1,300 megawatts of electricity, or approximately 20% of the state's

[9] Greater Connecticut includes northern and eastern Connecticut, southwest Connecticut and the Norwalk/Stamford subareas.

generating capacity.[10] Eight of these plants (approximately 700 megawatts of generating capacity) are dual-fuel capable.

Longer-term issues relate to the high and increasing reliance on natural gas for producing electric power in New England and neighboring regions, suggesting the need for greater electric supply-side fuel diversity in the region. Given the need to diversify the state's and region's mixes of fuels to enhance regional reliability, RSP06 encourages state and regional energy officials to support initiatives to bring other non-gas energy sources on line.

Connecticut Federally Mandated Congestion Charges

FMCCs are costs paid by all ratepayers for electrical energy or capacity, pursuant to markets designed by ISO-New England and approved by FERC, that seek to build electrical infrastructure, particularly in southwest Connecticut. The state regulatory authorities do not have control over FMCCs. However, FMCCs also include the costs of some state grants to businesses for enhanced conservation and demand response programs, distributed generation, new time-of-use/seasonal rates to reduce peak demand, and initiatives that seek to spur development of new electrical infrastructure, including generation plants.

Transmission Infrastructure Improvements

The continued growth in electric demand and the absence of infrastructure improvements creates upward pressure on electric rates. The timely completion of transmission upgrades in Connecticut and, in particular, southwestern Connecticut will provide significant improvement to the transmission grid, permitting a more efficient importing of power from outside of the state as well as moving power within the state more readily and reliably. The transmission enhancements also provide connections for moving power within the state to meet capacity requirements identified by the ISO. In addition, these projects will foster the efficient operation of the region's power markets with greater access to more efficient and cheaper generation resources.

The Demand Side

Petroleum Demand

Despite recent increases in the cost of using petroleum products, consumption of petroleum products continues to increase. This is particularly true within the transportation sector, where alternatives to petroleum products are few. Alternatives to heating fuels exist and are widely available to consumers. Heating oil is in direct competition with natural gas as a major source of heating homes and businesses. This competition has led to increases in efficiency levels for both technologies. Even with these increases in efficiency levels, the overall level of petroleum usage

[10] Siting Council Draft 10-Year Forecast of Connecticut Electric Loads and Resources; October 27, 2006; pp 14-15.

has continued to grow. Energy efficiency can continue to play an important role in decreasing the use of petroleum products in all sectors. With the advent of biofuels, further alternatives to traditional petroleum products will become available in the near future.

The transportation sector represents the single largest consuming sector of petroleum products. Although alternative fuels to gasoline and diesel exist, the fact that these alternatives are not widely available continues to be a significant challenge to reducing petroleum usage.

Hybrid electric vehicles use a combination of fuels, such as gasoline, diesel, biodiesel, or CNG, together with an electric power system to propel the vehicle. These vehicles are becoming more popular as the technology expands into a greater share of the current automobile market. Displacement of petroleum occurs through greater efficiency of the system. Hybrid vehicles are increasing in number because they use the current fuel infrastructure. In Connecticut, the Clean Cities Program has a strong history of encouraging alternative fuel vehicles (AFV) throughout the state using a variety of resources from the private sector and local, state and federal governments. The increased use of AFVs will help the state reduce the health risks from pollution and meet federal air quality standards for particulate matter.

Because of the paucity of data readily available, determining an accurate picture of petroleum demand is difficult. However, the Energy Information Administration provides data that provide a reasonable proxy for demand. The sales of petroleum by refiners, gas plant operators, importers and large interstate distributors into the final local markets can be a fairly accurate representation of consumption and therefore demand. In addition, refiner sales volumes of motor gasoline, residual fuel oil, and # 4 fuel oil indicate demand more specifically. Data on sales volumes to consumers of fuel oil and kerosene is limited.

The available data shows extensive year-to-year fluctuation for total sales volumes of distillate fuel (Table 4). One would expect this given the volatility of the oil markets and the high responsiveness consumers have to increases in the retail price. The slight upward trend reflects small increases in demand over time. The demand for gasoline presents a much clearer picture: it has significantly smaller percentage fluctuations than distillate in sales and an obvious positive trend with time (Table 5).

Table 4: Retail Distillate Deliveries: Recent History

Date	Connecticut Total Distillate Retail Deliveries (Thousand Gallons)
1990	1,002,829
1991	944,354
1992	1,083,563
1993	1,007,708
1994	963,121
1995	937,093
1996	960,417
1997	961,829
1998	872,827
1999	974,942
2000	1,032,867
2001	1,054,955
2002	964,950
2003	1,151,186
2004	1,210,408
2005	1,113,738
2006	993,496
2007	1,004,646

Source: EIA

Table 5: Gasoline Deliveries: Recent History

Date	Connecticut Total Gasoline All Sales/Deliveries by Prime Supplier (Thousand Gallons per Day)
1990	3,705.7
1991	3,838.4
1992	3,783
1993	3,732.6
1994	3,880.5
1995	4,012.8
1996	3,678.5
1997	3,722.6
1998	3,797.3
1999	3,820
2000	3,779.2
2001	4,059.2
2002	4,388.4
2003	4,172.1
2004	4,171.2
2005	4,319.4
2006	4,409.1
2007	4,360.7

Source: EIA

Natural Gas Demand

Since 2001, Connecticut experienced significant relative increases in natural gas consumption. Natural gas accounts for 20% of total Connecticut energy demand. The preference for natural gas as a leading source of energy arises from several factors. First, several restrictions on natural gas use stemming from the 1978 Energy Policy Act were repealed in the late 1980s, allowing more use of natural gas for electrical generation. In addition, concerns about the impact of fossil fuel use on air quality increased the appeal of natural gas across the country. Natural gas burns cleaner than coal, oil, or gasoline, emitting much smaller amounts of nitrogen oxides, sulfur dioxide, carbon monoxide, particulate matter, and reactive hydrocarbons. Another attraction is that natural gas is in relatively abundant supply within North America and Mexico. With the addition of relatively low prices throughout the 1990's and pressure on Connecticut's power generating facilities to adhere to some of the strictest environmental codes in the country, natural

gas has become a relatively clean source of energy.[11] Table 6 presents recent historical natural consumption in Connecticut.

Table 6: Connecticut Natural Gas Consumption: Recent History

Year	Total Consumption (Million Cubic Feet)
1997	144,708
1998	131,497
1999	152,237
2000	159,712
2001	146,278
2002	177,587
2003	154,075
2004	162,642
2005	168,067
2006	172,682
2007	180,178

Source: EIA.

Almost one-third of Connecticut's electric power generation relies on natural gas. Despite a volatile market, the price of natural gas reaching electric power generation consumers has risen since 2002. Coupling this with increased electricity demand leads to higher consumer prices for electricity. The increased demand for natural gas has had a small effect on home heating costs. The residential price of natural gas has increased since 2001, topping $23 per thousand cubic feet in June 2008. According to the CEAB, most gas-powered electricity generation plants in Connecticut lack either firm contracts or dual-fuel capability (footnote 1). With such a volatile market and increasing demand for natural gas, the aforementioned problems could cause severe inefficiencies in the energy market.

Electricity Demand

Demand for electricity is difficult to analyze due to the complicated workings of the energy grid in Connecticut and surrounding states. To address this issue, we use historical electric power sales data (from 1990) for Connecticut. Total sales, in terms of megawatt hours (MwH), represent the consumption of electricity by residents and businesses that proxies for general demand.

The demand for electricity within a given year fluctuates significantly. On average, the greatest aggregate sales of electricity occur in the late summer months (July and August), and the early winter months (December and January). There are exceptions to this, namely winter month

[11] Conaway, Carrie. "The Challenge of Energy Policy in New England," New England Public Policy Center Research Report 06-2, April 2006, http://www.bos.frb.org/economic/neppc/researchreports/2006/rr0602.pdf

consumption. Although sales are higher in the winter months, the specific months at which they reach their peak vary from year to year.

Average electricity sales from 1990 through July 2008 gradually increased. In the five instances in which there was a decrease, it was often by an amount less than 1%. Positive changes averaged 2.16% and the overall change averaged 1.24%. This data suggests that demand will continue to rise at a gradual rate in the long run if recent history is a guide. Table 7 presents recent historical electricity sales volumes and the growth rate.

Table 7: Recent Electricity Sales and Growth

Year	Average MwH Sales	Percent Change
1990	2,265,603	
1991	2,264,284	-0.06%
1992	2,260,581	-0.16%
1993	2,269,874	0.41%
1994	2,335,473	2.89%
1995	2,330,831	-0.20%
1996	2,368,079	1.60%
1997	2,369,342	0.05%
1998	2,413,012	1.84%
1999	2,483,584	2.92%
2000	2,496,034	0.50%
2001	2,545,063	1.96%
2002	2,583,791	1.52%
2003	2,652,518	2.66%
2004	2,684,551	1.21%
2005	2,757,919	2.73%
2006	2,639,788	-4.28%
2007	2,843,561	7.72%
2008 (July)	2,813,639	-1.05%

Source: EIA.

Demand Management

In 2005 and 2006, the consumption of electricity increased by approximately 2% annually. However, electric coincident demand for electricity on the hottest day of the year increased by 7%. Energy efficiency remains the most cost effective means for reducing the demand for electricity and natural gas. The cost of avoiding a kilowatt hour from being used is valued at $.02 to $.04, while purchasing that same kilowatt hour can cost from four to seven times that amount. The Connecticut Energy Efficiency Fund (CEEF) programs have validated that $1

spent on efficiency brings back $4 in savings. In addition, the Department of Environmental Protection (DEP) contends that the same dollar saved brings the state another $4 from reduced air pollution creating health and environmental benefits with cleaner air. CEEF programs in 2005 provided annual energy savings of approximately 318 million kWh. This equates to annual savings of approximately $40 million, assuming an average price of $0.125 per kWh. CEEF programs intend to reduce overall energy demand during critical peak periods. In 2005, CEEF programs[12] helped alleviate potential electricity shortages and reduced stress on Connecticut's transmission lines, especially in the congested area of southwestern Connecticut (footnote 1). Reducing demand will help mitigate FMCCs imposed on all Connecticut ratepayers.

Renewable Energy

Renewable energy sources are energy generation technologies that produce electric and thermal energy using resources that can be renewed or replaced such as wind, hydro, solar, geothermal and bio-derived fuels (e.g., cellulosic ethanol and biodiesel). Renewable energy sources provide electric capacity diversity, improve economic development, reduce or eliminate air emissions, enhance energy security and reduce reliance on foreign sources of fossil fuel. Many renewable technologies that could support Connecticut and New England's energy needs are not yet cost competitive with traditional fossil fuel-fired technologies. As a result, all New England states encourage the development of renewable energy supply options through state incentives, tax exemptions and other programs. There are two major initiatives in Connecticut that promote renewable energy: the Renewable Portfolio Standard (RPS) and the Connecticut Clean Energy Fund (CCEF). The RPS requires that the state's electric generation providers obtain a part of their supply from renewable resources, with the proportion increasing over time. The CCEF, administered by Connecticut Innovations, Inc. (CI), invests in various renewable and clean energy resources including solar and fuel cells.

Renewable Energy Supply

There are inadequate quantities of renewable energy to significantly affect energy reliability, cost or security in Connecticut due to the following supply side issues (footnote 1):

1. Inconsistent state policies for renewable energy, such as fluctuating amount and timing of renewable energy procurement requirements, send the inappropriate market signals to renewable energy developers thereby contributing to inadequate supply.

2. Administrative barriers to developing renewable energy sources, including state siting, approval and permitting requirements, add additional cost to developing renewable energy projects that are not currently cost competitive with traditional generation sources.

[12] CEEF programs for households, businesses and municipalities appear at http://www.ctsavesenergy.org.

3. Current state incentive programs and tax exemptions do not offer sufficient funding to attract greater interest from renewable energy developers.

4. Technical barriers still exist that inhibit the commercial development of emerging renewable energy technologies.

In 2006, the electricity net generation in Connecticut was approximately 34,682 thousand MwH. Of this, renewable net generation accounted for 3.8% or approximately 1,307 thousand MwH. Five hundred forty-four MwH (1.6%) came from conventional hydro sources and 755 MwH (2.2%) came from MSW Biogenic/Landfill Gas sources.[13]

Renewable Portfolio Standards

A renewable portfolio standard (RPS) is a state policy that requires electricity providers to obtain a minimum percentage of their power from renewable energy resources by a certain date. Currently Connecticut is one of 24 states plus the District of Columbia that have RPS policies in place. Together these 24 states account for more than half of the electricity sales in the United States.

Connecticut's RPS requirement is to reach 23% of power provided by renewable energy sources by 2020. The RPS requires that 4% derives from combined heat and power (CHP) systems and energy efficiency improvements by 2010. Electric distribution companies that fail to comply with the RPS during an annual period must pay $0.055 per kWh to the DPUC; these payments will be allocated to CCEF for the development of Class I renewables.[14]

Connecticut Clean Energy Fund (CCEF)

"Imagine residents, businesses, communities and educators joining together to push for clean, renewable energy sources, in a dedicated effort to lessen our dependence on foreign oil, protect the environment and stabilize energy costs. Such a movement is already under way in Connecticut, spearheaded by the Connecticut Clean Energy Fund. We offer financial incentives and educational programs to encourage homeowners, companies, municipalities, and other institutions to support renewable energy and lead the nation toward a brighter energy future."[15]

Through their incentives, CCEF hopes to facilitate rapid growth in the renewable energy sector. Connecticut benefits from this in two ways: first, the direct and indirect effects of money injected into a rapidly growing part of the economy and secondly, Connecticut is first in line to receive the renewable energy benefits, furthering the ultimate goal of energy independence. This strategy improves the state's chances of satisfying its commitment to its RPS and the Regional

[13] EIA, http://www.eia.doe.gov.
[14] Database of Incentives for Renewables and Efficiency - Connecticut Incentives for Renewable Energy - http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive_Code=CT04R&state=CT&CurrentPageID=1&RE=1&EE=0.
[15] Connecticut Clean Energy Fund - http://www.ctcleanenergy.com/default.aspx?tabid=97.

Greenhouse Gas Initiative, a compact among 10 Northeast and Mid-Atlantic states that will cap and then reduce CO_2 emissions from the power sector 10% by 2018.[16]

CCEF works with local government to increase the use of renewable energy for electric supply. Project 150 is an initiative aimed at increasing clean energy supply in Connecticut by at least 150 megawatts of installed electricity generation capacity. This initiative creates an opportunity for developers, manufacturers and financiers to advance Connecticut-based "Class I" clean renewable energy projects. Through landmark Connecticut legislation, Project 150 mandates local electric distribution companies to enter into long-term power purchase agreements for no less than 150 megawatts with generators of "Class I" renewable energy (footnote 16).

Renewable Energy Demand

The following demand side issues influence both the availability and the cost of renewable energy in Connecticut (footnote 1):

1. CCEF has not yet developed sufficient clean/renewable energy technologies or supplies for Connecticut through the Project 150 process;

2. Renewable energy pricing is either too high to invite wide spread consumer participation in the Connecticut Clean Energy Options program, or the program marketing needs to further penetrate the electric consumer population to move consumers to renewable energy;

3. Renewable energy pricing is too high to invite large-scale user investment in renewable energy technologies; and,

4. The reliability of certain renewable energy technologies may not adequately meet customer needs.

SUMMARY

Connecticut has lived up to its reputation as an energy conscious and scientifically-progressive region, and citizens hope to see this trend continue. Unfortunately, Connecticut is still subject to the market's swings in energy costs. As Connecticut has no indigenous petroleum supply, the state is subject to the amount of gas available and the reliance on transportation of the good, globally. This puts Connecticut in a difficult position, with 52% of households relying on oil for their primary energy source. However, the future is bright with Connecticut having a strong alternative energy research and development sector — specifically biofuels. This recent boom in research has brought in a new wave of high-tech manufacturing opportunities to the state. There are currently barriers to the widespread adaptation of renewable energy in-state — such as the high initial development cost and slow processing time — but with the infusion of capital from the state, small production firms will be able to compete on a national scale sooner than later.

[16] See www.rggi.org.

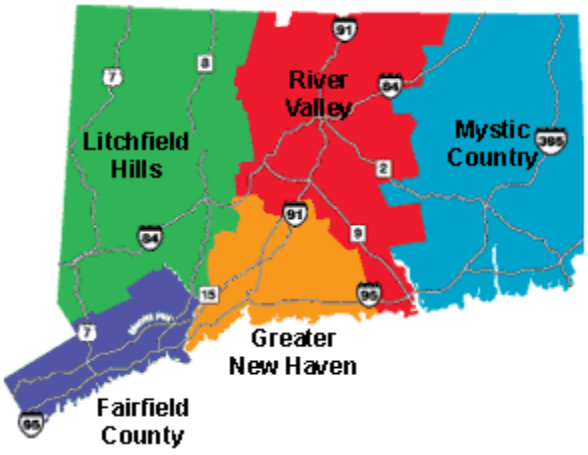
Culture and Tourism

Through the establishment of the Connecticut Commission on Culture & Tourism (CCCT) in 2003, the Connecticut General Assembly (§10-392) emphasized the role of culture and tourism in enhancing the quality of life and economic vitality of the state. The mission of CCCT is to preserve and promote Connecticut's cultural and tourism assets, bringing them together under four umbrella categories: arts, heritage and historic preservation, film, and tourism.[1] Previously, Connecticut had 11 tourism districts and several councils and commissions; the consolidation into one statewide commission has effectively reduced costs and streamlined services.[2]

Connecticut's Five Tourism Regions

As shown in the map below, the CCCT divides the state into five regional sub-brands with specific attributes: Fairfield County, Greater New Haven, Litchfield Hills, Mystic Country, and River Valley. The CCCT works in partnership with these five tourism regions, the Connecticut Trust for Historic Preservation, and the Connecticut Humanities Council (footnote 2).

Figure 1: Connecticut Tourism Regions



Source: www.CTvisit.com

[1] See http://www.ct.gov/cct/cwp/view.asp?a=2271&q=302388&cctNav=|.
[2] Connecticut Commission on Culture and Tourism. "2005-2008 Strategic Plan," 2004, p. 1.

1. Fairfield County

Representing: Bridgeport, Darien, Easton, Fairfield, Greenwich, Monroe, New Canaan, Norwalk, Shelton, Stamford, Stratford, Trumbull, Weston, Westport, Wilton

Positioned as the Gateway to New England just 35 miles outside New York City, Fairfield County has long attracted visitors to its coastal setting. Fairfield County offers a place where the shore, country, and city come together to create a unique getaway destination. While the county provides metropolitan residents a picturesque New England countryside getaway, it is also a destination for boutique shopping and fine dining.[3] According to CTvisit.com (the CCCT's web site to showcase Connecticut's attractions), there are over 30 lighthouses, a zoo and an aquarium, 12 historic sites, 21 museums and galleries, 19 performing arts centers, and four parks and forests in coastal Fairfield.[4] The table below presents the must see attractions of the tourism region recommended by the CCCT.

[3]See www.visitfairfieldcountyct.com.
[4] See www.CTvisit.com.

