The Economic Impact of the Arts, Film, History and Tourism Industries in Connecticut

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December 2006

Commissioned by the

Connecticut Commission on Culture & Tourism

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Executive Summary

This report contains four economic impact studies corresponding to the four divisions (arts, film, historic preservation, and tourism) of the Connecticut Commission on Culture & Tourism that commissioned them. The tourism study represents an update and expansion of the May 2003 tourism study[1] while the others are new. Each study is self-contained. Following the Executive Summary is an introduction to the four industry studies summarizing their major findings. Following that is a methodological overview that includes a discussion of the overall approach, economic impact multipliers, data sources and an explanation of the conservative nature of the studies. Lastly, the four, complete, individual studies appear.

In 2004, the total (direct, indirect and induced) economic impact of Connecticut's arts, film, heritage/historic preservation, and tourism industries generated:

- ***$14.06 billion in GSP (7.6% of state total);***
- ***$9.1 billion in personal income (5.74% of state total);***
- ***171,023 total[2] jobs (10% of state total);***
- ***$1.715 billion in state and local revenue[3] (6.9% of state and local total);***

This impact consists of:

- ***110,775 total jobs (6.5% of the state total) that result from:***
  - ***$9.1 billion in TRAVELER & TOURIST direct spending in Connecticut, which through multiplier effects generated:***
    - ***$7.95 billion in GSP (4.3% of state total);***
    - ***$5.4 billion in personal income (3.4% of state total);***
    - ***$1.15 billion in state and local revenue[4] (4.6% of state and local total); and,***

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[1] See "The 2001 Economic Impact of Connecticut's Travel and Tourism Industry," issued May 2003 is available at: http://ccea.uconn.edu/studies/2001%20Travel%20&Tourism%20Impact%20Full%20Report.pdf.

[2] Total jobs includes direct, indirect and induced jobs and is made clear in the section "Economic Impact" on page 11.

[3] State and local revenue refers to monetary receipts from state and local taxes and fees.

- ***$11.5 billion in total (direct, indirect and induced) sales of Connecticut businesses (3.8% of state total).***

- ***44,474 total jobs (2.6% of state total) that result from:***
  - ***27,716 direct ARTS jobs in Connecticut, which through multiplier effects generated:***
    - ***$3.833 billion in GSP (2.06% of state total);***
    - ***$2.674 billion in personal income (1.7% of state total);***
    - ***$432.55 million in state and local revenue (1.74% of state and local total);***
- ***18,079 total jobs (1.06% of state total) that result from:***
  - ***8,323 direct FILM jobs in Connecticut, which through multiplier effects generated:***
    - ***$2.5 billion in GSP (1.35% of state total);***
    - ***$1.211 billion in personal income (0.76% of state total);***
    - ***$200 million in state and local revenue (0.8% of state and local total);***
- ***2,166 total jobs (0.13% of state total) that result from:***
  - ***$74 million in average annual HISTORIC PRESERVATION AND HERITAGE spending on construction, planning, visitor services (conservation, environmental, education), and 630 direct HISTORIC PRESERVATION AND HERITAGE jobs (not including construction) in Connecticut, which through multiplier effects generated:***
    - ***$111.7 million in GSP (0.06% of state total);***
    - ***$105.2 million in personal income (0.07% of state total); and,***
    - ***$17.8 million in state and local revenue (0.07% of state and local total).***

The impacts represent the economic value of these four industries for roughly calendar year 2004. Each study has its own characteristic methodology and differences are worth noting.

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[4] We reflect the indirect economic and fiscal effects of wager spending (including dog tracks, pari-mutuels, the state lottery and the casinos' slot "win") via increased state and local spending. As such, direct wager spending is not included in the $1.15 billion in state and local revenue. See page 126 for methodology.

The arts and film industries' analyses rely exclusively on industry and embedded employment as the direct effect, while the tourism study relies primarily on the Department of Revenue Services' lodging tax revenue and the visitor intercept survey from which we estimate visitor spending. We expand the tourism industry study in this report to include employment in directly related segments.

Historic preservation has an established methodology[5] that we emulate for its industry impact. For this study, the primary drivers of Connecticut's history and heritage impact are construction, restoration and planning activity gleaned from grants and incentives for these purposes.

We estimate visitor spending exclusively in the travel and tourism study to avoid double counting, and its absence in the other studies renders them individually conservative. Overall, our analyses are conservative because we omit the quality of life enhancing aspects of the arts, film, history, and leisure and recreational travel and tourism. Further, our analyses are conservative because our surveys of lodging establishments exclude rental properties. Moreover, the visitor intercept survey does not capture most business travelers.

We conclude that as a collection of diverse industries and occupations, Connecticut's arts, film, history and tourism activities compare well with some of Connecticut's signature industries in terms of employment, value added (GSP) and personal income. We 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). These impacts, measured as total employment, GSP, and personal income, due to the industries' activity in Connecticut, reflect the counterfactual disappearance of these industries and are therefore comparable with the overall culture and tourism impact. We note that culture and tourism have a larger economic impact than aerospace and pharmaceuticals combined as reported in Chart E-1.

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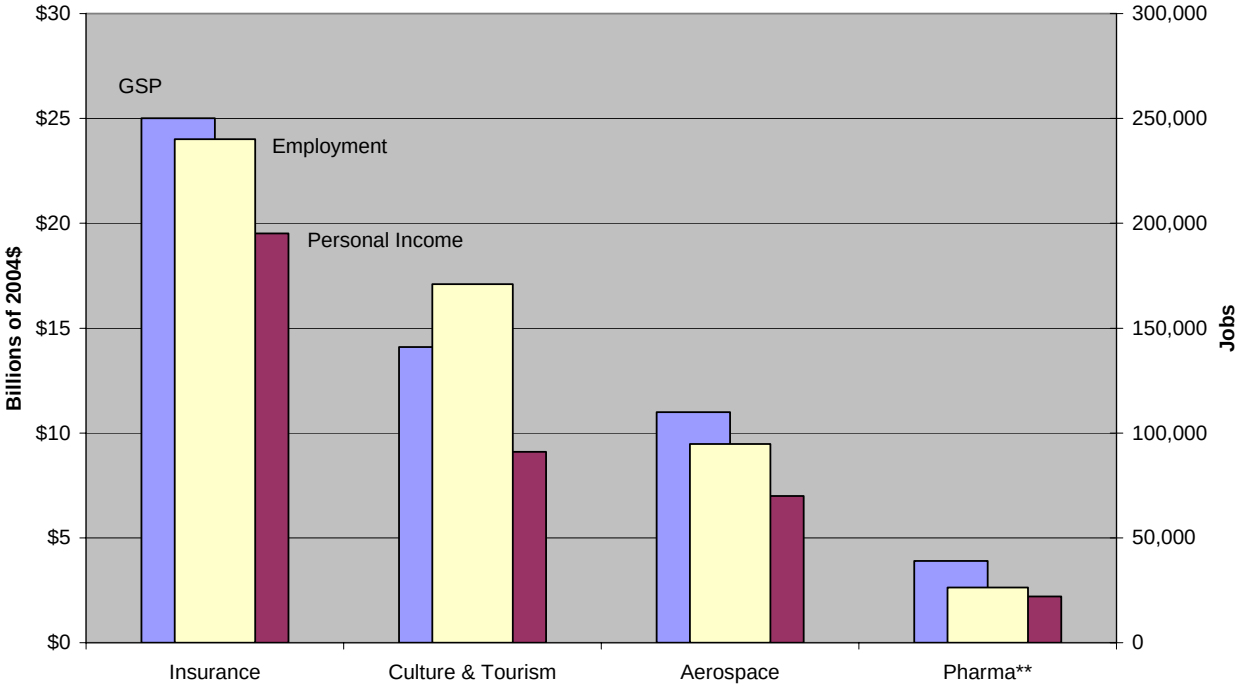
[5] Leithe, Joni, Thomas Muller, John Peterson, and Susan Robinson (1991). *The Economic Benefits of Preserving Community Character: A Methodology,* Center for Preservation Policy Studies, National Trust for Historic Preservation, Washington D.C.

Chart E-1: Employment, GSP and Personal Income Impact of Connecticut's Select Industries



**Pharma includes firms in 'biotech' drug research and formulation.

Finally, we note that the average Connecticut Commission on Culture & Tourism state appropriation for fiscal years 2004 and 2005 ($27,746,064) helps to leverage $258 million in net state and local revenue annually. In other words, for each dollar of state appropriation, culture and tourism activity in Connecticut helps to leverage $9.30 in net state and local revenue annually. Similarly, for each dollar of state appropriation, culture and tourism activity in Connecticut helps to leverage $507 in GSP, and $328 in personal income annually. The leverage effect occurs through marketing programs and grants to sustain art and historic preservation and heritage activity.

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Introduction to the Four Studies

Connecticut's Film and Video Industries

Though the film and video industries study is conservative and understates their actual economic impact, their contributions to Connecticut's economy are significant nonetheless. Our analysis shows that the film and video industries provide 8,323 direct jobs and support more than 18,000 total jobs in the state, or more than one percent of the state's overall employment (Table I-1 shows the REMI results using 2004 data[6]). This implies a statewide film and video employment multiplier of 2.17. Given the wealth of opportunity these industries provide the state in terms of employment and spending, losing that one percent of employment would mean a life change for those directly and indirectly linked to Connecticut's film and video industries and a significantly higher unemployment rate in Connecticut.

Table I-1: Economic Impact of Connecticut's Film and Video Industries

Annual Average Impact 2004-2025		
	Statewide Estimate	Percent of CT Economy (2004)
Total Employment (Jobs)	18,079	1.06%
Total Gross State Product (Mil 2004$)	$2,502	1.35%
Personal Income (Mil 2004$)	$1,211	0.76%
State and Local Revenues (Mil 2004$)	$199.36	0.81%
State and Local Expenditures (Mil 2004$)	$87.35	0.32%

[6] This study and its data predate 2006 film industry tax credits.

Connecticut's Arts Industries

Connecticut's arts industries and its arts workers in other industries have a significant impact on the state economy reported in Table I-2 showing the REMI results. 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. Sales of Connecticut industries increase by $5.6 billion or 1.85% of total Connecticut sales due to Connecticut's arts industries' and embedded arts workers' purchases of goods and services. Connecticut's arts industries and embedded arts workers add almost $4 billion to the state's economy each year on average representing 2% of Connecticut's total value added for 2004.

In addition, the incremental economic activity generated by Connecticut's arts industries and its embedded arts workers in other industries creates state and local government tax revenue that averages $432.5 million each year or 1.74% of all state and local tax receipts in 2002.[7] 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 I-2: Economic Impact of Connecticut's Arts Industries

Annual Average Impact 2004-2025		
	Statewide Estimate	Percent of CT Economy (2004)
Employment (Total Jobs)	44,474	2.60%
Gross State Product (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	1.2%

[7] The latest year for which fiscal data is available from the Census of Governments

The impact of Connecticut's arts industries are understated because we have not accounted for the quality of life improvement that exposure to the arts affords us, and we have not accounted for visitor spending as the many Connecticut attractions and arts venues induce visitors to spend in the transportation, food and drink, retail and other sectors of Connecticut's economy (a portion of visitor spending is counted in the travel and tourism section). Furthermore, the impact of Connecticut's arts industry is conservative because we have not counted 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. Connecticut's arts assets make the state a more desirable place to live and work and, in turn, strengthen its competitive position among the states as having the most productive and highly educated workforce in the nation.

Connecticut's Travel and Tourism Industry

In the current study as in the previous two studies on this subject, CCEA surveyed all Connecticut lodging establishments, campgrounds, marinas and boatyards to gain an understanding of the services they provide and the sales they generate. The visitor intercept survey conducted by Witan Intelligence, Inc., surveyed tourists at Connecticut attractions, highway welcome centers and dispersed sites in the spring, summer and fall of 2004 and winter of 2005. This data and that from the Travel Industry Association of America TravelScope, the Connecticut Vacation Guide survey, and Connecticut's Department of Revenue Services (DRS), as well as insights from other travel and tourism studies, provide rich sources for the current work. The updated literature review describes some of the significant, recent work done in other states and countries.

The 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 lodging sales, transportation-related sales, retail sales, restaurant sales, 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.

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 page 128 for more detail on this issue).

Table I-3 shows the distribution of traveler and tourist spending in eight categories by type of accommodation or travel mode.[8]

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%

Note: marina sales include membership fees, boat rentals, slip and mooring fees, boat repair, sail repair, notary services, chandlery services.

This spending generated the economic impact of travel and tourism through multiplier effects in Connecticut. Table I-4 shows the total impact (estimated by REMI) of this spending in terms of employment, gross state product (GSP) and personal income. The travel and tourism industry supports almost 111,000 jobs in the state or 6.5% of its workforce in 2004. Travel and tourism created $7.95 billion in GSP representing 4.3% of

[8] See page 120 and Appendix 8 for a detailed description of the methodology behind Table I-3.

Connecticut's GSP in 2004, and, $5.35 billion in personal income impact represents 3.4% of Connecticut's personal income in 2004. Connecticut's state and local governments receive $1.15 billion in revenue and expenditures increase by $1.08 billion as a result of travel and tourism activity.[9]

Table I-4: Economic Impact of Connecticut's Travel and Tourism Industry

Average Yearly Impact (2004-2025)		
	Statewide Estimate	Percent of CT Economy (2004)
Employment (Total Jobs)	110,775	6.5%
Gross State Product (Mil 2004$)	$7,946	4.28%
Personal Income (Mil 2004$)	$5,345	3.37%
State and Local Revenues (Mil 2004$)	$1,152	4.64%
State and Local Expenditures (Mil 2004$)	$1,079	3.91%

Connecticut's History and Heritage Industry

The economic value of Connecticut's history and heritage industry measured in terms of employment and GSP is conservative yet significant as shown in Table I-5. It is conservative because preservation activities are carried out and carried on by volunteers whose time has value that we have not counted. It is conservative because we do not know the private investments property owners make in their historic homes or buildings to maintain them (such investments are likely larger for historic properties), though we do

[9] We reflect the indirect economic and fiscal effects of wager spending (including dog tracks, pari-mutuels, the state lottery and the casinos' slot "win") via increased state and local spending. As such, direct wager spending is not included in the $1.15 billion in state and local revenue. See page 126 for methodology.

account for tax credits private property owners receive. It is conservative because we have not estimated the increased property values or high quality infill and new commercial activity that result from preservation activity. Finally, our estimate of the economic value of history and heritage is conservative because we cannot estimate the amenity value of preservation activity to the attractiveness of the region to workers and firms.

Nevertheless, we conservatively estimate that nearly 2,200 jobs are maintained each year on average because of historic preservation activity in Connecticut. There is no doubt that Connecticut's historical and heritage assets contribute to travel and tourism. We have excluded visitor spending in conjunction with heritage tourism from this assessment (visitor spending is included in the travel and tourism report exclusively and likely captures a fraction of heritage traveler spending).

Table I-5: Economic Impact of Connecticut's History and Heritage Industry

Annual Average Impact 2004-2025		
	Statewide Estimate	Percent of CT Economy (2004)
Employment (Total Jobs)	2,166	0.13%
Gross State Product (Mil 2004$)	$111.69	0.06%
Personal Income (Mil 2004$)	$105.16	0.07%
State and Local Revenues (Mil 2004$)	$17.8	0.07%
State and Local Expenditures (Mil 2004$)	$18.5	0.07%

The Combined Economic Impact of Connecticut's Film, Arts, Tourism, and History Industries

If we combine the direct impacts of each industry's contribution to the state economy as described above, we find in Table I-6 that about 10% of Connecticut's total employment results from film, arts, tourism, and history activity. Almost 8% of Connecticut's gross state product (GSP) results from these activities, while almost 6% of its personal income arises from these activities. State and local governments' net benefit is almost $260 million (revenues less expenditures) from these activities. Yet our results are conservative as explained elsewhere in this report.

Table I-6: Combined Economic Impact of Connecticut's Film, Arts, Tourism, and History Industries

Annual Average Impact 2004-2025		
	Statewide Estimate	Percent of CT Economy (2004)
Employment (Total Jobs)	171,023	10%
Gross State Product (Bil 2004$)	$14.058	7.6%
Personal Income (Bil 2004$)	$9.099	5.74%
State and Local Revenues (Bil 2004$)	$1.715	6.9%
State and Local Expenditures (Bil 2004$)	$1.457	5.3%

The four studies in this report share certain common data sources, a common model for measuring economic impact (REMI), the counterfactual approach, a common set of visitors and their spending, and, a consistent reporting format for impact results. For the arts and the film industries in which jobs are the only direct input, we impute a statewide employment multiplier. Otherwise, we eschew multipliers as explained below. We begin with the basic counterfactual modeling approach and then describe the Connecticut economic model (REMI), and our data sources. We present four views of visitors in Connecticut from studies other than our own. We conclude with reasons why these studies are conservative in their estimates of their value to the Connecticut economy.

Introduction to Methodology

The Counterfactual Approach and the Connecticut Economic Model

Because the film, arts, tourism, and history industries exist and have established linkages in the Connecticut economy, for each study following, we counterfactually remove the industries from the Connecticut economy and measure the degree to which it suffers. The resulting contraction represents the current economic value of the relevant industry to Connecticut. We thus subtract the relevant industry's employment and/or expenditure (the direct effect) from the current Connecticut economy baseline (status quo) forecast and we measure the contraction with the REMI model of Connecticut's economy.[10] REMI is a hybrid input-output (I-O) model with general equilibrium and Keynesian performance. That is, in the words of Cohen, Davidson, and Schaffer (2003),[11] "Input/output analysis, which measures the impact expenditures by local nonprofit arts organizations and their audiences, provides the most reliable economic impact data. This method is appropriate for two reasons: it permits researchers to trace a number of categories of purchases through a local economy, and it can be customized to each community." Further, REMI provides a dynamic framework to assess individuals' and firms' behavioral responses to changes in relative prices over time. It allows capital and labor to migrate to their highest return across county and state borders. The REMI model includes the major inter-industry linkages among 466 private industries aggregated into 69 major industrial sectors. With the addition of farming and three public sectors (state and local government, civilian federal government, and military), there are 72 sectors represented in the model for eight Connecticut counties. County-level results can be apportioned to any geography.

A counterfactual analysis is a thought experiment, a "what if?" analysis of the economy given a change to several of the underlying variables in the economy. In each study to follow, CCEA assumes that the relevant industry in Connecticut ceases to exist, beginning in 2004, the latest year for which we have employment data. By subtracting the number of jobs estimated in the subject industries, we introduce a "shock" into the

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[10] See Appendix 1 for a description of REMI.

[11] Cohen, R., Davidson, B. and William Schaffer (2003). "Arts and Economic Prosperity: The Economic Impact of Nonprofit Arts Organizations and Their Audiences," *The Journal of Arts Management, Law and Society,* vol. 33, no. 1, p. 17-31.

state economy and gain insight into how it would be altered given this shock. The results are measured against a REMI forecast describing our economy as it currently stands and into the future, which is known as the baseline forecast.

In visualizing this scenario, it is as if the jobs in these industries disappeared from the Connecticut economy completely. In the absence of certain jobs, we regard the remaining physical assets (buildings, equipment, tools) to be unusable for any other purpose. That is, we associate no opportunity cost (the value of their next best use) with them. We take a demand side approach, that is, our counterfactual analysis assumes arts, film/video, travel/tourism and heritage/historic preservation firms, NGOs and occupations are no longer needed in the Connecticut economy due to consumers' lack of interest for Connecticut's arts, film/video, travel and tourism and heritage and historic preservation goods and services. Unemployment increases even though some of the released labor is absorbed in other industries; as well, the labor force participation rate may decrease as workers leave the work force. This is an endogenous (within the model) process in response to the mass layoffs that counterfactually occur. The demand side approach is in contrast to a supply side analysis in which labor voluntarily leaves employment. In the supply side approach, real (inflation-adjusted) wages would be driven up, while in the demand side approach, involuntary unemployment leads to lower real wages discouraging job seekers leading in turn to out-migration.

The arts, film/video, travel and tourism and the history and heritage industries depend on a number of other industries to function. REMI generates the total effect of the counterfactual loss of employment and/or revenues within the directly affected industries on the rest of the economy, given the established pattern of commercial interactions between those industries that support them and the directly affected industries themselves. In other words, REMI estimates the total loss to the state economy as a result of the hypothetical disappearance of these industries. ***Thus, it is possible to infer a statewide multiplier for employment based on the total employment that REMI estimates. We do not otherwise report multipliers because there are several kinds and our focus is on the total effect of the relevant industry on Connecticut's economy not a portion thereof. The total effect is measured in terms of new jobs, that is, jobs that***

would not otherwise exist, new gross state product, new personal income, new industry sales, new population and additions to the labor force.

Economic Impact

Economic benefits generally separate into three types of economic impact: *direct*, *indirect*, and *induced*. *Direct impacts* are those arising from the initial spending by the industry studied, such as payroll for employees and contract workers, goods and services purchases, and rent and permit fees. Direct impacts include the jobs in the industries under consideration. *Indirect impacts* arise as the businesses and governments that supply the goods, services, permits, rents, and other things to an industry in turn buy goods and services from other places. A caterer buying produce from a local supplier to serve on a movie set is an example of this kind of impact. *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. For example, the profits and wages earned by a catering business supplying a movie production creates additional income for the caterer and his or her employees. When these workers spend the income they earn in Connecticut to buy local goods and services, they generate induced impacts for the state. The total impact is the sum of the direct, indirect and induced impacts.

Indirect and induced impacts are the phenomena that produce the "ripple effects" that industries such as the film and video industries have on a local economy. These impacts explain the boost to a local economy that production companies create as they spend their money on a project. Subsequent spending ripples outward through the economy, affecting a number of industries not directly related to the creation of a film or video project and are essential for local economies. For example, 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. The Manitoba film study cited below provides a useful conceptual diagram of these cascading effects.

Relationship of Direct, Indirect and Induced Employment in the Film and Television Production Industry in Manitoba

Multipliers

Multipliers take several forms and are calculated for the purpose at hand. They measure the indirect and induced effects described above. Type I multipliers address the direct and indirect (that is, business-to-business) effects of a change in the regional economy. They capture the inter-industry effects only, that is, industries buying from local industries. They do not capture induced effects (new household spending). Type II multipliers take into account the direct, indirect effects and the income and expenditures of households (induced effects) due to changed economic activity in the region, but they do not capture inter-institutional transfers. Type II multipliers assume that as incomes rise, spending on all goods and services increases.

Type SAM (social accounts matrix) multipliers account for direct, indirect and induced effects, and they capture inter-institutional transfers to account for commuting, social security tax payments, as well as household income taxes and savings. In the

IMPLAN model[12] of a regional economy, one chooses the institutions to include in the model; for example, government may be a large part of the regional economy, so one can choose federal civilian and/or military as appropriate 'institutions' to include. REMI includes the SAM multipliers automatically with all institutions (all households and levels of government) included. Thus, depending on the modeler's choice, IMPLAN may give different results for the same shock and these results would be different from REMI results with equivalent input. Rickman and Schwer (1995) document the multiplier issues in REMI, IMPLAN and RIMS II (from the U.S. Department of Commerce).[13] They explain the different methods used to regionalize the national input-output matrix and the different methods used to estimate multipliers.

Multipliers can be calculated in RIMS II[14] and IMPLAN for employment, output (sales) and value added shocks. They are specific to the industry chosen and the industry level, that is, the level of industry detail or more precisely defined industry within a larger group. For example, violin making is a subset of manufacturing. Multipliers for each smaller industry group in manufacturing have their particular multipliers. Therefore, depending on the industry specificity available in the model, one obtains different multipliers across different models.

Lastly, multipliers are region-specific, that is, they are larger the larger the region considered. They are larger the larger the quantity of locally supplied labor and goods and services supporting the industry studied. Therefore, applying a "shock" (for example an employment change) to a given industry in one region may have significant differences from applying the same shock to the same industry in a different region. This implies that multipliers are not comparable across regions (or across studies). In a regional model such as REMI, in which shocks (inputs) are described as demand side and/or supply side (such as productivity or labor force participation rate changes), and in quite complex terms, multipliers have little meaning. For cases in which the shock is

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[12] IMPLAN is a commonly used static, input-output model from Minnesota IMPLAN Group, www.implanpro.com.

[13] Rickman, D. and Keith Schwer (1995). "A comparison of the multipliers of IMPLAN, REMI, and RIMS II: Benchmarking ready-made models for comparison," *Annals of Regional Science*, 29(4), p. 363-374.

[14] The U.S. Department of Commerce, Bureau of Economic Analysis (BEA) maintains an input-output modeling system for which paying clients may obtain customized multipliers for various sub-regions of the United States from the RIMS II model. BEA publishes a set of multipliers for 39 designated industry groups for each state (User Handbook, USDC, BEA, 1992). See: http://www.bea.gov/bea/regional/rims/.

simple and demand driven such as an industry employment change, one can impute an employment multiplier for the state considered as we do in the arts and film/video industry studies below.

Visitors to Connecticut Arts, Heritage, Historic and Tourist Venues

The tables presented in this section provide snapshots of visitors to and in Connecticut and their general spending pattern according to particular activities or venues visited. Visitor counts reflect those who reside in Connecticut as well as those who traveled from outside the state. We extracted these tables from other studies to provide examples of surveys of particular tourist types and their spending patterns.

The 2004 Connecticut Vacation Guide survey lists 99 arts, 154 historic and 122 traveler and tourist venues/sites visited by almost 22 million people (these figures are self-reported via a survey). Table I-7 reports the number of visitors to arts, historic and tourist venues gleaned from the 2004 Vacation Guide survey (a subjective exercise vetted with the Commission) aggregated by tourism region. Appendix 9 lists the names of the arts, historic and tourist sites and venues appearing in Table I-7. The Vacation Guide's visitorship reference years vary and we take these self-reported figures as representative. ***The sites self-report and are not required to provide attendance; only sites that report attendance appear in these counts, and therefore the site sample is not random and cannot be used to extrapolate the reported audience to the population of arts, historic and traveler and tourist sites and venues in the state.*** Further, Foxwoods and Mohegan Sun report 75,000 visitors per day (27.4 million per year) who may be convention attendees, gamers, and others (both venues provide top name entertainment and athletic events, and the Mashantucket Pequot Museum attracts visitors and scholars from the around the world.). The Foxwoods and Mohegan number of visitors is 26% more than all other Connecticut reporting sites combined and is not included in Table I-7 in order to see the other sites' visitorship clearly. There are no for-profit galleries included in the Vacation Guide survey and the number of visitors enjoying scenic roads, covered bridges,

State Parks and other dispersed sites is unknown.[15] The number of visitors we report in Table I-9 (excluding Foxwoods and Mohegan Sun) is therefore conservative.

Table I-7: Connecticut Vacation Guide Reported Visitors by Tourism Region

Visitors To	River Valley Visitors	Litchfield Hills Visitors	Mystic Country Visitors	Greater New Haven Visitors	Fairfield County Visitors	Total Visitors
Travel & Tourism Attractions	3,826,589	1,383,476	2,910,235	1,964,401	3,863,691	**13,948,392**
Historical Attractions, Venues & Institutions	1,226,333	233,078	865,910	1,069,549	141,450	**3,536,320**
Arts Attractions, Venues & Institutions	1,230,575	309,845	397,530	1,560,440	773,351	**4,271,741**
Visitor Totals	**6,283,497**	**1,926,399**	**4,173,675**	**4,594,390**	**4,778,492**	**21,756,453**

Table I-8 on the next page (contained in Table I-7) from the 2004 Audience Survey of Connecticut Heritage Organizations,[16] presents a snapshot of visitors to selected historic sites and two tourist attractions (Mystic Aquarium and Stamford Museum).

[15] The Vacation Guide surveys 1,260 sites including outdoor activities such as fishing, boating, golf courses, ski area, and biking companies. The site response rate was 49%. We have a list of 158 profit and not-for-profit Connecticut art galleries that would be useful to survey. Some of them are included in the Vacation Guide survey.

[16] See: http://www.ctculture.org/chdf/MuseumSurvey.htm.

Table I-8: 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

Other Visitor Surveys

The 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation: Connecticut (revised 2003)[17] provides another view of visitors in and to Connecticut. Table I-9 from the report shows that 1,358,000 people from inside and outside Connecticut enjoyed its fishing, hunting, and wildlife-associated venues and sites. Such visitors spent $66 million in 2001 and Table I-9 shows the composition of their spending.

Table I-10 from the Marine Angler Expenditures in the Northeast Region, 1998[18] shows total expenditure and the composition of such visitors' spending by resident status. Such visitors spent more than $400 million. Some anglers may be locals, however if they travel outside their normal commuting pattern to fish, we regard them as tourists in their own state. We use the spending pattern in Table I-10 for the present traveler and tourism study marina visitor spending pattern.

Table I-11 from the DECD report (their Tables 3 and 4, page 31) on the contribution of Bradley Airport to Connecticut's economy[19] shows per person spending gleaned from a survey administered to non-Connecticut passengers enplaning and deplaning at Bradley. The Center for Survey Research and Analysis (CSRA) at the University of Connecticut surveyed airport travelers in December 2004. CSRA surveyed 685 travelers who were randomly selected by gate and time of day; there were 417 regional residents and 268 visitors to the region. The survey captures the reason for travel, destinations, frequency of travel, amount of money spent, and transportation used to/from the airport. This data is not directly comparable to our visitor intercept survey because we do not separate business from leisure travelers and our spending data is per party not per person. The DECD study scales these expenditures by annual Bradley traffic (their Table 4).

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[17] U.S. Department of the Interior, Fish and Wildlife Service and U.S. Department of Commerce, U.S. Census Bureau. *2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.*
[18] See http://www.st.nmfs.gov/st1/econ/NMFS_F_SPO_47rev.pdf.
[19] See http://www.ct.gov/ecd/lib/ecd/bradley_airport_study_5.27.05_final_.pdf

Table I-9: Fishing, Hunting, and Wildlife-Associated Recreation Visitors in 2001

Activities in the United States by Connecticut Residents	
Fishing	
Anglers	**324,000**
Days of fishing	5,496,000
Average days per angler	17
Total expenditures	$327,787,000
Trip-related	$135,004,000
Equipment and other	192,783,000
Average per angler	$1,011
Average trip expenditure per day	$25
Trip and equipment expenditures by Connecticuters out of state	$113,687,000
Hunting	
Hunters	**45,000**
Days of hunting	824,000
Average days per hunter	18
Total expenditures	$69,359,000
Trip-related	$20,857,000
Equipment and other	$48,502,000
Average per hunter	$1,532
Average trip expenditure per day	$25
Trip and equipment expenditures by Connecticuters out of state	$18,227,000
Wildlife Watching	
Total wildlife-watching participants	**885,000**
Nonresidential	248,000
Residential	861,000
Total expenditures	$249,260,000
Trip-related	$82,766,000
Equipment and other	$166,494,000
Average per participant	$282
Trip and equipment expenditures by Connecticuters out of state	$68,818,000

Activities in Connecticut by U.S. Residents	
Fishing	
Anglers	**346,000**
Days of fishing	4,768,000
Average days per angler	14
Total expenditures	$224,139,000
Trip-related	$100,561,000
Equipment and other	$123,578,000
Average per angler	$658
Average trip expenditure per day	$21
Trip and equipment expenditures by nonresidents in Connecticut	$18,649,000
Hunting	
Hunters	**45,000**
Days of hunting	766,000
Average days per hunter	17
Total expenditures	$43,381,000
Trip-related	$6,976,000
Equipment and other	$36,405,000
Average per hunter	$762
Average trip expenditure per day	$9
Trip and equipment expenditures by nonresidents in Connecticut	$2,548,000
Wildlife Watching	
Total wildlife-watching participants	**967,000**
Nonresidential	279,000
Residential	861,000
Total expenditures	$225,964,000
Trip-related	$38,010,000
Equipment and other	$187,955,000
Average per participant	$234
Trip and equipment expenditures by nonresidents in Connecticut	$44,599,000

Table I-10: Anglers' Spending in 1998

Connecticut

Table 7. Connecticut Total Expenditures by Resident Status, 1998 (in thousands of dollars).

CONNECTICUT		Total	Upper Bound	Lower Bound	Total	Upper Bound	Lowe
Trip Expenditures	**Mode**		**Residents**			**Non-Residents**	
Private Transportation	Party Charter	86	141	32	38	64	
	Private/Rental	2,573	3,501	1,646	678	945	
	Shore	1,899	2,665	1,133	321	488	
Food	Party Charter	292	494	89	160	316	
	Private/Rental	6,488	9,210	3,765	1,389	2,288	
	Shore	5,457	9,849	1,065	289	523	
Lodging	Party Charter	0	0	0	31	93	
	Private/Rental	0	0	0	0	0	
	Shore	0	0	0	0	0	
Public Transportation	Party Charter	11	29	0	0	0	
	Private/Rental	321	705	0	0	0	
	Shore	64	189	0	0	0	
Boat Fuel	Private/Rental	8,080	11,574	4,586	1,604	2,704	
Party/Charter Fee	Party Charter	915	1,869	0	48	280	
Access/Boat Launching	Party Charter	3	9	0	0	0	
	Private/Rental	1,509	3,346	0	127	419	
	Shore	104	254	0	0	0	
Equipment Rental	Party Charter	70	130	10	16	32	
	Private/Rental	368	1,090	0	0	0	
	Shore	0	0	0	0	0	
Bait	Party Charter	8	23	0	0	0	
	Private/Rental	3,680	5,342	2,017	453	694	
	Shore	2,400	3,594	1,206	231	365	
Ice	Party Charter	25	58	0	3	13	
	Private/Rental	703	1,088	319	158	235	
	Shore	268	552	0	0	0	
Total	Party Charter	1,411	2,390	470	296	585	
	Private/Rental	23,723	28,960	18,633	4,409	5,905	
	Shore	10,191	14,819	5,567	841	1,158	
Equipment and Durable Expenditures			**Residents**			**Non-Residents**	
Rods and Reels		36,709	54,954	18,465	5,287	9,138	
Other Tackle		15,676	22,535	8,817	1,957	3,039	
Camping Equipment		6,205	11,799	611			
Binoculars		2,100	470	3,730			
Clothing		4,526	7,092	1,961			
Processing/Taxidermy		54	134	0			
Magazines		2,645	3,762	1,528			
Club Dues		3,763	6,064	1,461			
Miscellaneous		1,743	3,006	480			
Boat Expenses		6,605	10,547	2,664			
Power Boat Purchase		255,966	583,828	0			
Non-Power Boat Purchase		1,058	2,348	0			
Electronics		3,127	5,433	822			
Fishing Vehicle		11,895	25,338	0			
Vacation Home		416	1,014	0			
All Sub-Totals		387,813	716,714	58,912	12,789	19,824	
State Total		400,602	736,538	64,809			

Table I-11: Bradley Visitor Intercept Survey

Table 3 - Visitor Spending ($ per person/trip)

	At Airport				In Region				
	Food/Bev	Retail	Trans	Parking	Lodging	Transport	Food/Bev	Recreation	Retail
Business	11.07	48.48	4.00	10.75	72.85	48.94	57.60	200.19	238.41
Leisure	20.69	15.09	4.00	18.56	107.54	63.03	56.01	92.00	137.82

Source: CSRA Bradley Passenger Survey

Table 4 - Calculated visitor spending impacts (output in M$)

Spending Category	Per Visitor Output
Food/Bev	$96.9
Parking	$20.3
Lodging	$123.4
Recreation	$178.3
Retail	$234.7

Data Sources

Our primary data source is the 2002 Economic Census Geographic Area Series that uses the North American Industry Classification System (NAICS) to organize its industry information.[20] The NAICS divides the U.S. economy into 20 major sectors; industries within these sectors are grouped according to production criteria (how they produce their goods or services). The NAICS structure reflects a hierarchical system of organization; the number of digits coded for an industry group indicates its level of specificity, with two digits representing a general (highly aggregated) sector and six digits representing one specific part of an industry (highly disaggregated). Appendix 5 contains a description of the NAICS industries referenced in the four studies herein.