Table 1: The "Must See" Attractions of Fairfield County

Attraction	Town	Features
Beardsley Zoo	Bridgeport	Features primarily North and South American animals, including several endangered species, a tropical rain forest with free-flight aviary, New England Farm Yard, and Victorian greenhouse
Bruce Museum	Greenwich	Presents more than a dozen changing exhibitions annually exploring diverse art, cultural and natural science topics; permanent galleries offer world-class minerals and environmental displays
Weir Farm National Historic Site	Wilton	America's only National Park devoted to the fine arts
Stamford Museum & Nature Center	Stamford	Museum galleries feature cultural exhibitions, interactive displays for children, planetarium, 118 woodland acres, hiking trails, and boardwalk
Maritime Aquarium	Norwalk	Features harbor seals, river otters, sea turtles, etc. and an IMAX theater
Sheffield Island Lighthouse	Norwalk	1868 lighthouse that has four levels and 10 rooms to explore
Lockwood-Mathews Mansion Museum	Norwalk	The Gilded Age is revisited at this historic treasure
Greenwich Avenue	Greenwich	Stroll this "Rodeo Drive of the Northeast" and enjoy the small town hospitality

Source: http://www.ctvisit.com/tourismregion.aspx?id=5

2. Greater New Haven

Representing: Bethany, Branford, Cheshire, Clinton, Durham, East Haven, Guilford, Hamden, Killingworth, Madison, Middlefield, Milford, New Haven, North Branford, North Haven, Orange, Wallingford, West Haven, Woodbridge**.**

The Greater New Haven Region has a vibrant intellectual atmosphere, rich in its cultural and historic past. New Haven, American's first planned city, has been a locus of Yankee ingenuity for centuries. It is the home of inventions, sports firsts, medical milestones, and notable residents. The region boasts many firsts, such as the cotton gin, elevator, electric train, automatic revolver, telephone exchange, wireless radio, and steamboat.[5] The area's highlights include the New Haven Green, the Yale libraries and museums, the New Haven port, and the Amistad ship.

[5] See www.visitNewHaven.com.

In total, there are 14 historic sites, 17 museums and galleries, 13 performing arts centers, and 14 parks and forests to visit (footnote 4). The CCCT recommends the following attractions:

Table 2: The "Must See" Attractions of Greater New Haven

Attraction	Town	Features
Barker Character, Comic & Cartoon Museum	Cheshire	Collection of 60,000 pieces of fun as well as cartoon theater
Connecticut Audubon Coastal Center	Milford	Home to birds-herons, ospreys, egrets, and piping plovers
Hammonasset Beach State Park	Madison	Connecticut's longest shoreline beach
Peabody Museum of Natural History	New Haven	Features a 67-foot brontosaurus
Shubert Performing Arts Center	New Haven	Theater where *South Pacific* and *My Fair Lady* had their premiers
Yale University	New Haven	One of the great seats of learning since 1701
Yale University Art Gallery	New Haven	Includes works by van Gogh, Manet, and Picasso
Yale Center for British Art	New Haven	The country's largest collection of British art
Thimble Islands Cruise	Branford	A beautiful and storied archipelago off the southern Connecticut coast
Freedom Schooner *Amistad*	New Haven	Featured in the critically-acclaimed film *Amistad* (1997)

Source: http://www.ctvisit.com/tourismregion.aspx?id=4

3. Litchfield Hills

Representing: Ansonia, Barkhamsted, Beacon Falls, Bethel, Bethlehem, Bridgewater, Bristol, Brookfield, Burlington, Canaan (Falls Village), Colebrook, Cornwall, Danbury, Derby, Goshen, Hartland, Harwinton, Kent, Litchfield, Middlebury, Morris, Naugatuck, New Fairfield, New Hartford, New Milford, Newtown, Norfolk, North Canaan, Oxford, Plymouth, Prospect, Redding, Ridgefield, Roxbury, Salisbury, Seymour, Sharon, Sherman, Southbury, Thomaston, Torrington, Warren, Washington (New Preston), Waterbury, Watertown, Winchester (Winsted), Wolcott, Woodbury**.**

The Litchfield Hills Region offers visitors the promise of a beautiful, tranquil trip through the New England countryside. Visitors may stay in a quaint B&B, hike among rustic stonewalls,

stroll under covered bridges, shop for antiques, explore area vineyards, taste local wines, or marvel at the fall foliage.[6] Litchfield Hills offers museums devoted to an eclectic variety of themes: carousels, clocks, trucks, railcars, and more. The region provides a fast-paced environment at its two amusement parks: Lake Compounce Theme Park and Quassy Amusement Park. Overall, there are 51 historic sites, 56 museums and galleries, 21 performing arts centers, and 30 parks and forests (footnote 4).

[6] See http://www.cultureandtourism.org/cct/cwp/view.asp?A=11&Q=305896&pp=12&n=1.

Table 3: The "Must See" Attractions of Litchfield Hills

Attraction	Town	Features
Lake Compounce Theme Park	Bristol	Includes Connecticut's biggest water park and Boulder Dash (voted the world's best wooden roller coaster)
Aldrich Museum of Contemporary Art	Ridgefield	A Colonial manse with cutting-edge art inside and a sculpture garden outside
Brookfield Craft Center	Brookfield	Produces, displays, and sells top-notch contemporary crafts, set in a restored red Colonial mill
Glebe House Museum	Woodbury	Site of America's only Gertrude Jekyll garden
Town of Woodbury	Woodbury	Known as Connecticut's antique capital
Institute for American Indian Studies	Washington	A re-created Algonkian village, longhouse, and simulated archeological site
Lime Rock Park	Lakeville	Site for professional and amateur races, car shows, and automotive festivals
Carousel Museum of New England	Bristol	One of the largest collections of antique carousel pieces in the country
Mattatuck Museum	Waterbury	A showcase for Connecticut industry and 19th and 20th century art
Danbury Railway Museum	Danbury	Seasonal local train rides, restored 1903 Station with model railroads and displays
American Clock & Watch Museum	Bristol	Visitors experience Yankee ingenuity and craftsmanship in this charming chiming atmosphere creating by the many running clocks
Golden Age of Trucking Museum	Middlebury	An extensive display of antique trucks ranging from the early 1900's until 1974
Quassy Amusement Park	Middlebury	Carousel, boat rides, water ride, and petting zoo
Railroad Museum of New England	Thomaston	A scenic ride on the Naugatuck Railroad Company and museum exhibits in the 1881 Thomaston station
Timexpo Museum	Waterbury	A new, one-of-a-kind museum where Timex history is explored minute by minute

Source: http://www.ctvisit.com/tourismregion.aspx?id=3

4. Mystic Country

Representing: Ashford, Bozrah, Brooklyn, Canterbury, Chaplin, Colchester, Columbia, Coventry, East Lyme, Eastford, Franklin, Griswold, Groton, Groton City, Hampton, Killingly, Lebanon, Ledyard, Lisbon, Lyme, Mansfield, Montville, New London, North Stonington, Norwich, Old Lyme, Plainfield, Pomfret, Preston, Putnam, Salem, Scotland, Sprague, Sterling, Stonington (Mystic), Thompson, Union, Voluntown, Waterford, Willington, Windham, Woodstock**.**

Mystic Country is famous for its seaport and world-class casinos, Foxwoods Resort Casino and Mohegan Sun. Popular activities include whale watching, exploring Mystic Aquarium, enjoying the region's sandy beaches and waterfront parks, and dining at seafood restaurants along the harbor. CCCT markets other aspects of the region to encourage tourism in the northeastern corner of the state, suggesting that visitors drive up scenic Routes 169 and 49. Visitors may venture to pristine parks, apple orchards, B&Bs on the Register of National Historic Places, and American Impressionist paintings at the Florence Griswold Museum.[7] CCCT reports that Mystic Country has 31 historic sites, 23 museums and galleries, 10 performing arts centers, and 24 parks and forests (footnote 4).

[7] See www.cultureandtourism.org/cct/cwp/view.asp?A=11&Q=305896&pp=12&n=1.

Table 4: The "Must See" Attractions of Mystic Country

Attraction	Town	Features
Mystic Seaport	Mystic	A well-preserved 19th century seafaring village, a living history of Connecticut's maritime economy
Mystic Aquarium & Institute for Exploration	Mystic	Nearly 3,500 aquatic creatures making waves
USS Nautilus & Submarine Force Museum	Groton	The world's first nuclear-powered sub at the submarine capital of the world
Foxwoods Resort Casino	Mashantucket	The world's largest gaming facility
Mohegan Sun	Uncasville	Gaming and entertainment complex with Mohegan-themed design
Nathan Hale Homestead	Coventry	The humble farmhouse family home of Connecticut's state hero
Florence Griswold Museum	Old Lyme	Inspiration for the Connecticut Impressionist movement
Mashantucket Pequot Museum & Research Center	Mashantucket	Life-size exhibits, dramatic films, and touch-screen computer games
Prudence Crandall House Museum	Canterbury	A stop on Connecticut's Freedom Trail
Roseland Cottage	Woodstock	Where 19th century Fourth of Julys were celebrated with guests like U.S. presidents Grant and McKinley

Source: www.ctvisit.com/tourismregion.aspx?id=2

5. River Valley

Representing: Andover, Avon, Berlin, Bloomfield, Bolton, Canton, Chester, Cromwell, Deep River, East Granby, East Haddam, East Hampton, East Hartford, East Windsor, Ellington, Enfield, Essex, Farmington, Glastonbury, Granby, Haddam, Hartford, Hebron, Manchester, Marlborough, Meriden, Middletown, New Britain, Newington, Old Saybrook, Plainville, Portland, Rocky Hill, Simsbury, Somers, South Windsor, Southington, Stafford, Suffield, Tolland, Vernon, West Hartford, Westbrook , Wethersfield, Windsor , Windsor.

The Connecticut River's historic significance and scenic beauty stand out in the River Valley Region. At its core is the state Capital: Connecticut's seat of political power and the birthplace of constitutional law.[8] Places of interest might include towns along the Connecticut River, Mark Twain's home, Harriet Beecher Stowe's home, the Capitol, and art of the Hudson River Valley

[8] See http://www.enjoycentralct.com/index.cfm.

School at the Wadsworth Atheneum. Altogether, there are 47 historic sites, 38 museums and galleries, 31 performing arts centers, and 16 parks and forests (footnote 4).

Table 5: The "Must See" Attractions of River Valley

Attraction	Town	Features
New Britain Museum of American Art	New Britain	300 years of American art in 5,000 choice pieces
Hatheway House	Suffield	Rare French wallpapers and early neoclassical architecture of the 18th century
New England Air Museum	Windsor Locks	Home to more than 80 aircraft displayed in two massive hangars
Old New-Gate Prison & Copper Mine	East Granby	Connecticut's first Colonial prison, established in 1707
Stafford Motor Speedway	Stafford Springs	Weekly NASCAR auto racing on the paved, half-mile oval track
Dinosaur State Park	Rocky Hill	30-foot diorama of the Connecticut Valley in the late Triassic Period
Harriet Beecher Stow Center	Hartford	Home to the personal and professional memorabilia of the *Uncle Tom's Cabin* author
Mark Twain House & Museum	Hartford	19 richly furnished rooms with Tiffany accents
Old State House	Hartford	Located on the site of George Washington's Revolutionary War meeting with the French, and home to daily cannon-firing ceremonies
Wadsworth Athenaeum Museum of Art	Hartford	More than 50,000 works of art, spanning 5,000 years
Gillette Castle	East Haddam	This 184-acre estate was once home to William Hooker Gillette, noted actor and playwright
Essex Steam Train & Riverboat	Essex	Ride in 1920s steam coaches pulled by an authentic steam locomotive
Goodspeed Opera House	East Haddam	Victorian theater overlooking the Connecticut River
Town of Essex	Essex	The quintessential New England river town

Source: http://www.ctvisit.com/tourismregion.aspx?id=1.

Evaluating Connecticut's Cultural & Tourism Industries

The *2004 Connecticut Vacation Guide Survey* reports the number of visitors drawn to attractions from three of the main CCCT divisions (tourism, film, heritage and historic preservation, and the arts) by tourism region, as seen below. The survey is a self-reported exercise commissioned by CCCT that lists 99 arts, 154 historic and 122 traveler and tourist sites visited by approximately 22 million people. There are no non-profit galleries included in the survey and the number of visitors enjoying scenic roads, covered bridges, state parks, and other dispersed sites is unknown. Note that Foxwoods and Mohegan Sun report 75,000 visitors per day or 27.4 million per year (26% more than all other Connecticut reporting sites combined) and are therefore not included in order to see other sites' visitorship clearly.[9]

Table 6: Number of Visitors by Type of Attraction by Tourism Region

Visitors To	River Valley	Litchfield Hills	Mystic Country	Greater New Haven	Fairfield County	Totals
Travel & Tourism Attractions	3,826,589 (28 sites)	1,383,476 (28 sites)	2,910,235 (28 sites)	1,964,401 (12 sites)	3,863,691 (24 sites)	**13,948,392 (120 sites)**
Heritage Attractions, Venues & Institutions	1,226,333 (64 sites)	233,078 (30 sites)	865,910 (29 sites)	1,069,549 (16 sites)	141,450 (15 sites)	**3,536,320 (154 sites)**
Arts Attractions, Venues & Institutions	1,230,575 (27 sites)	309,845 (19 sites)	397,530 (17 sites)	1,560,440 (14 sites)	773,351 (22 sites)	**4,271,741 (99 sites)**
Totals	**6,283,497**	**1,926,399**	**4,173,675**	**4,594,390**	**4,778,492**	**21,756,453**

Source: 2004 Connecticut Vacation Guide

Recent efforts measured the macroeconomic contribution of the culture and tourism industries to the state. The Connecticut Center for Economic Analysis (CCEA) completed a second economic impact study[10] for the state in December of 2006 titled *The Economic Impact of the Arts, Film, History, and Tourism Industries in Connecticut* (footnote 9). This study quantifies the impact of the CCCT's four divisions on the Connecticut economy. Moreover, the results from this study can serve as a benchmark for future studies.

In 2006, CCCT commissioned Phoenix Marketing International to evaluate the brand imagery of Connecticut among local residents, recent visitors, and non-recent visitors from the New York Metropolitan region. The study, referred to as the *2006 Brand Image Study*, examined the motivational drivers that caused people to choose Connecticut as a leisure travel destination.

[9] McMillen, Stanley et al., *The Economic Impact of the Arts, Film, History, and Tourism Industries in Connecticut,* The Connecticut Center for Economic Analysis, working paper, (2006).
[10] In 2001, the Connecticut Center for Economic Analysis conducted an economic impact study on tourism in Connecticut. See *The 2001 Economic Impact of Connecticut's Travel and Tourism Industry,* issued May 2003, available at: http://ccea.uconn.edu/studies/2001%20Travel%20&Tourism%20Impact%20Full%20Report.pdf.

In 2007, the New England Foundation for the Arts sponsored a study titled *The Creative Economy: A New Definition*.[11] The study provides a research framework for New England and beyond, including an economic analysis of New England's cultural industries and workforce. The empirical section of the study compares Connecticut to other New England states and the nation (see below).

Economic Impact Study Results

Overview

- Using software from Regional Economic Models, Inc. (REMI), CCEA conducted a counterfactual analysis[12] to determine the impact of culture and tourism on the Connecticut economy. In 2004, the total direct, indirect, and induced[13] economic impact of Connecticut's culture and tourism industries generated $14.06 billion in gross state product or state GDP, or 7.6% of state total (footnote 9, p. i).

- Culture and tourism industries contributed $9.1 billion in personal income (5.74% of state total), 171,023 jobs (10% of state total), and $1.715 billion in state and local revenue — monetary receipts from state and local taxes and fees —representing 6.9% of the state and local total (footnote 9, p. i).

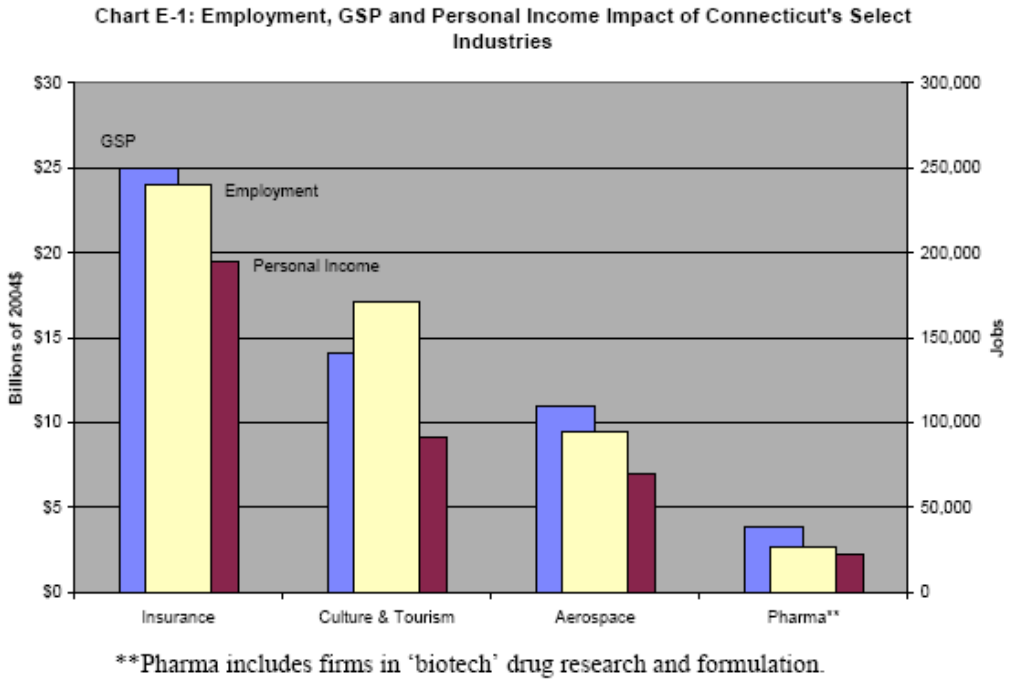
- Connecticut invested $27.7 million in culture and tourism in 2004-05 to leverage $258 million in net state and local revenue. Another way to consider the impact of culture and tourism state budget allocations is to view each dollar invested and track its rate of return. In this case, for every $1 invested, the state garnered $9.30 in state and local revenue, $507 in gross state product, and $328 in personal income.[14]

- The following chart from CCEA study compares culture and tourism to other leading Connecticut industries. Of the four industries considered, the insurance industry contributes the most value added to the state economy, while culture and tourism

[11] DeNatale, Douglas and Wassall, Gregory. *The Creative Economy: A New Definition*. New England Foundation for the Arts, (2007).
[12] A counterfactual analysis poses the hypothetical scenario where the industry in question ceases to exist. It is then possible to assess the consequent loss to the economy in terms of jobs, state GDP, personal income, etc. to measure the contribution of the industry to the economy as a whole.
[13] Economic benefits generally separate into three types of economic impact: *direct*, *indirect*, and *induced*. *Direct impact*s are those arising from the initial spending by the industry studied, such as payroll for employees and contract workers, goods and services purchases, and rent and permit fees. Direct impacts include the jobs in the industries under consideration. *Indirect impacts* arise as the businesses and governments that supply the goods, services, permits, rents, and other things to an industry in turn buy goods and services from other places. *Induced impacts* represent the additional income earned and spent by workers and business owners due to their participation in and support of a particular industry (see footnote 9, p. 11).
[14] Taken from the PowerPoint version of the economic impact study, slide 28 of 30. See http://www.ct.gov/cct/lib/cct/Economic_Impact_Presentation_for_12.7.pdf.

contributes more to employment than aerospace and pharmaceuticals combined and an approximately equal share of gross state product and personal income.[15]

Figure 2: Employment, GSO, and Personal Income Impact of Connecticut's Selected Industries



Source: Connecticut Center for Economic Analysis, 2006

Arts

- Connecticut's arts industries draw visitors from the state and beyond to concerts, exhibitions, and the many museums, galleries and playhouses in Connecticut. The arts industry consists of myriad for-profit and not-for-profit establishments as well as self-employed persons engaged in producing, supporting the production of and disseminating artistic goods and services (footnote 231, p.56). McMillen et al. define the arts industry broadly in order to estimate its economic value as accurately as possible to the state.

- The economic impact study approach assumes that the economic impact of the arts industry is due entirely to its employment and the spillover effects of this employment, as well as to the business-to-business activity necessary to sustain the primary firm,

[15] The North American Industry Classification System (NAICS) provides number codes to help identify and differentiate industries. McMillen et al. define Connecticut's select industries' impacts for purposes of comparison as Insurance, defined as NAICS 524, Aerospace, defined as NAICS 3364 through 3369 and the Pharmaceuticals industry defined as NAICS 3254 (includes firms in 'biotech' drug research and formulation) (see footnote 9, p. iii).

organization, institution or individual. Thus, the study's analysis is conservative and understates the true economic impact of the arts (footnote 9, p. 56).

- The following table presents a summary of the economic impact of Connecticut's arts industries. Using REMI, CCEA determined the annual average economic impact of the state's arts industries from 2004 through 2025. Connecticut's arts industries contributed $3,833 million in state GDP (2.06% of state total), $2,674 million in personal income (1.69% of state total), and $432.5 million in state and local revenue (1.74% of state total). State and local governments spend an additional $330 million to provide public services for the economic activity Connecticut's arts industries and its arts workers create.

Table 7: Annual Average Economic Impact of Connecticut's Arts Industries 2004-2025

	Statewide Estimate	Percent of the CT Economy (2004)
Employment	44,474	2.60%
State GDP (Mil 2004 $)	$3,833	2.06%
Personal Income (Mil 2004 $)	$2,674	1.69%
State & Local Revenues (Mil 2004 $)	$432.5	1.74%
State & Local Expenditures (Mil 2004 $)	$329.7	1.20%

Source: Connecticut Center for Economic Analysis, 2006

- The direct impact of 27,716 arts jobs creates an additional 16,207 jobs in other Connecticut industries implying a statewide employment multiplier of 1.6. The employment figure in the table represents the total of direct, indirect, and induced economic activity from the arts industries that supports employment (footnote 9, p. 79).

- The impact of Connecticut's arts industries is understated because the study does not account for the quality of life improvement that exposure to the arts affords residents, and does account for visitor spending as the many Connecticut attractions and arts venues induce visitors to spend in the transportation, food and drink, retail and other economic sectors (a portion of visitor spending is counted in the travel and tourism section). Furthermore, the impact of Connecticut's arts industry is conservative because the study does not count the contribution of volunteers at all levels of arts provision (for example, from docents to board members). Connecticut's arts assets not only retain Connecticut residents within its borders (that is, they recapture visitor spending), they attract visitors from other states and countries (footnote 9, p. 79).

Film

- While not highly visible in Connecticut, the film and video industries nevertheless play an influential role in the state's economy. Connecticut is the proud home of the Entertainment & Sports Programming Network (ESPN), World Wrestling Entertainment, Inc. (WWE), and Versus (formerly the Outdoor Life Network), along with a number of smaller local production and post-production companies. Connecticut remains a choice site for many out-of-state productions as well, with its wide range of historic, coastal, residential, and scenic locations. A number of different production types, including movie, television, and musical ventures, are produced in Connecticut, all of which provide important direct and indirect benefits for the state. The film and video industries require the involvement of governments and a large variety of outside businesses to provide the goods, services, permits, and rentals that allow film and video professionals to operate (footnote 9, p. 24).

- The following table presents a summary of the findings from the economic impact study on the film and video industries taken from the REMI counterfactual analysis. Connecticut's film and video industries contributed $2,502 million in state GDP (1.35% of state total), $1,211 million in personal income (0.76% of state total), and nearly $200 million in state and local revenue (0.81% of state total). State and local governments spend an additional $87.35 million to provide public services for the economic activity Connecticut's film and video industries.

Table 8: Annual Average Economic Impact of Connecticut's Film and Video Industries 2004-2025

	Statewide Estimate	Percent of the CT Economy (2004)
Employment (Total Jobs)	18,079	1.06%
State GDP (Mil 2004 $)	$2,502	1.35%
Personal Income (Mil 2004 $)	$1,211	0.76%
State & Local Revenues (Mil 2004 $)	$199.36	0.81%
State & Local Expenditures (Mil 2004 $)	$87.35	0.32%

Source: Connecticut Center for Economic Analysis, 2006

- The film and video industries provide 8,323 direct jobs and support more than 18,000 total jobs in the state, implying a statewide film and video employment multiplier of 2.17 (footnote 9, p. 46).

Heritage/Historic Preservation

- For this study, CCEA focuses on heritage establishments that provide historic goods and services such as museums, forts, libraries, and houses (e.g., the Nathan Hale

Homestead) directly to the public (footnote 9, p. 159). In addition, CCEA considers employment in the provision of historic-related sites' and venues' goods and services, that is, on jobs that maintain historic information or physical artifacts or property, and on jobs that educate the public that may be embedded in establishments whose principal business is not historic preservation or education. For visitation and membership of major Connecticut heritage sites, see Appendix, Table 1.

- Four primary activities contribute to the economic and fiscal value of historic preservation: net new construction and rehabilitation; net new real estate market activity including neighborhood property value effects; net new commercial activity; and net new visitors to heritage sites. These activities are net new in the sense that they would not happen unless historic preservation occurs. These activities take place in a given period and in a given geography (footnote 9, p. 154).

- The following table describes the economic impact of the history and heritage industry, again derived from the counterfactual analysis on REMI. Although Connecticut's historical and heritage assets contribute to travel and tourism, CCEA excluded visitor spending in conjunction with heritage tourism from their assessment; visitor spending is included in the travel and tourism report exclusively and likely captures a fraction of heritage traveler spending (footnote 9, p. 159). Connecticut's history and heritage industry contributes over $100 million in state GDP (0.06% of state total), $105 million in personal income (0.07%), and an equivalent percentage of state and local revenues and expenditures (0.07%).

Table 9: Annual Average Economic Impact[16] of Connecticut's History and Heritage Industry 2004-2025

	Statewide Estimate	Percent of the CT Economy (2004)
Employment (Total Jobs)	2,166	0.13%
State GDP (Mil 2004 $)	$111.69	0.06%
Personal Income (Mil 2004 $)	$105.16	0.07%
State & Local Revenues (Mil 2004 $)	$17.80	0.07%
State & Local Expenditures (Mil 2004 $)	$18.50	0.07%

Source: Connecticut Center for Economic Analysis, 2006

[16] These results are conservative because preservation activities are carried out and carried on by volunteers whose time has value the CCEA has not counted. It is conservative because the private investments property owners make in their historic homes or buildings to maintain them are unknown, though the CCEA does account for tax credits private property owners receive. It is conservative because the CCEA has not estimated the increased property values or high quality infill and new commercial activity that result from preservation activity. Finally, the estimate of the economic value of history and heritage is conservative because there is no estimate of the amenity value of preservation activity to the attractiveness of the region to workers and firms (see footnote 9, p. 5).

Tourism

- Extensive data collected and processed through several methodologies provides travel and tourism expenditures by type of visitor and by category of expenditure in Connecticut. These expenditures represent sales from lodging, transportation, retail, restaurant, and amusement and recreation sales. In turn, these sales drive the economic impact of travel and tourism in Connecticut via their flow through the economy as these sectors in turn purchase labor (pay wages and salaries), purchase intermediate goods and services (e.g., raw food products, accounting services), pay rent and taxes, and pay the cost of goods sold (retail goods). Subsequent rounds of spending by people receiving direct and indirect wages and salaries generate a multiplier for the original sales. The sum of these multiplied changes (tourism-related sales) across all sectors of the Connecticut economy represents the impact of the travel and tourism industry (footnote 9, p. 3).[17]

- The following table (Figure 3 from the CCEA study, footnote 9) shows the distribution of traveler and tourist spending in eight categories by type of accommodation[18] or travel mode; note that day trippers' spending on wagering represents the largest amount in any category:

Table I-3
Traveler Expenditure Patterns by Expenditure Category and Accommodation Used (2004 $ millions) Connecticut, 2004

Expenditure Category	HMR	Day Trippers	Friends & Relatives	Marinas	Campgrounds	Total	Percent
Recreation	$421.0	$747.4	$377.4	$0.0	$25.0	$1,570.9	17%
Meals	$415.8	$370.4	$166.9	$17.2	$50.8	$1,021.1	11%
Shopping	$405.7	$580.3	$274.4	$22.3	$38.8	$1,321.3	15%
Fuel	$131.3	$225.7	$67.5	$11.8	$12.2	$448.6	5%
Other Auto	$74.6	$259.3	$31.8	NA	$6.2	$371.9	4%
Local Transportation	$98.2	$149.4	$22.3	$7.3	$1.1	$278.2	3%
Lodging	$764.6	NA	NA	$0.5	$35.0	$800.2	9%
Wagers	$587.6	$1,803.1	$328.7	$0.0	$41.5	$2,760.8	30%
Marina Sales	NA	NA	NA	$495.2	NA	$495.2	5%
State Total	$2,898.8	$4,135.6	$1,269.0	$554.3	$210.7	$9,068.3	100%

Source: Connecticut Center for Economic Analysis, 2006

- This spending generated the economic impact of travel and tourism through multiplier effects in Connecticut. The table below shows the REMI-estimated total impact of this spending in terms of employment, gross state product and personal income. The travel and tourism industry supported almost 111,000 jobs in the state or 6.5% of its workforce

[17] This study's results are affected to some degree by the small visitor intercept sample sizes in certain counties in certain seasons. The effect is visitor spending on certain goods in certain counties is not estimated with accuracy. Notwithstanding, sample sizes at the state level are reasonable (see footnote 9, p. 4).
[18] Marina sales include membership fees, boat rentals, slip and mooring fees, boat repair, sail repair, notary services, chandlery services (see footnote 9, p. 4).

in 2004. Travel and tourism created $7.95 billion in state GDP representing 4.3% of Connecticut's state GDP in 2004 and $5.35 billion in personal income impact that represented 3.4% of Connecticut's personal income in 2004. Connecticut's state and local governments received $1.15 billion in revenue and expenditures increased by $1.08 billion as a result of travel and tourism activity (footnote 9, p. 5):

Table 10: Annual Average Economic Impact of Connecticut's Film and Video Industries 2004-2025

	Statewide Estimate	Percent of the CT Economy (2004)
Employment (Total Jobs)	110,775	6.50%
State GDP (Mil 2004 $)	$7,946	4.28%
Personal Income (Mil 2004 $)	$5,345	3.37%
State & Local Revenues (Mil 2004 $)	$1,152.00	4.64%
State & Local Expenditures (Mil 2004 $)	$1,079.00	3.91%

Source: Connecticut Center for Economic Analysis, 2006

2006 Brand Image Study

- The primary purpose of the *2006 Brand Image Study* conducted by Phoenix Marketing International was to evaluate the brand imagery of Connecticut among Connecticut residents and residents of the New York metropolitan region. In addition, the study provides insight regarding the motivational drivers as to why people choose Connecticut as a leisure travel destination. The study is internet-based and targets households with incomes of at least $60,000. Where possible, comparisons are made with the *2004 Brand Image Study*.[19]

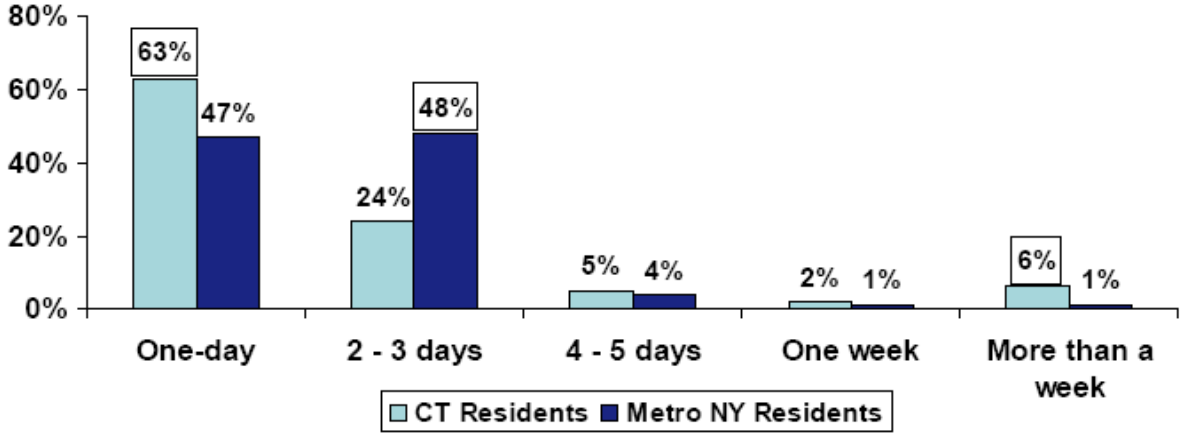
- Phoenix International conducted 1,200 interviews for this study.[20] There were 500 interviews among Connecticut residents, 350 among metro New York recent visitors and 350 among metro New York non-recent visitors (footnote 19, p. 3). See the Appendix, Table 2 for a demographic profile of respondents.[21]

- Connecticut residents averaged 15.9 total leisure trips — 12.8 day trips and 3.1 overnight trips in 2006. In contrast, Metro New York visitors averaged 5.6 total trips, or 3.2 daytrips and 2.3 overnight trips (see the Appendix, Figure 1 and footnote 19, p. 6).

- Overnight trips typically last 2 to 3 days, indicating that Connecticut is a desirable vacation destination for short-term and weekend travel. Figure 4 shows how this is particularly true for out-of-state visitors:

[19] *The Connecticut Commission on Culture & Tourism 2006 Brand Image Study*. Phoenix Marketing International (January 2007). See http://www.ctvisit.com/PDFS/2006_tourism_brand_image_study_web.pdf.
[20] The 1,200 interviews have an accuracy of +/- 2.8 points at the 95% confidence level. Each sub-group of 350 interviews has an accuracy of +/- 5.2 points while 500 interviews have an accuracy of 4.4% at the 95% confidence level (see footnote 19, p. 3).
[21] For purposes of this study, a "recent visitor" is defined as having visited Connecticut for leisure purposes within the last 12 months. Conversely, a "non-recent visitor" has not visited Connecticut within the last 12 months (see footnote 19, p. 3). See appendix Table E1 for a demographic profile of respondents to the *2006 Brand Image Study*.

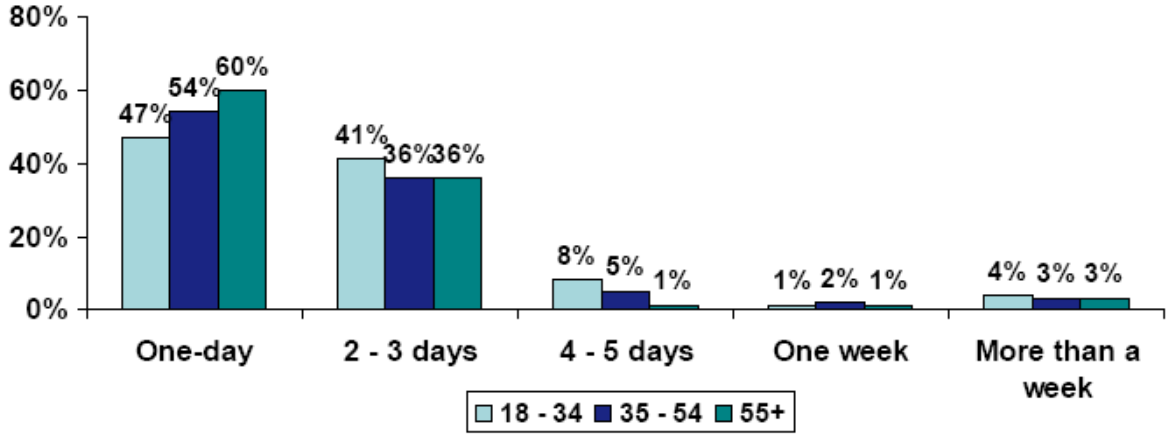
Figure 4: Duration of Visit



Source: 2006 Brand Image Study, Phoenix Marketing International

- Figure 5 shows length of stay broken down by age cohort. The 18- to 34-year-old cohort stays in Connecticut for an average of 2.2 days; this is longer than the 35 to 54 or 55+ age cohorts, who stay 2.1 and 1.8 days respectively.

Figure 5: Duration of Stay by Age Cohort



Source: 2006 Brand Image Study, Phoenix Marketing International

- Overnight visitors most commonly stayed in a hotel or motel and with friends or family. Connecticut residents had a higher tendency to stay in a campground (21%) compared to metro New York residents (9%). The results appear in Table 11.

Table 11: Accommodation by Type of Visitor[22]

	CT Residents	Metro NY Residents
Base: Total Respondents	*(500)*	*(700)*
Hotel or Motel	66%	72%
Friends or Family	28%	35%
Campground	21%	9%
B&B or Inn	18%	19%
Resort/Spa	16%	11%
Vacation Home/Second Home	12%	8%
Rental or Timeshare Property	10%	6%
Marinas	9%	7%

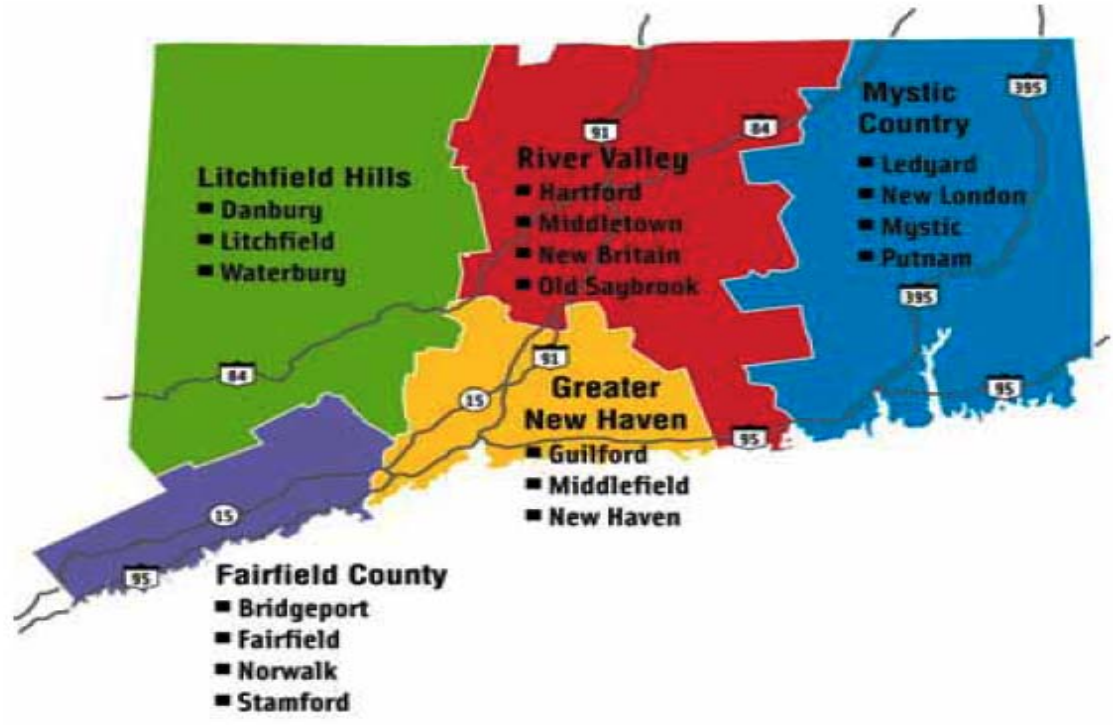
Source: 2006 Brand Image Study, Phoenix Marketing International

- The preferred times of year to visit Connecticut for leisure purposes are the summer and fall. There are some differences, however, among residents and visitors. Residents have a slightly higher preference to travel within the state in the summertime, while metro New York visitors have a slightly higher preference to travel in the springtime. The percent of residents and non-residents who selected the fall as the optimal time to visit Connecticut was the same for both groups: 36%. Finally, less than 5% from both groups preferred to travel in the wintertime (footnote 19, p.9).