Our second source, for film, arts and historic preservation occupations, is the Occupational Employment Statistics (OES) from the Bureau of Labor Statistics (BLS).

[20] These volumes were issued for each state in May 2005 for each major sector (see for example, http://www.census.gov/prod/ec02/ec0271act.pdf for the volume describing the arts, entertainment and recreation sectors. There are volumes for each major industry group.

The Standard Occupational Code (SOC) defines the universe of occupations from which we choose relevant film, arts and historic preservation occupations that are embedded in industries whose end product is not film, arts goods and services or historic preservation goods and services (Appendix 6 contains a description of the occupations referenced in the four studies). For example, there are film and/or video workers in the insurance industry who produce training and marketing videos. We use state level data because at smaller geographies, for example Metropolitan Statistical Areas, the Connecticut Department of Labor (CT DoL) suppresses more data than at the state level for confidentiality and privacy reasons.

We adjust the lodging revenue derived from the Connecticut Department of Revenue Services lodging tax receipts accounting for county differences in room tax exemptions and the fact that hotels on Native American tribal nation lands do not remit the room tax to the state.

In addition, we use data from the Connecticut Division of Special Revenue to track wagering revenue from Connecticut's lotteries and casinos (slot revenue).

For estimating the size of the reported impacts relative to state level numbers in each study below, we use 2004 Connecticut total employment of 1,709,836 and labor force size of 1,797,338 both from Connecticut DoL. Connecticut's personal income reported by the Bureau of Economic Analysis (BEA) for 2004 is $158,565.6 million; its 2004 gross state product (GSP) from BEA is $185,802 million. The Census of Governments for 2002 reports that Connecticut's state and local revenues were $24,831.156 million; its state and local expenditures were $27,591.7 million. The U.S. Census reports Connecticut's population in 2004 was 3,503,604 persons. REMI reports the total output or sales of all Connecticut firms in 2004 was $301,440.13 million.

Why These Studies are Conservative

Studies such as these require great quantities of high quality data to be reliable and credible. One can have the best methodologies and the greatest models, but if the data is low quality or incomplete, the results will be as well. Data completeness implies it represents all possible cases or it is a random sample of all possible cases and therefore representative. One would ideally estimate confidence intervals for the results one

derives based on the data used. Unlike laboratory experiments in which one can rerun the experiment with better instruments or greater attention to detail, we must rely on data we obtain from public sources that may or may not adequately represent the activity we wish to study. The data we obtain from official state and federal sources mentioned above is reasonably reliable, however, there are suppressions and anomalies as cited below. The collection methodologies are documented and in many cases there may be confidence intervals or reliability estimates. Visitor survey data such as that from the Travel Industry of America or the Witan Intelligence Connecticut intercept survey or the CCEA survey of Connecticut lodging, marina and campground establishments have issues with sample sizes (usually quite small), randomness of survey sites and respondents (one must rely on those who actually respond leading to selection bias), and seasonal bias (some seasons see more visitors than others in the same region). In addition, we may not obtain data we should. This arises in the definition of the arts, film, travel and tourism and the historic preservation industries in terms of which NAICS industries and SOC occupations comprise them. If our definitions are complete, we may safely collect the (employment) data from official sources and proceed with high quality analysis. Otherwise, we risk undercounting (or perhaps over counting if we are liberal in our definitions). In the present studies, we need to be careful to avoid overlap between the industries studied to highlight their unique contributions to Connecticut's economy.

We believe that our data issues are ones of omission, that is, we have not collected all the data we could or should have. For example, there are likely additional occupations or industries we might include under the arts, film, travel and tourism and history and heritage categories. The New England Foundation for the Arts, among others, has struggled with precisely articulating included industries and occupations for some time. In addition, it is difficult to uncover every self-employed worker who might be classified among the arts, film and history and heritage occupations we include in our studies. Further, we have not included the vacation home/cottage sales and rentals that tourists occupy along the Connecticut shore or the hills of northwest Connecticut (such properties are elsewhere too). We believe the Witan visitor intercept survey under-represents business travelers who drive or take a train into the state for a day's business; there should be additional sites and larger sample sizes as well. We believe the

Connecticut Vacation Guide could survey for-profit art galleries and many other arts, historic and tourist attractions and venues that bring visitors to Connecticut from the U.S. and other countries. These data limitations reflect resource constraints. But they render the economic impact results reported below conservative.

Further, the economic value of Connecticut's arts, heritage/historic, film/video and travel and tourism industries and occupations cannot simply be measured by removing these jobs and the funding from the existing economy as in the counterfactual approach. How would an engineering firm continue to function if graphic designers were all gone? How would insurance companies produce training and marketing videos if all film and video workers were gone? The contributions of embedded arts, film and video, historic preservation and tourism occupations is not simply their value added measured approximately by their wage. Such workers as we describe in this report are part of a team that would in many cases be crippled if these critical members were absent. Firms whose products were not in the arts, film and video, tourism or history and heritage sectors would likely leave the state. Thus, our assessment of the economic value of the arts, film and video, tourism and history and heritage industries and occupations is necessarily conservative.

Finally, we have not assessed the quality of life improvement the arts, history and heritage, film and video and tourism activity confer on Connecticut residents and businesses. This could be measured by consumers' willingness to pay for such services, or what they would be willing to accept in their absence, both of which are conservative estimates of the amenity value of these activities. Reasonable proxies for willingness to pay are admission fees and philanthropy, factors we have not included in these studies.

The Economic Impact of Connecticut's Film and Video Industries

Introduction

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), the World Wrestling Entertainment, Inc. (WWE), and the Outdoor Life Network (OLN), 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 entire 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. As a result, work in the industries themselves has an indirect "ripple effect" into other sectors and ultimately influences the economy as a whole on a larger scale. In this study, the Connecticut Center for Economic Analysis analyzes the direct and indirect effects of the film and video industries to better understand and measure their impact on the Connecticut economy.

A Review of the Literature

Given the influential role that the film and video industries can have on an economy, a growing number of regions around the country have evaluated, to one degree or another, the economic impact of the film industry on their local economies. A number of states and cities, including North Carolina, Texas, Virginia, and Florida, currently post general production figures, provided by state film commissions, on their respective state websites. In recent years regions including Manitoba, Canada, Austin, TX, Portland, OR, Seattle, WA, Washington State, Indiana, Montana, Florida, and New York City have generated more comprehensive analyses of their local film industries. These studies provide an in-depth look at local film industries, analyzing the direct and indirect effects of the industry on the overall regional economy.

"The Economic Impact of Manitoba's Film Industry," by Intergroup Consultants and OARs Training in 2003,[21] provides a comprehensive look at the direct impacts of the motion picture industry on the economy of the Province of Manitoba, Canada. The study begins with an overview of economic trends from 1998 to 2002, reporting production volumes, employment figures, and sources of financing within the industry. The report provides case studies of four disparate productions undertaken in 2001 to examine more closely the purchasing and financing patterns of different types of projects within the industry. Additionally, the study reports government revenues obtained through current tax laws affecting production and discusses the advantages of certain tax incentives, including the 1997 Manitoba Film and Video Production Tax Credit Program. This program has apparently been responsible for significant growth in Manitoba's film and video industry while remaining fiscally revenue neutral. Finally, the report issues a number of recommendations to further invigorate the film industry in Manitoba, including suggestions to refine existing tax credit programs and to strengthen relationships with producers and distributors in other jurisdictions.

The report, "Film & Visual Video in Austin" authored by Texas Perspectives in 2003, utilizes the IMPLAN[22] model of Travis County, TX for its economic analysis of the film industry in Austin.[23] The study focuses on the direct, indirect, and induced effects of film production, film-related tourism, commercial production, and total visual video activity for the city in 2001. The report details, in terms of economic activity, labor compensation, and employment, the economic impacts on several indirectly affected economic sectors including retail trade, wholesale trade, and services. The report provides an extensive list of recommendations for further improving the size and strength of the Austin film industry. The authors suggest that Austin focus on making the city a more attractive location for producers by establishing direct financial incentives, like those in competitor regions, and providing a clearer "point of contact" for producers within the city government. The report's second appendix provides a number of case

[21] "The Economic Impact of Manitoba's Film Industry," Intergroup Consultants and OARs Training, 2003.
[22] IMPLAN is a commercially available input-output, county level model (www.implanpro.com).
[23] "Film & Visual Video in Austin," Texas Perspectives, 2003.

studies describing regions that have been successful in attracting greater film business by following similar recommendations.[24]

ECONorthwest for Portland, OR, Seattle, WA, and Washington State published some of the most comprehensive studies of the economic impact of the film industry on a region or state.[25] Each report utilizes the IMPLAN model based on the economy of the specific region in question and provides a detailed analysis of the industry. These reports take an in-depth look at indigenous and out-of-state productions and their direct, indirect, and induced effects on the regional economy as a whole, in terms of employment and revenue. The reports detail the impact of film production on indirectly-affected industries, including retail and wholesale trade, services, transportation, utilities, and agriculture, among others. The studies provide an extensive examination of the fiscal effects of the film industry. For Portland, several of the taxes incurred by filmmakers are outlined specifically. Each report concludes with a detailed series of recommendations regarding how to further stimulate the industry in the future.

Several other states have used a similar methodology for assessing the economic impact of film. In 2003, Economic Research Associates (ERA) published an impact report for the Indiana film industry entitled, "Economic Impact Analysis of Indiana's Film and Video Production Industry."[26] The analysis used RIMS II to model existing industry data in assessing the larger impact (via multipliers) film has on the state as a whole. ERA in 2003 produced a similar report for Florida, "Project Report Assessment for the Florida Motion Picture Industry."[27]

The Montana Film Office recently published a film impact report in 2004 entitled, "The Impact of Film Production on the Montana Economy & Proposed Incentives for the

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[24] The case studies give a brief history of film production in California, Illinois, Louisiana, North Carolina, New Mexico, and Canada and feature the successes of each region in establishing tax credits and various financial incentives for attracting business.

[25] The studies for Portland, Seattle, and Washington State are titled "The Economic and Fiscal Impacts of the Film & Video Industry on Portland and Multnomah County," "The Economic Impacts of Film & Video Production in Seattle," and "The Economic Impacts of Film & Video Production in Washington State," respectively. The Portland report was published in 2001 and the Seattle and Washington State reports were both published in 2003.

[26] "Economic Impact Analysis of Indiana's Film and Video Production Industry," Economic Research Associates, 2003.

[27] "Project Report Assessment for the Florida Motion Picture Industry," Economic Research Associates, 2003.

Film Industry," published by Arts Market.[28] The report discusses the size and strength of the industry currently, and uses the state's IMPLAN model to evaluate the indirect impacts of film on other industries throughout the state. The study reports the fiscal impacts that the film industry has had on the state, and describes the costs and benefits of introducing new tax incentives to increase business in the future. Arts Market uses a 30% tax credit on labor costs as an example of possible economic incentives, projecting that Montana could greatly increase the number of overall productions to the state by offering a re-saleable tax credit voucher to in-state and out-of-state production companies.

Arizona's 2004 study, "Analysis of the Film and Video Industry in Arizona," prepared by ESI Corp. provides a comprehensive look at the current film industry in the state and the potential for industry growth in the future.[29] The study utilizes a number of different sources, including personal interviews and general surveys, to outline the structure of the industry in Arizona, as well as assess the direct, indirect, and induced effects of the industry on the state economy. Indirect and induced effects were calculated using the state's IMPLAN model. The report provides information on programs practiced by rival state film boards in attracting business and includes a detailed list of recommendations for making Arizona's film industry more competitive in the future. The authors suggest that Arizona encourage local filmmakers by expanding educational offerings at nearby schools and supporting local film festivals and attracting out-of-state producers by establishing financial incentives for filming in the state. Additionally, all of these efforts could be combined with a more comprehensive "Film Arizona" marketing campaign.

The Boston Consulting Group studied film production in New York City; their report, "Building New York's Visual Video Industry in the Digital Age" appeared in June 2000.[30] The study first assesses the current baseline impact of the industry on the New York economy, in terms of direct and indirect spending (using a fixed multiplier of 2.0) and employment figures resulting from film projects. The study establishes an important distinction between traditional and digital video sources. The report uses a series of

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[28] "The Impact of Film Production on the Montana Economy & Proposed Incentive for the Film Industry," Arts Market, 2004.
[29] "Analysis of the Film and Video Industry in Arizona," ESI Corp., 2004.
[30] "Building New York's Visual Video Industry in the Digital Age," Boston Consulting Group, 2000.

interviews with industry experts to outline similarities and differences between the two sectors and to understand more specifically the spending patterns and location decisions of filmmakers. For example, the study finds that the traditional video sector makes its location decisions mainly on the cost of labor, script requirements, and talent demands, while digital video focuses on the availability of labor, industry cooperation, and the availability and cost of space. The New York report compares New York City's success to the successes of other regions and to compile a list of recommendations for improving the competitive position of New York's traditional and digital video sectors. The authors suggest that New York strive to establish itself as "the east coast video zone" by promoting a public/private partnership in the film industry and by linking the efforts of traditional and digital video sources.

Finally, a more general federal report produced by the Department of Commerce in March 2001, entitled, "The Migration of U.S. Film & Television Production," examines the effects of competition for film and television work from other countries.[31] The report outlines some of the major factors inducing a "runaway production" effect, and the impacts that this migration will have on the U.S. economy in the near and distant futures. The report cites an earlier study authored by the Monitor Company, entitled "The Economic Impact of U.S. Film and Television Runaway Film Production" that estimates that $2.8 billion in direct expenditures on U.S. film and television production was lost in 1998 through runaway production. The Monitor Company report further established that the number of U.S.-developed productions filmed abroad rose from 27 percent in 1990 to 37 percent by 1998. The Department of Commerce study highlights the specific impact of this migration on several key states, including California, Texas, New York, Florida, Illinois, and North Carolina. In an effort to generate ideas for curbing this trend, the study examines various incentives, such as wage and tax credits and training programs, that competing countries such as Canada, the United Kingdom, Australia, Ireland, the Netherlands, and South Africa have implemented.

The foregoing studies represent a sample of several such studies. It is apparent that they employ different data, define the film and video industries differently (some

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[31] "The Migration of U.S. Film & Television Production," Department of Commerce, 2001.

include radio) and that these studies' definitional and geographic scopes are as varied as are their purposes.

The Structure of Film and Video Industries

Although studios and other production companies are responsible for financing, producing, publicizing, and distributing a film or video program, there are often hundreds of small businesses and independent contractors who contribute to the actual making of a film or video production. These companies are often hired by the studios on an as-needed basis and provide a wide range of creative and technical services, including equipment rental, lighting, special effects, set construction, and costume design. Production companies often rely on workers in other industries to supply support services to the crews while they are filming, such as truck drivers, caterers, electricians, carpenters, and makeup artists.

Industry insiders have divided workers involved in a project into two categories. Creative or "above-the-line" positions include the producers, writers, directors and star cast. "Below-the-line" positions include production managers and accountants, camera operators and specialists in lighting, sound, hair and make-up, extras and many others. Appendix 3 contains a useful table of such workers taken from the Manitoba study cited above (their Part B worker class). Once production or filming is completed, post-production firms employ film and sound editors, composers and musicians, among others. For out-of-state producers, it is often more efficient to bring in local experienced professional help on an ad hoc basis than it is to bring in employees from out of state.

However, beyond additional wages received by local workers, film and video productions can have important effects on the economy. Out-of-state productions must provide lodging and food for above-the-line and some below-the-line staff. Productions may require car and specialty equipment rentals from area businesses. Certain production locations may require a fee or permit for filming to take place. Film and video productions of any type require the coordinated efforts of a number of people working in diverse fields to be successful. As these coordinated activities take place, the local economy benefits from the goods and services purchased by production studios and

by their employees. We do not count people who may work part time for productions such as electricians, carpenters, and musicians.

Defining the Film and Video Industries

Defining the film and video industries has become an increasingly complicated endeavor, given the ever-expanding range of communication and entertainment technologies and services available and the growing number of industries supporting them. Because there is no official film or video industry listed under current industrial classification systems, we view the film and video "industries" more as diverse, yet coordinated, collections of industries, than as cohesive and clear cut entities in themselves such as are manufacturing, insurance or financial services. As such, distinguishing which parts of relevant industries to include in the Connecticut film and video economic impact analysis can be difficult. In considering industries to include in this study, CCEA reviewed a brief report published in 2002 by the Department of Economic and Community Development (DECD).[32] Our understanding and characterization of the film and video industries highlights content creation as the essential element that unifies these unique industries. However, given the fluid nature among firms that work directly in the film and video industries and those that work closely with these industries, creating guidelines for inclusion in our analysis is essential. We specifically exclude print media and radio broadcasting as the Commission on Culture and Tourism's charter by statute does not address these industry segments; the focus here is on film, TV and Internet media. As such, our study differs as well from the recent employment characterization of Connecticut's movie, TV and sound production industries appearing in the February 2006 Connecticut Economic Digest.[33]

CCEA expands its view of the television broadcasting industry (revised in 2002 as NAICS code 515) to include cable programming. The television broadcasting industry includes establishments that create or acquire the right to distribute content and subsequently broadcast that content to the public. Industry groups situated within non-

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[32] At that time, the Connecticut Film, Video, and Video Office was part of the state's Department of Economic and Community Development. As of 2003 the Connecticut Film Office has been restructured as a division of the Connecticut Commission on Culture and Tourism, alongside the Art, Historic Preservation and Museums, and Tourism Divisions. The 2002 report was prepared in cooperation with the Connecticut Economic Resource Center (CERC). See Appendix 3 for a summary of that report.

[33] See: http://www.ctdol.state.ct.us/lmi/misc/cedfeb06.pdf

Internet broadcasting now include radio and television broadcasting and cable and other subscription programming entities. Considering the strong presence of the Entertainment & Sports Programming Network (ESPN), the World Wrestling Entertainment, Inc. (WWE), and the Outdoor Life Network (OLN) in Connecticut, including cable programming in our analysis provides important insights into the size and nature of the film and video industries in Connecticut.

The 2002 version of the NAICS recognizes Internet publishing (NAICS 516) as a separate industry for the first time, an industry that CCEA includes in this analysis. With the explosion of digital picture, film, and music, analyzing Connecticut's stake in this growing field is essential for understanding the state's film and video industry as a whole. As defined by NAICS, the Internet publishing and broadcasting industry includes Internet book publishers, entertainment sites, game sites, radio stations, sports sites, news publishers, and video broadcast sites, among the even more innovative creations that are sure to grow out of this field in the future.

Though we have chosen to add cable programming to the list of film and video industries, CCEA excludes a related category, namely, cable distribution. While cable programming comprises establishments primarily engaged in operating studios and facilities for the broadcasting of programs on a subscription or fee basis, cable distribution describes the third party distributional broadcasting systems that deliver programming received from cable networks and local television stations to consumers. Unlike cable programming services, cable distribution services do not themselves create original program content, and we exclude them from our analysis.

CCEA excludes as well the 'Satellite broadcast and uplink' industry in keeping with the notion that content creation is essential to our understanding of the film and video industries. While telecommunications, including satellite broadcasting, are necessary for the distribution of some video communications, the process itself does not relate directly to our scope of inquiry.

CCEA eliminates video buying agencies and video representatives for similar reasons. While the purchasing and management of advertising time and space from video outlets is an integral part of the greater distribution of film and video products, it does not directly contribute to the creation or dissemination of original content, and thus is not

considered. While advertising agencies and public relations agencies play an integral part in the distribution of video sources (and many other industries' products), they often do not play a direct role in the actual creation of video content, and have been removed from the list accordingly.

CCEA excludes commercial and portrait photography from consideration. Portrait studios, described by NAICS, are responsible for projects such as videotaping weddings and special events and taking school portraits and passport photos. These services do not contribute to the broader video and film industries, and thus have been eliminated from our consideration. We exclude commercial photography establishments primarily engaged in providing services for advertising agencies, publishers, and other business and industrial users, because their relative contribution to film and video is small.

Moreover, we exclude graphic design services (NAICS 54143), Advertising Agencies, video related (NAICS 54181), musical groups and artists (NAICS 71113), and independent artists, writers, and performers (NAICS 7115) as we believe in consultation with the Commission that these industry groups more appropriately belong in the arts industries. CCEA excludes as well the "agents and managers" industry (NAICS 7114) from this analysis. According to NAICS, this industry comprises establishments of agents and managers primarily engaged in representing and/or managing creative and performing artists, sports figures, entertainers, and other public figures. The representation and management industry includes activities such as representing clients in contract negotiations, managing or organizing clients' financial affairs, and generally promoting the careers of their clients.

Some Connecticut firms may use 'in-house' film and video productions as part of training and marketing exercises (in, for example, the insurance industry) and fall under the umbrella of film and video defined for this analysis. Such workers are embedded in industries unrelated to Connecticut's film and video industries. We consult the SOC for likely occupations in film and video work. The Connecticut Department of Labor distributes these occupations into Connecticut industries at the three-digit level several of which are subsumed in the industry definition in Table 2. We include the following occupations in this study (these occupations are not considered in the arts industry study):

Audio and video equipment technicians (SOC 27-4011), Broadcast technicians (SOC 27-4012), Sound Engineering technicians (SOC 27-4014), TV, video, and motion picture camera operators and editors (SOC 27-4031), miscellaneous media and communication equipment workers (SOC 27-4099), miscellaneous media and communication workers (includes Interpreters and Translators, and, Media and Communication workers, all other) (SOC 27-3091 and 27-3099). Workers in these occupations who locate in industries other than the film and video industries defined in Table F-1 are embedded film and video workers.

Below we describe in detail the occupational and industry approaches we take to estimating employment in Connecticut's film and video industries. The occupational approach leads to an estimate of 1,890 film and video and related jobs in the state. The industry approach leads to an estimate of more than 7,017 arts and arts-related jobs in the state. When we combine the two such that we account for embedded arts workers, the estimate climbs to more than 8,323 film and video jobs in Connecticut.

Occupational Approach

To provide insight concerning the earning power of those working within the film and video industries, CCEA turned to the "Occupational and Wage Estimates" collected by the Connecticut Department of Labor for the third quarter of 2004. The Department administers a semiannual Occupational Employment Statistics (OES) mail survey measuring occupational employment and wage rates for wage and salary workers in non-farm establishments. We obtain from BLS the Standard Occupational Codes (SOC) for the occupations we believe fit our definition of embedded film and video workers. The data provided in Table F-1 is not intended to serve as an exhaustive list of occupations involved in the film and video industries, but as a spotlight for some of the more prevalent fields (the ones we consider embedded in other industries). As evidenced, the film and video industries provide a number of high paying jobs for the state, which is logical given the specialized nature of much of the work within these industries. Table F-1 presents average wages for embedded film and video workers in relevant film and video occupations included in this study. We exclude SOC 27-3010, 'Announcers'

containing the following two detailed occupations: SOC 27-3011, 'Radio and Television Announcers'; and, SOC 27-3012, 'Public Address System Announcers'. In addition, we exclude and SOC 27-3020, 'News Analysts, Reporters and Correspondents', a category containing the following two detailed occupations: SOC 27-3021, 'Broadcast News Analysts' and SOC 27-3022, 'Reporters and Correspondents'. Finally, we exclude SOC 27-3031, 'Public Relations Specialists'. We exclude these occupations because they contain radio and non-film and non-video occupations, and because the relevant film and video occupations we seek are contained in the industries in Table F-2. We assume the embedded film and video occupations existing within non-film and non-video industries appear in Table F-1.

There are 1,890 jobs in the seven film and video occupations represented in Table F-1 identified by the BLS 2004 Occupational Employment Statistics. CT DoL distributes these occupations across each Connecticut industry accounting for 1,060 jobs. We allocate the remaining 830 jobs roughly equally across sectors in which CT DoL suppresses them; these allocations appear with an asterisk in Table F-1. CT DoL suppresses all 340 'Broadcast Technicians'; our allocation across the seven Connecticut industries in which CT DoL indicates they work is admittedly a heuristic process. The yellow highlighted occupations occur in the historic preservation and the arts industries, but we do not include these occupations in the historic preservation or arts studies herein (they are mutually exclusive with arts and historic preservation occupations). It is possible that some of these occupations occur in the arts and historic preservation industries, but the overlap is small and we include the highlighted occupations in Table F-1 in the film and video analysis. The annual mean wage reported in Table F-1 reflects that of the occupation across all industries in which it occurs without respect to differences for the same occupation in different industries.

Table F-1: Connecticut Film and Video Workers and Their Industries

NAICS	Industry Title	SOC Code	Occupational Title	Employment	Annual Mean Wage
511	Publishing Industries	27-3091	Interpreters & translators	**16***	
524	Insurance Carriers & Related Activities	27-3091	Interpreters & translators	**16***	
561	Administrative & Support Services	27-3091	Interpreters & translators	**16***	
611	Educational Services	27-3091	Interpreters & translators	**10**	
621	Ambulatory Health Care Services	27-3091	Interpreters & translators	**16***	
622	Hospitals	27-3091	Interpreters & translators	**10**	
624	Social Assistance	27-3091	Interpreters & translators	**16***	
999	Federal, state & local government	27-3091	Interpreters & translators	**80**	
		Subtotal	**Interpreters & translators**	**180**	$50,880
339	Miscellaneous Mfg	27-3099	Media and communication workers, all other	**18***	
454	Non-store Retailers	27-3099	Media and communication workers, all other	**18***	
491	Postal Service	27-3099	Media and communication workers, all other	**18***	
511	Publishing Industries	27-3099	Media and communication workers, all other	**18***	
515	Broadcasting exc. Internet	27-3099	Media and communication workers, all other	**18***	
524	Insurance Carriers & Related Activities	27-3099	Media and communication workers, all other	**10**	
541	Professional, Scientific & Technical Services	27-3099	Media and communication workers, all other	**18***	
561	Administrative & Support Services	27-3099	Media and communication workers, all other	**18***	
611	Educational Services	27-3099	Media and communication workers, all other	**18***	
622	Hospitals	27-3099	Media and communication workers, all other	**18***	

711	Performing Arts, Spectator Sports & Related Industries	27-3099	Media and communication workers, all other	**18***	
999	Federal, state & local government	27-3099	Media and communication workers, all other	**18***	
		Subtotal	**Media and communication workers, all other**	**210**	**$47,560**
334	Computer & Electronic Product Mfg	27-4011	Audio and video equipment technicians	**9***	
443	Electronics & Appliance Stores	27-4011	Audio and video equipment technicians	**150**	
512	Motion Picture & Sound Recording Industries	27-4011	Audio and video equipment technicians	**60**	
515	Broadcasting exc. Internet	27-4011	Audio and video equipment technicians	**150**	
522	Credit Intermediation & Related Activities	27-4011	Audio and video equipment technicians	**8***	
524	Insurance Carriers & Related Activities	27-4011	Audio and video equipment technicians	**10**	
531	Real Estate	27-4011	Audio and video equipment technicians	**8***	
532	Rental & Leasing Services	27-4011	Audio and video equipment technicians	**8***	
533	Lessors of Non-financial Intangible Assets (except copyrighted works)	27-4011	Audio and video equipment technicians	**8***	
541	Professional, Scientific & Technical Services	27-4011	Audio and video equipment technicians	**20**	
551	Management of Companies & Enterprises	27-4011	Audio and video equipment technicians	**8***	
611	Educational Services	27-4011	Audio and video equipment technicians	**180**	
622	Hospitals	27-4011	Audio and video equipment technicians	**8***	
711	Performing Arts, Spectator Sports & Related Industries	27-4011	Audio and video equipment technicians	**100**	
712	Museums, Historical Sites & Similar Institutions	27-4011	Audio and video equipment technicians	**9***	

713	Amusement, Gambling & Recreation Industries	27-4011	Audio and video equipment technicians	**8***	
721	Accommodation	27-4011	Audio and video equipment technicians	**10**	
722	Food Services & Drinking Places	27-4011	Audio and video equipment technicians	**9***	
813	Religious, Grantmaking, Civic, Professional & Similar Organizations	27-4011	Audio and video equipment technicians	**8***	
999	Federal, state & local government	27-4011	Audio and video equipment technicians	**9***	
		Subtotal	**Audio and video equipment technicians**	**780**	**$40,810**
515	Broadcasting exc. Internet	27-4012	Broadcast technicians	**100***	
517	Telecommunications	27-4012	Broadcast technicians	**100***	
525	Insurance Carriers & Related Activities	27-4012	Broadcast technicians	**50***	
611	Educational Services	27-4012	Broadcast technicians	**25***	
711	Performing Arts, Spectator Sports & Related Industries	27-4012	Broadcast technicians	**50***	
999	Federal, state & local government	27-4012	Broadcast technicians	**15***	
		Subtotal	**Broadcast technicians**	**340**	**$31,000**
334	Computer & Electronic Product Mfg	27-4014	Sound engineering technicians	**2***	
512	Motion Picture & Sound Recording Industries	27-4014	Sound engineering technicians	**20**	
515	Broadcasting exc. Internet	27-4014	Sound engineering technicians	**100**	
522	Credit Intermediation & Related Activities	27-4014	Sound engineering technicians	**2***	
541	Professional, Scientific & Technical Services	27-4014	Sound engineering technicians	**2***	
611	Educational Services	27-4014	Sound engineering technicians	**2***	
711	Performing Arts, Spectator Sports & Related Industries	27-4014	Sound engineering technicians	**30**	
813	Religious, Grantmaking, Civic, Professional & Similar Organizations	27-4014	Sound engineering technicians	**2***	
		Subtotal	**Sound engineering technicians**	**160**	**$40,820**
332	Fabricated Metal Product Mfg	27-4031	Camera operators, television, video, and motion picture	**10***	

443	Electronics & Appliance Stores	27-4031	Camera operators, television, video, and motion picture	**10***	
512	Motion Picture & Sound Recording Industries	27-4031	Camera operators, television, video, and motion picture	**10***	
515	Broadcasting exc. Internet	27-4031	Camera operators, television, video, and motion picture	**110**	
541	Professional, Scientific & Technical Services	27-4031	Camera operators, television, video, and motion picture	**10***	
813	Religious, Grantmaking, Civic, Professional & Similar Organizations	27-4031	Camera operators, television, video, and motion picture	**10***	
999	Federal, state & local government	27-4031	Camera operators, television, video, and motion picture	**10***	
		Subtotal	**Camera operators, television, video, and motion picture**	**170**	**$42,500**
511	Publishing Industries	27-4099	Media and communication equipment workers, all other	**6***	
515	Broadcasting exc. Internet	27-4099	Media and communication equipment workers, all other	**6***	
524	Insurance Carriers & Related Activities	27-4099	Media and communication equipment workers, all other	**6***	
551	Management of Companies & Enterprises	27-4099	Media and communication equipment workers, all other	**5***	
611	Educational Services	27-4099	Media and communication equipment workers, all other	**6***	
622	Hospitals	27-4099	Media and communication equipment workers, all other	**5***	
711	Performing Arts, Spectator Sports & Related Industries	27-4099	Media and communication equipment workers, all other	**6***	
999	Federal, state & local government	27-4099	Media and communication equipment workers, all other	**10**	

Subtotal	**Media and communication equipment workers, all other**	**50**	**$47,520**
Total		**1,890**	

*CCEA allocates these jobs heuristically.

Industry Approach

The 2002 Economic Census data for Connecticut provides employment figures for the NAICS industries selected to represent Connecticut's film and video industries. Table F-2 displays these figures, along with the number of firms in each subsector, and employment, receipts, and payroll information by subsector from the 2002 Economic Census that represents the direct impact of the film and video industries on the Connecticut economy.

Table F-2 demonstrates the direct impact of the film and video industries in Connecticut is significant. These industries account for more than 7,000 jobs in the state and provide almost $380 million in wages, and account for almost $2 billion in sales. Table F-3 contains Table F-2 data, as well as embedded film and video jobs in industries not appearing in Table F-2 because in that table they contain the embedded and other related jobs in the relevant industry. ***According to our definition, there are more than 8,300 film and video jobs in Connecticut.***

CCEA uses direct employment data to derive the indirect and induced impacts of the industries on the state economy. Alternatively, we could have used revenues to drive the economic impact, but revenues for the 'Other Commercial and Industrial Machinery and Equipment Rental and Leasing, includes Motion Picture Rental/Sales' subsectors were not available. Sector revenues (sales) in economic input-output models are proportional to employment. ***Note, we do not account for visitor spending in the economy resulting from film and video showings and events. Thus, our analysis is conservative.***[34]

[34] Note that in the travel and tourism study we track visitor spending, some of which relates to the film and video industry.

Table F-2: Connecticut Film and Video Firms' Employment, Revenue and Payroll

NAICS Code	Industry	Firms	Direct Employment	Receipts ($1,000)	Payroll ($1,000)
51211	Motion Picture Production	103	1,298	Withheld	$83,342
51213	Motion Picture & Video Exhibition	61	1,486	$131,916	$17,023
51219	Post-Production	18	100	$11,278	$4,696
5122	Sound Recording	39	172	Not Available	$5,534
515 [Excludes NAICS 51511: Radio Broadcasting]	Broadcasting, except Internet	41	2,472*	$1,560,868*	$183,286*
516	Internet Broadcasting (NAICS)	36	1,177	$152,319	$72,018
5324902	Other Commercial and Industrial Machinery and Equipment Rental and Leasing, includes Motion Picture Rental/Sales	36	312	$50,618	$13,692
	Total	**334**	**7,017**	**$1,906,999**	**$379,591**

*Part of this data is withheld or a range is given. These are reasonable estimates given the reported data.

Table F-3: Connecticut Film and Video Firms' and Embedded Employment

NAICS Code	Industry	Firms	Direct Employment	Receipts ($1,000)	Payroll ($1,000)
51211	Motion Picture Production	103	1,298	Withheld	$83,342
51213	Motion Picture & Video Exhibition	61	1,486	$131,916	$17,023
51219	Post-Production	18	100	$11,278	$4,696
5122	Sound Recording	39	172	Not Available	$5,534
515 [Excludes NAICS 51511: Radio Broadcasting]	Broadcasting, except Internet	41	2,472*	$1,560,868*	$183,286*
516	Internet Broadcasting (NAICS)	36	1,177	$152,319	$72,018
5324902	Other Commercial and Industrial Machinery and Equipment Rental and Leasing, includes Motion Picture Rental/Sales	36	312	$50,618	$13,692
	Total	**334**	**7,017**	**$1,906,999**	**$379,591**
		Occupation	**Direct Employment**		
332	Fabricated Metal Product Mfg	27-4031	10		
334	Computer & Electronic Product Mfg	27-4011 & 27-4014	11		
339	Miscellaneous Mfg	27-3099	18		
443	Electronics & Appliance Stores	27-4011 & 27-4031	160		
454	Non-store Retailers	27-3099	18		
491	Postal Service	27-3099	18		
511	Publishing Industries	27-3091, 27-3099 & 27-4099	40		
517	Telecommunications	27-4012	100		
522	Credit Intermediation & Related Activities	27-4011 & 27-4014	10		

524	Insurance Carriers & Related Activities	27-3091, 27-3099, 27-4011, 27-4012 & 27-4099	92		
531	Real Estate	27-4011	8		
533	Lessors of Nonfinancial Intangible Assets (except copyrighted works)	27-4011	8		
541	Professional, Scientific & Technical Services	27-3099, 27-4011, 27-4014 & 27-4031	50		
551	Management of Companies & Enterprises	27-4011 & 27-4099	13		
561	Administrative & Support Services	27-3091 & 27-3099	34		
611	Educational Services	27-3091, 27-3099, 27-4011, 27-4012, 27-4014 & 27-4099	241		
621	Ambulatory Health Care Services	27-3091	16		
622	Hospitals	27-3091, 27-3099, 27-4011 & 27-4099	41		
624	Social Assistance	27-3091	16		
711	Performing Arts, Spectator Sports & Related Industries	27-3099, 27-4011, 27-4012, 27-4014 & 27-4099	204		
712	Museums, Historical Sites & Similar Institutions	27-4011	9		
713	Amusement, Gambling & Recreation Industries	27-4011	8		
721	Accommodation	27-4011	10		
722	Food Services & Drinking Places	27-4011	9		

813	Religious, Grantmaking, Civic, Professional & Similar Organizations	27-4011, 27-4014 & 27-4031	20		
999	Federal, state & local government	27-3091, 27-3099, 27-4011, 27-4012, 27-4031 & 27-4099	142		
		Total Film / Video	**8,323**		

*Part of this data is withheld or a range is given. These are reasonable estimates given the reported data.

The Economic Impact of Connecticut's Film and Video Industries

In quantifying the economic benefits generated by film and video productions, CCEA uses the Connecticut state-customized version of REMI, a dynamic regional input-output and forecasting model.[35] The 2002 Economic Census data for Connecticut provides employment figures for the NAICS industries selected to represent Connecticut's film and video industries. Table F-1 above displays these figures, along with the number of firms in each subsector, and employment, receipts, and payroll information by subsector from the 2002 Economic Census that represents the direct impact of the film and video industries on the Connecticut economy. Table F-1 demonstrates the direct impact of the film and video industries in Connecticut is significant. These industries account for more than 8,300 jobs in the state and provide more $380 million in wages, and account for more than $2 billion in sales.

CCEA uses direct employment data to derive the indirect and induced impacts of the industries on the state economy from the REMI model of the state's economy. Alternatively, we could have used revenues to drive the economic impact, but revenues for the 'Other Commercial and Industrial Machinery and Equipment Rental and Leasing, includes Motion Picture Rental/Sales' subsectors were not available. Sector revenues (sales) in economic input-output models are proportional to employment, thus one

[35] Employment in the film and video sectors as defined by CCEA fall into five sectors in REMI: Motion Picture and Sound Recording, Professional and Technical Services, Rental and Leasing Services, Performing Arts and Spectator Sports, Broadcasting (except Internet), and Internet Services and Data Processing. Because REMI does not contain an Internet Broadcasting sector, CCEA elected to count lost employment in the field under the Internet Services and Data Processing sector.

approach is equivalent to the other. ***Note, we do not account for visitor spending in the economy resulting from film and video showings and events. Thus, our analysis is conservative.***[36]

We present the total (direct, indirect and induced) economic impact on the state in Table F-4. These figures represent the incurred losses to the economy as a whole, were the film and video industries to disappear from Connecticut and describe the total economic impact of the shock, including the direct, indirect, and induced effects that the industries have on the entire state economy. Because a regional economy such as Connecticut is dynamic (there are endogenous adjustments to changes in relative prices and wages, and, migration occurs), we assume that the economy reaches a new equilibrium after a number of years. REMI provides a dynamic modeling structure that we use to observe how long it takes to reach this new long-run equilibrium. In this case, we choose the year 2025 as the horizon for the new long-run equilibrium. Because the economy at this point has reached a new equilibrium, allowing for lagged (slow reacting) economic and demographic variables to adjust, the figures averaged out to 2025 provide a reasonable picture of how the economy would be functioning were these industries to disappear from Connecticut. We include figures in terms of the average yearly impact. The average yearly impact represents the average change from the baseline forecast due to the presence of the film and video industries from 2004 to 2025. This measure indicates how much Connecticut's film and video industries affect the state economy as a whole. We interpret this as the amount by which the Connecticut economy would suffer from now on if the film and video industries disappeared.

Table F-4 reports economic impacts for the entire state.

[36] Note that in the travel and tourism study we track visitor spending, some of which relates to the film and video industry.

Table F-4: Economic Impact of Connecticut's Film and Video Industries

Annual Average Impact 2004-2025		
	Statewide Estimate	Percent of CT Economy (2004)
Total Employment (Jobs)	18,079	1.06%
Total Gross State Product (Mil 2004$)	$2,502	1.35%
Personal Income (Mil 2004$)	$1,211	0.76%
Total Output (Mil 2004$)	$4,439	1.47%
Population	10,337	0.30%
Labor Force	8,002	0.45%

As evidenced, the film and video industries significantly affect the Connecticut economy. While the industries and embedded film and video occupations themselves account for 8,323 direct jobs, the film and video industries and industries containing film and video occupations support more than 18,000 jobs in Connecticut as a whole. That means there is an implied statewide multiplier for employment of 2.17 and that the film and video industries help sustain an additional 9,756 jobs around the state in various supporting industries. Additionally, new total state output (new sales in all industries) of more than $4.4 billion can be attributed to the presence of Connecticut's film and video industries. That output accounts for more than one percent of total sales in Connecticut.

Connecticut's film and video industries' and industries containing film and video occupations activities generate new state and local government revenue through the collection of fees and permits, increased sales taxes, and higher property values and resulting taxes. Table F-5 shows these industries influence fiscal balance sheets significantly.

Table F-5: Fiscal Impact of Connecticut's Film and Video Industries

Annual Average Impact 2004-2025		
	Statewide Estimate	Percent of Total State and Local (2002)*
State and Local Revenues (Mil 2004$)	$199.36	0.81%
State and Local Expenditures (Mil 2004$)	$87.35	0.32%

*Most recent Census of Governments' estimates

Conclusion

Though this film and video industries' study is conservative and understates their economic impact, their contributions to Connecticut's economy are significant nonetheless. Our analysis shows that the film and video industries provide 8,323 direct jobs and support more than 18,000 total jobs in the state, or more than one percent of the state's overall employment. Given the wealth of opportunity these industries provide the state in terms of employment and spending, losing that one percent of work would mean a life change for those directly and indirectly linked to Connecticut's film and video industries. It remains the responsibility of local firms and politicians to capitalize on these gains and expand the local industries in the future. As competition to capture business from production companies grows, Connecticut must remain vigilant in attracting film and video business to the state for the benefit of all. It can be argued that given the growth and popularity of film and video products throughout the world, competition over the location of production has become fierce among a number of states and countries. As Leonard Jacobs, a columnist in the industry, has observed, "each state, from the tiniest to the biggest, from the most to least populated, possesses economic strengths and weaknesses leveraged in the race to bring commerce to its borders, boosting jobs and opportunities for the local citizenry."[37] With new technologies developing daily

[37] Jacobs, Leonard. "Legislative Tax Incentives for Pitting State Against State," September 15, 2004. See http://www.backstage.com/backstage/news/article_display.jsp?vnu_content_id=1000630530.

and production budgets skyrocketing, getting a piece of the film and video industries' action can mean big money for those regions interested in invigorating their local economies.[38]

Fiscal incentives can influence producers in choosing a production location, and a number of states have designed certain tax credits to increase film production. By providing tax consideration for film production companies, states can increase the volume of film and video business within their borders, and thus benefit in the long term. Appendix 4 reviews legislated incentives available in Connecticut.

[38] Appendix 2 contains a listing of Connecticut's current tax incentives designed to attract film and video business.

The Impact of Connecticut's Arts Industries

A Review of the Literature

As eloquently expressed by Robert L. Lynch, President of Americans for the Arts, when "understanding and acknowledging the incredible economic impact of the nonprofit arts, we must always remember the fundamental value of the arts. They foster beauty, creativity, originality, and vitality. The arts inspire us, sooth us, provoke us, involve us, and connect us…but they also create jobs and contribute to the economy."[39] Indeed, it cannot be denied that arts and cultural organizations have a unique, and in many ways, unquantifiable value in our society. However, these organizations require the coordinated efforts of a number of dedicated workers who inherently participate in the economy by virtue of their work. Putting the value of the arts in greater economic perspective can only help foster enthusiasm and support for arts and cultural programs in the future. Indeed, Cohen, Davidson, and Schaffer (2003) report "Arts organizations are employers, producers, consumers, members of the chamber of commerce, and key participants in the marketing and promotion of their cities and regions. Their spending is far reaching: arts organizations pay their employees, purchase supplies, contract for services, and acquire assets within the local community. These actions, in turn, support local jobs, create household income, and generate revenue for the local, state, and federal governments. Unlike most industries, the arts also leverage significant amounts of event-related spending by their audiences, generating commerce for local businesses such as hotels, restaurants, and retail stores . . . These expenditures also have a positive economic impact"

Moreover, Americans for the Arts (AFTA) reports in its Creative Industries 2005: The State Report, "We know from published research studies on the benefits of arts education that early learning in the arts nurtures the types of skills and brain development that are important for individuals working in the new economy of ideas. We also know that there is a strong correlation between participation and learning in the arts as a child

[39] "Art and Economic Prosperity: The Economic Impact of Nonprofit Arts Organizations and Their Audiences," Americans for the Arts, 2003, p i.

and attendance of cultural activities as an adult."[40] Further, they report, "According to the National Governors Association publication *The Impact of Arts Education on Workforce Preparation* (May 1, 2002), 'School districts are finding that the arts develop many skills applicable to the 'real world' environment. In a study of 91 school districts across the nation, evaluators found that the arts contribute significantly to the creation of the flexible and adaptable workers that businesses demand to compete in today's economy.' The creative industries are critical to the sustainability of an industry that comprises more than 4 percent of U.S. businesses." The arts clearly benefit everyone and make Connecticut a richer place in which to work and live.

In 1994, AFTA published its first economic impact study, entitled "Arts in the Local Economy."[41] In 2003, AFTA dedicated to advancing arts around the country, issued another report called "Art and Economic Prosperity: The Economic Impact of Nonprofit Arts Organizations and Their Audiences" that updated the 1994 data and expanded the scope of the earlier study to include spending estimates of arts patrons. This report featured aggregated survey results from 91 diverse communities around the country.[42] Each participating community was asked to disseminate, collect, and review detailed surveys of nonprofit arts organizations located in the region and to conduct visitor-incept surveys of arts attendees at a minimum of 15 diverse arts-related events in the area.[43] Information from the surveys was then used to extrapolate data for the nation as a whole.[44] The study provides information regarding the direct and indirect impacts of

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[40] See http://www.artsusa.org/pdf/information_resources/research_information/services/creative_industries/state_report.pdf

[41] "Arts in the Local Economy," Americans for the Arts, 1994.

[42] Data from the 91 participating communities can be found on the Americans for the Arts website. A summary of the data collected from each community can be accessed as a PDF file at http://ww3.artsusa.org/pdf/information_resources/economic_impact/Summary_of_Findings_for_91_Partner_Communities.pdf.

[43] For-profit arts companies, individual artists, and arts produced by non-arts organizations (including schools and community centers) were excluded from the survey.

[44] Each of the 91 communities was stratified in six population categories and an economic impact average was calculated for each group. Using Census data, the nation's 19,372 cities were each assigned to one of the six groups based on their population, taking on the previously calculated economic impact average. Finally, all of the cities' figures were aggregated to create represent national level data. It is also important to note that New York, Los Angeles, and Chicago, each with more than $1 billion in organizational expenditures alone, were eliminated from the study to avoid inflating national estimates. Santa Fe, New Mexico, Rockland, Maine, and Juneau, Alaska, all outliers, were also removed before calculating national averages.

arts organizations around the country, and, according to the study itself, "provides compelling new evidence that the nonprofit arts are a significant industry in the United States." Among its findings, the study estimates that nonprofit arts organizations generate $134 billion in total economic activity a year, including $53.2 billion by nonprofit arts organizations and an additional $80.8 billion in event-related spending by their audiences.[45]

In addition to the national report, which is composed of detailed surveys from around the country, a number of states and regions have conducted and published their own local economic impact reports for the arts. The New England Foundation for the Arts (NEFA) prepared New England's Creative Economy: *Employment Update July 2004*[46] that updated earlier studies of the creative cluster of industries and occupations (the creative workforce) in the six New England states and compared regional trends with national trends. The NEFA work and that of its predecessors focus on a broad set of industries and occupations including applied arts, visual arts, performing arts, literary arts, media (film, radio, TV and cable), heritage (museums and historical sites), and support (fine arts schools, Independent Artists, Writers, and Performers – Incorporated and Unincorporated). The study develops employment estimates from a variety of sources including the Economic Census, Current Population Survey, County Business Patterns and IRS Form 990 data for non-profit organizations. The study does not develop economic impact of the creative cluster, as that was not its mission. Rather the report serves to illuminate the extent and trend of the region's employment contributing to the creative cluster relative to the nation as a whole. Its scope is much broader in terms of occupational and sectoral inclusiveness and it is a useful input to our definitional challenges outlined below (their Table 1 on page 14, for example, includes radio broadcasting).

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[45] "Art and Economic Prosperity: The Economic Impact of Nonprofit Arts Organizations and Their Audiences," Americans for the Arts, 2003, p 1.

[46] New England's Creative Economy: Employment Update, July 2004, http://www.nefa.org/pubs/documents/CEemployupdate_2004webvrsn.pdf. See the discussion in the film and video report as well.

In their earlier study of non-profit arts and cultural organizations,[47] NEFA profiles the employment, revenues, expenditures, taxes and admissions of these organizations in the six New England states. The authors estimate economic impact as well. It is not clear precisely what constitutes non-profit arts and cultural organizations (are historical museums and sites included?). This study is of limited value for the present work because of its limited data sources and narrow focus.

The College of Business and Public Administration at the University of Louisville, with Paul Coomes, an economics professor at the University, produced a report, entitled "The Economic Importance of Arts and Cultural Attractions in the Louisville Area" in 2000.[48] The report groups arts attractions into five general categories: museums, performing arts, heritage sites, nature attractions, and libraries. The study relies on a survey distributed to various arts attractions around the state, and provides fairly detailed figures for all five types of attractions in terms of attendance, incomes, expenditures, employment and volunteer figures, and physical assets. The study estimates annual tax receipts from the arts for the city and the state in terms of payroll and attendee spending. Using some limited estimates provided by surveyed organizations concerning 1990 levels of income and expenditure, the study examines the growth of the industry from 1990 to 1999. The following three major attractions, The Louisville Zoo, the Falls of the Ohio State Park, and Bernheim Forest, together had 42 percent attendance growth and 76 percent payroll growth. During this period, the Louisville economy grew approximately by one third.

A large part of the report is also devoted to providing a comparative analysis of Louisville arts attractions to other cities. For each of the five types of attraction, a detailed analysis comparing the size of that attraction to similar attractions in other cities around the country is provided. The study looks at twenty cities for comparisons to Louisville, which were selected based on their population size, their proximity, and historical competitiveness with Louisville. There is no clear pattern for how Louisville

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[47] Wassall, G.H. and DeNatale, D. (2005). "New England's Creative Economy: The Non-Profit Sector, 2002," February, available from http://www.nefa.org/pubs.

[48] Coomes, Paul A. (2000). "The Economic Importance of Arts and Cultural Attractions in the Louisville Area," College of Business and Public Administration, University of Louisville.

compared across the different categories assessed, though the results indicate that its ballet, theater, and zoos are key attractions for the city.

The Wessex Group, Ltd. produced an economic impact report in 2000, called, "Virginians for the Arts: The Economic Impact of Arts and Cultural Organizations in Virginia."[49] The study relied on a survey distributed to a number of nonprofit arts organizations throughout the state. The survey gathered attendance data including estimates of out-of-state visitors, employment data, and other information related to income and expenditure figures. The data was used in a Virginia-based IMPLAN program to model the total economic impact of non-profit arts and cultural organizations around the state. Results provide a detailed look at visitation to Virginia's cultural attractions (with special attention to out-of-state attendance), revenue sources, payroll and volunteer hour estimates, and specific expenditure estimates for the organizations, and all of their impacts on the state as a whole. Out-of-state visitors, accounting for 37 percent of paid admissions to arts and cultural organizations, generated $342 million in revenues.

A 2001 report published by The Perryman Group for the Texas Cultural Council, "The Catalyst for Creativity and the Incubator for Progress: The Arts, Culture, and the Texas Economy," takes a comprehensive look at the arts and cultural industry in Texas at the state and regional level, with a specific look at several of the major metropolitan areas as well.

In 2002 the Division of Research at the Moore School of Business at the University of South Carolina published "The Economic Impact of the Cultural Industry on the State of South Carolina."[50] Besides surveying a number of local arts councils, historical sites and associations, libraries, museums, and parks the report questions a number of art galleries, craft suppliers, dance instructors, and photographers, expanding the scope of the study to include for-profit firms. The report also documents the results of a 2002 visitor intercept survey of the Spoleto USA and Piccolo Spoleto festivals and the Southeastern Wildlife Exposition, to map the impact of those festivals for the state and Charleston region. The study uses a South Carolina-based IMPLAN model to

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[49] "Virginians for the Arts: The Economic Impact of Art and Cultural Organizations in Virginia," Wessex Group, Ltd, 2000.
[50] "The Economic Impact of the Cultural Industry on the State of South Carolina," Division of Research, Moore School of Business, University of South Carolina. 2002.

estimate the total economic impacts for the state for nonprofit organizations, for-profit firms, individual artists, arts education programs, festivals, and the film industry.[51]

A 2004 report, titled "Economic Impact of Florida's Arts and Cultural Industry" by William Stronge, an economics professor at Florida Atlantic University, examines the economic impact of nonprofit arts organizations and university art programs in Florida.[52] The report documents program spending from 1989 to 2001, noting an increase in spending over time, with a strong increase in the last documented four-year period, from 1997 to 2001.[53] The report details the total impact of cultural organizations in the state (direct spending + indirect spending + induced spending), using a Florida-specific RIMS II input-output model. The study provides detailed spending and income estimates for the states' cultural organizations, and briefly looks at the economic impact of cultural tourism in the state. Through multiplier or ripple effects, the initial $1.2 billion, spent by Florida's not-for-profit organizations, universities and colleges increased GSP by $2.9 billion, added $877.8 million in new income and added 28,302 full-time equivalent jobs.

The Maryland State Arts Council most recently published, "Economic Impact of the Arts in Maryland: 2004 Update," the eighth in a series reports issued by the agency concerning nonprofit arts and cultural associations in the state.[54] The analysis is based on a detailed 2003 survey data of nonprofit arts organizations that applied to the agency for annual support grants. Each organization is grouped into one of three general categories: performing arts, visual arts, and multidisciplinary arts associations. Each category's contribution to the state is measured in terms of annual contribution to the economy's output, employment, payroll, and tax revenues. The state is divided into six regions for purposes of analysis, with data available in each category by region. The total economic impact, "amounts to an estimated $911 million in gross sales, $312 million in total employee income, and about 12,792 full-time equivalent jobs statewide."

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[51] Information regarding the direct impact of the film industry and arts education programs in the state was derived from data supplied by state and local governments.
[52] Stronge, William (2004). "Economic Impact of Florida's Arts and Cultural Industry," Florida Atlantic University.
[53] Primary source data was obtained through grant applications submitted by nonprofit organizations and colleges and universities to the Florida Division of Cultural Affairs. A significant portion of these initial organizations replied to more detailed surveys issued by the author.
[54] "Economic Impact of the Arts in Maryland: 2004 Update," Maryland State Arts Council, 2004.

In transition to the CCEA methodology, we allude to Throsby (2003)[55] who describes an approach to modeling the visual arts in Australia. He advocates a transactions approach in which money flows among stakeholders are tracked. For example, the artist rents space, purchases paints and canvas and hires intermediaries to market or show his or her works at galleries or museums. Consumers buy the art and/or pay to see it in a gallery or museum. Corporate sponsors and other benefactors and patrons (including government) support the creation and dissemination of art. These transactions are economic in nature; however, Throsby (2003) distinguishes cultural transactions from economic transactions:

> "At the same time, a second type of transaction takes place, namely, a set of *cultural* transactions. Artists engage in cultural transactions with dealers and consumers when consumers evaluate the quality of their work. Consumers engage in cultural transactions with art museums when they contemplate the cultural messages conveyed by the artworks on display. Similar cultural transactions occur between other stakeholder groups in the model. Thus, in the same way that we construct a flow-of-funds matrix to represent the *economic* transactions between stakeholders, so also can we imagine, in principle at least, a matrix showing the flows of *cultural* value resulting from cultural engagements and exchanges within the industry and between the industry and the outside world. In other words, we can postulate a dual or shadow economy involving cultural transactions, one that parallels the real economy where actual financial exchange occurs. In some cases, there may be a close relationship between flows of cultural and economic value; for example, the quality evaluations made by buyers and sellers of artworks for sale are likely to have a strong influence on the prices they are willing to pay and accept, and hence on equilibrium prices in the market. In other cases, transactions may be purely economic (e.g., when an artist buys materials from a supplier) or purely cultural (e.g., when a person looks at artworks for free in a gallery or museum)."

[55] Throsby, David (2004). "Assessing the Impacts of a Cultural Industry," *The Journal of Arts Management, Law and Society,* vol. 34, no. 3, p. 188-204.

Throsby (2003) acknowledges the difficulty in measuring the value of cultural transactions: "Despite the fact that the flows of cultural value that occur as a result of the transactions depicted in this model are difficult to measure—at least in our present state of understanding—we should not underrate the importance of these cultural transactions in a model of this sort. To comprehend the structure and functions of a cultural industry and its relationships with other sectors, explicit account must be taken of the industry's underlying cultural rationale. It can be argued that it is the peculiar characteristics of cultural goods and services that endow impact studies in the arts and culture, with their distinctive flavor; hence, confining impact studies to purely economic effects tells only half the story." However, due to data limitations and an indefinite way forward, Throsby (2003) omits cultural transactions (and visitor spending) from his case analysis. We too omit the cultural value of the arts industries, but we have a way to assess it if we had certain data. Our approach is to value the arts cultural value by consumers' willingness to pay to view them, that is, the admission or subscription fees and donations represent the minimum amount of improvement to their quality of life, or the amenity value of the arts. However, we do not have the data needed to perform a quality of life improvement measurement and our analysis is conservative by this omission (a survey of Connecticut establishments engaged in arts goods and services production and dissemination would provide the needed data). Ours is a transactions-based approach that assumes the economic impact or value of Connecticut arts industries is represented by the jobs in these industries and by arts occupations (jobs) embedded in industries whose final products are not arts-related, for example, the insurance industry.

The foregoing studies represent a sample of several such studies. It is apparent that they employ different data, define the arts, culture and heritage industries differently and that these studies' definitional and geographic scopes are as varied as are their purposes.

Methodological Overview

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. This study defines the arts industry broadly in

order to estimate its economic value as accurately as possible to the State of Connecticut. Because this study is one of four parts measuring the economic impacts of (1) leisure and business travel and tourism, (2) history and heritage, (3) the film and video industry, and (4) the arts industry, we restrict our attention to a mutually exclusive set of occupations and establishment types so as not to double count their economic contributions to the Connecticut economy. Connecticut's arts industries draw visitors from the state and from beyond its borders to concerts, exhibitions, and the many museums, galleries and playhouses that call Connecticut home. However, we use visitor expenditure data exclusively in the leisure and business travel and tourism industry. This avoids double counting visitor expenditure for arts, historic preservation, and film and video 'tourism', but reduces the individual industry impacts. The 2004 visitor intercept survey performed for the leisure and business travel and tourism study does not represent all visitors to all arts establishments (or to history and heritage sites or in conjunction with film and video activity). However, it is a reasonable approximation to visitor spending in specific categories in the state as a whole.

We are conservative in estimating visitors and their expenditures to reduce the possibility of overlap in their activities with respect to visiting arts events and venues, historic sites and events, and, film and video events, activities or venues. It is also true that some firms and individuals in the arts 'sector' do not attract visitors (for example, sculptors, writers, poets). Our 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, organization, institution or individual. Thus, our analysis is conservative and understates the true economic impact of the arts. Employment in the arts industries is the direct effect (e.g., writers, actors, set designers), business-to-business activity is the indirect effect and employee spending represents the induced effect. The REMI model estimates the indirect and induced effects. The total effect reported in the results below from the REMI model of the Connecticut economy is the sum of these three effects.

Defining the Arts Industry

One difficulty for a study such as this is defining the composition of the arts industries in terms of what types of firms defined by the North American Industrial Classification System (NAICS) and occupations defined by the Standard Occupational Classification (SOC) are included. Any definition is somewhat subjective and controversial. The issue is complicated because there is no formal definition of the arts industry and the boundaries between for example, historic preservation and the arts, and film and video and the arts are fuzzy (is a museum of natural history a historic preservation institution, a heritage institution or an arts institution?). Clearly there is overlap among occupations and firms that exist in the arts, history and heritage, and the film and video industries. NEFA and others have attempted a working definition for their purposes, as have we. Our definition is in the same vein as NEFA's 2004 work, but we believe ours gets closer to the essence of arts work exclusively. NEFA's 2004 work includes workers in the creative cluster that is a broader group of industries and occupations than we focus on here. For example, NEFA's creative cluster includes film, media, radio and TV broadcasting and heritage occupations and establishments (their Table 1 on page 14).

AFTA defines creative industries thus, "We have taken a conservative approach to defining the *Creative Industries* by focusing solely on businesses involved in the production or distribution of the arts. For the purposes of this study, the *Creative Industries* are composed of arts-centric businesses that range from nonprofit museums, symphonies, and theaters to for-profit film, architecture, and advertising companies. We have guarded against overstatement of the sector by excluding industries such as computer programming and scientific research—both creative, but not focused on the arts."[56] We include most of the industries AFTA identifies, but we omit film, radio and TV, photography, and, museums and collections from this arts study. Each of these latter industries except radio is included in the CCEA film and video or the historic preservation studies contained herein.

[56]http://www.artsusa.org/information_resources/research_information/services/creative_industries/default.asp

Our primary data source is the 2002 Economic Census Geographic Area Series that uses the North American Industry Classification System (NAICS) to organize its industry information.[57] The NAICS divides the U.S. economy into 20 major industrial sectors; industries within these sectors are grouped according to production criteria (how they produce their goods or services). The NAICS structure reflects a hierarchical system of organization; the number of digits coded for an industry group indicates its level of specificity, with two digits representing a general (highly aggregated) sector down to six digits representing one part of an industry (highly disaggregated). Our second source, for arts occupations, is the Occupational Employment Statistics (OES) from the Bureau of Labor Statistics (BLS). The Standard Occupational Code (SOC) defines the universe of occupations from which we choose relevant arts occupations that are embedded in industries whose end product is not arts goods and services. For example, there are arts workers in the insurance industry who create graphic arts works. We use state level data because in smaller geographies, for example Metropolitan Statistical Areas, more data is suppressed than at the state level.

We define or characterize the arts industry by the occupations workers in it hold and by the industry sectors that relate to supplying arts goods and services. In the occupational approach, we (subjectively) identify from the Bureau of Labor Statistics' (BLS) Standard Occupational Codes (SOC) occupations that relate to creating, supporting the creation of, and disseminating arts goods and services. By arts goods and services, we mean works of art (painting, sculpture, poetry, music composition, literary works, puppetry, and, music, dance and other dramatic and theater arts performances, among others) and the services necessary to sustain art creation and performance (piano tuners, costume makers, stagehands, promoters, artist suppliers, musical instrument makers, curators, docents, and, art, music and dance teachers, among others). Some workers in these occupations work in firms and earn W-2 wages and some work as sole proprietors and independent contractors. The firms in which persons in arts occupations work may be in an arts industry (e.g., an art museum or gallery, a stage or dance company) or the firms in which they work may be unrelated to the arts industry (e.g., an

[57] These volumes were issued for each state in May 2005 for each major sector (see for example, http://www.census.gov/prod/ec02/ec0271act.pdf for the volume describing the arts, entertainment and recreation sectors.

artist or musician working for an advertising agency, or a writer working for a software firm). Arts workers in the latter category are embedded in an unrelated firm. Firms in the arts industry have workers who do not create art such as janitors or accountants, but whose work supports the operation of the art-creating entity. We include such workers (jobs) in our counts. Self-employed (e.g., musicians, dancers, painters, sculptors, actors, promoters) or sole proprietors (e.g., music and art stores' owners) are counted as well.

Below we describe in detail the occupational and industry approaches we take to estimating employment in Connecticut's art industries. The occupational approach leads to an estimate of 15,380 arts and arts-related jobs in the state. The industry approach leads to an estimate of more than 19,141 arts and arts-related jobs in the state. When we combine the two such that we account for embedded arts workers, the estimate climbs to more than 27,700 arts jobs in Connecticut.

Occupational Approach

The number of Connecticut jobs of persons whose occupation we define as arts-related (not including support personnel[58]) is 15,830.

We obtain from BLS the Standard Occupational Codes for the occupations we believe fit our definition of arts workers. Table A-1 shows for Connecticut the occupations we include and the number of workers and their average annual wage for each category. The Connecticut Department of Labor sorted these occupations into NAICS industries in order that we may estimate their economic impact using the Connecticut economic model, REMI. This view provides the distribution of arts occupations across Connecticut's (arts and non-arts) industries at a relatively high level of industry aggregation, that is, within a group of industries that contains several related industries (lower levels of aggregation would approach individual firms). We emphasize that there are workers in some firms in these industries that have nothing to do with arts goods' and services' production, the support thereof, or arts goods' and services' dissemination (e.g., athletic coaches in educational establishments). There are also workers in some firms in these industries that do provide support in one form or another

[58] Support personnel are included in Table ARTS-2 below in the industry view. In addition, arts occupations CT DoL suppresses are not represented in Table ARTS-1, e.g., Dancers and Fashion Designers.

(accounting, security, logistics). We recognize that there may be some overlap between arts occupations and historic preservation occupations insofar as 'Museum technicians and conservators,' 'Curators', 'Archivists,' and 'Librarians' may work in or at historical museums, sites or similar institutions, as well as in or at art museums and galleries.

There is some overlap with Connecticut's film and video occupations as well, although we exclude the specific occupations 'Fine artists, including painters, sculptors, and illustrators,' and 'Artists and related workers, all other' from the film and video study and include them in this study. We exclude 'Photographers' from this study and the film and video study. However, we include the independent, artistic photographers contained in the NAICS industry 7115 (Independent Artists, Writers and Performers) listed below in Table ARTS-2. Of the 870 Photographers (SOC 27-4021) in Connecticut in 2004, 640 work in Professional, Scientific & Technical Services (NAICS 541), and 110 Photographers work in Connecticut's Publishing Industries (NAICS 511). We exclude 'Commercial and Industrial Designers'[59] from both studies, while we include 'Graphic Designers' in this study exclusively.

We include in this study 'Multi-media artists and animators' because we believe the occupational overlap with film and video industries is small, and, there may be some overlap of 'Musicians and singers,' located in the 'Performing Arts, Spectator Sports & Related Industries' with the film and video industries. We include 'Editors' in this study located only in arts industries. We include in this study 'Writers and authors' (but not Technical Writers) and other occupations located in industries not directly related to the arts industries. These latter workers are 'embedded' arts workers in those industries in the same way that computer programmers are found in industries that do not produce information technology products as their primary output (e.g., insurance and aerospace). ***Potential occupational overlaps with historic preservation and the film and video industries appear in yellow highlight in Table A-1. For this study, we exclude these occupations (250 jobs).*** Table A-1 is organized in order of ascending SOC code and contains the arts-related and CT DoL explicitly reported occupations represented as jobs embedded in Connecticut industries.

[59] These workers, "Develop and design manufactured products, such as cars, home appliances, and children's toys. [They] Combine artistic talent with research on product use, marketing, and materials to create the most functional and appealing product design." As such, we do not consider them in this study.

Anomalies and Suppressions

The Connecticut Department of Labor (CT DoL) suppresses approximately 1,310 workers in several industries at the state level for confidentiality reasons. In addition, the Occupational Employment Statistics report zero workers in certain occupations that CT DoL allocates to various industries. Moreover, zero reported workers by OES have positive numbers reported by CT DoL. Following is an account of the situation and how CCEA handles the issue.

We note the (conspicuous) occupational category for which there is no data: SOC 27-1012, Craft Artists. This is clearly an anomaly because we know of several potters, woodcarvers and wood turners in Connecticut (e.g., the Connecticut Woodcarvers' Association and Gallery in East Canaan, and the Wesleyan Potters' Guild). Some craft artists may be self-employed and would not show up in the Occupational Employment Statistics (OES). We note as well the absence of SOC 39-5091, Makeup Artists, Theatrical and Performance in the OES statistics for Connecticut (that is, zero jobs). Moreover, we note the difference between employment given in the OES estimates and the portion of that employment allocated to a Connecticut industry by the Connecticut Department of Labor (CT DoL). For example, in the first entry in Table A-1, the OES reports Connecticut had, as of November 2004, ninety (90) Agents and Business Managers of Artists, Performers, and Athletes of which seventy (70) are in the Performing Arts, Spectator Sports & Related Industries; CT DoL reports the remaining 20 as working in five other industries, but suppresses their numbers for confidentiality. This is the case for several occupations and we indicate this with the employment number for the industries shown and a '+' for the remainder employed in industries for which CT DoL suppresses the data (not shown in Table A-1).