- The most popular towns to visit are listed in the map below (Figure 6) by tourism sub-region:

[22] The cells with gray shading indicate a significantly higher response rate at a 95% confidence level. Cells with black shading indicate a significantly lower response rate at a 95% confidence level (see footnote 19, p. 4).

Figure 6: Towns Most Visited



Source: 2006 Brand Image Study, Phoenix Marketing International

- Visitors most frequently visited Mystic Country and Fairfield County. Fifty-eight percent of Connecticut residents visited Mystic Country within the last year, compared to 30 to 34% for each of the other regions. Metro New York visitors more frequently visited Fairfield County than Connecticut residents did. Least popular among out-of-state visitors was the River Valley region, with only 15% having visited the area within the last year (see the Appendix, Figure 2 and footnote 19, p. 12).

- Among reasons for visiting, Mystic Country hosted the most visitors (79%) seeking leisure activities and the least visiting friends and family (17%). Major Connecticut attractions, such as Foxwoods and Mohegan Sun casinos and Mystic Aquarium are located within Mystic Country.

Table 12: Reasons for Visiting (footnote 22)

	Greater New Haven	Fairfield County	Litchfield Hills	Mystic Country	River Valley
Base: Visitors	*(162)*	*(228)*	*(163)*	*(350)*	*(148)*
Leisure activities	57%	54%	68%	79%	67%
Visiting friends and family	44%	50%	39%	**17%**	41%
Conventions, conferences or trade shows	12%	13%	8%	6%	10%
Business meetings	15%	10%	6%	5%	14%

Source: 2006 Brand Image Study, Phoenix Marketing International

- The Maritime Aquarium and Gillette Castle stand out as the two most popular attractions to visit, with just over half (52%) having visited the aquarium and 34% having visited the Castle. Between 24 to 28% of respondents had visited the Beardsley Zoo, the Mashantucket Pequot Museum, the Nautilus Submarine Museum, and the Mark Twain House & Museum. Connecticut residents disproportionately visited more of what the state has to offer among top attractions. Similarly, visitors who had not been to visit Connecticut within the last year disproportionately had not visited the top attractions (footnote 19, p. 15).

Table 13: Connecticut Attractions Ever Visited (footnote 22)

	Total	CT Residents	Metro NY Visitors	Metro NY Non-Visitors
Base: Total Respondents	*(1,200)*	*(500)*	*(350)*	*(350)*
Maritime Aquarium	52%	63%	49%	**36%**
Gillette Castle	34%	57%	16%	**10%**
Connecticut's Beardsley Zoo	28%	48%	12%	8%
Mashantucket Pequot Museum	26%	40%	17%	**10%**
Nautilus Submarine Museum	24%	28%	24%	18%
Mark Twain House & Museum	24%	34%	19%	**12%**
Long Wharf Theatre	21%	28%	18%	**8%**
Guilford Arts Center	8%	10%	9%	**4%**
Brookfield Craft Center	5%	6%	6%	**2%**
Music Mountain Falls Village	5%	6%	6%	**2%**
Other	10%	11%	8%	10%
None of the Above	20%	**4%**	26%	41%

Source: 2006 Brand Image Study, Phoenix Marketing International

- The survey component that measures satisfaction and intent to return produced favorable results: between 70 to 85% of all residents and visitors cited that they were satisfied with their last visit, would likely return, and would likely recommend the state as a leisure travel destination (footnote 19, p. 17).[23]

- According to the study, Connecticut's appeal lies principally in its quaint towns and villages, dining experiences, special events (fairs and festivals), fall foliage, and waterfront areas.

[23] And see Appendix, Figure 3.

Table 14: Appeal of Getaway Experiences in Connecticut (footnote 22)

	Total	CT Residents	Metro NY Visitors	Metro NY Non-Visitors
Base: Total Respondents	*(1,200)*	*(500)*	*(350)*	*(350)*
Quaint towns and villages	***70%***	***74%***	***67%***	***66%***
Casual dining	***67%***	***73%***	***62%***	***63%***
Fine dining	***65%***	***71%***	***60%***	***60%***
Special events, such as fairs and festivals	***64%***	***72%***	***60%***	***56%***
Leaf-peeping/fall foliage	***64%***	***70%***	***61%***	***57%***
Lakes and beaches	***62%***	***70%***	***56%***	***57%***
Back country roads	***59%***	***68%***	***56%***	***49%***
Family-friendly experiences	***56%***	***67%***	***50%***	***47%***
Historic homes	***53%***	***58%***	***48%***	***51%***
Shopping	***53%***	***58%***	***53%***	***45%***
Casinos	51%	53%	53%	46%
Park recreation	50%	57%	47%	43%
Non-traditional museums (air museum, clock museum, etc)	47%	52%	44%	44%
Outdoor adventures (hiking, biking, skiing)	45%	52%	40%	39%
Theater/performing arts	45%	52%	43%	37%
Top name entertainment	45%	51%	41%	39%
Educational attractions	44%	51%	37%	42%
Wine trails	43%	48%	43%	36%
Spa treatments/relaxation	43%	48%	39%	39%
Science museums	43%	49%	39%	38%
Art museums	40%	44%	38%	36%
Nightlife and live music	40%	42%	40%	36%
Theme parks	35%	37%	34%	32%
Golf	24%	27%	19%	24%

Source: 2006 Brand Image Study, Phoenix Marketing International

- CCCT recognizes the following broad-range experiences that attract residents and visitors to the state: arts & culture, history, family fun, active adventure, and rest and relaxation.[24] Table 15 displays survey respondents' ranking of the following messages describing Connecticut.

Table 15: Appeal of Messages Describing Connecticut (footnote 22)

	Total	CT Residents	Metro NY Visitors	Metro NY Non-Visitors
Base: Total Respondents	*(1,200)*	*(500)*	*(350)*	*(350)*
It's all so close	68%	73%	69%	**60%**
Relaxing change of pace	60%	61%	63%	56%
New England nearby	60%	66%	58%	53%
A place to recharge	59%	62%	63%	**53%**
So much to see and do	54%	58%	53%	48%
Time for two	52%	55%	53%	47%
Full of heritage treasures	51%	58%	49%	43%
Connect with greener pastures	47%	50%	50%	**40%**
Reconnect with the important people in your life	47%	56%	43%	37%
New England plus vibrant and contemporary experiences	46%	50%	47%	40%
Active adventures start here	39%	44%	37%	32%
Where arts and culture began	38%	43%	37%	34%
City with the beat	29%	30%	29%	26%

Source: 2006 Brand Image Study, Phoenix Marketing International

[24] See http://www.cultureandtourism.org/cct/lib/cct/td_smp_exec_sum_0708.pdf#44205, p. 38.

- Notice that proximity to home, opportunities to relax, and New England charm are the primary identifiers of Connecticut's brand image. In-state travelers tend to identify Connecticut more as a place of heritage treasures, a place to reconnect with friends and family, as well as pursue active adventures than do out-of-state travelers.

- Respondents deemed Figure 7 most representative of Connecticut:

Figure 7: "Connecticut: Full of Heritage Treasures"

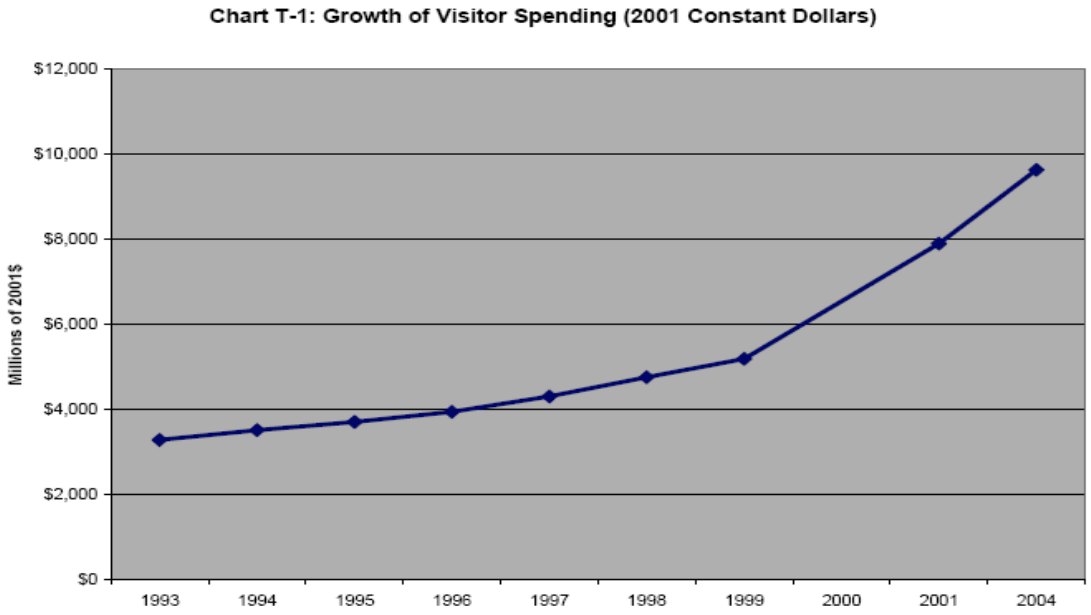
Source: 2006 Brand Image Study, Phoenix Marketing International

- Perceptions of Connecticut on several attributes have significantly improved since the previous *Brand Image Study* in 2004. Among state residents "It is a great day-trip destination" and "It is a beautiful scenic place." Among Metro New York residents, Connecticut improved in the following: "It is close by," "It is a great day-trip destination," "It is a beautiful scenic place," "It is a great 1 to 3 night getaway destination" and "It provides a good value for the money" (footnote 24, p. 56).

Tourism Strategic 2007-2008 Plan

- Figure 8 shows the growth rate of visitor spending has increased in Connecticut since 1999.

Figure 8: Growth of Visitor Spending (2001 Constant Dollars)



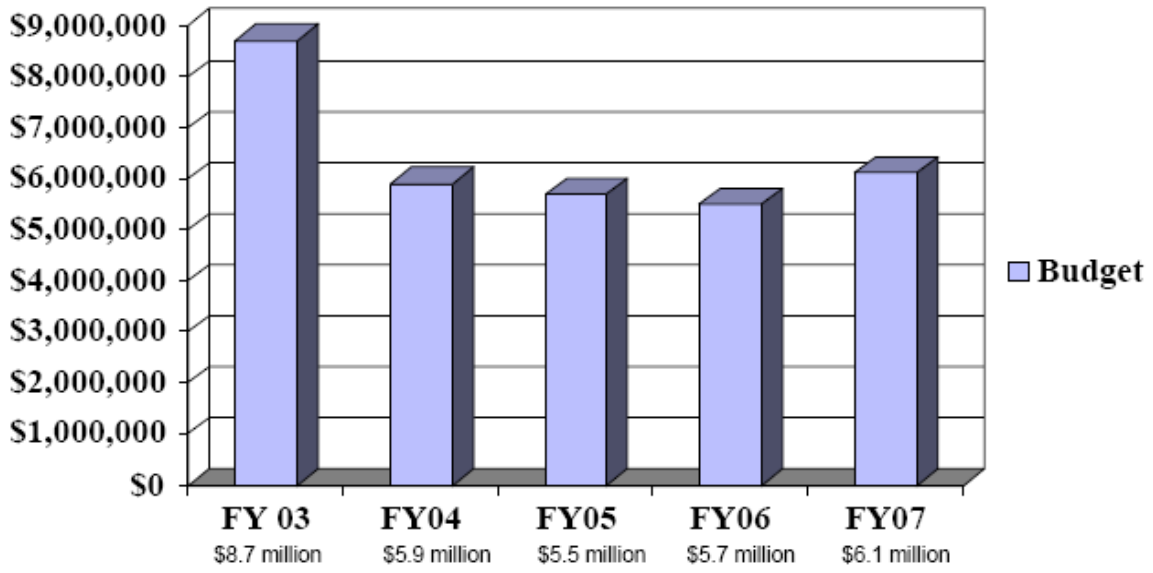
Source: Connecticut Center for Economic Analysis, 2006

- Connecticut's annual spending ranked 40th in the U.S. in 2004, down from 30th in 2002. The top three spending states include: Hawaii ($69.2 million), Illinois ($47.8 million), and Pennsylvania ($31.8 million).[25] Connecticut's limited investment in tourism is a strong disadvantage to attract visitors from the state's primary target market—metro New York—while media rates and inflation continue to increase.

- Figure 9 depicts Connecticut's declining tourism budget. Note that in 2007, an additional $340,000 was carried over from 2006 (footnote 25, p. 7).

[25] Connecticut Commission on Culture & Tourism's *Tourism Division Strategic Marketing Plan 2007-08* by Pita Communications, Inc. p, 6.

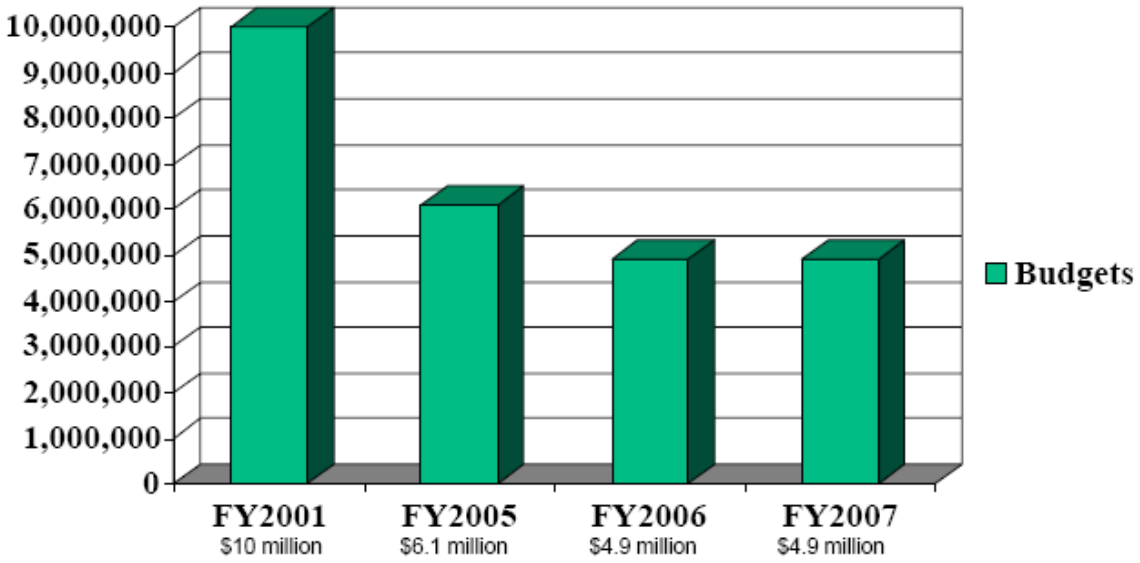
Figure 9: Connecticut Commission on Culture and Tourism Fiscal Year Budget



Source: Pita Communications, Inc., Connecticut Tourism Division Strategic Marketing Plan 2007-08

- The overall budget for the five regions has decreased—not adjusted to reflect inflation and increased costs (footnote 25, p. 8).

Figure 10: Regional Tourism Budget



Source: Pita Communications, Inc., Connecticut Tourism Division Strategic Marketing Plan 2007-08

- The region and state budgets are not competitive with other states marketing the same audiences. TIA TravelScope reports that with its $5.6 million budget for tourism for

2005, Connecticut ranked last among the states of Maryland ($11 million), New Jersey ($12.7 million), and Pennsylvania ($31.8 million). New York City alone spent $45 million in 2005.

- Connecticut's tourism industry is negatively affected by more than dwindling budgets and increased costs: high volume of traffic on interstates, general lack of awareness of what Connecticut offers, and lack of public transportation to and around the state hinder the growth potential of tourism in Connecticut (see footnote 25, p. 9).

- High gas prices during the summer and fall of 2008 were projected to stimulate in-state travel. In July of 2008, Governor M. Jodi Rell launched the Connecticut 'Staycation' Destination program to encourage Connecticut residents to take an affordable vacation within their home state. More than 300 venues and businesses have signed up to be a part of the Staycation Destination program.[26] These businesses have agreed to provide a variety of discounts that include reduced admission rate, free merchandise, discounted room rates and more to Connecticut residents. The economic impact of increased travel costs on Connecticut tourism has yet to be seen.

New England's Creative Economy

Defining and measuring the "creative economy" on an objective and consistent basis is difficult because past research often approached the issue from the perspective of a particular advocacy group. In *The Creative Economy: A New Definition*, Douglas DeNatale and Gregory Wassall propose a standardized methodology for defining the creative economy (footnote 11). Their definition of the creative economy is conservative; they select only the "cultural core" industries—occupations and industries that focus on the production and distribution of cultural goods, services and intellectual property. The occupations and industries included in the creative economy appear in the appendix of the study.[27] Excluded are products or services that are the result of non-culturally-based innovation or technology. Categories that fall under the cultural core group meet the basic test of categorical completeness—the aggregate data that is available using these categories represents cultural economic activity *anywhere* in the United States. In contrast, categories in the "cultural periphery" group are not wholly representative of the cultural component of the creative economy. Some subcategories of these industries and occupations produce cultural goods and services, but they are combined with others who do not. DeNatale and Wassall caution: "researchers should not employ aggregate data for these categories unless there are special local circumstances" (see footnote 11, p. 12). For example, a state with a large concentration of art pottery manufacturing and few other types of ceramic manufacturing may classify the industry under the creative economy, whereas other states whose ceramic

[26] Cooper, Chris, Press Release: "Governor Rell Launches 'Staycation' Program Offering Discounts to CT Families for Summertime Vacations," (July 3, 2008).
[27] Two classification systems are provided: the North American Industry Classification System (NAICS) and the Standard Occupational Classification (SOC). Both can be used with U.S. Economic Census and County Business Patterns.

manufacturing industry chiefly encapsulates manufacturing of building materials and plumbing fixtures may not.