As another example, OES reports (for May 2004) there are thirty (30) Fashion Designers, thirty (30) 'Dancers',[60] and two hundred and twenty (220) 'Designers, all other' (for November 2004). CT Dol suppresses ***each*** of these occupations in the Connecticut industries in which they occur. In this case, we allocate these occupations roughly equally among the industries CT DoL reports contain them as explained below. For 'Actors', OES occupational employment is ***not*** reported, yet CT DoL reports one

[60] Note: choreographers are a distinct occupation explicitly accounted in Table A-1.

hundred and seventy (170) Actors in the Performing Arts, Spectator Sports & Related Industries. Further, CT DoL reports an unspecified number of Actors in the Motion Picture & Sound Recording Industries, Professional, Scientific & Technical Services, and in the Management of Companies & Enterprises (their numbers are suppressed). We indicate this situation as '170+?'.

The occupation 'Producers and Directors' deserves mention as it overlaps the film/video and arts industries. OES reports that as of November 2004 there were 760 Producers and Directors in Connecticut that CT DoL reports are distributed across ten industries: 100 are in the Performing Arts, Spectator Sports & Related Industries, 140 are in the Motion Picture & Sound Recording Industries and the remainder is suppressed in eight other industries. Our approach is to include in this study the 100 Producers and Directors in the Performing Arts, Spectator Sports & Related Industries and ignore the rest (520 jobs), because we assume the 140 are included in the Motion Picture & Sound Recording Industries reported in the film and video study. Other NAICS industries containing (the remaining 520 suppressed) Producers and Directors include: Federal, state & local government; Museums, Historical Sites & Similar Institutions; Educational Services; Administrative & Support Services; Management of Companies & Enterprises; Professional, Scientific & Technical Services; Broadcasting (except Internet); and, Publishing Industries. Distributing this large number of remaining Producers and Directors over the eight diverse industries is problematic and, for this study, we ignore the economic contribution 520 Producers and Directors in these eight industries make to the Connecticut economy.

The "Editors" occupation overlaps film and video and the arts industries as well. OES reports there were 1,480 Editors in Connecticut in November 2004. CT DoL distributes 1,160 of these occupations into six Connecticut industries; the distribution of the remainder (320) in 24 industries is suppressed. We distribute the 320 Editors roughly equally among the 24 industries CT DoL reports as containing them. In general, for purposes of this analysis, we distribute employment roughly equally for each occupation after accounting for identified OES employment in the industries CT DoL reports as containing it, but in which employment is suppressed (except Producers and Directors). As another example, six hundred and thirty (630) Writers and Authors exist in 22

Connecticut industries but appear in only 10 Connecticut industries for confidentiality purposes. We distribute the remaining 20 jobs over the other 12 industries roughly equally. This is an admittedly subjective process and one that cannot be ignored.

Not visible in Table A-1 is the distribution of the remainder of workers in occupations not distributed (that is, suppressed) by CT DoL and the total reported in Table A-1 reflects only visible jobs. The bottom part of Table A-3 shows the distribution of these workers that CCEA allocates to industries which CT DoL suppresses but CT DoL indicates contain them.

Table A-1: Connecticut Arts Workers and Their Industries

NAICS	Industry Title	SOC Code	Occupational Title	Employment	Annual Mean Wage
711	Performing Arts, Spectator Sports & Related Industries	13-1010	Agents and Business Managers of Artists, Performers, and Athletes	70+20	$109,410
611	Educational Services	25-1121	Art, drama, and music teachers, postsecondary	880	$62,810
712	Museums, Historical Sites & Similar Institutions	25-4011	Archivists	30+10	$33,290
712	Museums, Historical Sites & Similar Institutions	25-4012	Curators	90	$50,350
999	Federal, state & local government	25-4012	Curators	10	$51,880
		Subtotal	**Curators**	**100+100**	
712	Museums, Historical Sites & Similar Institutions	25-4013	Museum technicians and conservators	40	$36,560
		Subtotal	**Museum technicians and conservators**	**40+110**	
519	Other Information Services	25-4021	Librarians	220	$46,500
541	Professional, Scientific & Technical Services	25-4021	Librarians	50	$51,890
611	Educational Services	25-4021	Librarians	1,340	$58,900
622	Hospitals	25-4021	Librarians	40	$55,520
712	Museums, Historical Sites & Similar Institutions	25-4021	Librarians	10	$43,440
999	Federal, state & local government	25-4021	Librarians	600	$52,090
519	Other Information Services	25-4031	Library technicians	270	$26,610
541	Professional, Scientific & Technical Services	25-4031	Library technicians	10	$39,380
611	Educational Services	25-4031	Library technicians	910	$32,350
622	Hospitals	25-4031	Library technicians	10	$40,450
999	Federal, state & local government	25-4031	Library technicians	800	$31,510
		Subtotal	**Librarians & Library technicians**	**4,260+180**	
511	Publishing Industries	27-1011	Art directors	90	$67,600
541	Professional, Scientific & Technical Services	27-1011	Art directors	220	$99,890
611	Educational Services	27-1011	Art directors	10	$90,640
		Subtotal	**Art directors**	**320+100**	

711	Performing Arts, Spectator Sports & Related Industries	27-1013	Fine artists, including painters, sculptors, and illustrators	70+50	$62,900
541	Professional, Scientific & Technical Services	27-1014	Multi-media Artists and Animators	60+280	$59,610
711	Performing Arts, Spectator Sports & Related Industries	27-1019	Artists and related workers, all other	20+120	$65,400
Various	Various	27-1022	Fashion Designers	+30	NA
444	Building Material & Garden Equipment & Supplies Dealers	27-1023	Floral Designers	60	$27,560
445	Food & Beverage Stores	27-1023	Floral Designers	110	$24,130
452	General Merchandise Stores	27-1023	Floral Designers	20	$25,530
453	Miscellaneous Store Retailers	27-1023	Floral Designers	590	$26,350
		Subtotal	**Floral Designers**	**780+20**	
221	Utilities	27-1024	Graphic Designers	10	$46,410
322	Paper Mfg	27-1024	Graphic Designers	20	$41,970
323	Printing & Related Support Activities	27-1024	Graphic Designers	120	$39,710
325	Chemical Mfg	27-1024	Graphic Designers	30	$47,770
334	Computer & Electronic Product Mfg	27-1024	Graphic Designers	10	$52,610
339	Miscellaneous Mfg	27-1024	Graphic Designers	80	$46,060
423	Merchant Wholesalers, Durable Goods	27-1024	Graphic Designers	30	$41,610

424	Merchant Wholesalers, Nondurable Goods	27-1024	Graphic Designers	90	$66,450
445	Food & Beverage Stores	27-1024	Graphic Designers	20	$47,530
454	Nonstore Retailers	27-1024	Graphic Designers	60	$50,600
511	Publishing Industries	27-1024	Graphic Designers	440	$41,420
512	Motion Picture & Sound Recording Industries	27-1024	Graphic Designers	10	$55,700
522	Credit Intermediation & Related Activities	27-1024	Graphic Designers	10	$58,400
524	Insurance Carriers & Related Activities	27-1024	Graphic Designers	60	$47,460
541	Professional, Scientific & Technical Services	27-1024	Graphic Designers	1,010	$50,280
551	Management of Companies & Enterprises	27-1024	Graphic Designers	80	$48,010
611	Educational Services	27-1024	Graphic Designers	40	$49,880
622	Hospitals	27-1024	Graphic Designers	20	$40,260
		Subtotal	**Graphic Designers**	**2,140+240**	
337	Furniture & Related Product Mfg	27-1025	Interior designers	30	$45,720
541	Professional, Scientific & Technical Services	27-1025	Interior designers	370	$60,020
		Subtotal	**Interior Designers**	**400+280**	
424	Merchant Wholesalers, Nondurable Goods	27-1026	Merchandise displayers and window trimmers	50	$39,060
442	Furniture & Home Furnishings Stores	27-1026	Merchandise displayers and window trimmers	30	$39,240

448	Clothing & Clothing Accessories Stores	27-1026	Merchandise displayers and window trimmers	40	NA
452	General Merchandise Stores	27-1026	Merchandise displayers and window trimmers	120	$26,470
541	Professional, Scientific & Technical Services	27-1026	Merchandise displayers and window trimmers	10	$27,180
		Subtotal	**Merchandise displayers and window trimmers**	**250+120**	
711	Performing Arts, Spectator Sports & Related Industries	27-1027	Set and exhibit designers	20	$32,240
712	Museums, Historical Sites & Similar Institutions	27-1027	Set and exhibit designers	10	$32,620
		Subtotal	**Set and exhibit designers**	**30+20**	
Various	Various	27-1029	Designers, all other	220	NA
711	Performing Arts, Spectator Sports & Related Industries	27-2011	Actors	170+?	$999,999
711	Performing Arts, Spectator Sports & Related Industries	27-2012	Producers and directors	100	$76,950
711000 & 611000	Performing Arts, Spectator Sports & Related Industries & Educational Services	27-2031	Dancers	+30	NA
611	Educational Services	27-2032	Choreographers	400+30	$39,510
711	Performing Arts, Spectator Sports & Related Industries	27-2041	Music directors and composers	20	$51,800
813	Religious, Grantmaking, Civic, Professional & Similar Organizations	27-2041	Music directors and composers	20	$30,120
		Subtotal	**Music directors and composers**	**40+30**	
711	Performing Arts, Spectator Sports & Related Industries	27-2042	Musicians and singers	360+60	$999,999
711	Performing Arts, Spectator Sports & Related Industries	27-2099	Entertainers and performers, sports and related workers, all other	50+20	$999,999
511	Publishing Industries (exc. Internet)	27-3041	Editors	890	$53,980
512	Motion Picture & Sound Recording	27-3041	Editors	30	$74,560
516	Internet Publishing & Broadcasting	27-3041	Editors	20	$62,990
541	Professional, Scientific & Technical Services	27-3041	Editors	160	$52,480
711	Performing Arts, Spectator Sports & Related Industries	27-3041	Editors	10	$75,870

813	Religious, Grantmaking, Civic, Professional & Similar Organizations	27-3041	Editors	50	$45,120
		Subtotal	**Editors**	**1,160+320**	
454	Non-store Retailers	27-3043	Writers and authors	30	$45,080
511	Publishing Industries	27-3043	Writers and authors	190	$61,870
524	Insurance Carriers & Related Activities	27-3043	Writers and authors	50	$52,450
541	Professional, Scientific & Technical Services	27-3043	Writers and authors	70	$79,160
551	Management of Companies & Enterprises	27-3043	Writers and authors	20	$49,910
611	Educational Services	27-3043	Writers and authors	70	$49,220
624	Social Assistance	27-3043	Writers and authors	20	$50,720
711	Performing Arts, Spectator Sports & Related Industries	27-3043	Writers and authors	80	$80,390
813	Religious, Grantmaking, Civic, Professional & Similar Organizations	27-3043	Writers and authors	50	$46,340
999	Federal, state & local government	27-3043	Writers and authors	30	$57,250
		Subtotal	**Writers and authors**	**610+20**	
323	Printing & Related Support Activities	51-5011	Bindery workers	930	$26,520
511	Publishing Industries	51-5011	Bindery workers	80	$28,180
		Subtotal	**Bindery workers**	**1,010+90**	
		51-5012	Book Binders	+40	$31,350
337	Furniture & Related Product Mfg.	51-9123	Painting, coating, and decorating workers	30+160	$33,640
			Total Arts Jobs	**15,830+**	

It is evident that arts occupations as we define them are found in diverse industries in Connecticut as well as that the same occupation's compensation varies considerably across industries listed here as a measure of the approximate occupation's worth to society (other studies list compensation). Appendix 5 provides a detailed description of the arts-related occupations we list in Table A-1.

Industry Approach

There are more than 19,141 arts jobs estimated in the industry approach described below. In the industry approach, we identify firms from the NAICS industry codes that subjectively fit within the arts industry in that they supply arts goods and services as we define above. However, the level of industry detail available contains some firms that do not produce arts goods and services as well as those that do (e.g., publishing). The 2002 Economic Census, from which we obtain the following data, uses the NAICS to organize industry information such as employment, payroll and the number of establishments. The NAICS divides the U.S. economy into 20 major sectors; industries within these sectors are grouped according to production criteria. The NAICS structure reflects a hierarchical system of organization based on the similarity of production technologies and methods used in producing their products or services; the number of digits coded for an industry group indicates its level of specificity, with three digits representing a general (highly aggregated) sector, such as miscellaneous manufacturing (NAICS 339), while six digits represents one part of an industry (highly disaggregated), such as musical instruments manufacturing (NAICS 339992).

We narrow the industry detail to the lowest (most specific) level available, that is, to the five- and six-digit level. Table A-2, gleaned from the 2002 Economic Census, presents our view of arts industries in Connecticut and represents more than 19,141 jobs distributed across 1,976 establishments (for-profit, not-for-profit firms and sole proprietorships) with an average annual payroll of more than $751 million (recall that employment and payroll in 'Arts goods (sheet music) merchant wholesalers' is withheld). Appendix 6 provides a detailed description of industries we regard as arts industries.

In contrast with the occupational approach, the industry approach has no overlap with the film and video industries we define in that study (we simply omit the industries included in that study). However, there are industries in which arts occupations exist such as education and government that are not represented in Table A-2. That is because education and government, for example, contain other types of workers not directly (and in many cases not remotely) connected with arts production, support thereof or dissemination. These cases represent examples of embedded arts workers.

Industries at the 3-digit level containing arts occupations reported by CT DoL and represented in Table A-1 but not in Table A-2 include:

NAICS 221, Utilities (Graphic designers) and (Designers, all other allocated by CCEA);

NAICS 334, Computer & Electronic Product Mfg. (Graphic designers);

NAICS 512, Motion Picture & Sound Recording Industries (Graphic designers, Editors);

NAICS 516, Internet Publishing & Broadcasting (Editors);

NAICS 522, Credit Intermediation & Related Activities (Graphic designers);

NAICS 524, Insurance Carriers & Related Activities (Writers & Authors) and (Designers, all other allocated by CCEA);

NAICS 551, Management of Companies & Enterprises (Writers & Authors) and (Designers, all other allocated by CCEA);

NAICS 622, Hospitals (Librarians, Library Technicians);

NAICS 624, Social Assistance [specifically Vocational Rehab.] (Writers & Authors) and (Librarians, Editors, Multi-media artists and animators, Graphic designers allocated by CCEA);

NAICS 813, Religious, Grantmaking, Civic, Professional & Similar Organizations (Writers & Authors, Music Directors & Composers, Editors); and,

NAICS 999, Federal, state & local government (Curators, Librarians, Library Technicians, Writers & Authors).

Table A-2: Connecticut's Arts Industries

NAICS	Industry Title	Average establish-ments	Annual average employment	Annual payroll (in thousands)	Annual wages per employee
339992	Musical instruments Mfg	8	194	$5,716	$29,464
4239901	Musical instrument accessories & supplies merchant wholesalers	10	64	$2,968	$46,375
4249901	Arts goods (sheet music) merchant wholesalers	40	(withheld)	(withheld)	(withheld)
45114	Musical instrument and supplies stores	57	425	$11,116	$26,156
451211	Book stores	159	2,134	$35,928	$16,833
45392	Art dealers	73	146	$3,976	$27,313
51113	Book publishers	72	1,266	$63,503	$50,163
511199	All other publishers	38	232	$12,857	$55,498
519120	Libraries and archives	79	1,046	$20,670	$19,761
541310	Architectural Services	348	2,429	$137,184	$56,478
54141	Interior Design Services	163	502	$24,452	$48,709
54143	Graphic Design Services	263	972	$50,507	$51,962
54149	Other specialized design services	33	95	$6,913	$72,513
54181	Advertising Agencies	182	2,882	$208,364	$72,298
54185	Display Advertising	15	131	$6,828	$52,122
61161	Fine arts schools	178	1,180	$19,276	$16,336
71111	Theater companies and dinner theaters	68	1,011	$22,577	$22,326
71112	Dance companies	6	78	$1,851	$23,882
71113	Musical Groups and Artists	58	1,148	$11,559	$10,069
71119	Other performing arts companies	10	154	$2,722	$17,688
71131	Promoters with facilities	20	886	$12,559	$14,176
71132	Promoters without facilities	39	233	$10,126	$43,412
7114	Agents and managers for public figures	47	228	$14,655	$64,277
7115	Independent Artists, Writers, and Performers	171	398	$33,275	$83,606
71211	Museums (no historic, see footnote 61 below)	68	1,307	$31,808	$24,337
	Total	**1,976**	**19,141+**	**$751,390+**	

Arts occupations embedded in Table A-2 industries and the industries listed below appear in Table A-3. In order to obtain the number of embedded jobs in these industries, we allocate the suppressed jobs (OES statistics less CT DoL-identified jobs) into the industries CT DoL indicated as having arts occupations but in which they are suppressed. We then sum the embedded occupations by industry to obtain the entries in the second part of Table A-3. The following industries contain CCEA-allocated and embedded arts occupations and appear in neither Table A-1 nor Table A-2; these industries appear in the second part of Table A-3:

NAICS 238, Specialty Trade Contractors (Interior Designers and Designers, all other);
NAICS 311, Food Manufacturing (Graphic Designers);
NAICS 313, Textile Mills (Fashion Designers, Graphic Designers);
NAICS 314, Textile Product Mills (Interior Designers);
NAICS 315, Apparel Manufacturing (Fashion Designers, Graphic Designers);
NAICS 316, Leather & Allied Products Mfg. (Fashion Designers);
NAICS 322, Paper Mfg (Graphic Designers, Merchandise displayers and window trimmers, Designers, all other);
NAICS 323, Printing & Related Support Activities (Bindery Workers and Graphic Designers, Bookbinders and Art Directors);
NAICS 325, Chemical Mfg (Graphic Designers) and (Editors, Librarians, Archivists, Art Directors);
NAICS 326, Plastics & Rubber Products Mfg. (Graphic Designers);
NAICS 327, Non-metallic Mineral Products Mfg. (Fine artists, including painters, sculptors, and illustrators);
NAICS 333, Machinery Mfg. (Designers, all other, Graphic Designers, Editors);
NAICS 335, Electrical Equipment, Appliance & Component Mfg. (Graphic Designers, Editors);
NAICS 336, Transportation Equipment Manufacturing (Designers, all other, Graphic Designers, Editors, Artists and related workers, all other, Set and exhibit designers);
NAICS 337, Furniture & Related Products Mfg. (Interior Designers, Painting, coating, and decorating workers, Interior Designers, Graphic Designers, Set and Exhibit Designers);
NAICS 425, Wholesale Electronic Markets & Agents & Brokers, (Editors, Fashion Designers, Graphic Designers);
NAICS 442, Furniture & Home Furnishings Stores (Merchandise displayers and window trimmers, Interior Designers);
NAICS 443, Electronics & Appliance Stores (Merchandise displayers and window trimmers, Writers & Authors);
NAICS 444, Building Material & Garden Equipment & Supplies Dealers (Floral designers, Interior Designers, Merchandise displayers and window trimmers);

NAICS 445, Food & Beverage Stores (Floral Designers, Graphic Designers, Merchandise displayers and window trimmers);
NAICS 448, Clothing & Clothing Accessories Stores (Merchandise displayers and window trimmers, Musicians and singers, Graphic Designers);
NAICS 453, Miscellaneous Store Retailers (Floral designers, Designers, all other, Merchandise displayers and window trimmers, Graphic Designers, Fine artists, including painters, sculptors, and illustrators);
NAICS 454, Non-store Retailers (Writers & Authors, Graphic Designers, Multi-media artists and animators, Editors, Artists and related workers, all other, Art directors, Fashion Designers);
NAICS 486, Pipeline Transportation (Editors);
NAICS 488, Support Activities for Transportation (Writers and authors);
NAICS 491, Postal Service (Editors);
NAICS 561, Administrative & Support Services (Fine artists, including painters, sculptors, and illustrators, Multi-media artists and animators, Artists and related workers, all other, Graphic designers, Interior designers, Merchandise displayers and window trimmers, Set and exhibit designers, Designers, all other, Editors, Writers and authors, Bindery workers, Bookbinders); and
NAICS 621, Ambulatory Health Care Services (Librarians, Library technicians); and
NAICS 623, Nursing & Residential Care Facilities (Graphic Designers).

Table A-3 does not contain entries for embedded occupations for the following industries because their arts occupations from Table A-1 are wholly contained in the corresponding industries in Table A-2:
NAICS 339, Miscellaneous Mfg;
NAICS 423, Merchant Wholesalers, Durable Goods (Designers, all other);
NAICS 451, Sporting Goods, Hobby, Book & Music Stores;
NAICS 511, Publishing Industries;
NAICS 519, Other Information services;
NAICS 541, Professional, Scientific & Technical Services (Designers, all other);
NAICS 711, Performing Arts, Spectator Sports & Related Industries (Dancers); and,

NAICS 71211, Museums.[61]

Our allocation of arts occupations in the Educational Services sector (NAICS 611) in addition to the CT DoL distribution yields 3,842 jobs. We note that the top parts of Tables A-2 and A-3 report 1,180 jobs in Fine Arts Schools (NAICS 61161) implying there are 2,662 embedded jobs elsewhere in the larger sector that appears in the lower portion of Table A-3. Our allocation of arts occupations in the Performing Arts, Spectator Sports & Related Industries (NAICS 711) yields 1,079 arts jobs that are completely subsumed in the industry detail in the top portion of Tables A-2 and A-3. Similarly, our allocation of 2,662 arts occupations (jobs) in the Professional, Scientific & Technical Services industry (NAICS 541) is completely subsumed in the industry detail (NAICS 541310, 54141, 54143, 54149, 54181 and 54185) in the top portion of Tables A-2 and A-3.

For the industry NAICS 4249901, Arts goods (sheet music) merchant wholesalers, for which CT DoL withheld data, we use the OES reported occupational employment instead (177 jobs). The highlighted table entries correspond to arts workers in the film and video industries and we omit them from this study.

In 2002, Connecticut had more than 27,700 arts workers with an annual average payroll in excess of $1.06 billion. These jobs represent the total direct effect driving the economic impact analysis.

[61] Sector 71211 contains, for example, art galleries (except retail), art museums, halls of fame, planetariums, science or technology museums, and wax museums. It is a smaller portion of sector 712 that contains historical sites and similar institutions. See Appendix 5 for NAICS industry definitions.

Table A-3: Connecticut's Arts Industries with Embedded Arts Workers

NAICS	Industry Title	Average establish-ments	Annual average employment	Annual payroll (in thousands)	Annual wages per employee
339992	Musical instruments Mfg	8	194	$5,716	$29,464
4239901	Musical instrument accessories & supplies merchant wholesalers	10	64	$2,968	$46,375
4249901	Arts goods (sheet music) merchant wholesalers	40	(withheld)	(withheld)	(withheld)
45114	Musical instrument and supplies stores	57	425	$11,116	$26,156
451211	Book stores	159	2,134	$35,928	$16,833
45392	Art dealers	73	146	$3,976	$27,313
51113	Book publishers	72	1,266	$63,503	$50,163
511199	All other publishers	38	232	$12,857	$55,498
519120	Libraries and archives	79	1,046	$20,670	$19,764
541310	Architectural Services	348	2,429	$137,184	$56,478
54141	Interior Design Services	163	502	$24,452	$48,709
54143	Graphic Design Services	263	972	$50,507	$51,962
54149	Other specialized design services	33	95	$6,913	$72,513
54181	Advertising Agencies	182	2,882	$208,364	$72,298
54185	Display Advertising	15	131	$6,828	$52,122
61161	Fine arts schools	178	1,180	$19,276	$16,336
71111	Theater companies and dinner theaters	68	1,011	$22,577	$22,326
71112	Dance companies	6	78	$1,851	$23,882
71113	Musical Groups and Artists	58	1,148	$11,559	$10,069
71119	Other performing arts companies	10	154	$2,722	$17,688
71131	Promoters with facilities	20	886	$12,559	$14,176
71132	Promoters without facilities	39	233	$10,126	$43,412
7114	Agents and managers for public figures	47	228	$14,655	$64,277
7115	Independent Artists, Writers, and Performers	171	398	$33,275	$83,606
71211	Museums (no historic, see footnote 61)	68	1,307	$31,808	$24,337
	Subtotal	**1,976**	**19,141+**	**$751,390+**	
	Embedded Occupations Aggregated by Industry from Table 1 and CCEA-Allocated				
221	Utilities		26		
238	Specialty Trade Contractors		38		
311	Food Mfg.		8		
313	Textile Mills		12		
314	Textile Product Mills		22		
315	Apparel Mfg		14		
316	Leather & Allied Product Mfg.		4		
322	Paper Mfg		46		
323	Printing & Related Support Activities		1,075		
325	Chemical Mfg		59		
326	Plastics & Rubber Products Mfg		8		
327	Nonmetallic Mineral Product Mfg		5		
333	Machinery Mfg		37		
334	Computer & Electronic Product Mfg		28		
335	Electrical Equipment, Appliance & Component Mfg		21		

336	Transportation Equipment Manufacturing			50	
337	Furniture & Related Product Mfg			72	
423	Merchant Wholesalers, Durable Goods			49 (net of 64 jobs above)	
424	Merchant Wholesalers, Nondurable Goods			177	
425	Wholesale Electronic Markets & Agents & Brokers			25	
442	Furniture & Home Furnishings Stores			55	
443	Electronics & Appliance Stores			11	
444	Building Material & Garden Equipment & Supplies Dealers			95	
445	Food & Beverage Stores			140	
448	Clothing & Clothing Accessories Stores			58	
453	Miscellaneous Store Retailers			488 (net of 146 jobs above)	
454	Nonstore Retailers			142	
488	Support Activities for Transportation			1	
491	Postal Service			13	
511	Publishing Industries (except Internet)			337 (net of 1,498 jobs above)	
512	Motion Picture & Sound Recording Industries			264	
515	Broadcasting (except Internet)			79	
516	Internet Publishing & Broadcasting			37	
517	Telecommunications			32	
518	Internet Service Providers, Web Search Portals & Data Processing Services			22	
522	Credit Intermediation & Related Activities			30	
523	Securities, Commodity Contracts & Other Financial Investments & Related Activities			27	
524	Insurance Carriers & Related Activities			268	
525	Funds, Trusts, & Other Financial Vehicles			35	
531	Real Estate			10	
532	Rental & Leasing Services			10	
533	Lessors of Nonfinancial Intangible Assets (except copyrighted works)			57	
551	Management of Companies & Enterprises			142	
561	Administrative & Support Services			119	
611	Educational Services			2,662 (net of 1,180 jobs above)	
621	Ambulatory Health Care Services			25	
622	Hospitals			105	
623	Nursing & Residential Care Facilities			9	
624	Social Assistance			67	
713	Amusement, Gambling & Recreation Industries			9	
811	Repair & Maintenance			25	
812	Personal & Laundry Services			9	
813	Religious, Grantmaking, Civic, Professional & Similar Organizations			224	
999	Federal, state & local government			1,626	
			Subtotal Embedded	**8,575**	
		Total	**1,976+**	**27,716+**	**$1,057,122+**

The Economic Impact of Connecticut's Arts Industries

Table A-3 contains the arts industry's direct economic impact in terms of jobs located in Connecticut's arts industries and arts jobs embedded in other industries. There are 27,716 arts jobs allocated in several Connecticut industry sectors as indicated in Table 3. These jobs represent the counterfactual 'shock' to the Connecticut economy modeled in REMI. Table A-4 contains the resulting total economic effect, that is, the sum of the direct, indirect and induced effects, of the counterfactual loss of arts employment in Connecticut (REMI does not report the indirect and induced effects, only the total effect). This analysis produces state level impact results because we use state level employment data to minimize suppressions.

Table A-4: Economic Impact of Connecticut's Arts Industries

Annual Average Impact 2004-2025		
	Statewide Estimate	Percent of CT Economy (2004)
Employment (Jobs)	44,474	2.60%
Gross State Product (Mil 2004$)	$3,833	2.06%
Personal Income (Mil 2004$)	$2,674	1.69%
Output (Sales) (Mil 2004$)	$5,763	1.91%
Population	34,369	0.98%
Labor Force	25,081	1.32%

The impact of Connecticut's arts industries and arts workers embedded in other industries is significant. The direct impact of 27,716 arts jobs creates an additional 16,758 jobs (the sum of the indirect and induced employment impacts calculated in REMI) in other Connecticut industries implying a statewide employment multiplier of 1.6. The following represents the total economic impact from REMI in terms of new sales and new gross state product (GSP) due to the presence of Connecticut's art industries. Sales of Connecticut industries increase by $5.76 billion or 1.9% of total

Connecticut sales due to Connecticut's arts industries and embedded arts workers. Connecticut's arts industries and embedded arts workers add almost $4 billion to the state's economy each year representing 2% of Connecticut's total value added for 2004.

In addition, the incremental economic activity generated by Connecticut's arts industries and its embedded arts workers in other industries create new state and local government tax revenue that averages $432.5 million each year or 1.76% of all state and local tax receipts in 2002 (Table A-5). State and local governments spend an additional $329.7 million to provide support services (education, public safety, infrastructure) for the new economic activity Connecticut's arts industries and its arts workers create.

Table A-5: Fiscal Impact of Connecticut's Arts Industries

Annual Average Impact 2004-2025		
	Statewide Estimate	Percent of Total State & Local (2002)*
State & Local Revenues (Mil 2004$)	$432.5	1.74%
State & Local Expenditures (Mil 2004$)	$329.7	1.2%

*Most recent Census of Governments' estimates

Conclusion

Connecticut's arts industries and its arts workers in other industries have a large impact on the state economy. 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. Sales of Connecticut industries increase by $5.76 billion or 1.91% of total Connecticut sales due to Connecticut's arts industries and embedded arts workers. Connecticut's arts industries and embedded arts workers add almost $4 billion to the state's economy each year representing 2% of Connecticut's total value added for 2004.

In addition, the incremental economic activity generated by Connecticut's arts industries and its embedded arts workers in other industries creates new state and local government tax revenue that averages $432.5 million each year or 1.74% of all state and local tax receipts in 2002. State and local governments spend an additional $330 million to provide support services for the economic activity Connecticut's arts industries and its arts workers create.

This impact is understated because we have not accounted for the quality of life improvement exposure to the arts affords us, and we have not accounted for visitor spending as the many Connecticut attractions and arts venue induce visitors to spend in the transportation, food and drink, retail and other sectors of Connecticut's economy (visitor spending is counted in the travel and tourism section). Furthermore, the impact of Connecticut's arts industry is conservative because we have not counted 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. Connecticut's arts assets make the state a more desirable place to live and work and, in turn, strengthen its competitive position among the states as having the most productive and highly educated workforce in the nation.

The Economic Impact of Connecticut's Travel and Tourism Industry

Introduction

This study presents an update of the CCEA 2003 tourist and traveler industry's economic impact. The intercept survey used in the present analysis and conducted by Witan Intelligence, Inc., surveyed tourists at Connecticut attractions, highway welcome centers in the spring, summer and fall 2004 and winter 2005. In this survey, visitors (2,500 parties), randomly chosen, in pre-selected attractions and in different Connecticut locations were asked specific questions about their trip, such as where they stay, the number of people in their party, their satisfaction level, how much they spend on various categories (e.g., recreation, meals, lodging), how long they stay, and so on (see Appendix 7). These hard data and those from Connecticut's Department of Revenue Services (DRS), Division of Special Revenue, the Travel Industry Association of America (TIA) TravelScope and the Connecticut Vacation Guide Survey provide rich sources for this updated study. The literature review below describes some of the recent research on travel and tourism in other states and countries.

This study provides a detailed description of travel and visitors' expenditure by type of visitor, and by category of expenditure. These expenditures represent lodging sales, transportation-related sales, retail sales, restaurant sales, wagering expenditure, and amusement and recreation sales. To estimate the economic impact of the travel and tourism industry, this study estimates visitor spending associated with these categories and represents them as sales of associated industries. The economic impact analysis measures the contribution of tourism to the economy of the state. It is defined as the flow of spending associated with tourism activity to identify changes in industry sales, tax revenue, personal income and jobs due to tourism activity. The principal method used in economic impact analysis is the visitor spending survey, and an analysis of secondary data from economic statistics, economic base models, input-output models and multipliers (Frechtling, 1994).[62] Estimates of tourism's economic impact begin with a clear definition of tourism and what spending and economic activities are included.

[62] Frechtling, Douglas C. (1994). "Assessing the economic impact of travel and tourism-measuring economic benefits," in Travel, tourism and hospitality research, Second edition, J.R. Brent Ritchie and Charles R. Goeldner (Eds.) New York, John Wiley and Sons, Inc.

Many would agree that travel and tourism activities have a positive effect on the economy. But just what is it and how important is it? Defining the tourism industry is difficult. The travel and tourism industry has historically posed challenges to accurate measurement. Tourism is not designated as an "industry" in standard economic accounts. In fact, (parts of) several industries make up travel and tourism. The challenge of measuring tourism is two-fold: first, tourism is part of many industries but comprises 100% of no one industry (except possibly the lodging industry). Second, tourism is traditionally measured from the demand side (visitor spending), while industries are properly measured from the supply side (such as employment in associated travel and tourism industries) (The Alaska Tourism Satellite Account, 2004).[63] Tourists spend money in restaurants, gas stations, retail stores, amusement parks, concerts and conferences, as do locals. The visitor's length of stay, distance traveled, and the purpose of their trip generally define a tourist. The Travel Industry Association (TIA) defines a domestic traveler as one who travels to a place 100 miles or more away from home or stays away from home one or more nights in paid accommodations and who returns home within 12 months. The World Tourism Organization defines tourist as a visitor staying out at least one night. The economic impact of travelers' expenditures in Wisconsin (2003)[64] places a narrower 30-day limit on the length of stay for a tourist.

The tourism "sector" consists of parts of several sectors (industries) defined by the North American Industrial Classification (NAICS) code. The travel and tourism industry is a conglomeration of several industries and no single NAICS code defines tourism exclusively, nor is there a single account that reports income generated by the 'tourism' sector.[65] CCEA's 2003 (see footnote 1) report using 2001 data described the checkered composition of the tourism sector. CCEA defines a tourist there as one who departs from his/her normal commuting pattern to visit an attraction (e.g., museum, aquarium, beach, ski resort, leaf peeping, winery, antique shops), to attend an event (e.g., athletic contest, concert, play) or to participate in an activity (e.g., golf tournament, conference). CCEA sets no minimum stay requirement for the travelers it surveys in its

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[63] Global Insight (2004). "The Alaska Tourism Satellite Account: A comprehensive analysis of the economic contribution of travel and tourism."
[64] Davidson-Peterson Associates (2003). "The economic impact of expenditures by travelers on Wisconsin."
[65] Fiscal Affairs Program and Economic and Cultural Development (1997). "Economic impact of tourism."

report (therefore admits day-trippers). However, CCEA sets a one-year limit for trip duration.