To measure the relative contribution of the creative economy to the greater New England economy, cultural enterprise employment data, DeNatale and Wassall (2007) take data from the 1997 and 2002 Economic Censuses.[28] The phrase "cultural enterprise" substitutes for "creative cluster" to distinguish between the cultural and non-cultural aspects of the broader definition of creative.

Table 16: Comparison of New England Cultural Enterprise Employment in 1997 and 2002

CATEGORY	CT	ME	MA	NH	RI	VT	New England	USA
2002:								
Cultural Enterprise Employment	68,827	16,643	132,011	21,654	25,453	10,131	274,719	4,587,826
Cultural Enterprise % of Total Employment	4.13%	2.75%	4.06%	3.50%	5.32%	3.38%	3.97%	3.52%
Cultural Enterprise Location Quotient	1.173	0.780	1.155	0.995	1.510	0.960	1.128	1.000
1997:								
Cultural Enterprise Employment	65,644	15,780	130,981	20,584	30,304	10,509	273,142	4,262,751
Cultural Enterprise % of Total Employment	4.07%	2.85%	4.21%	3.61%	6.73%	3.76%	4.15%	3.47%
Cultural Enterprise Location Quotient	1.173	0.821	1.213	1.040	1.940	1.069	1.197	1.000

Source: 1997 and 2002 Economic Censuses

- With 4.13% of total employment falling in the cultural enterprise category, Connecticut ranks second only to Rhode Island among the New England states. The location quotients[29] above indicate that Connecticut maintained its position with 17.3% more than the national share of employment in its cultural enterprises.

[28] Comparable state and national employment data are from the Federal Reserve Bank of Boston and U.S. Bureau of Labor Statistics.

[29] A location quotient is the share of total employment in a region originating in a particular sector divided by the same sector's share in national employment. A location quotient greater than one shows that the region has more than the national average share of employment in that sector; a location quotient less than one shows that the region has less than the national average share (see footnote 11, p. 19).

Table 17: Artistic Occupations within the Cultural Workforce (Ranked by Percentage in the State Labor Force)

OCCUPATION	STATE RANK WITHIN THE U.S.:					
	CT	ME	MA	NH	RI	VT
Architects	10	39	1	31	17	4
Designers	4	21	2	14	5	29
Visual Artists	12	4	14	19	30	3
Photographers	9	33	28	27	1	47
Writers	8	6	4	11	7	3
Actors	15	43	13	42	16	44(T)
Producers & Directors	3	21	6	45	19	35
Dancers	45	8	36	40	11	44
Musicians	10	28	9	41	37	38
Announcers	23	25	48	35	17	3
Entertainers, All Other	34	12	35	22	27	17
All Artistic Occupations	5	17	4	25	9	13

Source: U.S. Commerce Department 2000 Census Public Use File

- Three New England states (Connecticut, Massachusetts, and Rhode Island) rank among the top ten states in terms of artists as a percentage of the workforce, and none rank below the 50th percentile. Besides ranking 5th in the nation for its overall artistic workforce, Connecticut has six key cultural occupations highly concentrated within its borders: producers & directors, designers, writers, photographers, architects, and musicians.

Culture and Tourism Indicators

Researchers may use the following list of indicators to track the growth of visitors and their spending on Connecticut's arts, heritage and historic, film and tourism destinations. Regular visitor intercept surveys will clarify the relative importance of Connecticut's assets and indicate how the state may improve its message and its position (image) as it competes with the other U.S. states and the world for tourism spending:

- Number of visitors by type of attraction by tourism region;
- The arts, heritage and historic preservation, film, and tourism industries' contribution to employment; state GDP; personal income; and state and local revenues and expenditures;
- The statewide employment and state GDP multiplier of the arts, heritage and historic preservation, film, and tourism industries;
- Average number of day trips and overnight trips to Connecticut for residents and non-residents;
- Growth in the number of trips to Connecticut that last 4 days or more for residents and non-residents;
- Reasons for visiting, that is, for leisure activities, visiting friends and family, conventions or conferences, or business meetings;
- Appeal of messages describing Connecticut (see Table 15 above for list);

- Level and growth rate of visitor spending;
- Location quotients of Connecticut's cultural workforce, as defined in *The Creative Economy*; and,
- Satisfaction with last leisure visit, likelihood to return, and likelihood to recommend Connecticut.

Appendix to Culture & Tourism

Table 1: Visitation and Membership of Major Connecticut Heritage Sites (2004)

Institution	Annual Visitation	Members/ Contributors	Staff F/T	Staff P/T	Volun-teers	Board Members
Mystic Aquarium/Institute for Exploration	812,595	12,100	120	80	350	23
Mystic Seaport	382,564	50,192	230	93	1,400	63
Historic Ship Nautilus	150,000	1,689	29	0	1	12
Mashantucket Pequot Museum	172,272	3,490	95	6	15	NA
Stamford Museum and Nature Center	110,000	3,000	18	13	125	30
Connecticut State Capitol	100,000	0	0	0	20	0
Eli Whitney Museum	72,000	1,000	7	40	50	22
Gillette Castle*	66,000	500	2	12	2	NA
Mark Twain House	65,000	2,000	35	20	200	34
Talcott Mountain (Heublein Tower)**	64,358	40	1	4	6	NA
Fort Trumbull*	55,125	40	4	12	2	NA
Florence Griswold Museum	54,697	2,272	12	7	400	31
Fort Griswold Battlefield*	54,275	40	0	2	2	NA
CT Historical Society/Old State House	74,850	1,975	46	23	170	30
Mattatuck Museum	43,000	1,250	11	9	175	26
NE Air Museum	42,131	800	6	7	110	25
Harriet Beecher Stowe Center	38,566	260	12	18	10	17
CT River Museum	25,000	1,200	7	4	67	29
Barnum Museum	22,000	1,500	5	3	25	19
Museum of CT History	20,000	NA	2	0	0	10
Antiquarian and Landmark Society (9 sites)*	20,000	700	10	30	25	30
Weir Farm National Park*	17,632	200	9	0	10	NA
New Gate Prison*	17,600	140	0	5	40	NA
His. Soc. of the Town of Greenwich*	16,000	3,000	9	6	200	30
Noah Webster House*	16,000	409	3	22	50	17
Litchfield His. Society*	15,325	512	5	7	67	20
Lockwood Mansion Museum*	15,000	360	1	4	100	22
Other Sites of Interest						
Sloane Stanley Museum*	4,700	2	0	2	3	NA
Henry Whitfield House*	4,409	5	2	1	15	NA
Putnam Memorial*	3,500	NA	0	1	0	NA
Prudence Crandall House*	1,928	NA	2	0	6	NA
TOTALS	**2,406,527**	**88,676**	**683**	**431**	**3,626**	**490**

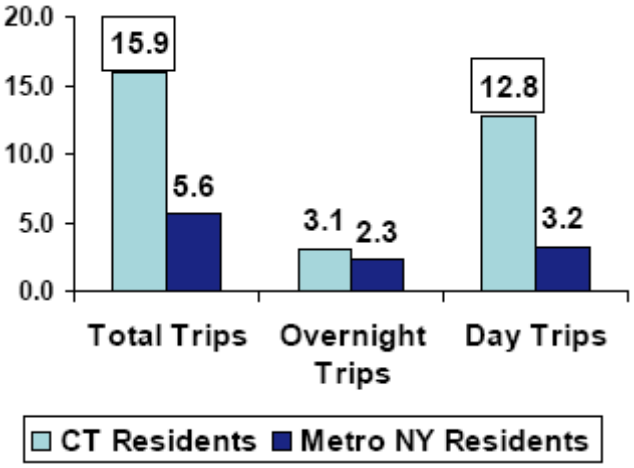
• *seasonal or limited hours • **includes recreational use

Table 2: Demographic Profile of Respondents from the *2006 Brand Image Study* (footnote 22)

	Total	CT Residents	Metro NY Visitors	Metro NY Non-Visitors
Base: Total Respondents	*(1,200)*	*(500)*	*(350)*	*(350)*
Average Age	47.0	45.0	47.5	49.5
Average Household Income	$122,700	$115,800	$129,300	$125,880
Average Number of People in Household	3.0	3.0	2.9	2.9
Children in household (% yes)	42%	44%	42%	39%
Marital Status				
Married	75%	77%	71%	78%
Single	16%	12%	22%	14%
Divorced/Widowed/Separated	7%	9%	6%	6%
Prefer not to Answer	2%	2%	1%	2%
Ethnicity				
White/Caucasian	89%	91%	86%	89%
Black/African American	3%	2%	5%	3%
Asian/Pacific Islander	3%	3%	3%	3%
Hispanic/Latino	2%	1%	2%	3%
Native American	0%	0%	1%	0%
Other Ethnic Background	1%	1%	1%	0%
Prefer not to Answer	1%	1%	1%	1%

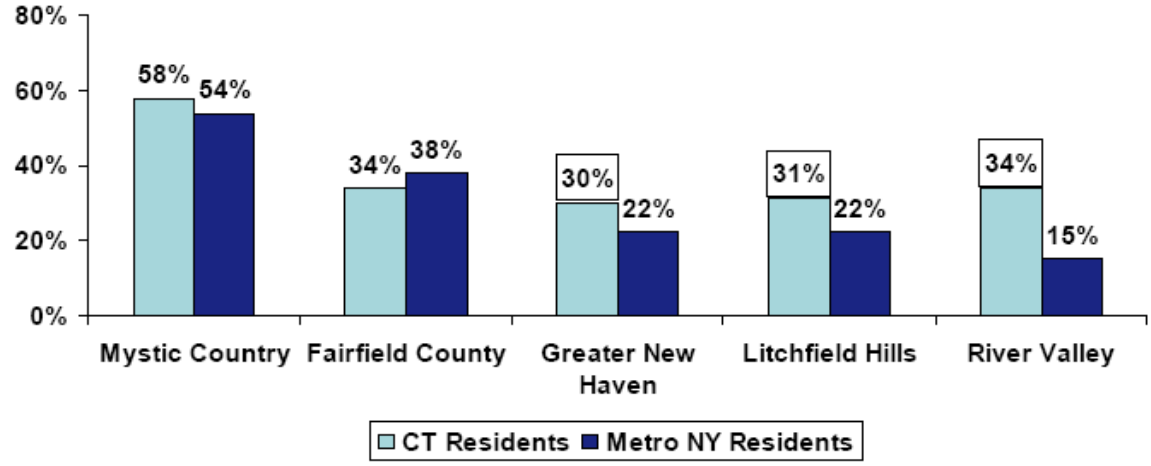
Source: 2006 Brand Image Study, Phoenix Marketing International

Figure 1: Average Number of Trips



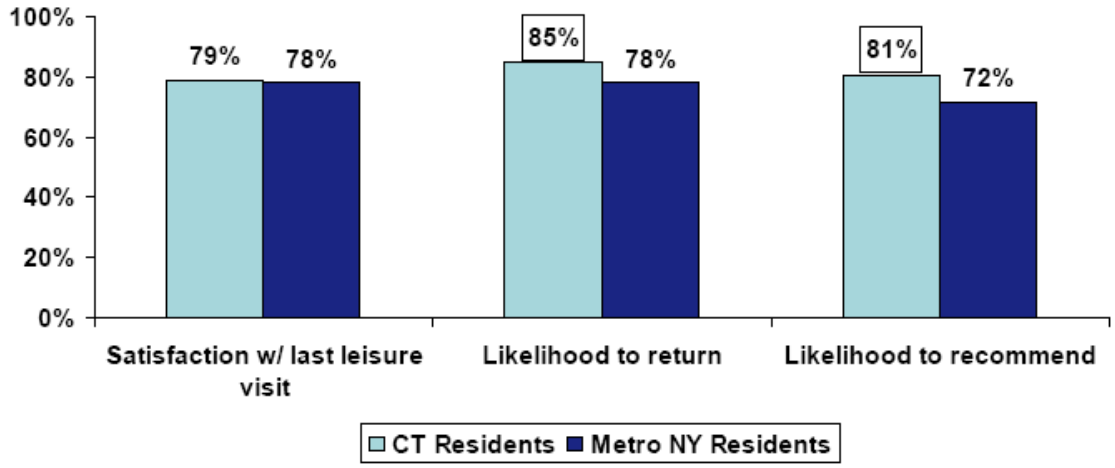
Source: 2006 Brand Image Study, Phoenix Marketing International

Figure 2: Connecticut Regions Recently Visited



Source: 2006 Brand Image Study, Phoenix Marketing International

Figure 3: Satisfaction, Return Intent and Recommendation of Connecticut



Source: 2006 Brand Image Study, Phoenix Marketing International

C. Competitive Analysis

Introduction

"Economic development is about creating opportunities and fostering and sustaining prosperity. Economic development provides and enhances the foundation from which economic growth occurs, and is a key element in sustaining competitiveness, increasing personal wealth, growing employment opportunities and providing upward mobility for low- and moderate-income families. The primary objective of public economic development is to build stronger, better communities. To achieve this, economic development organizations employ strategies that seek to create employment opportunities, expand the tax base, and diversify the economy."[1]

The mission of the Connecticut Department of Economic and Community Development (DECD) is to develop and implement strategies to attract and retain businesses and jobs, revitalize neighborhoods and communities, ensure quality housing and foster appropriate development in Connecticut's towns and cities.[2] In keeping with the agency's mission, it is imperative to periodically assess the state's competitive position vis-à-vis other locations and systems. This competitiveness analysis evaluates Connecticut's economic development challenges and opportunities across a wide array of measures, and answers the question, "How does Connecticut rate?"

To determine the state's competitive advantages and disadvantages, DECD examines several categories because a broad selection of interdependent measures helps determine competitiveness. Competitiveness cannot be judged from a single variable because it is too complex and multifaceted. Therefore, the selected measures DECD includes in this competitiveness analysis are workforce quality, education, globalization, energy, housing affordability, workers' compensation, regulations/costs of doing business, taxes and entrepreneurial activity.

What follows is a summary review of published independent reports and studies on the above-mentioned measures, including, but not limited to, the following works:

- *The 2008 State New Economy Index*, Kauffman Foundation and the Information Technology and Innovation Foundation, November 2008.
- *2009 State Business Tax Climate Index*, Tax Foundation, October 2008.
- *Benchmarking Connecticut 2006: Determinants of Economic Growth*, Connecticut Economic Resource Center (CERC), 2006.
- *Eighth Annual State Competitiveness Report*, the Beacon Hill Institute, 2008.

[1] DECD, *Annual Report for Fiscal Year 2007-2008*, p 76.
[2] DECD mission statement, available at http://www.decd.org.

- *Grading Places: What Do the Business Climate Rankings Really Tell Us?*, Peter Fisher, Economic Policy Institute, 2005.
- *Small Business Survival Index 2007*, Small Business and Entrepreneurship Council, November 2007.
- *State Technology and Science Index: Enduring Lessons for the Intangible Economy*, the Milken Institute, June 2008.
- *A Talent-Based Strategy to Keep Connecticut Competitive in the 21st Century*, Connecticut Office for Workforce Competitiveness, February 2007.
- *Total State and Local Business Taxes: 50-State Estimates for Fiscal Year 2008*, Ernst & Young LLP, January 2009.

For further detail and a more nuanced analysis of Connecticut's baseline economic conditions, please refer to the "Factors of Growth" section located within the DECD strategic plan.

Limitations

As with any report or study, there are certain limitations. Results depend on the measures used and their appropriateness to the task. To compensate for potential bias and provide a broad spectrum of indicators, DECD examines multiple reports from several independent sources. This approach prevents a state's high or low rank in a specific study arising due to a given state's adherence to one group's political or social agenda.[3]

With ranked variables, one must keep certain caveats in mind. Distilling disparate measures into a standardized, scaled, averaged, single number may reduce the variance of values (footnote 3, p. 82). Reported results may not be accurate and consistent when researchers condense a large amount of data into one number. Data may be old or missing. State data collection categories vary and gaps may exist.

Additionally, at times circular logic may encapsulate a state's score or rank. A measure may attempt to gauge the growth climate but present a rank based upon performance. For example, as Peter Fisher writes, "Economic growth tends to draw people into the labor market, increasing labor force participation. It is not clear why one would predict that high labor force participation causes growth" (footnote 3, p. 32). A state's rank may reflect outcomes or results of several interacting variables, but not the root cause of a problem (footnote 3, p. 2). Some states' ranks may be the result of prolonged slow (rapid) growth and produce a chain reaction of poor (favorable) consequences. For example, a state's sustained high unemployment rate may cause it to have lower average incomes (footnote 3, p. 2).

[3] Peter Fisher, "Grading Places: What Do the Business Climate Rankings Really Tell Us?" Economic Policy Institute, 2005, p. 43.

Despite such limitations, numerous interacting factors undoubtedly influence a state's competitiveness. With DECD's review of multiple studies, distinct patterns emerge to paint a picture of Connecticut's competitiveness.

Workforce Quality

In the modern, global, knowledge-based economy, technology has produced a mobile labor and capital pool; people may easily locate to the areas of greatest opportunity. Talent attraction is critical because in this new economy, states are not competing solely with other states for workforce—states compete globally. International students and ex-patriots who studied and/or worked in the U.S. and choose to return to their home country can cause an "overseas brain drain" and may compound the issue of (the lack of) accessible talent. Therefore, it is important to attract and retain high-value human capital because "a state's or region's most important competitive advantage is the knowledge embedded in its people (intellectual capital)."[4] Across a variety of studies, Connecticut consistently scores high marks on various measures of an educated, talented and quality workforce.

One determinant of the quality of a state's workforce is its number of knowledge-based jobs. Connecticut scores near the top here, # 2 overall (out of the 50 states, with # 1 being the best), according to the Kauffman Foundation's *The 2008 New State Economy Index*.[5] Ranked # 2 in the Kauffman Foundation's 1999 index, Connecticut has been consistently strong in its number of knowledge-based jobs. Multiple indicators within Kauffman's knowledge-based employment category bode well for Connecticut, including (footnote 5, pp. 18, 19, 20-22, 24-25):

- Employment in IT occupations: # 7
- Share of workforce employed in managerial, professional, technical occupations: # 4
- Education level of workforce: # 4
- Average educational attainment of recent immigrants: # 5[6]
- Employment in high value-added manufacturing sectors: # 2
- Employment in high-wage traded services: # 2

The factors above suggest that Connecticut is home to an educated and skilled workforce that is capable of efficiently producing technologically complex, high value-added goods and services, exemplified by Connecticut's signature industries in aerospace and defense, insurance and financial services, photonics/lasers/optics, biotechnology, and precision machining.

The Kauffman Foundation's findings are bolstered by other reports that support Connecticut's claim to a high-quality workforce. According to the Milken Institute's *State Technology and*

[4] Ross DeVol, Anita Charuworn and Soojun Kim, "State Technology and Science Index: Enduring Lessons for the Intangible Economy," Milken Institute, June 2008, p. 27.
[5] Kauffman Foundation and The Information Technology & Innovation Foundation, "The 2008 State New Economy Index: Benchmarking Economic Transformation in the States," November 2008, p. 18.
[6] This figure is significant because it indicates talent flow into a state.