There are other measurement problems; for example, how one distinguishes leisure travelers from business travelers, how local residents are distinguished from visitors, how much money and time do tourists spend in the area, what proportion of sales by local business is due to tourism, how much income does tourism generate, how many jobs and how much tax revenue are generated from tourism? Stynes (1999)[66] emphasized that the most common application of economic impact analysis to tourism are: 1) to evaluate the economic impact of changes in the supply of recreation and tourism opportunities; 2) to evaluate the economic impact of changes in tourism demand; 3) to evaluate the effects of policies and actions which affect tourism activity either directly or indirectly; 4) to understand the economic structure and interdependencies of different sectors of the economy; and, 5) to compare the economic impact of alternative resource allocation, policy, management or development proposals.

Attracting business travelers can have important economic consequences, which are quite different from leisure travelers. However, business trips often incorporate some time for leisure. While acknowledging the diversity of definitions, CCEA defines tourism in a comprehensive way, including both "free and independent travelers" as well as business travelers. We have classified many Connecticut residents as tourists in their own state. We regard their in-state travel and tourism spending as recaptured in the sense that they could have left Connecticut for other venues nearby. Clearly visitors from outside the state represent new money for Connecticut.

Due to the diverse and fractional composition of the tourism sector, it is difficult to estimate the direct employment or value added of the industry (what fraction of a restaurant's or gas station's employment or value added is attributed to tourism?). The Bureau of Economic Analysis (BEA)[67] defines tourism employment as "All jobs that involve production of tourism output. Direct tourism employment consists of all jobs in which the workers are engaged in the production of direct tourism output (for example

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[66] Stynes, Daniel J. (1999). "Guidelines for measuring visitor's spending," Michigan State University: Tourism Education Materials.

[67] Bureau of Economic Analysis (News Release 2005). "U.S. Travel and Tourism Satellite Accounts for 2001-2004."

airline pilots), and indirect tourism employment consist of all the jobs in which the workers are engaged in the production of indirect tourism output (for example, workers who deliver fuel to airlines)." Formally, economists consider the direct, indirect, and induced effects of travel and tourism. Indirect and induced effects are collectively called secondary effects. CCEA uses the sales approach that is equivalent to the employment approach because employment and sales are proportional in input-output models. This approach estimates the total economic impact of tourism as the sum of direct, indirect and induced effects due to total traveler and tourist spending on all activities and in all venues in Connecticut (spending is the direct impact that gives rise through REMI to the indirect and induced effects). These impacts are measured as changes in gross output, personal income and total employment due to tourism activity. Direct effects are production changes associated with the immediate effects of changes in tourism expenditure. For example, an increase in the number of tourists staying overnight in hotels would directly yield increased sales in the hotel sector. The indirect effects are the production changes associated with various rounds of re-spending of the hotel industry's receipts in other industries (i.e., industries supplying products and services to hotels). Induced effects are the changes in economic activities resulting from household spending of income earned as a result of tourism. Due to the indirect and induced effects, the travel and tourism sector affects almost every sector of the economy (Stynes, 1999).

The economic impact model of tourism must consider the following key items: 1) net new total expenditure by visitor's categories including lodging, food, retail purchases, local transportation and other expenses; 2) net new taxes paid to state and local governments such as property and sales taxes; and, 3) the number of jobs generated by the travel and tourism sector and wages and salaries earned by these workers. In order to estimate the economic impact of travel and tourism on the Connecticut economy, we structure this report as follows: first, we review current literature on travel and tourism, including several definitions of travel and tourism in significant studies in this area; we then describe CCEA's methodology and data sources. Finally, we report the economic impact of travel and tourism in Connecticut at the state level.

A Review of the Travel and Tourism Literature

Tourism is one of the thriving service sectors in almost every corner of the world. People travel for a number of reasons including travel for pleasure, for business or to visit family and friends or to see new places and explore new environments or for entertainment and outdoor recreation. Defining tourism is often problematic. Researchers use different definitions. Some define tourists as individuals who travel more than 50 miles away from home while others may use a 150 or 200-mile limit. The Travel Industry Association of America (TIA) defines a traveler as one taking an overnight trip away from home and staying in a paid accommodation or one taking a day trip to a place more than 100 miles away from home.

The American Travel Survey (1995) defines travelers as those taking trips of over 100 miles from their point of origin. The National Household Travel Survey (NHTS, 2001)[68] refers to short distance travelers as those taking trips of less than 50 miles. These definitions of tourism are generally accepted but are not universal. Because of different geographic sizes of states, the definition of travel and tourism varies. For example, in Connecticut using the 100 miles range definition with Hartford as a destination, only a visitor from as far as Boston or New York (and none from Rhode Island) would be counted as a tourist. This will result in considerably smaller economic value (Economic impact of tourism, 1997). Therefore, many states use a 50-mile radius to define tourism. Some researchers define travel and tourism as the activities of persons traveling less than 200 miles outside their usual environment for not more than one consecutive year for business, leisure and other purposes. CCEA (2001) chooses to set no minimum stay requirement for travelers to account for day-trippers; however it establishes a one-year limit for trip duration. Gunn (1994)[69] defines tourism as any travel that is not commuting.

CCEA (2001) adopted a broad definition of tourism in its report covering both the demand side and supply side perspectives of tourism. From the demand side perspective, tourism can be defined narrowly as a segment of the travel market that comprises "free

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[68] U.S Department of Transport, Bureau of Transportation Statistics (2003): "Highlights of the 2001 national household travel survey."

[69] Gunn, Clare A. (1994). Tourism planning: Basics, concepts, cases (3rd ed.), Taylor and Francis, Washington D.C.

and independent travelers" excluding business travel, while the term 'travel' has been reserved for business travel. Often these terms have been used interchangeably; therefore CCEA defines tourism more broadly to include all travelers. Similarly from the supply side, the challenge is to determine what sectors are included in the tourism industry. For instance, should recreational fishing and boating and all their supporting industries be part of the tourism industry? We believe so; therefore, CCEA uses a broad definition of tourism and in this respect provides detailed segmentation analysis.

Once we resolve definitional issues, the second step is to deal with measuring the number of visitors and total tourism-related economic activity in order to provide an economic impact analysis. Official statistics do not offer direct measures of travel and tourism because a large number of industries provide goods and services to travelers and commuters. Moreover, it is not easy to identify the economic activity that tourism generates in the way it is for many conventional industries such as financial, insurance and real estate. Unlike most industries, the economic activities that support travel and tourism are not simply a collection of business firms and establishment producing and selling certain products or services. Secondly, calculating the indirect benefits from travel and tourism requires a number of assumptions. Researchers use multipliers to measure the secondary (indirect and induced) impacts of the travel and tourism industry. The Bureau of Economic Analysis uses its Regional Input-output modeling system (RIMS II) to calculate the economic impact multipliers. The TIA (Travel Industry Association) developed the Travel Economic Input Model (TEIM) to estimate spending proportions of travelers and tourists. The TEIM is a disaggregated model built upon the estimates of 15 travel expenditure categories. The current CCEA report addresses both the demand side (visitor spending) and supply side of the tourism industry (industry employment) by using comprehensive survey methodologies to account for travel and tourism activity.

In the following sections, we highlight the importance of tourism in the national and regional economy. There are different approaches to measure the economic impact of travel and tourism. Ultimately the quality of tourism-related data, as well as the level of regional sophistication of impact models in terms of their activities to account for desirable regional economic conditions determines how accurately we can measure the

economic impact of tourism. The second section deals with definitional issues. The third section surveys the literature that assesses methodologies to measure all tourism-related economic activities. This clarifies a central research issue: how to measure total visitors and associated economic activities. The fourth section evaluates economic impact methodologies.

Overview of Tourism's Contribution to the Economy

In the United States, the travel and tourism industry contributes substantially to the economy. The Travel Industry Association (2005)[70] (TIA) reports that travel and tourism is the nation's second largest services export industry, third largest retail sales industry and one of America's largest employers. Nationwide, travel and tourism is a $1.3 trillion industry; it generates $100 billion in tax revenue for local, state and federal governments. The travel and tourism industry is one of the largest U.S. employers with 7.3 million travel-generated jobs. There is $162 billion in travel-generated payroll and one out of every eight non-farm jobs is directly or indirectly created by travel and tourism activity. International travelers spent $94 billion in the U.S. in 2004. Resident and international traveler's spending in the U.S. averaged $16 billion per day, $68 million per hour, and $1.1 million per minute in 2004. Approximately 2.6 million hotel rooms are used everyday in the United States. The travel and tourism industry is one of America's largest service exports with $94 billion spent by international visitors in the U.S and the $88 billion spent outside the U.S. by domestic travelers creates $6 billion in the U.S. balance of trade surplus. A one percent increase in U.S. world wide market share would be equivalent to 76 million more visitors, a $12.3 billion increase in expenditure, 151,000 new jobs, a $3.3 billion increase in payroll, and $2.1 billion more in federal, state and local tax revenues (Travel Industry Association, 2005).

TIA (2005) estimates tourism-related output increased to $954.8 billion in 2004 whereas in 2003 (the most recent year for which tourism data is available), total tourism demand increased 3.3 percent, there were 1.1 billion person-trips taken by U.S. residents generating $550 billion in that year. TIA estimates that traveler spending generated nearly $100 billion in federal, state and local tax revenues, and generated over seven

[70]Travel Industry Association (2005), "Travel industry facts," TIA website.

million jobs (TIA, 2005). The nation's tourism-related sales grew 9.4 percent in the first quarter of 2005, from $1.003 trillion in the first quarter of 2005 to $1.026 trillion in the second quarter (BEA, 2005).[71] In the first quarter of 2005 (the most recent quarter for which data is available), total tourism employment consisted of 5.5 million direct tourism-related jobs and 2.5 million indirect tourism-related jobs.

These facts demonstrate that the travel and tourism industry has become a vital part of national economy. However, after September 2001, foreign visitors' expenditure declined 3.0% in 2003. And the tourism industry's composition of output and employment has shifted. Traveler accommodation and passenger air transportation services accounted for a smaller share of direct output and employment in 2004 than in 2000. The composition of tourism demand by type of visitor has shifted with business travel, inland tourism, and out bound tourism accounting for smaller shares of total demand in 2003 than in 2000, and, travel by resident households and by government accounted for larger shares (BEA, 2005). During recent years, the increasing percentage of baby boomers and information technology has contributed considerably to increased travel and tourism. While tourism-related output has recovered from the slowdown in 2001, tourism-related employment has remained below the peak levels of 2000. Nationally, total tourism-related employment fell at an average of 2.0 percent in 2002-2003 before edging up 0.3 percent in 2004. Tourism-related employment includes 5.4 million direct jobs and 2.5 million indirect jobs (BEA, 2005).

In Connecticut too, the travel and tourism industry plays an important role. Connecticut offers a wide variety of visitor attractions.

Table T-1 shows the ten-year trend in lodging tax receipts reported by the Connecticut Department of Revenue Services, as well as tourism spending derived from the 2001 and 2004 visitor intercept surveys (for the years prior to 2001, tourist spending comes from surveys outside Connecticut). For year-to-year comparison, we report dollars in 2001 constant (inflation-adjusted) terms. The 2001 revised tourism revenue and impact (with respect to the 2003 study), measured as changes to GSP and jobs, reflects our revised methodology applied retroactively. Despite declining inflation-

[71] Bureau of Economic Analysis (News Release 2005). "U.S. Travel and Tourism Satellite Accounts for 2001-2004."

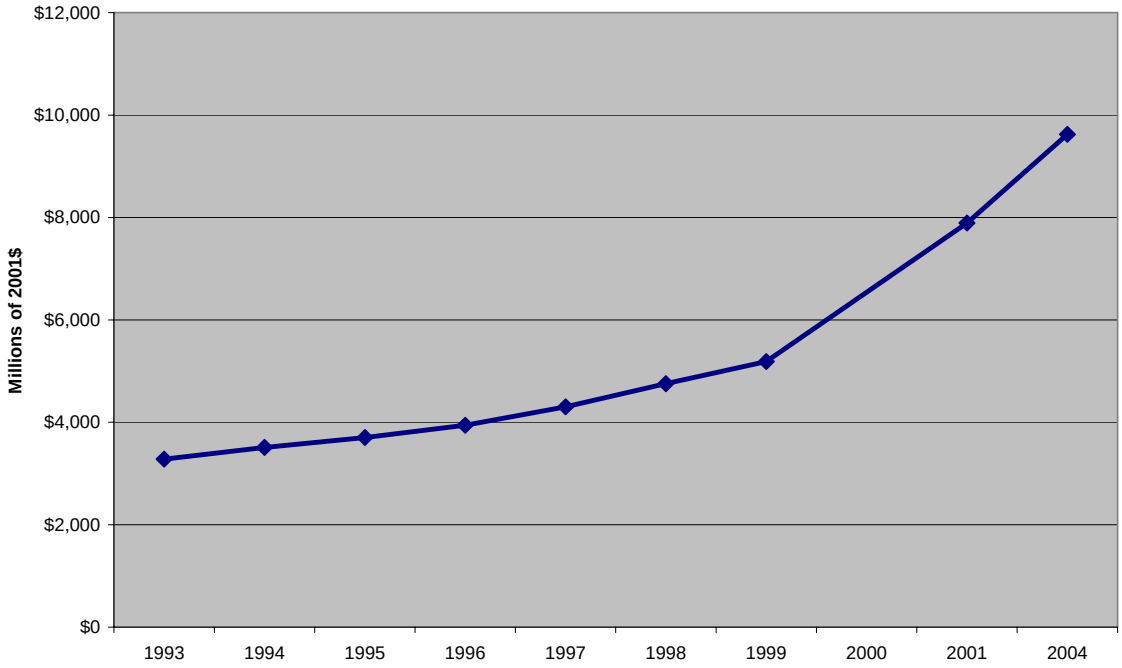
adjusted lodging tax receipts (and therefore declining real lodging revenue) in the new millennium, visitor spending and tourism's contribution to GSP consistently increased (see Chart T-1). Total tourism-related employment declined between 2001 and 2004 possibly due to consumers reallocating their budgets and spending patterns (there has been little to no growth in Connecticut's inflation-adjusted median income[72]).

Table T-1: Historic Tourism Growth 1993-2004

Years	Lodging Revenue Derived from DRS Tax Receipts (Nominal [Current] Million Dollars)	Lodging Revenue Derived from DRS Tax Receipts (2001 Million [Constant] Dollars)	Lodging Tax Revenue Growth Rate in Constant Dollars (Percentage)	Tourism Spending (2001 Million Dollars)	Gross State Product Impact (2001 Million Dollars)	Total Employment Impact (Jobs)
1993	$308	$360		$3,280	$2,598	56,586
1994	$338	$385	7.03%	$3,510	$2,781	60,562
1995	$366	$407	5.56%	$3,705	$2,936	63,927
1996	$397	$433	6.38%	$3,941	$3,123	68,005
1997	$441	$472	9.14%	$4,302	$3,408	74,221
1998	$490	$522	10.56%	$4,756	$3,768	82,056
1999	$544	$569	9.03%	$5,186	$4,108	89,470
2000	$573	$587	3.08%	#N/A	NA	NA
2001	$568	$568	-3.18%	$7,892	$7,553	116,624
2004	$578	$544	-4.30%	$9,622	$8,452	110,775

[72] See "The State of Working Connecticut, 2006," from Connecticut Voices for Children, http://www.ctkidslink.org/pub_detail_308.html.

Chart T-1: Growth of Visitor Spending (2001 Constant Dollars)



Defining Tourism

Ogilvie's (1933)[73] book on tourism is the first social scientific treatise on tourism in English. The subject however received little attention until well into the post-World War II period, when the rapid expansion of tourism provoked some critical writing by Mitford (1959),[74] Boorstim (1964)[75] and Forster (1964).[76] The first most widely accepted and technical definition of a tourist was proposed by the International Union of Official Travel Organization (IUOTO) in 1963.[77] It states tourists are "temporary visitors staying at least twenty-four hours in the country visited and the purpose of whose journey can be classified under one of the following: (a) leisure (recreation, holiday, health, study, religion and sport); (b) business (family mission, meeting)." Cohen (1974)[78] characterized tourism as: 1) a source of commercialized hospitality; 2) democratized travel; 3) as a modern leisure activity; 4) as a modern variety of the traditional

[73]Ogilvie, F.W. (1933), "The Tourist Movement: An economic study," London: Staples.
[74] Mitford, N. (1959). "The tourist encounter," 13(4), pp. 3-7.
[75] Boorstin, D.J (1964). The image: A guide to pseudo-events in America, N. Y: Harper and Row.
[76] Forster, J. (1964). "The sociological consequences of tourism," *Int. J. Comp. Social*, 5(2), pp. 217-27.
[77]For extensive review of literature on tourism see Cohen, E. (1984). "The sociology of tourism: Approaches, issues and findings," Annual Review of Sociology, vol. 10 (1984), pp. 373-392.
[78] Cohen, E. (1974). "Who is a tourist? A conceptual clarification," *Sociology Review,* 22(4), pp. 527-55.

pilgrimage; 5) as an expression of basic cultural themes; 6) as an acculturative process; 7) as a basis of ethnic relations; and, 8) as a form of neocolonialism.

Researchers define tourism in different ways. Gunn (1994)[79] argues that tourism encompasses all travel with the exception of commuting. McIntosh and Goeldner (1986)[80] suggest that "tourism can be defined as science, art, and business of attracting and transporting visitors, accommodating them and graciously catering to their needs and wants." They introduce the notion that tourism is interactive, arguing, "tourism may be defined as the sum of the phenomena and relationships arising from the interaction of tourists, business supplies, host governments, and the host communities in the process of attracting and hosting these tourists and other visitors." Hunt and Layne (1991)[81] suggest that travel was the most accepted term, used to singularly describe activity of people taking trips away from home and the industry that has developed to support them. Leiper (1979)[82] suggests that tourism is a commercialized and eventually industrialized form of hospitality. Nash (1981)[83] suggests that a tourist is a "person at leisure who also travels." Graburn (1977)[84] identified tourism as a form of "sacred journey" in western cultures – a time of great expectations and disappointments and a way to define what it means to live a life. Nash (1989)[85] views tourism as a "form of imperialism," a dichotomy of haves and have-nots with lesser-developed countries (or regions) serving the pleasures of the more developed countries (or regions). Gamper (1981)[86] tried to integrate tourism into the wider field of ethnicity and ethnic relations.

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[79] Gunn, Clare A. (1994). "Tourism planning: Basics, concepts, cases (3rd ed.)," Taylor and Francis, Washington D.C.
[80] McIntosh, Robert W., and Goeldner, Charles R. (1986). "Tourism principles, practices, philosophies," New York: John Wiley & Sons, Inc.
[81] Hunt, John D. & Layne, Donlynne (1991). "Evolution of travel and tourism technology and definitions," Journal of Travel Research, 29(4).
[82] Leiper, N. (1979). "The framework of tourism: Towards a definition of tourism, tourist and the tourist industry," Ann. Tourism Res. 6(4), pp. 390-407.
[83] Nash, D (1981). "Tourism as an anthropological subject," Curr. Anthropology, 22(5), pp. 461-81.
[84] Graburn, Nelson H.H (1989). "Tourism; The sacred journey," in Smith, Valene L. (Eds.) Hosts and guests: The anthropology of tourism, Philadelphia: University of Pennsylvania Press, pp. 21-36.
[85] Nash, Dennison (1989), "Tourism as a form of imperialism," in Smith, Valene L. (Eds.) Hosts and guests: The anthropology of tourism, Philadelphia: University of Pennsylvania Press, pp. 37-52.
[86] Gamper, J.A (1981). "Tourism in Austria: A case study of the influence of tourism on ethnic relations," *Ann. Tourism Res.* 8(3), pp. 432-46.

Noronha (1977)[87] and Cleverdon (1979)[88] provided the most comprehensive surveys of the range of socio-economic impacts of tourism, which include major topics such as foreign exchange, income, employment, benefits, ownership, government revenues and development. It is well established that tourism generates foreign exchange (Cohen (1984), [89] Varley (1982),[90] Wall and Ali (1977)[91]) income for the host country (Cohen (1984), Cleverdon (1979)), and increased employment for the local population (Noronha 1977). Tourism often became an important source of government revenue, which is one reason why many governments take steps to improve and promote travel and tourism (Cohen, 1984). Clarke (1981)[92] suggests that tourism drastically affects the traditional way of living in agricultural economies by changing the division between work and leisure.

Cohen (1984) suggested that tourism creates new employment opportunities and influences migration patterns in two directions: it helps communities retain their members who would otherwise migrate to other places, especially unemployed people in economically marginal areas and attracts outsiders searching for work, thus promoting "urbanization." Noronha (1977) argued that tourism changes the division of labor, particularly between the sexes. Tourism creates new job opportunities for women especially in tourist services like hotels, crafts, etc. Smith and Eadington (1992)[93] suggest, "…tourism is in fact a significant social institution." D'Amore (1987),[94] Taylor (1988)[95] and Dann (1988)[96] suggest that tourism is not only an interactive process but

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[87] Noronha, R. (1977). "Social and cultural dimensions of tourism: A review of the literature in English," Washington D.C., World Bank (Draft).
[88] Cleverdon, R. (1979). "The economic and social impact of international tourism in developing countries," Special Report No. 6, London, Econ. Intell Unit.
[89] Cohen, Erik (1984). "The sociology of tourism: Approaches, issues and findings," Annual Review of Sociology, vol. 10 (1984), pp. 373-392.
[90] Varley, R.C.G. (1978): "Tourism in Fiji: Some economic and social problems." Bangor Occas. Pap. Econ. No. 1, Bangor Univ. Wales.
[91] Wall, G., Ali, I.M. (1977): "The impact of tourism in Trinidad and Tobago." Ann. Tourism Res. 5, pp. 43-49.
[92] Clarke, A. (1981). "Coastal development in France: Tourism as a tool for regional development," Ann. Tourism Res. 8(3), pp. 447-61.
[93] Smith, Valene L. and Eadington, William R. (Eds.) (1992). "Tourism alternatives: Potential and problems in the development of tourism," Philadelphia: University of Pennsylvania Press.
[94] D'Amore and J. Jafari (Eds.), "Tourism: A vital force for peace," D'Amore and Associates, Ltd, Montreal.
[95] Taylor, Gordon (1988). "Understanding through tourism," in L. D'Amore and J. Jafari (Eds.), Tourism: A vital force for peace, Montreal: D'Amore and Associates. Ltd.

also a vehicle for world peace, attributing to tourism an even greater role than seeing it only as sum of the economic activities resulting from the interaction of visitors with local communities.

The Bureau of Economic Analysis (BEA) defines a tourist as a person who travels outside of his or her usual environment (an area within 50-100 miles of home) for less than a year or who stays overnight in a hotel or motel. The visitor may travel for pleasure or business. Visitors exclude travelers who expect to be compensated at the location of their visit (such as migrant workers, persons traveling to new assignments, diplomatic and military personnel traveling for their duty stations to their new countries).

The Travel Industry Association of America (TIA), the organization responsible for collecting national travel statistics, defines a domestic traveler as one who travels to a place 100 miles or more away from home or who stays away from home one or more nights in paid accommodations and who returns home within 12 months. The World Tourism Organization defines a tourist as a visitor staying at least one night. The Vermont travel and tourism study (2003)[97] defines a tourist as "A person traveling to a place outside of his or her normal commuting pattern for the primary purpose of leisure, business or personal business." "The Economic Impact of Expenditure by Travelers in Wisconsin" (2003) (see footnote 64) study places a narrower 30-day limit on the length of stay for a tourist. The New Zealand Tourism Research Council (2001) broadly defines a tourist as "one traveling outside his usual environment for a limited time."

CCEA (2001) defines tourism in a comprehensive way, including both "free and independent travelers" as well as business travelers. CCEA does not set any minimum stay requirement for these travelers it surveys in its report; however it establishes a one year limit for trip duration. CCEA (2001) adopts the following definition, accepted by well-known international organizations and their representatives: "the activities of persons traveling to and staying in places outside their usual environment not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited" (Eurostat, OECD, WTO,

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[96] Dann, Graham M.S. (1988). "Tourism, peace, and the classical disruption," in L. D'Amore and J. Jafari (Eds.), Tourism: A vital force for peace, D'Amore and Associates, Ltd, Montreal.

[97] Economic and Policy Resources, Inc. (2003). "The travel and tourism industry in Vermont: A benchmark study of the economic impacts of visitor expenditure on the Vermont economy."

UNSD, 2001). This definition is useful in a way that suggests further segmentation of visitors by place of origin, type of visitors and pattern of expenditure. We continue to use this definition in this updated study of the economic impact of travel and tourism industry in Connecticut.

A Review of Empirical Studies on Travel and Tourism

We provide a brief overview of the empirical studies on the economic impact of travel and tourism. The economic impact of Connecticut's travel and tourism industry (2001) provides a comprehensive estimate of travel and tourism in Connecticut using a broad definition of tourism including leisure and business travelers. Witan Intelligence Inc. surveyed tourists at sixteen Connecticut attractions including, for example, at Mystic Seaport, Mystic Aquarium, and Essex Steam Train. This hard data in addition to that from TIA TravelScope, DRS and the Connecticut Vacation Guide is used. CCEA used "spending ratio by visitor type" and a "spending ratio by expenditure category" and estimated visitor spending according to accommodation type. CCEA segmented visitors into five spending categories: lodging, shopping, meals, local transport and marina related spending. CCEA used various modeling methods to obtain impact numbers from tourism.

An empirical study "A New London County Travel and Tourism Economic Impact Assessment (1998)"[98] by Impact Research Associates (IRA) used an export based methodology applied to economic accounts for 21 tourism-related industry sectors from an IMPLAN data base to estimate the broader range of economic impact of travel and tourism on New London County. Tourism impacts were estimated from the output (sales) of these industries after accounting for local resident and business purchases. The results suggest that travelers and tourists to New London County spent $2.3 billion in 1998. These expenditures were the source of 32,200 jobs that are 20% of the County total, $699 million in employee compensation (13%) and $1,279 million in value added (13%). However IRA did not perform a detailed segmentation analysis.

[98] Impact Research Associates (1998). "New London County Travel and Tourism Economic Impact Assessment."

"The Economic Impact of Expenditure by Travelers on Wisconsin" (2003) by Davidson-Peterson Associates places a narrower 30-day limit on the length of stay for a tourist. The study analyzed expenditure by accommodation type and used an economic impact model. The Standard Industry Classification (SIC) codes[99] are not used; instead travelers are defined by where they spend money.

"The Travel and Tourism Industry in Vermont" (2003) by Economic and Policy Resources, Inc., (EPR) (see footnote 97) examines the structural economic impact of visitor activity on the Vermont economy. EPR calculated total visitor spending in Vermont during 2003 at $1,462 million. The study estimated a total of 36,470 jobs generated by visitor spending in the travel industry. Notably, this study includes the impact of vacation and rental homes.

EPR uses a similar methodology to CCEA's present and earlier studies to estimate the economic impact of travel and tourism in Connecticut. The EPR and CCEA studies define tourism in a broad sense and define them in terms of their length of stay, purpose of trip and distance traveled. The Vermont study used the same definition of travel and tourism as CCEA, in which "Tourism is defined as the activities of those traveling for leisure or business purposes." Using a similar definition, the Vermont study defines a tourist as "A person traveling to a place outside of his or her normal commuting pattern for the primary purpose of leisure, business or personal business."

The CCEA 2001 study used the "Accommodation Method" which examines each visitor's spending component separately. This is done by breaking down the visitor population into its individual and measurable parts, and developing the best possible estimate of those parts. This method takes "lodging revenues" as driving the entire estimation process. The Vermont study also used the same breakdown and definition of expenditure as used by CCEA. An important difference between these studies is the category of "Wagers." CCEA used a "wager spending category" because Connecticut's gambling establishments are popular and unique. Traveler and tourist expenditure for wagers affect the economy by flowing into the Pequot Fund.[100] In the previous CCEA study, "Wagers" represented 21% of tourist expenditure. However the Vermont study

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[99] The SIC system predates the current NAICS.

[100] See the 2000 CCEA study, "The Economic Impact of the Mashantucket Pequot Tribal Nation Operations on Connecticut," http://ccea.uconn.edu/studies/Mashantucket%20Final%20Report.PDF.

does not include expenditure on wagers because gaming is not a major source of revenue from travel and tourism there. The largest non-wager spending category is recreation (19%). In Vermont, 'Amusement and Recreation', shopping, food and beverage and lodging make up to 86% of tourist expenditure, while the remaining categories are 'Gas and Oil', and other auto and local transportation.

In the CCEA studies, spending in five categories drives the economic impact of tourism: hotels, motels and resorts (HMR), day-trippers, those staying with friends and family, and by visitors to marinas and campgrounds. The study calculates visitor spending in eight expenditure categories including shopping, lodging, meals, recreation, wages, fuel, other auto and local transportation in each county. The Vermont study uses a similar breakdown and definition of expenditures as used by CCEA (2001). However, the Vermont study combined "Lodging" and "Marine Sales" to make the "Lodging Category" because their working definition of lodging equates "marina" and "bay type" establishments to campgrounds. CCEA used (and continues to use) marina visitor spending by using the trip expenditure pattern from the Marine Angler expenditure Survey for Connecticut as reported in Schinback and Gertner (June 2001), Marine Anglers Expenditures in the Northeast Region, 1998.

Both studies used a wide range of data sources. The CCEA study used the Travel Industry Association (TIA) TravelScope Household Survey for Connecticut (2001), lodging gross receipts (taxable revenue) from Department of Revenue Services (DRS), and its own surveys of lodging, campground and marina establishments and visitor intercept surveys. The Vermont study used similar surveys including a survey of lodging establishments, a Vermont family and visitors' survey and a survey of second homeowners (which is for Vermont a most important and growing demand segment). The Vermont study includes both domestic and foreign visitors and differentiates Canadian visitors due to its proximity to the Canadian border. Both studies employed the REMI model to measure the total economic impact of visitor spending in their respective tourism industries.

The Massachusetts Travel Industry Report (2003),[101] prepared by the

[101] Massachusetts Office of Travel & Tourism (2003), "Massachusetts Statewide & regional economic impact and visitor behavior".

Massachusetts Office of Travel and Tourism, defines a tourist as a domestic traveler who travels to a place 100 miles or more away from home (TIA definition). According to the report, Massachusetts hosts more than 26 million person-trips annually with Greater Boston as the most popular destination for travelers. The majority of visitors (77%) come to Massachusetts for leisure/pleasure purposes. The report presents visitor spending by share of visitors and impact results were broken down by sector including food, lodging, entertainment, recreation, transportation and retail. To determine the economic impact, the report looked at payroll, state and local tax receipts and expenditure. The report presents total person-trips and total spending. The Massachusetts lodging industry consists of hotels, motels, campgrounds, and ownership or rental of vacation and second homes. The report shows that Massachusetts' residents take advantage of the travel experiences offered by their own state, and represent 20% of all travel in the state. Fellow New Englanders recognize the unique travel opportunities available in Massachusetts. Residents of New England, including Massachusetts, represented more than half of all domestic travel to and in the state. Visitors to Central Massachusetts are most likely to come from these states: Massachusetts (24%), Connecticut (18%) and New York (18%). The report uses a combination of charts and is marketing oriented.

The New Hampshire Visitor Survey (2003),[102] prepared by the Institute for New Hampshire Studies at Plymouth State University, develops demographic, activity and expenditure profile of New Hampshire visitors. No specific definition of visitors is used in this study. The Division of Travel and Tourism Development (DTTD) constructed a survey instrument that was distributed at various locations across the state (toll plazas, highway rest areas, chambers of commerce, Manchester Airport and regional tourist information centers, etc). Recipients were instructed to complete the survey at the end of their stay in New Hampshire and return it by mail (postage paid). Spending data was collected from survey results. Most data is presented in chart forms. The hotel/motel resort category was represented by the largest percentage of overnight visitors, followed by family and friend visits and private/commercial campgrounds. Spending was

[102] Thurston, Stephen H. "New Hampshire Visitor Survey 2003," The Institute for New Hampshire Studies, Plymouth State College, Plymouth.

categorized by item and presented for overnight vs. day travelers. The report offers only a brief explanation before each section and does not offer an economic impact analysis.

The Rhode Island Travel and Tourism Report (2004)[103] helps to inform the tourism industry, government agencies and researchers about the status and trends in economic activities related to Rhode Island travel and tourism. The report uses Travel and Tourism Satellite Account approach (TTSA) to identify Rhode Island's travel and tourism industry and its role in the Rhode Island economy. The report estimated the impact of travel and tourism on the state economy using two different concepts: an industry approach and a commodity approach. The industry approach describes the economic impact of a selected list of fourteen industry categories whose principal activity is serving travelers. The commodity approach describes the impact generated by expenditure on travel and tourism commodities regardless of what industry produces them. This approach accounts for tourism commodities purchased by three different markets including visitors, Rhode Island households, and Rhode Island businesses. The report adopts an intermediate definition of tourism, and includes restaurants but excludes retail stores. The report provides economic impact in terms of sales revenue, output, employment, employee compensation, and proprietary income, indirect business taxes (including lodging, excise and sales tax).

The Leones and Dunn (1999) study, "Strategies for Monitoring Tourism in Your Community's Economy,"[104] provides a detailed methodology for tracking local tourism activity. The study takes "bed tax revenue" as the most objective source of data for monitoring tourism in the local economy. These data are available at the city, county, and state level. If we know the tax rate and have bed tax revenue data, we can estimate total expenditure at lodging places, and can also break these data out seasonally. The study provides guidelines for estimating total room-nights and average price per room-night using hotel occupancy and bed tax data. This information tracks changes in the number of rooms or spaces in the community by: 1) dividing total estimated expenditures in hotels from bed tax revenues by room-night, one can estimate average cost per room-

[103] Tyrell, Timothy J., Department of Resource Economics, University of Rhode Island, " Rhode Island Travel and Tourism research report 2004."
[104] Leones, J. and Douglas Dunn (1999). "Strategies for monitoring tourism in your community's economy," Arizona Cooperative Extension, University of Arizona, 1999.

night over time; 2) the number of rooms multiplied by the number of nights in a month gives the total supply of room-nights in a community; and, 3) a summation of the average occupancy rate times the number of room-nights provides an estimate of total demand for the number of room-nights. CCEA uses similar methodology to calculate bed tax revenues.

Estimating Tourism-related Economic Activities

Central to an economic impact analysis is measuring accurately total visitors to the region and then performing segmentation analysis to capture the special characteristics of each segment. To estimate the economic impact of recreation and tourism activity, the researcher must clearly estimate visitor spending associated with these categories and represent them as sales of associated industries. The economic impact analysis gives tourism industry greater respect among the business community, public officials and public. Stynes (1998, 1999)[105] emphasized the following key issues of economic impact analysis: (1) visitation data; (2) the study region; (3) types of spending; (4) spending categories; (5) units of analysis; and, (6) local visitors.

1. **Visitation data:** A spending study should clearly define visitors' characteristics, their spending pattern and type of activities. Researchers should clearly define the party size and the length of stay.

2. **The study region:** An economic impact analysis must define a study region and measure spending that takes place within this region.

3. **Types of spending:** Three kinds of spending must be considered: i) commodity (that is, non-durables) spending by visitors, ii) purchase of durable goods by visitors and households, (iii) government or organizational spending.

4. **Spending categories:** Researchers must define the spending categories, for example how lodging is divided between campgrounds and hotel/motel properties, and how food and beverage spending is divided between restaurant and groceries.

[105] Stynes, Daniel J. (1998-1999). "Approaches to estimating the economic impacts of tourism; some examples," Michigan State University: Tourism Education Materials.

5. **Units of analysis:** The units of analysis in recreation and tourism studies can vary based on the definition of the spending unit and time period. Both visits and spending must be converted to a common unit before they can be combined to yield total spending.

6. **Local visitors:** For economic impact analysis it is important to separate residents from non-residents.

Estimates or projections of tourist activity generally come from a demand model or some system for measuring the level of tourism activity in an area. However developed, whether from projections or actual counts, a carefully designed measurement of tourist activity and a proven demand model are the foundation of meaningful analysis. This step is usually the weakest link in most tourism impact studies as few regions have an accurate count of tourists, let alone good models for predicting changes in tourism activity or separating local visitors from those from outside the region (Stynes, 1998).

A good economic impact model of the travel and tourism industry depends on a well-developed understanding of total spending by visitors. The estimate is based on the details regarding the characteristics of visitors, their spending patterns and the types of activities in which they participate. There are a number of reasons why spending should be estimated from subgroups of visitors. Disaggregating visitors into segments makes it easier to identify differences between visitor categories, for example day visitors versus overnight visitors. It is easier to estimate spending profiles for narrowly defined segments. Secondly, segmenting visitors into groups with similar spending patterns leads to efficient sampling designs (Stynes, 1999). Stynes and Propst (1992)[106] suggest the following segmentation of visitor spending: 1) local residents versus visitors from outside the designated region; 2) overnight visitors versus day visitors; and, 3) segments defined by the type of lodging (campground, motel, seasonal home, and staying with family or friend).

Methods to measure tourism-related economic activities vary depending on the available resources, scope of the project and details of analysis. Often none of the methods individually provides a reliable estimate of total tourism-related economic

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[106] Stynes, D.J. and Propst, D.B. (1992). "A system for estimating local economic impacts of recreation and tourism," in Measuring Tourism Impacts at the Community Level, S. Reiling (Ed.) Maine, Agr. Export Sta. Misc. Report # 374.

activities. They need to be supplemented by one or more methods to describe fully the scope of the tourism industry. We can group existing methods into three broad categories: 1) bed tax revenue; 2) visitor surveys; and, 3) visitor counts. We briefly highlight below the salient features and limitations of each approach.

1. Bed Tax Revenue Method (Lodging Tax):

Bed tax revenue data is the most objective source of data for monitoring tourism. The bed tax is collected at the city, county, and/or state level, and rates are readily available. If we know the tax rate and have bed tax revenue data, we can estimate total lodging revenue. We can break these data out seasonally. In calculating total paid nights, a researcher should be aware of the exemptions to the bed tax for military persons, government employees, non-profit employees and visitors who stay more than 30 days. If there are many of these types of visitors who stay in commercial lodging, estimates of lodging based on bed taxes will underestimate the actual amount spent on accommodation. Sometimes hotels and motels may not be within city limits and will not be included in lodging expenditure estimates. In addition to bed taxes enforced by counties and cities, the state may also charge a bed tax. We can also use these data in combination with city data to estimate lodging expenditure at the sub-county level. The researcher should know that the share of visitor's expenditure can vary significantly between communities and can change over time (Leones and Dunn, 1999). In Connecticut, hotels located on Native American lands collect the room tax for the Tribal Government. In order to account for other visitors, however, we need supplemental information from other sources.

The bed tax does not distinguish between business and leisure travelers. Furthermore, a researcher must rely on aggregate visitor expenditure pattern data to perform sectoral analysis in the absence of random intercept surveys. National level current expenditure surveys are often a useful approximation for this purpose, but the reliability of these estimates for this study is questionable, because the sample size in a given area is quite small. Similarly, to account for other visitors (day-trippers, those staying with friends and relatives, and campers), a researcher must rely on survey results at the national level or in different regions and apply those percentages to the study area.

The bed tax method is a reliable way of estimating total economic activity complemented by lodging surveys in the study region. A random intercept survey is refined for visitor segmentation and purchasing patterns as each segment's spending pattern differs widely from each other.

In addition to the bed tax, a researcher may be able to get monthly occupancy rates. The size of each facility and occupancy rate will provide basis for estimating room-nights spent in counties. This helps to calculate the changes in the number of rooms or spaces available in the counties and the number of room-nights spent in the counties over time (Leones and Dunn, 1999).

2. Surveys

Surveys and visitor counts provide better estimates of total visitor expenditure and can be used to better promote tourism and strategic decisions regarding community improvement for attracting increased tourism dollars. The main purpose of the survey is to identify the importance and size of tourism activity relative to other economic activities and to identify how important different types of visitors are to a given community. Surveys help identify how visitors spend their time and money. We review the methods commonly used under each visitor type's expenditure survey. Knowing the percentage of money tourists spend for food, gasoline and lodging is important for tourism development. Following are the important types of surveys used in travel and tourism studies.

2.1 Lodging, Campground and Marina Surveys

The lodging survey is an important supplement to the bed tax revenue method described above. The lodging tax is usually a percentage of the room rate and is added to the bill in addition to the state sales tax. When a lodging tax is collected in a county, it provides accurate information in estimating the direct economic benefits. Because lodging taxes are carefully monitored, they can be used to estimate direct tourism expenditure. A time series analysis of the estimates based on lodging taxes can demonstrate time and geographic trends in the tourism industry. The lodging tax shows the pattern of tourism growth in an area over time. Lodging surveys provide the

researcher important information about the characteristics of visitors, party size and length of stay as well as lodging establishments purchasing patterns, employment profile and occupancy rate. Similarly, marina surveys provide information that is useful in performing visitor segmentation analysis. Lodging surveys are generally used when spending and resulting impacts estimates are derived for particular markets or local regions. Spending data are gathered from visitor surveys and applied to estimates of the volume of tourism in an area.

Most of the studies on tourism use lodging receipts as the index of tourism. The major reason for using lodging receipts is (1) most tourism studies find lodging receipts to be a significant portion of total trip expenditure; (2) of the Standard Industrial Code (SIC) for industrial sectors, only the lodging sector has an insignificant amount of trade from local residents (Brown and Connelly, 1992).[107] Researchers use lodging tax statistics to estimate local tourism impact (Estimating Tourism Economic Impact in Nebraska Counties, 1999).[108] The economic impact can be determined by using expenditure patterns (which are the breakdown of money spent by tourists in an area by category), as for example, the fraction of money spent on gasoline, shopping, attractions, auto, camping, and lodging. This information is crucial in estimating direct economic benefits (total amount of money spent by tourists within a geographic area). Using the lodging tax, we estimate the amount spent on lodging in a given area with the estimate of the percentage spent on lodging by tourists, the researcher can estimate the total amount of their spending in an area if we know the relationship of their lodging spending to their spending in other categories. Lodging taxes are carefully monitored and can easily be used to estimate direct tourism expenditures. Lodging taxes also show the pattern of tourism growth and time series of these estimates can be used to demonstrate trends in tourism activities. The estimation of the direct economic impact (the amount of money spent by tourists within a geographic area) of tourism activities by using lodging taxes involves the following steps:

1. Total Lodging Expenditure = Lodging tax revenue / State lodging tax rate.

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[107] Brown, Tommy L. and Nancy A. Connelly (1992). "Assessing changes in tourism in the Northeast," Department of Natural Resources, Cornell University.
[108] Brian H. Hill, Extension community Tourism Specialist, "Estimating Tourism's economic impact in Nebraska Counties" Nebraska Cooperative Extension G99-1380-A.

To Estimate total tourism expenditure, we calculate the ratio of category spending to lodging spending:

2. Tourism Expenditure = Total lodging expenditure * (sum of fractions spent on retail, amusement and recreation, food and drink, transportation).

Spending in each tourism category is calculated by using this formula for each county. Lodging surveys are important because they indicate the distribution of expenditure by overnight visitors especially when travelers stay overnight in one region and spent money in another.

Visitor Surveys and Segmentation Strategies

Visitor surveys are used to provide spending data, which can be used in regional economic models. CCEA uses a visitor survey to construct a Connecticut visitor spending profile. This segmentation technique helps local planners determine the type and number of visitors that tourism attracts. CCEA uses visitor intercept data to estimate expenditure in five different sectors by six types of accommodation. Visitor segmentation is a standard analysis used in several tourism studies and helps divide total market demand into relatively homogeneous sectors identified by certain characteristics (Chishnall, 1985).[109] Such segments must be: (1) identifiable within the context of existing information; (2) accessible; (3) measurable; and, (4) according to the needs of the studies (Chishnall, 1985).

In tourism analysis, there is a history of a priori segmentation studies that lead to the identification of tourist groups derived from dividing the population according to prior knowledge of common sense segmentation (Dolnicar, 2004).[110] A number of tourism studies have used segmentation analysis, for example Baloglu and McCleary (1999)[111] find that the traveler's choice of a given destination depends largely on the favorableness of his or her image of that destination. Kashyap and Bojanic (2000)[112]

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[109] Chisnall, P., (1985) Marketing: A Behavioral Analysis, second ed., London, McGraw-Hill UK.

[110] Dolnicar, Sara (2004). "Beyond "commonsense Segmentation: A systematics of segmentation Approaches in tourism," Journal of Travel Research, Vol . 42, Feb 2004, 244-250.

[111] Baloglu, Seyhmus and Ken W. McCleary (1999), " U.S International pleasure Travelers Images of four Mediterranean Destinations: A comparison of visitors and non visitors," Journal of Travel Research, 38 (2), 144-52

[112] Kashyab, Rajiv and David C. Bojanic (2000). "A structural Analysis of value, Quality, and Price Perceptions of Business and Leisure Travelers," Journal of Travel Research, 39 (1), 45-51.

explore systematic differences between business and leisure tourists with respect to value, quality and price. In developing economic impact estimates for the U.S. Army Corps of Engineers, Stynes, Propst and Jackson (1994)[113] divide visitors into distinct segments that are homogeneous in their spending patterns. Israeli (2002)[114] performs segmentation analysis among disabled versus non-disabled visitors and profiles the perception of their travel destinations. Moscardo et al. (2000)[115] did segmentation analysis of visitors to local friends and family. Stynes (1999) defines segments in several distinct ways, for example, local residents vs. visitors, overnight visitors vs. day-trippers and segments defined by the type of lodging (camping, staying with family and friends, hotels, motels).

Stynes (1999) suggested the following formula for measuring total spending in a segmented analysis:

$$S_j = N * \sum_{i=1}^{m} M_i * s_{ij}$$

where

S_j = Total spending within the designated region in spending category j.

N = Total number of visitors.

m= Number of segments.

M_i = Segment i's share of total visits

s_{ij} = Average spending of a member of segment i on spending category j (the s_{ij} vector is called a "Spending Profile" for the segment).

One calculates total spending by summing across each spending category. The economic impact of this spending is obtained by applying the vector of spending to a set of industries in an economic input-output model. The above equation has the following key pieces of information:

1. Total visitors affected (N): The total number of visitors must come from a reliable

[113] Jackson, R.S., Stynes , D.J and Propst, D.B(1994). "An assessment of the national economic effects of the U.S. Army Corps of Engineers recreation program," miscellaneous Paper R-94-2, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

[114] Israeli, Aviad A. (2002). "A preliminary investigation of the importance of site accessibility factors for disabled tourists," Journal of Travel Research, 41(1), 101-4.

[115] Moscardo, Gianna, Philip Pearce, Alastair Morrison, David Green, and Joseph T. O' Leary (2000). "Developing a Typology for understanding visiting friends and relatives markets," Journal of Travel Research, 38 (3): 251-59

visitor survey.

2. Segment Shares (M_i): For estimates, visitors must be divided into different segments. A detailed segment share can be obtained from the visitor survey.

3. Spending profiles by segment (s_{ij}): Spending profiles must be estimated from surveys of visitors. By including the variable in the survey that defines key segments, spending profile can be obtained for each segment.

2.2 Telephone and Field-Intercept Surveys:

Telephone surveys are a popular approach used by many marketing companies. They require a well-defined system and an accurate listing of the entire population. The advantage of telephone surveys is that they are relatively easy to supervise. Information is easily collected. Visitors' responses can be entered directly into a computer thus reducing input errors (Leones, 1998).[116] This method is not well suited for surveying international visitors but it is an inexpensive method to survey domestic visitors. In telephone surveys, households are selected randomly from a telephone directory and people are asked about their interest in traveling to events and locations in a tourist region. The questions are asked about the travel party size, length of stay, amount of expenditure and spending patterns. Information on the number and types of events/sites visited during the year by a household, the mode of transportation, miles traveled to reach the event/sites, types of lodging used, times of the year visits occurred and the likelihood of returning to the events/sites are collected. This approach has several disadvantages because it is difficult to reach many households due to wide spread telemarketing and telephone surveys. It requires a reliable database of telephone numbers. Some household members are more likely to answer the phone than others and this may bias the results. The interviewer may also introduce bias.

Field-intercept surveys are done at selected events, attractions or locations throughout the region. This technique requires contacting a visitor and giving them a copy of the survey questionnaire to answer immediately. The response rate may be higher and it does not require a list of visitors before conducting the survey. Using this

[116] Leones, J. (1998). "A guide to designing and conducting visitor surveys," Arizona Co-operative Extension, University of Arizona, 1998.

method, key information such as the purpose of the trip, visitor spending and the origin of the visitor can be collected easily. This technique works best when local front desk employees help to distribute the survey or when people are contacted at specific locations.

Example: Alabama Study

The State of Alabama used telephone and intercept methods in 2000. Alabama researchers conducted telephone surveys of 800 in-state households in two separate ways; half the surveys were done during June 2000, the other half during September 2000. The telephone survey results indicated that the households contacted had attended an average of 1.1 events within the year 1999 in Alabama. The most visited places were festivals and entertainment events, with 23% of respondents visiting these places. The other popular places were parks and nature sites: 11% of the respondents went there. Alabamans traveled an average of 77.3 miles one way to reach these locations, and the personal automobile was the overwhelmingly favored mode of transport to reach the sites, used by 93.8% of respondents.

In the field intercept methodology, the Alabama researchers selected 2,400 event attendees. The survey results provided information similar to the telephone survey, such as travel party size, length of stay, and spending volumes and patterns. Other information collected by the surveys included: the number of room nights per travel party for those groups staying in hotels; the mode of transportation and the number of miles traveled to reach the event/site; type of lodging used; other activities that would be engaged in while visiting the area and the source by which a survey respondent had been informed about the event or site. Another example of the use of this methodology occurred in New Zealand.

New Zealand's Domestic Travel Survey and International Visitors Survey Methodology

The Domestic Travel Survey measures expenditure and behavior of domestic travelers within New Zealand. The survey is conducted by telephone interviews of 15,000 residents in private households. It defines a domestic traveler as a person traveling 40 km (25 miles) away from home. The survey provides quarterly and annual

statistics on domestic travel and provides information on the following characteristics of domestic visitors:[117]

1. Measures their expenditure;

2. Determines the type of accommodation, type of transport and places visited by domestic visitors, i.e., day trips, overnight trips, nights spent in individual regions, purpose of travel and more;

3. Provides data for the Tourism Satellite Account;

4. Provides data about residents who have not traveled in New Zealand recently;

5. Provides information about the demographic characteristics of domestic travelers.

The Domestic Travel Survey uses computer-assisted telephone interviewing methods. The questionnaire collects travel data on overnight and day trips and detailed data on expenditure patterns. The target population of the domestic travel survey is the resident population aged 15 years or older. A random digital dialing method is used to take telephone interviews. To reduce bias in the interview process, the final data set is weighted to provide a representative sample. The survey includes detailed expenditure data on accommodations, food and alcohol, gambling and casinos, recreation, gifts and other shopping activities. Data collection takes place continuously throughout the year. The questionnaire is designed in consultation with Statistics New Zealand, end users and world tourism manuals.

The International Visitor Survey (IVS) provides key information on the expenditure of international visitors to New Zealand. Each year 5,000 departing international visitors are surveyed at Auckland, Wellington and Christchurch International airports. The IVS provides information on a quarterly and annual basis on the following characteristics of international visitors;

1. Their expenditures;

2. Their accommodation types and places visited, i.e., number of visitors, visitors by source, port of entry, and purpose of visit;

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[117]Office of Travel and Tourism, New Zealand, "Understanding the Dynamics of New Zealand Tourism (2005)."

3. Data for the Tourism Satellite Account;

4. Demographic information about the international visitors including their origin and length of stay.

International visitors who intend to stay for less than 12 months are counted in the International Visitor Arrival (IVA) data. This information is obtained from passenger arrival cards collected at various New Zealand international airports and seaports by the New Zealand Customs Services. The IVA uses both census and survey methodologies. It is a census methodology in that it is compulsory to fill out the arrival and departure card from which the data is derived. Secondly, it provides information on nationality, place of origin and airline information. The IVA is a survey methodology in that a sample is selected from these cards. Data derived from this sample includes information on the length of stay, primary reason for travel, and country last lived in for 12 months or more. The survey has a 100% response rate because the completion of the annual arrival and departure cards is compulsory for all international visitors.

In January 2003, the sampling method of the international survey changed and it became more "flight-based." Flight-based sampling is a non-random method of sampling that allows targeting of certain characteristics of international visitors. Data on characteristics of passengers is generated from the departure cards of passengers. When it is known that an interview of international visitors is necessary, interviewers approach passengers near their departure gate to see if they meet the characteristics of the people the survey requires targeting. This is done through a series of screening questions. Five thousand interviews are conducted annually. If the person qualifies for the survey, they are asked to take part in it. The New Zealand Tourism Authorities also use CAM (Commercial Accommodation Monitor), which measures the capacity and utilization of commercial accommodations in New Zealand. The CAM generates monthly, quarterly and annual statistics on guest nights, capacity, occupancy rates, employee number, and origin of guest, accommodation type, as well as seasonal and regional patterns.

The intercept survey method is one of the best methods to obtain detailed information about trip characteristics. It is especially well suited for focused studies such as the economic impact of certain attractions in a region. However, to estimate region-wide total tourism activities, a researcher must acquire additional data to calculate the

total volume of visitors in the region.

2.3 Mail Survey Methodology

The most popular approach to mail survey is one used by Dillman (1978),[118] which involves sending one copy of the survey. If no response is received, then a reminder post card is sent. In case of no response, the respondent is contacted by telephone and second survey is mailed to the respondent. Mail surveys are best when a specific geographic group is contacted. It is the least expensive and requires fewer workers to administer. It gives respondent time to think about the questionnaire and more than one family member can answer the questions. However, sometimes the response rate is low and questions may be misunderstood. It also requires a complete mailing list of all visitors in the community (Leones, 1998). One of the prominent surveys in this category is Travel Industry of America's TravelScope household survey. The results of these household surveys are extrapolated to whole states to calculate the total domestic and international visitors to each state. However with the possibility of a large margin of error, these calculations are an important tool to compare trend across the states and provide aggregate visitor information for a state in the absence of more reliable survey data.

Example: Virginia Study

The mail survey methodology has been widely used by the Virginia Tourism Corporation (VTC). In 2003-2004, VTC conducted a detailed mail survey of visitor characteristics, such as the visitor's origin, destination and demographic information (The Virginia Tourism Corporation, 2003-2004 Virginia Visitor study). In all, 9,139 surveys were mailed to qualifying households and 7,665 questionnaires were returned, representing an 84% response rate. The average spending per travel party, average spending per person, average spending per day is provided in the survey. In addition, a breakdown of spending by category details how the travel dollars are spent. The percentage of spending on lodging, rental cars, food is also provided. The survey provides information on demographics such as race, age, marital status, household size,

[118] Dillman, D.A. (1978). Mail and Telephone Surveys: The Total Design Method. New York: Wiley & Sons.

education, employment, occupation, and home ownership.

The mail survey methodology offered an affordable method of producing a large sample of Virginia visitors from a survey population that is representative of the U.S. population in several demographic and geographic variables.

3. Visitor and Traffic Counts

This is another valuable method and can be used to track visitor's numbers. It can be useful in calculating total visitor volume to a region by counting the total traffic at major border crossings along the main highways. Visitor and traffic count can be obtained from public attractions such as state and national parks, from non-profit attractions like museums, gardens, and from private attractions such as theatres and amusement parks. However some visitor attractions sell memberships and some offer free admission and may charge different rates for different age groups. Visitor and traffic count data is a useful indicator; however it must be supplemented by survey data that allows researchers to perform visitor segmentation analysis. This is important because both local residents and visitors may visit the same attractions and it is difficult to separate them. Secondly, not all visitors visit local attractions, especially if they are visiting friends and family.

Summary

A closer look at survey methods demonstrates that a single method is not sufficient to capture a complete set of economic activities, unless a study is confined to the analysis of a specific attraction. In most cases, whatever disadvantages a survey may have, they can be overcome by introducing additional surveys. As discussed, CCEA utilizes a mix of survey methods to calculate a reliable estimate of the array of tourism-related economic activities in Connecticut in a way that allows researchers to perform a detailed visitor segmentation analysis. The availability of other sources is important for CCEA's analysis as these sources provide a crosscheck results.

4. Methodologies for Estimating Economic Input of Tourism

The next task after collecting data on tourist expenditure is to project their effect on the economy. There are basically two approaches to calculate the economic effect of tourism-related activities:

1. Satellite Account
2. Input/output Models.

Satellite Account Approach

Tourism has historically posed challenges to accurate measurement. The major reason for this is that tourism is not designated as an "industry" in the standard economic accounts. The Satellite Account Approach, developed by World Travel and Tourism Council (WTTC, 1996), was ratified by the United Nations as the benchmark for measuring tourism. The Tourism Satellite Approach (TSA) is a more accurate and more detailed method than the traditional economic input approaches. This system is useful for estimating the overall economic significance of tourism at the national or state level; it is not very useful for estimating the impacts of particular policies and actions at local levels. The major advantage of TSA is that it connects the demand side aspect of travel and tourism (i.e., visitor spending) with the supply side (i.e., what is produced by industries) (The Delaware Tourism Satellite Account, 2003).[119] It is called a "Satellite Account" because the TSA is consistent with state economic accounts as it presents a set of "final accounts" for the tourism sector. Thus, it presents tourism in an accepted system of accounts. The TSA is a powerful tool as it shows the economic effects of tourism in a way that is comparable to other sectors. The basic procedure in satellite accounting is to allocate a 'share' of sales of each commodity or industry to tourism. The shares, however, can vary widely for different regions. Information to estimate them comes from various sources, including surveys of households or tourists. Many surveys are not carried out on a consistent basis and are subject to a variety of sampling and measurement errors. This approach focuses on national and statewide accounting of tourism's economic activity.

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[119] Global Insight (2003). "The Delaware Tourism satellite Account: A comprehensive understanding of the economic contribution of travel and tourism in the State of Delaware."

The satellite tourism account identifies the contribution of travel and tourism to GDP and GSP. Using the standard national system of accounts, researchers identify the portion of sales, taxes and investment attributable directly to travel and tourism. However, this approach does not use multiplier or income effects. It does capture a great deal of travel-related economic activity, not covered by visitor spending on their trip, such as durable good purchases (e.g., boats and RV's), construction and investment in tourism and government expenditure. The satellite approach also provides a credible basis for communicating the significance of travel and tourism to the public, media and legislators.

The Satellite Account Approach is rapidly becoming the standard for measuring the economic value of travel and tourism in the U.S. The Department of Commerce, Bureau of Economic Analysis has adopted the Satellite Account approach and many states have already developed this approach. The development of the Satellite Account approach allows us to compare several states' travel and tourism data by using a consistent set of concepts.

Travel and Tourism Economic Impact Models[120]

Input/output Models

An input-output model is a mathematical model that describes the flows of money between sectors within a region's economy. Flows can be predicted by knowing what each industry must buy from another industry to produce a dollar's worth of output. Multipliers can be estimated from an input/output model. Input/output models are based on a number of assumptions, for example, all industries employ the same production technology and there are no economies or diseconomies of scale or scope. In order to measure the indirect effects of tourism, a variety of input/output methods are used. We briefly summarize each one of them below.

The National Park Service's "Money Generation Model"

Dr. Ken Hornback of the Denver Statistical Office developed the National Park Service's "Money Generation Model" in 1990. This model is used to estimate economic benefits of parks and local economies. The original Money Generation Model (MGM) focused primarily on the economic benefits associated with park tourism. In 2000, Daniel Stynes and Dennis Propst at Michigan State University developed a new version of the MGM model called the MGM2 model. This model estimates the economic impact that park visitors have on the local economy in terms of jobs, sales and income.

The "Money Generation Model" is a simple fill-in form for generating economic impact. It utilizes the number of visits, average spending per visitor and an aggregate sales multiplier entered on a spreadsheet to generate direct and total effects of visitor spending. The MGM model has three basic inputs: 1) the number and types of visitors (up to 12 distinct visitor segments or types of visits may be identified); 2) a spending profile of each segment which includes spending within 12 standard spending categories; and, 3) a set of sector specific multipliers.

The model estimates the direct effect of visitor spending for tourism-related sectors and total effects across all sectors. Impacts can be estimated for individual visitors segment. Each spending type is generally measured separately and in most situations, only one type is of primary interest. Trip spending is most easily gathered in conjunction

[120] REMI is described in Appendix 1.

with visitor surveys, durable goods purchases are best measured through household surveys or secondary sources and government or organizational purchases are generally acquired from internal records of the organizations. A trip encompasses the time of departure when the party leaves their permanent home, or in some cases, a temporary residence (seasonal home) until the time they return or otherwise terminate the trip. In estimating impacts on a particular region, spending should be measured from when the visitor enters the region to when they leave, being careful to also include any prepaid expenses that accrue to business in the region.

For trip spending, the following details are considered:

a. Lodging divided between campgrounds and motels/hotels.

b. Food and beverages divided between restaurant meals and groceries.

c. Transportation divided between auto/RV gas and other auto-related expenses (repairs, parts etc.) and public transportation where appropriate (air, rail, taxi, etc.).

d. Souvenirs and other retail purchases.

The details define the key sectors directly impacted and facilitate allocating spending data to sectors in a regional economic model, and, using sound judgment in choosing parameters, the MGM model can yield reasonable estimates of economic activities. Aggregate sales multipliers generally come from an economic base or input-output model of the region's economy. In many cases, multipliers are borrowed (often improperly) or adjusted from published multipliers from other studies. The multiplier for producing an output such as cars or computers would likely be different from the multiplier for providing tourism services. Tourism is a service activity and its multiplier would likely be different from the state level input-output multiplier that includes manufacturing as well. One should not take a multiplier estimated for one region and apply it in a region with a quite different economic structure. Generally, multipliers are higher for larger regions with more diversified economies, lower for smaller regions with more limited economic development. Sales effects are converted to income and jobs using simple ratios of income to sales and jobs to sales. Tax effects of visitor spending can also be estimated by applying local tax rates to sales estimates. However, this approach provides little detail on spending categories and which sectors of the economy benefit from direct or secondary (indirect and induced) effects. The aggregate nature of

the approach makes it difficult to adjust recommended spending multipliers to different applications. Hence, it does not appear to be useful for Connecticut's purposes.

The Bureau of Economic Analysis (BEA) RIMS II Method

The U.S. Department of Commerce, Bureau of Economic Analysis (BEA) has an ongoing program of regional economic analysis. The BEA maintains an input-output modeling system. Clients may obtain customized multipliers for various sub-regions of the United States from the RIMS II model. BEA publishes a set of multipliers for 39 designated industry groups for each state (User Handbook, USDC, BEA, 1992). This approach starts with visitor spending divided into a number of spending categories and uses sector specific multipliers to estimate direct and total sales (Stynes, 1999). This method uses margins to properly account for retail purchases of goods and services. Often, however, multipliers at the sub-state level are not readily available, but can be acquired from BEA or other sources. The weakness of this method is that secondary effects cannot be disaggregated.

The IMPLAN/M I – REC System

Stynes and Propst (1996)[121] suggested IMPLAN/MI–REC System as an inexpensive and accessible economic impact estimation system used in travel and tourism studies. This microcomputer based system combines a spreadsheet program for estimating tourist spending with the IMPLAN Input-output modeling system. IMPLAN uses county level data to estimate 523 sector input-output models for regions consisting of counties. This system is fairly flexible and is suitable for segmentation analysis. Users enter the number of visitors and spending profile for each segment in a spreadsheet. IMPLAN is a regional economic modeling system that generates estimates for a 528 sector input-output model and includes price indices (Stynes and Propst, 1992). IMPLAN includes an impact estimation routine to estimate direct, indirect and induced impacts of changes in final demand. IMPLAN, however, does not include demographic effects of an economic 'shock' nor does it admit migration of capital.

[121] Stynes, D.J. and Propst, D.B. (1996). "MI-REC manual version 3.0," East Lansing, MI, Department of Park, Recreation and Tourism Resources, Michigan State University.

TEIM or Travel Economic Impact Model

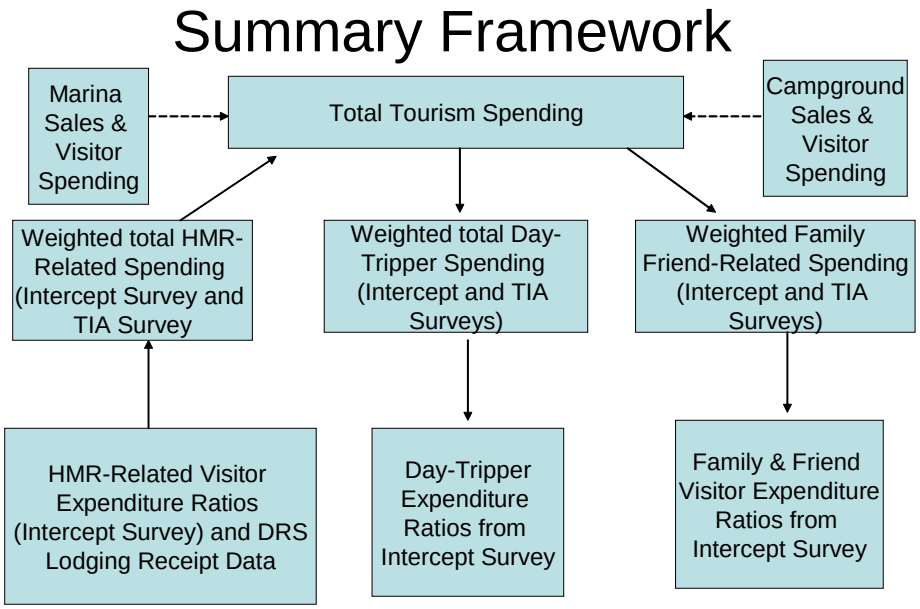
The TEIM or Travel Economic Impact Model, developed by the U.S. Travels Data Center, is commonly used to estimate tourism and travel at state and national levels. The TEIM model uses travel surveys to estimate visitor spending on state-by-state basis. A simple allocation formula estimates local spending patterns. The TEIM is not readily applied to estimate the impacts of particular policies and actions at local levels. The TEIM is an input-output model, and the number of sectors depends upon the number of sectors in the state input-output model. It is not very useful for making local estimates of tourism impact.

The Economic Impact of Travel and Tourism in Connecticut

Data Sources and Methodology

In this analysis, the Connecticut Center for Economic Analysis (CCEA) uses two kinds of survey data to estimate the total impact of tourism-related spending on the Connecticut economy:

- CCEA surveyed each Connecticut lodging establishment (Hotels, Motels, and Resorts (HMRs), Campgrounds, and Marinas). CCEA asked managers specific questions about their establishments, ranging from occupancy rates in different months and seasons, average room rate, average occupancy rates, total sales in 2004, number of part- and full-time employees, and so on.
- CCEA uses the field-intercept survey, conducted by Witan Intelligence Strategies, Inc. In this survey, visitors, randomly chosen, in pre-selected attractions in different Connecticut locations were asked specific questions about their trip, such as where they stay, the number of people in their party, their satisfaction level, how much they spend in various categories (recreation, meals, lodging, etc.), how long they stay, and so on**.** Twenty intercept sites were recruited and nearly 2,500 visitor parties interviewed during the spring, summer and fall of 2004 and the winter of 2005. Survey respondents provided information about their specific spending patterns. We identified the spending patterns in eight expenditure categories: shopping (retail), lodging, meals, recreation, wagers, fuel, spending for vehicle parts, maintenance, parking, and local transportation. The intercept survey classified visitors into three categories: those staying with friends and relatives, day-trippers, and those staying in a lodging establishment. We classify travelers and tourists passing through as day-trippers. *Notwithstanding, the 2004/2005 visitor intercept survey has shortcomings. First, as mentioned below, the sample sizes in several cases were one or two people who spent small amounts of money ($10-$20). Second, the sites surveyed were few in number and Tolland County had no sites in the 2004/2005 survey.*



Methodology to Estimate Visitor Spending[122]

In CCEA's model, our basic purpose is to estimate total visitor spending according to the places visitors stay or their type of trip. Visitor types are:

- Hotels, Motels, Resorts (HMRs)
- Day-trippers
- People staying with friends and relatives
- Campgrounds, and
- Marinas

In the next five sub-sections, visitor spending calculations for these visitor types are explained in more detail. In CCEA's calculations, we first focus on the three accommodation types for which we have detailed information about visitor spending amounts and patterns from the intercept surveys: HMR visitors, day-trippers, and visitors staying with friends and family. The starting point for these calculations is the "HMR room occupancy gross receipts" obtained from Department of Revenue Services (DRS). In addition, we use two important ratios throughout CCEA's calculations:

[122] A more detailed description of the spending vector methodology appears in Appendix 8.

• The first ratio measures the share of each type of visitor spending in the total spending of the first three types of visitors (visitors who stay in HMRs, day-trippers, and visitors who stay with friends and family); we call it "spending ratio by visitor type." To calculate these ratios from the intercept surveys, we use information provided by each type of visitor (party) about his/her average spending per day.

Weighted Spending Ratios by Visitor Type (from Intercept and TIA TravelScope Household Surveys)			
	Day Tripper	Friends & Relatives	HMR Visitor
Fairfield	22%	10%	68%
Hartford	35%	16%	48%
Litchfield	31%	27%	42%
Middlesex	40%	13%	47%
New Haven	27%	21%	52%
New London	32%	30%	38%
Tolland	23%	28%	49%
Windham	41%	16%	43%

• The second ratio is the "spending ratio by expenditure categories" (eight expenditure categories mentioned in the table below). It measures the share of each expenditure type in total spending by visitors. Ratios are specific to each visitor type, for example, day-trippers do not spend on lodging, but they spend more than the other visitor types for recreation and meals, while visitors staying in HMRs spend more for lodging than the other types. Therefore, these ratios provide specific information about the spending patterns of each visitor type obtained from the intercept survey. However, the ratio for wagers is not used for calculating actual visitor spending in this category, because it overstates the quantity of money from this source that actually flows into the economy. For wager spending estimates we use Division of Special Revenue data for wager spending including Lotto games, pari-mutuel, and dog track venues, but not casino wager spending for which we use estimates from DSR for slot revenue. We calculate the ratio of Mohegan Sun's slot revenue to gross revenue from both slots and table games and apply it to Foxwood's slot revenue to obtain an estimate of Foxwood's gross

revenue[123] (that includes slot and table game revenues). This assumes that their ratios of slot to gross revenues are the same.