Science Index, Connecticut scores well in both the overall human capital investment index, which gauges how well prepared states are to *sustain* employment in science, engineering, and technical fields, and a secondary composite index of its technology and science workforce. In 2008, Connecticut ranked # 4 out of the 50 states (with # 1 being the best), improving two spots from its # 6 ranking in the 2004 report. This latter category is a measure of the *current* supply of the workforce in specific fields of high-tech employment; in this index, Connecticut maintained a # 9 rank (footnote 4, p. 37). Such a ranking is of great importance in the knowledge-based economy because "[s]cience and technical workers do not just access knowledge and apply it to firm-specific objectives. More importantly, they harness new information to generate new knowledge, bringing both inductive and deductive analytical skills to complex problems and creating new concepts and processes" (footnote 4, pp. 30, 36-37). The proportion of scientists and engineers employed in the state's labor force scores highly in the Kauffman Foundation's index in which Connecticut achieves a # 6 rank in the last two consecutive years (footnote 5, p. 46). The Beacon Hill report assigns # 7 rank (a decline from its # 6 ranking in the previous 4 reports) in this same measure.[7]

Connecticut's agricultural workforce is educated and astute as well—Connecticut's farmers rank # 5 for online and computer usage to perform tasks such as buying feed, checking the weather, and selling livestock (footnote 5, p. 41).

If a talented workforce is critical to concept creation and innovation, then the high-quality education of the workforce is the means to achieve it. Education and workforce quality go hand in hand.

Education

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

The Corporation for Enterprise Development (CFED) gave Connecticut high marks in several education variables, including the percentage of the state's population with four years of college (# 4), and the percentage of science and engineer doctoral degrees (# 7).[8] Other reports echo similar findings, including the Milken Institute's *State Technology and Science Index*, which gave the state a # 4 rank in the "human capital investment composite index" based partially upon the relatively high percentage of Connecticut's population holding advanced degrees (footnote 4, pp. 4, 31). In a similar vein, the Beacon Hill Institute awarded Connecticut a rank of # 6 for the state's number of science and engineering graduate students per 100,000 in the population (footnote 7, p. 22). The Kauffman Foundation reinforces these overall findings with its

[7] Beacon Hill Institute, "Eighth Annual State Competitiveness Report," http://www.beaconhill.org/Compete08/BHIState08-FINAL.pdf.
[8] Corporation for Enterprise Development (CFED *2007-2008 Assets & Opportunity Scorecard)*, p. 2. CFED's ranks are based upon the 50 states and Washington DC, with the most desirable outcome ranked # 1.

previously referenced ranking of Connecticut at # 4 for the education level of its workforce, a signal of the state's strong higher education system (footnote 5, p. 21). Connecticut achieved a rank of # 5 in an index of 'most educated workforce', per the *2008 Business Facilities Rankings Report*.[9] Finally, according to a 50 state review by the Morgan Quitno Press, Connecticut received the rank of the third 'smartest state' in 2006-2007.[10] Morgan Quitno Press used 21 measures to make such determination, including "expenditures for instruction, pupil-teacher ratios, high school graduation and dropout rates, and reading, writing and math proficiency." From 2002-2003 to 2006-2007, Connecticut has bounced among the top three in Morgan Quitno Press' rankings (footnote 10). Once again, this section refers to the population's current educational level, and overall Connecticut scores well within the "top 10" tier.

The use of computers ostensibly improves educational outcomes. Internet usage may signal one's computer efficiency and technical know-how because in the knowledge economy, computer proficiency is a must. Connecticut ranks in the middle of the field in two Internet indicators, deployment of IT in public schools and the percentage of the state's population online, where it scores # 25 and # 21, respectively (footnote 5, pp. 37, 39). However, Connecticut made significant strides in the 'deployment of IT in public schools' index in which the state jumped from # 47 in 2002 to # 25 in 2008, a large step in the right direction (footnote 5, p. 39). The Milken Institute recognizes such forward movement, noting that Connecticut's marks in other indexes partially reflect its "improvements in its home computer and Internet access indicators" (footnote 4, p. 33).

Connecticut's education measures decline when other educational computations impacting the state's future, and its *future* workforce, come into play. For example, in CFED's scorecard of 8th grade math and reading proficiency, Connecticut scores #11 and # 19 (with # 1 being the best), respectively (footnote 8, p. 2). Essentially, this signals a need to strengthen key learning areas and skill sets to insure the state has a well-educated labor pool in the future.

Another area of concern appears when one breaks down CFED's four-year college attainment by race, income, and gender. Despite CFED awarding Connecticut an overall rank of # 4 in this category, this rank drops to # 31 when further distilled by race, # 23 by income, and # 32 by gender, all being signals of educational inequality (footnote 8, p. 2). Although race and gender rankings were not as high as they were in 2005, the 2008 rankings by race, income, and gender rankings each represent an increase of at least ten spots from the CFED's 2002 scorecard, in which Connecticut received ranks of # 42, 33, and 47, respectively, showing that the state has been making improvements in these areas.

What about the skills of Connecticut's future workers? The Connecticut Office for Workforce Competitiveness (OWC) describes their educational attainment issues and needs in its *A Talent-Based Strategy to Keep Connecticut Competitive in the 21st Century*. OWC writes,

[9] Jack Rogers and Bill Trub, *2008 Business Facilities Rankings Report*, p. 15. This report is a ranking of the 50 states, with # 1 being the best.
[10] "Results of the 2006 Smartest State Award," Morgan Quitno Press, http://www.statestats.com/edrank.htm.

"Connecticut's future young workers are expected to be less prepared for the 21st century careers than those they are replacing in large part because nearly half of our future workforce will be coming out of the state's urban centers where a significant and stubborn achievement gap persists."[11]

The Connecticut Economic Resource Center (CERC) echoes similar thoughts regarding education skill gaps in the state's urban areas:

- 6% of urban 10th graders passed all four sections of the Connecticut Mastery Test in 2004
- the combined math and verbal, average SAT scores for Hartford and Bridgeport is less than 800 points[12]

As CERC indicates in its 2006 report, Hartford, Bridgeport, and New Haven consistently appear on national lists of the poorest cities, and such low educational attainment statistics for urban centers is distressing in that the state's future workers will come from these cities—they must have improved test scores, graduation rates, and adequate skill sets (footnote 12, p. 58).

Globalization

In the modern economy, markets are interconnected, and the states that will succeed are those that have a global orientation. "A global orientation ensures expanding markets for a state's industries" (footnote 5, p. 26). Connecticut's international orientation is a positive force in the state's economy.

The Kauffman Foundation assigns Connecticut an overall rank of # 7 in its globalization index. Within this index there are two important measures. One is the extent in which a state's manufacturing and service workforce is employed making goods for export; Connecticut is # 20 (footnote 5, p. 26). While this ranking is lower than the state's # 3 raking in 1999, it represents solid improvement over the # 26 ranking in 2007. It is important to note, however, that this measure is not an indicator of the raw dollar value of the exports produced, but rather a reflection of the percentage of the *workforce* involved in international exports.

According to the U.S. Department of Commerce's International Trade Administration (ITA), export-supported jobs linked to manufacturing account for an estimated 6.1% of Connecticut's total private-sector employment. Nearly 30% of manufacturing workers in Connecticut depend on exports for their jobs, the second largest share among the 50 states.[13] This statistic is not consistent with the Kauffman Foundation indicator above; however, ITA used 2006 data to calculate its results, while the Kauffman Foundation's measurements are more recent.

[11] Connecticut Office for Workforce Competitiveness (OWC), "A Talent-Based Strategy to Keep Connecticut Competitive in the 21st Century," February 2007, p. 2.
[12] Connecticut Economic Resource Center, Inc. (CERC), "Benchmarking Connecticut 2006: Determinants of Economic Growth," p. 41.
[13] U.S. Department of Commerce, International Trade Administration, "Exports, Jobs, and Foreign Investment," February 2009, http://ita.doc.gov/td/industry/otea/state_reports/connecticut.html.

There were 4,636 companies that exported from Connecticut locations in 2006. Of those, 89% were small and medium-sized enterprises with fewer than 500 employees. Small and medium-sized firms generated nearly one-third of Connecticut's total exports of merchandise in 2006 (footnote 13).

Foreign exports are an engine of growth, and their importance as a contributor to state gross domestic product (GDP) cannot be understated. Connecticut's overseas commodity exports, which totaled more than $15 billion in 2008, represent approximately 7% of Connecticut's GDP. Exports highlight the competitiveness of local companies on the international stage, and sustain and create jobs via its trickle-down effect on the economy. Despite the economic and fiscal turmoil, Connecticut's exports were a bright spot. Given the current economic climate, exports' ability to positively impact job creation and the economy is significant. As the economy becomes increasingly globalized, exports will continue to be a catalyst for growth in Connecticut and the U.S. Table 1 shows the distribution of commodity exports by 2008 value.

Table 1: Connecticut's Top Ten 2008 Commodity Exports by Value

Rank	Description	ANNUAL 2007	ANNUAL 2008	%2007-2008
	TOTAL ALL COMMODITIES	13,799,141,842.00	15,313,059,446.00	10.97
1	Industrial Machinery, Including Computers	5,777,149,407.00	6,234,803,082.00	7.92
2	Aircraft, Spacecraft, And Parts Thereof	1,330,409,486.00	1,591,073,731.00	19.59
3	Electric Machinery Etc; Sound Equip; TV Equip; Pts	1,445,740,151.00	1,280,625,597.00	-11.42
4	Optic, Photo Etc, Medic Or Surgical Instruments Etc	946,222,393.00	1,010,387,807.00	6.78
5	Plastics And Articles Thereof	951,197,759.00	1,010,333,281.00	6.22
6	Special Classification Provisions, Nesoi	305,534,745.00	385,445,268.00	26.15
7	Iron And Steel	212,796,386.00	350,569,912.00	64.74
8	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax	143,890,003.00	290,853,098.00	102.14
9	Cereals	71,757,320.00	284,409,256.00	296.35
10	Organic Chemicals	198,461,950.00	231,590,560.00	16.69

Source: World Institute for Strategic Economic Research (WISER)

Connecticut also showed improvement in the Kauffman Foundation's second globalization measure, moving from # 4 in 2007 to receive the top spot in 2008, representing the percentage of the workforce employed by foreign companies (footnote 5, p. 28).

Foreign Direct Investment (FDI) is major investment by foreign companies, such as the construction of new plants or ownership of property and equipment in the United States. FDI is important because it creates new jobs and leads to knowledge exchange and transfer, including the adoption of advanced new technologies and workforce practices. Foreign companies also serve as a source of business leads and as a resource for future foreign investment. The Kauffman Foundation's FDI findings for Connecticut complement data published by the Organization for International Investment (OFII):

- U.S. subsidiaries in Connecticut employ 104,900 workers.
- U.S. subsidiaries provide the livelihood for more than 7% of Connecticut's private sector workforce.
- Connecticut ***ties for first*** with South Carolina in the share of its workforce supported by U.S. subsidiaries.
- Overall, U.S. subsidiaries employ 5.3 million Americans, 4.5% of private sector employment.
- U.S. subsidiaries provide an average compensation per U.S. worker of $68,317; this is 32% higher than compensation at all U.S. companies.[14]

Energy

"The foundational factors that have significantly impacted New England's historic economic growth, transportation and energy, are increasingly viewed as problems stifling its economic growth" (footnote 12, p. 20). The cost of electricity is of considerable concern to Connecticut, as several reports rank Connecticut near the bottom in this particular sector:

- Electricity prices per million BTU: Connecticut ranks # 49 (footnote 7, p. 22)
- Electric utility costs: Connecticut ranks # 50 (but technically not last, because Washington, DC is included among the 50 states in this ranking)[15]
- Energy costs: # 46 (footnote 8, p. 2)

Connecticut's best energy ranking in the past five years came in 2004, when the state earned a # 41 ranking for electricity prices from the Beacon Hill Institute. Connecticut's energy cost rankings from each of the reports cited above have fallen steadily in recent years.

The CERC *Benchmarking Connecticut 2006* study captures the relative cost of energy in Connecticut and the New England states, "In 2003, the cost of electricity in the New England states was on average nearly 41 percent higher than the U.S. ($30.67 per million BTUs for the six New England states when compared to $21.81 for the U.S.)" (footnote 12, p. 20).

The energy sector represents a competitive disadvantage for Connecticut. Energy is a component of the cost of doing business in a state, as it factors into the equation of where to

[14] Organization for International Investment (OFII), "Insourcing State Job Facts," http://www.ofii.org/ct.htm.
[15] Small Business Entrepreneurial Council (SBEC), *Small Business Survival Index 2007*, November 2007, p. 36.

locate or expand one's business. Therefore, to compensate for high energy costs, a state must offer other assets of high value, such as a highly skilled workforce (footnote 11, p. 10).

Housing Affordability

Affordable housing is an element in attracting and sustaining a young workforce and retaining seniors downsizing to properties that are more manageable. Housing affordability, whether it is via ownership or rental, can be an obstacle to attracting and retaining workers. In a literature review, Connecticut does seem to have a competitive disadvantage in this sector (footnote 12, p. 30).

The Beacon Hill Institute study ranks Connecticut as # 44 on its measure of median monthly housing costs (footnote 7, p. 22). CERC finds that median "values of housing units in 2005 were greater than $200,000 in all Connecticut counties…The median value of housing units in Fairfield County was almost seven times its median household income…But for renters, the share of median gross rent to income was higher" (footnote 12, p. 30). CERC finds that a number of Connecticut counties approach or exceed the limit on the percentage of income typically accepted as the threshold for housing affordability, 30% (footnote 12, p. 30). Table 2 presents the county median household income, value of housing units, monthly ownership costs, and gross rent as percentages of median household income.

Table 2: Median Income and Housing

County	Median Household Income, 2005	Median Value of Housing Units, 2005	Median Monthly Owner Costs % Household Income, 2005	Median Gross Rent % Household Income, 2005
Fairfield County	$71,633	$475,000	24.7	29.8
Hartford County	$57,939	$224,200	21.7	29.1
Litchfield County	$64,544	$254,200	23.3	27.7
Middlesex County	$70,821	$265,600	21.4	22.8
New Haven County	$53,591	$245,600	23.9	31.9
New London County	$59,268	$237,400	21.3	27.2
Tolland County	$73,919	$229,000	20.1	24.0
Windham County	$47,684	$204,000	23.0	29.4

Source: CERC Benchmarking Report, page 30, using U.S. Census American Community Survey

According to figures from the American Community Survey referenced in CERC's *Benchmarking* study (footnote 12) regarding the ratio of median housing value to median household income, Connecticut has the 12th highest ratio among the 50 states. However,

compared to the Northeastern states, Connecticut's ratio is average. Affordable housing is an issue across the Northeast.

Despite the state's relative wealth, there are housing issues related to inequality in household assets and homeownership rates. Other issues regarding housing involve housing for an aging population—as the baby boomers retire and seek alternative housing options, perhaps a greater number of smaller units will be required.[16]

Workers' Compensation

High workers' compensation costs affect competitiveness in that high premiums and "rates impact the economy... [t]he cost of labor relative to capital is increased."[17] Connecticut ranked towards the bottom of the pack in the SBEC's state rankings of workers' compensation premiums, ranking # 40 in 2004 and worsening one spot to # 41 in 2005.[18] In subsequent years, the SBEC changed its measure of workers' compensation rankings to reflect benefits per $100 of covered wages rather than premium rates. A review of those statistics reveals that Connecticut ranks among the states that award the greatest workers' compensation benefits. In the SBEC's 2006, 2007, and 2008 reports, Connecticut increased such benefits, reflected in the state's gradually rising rankings of #14, 12, and 11 for those respective years. Similarly, Connecticut's high workers' compensation premiums are painted as a competitive disadvantage in the Beacon Hill Institute's 2008 report, in which Connecticut ranks # 31 in terms of premium rates.[19]

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

Regulations/Costs of Doing Business

There are several factors that may be grouped into regulations and/or the "costs of doing business," including labor, taxes, energy costs, etc., and some of the latter factors have been explored in earlier sections of this analysis. In the literature examined, there were limited references to regulatory costs; rather, taxes were a predominant focus of business costs and will be explored in the next section. Moody's Economy.com, however, did find that overall Connecticut has the 8th highest business costs among the 50 states in 2006 (footnote 12, p. 51), the ranking the result of a weighted combination of labor, tax, and energy costs. Additionally, the Milken Institute found that in 2007 Connecticut had the 5th highest business costs, a ranking which has been relatively constant since 2004. The Milken Institute index included a combined calculation of wage cost, tax burden, electricity cost, industrial rent costs, and office rent costs.[20]

[16] Bruce Blakely, presentation at Partnership for Strong Communities event, "Housing and the Workforce," January 22, 2009.
[17] Small Business & Entrepreneurship Council (SBEC), *Small Business Survival Index 2004*, October 2004, p. 6.
[18] SBEC 2004, p. 23 and SBEC 2005, p. 32.
[19] Beacon Hill Institute, p. 22.
[20] Milken Institute, *2007 Cost-of-Doing Business Index: State Level Data*.

Regulatory costs may be difficult to measure as each state has its own collection of regulations that are not necessarily comparable across states and may depend on the type of project undertaken or operation envisioned. Regulations reflect local scarcities (water) and environmental concerns (auto emissions). One could theoretically construct standard projects or operations and estimate the regulatory burden experienced in each state under each project or operational scenario. To our knowledge this has not been done.

Taxes

An important business consideration is the ratio of taxes businesses pay in return for the state and local public services they receive in a given state. When taxes and other costs exceed benefits to a business, this can affect a company's decision about development and/or expansion in a state. According to a 2008 study by Ernst & Young, U.S. businesses paid $590 billion in state and local taxes, 2.7% higher than the previous fiscal year, despite the slowing growth of state and local economies.[21] Additionally, according to Ernst & Young, the "total state and local business tax burden is 83% higher than the estimated value of public services directly benefiting businesses" (footnote 21, p. 1).

A review of various reports and studies indicates that Connecticut does not rank favorably with respect to business tax burden and especially with respect to the property tax. The Tax Foundation's *2009 State Business Tax Climate Index* finds that Connecticut scores second to last, # 49, only besting New Jersey, in its property tax per capita index.[22] "[P]roperty taxes are especially important to businesses because the tax rate on commercial property is generally higher than on residential property" plus property taxes may be levied on business machinery and equipment (footnote 22, p. 35). For the past several years, Connecticut has consistently scored poorly in the Small Business & Entrepreneurship Council's (SBEC) rankings of the state's local property tax rate. From 2004-2006, the SBEC rated the state # 45 out of 51 in this particular measure.[23] Connecticut improved one notch to # 44 in the SBEC's study of this measure in its 2007 and 2008 reports.[24] In a similar vein, the Beacon Hill Institute found Connecticut ranked # 48 in its index of state/local property taxes per capita (footnote 7, p. 2). High property taxes reduce housing affordability, and as property taxes form the base of municipal education budgets, to "control these costs, municipalities are taking steps to manage student enrollments by limiting certain housing developments" (footnote 12, p. 31). Again, this creates issues when workers of all ages and incomes struggle to find appropriate affordable housing.