We estimate campground and marina total sales from CCEA's "establishment surveys." However, this is not the total spending generated by campers or marina visitors, and it is not sufficient to determine the distribution among different expenditure categories. We need the "spending ratio by expenditure category" for these two groups of visitors. For campers, we assume that their spending pattern is same as for HMR visitors; therefore, for each county, we use the "spending ratios by expenditure category" of the HMR visitors in each county. To calculate total marina visitor spending, we use the trip expenditure pattern from Marine Angler Expenditure Survey for Connecticut as reported in Steinback and Gentner, (June 2001), Marine Angler Expenditures in the Northeast Region, 1998 (unfortunately, there has been no update to this useful study).

Traveler and tourist expenditure for wagers affects the economy by flowing into the Pequot Fund that is in turn distributed to towns and municipalities, and by flowing into wages and salaries of casino and restaurant employees, and by purchasing goods and services used in casino operations. Some of theses funds flow into tribal members' household incomes as stipends.

1. Calculation of Total Spending for Visitors Who Stay in HMRs

To calculate the total spending by visitors who stay in commercial lodging establishments, we use gross receipts data from Department of Revenue Services (DRS). In CCEA's lodging survey, the establishments' managers were asked about their total revenue from room sales (the response rate was 37%); however, most respondents did not answer the revenue question. Therefore, it is not possible to use CCEA survey results to calculate total spending for visitors staying in HMRs. We use DRS town level data for "room occupancy gross receipts," aggregated to and reported at the county level. The room occupancy tax is 12% of the gross receipts, however, there are exemptions, for example, military personnel, members of most non-profit organizations, government officials, and people who are staying long term (more than a month) do not pay the room

[123]See Mohegan Sun's annual reports at:
http://www.mohegansun.com/mtga/investor/annual_report.jsp?pgid=MTGD&menuid=MzQ=

occupancy tax. Therefore, we augment the DRS data to get actual lodging spending figures for HMRs.

Next, we calculate the spending patterns by the three types of visitors for which we have more detailed data from the intercept surveys (HMR visitors, visitors staying with friends and family, and, day-trippers). From these surveys, we know the total amount of money spent per person during their entire trip to the surveyed attractions in Connecticut. Additionally, we know on average how long people stay in different counties in Connecticut (average number of nights spent). Using these facts, we first determine the total average *per person, per day spending* for each visitor type, then calculate the spending share of each three visitor types in total spending ("spending ratios by visitor type"). A notable exception was the unavailability of intercept survey data from Tolland County for 2004/2005. To address this we assume that visitor spending patterns in Tolland County did not change from the last available visitor intercept survey. We use the most recently available visitor spending data along with current DRS gross room receipts to determine the spending share of each of the three visitor types.

For the three types of visitors, we have only total lodging spending for those staying in HMRs by county (from DRS). However, during their visit, people spend other than for lodging (day-trippers do not spend for lodging), such as meals, recreation, souvenirs, renting cars, buying gas, and so on. Therefore, DRS data is not total HMR visitor spending; it is only the total spending for "lodging." To derive total spending, we determine visitors' spending patterns. As mentioned, in the intercept surveys, visitors were asked how they allocate their total spending among different categories (shopping, lodging, meals, recreation, wagers, fuel, other auto, and local transportation). Using this data, we calculate spending ratios for the eight expenditure categories (spending in each category divided by total average spending) ("spending ratios by expenditure categories"). Using these ratios and the knowledge of total lodging spending for those who stayed in HMRs, we calculate the total spending (including all eight categories) for this visitor type. For example, in Fairfield County, from the intercept surveys we know HMR visitors spend about 22% on lodging, and from DRS data we know that total lodging spending is $215.8 million in Fairfield County. Therefore, the *total* spending of visitors who stay in HMRs in Fairfield County is calculated to be $1,002 million. We

allocate the $1,002 million total spending among the eight spending categories based on the spending ratios by expenditure categories calculated as described above.

The next step is to calculate total spending (without the breakdown among different spending categories) for the three types of visitors (excluding campers and marina visitors). For this calculation, we use two different types of information:

- ✓ Total spending of at least one of the visitor types, and
- ✓ The share of spending by this visitor type in the whole (spending ratio by trip type)

In the previous step, we calculate the total spending of HMR visitors and in the step before that, we calculate the spending ratios by trip type using the intercept surveys. With this information, we calculate total spending. For example, in Fairfield County, we know that HMR visitors comprise about 68% of total spending among the three types of travelers, and in the previous step, we estimate that visitors who stay in HMRs spend about $1,002 million in total. If this $1,002 million is 68% of total spending of the three types of visitors, the total spending of the three visitor types should be $1,480 million.

2. Calculation of Total Spending of Day-trippers

The total spending calculated in the previous section is divided among the three types of visitors based on their spending ratios. For example, in Fairfield County, day-trippers' spending was about 22% of total tourist and traveler spending (about $1,480 million as calculated in previous section) in the three visitor categories. Therefore, day-trippers in Fairfield County spent about $326 million in total. We allocate total spending, then, among the eight spending categories based on the spending ratios obtained from the intercept surveys. The difference for day-trippers is that they do not spend on lodging.

3. Calculation of Total Spending for Visitors Who Stay with Friends and Family

Total spending calculations are the same as for day-trippers. Spending ratios (the distribution of total spending across eight categories) are different from the other visitor types based on the intercept survey results**.** For example, in Fairfield County, visitors who stay with friends and family comprise about 10% of total spending among those three types of visitors. Visitors staying with friends and family spent about $153 million,

or 10% of $1,480 million. We distribute this amount among the eight spending categories based on the spending ratios we calculate.

4. Calculation of Total Spending for Visitors Who Stayed in Campgrounds

CCEA does not have detailed information from intercept surveys for campers and marina visitors. Therefore, we do not include their spending among the three visitor types considered in the previous three sub-sections. We calculate total spending by campers and marina visitors separately.

As mentioned above, CCEA conducted separate surveys for campgrounds and marinas similar to those for HMRs. For both HMRs and marinas, we do not have spending ratios for each of the eight expenditure categories. Via the campground survey, we have total campground sales to campers in 2004. We regard this as their 'lodging' spending (because this money rents a campsite) for campers. We assume that campers' spending pattern is the same as that of HMR visitors. With this assumption, the remainder of the calculation is the same as for HMR visitors' total spending estimation. For example, in Fairfield County, campers spent about $358 thousand for campsite rentals. Using the same spending ratios as for HMR visitors, we conclude that campsite rentals ('lodging' we assume) contribute about 22% of campers' total trip spending. This means that their total spending for all categories was approximately $1.327 million. Based on spending ratios from the intercept surveys, we distribute this amount among the other spending categories.

5. Calculation of Total Spending for Visitors Who Visit Marinas

We allocate marina visitor spending in five expenditure categories: lodging, meals, shopping, local transportation, and marina-related spending (marina sales include membership fees, boat rentals, slip and mooring fees, boat repair, sail repair, notary services, chandlery services). We assume marina visitors spending on wagers and 'other auto' is negligible.

We calculate total marina visitor sales using data from CCEA's marina survey as well as online data for marinas. For the first four expenditure categories above, we use the visitor spending pattern from the Marine Angler Expenditures in the Northeast

Region (Steinback and Gentner, U.S. Department of Commence, 1998). We distribute the reported state level spending to counties based on the numbers of marinas in each county.

Traveler and Tourist Spending

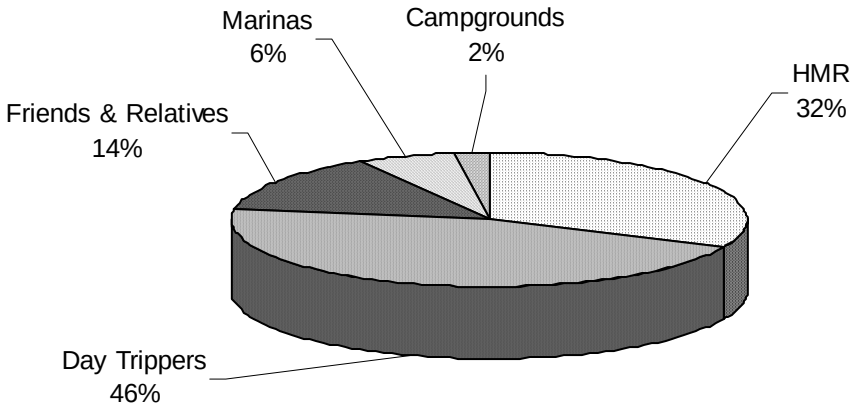
Using several methodologies, we estimate total spending (revenues received by businesses) from Connecticut's travel and tourism industry to be $9,068.3 billion in 2004 dollars.

Table T-2 and Chart T-2 display the distribution of direct traveler spending by expenditure category, such as for recreation, meals, shopping, fuel and accommodation type used (HMRs, day-trippers, friends and family, marinas, and campgrounds). In the previous study (2003), according to Table I.2 and Figure I.2, day-trippers contributed the most to Connecticut travel revenues in 2001 (46%), followed by HMR visitors and those who stayed with family and friends (32% and 14%, respectively). Among expenditure categories, wager spending was the largest part (about 30% of total travel and tourism spending in Connecticut in 2004). It is important to note that 73% of traveler and tourist spending ($6.61 billion) in Connecticut is non-wager spending. The largest non-wager spending category is recreation (17%). For HMR visitors, the largest spending item is lodging itself; it is recreation for people staying with friends and relatives, and wagers for day-trippers. In 2004, campers and marina visitors spent the least among all visitor types we considered.

Table T-2
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%

Figure T-2 Tourism Expenditures by Trip Type



Wager spending includes pari-mutuel betting parlors, dog track betting, charitable gaming betting, and casino slots and gaming betting. We include 29.5% of Connecticut Lottery games' revenue (amounting to $267,849,254 in 2004) because we assume that some of that revenue originates from out-of-state people due to border effects. According to the Connecticut Department of Special Revenue (DSR), in 2004, $344,193,017 was wagered in pari-mutuel venues (greyhound racing and off-track betting) and in charitable gaming in Hartford, Fairfield, New Haven and Windham counties. We estimate that house winnings of $2.2 billion occurred in New London County from casino betting in 2004 using Mohegan published table game winnings. These funds flow into the Connecticut economy through a variety of channels described above (wages of hotel and casino workers, goods and services purchases from the Connecticut economy). DRS reports that $402 million flowed into the state's General Fund in FY2004 from Tribal slot winnings. From that amount, Connecticut's Office of Policy and management (OPM) reports that $85 million flows annually to towns and municipalities through the Mashantucket Pequot/Mohegan Fund. This means that total wager revenue flowing into the state economy in 2004 was $2.8 billion in 2004 ($2.2 billion from casino winnings and $612 million from lottery and other wager spending). We allocate wager revenue to

counties based on the share of total wagers in the state captured in each county (from the Division of Special Revenue data). We distribute revenue from the Connecticut Lottery and charitable gaming activities evenly among the counties as they take place at dispersed sites (we know the locations of the greyhound racing and off-track betting sites). The economic impact results from increased state and local spending in each county (in REMI) according to the county-level distribution of the $2.8 billion. Therefore, the fiscal results reported below reflect the indirect economic effects of increased state and local spending $2.8 billion in wager 'revenue'.

Limitations of the Visitor Intercept Survey[124]

We first note that the intercept survey sample of more than 2,500 interviews provides a reliable perspective of tourism spending across the entire State of Connecticut for an entire year. Notwithstanding, the analysis in this section examines intercept survey data at the county level (REMI is a county level analysis) for a particular season, resulting in some small seasonal samples. *While the data is of value for this economic analysis, an investment in more intercept sites such that larger samples from each county in each season are collected would enhance the value of the survey and the resulting economic impact at the county level.*

Site choice in general was a limitation in the 2004 visitor intercept survey such that some counties had few survey locations, or none at all (specifically Tolland County for which we use the 2001 Tolland County data in this study). Additionally, site location combines with seasonal variation in sample sizes allowing one type of visitor at a particular location to dominate all others. The increase (and any change) in seasonal traffic must be accounted for in the survey, but it is unlikely that all traffic in a given county is 20 to 200 times greater in one season relative to another. The issue relates directly to the quite small sample sizes in certain seasons.

In some cases, the sample sizes were not sufficient to accurately gauge visitor spending for an entire county. In the current intercept survey (spring, summer, and fall 2004 and winter 2005), the sample sizes varied greatly across the seasons in each county.

[124] In this section, intercept data is at the county level as that is the way it was received. The 2001 study presented data at the county level as well as by tourism district.

In some counties, the majority of day-tripper sample sizes consisted of one or two people in each season, except in the summer in which the sample size in one case grew to ninety-two. This over-represents day-trippers compared to other visitor types in this season, which alters weighted spending ratios by as much as 15%. *This, in turn, results in notable declines in visitor spending in various counties making the 2004 tourism spending impact conservative.* This was a factor in each Connecticut County except New London that had sufficiently large sample sizes in each season. Another issue was that the amounts tourists spent across multiple observations often seem unreasonable. For instance, if we assume the quite small seasonal sample sizes represent an entire county, we see that tourism spending in various categories declined significantly while not increasing noticeably in any category relative to the 2003 tourism study. Nevertheless, CCEA used the intercept data it received and the methodology described in Appendix 8 to develop spending patterns by tourist type for each county and the state as a whole.

The Connecticut Department of Revenue Services (DRS) provided calendar year 2004 lodging tax receipts data for 70 (of the 169) towns because towns with three or fewer lodging establishments may not by law be disclosed. DRS reports total tax receipts for the state from which we allocate the remainder equally to each undisclosed town (there are 98 properties in the 99 undisclosed towns). The remainder amounts to $106,345 in tax or $1.007 million in revenue per town. Using derived tax revenue for each town, we apply adjustments for county-level exemptions and add derived hotel revenue from the Mohegan and Mashantucket Pequot hotels on Tribal Nation lands to obtain adjusted lodging revenue by town and county. Mohegan hotel revenue is reported in their Annual Report. We derive Mashantucket Pequot hotels' revenue on Tribal Nation land based on advertised room and occupancy rates, and number of rooms. This data comes from the Foxwoods' website as well as our HMR survey.

Table T-3 shows adjusted lodging revenue[125] by county in the 2001 study and the present study (referring to data years). While there was 3.6% statewide nominal lodging revenue growth between the 2001 and 2004 studies ($27 million), Hartford and New Haven Counties suffered significant lodging revenue declines (5.12% and 11% respectively) in nominal (current dollar) terms. In inflation-adjusted terms, only New

[125] Adjusted for exemptions and explained in detail in Appendix 8.

London and Tolland Counties experienced real growth in lodging revenue (8.79% and 3.92% respectively), New Haven County experienced a real (that is, inflation-adjusted) decline of almost 20%. Real growth in lodging revenue statewide declined almost 5% from 2001 to 2004 based on the growth rate of the CPI for the northeast for all urban consumers (there was 8.57% inflation over the period using this measure).

Table T-3: Then and Now: Room Tax and Revenue by County [in millions of nominal (current) dollars]

County	2004 Room Occupancy Receipts (Unadjusted)	Tax Due	Number of Taxpayers	2004 Casinos	2004 Adjusted Room Receipts	2001 Adjusted Room Receipts	% change	Receipts Growth Adj. for Inflation
Fairfield	$179.1	$21.49	100		$215.8	$205.79	4.75%	-3.82%
Hartford	$137.2	$16.46	128		$180.92	$190.43	-5.12%	-13.69%
Litchfield	$13.3	$1.6	96		$16.02	$15.55	2.99%	-5.58%
Middlesex	$26.2	$3.14	53		$31.53	$29.99	5.01%	-3.56%
New Haven	$77.6	$9.31	112		$93.54	$104.39	-10.96%	-19.53%
New London	$94.2	$11.3	124	$89.4	$210.8	$177.13	17.36%	8.79%
Tolland	$8.33	$1.0	25		$10.04	$8.86	12.49%	3.92%
Windham	$4.95	$0.59	43		$5.97	$5.5	8.28%	-0.29%
County Location Unavailable	$37.2	$4.64	98					
Total	$578	$69.53	779	$89.4	$764.62	$737.64	3.60%	-4.97%

REMI Modeling Strategy

The REMI model measures the Connecticut economy in its present form as a baseline forecast. Changes in the economy (that is, the direct impacts or shocks) are either added to or subtracted from that baseline forecast depending on the nature of the change. Because the travel and tourism industry ***currently exists*** in the baseline model, the most accurate measure of its current impact is measured by ***counterfactually*** removing the industry from the model economy as explained in the introduction. The results measure the losses to the economy resulting from the disappearance of the travel and tourism industry that we interpret as the positive impact of the industry by reversing the signs. We report results (impact) as positive numbers to show the contribution of tourism-related expenditure and employment on the Connecticut economy.

Because the casino operations on Native American tribal lands are not part of the Connecticut economy as such (workers on such lands are classified as government workers and Tribal Nation casino operations do not exist in REMI), we create a new regional baseline economy in REMI for the simulation of the counterfactual. To do this, we add 20,000 jobs in the NAICS 7211 'Traveler Accommodation' sector and subtract 20,000 jobs from state government to create a new state-level REMI baseline that more realistically reflects the Connecticut economy of 2004. The job number is an estimate of the 2004 employment on Tribal lands in New London County and is based on CCEA studies of the Mohegan and Mashantucket Tribal Nations' operations.[126]

In other words, we create an economy in Connecticut in which the casino and hotel operations on Tribal lands are realistically portrayed. In addition, we nullify the effect of the increased 'Traveler Accommodation' sector employment on the procurement of intermediate goods for the accommodation sector because the effects of casino operations are already accounted for in the accounts of the Connecticut economy in REMI. This new baseline simulation increases traveler accommodation statewide sales to $2.3 billion, which approximates the $2.727 billion for this industry reported in the 2002 Economic Census. If we did not create this new baseline or reference economy, we

[126] McMillen, S, et al. (2000). "The Economic Impact of the Mashantucket Pequot Tribal Nation Operations on Connecticut," http://ccea.uconn.edu/studies/Mashantucket%20Final%20Report.PDF, and unpublished Mohegan study.

would not be able to subtract casino/hotel sales that translate into jobs in REMI and other input/output models and see the resulting shock to the Connecticut economy.

We counterfactually subtract visitor expenditure in nine tourism-related sectors from each county and aggregate the inputs (industry sales and consumer spending) to the state level because of significant spillover effects and because the magnitude of the shock to New London County overwhelms the model:

- *Recreation* includes expenditures made for recreational purposes, such as admission fees, equipment rental, etc., that are input into REMI's consumer spending category for such expenditures;
- *Meals* include all food-related spending, which is part of REMI's consumer spending on food and beverages;
- *Shopping* includes retail spending distributed in REMI among various kinds of consumer goods;
- *Gasoline* expenditure enters REMI under the category "consumer spending on gasoline and oil;"
- In addition to gasoline, we include *other auto* expenses that in REMI is distributed between the "auto repairs" and "vehicle tires and parts" categories;
- *Local transportation* includes expenditures ranging from auto rentals to commuter and rail transportation;
- *Lodging* expenditure includes HMRs, bed and breakfasts and all other kinds of commercial lodging establishments. In addition, this category includes spending for house rentals, vacation properties, motor home rentals and all lodging-related spending not elsewhere classified. As there is no REMI category for campground spending, we place this expenditure including camp, cabin and tent rentals under the lodging category. Therefore, total expenditure in this category exceeds DRS gross receipts data.
- *Wagers* includes gaming spending in the casinos in New London County, as well as the dog tracks and the pari-mutuel betting parlors around the state. In FY 2004, about $402 million of casino slot revenue went to the Mashantucket Pequot/Mohegan Fund. OPM distributes $85 million annually from the Fund to towns and municipalities in each county, and we assume for this analysis that it

increases local spending (it may be used to reduce property taxes in a revenue-neutral sense). We allocate the $85 million to Connecticut's counties based on their population share and model it as increased local spending. The remainder of wager spending represents additional recreation and hotel spending (sales) across the state.

- *Marinas'* spending flows into the "water transportation" sector in REMI model. Marina sales include membership fees, boat rentals, slip and mooring fees, boat repair, sail repair, notary services, and chandlery services.

Table T-3 exhibits this information in more detail. Percentages in this table explain how total spending is distributed in REMI among more detailed sectors. The distribution is calculated from the "Consumer Expenditure Survey, 2001" (www.bls.gov/cex/home.htm).[127] For example, all *recreation* spending goes to the "amusement and recreation sector" in REMI, while spending in the "*other auto"* category divides equally between "automobile parking, repair and services," and "vehicles and parts."

[127] We assume that this distribution has not changed appreciably in 2004.

Table T-3 Expenditure Categories and Associated REMI Sectors		
Spending Category	REMI Category	Ratio as Percent of actual spending in the category
Recreation	Amusement and Recreation Services, Nec	100%
Meal	Consumer Spending (Food and Beverages)	100%
Shopping	Clothing and Shoes	36%
	Miscellaneous Repair Shops and Related Services	6%
	Medical Care	8%
	Tobacco	6%
	Books	2%
	Newspapers	2%
	Beauty and Barber Shops	2%
	Laundry, Cleaning, and Shoe Repair	5%
	Household Operation	2%
	Other Non-durables	27%
	Toys and Sporting Goods	4%
Fuel	Consumer Spending (Gasoline and Oil)	100%
Other Auto	Automobile Parking, Repair, and Services	50%
	Vehicles and Parts	50%
Local Transportation	Rental	70%
	Commuter Rail	10%
	Railway	10%
	Other Intercity	10%
Lodging	Hotels	100%
Marinas	Water Transportation	100%
Share from Pequot Fund Based on Population Ratios	Local Spending	Depends on the ratio of county's population to total State population
Rest of Expected Wager Spending (only for New London County)	Amusement and Recreation Services, Nec	40%
	Hotels	60%

Nec = not elsewhere classified

Travel and Tourism Economic Impact Results

Visitor spending estimated above and the sales of NAICS 561510 'Travel Arrangement & Reservation Services', NAICS 721211 'RV Parks except campgrounds', NAICS 441210 'RV Dealers', and NAICS 441222 'Boat Dealers' from the 2002 Economic Census drive the REMI analysis. 'Travel Arrangement & Reservation Services' consists of 489 establishments with sales of $1,130,963,000; 'RV Parks except campgrounds' consists of 36 establishments with sales of $35,328,000; 'RV Dealers' consists of 18 establishments with sales of $60,035,000; and, 'Boat Dealers' consists of 97 establishments with sales of $236,036,000. Visitors' retail expenditure and the sales of the RV and boat dealers are adjusted to account for a 20% markup, that is, a fraction of retail expenditure flows through the state economy (that which pays wages, rent and taxes). The largest portion of retail expenditure flows out of state to pay for the cost of goods sold.

We report long-run macroeconomic values reflecting the economy's adjustment to the counterfactual and permanent disappearance of Connecticut's tourism industry due to the collapse of demand for tourism in the state. The value for each economic variable reported is its change from the baseline forecast, that is, the economy containing tourism-related spending for 2004. The values reported represent the total change, that is, the sum of the direct, indirect, and induced effects of counterfactually subtracting the tourism industry from Connecticut's economy. The direct effect is essentially the tourism sector's own employment, procurement, and tax payments derived from visitor spending and the tourism subsectors identified above. Indirect effects include primarily the business-to-business activity that results from the procurement of goods and services tourism-related businesses use in producing their output (e.g., raw food, beverages, and legal services). The induced effects arise from the rounds of spending of tourism sector employees' wages (those workers employed in HMRs, campgrounds, souvenir shops, marinas, retail stores, etc.) generate as they purchase goods and services, and the rounds of spending tourism sector's vendors' employees generate as they spend their incomes.

Results at the State Level

Tables T-4 and T-5 report the economic and fiscal impact results for the state as a whole.[128]

Table T-4: Economic Impact of Connecticut's Travel and Tourism Industries

Average Yearly Impact (2004-2025)		
	Statewide Estimate	Percent of CT Economy (2004)
Employment (Jobs)	110,775	6.48%
Gross State Product (Mil 2004$)	$7,946	4.28%
Personal Income (Mil 2004$)	$5,345	3.37%
Output (Sales) (Mil 2004$)	$11,479	3.81%
Population	99,258	2.83%
Labor Force	64,948	3.61%

Table T-5: Fiscal Impact of Connecticut's Travel and Tourism Industries

Average Yearly Impact (2004-2025)		
	Statewide Estimate	Percent of Total State and Local (2002)*
State and Local Revenues (Mil 2004$)	$1,152	4.64%
State and Local Expenditures (Mil 2004$)	$1,079	3.91%

*From the most recent Census of Governments' estimates.

[128] We reflect the indirect economic and fiscal effects of wager spending (including dog tracks, pari-mutuels, the state lottery and the casinos' slot "win") via increased state and local spending. As such, direct wager spending is not included in the $1.15 billion in state and local revenue. See page 126 for methodology.

Conclusion

The economic impact of the travel and tourism industry is significant in all economic and fiscal aspects. Almost 6.5% of the state's workforce derives its livelihood from tourism activity. Another perspective is to imagine that in the absence of the travel and tourism industry, Connecticut's ongoing unemployment rate would be almost two and a half times its 2004 level (4.43% monthly average from CT DoL). Connecticut's businesses realize $11.5 billion in sales *annually* they would not otherwise have were it not for the travel and tourism industry. Almost 5% of Connecticut's state and local revenues annually ($1.15 billion) arise from travel and tourism activity (this figure does not count the Pequot Fund that contributed $402 to towns and cities for educational needs in 2004). We can imagine a significantly larger state deficit were it not for travel and tourism activity.

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The Economic Impact of Connecticut's History and Heritage Industry

Introduction

Thanks to the private and public efforts of the past few decades, the notion that preserving historic sites and promoting heritage programs and activities generates substantial cultural and educational benefits is now generally accepted. However, until recent times the positive economic effects of heritage and historic preservation have been understated. As explained by an industry leader in the economics of historic preservation, Donovan Rypkema, "whenever the slogan of 'historic preservation is too expensive' has been replaced with substantive evaluation, historic preservation has emerged as having an extraordinarily positive and comprehensive economic impact on the community where it took place."[129] Understanding the role that heritage and historic preservation play in Connecticut's economy is essential to ensuring that the preservation of heritage resources remains a statewide priority in the future. As one of the oldest states in the country, Connecticut has a responsibility to maintain its heritage for people to enjoy for decades to come.

National Legislative Background

The practice of historic preservation has a brief history in the United States, slowly growing out of the localized movements of the mid-nineteenth and early twentieth centuries. In one of the earliest attempts, several dedicated women formed the Mount Vernon Ladies' Association of the Union, the first official group organized around the cause of historic preservation.[130] In 1853, the group successfully lobbied to save Mount Vernon, George Washington's homestead (Mount Vernon welcomes an average of one million visitors each year).[131]

The purchase of Independence Hall by the City of Philadelphia for the purpose of preservation in 1913 marked one of the first successes for activists and historians. During the 1920's and 1930's, the charitable assistance of the Rockefeller family contributed greatly to the preservation and reconstruction of Williamsburg, Virginia, a

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[129] Rypkema, Donovan (2005). *The Economics of Historic Preservation: A Community Leader's Guide, 2ed.,* National Trust for Historic Preservation, Washington D.C., page 8.
[130] See http://www.house.gov/petri/gw005.htm.
[131] See http://www.mountvernon.org/mountvernon/about_us/index.cfm/cfid/6368551/cftoken/24645165.

town that has become one of the most well traveled historic tourist destinations in the country.

The first federal historic preservation law of significance was the *Antiquities Act of 1906* passed during the administration of President Theodore Roosevelt who strongly supported the measure. The Act provides for the protection of historic and prehistoric ruins and objects of antiquity on lands owned or controlled by the federal government, and authorizes scientific investigation of antiquities on federal lands subject to permits and other regulatory requirements. Paleontological resources are covered by this Act. The Act provides for criminal penalties for anyone desecrating, injuring excavating, or otherwise destroying any historic or prehistoric ruin or monument without express federal permission. The Act authorizes the president to declare by public proclamation historic and prehistoric landmarks as national monuments. Federal agencies are permitted to transfer objects of antiquity to properly qualified institutions.

The Historic American Buildings Survey (HABS), established in 1934, employed one thousand photographers and architects to document historic structures around the country. As observed by historian and author Norman Tyler, "the data compiled in the 1930's remain among the best historical records of early structures, most of which have been demolished."[132] Though enthusiasm for the project faded somewhat during World War II, the program was successfully re-implemented in the 1950's using student architects. In 1969, the federal government expanded documentation efforts by establishing the Historic American Engineering Record (HAER) to document significant engineering and industrial sites. The HABS and the HAER continue their work today.

Perhaps more importantly, the *Historic Sites Act of 1935* officially declared, "….that it is a national policy to preserve for public use historic site, buildings, and objects of national significance for the inspiration and benefit of the people of the United States." From a policy perspective, this Act is more significant than the HABS or HAER programs, although the latter clearly paved the way for the 1935 Act.

In 1949, Congress formed the National Trust for Historic Preservation, a quasi-public organization designed to serve as a link between the National Park Service and

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[132] Tyler, Norman (2000). Historic Preservation: An Introduction to Its History, Principles, and Practice. New York: W.W. Norton Company, page 41.

private preservation enterprises. Financial support for the National Trust was and continues to be provided through membership dues, endowments, contributions and matching grants from federal agencies, including the Department of the Interior and the National Park Service. Though the Trust was first designed for the acquisition and administration of historic sites, it has since expanded its role to include public outreach and education. With an annual budget of $40 million and a membership of over 250,000 people around the country, the Trust maintains a collection of 21 historic sites, maintains close contact with regional offices, and manages a range of programs, projects, and services to help communities in their historic preservation efforts.

The National Foundation for the Arts and the Humanities Act passed by the U.S. Congress in 1965 established the National Endowment for Humanities (NEH). According to the Act, "The term 'humanities' includes, but is not limited to, the study of the following: language, both modern and classical; linguistics; history; jurisprudence; philosophy; archaeology; comparative religion; ethics; the history theory and criticism of the arts; those aspects of social sciences which have a humanistic content and employ humanistic methods; and the study and application of the humanities to the human environment with particular attention to reflecting our diverse heritage, traditions, and history and to the relevance of humanities to the current conditions of national life."

With an annual budget in excess of $120 million, NEH is the largest funder of humanities programs in the United States. Grants typically are awarded to a wide variety of nonprofit cultural institutions, such as museums, archives, libraries, colleges and universities, public television and radio stations, as well as individual scholars. NEH grant programs are designed to preserve and provide access to cultural and educational resources, facilitate research and original scholarship, strengthen the institutional base of the humanities, provide lifelong opportunities for learning, and strengthen teaching and learning in the humanities in schools and colleges across the nation. Funding is often distributed, in part, through statewide nonprofit organizations such as the Connecticut Humanities Council. During 2004, NEH grants provided more than $1.5 million for heritage-related grants to Connecticut nonprofits.

Among the most significant and influential statutes passed by Congress concerning historic preservation is the National Historic Preservation Act of 1966 (16

U.S.C. 470). The act that was modified several times and most recently in 2000, officially recognizes that "the historical and cultural foundations of the Nation should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people" (NHPA). The act delineates national and state responsibilities concerning historic preservation with the establishment of a national Advisory Council on Historic Preservation and Historic Preservation Offices in the several states, as well as among federally recognized native American tribes, the Commonwealth of Puerto Rico, and other U.S. territories and protectorates.

The legislation ordered the establishment of a National Register of Historic Places, which documents districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. There are currently over 78,000 listings nation-wide, 250 of which can be found in Connecticut. In 1991 the state's historical society reached its goal of designating at least one property in each of Connecticut's 169 towns on the Register.[133]

The act authorized the creation of legislation to fund preservation activities. Each year the U.S. Congress appropriates approximately $37 million to the Historic Preservation Fund. Appropriations for the Fund derive from the Outer Continental Shelf mineral receipts.[134] The Fund provides matching grants to encourage private and non-federal investment in historic preservation efforts nationwide. Federal funds for the national historic preservation program support the work of state and tribal historic preservation offices, Certified Local Governments, National Park Service (NPS) preservation programs, and the Advisory Council on Historic Preservation. In Connecticut, projects have been located in more than 60 towns and cities and have included repair work associated with Vernon's Memorial Building, Woodbury's Old Town Hall, and Canton's Old Collins Company Fire House.

Part of the federal funding is reserved for designated Certified Local Governments (CLGs), which can apply to a relevant State Historic Preservation Office on

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[133] *Historic Preservation in Connecticut: Planning a Future with a Past.* Hartford: Connecticut Historical Commission, 1997, page 31.

[134] Historic Preservation Services, National Parks Service, "Historic Preservation Fund: Grants," [online] at http://www.cr.nps.gov/hps/hpf/hpf-fund.htm.

an annual, competitive basis for federal grant funds.[135] A minimum of ten percent of each state's annual federal appropriation for historic preservation is earmarked for projects under the CLG program. These funds can be used for assistance with a wide variety of historic preservation activities, including the production of National Register nominations, town-wide historic resource surveys, and educational publications, as well as some "bricks-and-mortar" projects. There are currently 32 registered CLG's in Connecticut.

In 1976, Congress passed the Tax Reform Act (Public Law 94-455) in response to perceived inadequacies concerning federal and state jurisdiction over historic property. Prior to this Act, control over historic districts fell to state and local officials. To compensate for a lack of federal authority and to prevent the possible loss of significant properties within federal historic districts, Congress established a unique set of tax incentives for owners of buildings deemed historically significant. The Tax Reform Act "encourages property owners living in federal historic districts to participate directly in the preservation process and offers additional protection for historic and cultural resources when economic and political pressures on local governments become too great."[136] As observed by Tyler (2000), "for the first time, investors who were not philosophical supporters of preservation become integral players because of financial incentives. Rather than being perceived as obstructions to development, older structures were now viewed as financial opportunities."[137] The most influential element of the legislation for many individuals has been the provision for owners and/or qualified lessees of historic income-producing residential, commercial, or industrial properties, guaranteeing them a 25 percent investment tax credit. That figure was reduced to 20 percent in 1986.

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[135] The CLG Program forms a partnership between local governments and State Historic Preservation Offices, providing municipalities with valuable technical assistance and small matching grants. The program allows communities to participate more formally in federal and state historic preservation programs and helps forge critical connections between historic preservation and land use planning on the local level.