Regarding *individual* ranks of Connecticut's various taxes, the SBEC chronicles several measures as part of its annual series of studies that gauge state policy environments for

[21] Ernst & Young, *Total State and Local Business Taxes*, January 2009, p. 1.
[22] Joshua Barro, Tax Foundation, *2009 State Business Tax Climate Index*, October 2008, p. 33.
[23] Small Business & Entrepreneurship Council (SBEC), *Small Business Survival Index 2004*, p. 18; SBEC, *Small Business Survival Index 2005*, p. 28, SBEC, *Small Business Survival Index 2006*, p. 30.
[24] SBEC, *Small Business Survival Index 2007*, p. 32 and SBEC, *Small Business Survival Index 2008*, p. 44.

entrepreneurship. Connecticut's position within the individual measures does not vary greatly over the five years of reports. With the exception of the state's local sales, gross receipts, and excise taxes, there is not substantial, marked improvement. Rather, in some in areas, Connecticut's rankings worsened.

Connecticut Rankings from SBEC's *Small Business Survival Index*

Measure	2004	2005	2006	2007	2008
Top personal income tax rates	18 (t)*	18 (t)	18 (t)	19	19 (t)
Top capital gains tax rates	21 (t)	22 (t)	22 (t)	22 (t)	21 (t)
Top corporate income tax rates	29	30	30	31	30
Top corporate capital gains tax rates	N/A	N/A	N/A	32	31
State local sales, gross receipts, excise	14	14	11	12 (t)	10
State gas tax	41 (t)	40 (t)	51	50	50

*t = tie
Source: SBEC, *Small Business Survival Index*, 2004-2008.

Regarding an *overall* rank of tax systems, the Tax Foundation and the SBEC produced such scores. The groups' respective reports thoroughly reviewed various tax indexes, the findings of which appear below.

The Tax Foundation used five tax component indexes, corporate, individual, sales, and property, to calculate its overall rank of # 37 for Connecticut. In these five areas, the Tax Foundation's findings scored the state well out of the "top ten," indicating that taxes may be a sector in which Connecticut is at a competitive disadvantage. Connecticut's Tax Foundation scores were as follows (footnote 22, p. 9):

- Corporate taxes: # 18
- Individual taxes: # 25
- Sales taxes: # 25
- Unemployment taxes: # 21
- Property taxes: # 49
- OVERALL: # 37

The SBEC's *Business Tax Index* for 2008 and 2009 "ranks the states from best to worst in terms of the costs of their tax systems…The Index pulls together 16 different tax measures, and combines those into one tax score that allows the 50 states and District of Columbia to be compared and ranked."[25] The sixteen measures include the state's top personal income tax rate,

[25] Small Business & Entrepreneurship Council (SBEC), *Business Tax Index 2008*, April 2008, p. 2.

capital gains tax rate, corporate capital gains tax rate, added income tax on S-corporations, alternative minimum taxes, whether income tax brackets are indexed for inflation, property taxes, consumption taxes, death taxes, unemployment taxes, whether or not the state has a tax limitation mechanism, Internet access taxes, gas taxes, and diesel taxes. Based upon the above measures, the SBEC's findings were similar to those of the Tax Foundation. The SBEC ranked Connecticut's tax system as #33 in 2008, but the state improved three notches to #30 in 2009.[26]

The stated purpose of business tax climate studies is to "aid business leaders and government policymakers in their determination of whether a state's tax system enhances or harms the competitiveness of the state's business environment" (footnote 22, p. 40).

Business Climate

Commercial Property News (CPN)-Nielsen conducted a fifty state rank to determine the best states for corporations. In current its study, CPN-Nielsen awards Connecticut first place. The "ranking measures the statewide business climate for corporations. It is not a measure of states' popularity among corporations."[27] The CPN-Nielsen study factored in the cost of living, labor force education, population density, incentive aggressiveness, corporate taxes, electricity costs, sustainability acceptance (based on the number of commercial LEED and energy star buildings), and economic health (based on unemployment rates). As other reports referenced in this competitive analysis award Connecticut varying ranks within the above-mentioned categories, it is imperative to monitor future CPN-Nielsen studies to determine if Connecticut is able to maintain its top spot.

Economic Outlook

The American Legislative Exchange Council (ALEC) has produced two editions of *Rich States, Poor States*, authored by Arthur Laffer, Stephen Moore, and Jonathan Williams. The report serves as a resource for citizens and lawmakers as an evaluation of state economic and fiscal policies. The report includes two rankings, an economic outlook index, and an economic performance rank. The economic outlook index is a forecast based upon fifteen policy factors, including highest marginal personal income tax rate, highest marginal corporate income tax rate, personal income tax progressivity, property tax burden, sales tax burden, tax burden from all remaining taxes, estate/inheritance tax, legislated tax policy changes, debt service as a share of tax revenue, public employees per 1,000 residents, quality of state legal system, state minimum wage, workers' compensation costs, right-to-work state, and tax/expenditure limits. The second rank, economic performance, is a historical measure based upon ten years of economic data that factors three variables, personal income per capita, absolute domestic migration, and non-farm payroll employment.

[26] SBEC, *Business Tax Index 2008*, p. 3 and SBEC, *Business Tax Index 2009*, p. 3.
[27] CPN-Nielsen, "Top States for Corporations," *Commercial Property News*, April 2009, p. 15.

In 2009, the ALEC-Laffer index awarded Connecticut # 32 out of 50 in its economic outlook rank, which is an eight-position improvement over its 2008 score of # 40.[28] With # 1 being the top score, Connecticut scored fairly well in some of the index's various policy factors, such as: top marginal personal income tax (# 17), sales tax burden (# 12), and the remaining tax burden (# 8). Conversely, the state scored poorly in areas such as property tax burden (# 43) and minimum wage (# 44).

In the ALEC-Laffer economic performance rank, Connecticut ranked # 37. Its best measure within this index reflected the state's strong personal income per capita cumulative growth from 1997-2007 (footnote 28, p. 98).

Entrepreneurial Activity

Entrepreneurial activity is a crucial factor in a state's competitiveness portfolio. For many, in a discussion of the knowledge and technology-based economy, entrepreneurial activity is the factor of greatest importance in determining competitiveness because it is the largest source of investment and capital, business growth, job creation, and ultimately, economic growth (footnote 20, p. 5). The modern, developed economy "is about economic dynamism and competition, epitomized by the fast-growing, entrepreneurial companies that are one of its hallmarks…the ability of state economies to rejuvenate themselves through the formation of new, innovative companies is critical to economic vitality" (footnote 5, p. 29).

Connecticut received mixed marks in several reports' *overall* examinations of economic dynamism: both high and low—however, within the various sub-indexes of dynamism or entrepreneurial climate, the state scored well. The Milken Institute scored Connecticut in the # 14 slot in terms of technology concentration and dynamism, a measure of a state's entrepreneurial, governmental, and policy-formulating success (footnote 4, p. 41). The SBEC ranked Connecticut # 38 in terms of policy friendliness towards entrepreneurs (footnote 20, p. 2), and the Kauffman Foundation found Connecticut # 24 in its index of economic dynamism (footnote 5, p. 29). CERC's *Benchmarking Report* ranked Connecticut higher at # 11 among the states, in terms of the concentration of entrepreneurs/business vitality (footnote 12, p. 54). However, a report cited within CERC's study found "Connecticut 48th (out of 50) among the best states for entrepreneurs in 2006, down from 43rd in 2005."[29]

Why such variation? Different organizations' definitions of entrepreneurism may vary, and some reports and studies may concentrate on certain variables within this broad factor. For example, the Kauffman Foundation gauges economic dynamism using six measures (gazelle firms, business churn, Deloitte Technology Fast 500/Inc. 500 firms, IPOs, entrepreneurs' start-ups, and patents), while the Milken Institute greatly values the amount of risk capital available to entrepreneurs.[30] The Kauffman Foundation states that "there appear to be many factors affecting

[28] American Legislative Exchange Council (ALEC), *Rich States, Poor States*, 2009, p. 98.
[29] Entrepreneurs and NPRC's *2006 Hot Cities for Entrepreneurs*.
[30] Kauffman Foundation, p. 29 and DeVol et al, p. 2.

entrepreneurial activity, making it difficult to predict which states will fare better than others" (footnote 5, p. 34). Therefore, drilling down into some of the variables that constitute entrepreneurial climate and/or dynamism provide greater insight. Factors taken into consideration in examining entrepreneurism include workforce (see the "workforce quality" section earlier in this report[31]), patents, research, venture capital, business churn, gazelle firms, and IPOs. Connecticut has competitive advantages in many of these sub-measures but competitive disadvantages in others.

Patents

CFED, CERC, and the Beacon Hill Institute rank Connecticut # 9 in terms of the number of patents issued.[32] The Kauffman Foundation examines Connecticut's patents and finds that the state ranks # 2 in terms of the number of individual inventor patents issued (per 1,000) (footnote 5, p. 35). In an examination of the number of patents issued relative to the size of its workforce, Connecticut ranks # 14 (footnote 5, p. 47). Such good marks are indicative of Connecticut's new product innovation rates, and correlate to the state's high-tech labs, corporate R&D labs, and the number of scientists, engineers, and graduate students pursuing research in Connecticut. However, OWC expresses concern regarding Connecticut's patent growth is "slipping in the utilization of its research and development base to support innovation…While Connecticut is a *leader in absolute patents per worker* [emphasis added], growth of patents is lagging well behind the nation—rising only 5 percent in Connecticut compared to 22 percent for the nation from 1996 to 2005" (footnote 11, p. 10). This growth rate may be an area of concern and is an issue to be monitored.

IPOs

Connecticut scores well in the number of IPOs offered within the state, as both the Beacon Hill Institute and CFED rank Connecticut # 5 in this measure.[33] In terms of the value of companies' IPOs, the Kauffman Foundation ranks Connecticut at # 7 (footnote 5, p. 33). IPO rankings from all three sources have shown improvement over previous reports. IPOs are a competitive advantage for the state, in that it is a sign that "financial markets have embraced entrepreneurial dynamism" (footnote 5, p. 33).

[31] Workforce quality may be a component of a state's entrepreneurial climate because it can lend itself to the creative economy in terms of new product creation, and hence, new business formation.
[32] CFED, p. 2; CERC, p. 54; Beacon Hill Institute, p. 22.
[33] Beacon Hill Institute, p. 22 and CFED, p. 2.

Gazelle Jobs and Deloitte Fast 500 List

Another component of the entrepreneurial climate is the number of gazelles in a state. Typically, gazelles are firms with annual sales growth of 20% for four consecutive years; gazelles also indicate an adaptive economy (footnote 5, p. 30). Connecticut receives mixed marks here—a # 7 from the CERC report, and # 23 according to the Kauffman Foundation.[34] If these figures are viewed in conjunction with the number of Connecticut companies on the Deloitte Fast 500 and/or Inc. 500 firms, the fast job/company growth picture is a bit clearer and brighter. Connecticut ranks # 7 in terms of the number of firms it has on such "Fast 500" lists. Such a positive ranking is good for the state, because such "fast" firms "represent a state's most successful entrepreneurial efforts and hold the most promise for continued growth" (footnote 5, p. 32). It is a sign of a state's high-tech industry strength.

Business Churn

The degree of the state's business churn, or the number of new start-ups and business failures combined as a share of the total number of businesses in each state, is a competitive disadvantage for Connecticut, as evidenced in several reports examined. Fast employment growth is a by-product of business churn. Slow churn is an issue of concern, as when "business churn is low, fewer innovative companies are being created in the area, and potential workers are being lured away to other states" (footnote 12, p. 35). CERC's report finds Connecticut to be # 44 out of 50 in terms of business churn, while the Kauffman Foundation ranks the state at # 49.[35]

R&D

Connecticut receives mixed marks in the R&D category, depending on the group and the various sub-measures of private, federal or university R&D. For example, in terms of private or industry R&D, some studies find that Connecticut performs quite well. CERC finds Connecticut to be # 4 out of 50 in terms of industry R&D; CFED rates the state # 2 for private R&D and # 6 for federal R&D; and the Milken Institute finds Connecticut to be # 7 in R&D inputs.[36] In fact, the Milken Institute found that Connecticut has made great improvements in its R&D measures, reinforced by Connecticut's expenditures and policies in areas such as stem cell research, life sciences, and biomedicine. CERC and CFED standings both improved two spots over the previous report rankings.

Both CERC and Kauffman assign Connecticut lower marks when it comes to federal R&D—CERC rates Connecticut # 43 and Kauffman finds the state to rank # 38.[37] Another issue is the number of businesses created via university R&D—CFED rates Connecticut # 41 (footnote 8, p. 2). Commercialization from university R&D into actual business formation is important and

[34] CERC, p. 54 and Kauffman Foundation, p. 30.
[35] CERC, p. 54 and Kauffman Foundation, p. 31.
[36] CERC, p. 54; CFED, p. 2; and DeVol et al, p. 19.
[37] CERC, p. 54 and Kauffman Foundation, p. 49.

needs to be encouraged—since 1980, more than 3,800 U.S. companies have formed out of university licenses (footnote 4, p. 14).

The variety of scores makes it difficult to determine whether Connecticut has a definitive competitive advantage in the R&D field. More information is needed to make a conclusive determination of Connecticut's R&D competitiveness.

Venture Capital (VC)

"To be successful over the long haul, a state needs capable entrepreneurs and the risk capital to support the conversion of research into commercially viable technology products and services" (footnote 4, p. 2). While Connecticut scores relatively well in terms of VC, # 18 from the Kauffman Foundation, it is an issue of critical importance because VC is a "source of funding for new, fast-growing entrepreneurial companies"— it identifies innovation, brings products to market, and also serves as a source of job growth (footnote 5, p. 51). Entrepreneurs need the risk capital to convert research into products and services. Connecticut cannot afford to slip further in the VC ranks. In fact, according to OWC, "Connecticut is not keeping pace in the growth of venture capital— an indicator of investment in high growth potential emerging companies. Venture capital investments in Connecticut from 1996 to 2006 have increased only 56 percent as compared to growth of 115 percent for the entire nation" (footnote 11, p. 10).

Summary

This section highlights factors that impact competitiveness and economic growth. It is important to keep in mind that not every factor has an equal offset, and some factors may be of greater weight and significance than others. As not all things are equal, strength in one factor does not necessarily counteract a weakness in another.

That said, although variables and indexes vary within published independent studies, consistent patterns do emerge with an examination of multiple reports. Connecticut holds a competitive advantage in several areas, including an educated workforce, international orientation, patents, IPOs and "Fast 500" companies. In other measures, such as housing affordability, workers' compensation, energy infrastructure, taxes and business churn, Connecticut may need to refocus its efforts in order to reap greater growth benefits and sustain its current advantages.

III. Strategic Vision for Connecticut

Vision

Connecticut will be a vibrant, diverse, and safe community that offers a sustainable quality of life and access to economic opportunity for all. The state will promote transit-oriented growth, balancing the conservation of existing assets and natural resources with innovative economic development. Connecticut will be identified as a place where families, students, workers, entrepreneurs, companies, NGOs, and government come together to enhance its competitive advantage, distinguishing the state as a dynamic environment in which to live, work, and play.

Housing

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

Transportation

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

Education and Workforce Development

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

Government

All government entities will foster an environment that improves Connecticut's quality of life, maximizes economic growth, and conserves the state's natural resources. Governments will provide public services in a responsive and efficient manner, becoming more accessible to the public via the internet and other media services. Governments will effectively address issues such as income inequality and racial segregation in the state. Government structure will promote inter-municipal cooperation and service sharing to provide cost-effective and efficient solutions to local and regional issues. State government will promote technological advancements and entrepreneurial enterprises to solve problems of the 21st century.

Business

Connecticut will market a cohesive image in which business costs are low relative to high productivity and quality of life. Businesses will be able to capitalize on the state's abundant affordable housing, accessible transportation, and renowned institutions of higher learning to build a highly-educated workforce. The state will support the private sector and intrastate commerce in a variety of ways. Moreover, Connecticut businesses will invest in and partner with educational institutions to maintain a competitive and innovative edge in the global economy.

Culture and Tourism

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

Energy

Energy efficiency programs will offer incentives to help lower operating costs and improve productivity, allowing Connecticut businesses to remain globally competitive and avoid outsourcing jobs. Connecticut will be a leading exporter of green technology with its competitive advantage in fuel cell and biofuel research. Education initiatives will develop green-collar jobs and promote energy efficient households and businesses. Alternative fuels like biodiesel will be widely available for residential and transportation uses. State government will set minimum energy efficiency standards and be a model in its choice of energy technology used in state buildings and vehicles.

Strategies and Initiatives

This section identifies strategies that intend to move the state from its current position described in detail in earlier chapters to a more competitive position captured in the vision. The strategies contain actionable and measurable initiatives that have sufficient detail for implementers to create solutions to the inevitable problems and roadblocks along the way to realization of the envisioned results.

The strategies are dynamic in that they and their implementation must adapt to changing conditions as will be evident as DECD and others revisit the Plan every five years. The Plan and its implementation will evolve with the creativity and energy people apply to it. The intention is for the Plan to transcend election cycles and ideologies and offer pragmatic approaches to sustain and improve Connecticut's competitiveness. This is the most important outcome, as the wellbeing of Connecticut's households will diminish if the state's competitiveness is not sustained.

Absent from the strategies and initiatives below are specific targets for improvement, in for example, literacy rate, CMT scores, commuter rail miles, and state rank in tax studies. There is danger in specifying targets that may be too low or too high. For purposes of the Strategic Plan, there are no targets or timelines set until such time as public input is received and the proposed initiatives are enacted either statutorily or administratively. Further, implementation of initiatives that have cost implications must be done in the context of Connecticut's overall state budget.

The overall strategy for Connecticut's future is articulated in three distinct, yet interrelated public policy arenas:

- Talent and Technology
- Cultivate Competitiveness
- Responsible Growth

Talent and Technology

For Connecticut to remain competitive, efforts must facilitate a world-class workforce and public education system by growing and attracting new talent. Excellence in our education and training systems and identifying viable career opportunities and pathways for all must be priorities. In order to grow this talent, the goals are simple: ensure all Connecticut children are ready for kindergarten; increase high school completion rates, particularly in urban areas; close the achievement gap in reading and math and increase the adult literacy rate. Connecticut has a proud history of innovation and technology. The workforce must be prepared for the jobs of tomorrow: bioscience and health care; digital media; green technology, among others. Competitiveness in those sectors that Connecticut is world renowned, such as aerospace and defense, and insurance and financial services, is of the utmost importance. The talent initiatives are outlined below:

1. Establish a Workforce and Education Cabinet consisting of the commissioners of the SDE, DHE, DoL, DECD, OPM (or designates) and the heads of the Office of Workforce Competitiveness (OWC), the Connecticut Development Authority (CDA), and Connecticut Innovations, Inc. (CI), as well as the chairs of the State Board of Education, the Board of Governors of Higher Education, the chairs of the boards of trustees of UConn, the UConn Health Center, the state university system (CSUS) and the state community college system (CCCS). The Cabinet (or Steering Council) would oversee the Early Childhood Investment Framework and the High School Redesign projects. The Cabinet would oversee and implement each initiative below and report annually to the Governor and the legislature's committees of cognizance on the accomplishments of the previous year and plans for the following year. In addition, the Cabinet would adopt new governmental management approaches that focus on program/policy integration through information, communication and facilitation through a management structure that bundles together department heads (commissioners, secretaries, etc.) into policy/budget "teams" without consolidating department structures into mega-bureaucracies.
2. Establish a central, integrated research capacity for economic and workforce analysis and planning to guide the work of the Cabinet.
    a. Build a comprehensive ability to examine both occupational supply and demand information.
    b. Pull positions (vacancies) from DoL, DHE, SDE and UConn and/or formulate MOA for data sharing.
    c. Create a nexus for data and information that addresses key measures of competitiveness in the knowledge economy in a single agency, e.g., the State Data Center. Regularly mine information across agencies and analyze in new ways to inform state policy and budget development with respect to improving the state's educational and workforce training systems.
3. Implement the provisions of the Early Childhood Investment Framework (Ready by 5, Fine by 9) and Connecticut Career Choices.

4. Designate the Connecticut Career Choices (CCC) program as the state vehicle for implementing programs and services to advance 21st Century teaching and learning, with a particular focus on Science, Technology, Engineering and Math (STEM). Consolidate the existing Connecticut Pre-Engineering Program (CPEP) and Project-Lead-the-Way (PLTW) with CCC. Consolidate funding streams from OWC and SDE to fully support the CCC model and bring to statewide scale. Using the CCC program as a foundation, develop and implement a plan for an "Early College High School" capacity based on best practices and models. Use economic recovery funds to the extent possible.
5. Implement the State Department of Education High School Redesign
6. Building on our recently enacted alternative route to certification (ARC) program, the Office for Workforce Competitiveness will develop and implement a program that identifies private and public sector retirees having STEM skills and facilitate placement in those schools that have the highest need for science and math teachers. Additionally, each program of professional certification and continuing education curriculum should contain a career development component. The career development component will include best practices for integrating career development information into the classroom, particularly in the areas of emerging business and technology.
7. Implement the Middle College initiative.
8. Expand the Connecticut Jobs Funnel program, which has been successful in our construction sector, to the bioscience, digital media and green technology sectors. Align adult literacy programs with the Jobs Funnel programs and strengthen their integration with the One Stop Job Center STEM programs funded through the USDoL. Direct the Connecticut Employment and Training Commission (CETC) to assume responsibility for adult education and literacy improvement under Title II of the Workforce Investment Act of 1998. Adult education programs are critical in order to meet the changing demographic profile of Connecticut's workforce, particularly those cohorts with significant workforce attachment and retention issues. Consolidate funding sources to maximize outcomes and incorporate programmatic oversight under the aegis of the CETC.
9. Create a $100 million public-private partnership student loan pool. A potential funding source for the pool is the state pension fund and our Connecticut chartered banks. Loan forgiveness would be proportional to years remaining in the state after graduation and for critical occupations. Priority would be given to students earning degrees in STEM fields and healthcare. Forgiveness of 100% would be granted if a student remains in the state for 10 years after graduation.
10. To retain Connecticut's relatively large workforce nearing or in retirement, implement the "Redefining Retirement Years: Productive Engagement of the Older Workforce" recommendations from the Connecticut Commission on Aging (May 2007).

Twenty years ago, Connecticut was at the forefront of the economic development technology arena when the Governor and General Assembly created Connecticut Innovations (CI), one of the country's first public venture capital entities. Since then, CI has achieved financial success and become a model emulated by other states. CI invested $190 million in 96 high-tech companies and provided $20 million to support other technology initiatives. The $117 million leveraged more than $1 billion of additional investment and created more than 5,000 additional job-years. CI has consistently invested in the companies of the future. To ensure Connecticut is a leader in bioscience, IT, digital media and green technology, the following initiatives are recommended:

1. Create a new CTech Fund for the 21st Century. This new fund would be a $60-$100 million public/private venture capital fund to accelerate the growth of the technology sector here and position the state as a high-technology center. The fund would be seeded with $20 million in public dollars with the goal of leveraging an additional $40-$80 million in private funds. The new fund would be a subsidiary of CI, but with board members composed of those members who contribute to the fund. Potential funding partners include companies who are headquartered here (e.g., GE, UTC, Pitney Bowes, Boehringer Ingelheim); public utilities; Connecticut-chartered banks; insurance companies; tribal nations and private colleges and universities. Ohio, Kentucky and Pennsylvania have similar programs.
2. Create an International Opportunities Program. Invest $25 million to recruit international technology companies to locate their North American headquarters and operations in Connecticut. This program would be modeled after CI's existing equity based fund. To date, three international companies have been recruited with three potential opportunities in the pipeline. The announcement of such a fund to the international community would send a very strong message that Connecticut is the state for talent and technology.
3. Create a Technology Company Working Capital Fund Program. Invest $20 million to extend working capital loans and lines of credit to technology companies in Connecticut. Obtaining working capital loans for small technology-based companies is difficult because of the lack of collateral and lack of positive cash flow. With CI's experience in evaluating these types of companies, this fund would be self-sufficient after 10 years.
4. Implement an Angel Investor Tax Credit. A tax credit of 25% to individuals, corporations and institutions investing in qualified, early-stage enterprises in targeted core competency areas of biotechnology, IT, digital media and green technology is recommended. Additionally, to encourage investors to make investments in high-risk, start-up companies, a tax credit to cover a percentage of the loss over a three-year period for investments made in qualified enterprises should be provided.

5. Create a Talent and Technology Consortium to foster greater interaction between government, business and academia. Membership will include CI, SBIR, Higher Ed, OWC, Yale, UConn, Wesleyan, University of Hartford and CEOs. The mission of the Consortium will be to provide a forum for discussing new ideas, focus on recruiting eminent faculty in basic and applied research, designate centers of excellence, identify research dollars and foster a spirit of innovation and technology. Another goal of the Consortium will be to identify funding sources for technology commercialization and eminent faculty.
6. Enter into a Knowledge Corridor agreement with Massachusetts to promote the development of biomedical devices along Interstate 91. The Knowledge Corridor will dovetail with the agreement the two states have for the New Haven to Springfield High Speed Rail Corridor.
7. Expand the Small Business Innovation Research (SBIR) mission to build collaborative connections for tech-based small businesses with universities, large, mid-tier and small businesses. Designate the SBIR as the state's science and technology policy and support service driver. Expand SBIR's matching engineers program to include digital media, IT and green technology. Establish an R&D ombudsman within the office to act as a clearinghouse for identifying research core competency areas across public and private universities and to provide additional university/industry research matching programs. Dedicate $5 million to SBIR for matching grants to SBIR recipients and provide pre-seed funding to start-ups in the targeted sectors.
8. Connecticut has a job creation tax credit, which very few companies have used. Priority should be given to those companies that add jobs in bioscience, digital media, green technology and IT among others.
9. Support the development of a robust clinical research enterprise with universities, hospitals, groups such as CURE and BEACON and the pharmaceutical industry. Create an Office of Clinical Trials with an investment of $5-$8 million of federal funds to house one database, develop a uniform contract and condense all existing institutional review boards into one review board.
10. Identify and utilize all federal funds for clean and renewable energy research. Implement the Connecticut Development Authority loan guarantee program for energy. Support and implement Northeast Utilities and United Illuminating SmartGrid projects.
11. Expand CTEC's mission to ensure green jobs training programs and curricula are driven by the industry's priority workforce needs.
12. Develop and launch a pilot program to field test green remedial action technologies led by the Department of Environmental Protection, CI and state universities.

Cultivate Competitiveness

Much has been written about how Connecticut is losing its competitive advantage because of the high cost of doing business in the state. While investment in intellectual and physical infrastructure continues, we will only be treading water without action to address this cost of doing business issue directly. As the recently completed budget negotiations have taught, crisis might not be the best time to make tough decisions. The following initiatives will provide a blueprint for putting Connecticut on the right path.

1. Create a Blue Ribbon Panel to evaluate Connecticut's tax structure. In addition to evaluating the personal income and corporate income tax structure, the panel will evaluate the costs and benefits of every tax credit that is currently in force and effect. The panel will also evaluate the costs and benefits of potential tax credits/exemptions and how they might spur growth in targeted sectors. Credits and exemptions could include sales tax exemptions on renewable energy projects, sales tax exemptions on hybrid vehicles and an angel investor tax credit. The panel will report to the Governor within six months of its constitution.
2. Reform Connecticut's budget process by implementing Generally Accepted Accounting Principles, privatizing services and consolidating agency functions.
3. Several communities in the state have a disproportionate share of tax-exempt property and have a heavy reliance on the state to provide PILOT payments. The issue of tax-exempt property should be evaluated and options should be identified.
4. Reduce the number of state representatives to a number that is more proportionate to the population as a whole. For example, New York has a population of 12.8 million with an Assembly (lower house) of 150 members. By contrast, Connecticut has a population of 3.2 million and a lower house of 151 members.
5. Encourage regionalism and give priority for federal and state programs to those communities that form regional partnerships.
6. Create a homestead exemption whereby purchasers of homes within designated urban areas may receive state income tax reductions. The exemption will apply to first-time homebuyers and be considered for home purchases in targeted urban areas with the goal of increasing homeownership and neighborhood stability.
7. Implement a Location Efficient Mortgage (LEM) Program administered by CHFA. The LEM provides state-backed relief in mortgage premiums based on proximity to urban areas. The LEM combines a low down payment, competitive interest rates and flexible criteria to encourage home ownership in proximity to transit.
8. Implement a "Learn Here, Live Here" program administered by CHFA. The program would allow Connecticut resident students attending any post-secondary institution to contribute the larger of their state income tax liability or $3,000 into a First-Time Homebuyer Trust Fund each year for 10 years. The money could be withdrawn anytime over those 10 years to purchase a home in Connecticut. Any interest income

would be deposited annually into the state's General Fund to partially offset the cost of the program.

9. Eliminate the commercial utility surcharge on small business.
10. Invest in a first-class economic development website that has user-friendly links to all state economic development programs and tax incentives.
11. Create a state marketing fund to support economic development marketing efforts. The fund should be supported with $20 million on an annual basis and support marketing efforts for economic development and culture and tourism.
12. Require the state to prepare a biennial state energy plan to anticipate and address future energy challenges, with a focus on one- to two-year planning, five-year plans, and 10-20 year goals.
13. Consolidate all clean energy finance programs within Connecticut Innovations. Consolidate all energy regulatory authority within the DPUC.
14. Phase in a biodiesel blend produced in Connecticut for the state's entire diesel truck/van/car fleet and for heating state buildings. Pennsylvania has such a program. Evaluate the use of incentives for municipalities and local school bus companies to switch to Connecticut biodiesel.
15. Purchase and install stationary fuel cells for each new public building constructed and retrofit existing buildings to reduce their consumption of electricity and provide heating and cooling as appropriate.
16. Expand Connecticut's fuel cell bus fleet.
17. Develop the technology fuel cell-powered rail cars and busses.
18. Adopt a statewide green building code. California has adopted a green building code.
19. Coordinate and integrate energy activities and programs at state agencies:
    a. Promote the diversification of energy generation technologies using fuel cell, solar PV, solar thermal and geothermal sources as applicable and appropriate;
    b. Incorporate advanced building energy management practices at all state buildings; and,
    c. Advance development of all in-state renewable resources.

Responsible Growth

Transit Oriented Development. Sustainable Communities. Responsible Growth. All are phrases that are currently very much "en vogue." But Connecticut doesn't just talk the talk, it walks the walks when it comes to responsible growth. Our HOMEConnecticut program is the model for the national sustainable communities program now being discussed in Congress. Our Brownfields Pilot program is one of the first in the nation. As a northeast state, Connecticut has one of the best commuter rail systems in the world. But there is much that needs to be done to remain a state where open space abounds, housing opportunities exist for all, and where there is reduced reliance on automobiles consistent with the Council of Northeastern Governors' (CONEG) goal of doubling public transportation ridership by 2030. Responsible Growth initiatives need to capitalize on the past and provide a path to the future.

1. Appoint an Executive Branch Responsible Growth Cabinet with a Secretary who reports directly to the Governor and consists of the Commissioners of Department of Transportation, DECD, DEP, Agriculture, CDA, the Connecticut Housing Finance Authority. The cabinet will recommend the disbursement of responsible growth funds, developing model municipal zoning regulations and developing a joint state/municipal application process.
2. Create a statewide Connecticut Port Authority consisting of the Ports of Bridgeport, New Haven and New London, and Bradley, Tweed and Oxford/Sikorksy Memorial Airports.
3. Modify the State Traffic Commission membership to include DECD as a voting member. The STC mission will be modified as appropriate its policies and mission to promote development consistent with smart growth principles.
4. Allow municipalities to participate in the decision-making process if a development project considered within the municipality has a development cost exceeding $5 million and the municipality is making a defined investment, for example, property tax abatement, TIF component, cash grant, or local capital improvement.
5. Expand the Metropolitan Transit Authority (MTA) Board of Directors to include Connecticut in a voting capacity.
6. Consolidate all state administered discretionary municipal grant programs into a Responsible Growth for the 21st Century Fund and establish a competitive process for towns to apply for funds. Priority will be given to towns that have adopted model zoning, have increased density and are in close proximity to rail and/or bus transit. Provide $100 million for brownfield redevelopment as recommended by the Brownfields Task Force. A scorecard would be created to assess municipal actions/improvements to streamline development. Points would be awarded for creating Incentive Housing Zones, enacting expedited zoning processing and increased training of land-use staff.

7. Invest in our ports by creating a Maritime Investment Fund for port infrastructure pursuing federal funding under the Maritime Highway program and creating a new CDA program to provide low-cost financing for qualified seaport investments targeted to companies that expand maritime industrial jobs in Connecticut. Pursue federal funding under the Maritime Highway Program, ferryboat discretionary funding and Port Homeland Security funding.
8. Implement a freight feeder barge service between Connecticut and the Port of New York/New Jersey.
9. Support expansion at Bradley International Airport by developing new international routes, beautifying the airport and grounds, increasing tourism marketing and implementing the terminal expansions.
10. Initiate efforts to create an interstate, intermodal freight initiative with bordering states as recommended in the Connecticut Long Range Transportation Plan. Collaborate with Logan Airport and New York City airports to coordinate service and utilize Bradley to alleviate congestion from other airports as suggested in the Connecticut Statewide Airport Strategic Plan.
11. Implement a Transportation Financing Fund to finance capital improvements once Congress has adopted a federal funding mechanism as part of the next round of federal re-authorization deliberations.
12. Design and build the New Haven to Springfield rail line.
13. After the New Haven to Springfield rail line is completed, build a spur to Bradley International Airport.
14. Facilitate a consistent statewide parking pricing and management practices in order to stimulate and grow rail ridership in Connecticut through partnerships with municipalities and private entities. Add 3,000 to 4,000 additional parking spaces across the New Haven Line and Shore Line East system. A market-based approach will ensure sufficient additional parking. Partner with municipalities to design and construct sufficient satellite parking facilities to maximize growth in rail ridership.
15. Allocate $100 million of Urban Reinvestment Tax Credits for TOD/Responsible Growth projects. Implement the federal Economic Recovery Zone Bond program as a financing vehicle for responsible growth projects.
16. Amend the Remedial Action and Redevelopment Municipal Grant Program into the Remedial Action and Redevelopment Program, and expand its applicability such that
    a. There is statewide eligibility.
    b. Eligible applicants include municipalities, regional planning organizations, regional economic development organizations, non-profit and for profit businesses.

c. Eligible uses include; 1) assessments; 2) remediation; 3) asbestos abatement; 4) build material remediation; and 5) DECD administrative costs.
d. Loans (in addition to grants) are a form of financial assistance.
e. The Urban Sites Remedial Action Program should be consolidated into this revised program, including DEP's ability to seek cost recovery.

17. Designate the Connecticut Brownfields Remediation Account as the single account supporting state brownfield funding. The Account could receive:
    - Bond funds
    - State general funds allocated for brownfields
    - DEP supplemental environmental funds (fine revenue)
    - Loan repayments
    - Brownfield land sale proceeds

18. Consolidate and/or streamline DECD's loan program under the Special Contaminated Property Remediation and Insurance Fund (SCPRIF) into the targeted brownfield development loan program.

19. Develop and launch a pilot program to field test green remedial action technologies in coordination with DEP and state universities.

20. Improve the Dry Cleaning Program by amending existing statutes as follows:
    a. Increase the surcharge from the current 1% to 2%. This will increase program revenue to approximately $400,000 per quarter, and allow more funds to be granted to businesses for remediating sites.
    b. Increase the funding cap for projects from $300,000 to $500,000.
    c. Amend program to provide low-interest loans for the purchase of green dry cleaning machinery as an eligible expense.
    d. Create and implement a pilot program for the investment in innovative technology for the remediation of chlorinated solvents.

21. Implement a smartcard that can be used across the entire state transportation network and commission the bus of the future. Market and promote bus ridership. Provide smartcards free to state employees and charge for state employee parking at state facilities.

22. Ensure there is a mechanism to fund both HOMEConnecticut incentive housing payments and the Housing Trust Fund to increase workforce housing in the state. Grant priority consideration to creating flexible mechanisms that include gap financing and regulatory relief so that the production of affordable home ownership units can be significantly increased throughout the state. Coordinate grants and loans from the Housing Trust Fund, Flex and HOME programs, treating each pool of funding as a source of flexible capital. This allows developers to seek 'subsidized' capital from a

pool of funds and put all parts of the capital structure of a housing project together while mitigating uncertainty and delays. Lump bond allocations for shovel ready projects.

23. Expand the gap financing program administered by CDA. Allow municipalities that have state-approved responsible growth/TOD projects to develop Special Services Districts and levy additional taxes and/or fees to fund development. Taxes/fees could include local sales tax, additional conveyance tax, hotel tax, and parking fees.

24. Develop legislation that allows municipalities to enact an ordinance to allow a petition with no less than 40% of the voting residents of the municipality to bring decisions of the planning and zoning entity to referendum.

25. Establish and implement a Green Tax Credit for housing projects that meet or exceed LEED Green Building Rating System Certification.

Metrics

Connecticut's competitiveness can be measured by how Connecticut compares with other states various industry metrics. There are many ways to measure outcomes of the results of implementing the strategies and initiatives described above. Among these are:

- Increased adult literacy, improved CMT and CAP scores, higher completion rates in the state's urban public high schools and less grade retention in public K-12.
- Increased employer satisfaction with workforce quality and availability determined via an annual survey (e.g., CBIA surveys).
- Decreased outmigration of post-secondary graduates.
- Increased in firm formation and job creation.
- Increased numbers of visitors at its arts, historic and heritage and recreational venues.
- Increased creation of high-quality jobs and the sustainability of the state's economic and environmental assets.
- The inventory of high-priority brownfield sites declines.
- Increased units of affordable housing, greater housing density in urban and suburban areas, reduced reliance on the property tax to fund local public goods and services, and increased civic participation in local development.
- Shift from greenfield development to infill in urban areas.
- Increased homeownership in urban areas.
- Increased enplanements at Bradley, Tweed and Oxford/Sikorsky Airports, increased tonnage passing through Connecticut's deepwater ports and the development of new warehousing and distribution facilities at Bradley and Tweed.
- Improved public transit ridership.