[136] Pittsburg History and Landmarks Foundation, "The Federal Historic Preservation Tax Program: Information for the Tax Advisor," [online] at http://www.phlf.org/services/easements/pdf/IRSEasementRegs.pdf.

[137] Tyler, Norman (2000). *Historic Preservation: An Introduction to Its History, Principles, and Practice*. New York: W.W. Norton Company, page 51.

In 1991, the Inter-modal Surface Transportation Efficiency Act (ISTEA) expanded the range of projects that qualify for transportation funding. The act allows states to spend 10 percent of federal surface transportation funds on "transportation enhancement" projects, including historic preservation projects, acquisition of easements on scenic or historic sites, rehabilitation of historic, transportation structures such as railroad stations, covered bridges, lighthouses, scenic preservation, as well as for archaeological planning and research.

In 1996, Congress passed the American Battlefield Protection Act (16 U.S.C. 469K) to assist in planning, interpreting, and protecting sites of historic battles on American soil. The American Battlefield Protection Program awards small matching funds to organizations sponsoring planning and educational projects at historic battlefields and provides professional assistance to those looking to protect battlefield sites. The ABPP awards an average of $22,000 annually for individual battlefield preservation and enhancement projects, with most partners contributing matching funds or in-kind services.

Connecticut Legislation

In 1999, the Connecticut General Assembly passed the Historic Homes Rehabilitation Tax Credit program (Connecticut General Statutes, Section 10-320j) to provide up to $3 million per year in corporate tax credits to assist owners of properties listed on the State or National Historic Register to maintain or renovate multi- (i.e., 1-4) family buildings. The program provides a 30 percent tax credit of up to $30,000 per family unit (the minimum eligible expenditure required for Historic Homes tax credit is $25,000, that is, it must be a substantial expenditure).

The General Assembly passed two provisions regarding historic preservation as part of larger environmental initiatives. Connecticut General Statutes Section 22a-1 of the Environmental Policy Act "requires state agencies to assess the impact of their actions on cultural properties…which specifies that specific consideration of environmental significance shall include an evaluation concerning 'disruption or alteration' of a historic, architectural, archeological, resource or its setting." Likewise, Section 22a-19a of the Environmental Protection Act directs that provisions, "… which

permit legal recourse for unreasonable destruction of the state's resources shall also be applicable to historic structures and landmarks of the state."[138]

National Grants

Clearly an appreciation for our heritage assets is gaining momentum as politicians and policy-makers continue to produce legislation providing incentives for historic preservation and other heritage programs and activities. In addition to formal legislation, national and state public and private grants that provide the core funding for such projects continue to grow in number and size.

The White House established a major grant program, Save America's Treasures, by Executive Order in February 1998, as a public-private partnership that included the White House, the National Park Service and the National Trust for Historic Preservation. First Lady Laura Bush currently serves as chair of the group, following First Lady Hillary Rodham Clinton, who served as the organization's founding chair. As in previous years, in 2004, grants were available for preservation and/or conservation work on nationally significant intellectual and cultural artifacts and nationally significant historic structures and sites. Funded by the Federal Historic Preservation Fund and administered by the National Park Service (NPS) in partnership with the National Endowment for the Arts, the National Endowment for the Humanities, the Institute of Museum and Library Services, and the President's Committee on the Arts and the Humanities, the grants require a dollar-for-dollar non-federal match.

Since its creation, the Save America's Treasures Program has received $30 million towards its goal of encouraging preservation efforts throughout the country. Since 2000, Save America's Treasures has provided Connecticut with over $3 million in grants for projects including the restoration of the Mark Twain House, the Wadsworth Atheneum, and the Cheney Brothers machine shop in Manchester, among others.[139]

A new White House initiative, first proposed in March 2003 as the Preserve America initiative, "encourage[s] and support[s] community efforts to preserve and enjoy our priceless cultural and natural heritage" through public education and participation.

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[138] *Historic Preservation in Connecticut: Planning a Future with a Past.* Hartford: Connecticut Historical Commission, 1997, page 12.

[139] "Save America's Treasures: Grant Recipients." Save America's Treasures. See: http://www.saveamericastreasures.org/funding.htm.

First Lady Laura Bush serves as honorary chair of this group that is responsible for identifying individuals, government entities, businesses and organizations committed to community preservation as well as helping communities utilize their resources in preserving historical sites.

Connecticut Grant Programs

The Quinebaug-Shetucket Heritage Corridor, Inc. (QSHC) is a private, non-profit, 501(c)(3) corporation designated by Congress as the management entity for the Quinebaug and Shetucket Rivers Valley National Heritage Corridor.[140] It is a membership organization that reflects the interests of a broad-based, grassroots constituency through a democratic process. Members include individuals, families, businesses, non-profits, corporations, regional and state entities, congressional delegations, and 35 towns in eastern Connecticut.

QSHC offers a Historic Preservation Grant Program to encourage projects that preserve the significant cultural landscapes and structures of the Quinebaug and Shetucket Rivers Valley National Heritage Corridor. It is a competitive grant program requiring recipients to provide a 1:1 match of cash or in-kind contribution. The match may be waived if the application is to preserve a site or structure that is under immediate threat, provided that threat is appropriately documented. In addition, QSHC offers a Partnership Program Grants Program to encourage projects that retain, enhance or interpret the significant features of the lands, water and structures of the Quinebaug-Shetucket Rivers Valley National Heritage Corridor and demonstrate practical ways to address the Corridor's economic and conservation challenges. According to its 2004 Annual Report,[141] QSHC disbursed a total of $24 million. These grants were matched by an additional $24 million creating a direct impact of $48 million in 2004 (see below for details).

In 2004, three statewide heritage promotion grant programs were offered by the Connecticut Humanities Council (CHC); the Cultural Heritage Development Fund (CHDF), the Heritage Advancement Program (HAP), a collaborative effort with the

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[140] See: http://www.thelastgreenvalley.org/hp.html. QSHC has five full time employees.
[141] The 2004 Annual Report was delivered to CCEA in hardcopy. The 2005 Report is online at http://www.thelastgreenvalley.org/publications/reports/QSHC05AR.pdf

Greater Hartford Arts Council and the Hartford Foundation for Public Giving, and Humanities in the Schools (HIS) grants. In 2004, the CHDF received financial support through a $1 million annual line item appropriation from the State of Connecticut and a $25,000 grant from the Hartford Foundation for Public Giving. Grants from the CHDF can be used for enhancing strategic planning and staff training, as well as for hiring outside consultants and creating exhibitions, orientation films, and walking tours. Since 1995, the CHC states that the CHDF generated over $7.4 million for the state's heritage organizations for programming, attracted $4.1 million in contributions from corporations and foundations, and stimulated $18.9 million in funding and volunteer services from heritage organizations and community groups.[142]

Administered by the Connecticut Commission on Culture and Tourism (CCT), the Certified Local Government Program strengthens local government's historic preservation efforts by achieving Certified Local Government (CLG) status from the National Park Service (NPS). NPS and CCT, which includes Connecticut's federally funded State Historic Preservation Office (SHPO), provide technical assistance and small matching grants to governments that have committed to work to save the resources that form the tangible reminders of their community's heritage. In turn, NPS and the SHPO gain the benefit of local government partnership in the national historic preservation program.

A secondary and clearly important part of heritage and historic preservation is preparing for construction, restoration and renovation that requires planning and the marshalling of funds, experts and specialized workers to execute the project when that stage arrives. Administered by the statewide nonprofit Connecticut Trust for Historic Preservation (CTHP), Historic Preservation Technical Assistant Grants (HPTAGs) are awarded to assist with the identification and evaluation of historic resources. These grants help plans for restoration of heritage and historic resources; they assist projects that build and strengthen local preservation/community organizations; and, they fund projects that support efforts that help communities throughout the state plan for the preservation, restoration, and rehabilitation of historic places. Recent HPTAGs awarded

[142] "Fact Sheet: Cultural Heritage Development Fund," Connecticut Heritage Association. Available at http://www.ctculture.org/chdf/factsheets/chdffs.htm.

to a variety of organizations throughout the state include projects from developing a walking tour brochure to web development for a Local Historic District Commission. Between July 2003 and June 2004 (Connecticut FY 2004) the Connecticut Trust awarded $55,040 in HPTAGs. The sixteen grants leveraged an additional $320,660 in preservation funding.

The Greater Hartford Arts Council (GHAC) supported its 34 surrounding towns' activities in the arts and heritage areas. GHAC's Neighborhood Arts & Heritage Grant Program funds programs and projects within that service area. Such programs or projects can be a theatrical or musical production, educational program, or a special project. GHAC's Community Events Program Grants supports annual events that must occur in the City of Hartford for which funding supports a specific element of a given event, for example, paying artists' fees, or providing marketing support.

A Review of the Historic Preservation Literature

As lamented by leading preservation advocate and economist Donovan Rypkema (1994), "it wasn't that many years ago that preservationists talking about 'economics' was akin to eating one's dessert with a salad fork—it just wasn't done in polite company."[143] However, since the late 1970's more people have come to appreciate the positive economic benefits that can be reaped from preservation projects. In the past decade research in this field has mushroomed, further strengthening the message that historic preservation is beneficial both culturally and economically.

One of the first case studies to examine directly the economic impact of historic preservation was a report, "The Contribution of Historic Preservation on Urban Revitalization," issued by the Advisory Council on Historic Preservation in 1979.[144] The study investigates the larger cause and effect relationship between historic preservation and urban revitalization through four regional case studies: Old Town in Alexandria, Virginia; the Strand in Galveston, Texas; the historic district in Savannah, Georgia; and, Pioneer Square in Seattle, Washington. Though the report relies heavily on qualitative and descriptive factors in forming its conclusions, the study ultimately affirms that historic preservation activity in urban historic districts has "contributed significantly to the revitalization of those districts, and, in addition, has contributed economically, socially, physically, and aesthetically to the rejuvenation of their cities." The extensive report marked an important step in bringing the economic importance of historic preservation to light and served to strengthen the movement for historic preservation among politicians and urban planners alike.

In 1993, the University of Rhode Island reviewed the impacts of the Rhode Island Historical Preservation Commission's (RIHPC) programs on the state economy over two decades. The study, entitled "The Economic Effects of the Rhode Island Historical Preservation Commission Program Expenditures from 1971 to 1993," utilized the University's Regional Science Research Institute's (RSRI) input-output model of the state economy to identify both direct and multiplier (indirect and induced) impacts on the

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[143] See footnote 126, page 3 of that reference.
[144] Advisory Council on Historic Preservation. *The Contribution of Historic Preservation on Urban Revitalization,*" Washington D.C.: Government Printing Office, 1979.

economy, in terms of employment, wages, value added, and tax revenues.[145] The study found that the greatest impacts of the RIHPC programs were in the construction and manufacturing sectors. Retail and service industries experienced gains as well.

An important step forward in documenting the economic impact of historic preservation was taken with the development of a methodology for examining the total impacts of preservation for the National Trust for Historic Preservation, produced by several researchers, Joni Leithe, Thomas Muller, John Peterson, and Susan Robinson of the Government Finance Research Center. The methodology, outlined in a book, *The Economic Benefits of Preserving Community Character: A Practical Methodology*, published in 1991, includes approaches for estimating the benefits of construction activity, real estate activity, and commercial activity, including tourism (see footnote 5). The workbook, the first of its kind in the field, provides a straightforward explanation of how a community can measure the economic activity of historic preservation, even providing sample survey forms and worksheets for compiling data from the construction, real estate, and commercial industries in one's town or state. Though the workbook focuses mainly on obtaining the direct effects of historic preservation, it offers some advice on utilizing pre-determined multipliers to estimate the indirect effects of historic preservation activity on the economy.

Another general, but essential, source in understanding the impact of historic preservation is *The Economics of Historic Preservation, 2ed.* by Donovan Rypkema (2005), which compiles results from numerous studies showing the economic benefits of preservation (see footnote 129). Rypkema carefully outlines the case for historic preservation as an enterprise that is both culturally significant and economically viable. The author details the positive economic effects of historic preservation for economic development, public policy, downtown revitalization, and tourism, and, provides a general guidebook of one hundred arguments for preservation activists and political decision makers alike.

In the last decade, a number of states have undertaken projects examining the economic impact of historic preservation projects in their areas. Some of the most

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[145] *Economic Effects of the Rhode Island Historical Preservation Commission: Program Expenditures from 1971 to 1993*, Intergovernmental Policy Analysis Program, University of Rhode Island, 1993.

comprehensive reports originated in Colorado, Florida, Missouri, New Jersey, North Carolina, Rhode Island, Texas, and Virginia. Related studies were completed in Georgia, Indiana, Kentucky, Maryland, Michigan, New York, South Carolina, and West Virginia. These studies have examined, to varying degrees and using several different input-output models, the effects of historic preservation activities on different sectors within the economy in terms of gains in employment, wages, value added, and tax revenues generated. Each study illustrates the economic benefits of preserving historic properties, and it is important that similar studies continue to be produced to fuel preservation efforts. For example, the Texas study contains seven major conclusions:

1) historical designations improve property values;
2) incentives for historic properties attract reinvestment;
3) historic building rehabilitation rebuilds Texas communities;
4) preservation of historic properties creates jobs;
5) Texas heritage attracts tourists;
6) history museums draw tourists and economic vitality to communities; and,
7) the revitalization of Texas Main Street cities makes good business sense.

Given Connecticut's wealth of historic sites and cultural attractions, a statewide study examining their economic benefits seems overdue.

A Review of Connecticut-Specific Historic Preservation Literature

In 1997, the Connecticut Historical Commission published its most recent assessment of statewide historic preservation, titled, "Historic Preservation in Connecticut: Planning a Future with a Past."[146] The report gives a background of Connecticut's historic preservation policies and takes stock of heritage resources in the area. The assessment highlights existing challenges and opportunities the state faces in improving the quality and quantity of preservation and projects in the future. Recommendations followed for improving data management, resource protection and documentation, education, and planning and fundraising efforts. Funding for another planning report, "Building Quality Communities: Historic Preservation in Connecticut"

[146] "Historic Preservation in Connecticut: Planning a Future with a Past," Connecticut Historical Commission, Hartford, 1997.

was approved in March 2003, and publication is expected by 2006.[147] A regular examination of historic preservation practices around the state and a strategic look at improving preservation practices is essential for ensuring that opportunities to protect historic areas are not overlooked.

The Marketing & Managing Associates for Nonprofits published a report for Windsor, Connecticut, titled "Heritage Tourism and Market Feasibility Study," in 2003.[148] The study analyzes the market situation and cultural tourism environment of Windsor, one of the oldest towns in the state, to assess the town's capacity to become a more popular heritage tourist destination. Ultimately, the study finds that though Windsor has had successes in the past decade in drawing businesses to the area, scarce financial and human resources remain major obstacles for the town. In comparison with highlighted regional towns of similar size, including Portsmouth, NH, Bristol, RI, Newton, MA, Wethersfield, CT, and the Quinebaug-Shetucket Heritage Corridor,[149] Windsor still has a long way to go to become competitive. The report suggests that the town's five-year vision should include improvements to local public education to help ease the burden of scarce human capital, increase local patronage to historic attractions, establish a "Windsor brand," and develop thematic alliances with nearby towns to increase the number of visitors. The report recommends that Connecticut as a whole develop tourism by providing cross-functional packaging, developing themed tours, creating multi-disciplinary partnerships, facilitating planning and delivery of tourism, and branding the Connecticut experience. Increasing heritage tourism in Windsor and around the state is essential for maximizing the economic benefits of historic preservation.

Methodological Framework

The methodology of several studies cited here and others perused and not cited here is largely based on the approach outlined in Leithe et al. (1991) (cited in footnote 5).

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[147] "Plan Profile: Connecticut," Historic Preservation Planning Program, National Parks Service. Available at http://www.cr.nps.gov/hps/pad/stateplans/connecticut.htm.

[148] "Heritage Tourism and Market Feasibility Study for Windsor, Connecticut," Marketing & Managing Associates for Nonprofits, 2003.

[149] Congress established the Quinebaug-Shetucket Heritage Corridor, an area of 25 towns in northeastern Connecticut in 1994 as a unique natural resource. In 1999, Congress expanded the area to include 35 towns in all, including nine towns in southeastern Massachusetts. The area is known for its scenic woodland views and its rich Native American, agricultural, and industrial heritage.

Based on the literature, there is little doubt that historic preservation of structures and sites as well as heritage programs and activities improve the quality of life for all. We recognize there may be some who do not realize profits from removing historic structures or sites for larger, modern facilities or venues or the very real, albeit even less tangible educational benefits of heritage programs and activities. Ignoring the opportunity cost of alternative development prospects, the issue is how to measure the net new economic and fiscal values of heritage and historic preservation. The approach is straightforward to describe, however difficult it may be to realize in practice.

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; and, 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.

For this study, the geography is the State of Connecticut and the timeframe is roughly calendar 2004. Thus, we look at a snapshot of historic preservation activity in an ongoing continuum of heritage and historic preservation activity in Connecticut. Restricting ourselves to a single year is problematic in that new construction and rehabilitation activities often take place over several years and take several more years to increase visitorship and increase commercial sales or property values as they apply to the particular site or project. In the case of Connecticut, there are hundreds of properties that may be in various stages of renovation or repair that include private homes (e.g., the Grant Hill Homestead), commercial properties (e.g., the Brown Thompson Building) or historic sites or structures that are neither (e.g., Fort Trumbull, Gillette Castle). Many properties are currently not in any stage of renovation and generate an ongoing flow of services to visitors, occupants, and neighbors (scenic beauty, visitor spending). The next four subsections elaborate on the four primary activities.

Construction

Construction associated with the restoration or rehabilitation of historic buildings is a fleeting activity that generates temporary economic activity in a small region. Specialized workers (masons, carpenters, electricians, architects, artisans) engage for their brief period of service to the project and move on. During the construction phase, goods and services purchased for the project increase economic activity in the region. Sales tax and income tax revenues increase. The construction once finished allows the property to deliver the services promised. These include increased tourism, new commercial activity, enhanced property values, and, an improved quality of life. The latter consists of the preservation of important and stimulating architecture, enhanced scenic beauty in the area or neighborhood encouraging others to improve their properties, and the use of existing, historic structures and sites creates density and high quality infill, thus reducing sprawl. These intangibles in turn generate net new economic activity leading to job creation and enhanced tax collection.

Real Estate Markets and Property Value Effects

Measuring the property value effects of historic preservation is problematic. One needs to define the project's neighborhood in which one benchmarks the property value changes due to a historic preservation project. In addition, one needs to define a control neighborhood as a reference area to track the property value changes in the benchmark neighborhood. This ostensibly isolates property value effects from confounding effects such as fickle consumer tastes and preferences that influence property values as well. For example, a neighborhood ripe for historic preservation, such as along New York Avenue in Washington, DC in the north end, undergoes transformation because consumer tastes and preferences change and gentrification supplies the financial capital to realize the new neighborhood vision. Current low-income residents are displaced, but important historical structures are preserved and maintained.

One needs to look at a trend of property sales in the benchmark and reference neighborhoods over time to determine the effects of a historic preservation project. Leithe et al. (1991) recommend twenty years (ten before and ten after); and, failing this, five years before and five years after. The data requirements for this important part of the

overall preservation activity effects are massive, requiring in many cases parcel level data. In areas where parcel data is not computerized, this represents a formidable barrier to estimating the contribution of a historic preservation project to the town's Grand List (the taxable base). Further, as the Grand List increases, taxes may not increase because they will only if the town's budget increases. If it does not, then the mill rate will decline. The owner(s) of the renovated, restored property may pay more in taxes than before but not necessarily. There may be affected properties that are property tax-exempt in any case. Depending on where in the town the project occurs, there may be spillover effects to an adjacent town that raises taxes on unimproved but higher value properties all else equal.

Commercial Activity

Renovated, restored, and otherwise improved historic properties and heritage sites generate new commercial activity such as lodging, retail and restaurant sales. In residential neighborhoods where commercial activity would not result or be directly measurable from restoration activity, there are quality of life improvements that may be detected with the appropriate tools. For example, other properties in the neighborhood may emulate the preservation activity and improve their sites. Neighborhood cohesiveness and stability improve and the neighborhood takes on a new identity. Sales of home improvement goods and services may increase, and crime, graffiti, garbage and other formerly unsightly aspects of the neighborhood may decrease. If these activities occur, the town's taxable base may increase that in turn may increase local tax revenue. To summarize, there are cascading and spillover effects that result from historic preservation activity that may be difficult to measure but are nonetheless present.

Leithe et al. (1991) point out that it is important to distinguish the timeline of preservation activities in the region and identify trigger events from which one begins measurement of the changes in economic and fiscal trends. This allows one to decide on trend or comparative analysis or both as the suitable approach for the questions at hand. "Trend analysis examines activities over time and makes a judgment about how the activities would have continued but for the preservation activity or trigger event. Comparative analysis compares activities in two or more areas by, for example,

comparing property value trends between properties in an historic district and properties outside the district."[150] Leithe et al. (1991) suggest both approaches would be used to "investigate different areas of economic activity and to compare different categories of benefit."

Visitors to Connecticut's Heritage Sites

The 2004 Connecticut Vacation Guide survey lists 154 historic sites visited by more than 3.5 million people and contains the twenty-nine sites in Table H-1 from the 2004 Audience Survey of Connecticut Heritage Organizations.[151] Table H-2 reports the number of visitors to all responding sites gleaned from the Vacation Guide survey (a subjective exercise vetted with the Commission) and aggregated by tourism region. Appendix 9 lists the names of the arts, historic and tourist sites and venues appearing in Table H-2. The visitorship reference years vary and we take these self-reported figures as representative. We list tourism and arts attractions', venues' and institutions' visitorship from the 2004 Vacation Guide survey for comparison with the other parts of this study.

The number of visitors we report in Table H-2 (excluding Foxwoods and Mohegan Sun) is conservative because the sites self-report and are not required to provide attendance; only the sites that report attendance appear in these counts (and it is not a random sample therefore). Moreover, there are no for-profit galleries included in the Vacation Guide survey and the number of visitors enjoying scenic roads, covered bridges, State Parks and other dispersed sites is unknown.[152]

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[150] Leithe, et al. (1991), page 13.
[151] See: http://www.ctculture.org/chdf/MuseumSurvey.htm.
[152] The Vacation Guide surveys 1,260 sites including outdoor activities such as fishing, boating, golf courses, ski area, and biking companies. The response rate is 49%.

Table H-1: Visitation and Membership of Major Connecticut Heritage Sites[151]

Institution	Annual Visitation	Members/ Contributors	Staff F/T	Staff P/T	Volunteers	Board Members
Mystic Aquarium/Institute for Exploration	812,595	12,100	120	80	350	23
Mystic Seaport	382,564	50,192	230	93	1,400	63
Historic Ship Nautilus	150,000	1,689	29	0	1	12
Mashantucket Pequot Museum	172,272	3,490	95	6	15	NA
Stamford Museum and Nature Center	110,000	3,000	18	13	125	30
Connecticut State Capitol	100,000	0	0	0	20	0
Eli Whitney Museum	72,000	1,000	7	40	50	22
Gillette Castle*	66,000	500	2	12	2	NA
Mark Twain House	65,000	2,000	35	20	200	34
Talcott Mountain (Heublein Tower)**	64,358	40	1	4	6	NA
Fort Trumbull*	55,125	40	4	12	2	NA
Florence Griswold Museum	54,697	2,272	12	7	400	31
Fort Griswold Battlefield*	54,275	40	0	2	2	NA
CT Historical Society/Old State House	74,850	1,975	46	23	170	30
Mattatuck Museum	43,000	1,250	11	9	175	26
NE Air Museum	42,131	800	6	7	110	25
Harriet Beecher Stowe Center	38,566	260	12	18	10	17
CT River Museum	25,000	1,200	7	4	67	29
Barnum Museum	22,000	1,500	5	3	25	19
Museum of CT History	20,000	NA	2	0	0	10
Antiquarian and Landmark Society (9 sites)*	20,000	700	10	30	25	30
Weir Farm National Park*	17,632	200	9	0	10	NA
New Gate Prison*	17,600	140	0	5	40	NA
His. Soc. of the Town of Greenwich*	16,000	3,000	9	6	200	30
Noah Webster House*	16,000	409	3	22	50	17
Litchfield His. Society*	15,325	512	5	7	67	20
Lockwood Mansion Museum*	15,000	360	1	4	100	22
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 H-2: 2004 Connecticut Vacation Guide: Heritage, Arts and Tourism Sites' Visitors

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**

Detailed Methodology

For this study, we focus 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. In addition, we focus on 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. To the extent possible, we include a Connecticut historic preservation construction snapshot for 2004. We assume that such construction activity is randomly distributed in time and space so that our snapshot is representative of Connecticut historic preservation activity in the early years of the 21st century. We enumerate construction activity according to the reported uptake of incentives and grants for historic preservation, that is, via federal and state tax credits and public/private grants. The construction identified in this way may not approximate the actual amount of such spending through other means such as private household or firm expenditure for ongoing maintenance. In addition, we account for the planning work that various grants support.

Though we present the number of visitors to historic establishments, venues and sites above, we do not include their spending; we include visitor spending in the business and leisure travel and tourism portion of this work. Our tourism spending estimates

derive from a visitor intercept survey conducted year round and across the state by Witan Intelligence, Inc.

Employment

The 2004 Audience Survey of Connecticut Heritage Organizations by the Connecticut Heritage Coalition provides full and part time employment for thirty-two sites (Table H-1, see footnote 151). This is not an exhaustive list of Connecticut's historic venues (only 29 of the Connecticut Vacation Guide's 154 historic sites are mentioned). Further, we regard the Mystic Aquarium and Institute for Exploration and the Stamford Museum and Nature Center in Table H-1 to be tourist attractions and do not include these sites in our employment or historic site visitorship estimates. Subtracting their FTEs from 683 leaves 545 full time workers at 27 sites. Similarly, subtracting their part time jobs from 431 leaves and 338 part time workers at 27 sites. If we assume that the remaining 338 part time workers work quarter time, that implies there are 85 additional FTEs or 630 FTEs gleaned from Table H-1.

CCEA conducted its own survey of 258 heritage sites in Connecticut to determine their employment, revenue, and expenditures. This survey had an insignificant response (46 of 258 sites responded) and most of the FTE employment contained therein is contained in Table H-1 (see Appendix 10 for details of CCEA's survey of Connecticut's heritage sites). Therefore, we believe that the 630 FTEs represent a conservative estimate of the total FTE employment in the heritage and historic preservation industry. Future studies should achieve a higher response rate from Connecticut's heritage and historic sites and venues to better estimate both FTEs and volunteers who contribute the bulk of the labor required to operate heritage and historic venues.

To avoid employment overlap between the arts industry and the heritage and history industries, Table H-3 below contains the embedded historic preservation occupations excluded from the arts industry study as they appear in the 'Museums, Historical Sites & Similar Institutions' industry (NAICS 712) that we take as specific to heritage and history. Because the NAICS industries in Table H-3 include the institutions in Table H-1 and because we have no data indicating otherwise, it is likely that the 190 jobs in Table H-3 are part of those gleaned from Table H-1 and therefore we take the 630

jobs as total, full time employment in historic preservation for 2004. This is clearly a conservative jobs estimate and we take it as representing annual average historic preservation employment in the early years of the 21st century. For this report, we omit archaeologists (30 in number) and historians (70 in number), occupations that we believe are essential to historic preservation no matter in what industry they actually work. These occupations should be incorporated into future historic preservation impact studies. We incorporate in our model the fraction of the architectural services (NAICS industry 541310) demanded by historic preservation activity (see page 167). Therefore, the contribution of these specialized, embedded occupations to historic preservation is captured in our model without regarding all occupations contained in NAICS 541310 to be essential to historic preservation.

Table H-1 counts more than 3,600 volunteers in a fraction of the 258 heritage and historic institutions and venues CCEA surveyed. It is clear from Table H-1 and our survey that volunteers form the backbone of the heritage and historic preservation industry. Were it not for the docents, bookkeepers, artisans, and many others, Connecticut's heritage and historical venues and institutions could not function. Yet we have not estimated their economic impact in this study. It is possible to do so by assuming volunteer time represents an opportunity cost, in this case, wages forgone. Omitting volunteer time renders the heritage and historic preservation industry's economic impact conservative. Future studies must account for the extensive use of volunteers in this industry.

Table H-3: Connecticut's Historic Preservation and Heritage Employment by Industry

NAICS	Industry Title	SOC Code	Occupational Title	Employment	Annual Mean Wage
712	Museums, Historical Sites & Similar Institutions	25-4011	Archivists	30+10	$33,290
712	Museums, Historical Sites & Similar Institutions	25-4012	Curators	90	$50,350
712	Museums, Historical Sites & Similar Institutions	25-4013	Museum technicians and conservators	40	$36,560
712	Museums, Historical Sites & Similar Institutions	25-4021	Librarians	10	$43,440
712	Museums, Historical Sites & Similar Institutions	27-1027	Set and exhibit designers	10	$32,620
			Total Historic Preservation	**190**	

Construction Spending

Historic structures, sculpture, roads and covered bridges may require extraordinary maintenance relative to their modern counterparts. Certain historic structures may be unfit for use without extensive and intensive restoration including code compliance and structural reinforcement. Connecticut historic properties may apply to federal and state tax incentive programs that provide funds offsetting restoration costs. The federal program established under the Tax Code of 1986 allows owners of depreciable residential, commercial, and industrial buildings that are listed on the National Register of Historic Places to elect a 20% investment tax credit in conjunction with the certified rehabilitation of certified historic structures. The Connecticut Historic Homes Rehabilitation Tax Credit program encourages new homeownership and assists existing homeowners maintain or renovate their property. The state program:

- allows allocation of up to $3 million per state fiscal year in corporate tax credits. Corporations may qualify if providing funds in the form of cash -- purchase of the tax credits -- or loans where the value of the tax credit is used to reduce the amount owing on the loan.
- provides a thirty percent (30%) tax credit, up to $30,000 per dwelling unit, for the rehabilitation of 1-4 family buildings. After completion of such work, one unit must be owner-occupied for a period of five years.
- requires a minimum of $25,000 in qualified rehabilitation expenditures to qualify.

- requires that the building be listed on the National or State Register of Historic Places *and* located in a targeted area to be eligible. Targeted areas include:

(1) selected federal census tracts with family income levels below the state median,
(2) state designated areas of chronic economic distress, or
(3) urban/regional centers identified in the State of Connecticut *Conservation and Development Policies Plan of the Office of Policy and Management.*

For purposes of this study, we take a snapshot of these programs' activity in Connecticut's fiscal year 2005 and the federal fiscal year 2005 (that is, our snapshot includes preservation activities between July 1, 2004 and September 30, 2005). Under the state tax incentive program in this period, Hartford properties applied for tax credits that initiated $4,515,965 of preservation/rehabilitation activity; Bridgeport properties applied for tax credits that initiated $177,484 of preservation/rehabilitation activity; New Haven properties applied for tax credits that initiated $3,157,038 of preservation/rehabilitation activity; and, Waterbury properties applied for tax credits that initiated $35,470 of preservation/rehabilitation activity.

Under the federal tax incentive program, Hartford properties applied for tax credits that initiated $42 million of preservation/rehabilitation activity; Bridgeport properties applied for tax credits that initiated $4.835 million of preservation/rehabilitation activity; New Haven properties applied for tax credits that initiated $1.4 million of preservation/rehabilitation activity; New London properties applied for tax credits that initiated $2.5 million of preservation/rehabilitation activity; Manchester properties applied for tax credits that initiated $1.5 million of preservation/rehabilitation activity; and, Vernon properties applied for tax credits that initiated $13.3 million of preservation/rehabilitation activity. We assume therefore the total preservation/rehabilitation expenditure for both federal and state tax incentive programs for this period was in the neighborhood of $99.5 million. The Commission on Culture and Tourism's Program Administrator for Tax Credit Programs states, "At any given point in time, there are many projects underway: some may have been approved years earlier; some may be in progress as we process the paperwork. Thus, real dollar figures are likely to be different—and often higher—than the total of projects reviewed by this office." Therefore, these are likely conservative estimates of construction

expenditure under the state and federal tax incentive programs during the period of interest.

The Save America's Treasures grants funded construction on the following properties: Henry Whitfield House ($150,000); Joseph Webb House, Webb-Dean-Stevens Museum ($150,000); Litchfield Meetinghouse ($200,000); and, the Cheney Bros. Machine Shop ($200,000). The State Historic Restoration Fund awarded $600,000 for construction in 2004. The Quinebaug-Shetucket Heritage Corridor awarded $384,726 for construction (infrastructure improvements and trail enhancement and development and classified in NAICS 237990: other heavy & civil engineering construction [open space improvement]) in 2004 (recall QSHC grants are matched 1:1, so the total for their construction contribution is $769,452).

These and the other grants were not completely expended in 2004; we assume construction activity takes place over four years, so we apportion the total construction budget awarded in 2004 ($101.6 million itemized above) at $25.4 million per year for each year in the study period. This assumes that $25.4 million is an approximation to the long term, annual average construction expenditure.

Planning, Education and Conservation Spending

Certain grants provide for planning and education. The former require professional services (architectural, engineering and artisan). Education and outreach occurs through lectures, walks, tours, and brochures prepared by historical societies.

In 2004, the Quinnebaug-Shetucket Heritage Corridor awarded $8,540,076 (matched to $17,080,152) for "Natural Resources, Agriculture & Land Use: Green Valley Institute, Partnership Program Grants, natural resource education, land use planning, open space conservation, natural resource protection" work. We classify this activity under NAICS 813312: environment, conservation & wildlife organizations (industry) sales. In addition, in 2004, QSHC awarded $915,549 (matched to $1,831,098) for "Community Development & Outreach: 'Walking WeekendS', community revitalization projects" and $2,065,825 (matched to $4,131,650) for "Economic Development & Tourism: Partnership Program Grants, tourism promotion, visitor center enhancements." We classify these latter two activities under NAICS 561591: convention & visitors bureaus'

industry sales. QSHC granted their largest amount ($12,050,469, matched to $24,100,938) to "Historical & Cultural Resources: Partnership Program Grants, preservation of historic & cultural records & structures, regional interpretive initiatives, archaeology" that we classify under NAICS 712120: historical sites industry sales.

The Connecticut Trust for Historic Preservation's Historic Preservation Technical Assistance Grants provided 15 grants amounting to $375,000, while the Commission on Culture and Tourism's Historic Preservation Fund provided $15,000 for the publication of a statewide historic preservation Newsletter in 2004, the latter classified in NAICS 511120: periodical publishers, the former in NAICS 54: Professional, Scientific, and Technical Services.

We classify the Greater Hartford Arts Council's (GHAC's) Neighborhood Arts & Heritage and Community Events Program grants under NAICS 561591: convention & visitors bureaus' industry sales. The Heritage Advancement Grant program, a collaborative effort between the Connecticut Humanities Council, and the Hartford Foundation for Public Giving provided grants for staffing support of recipient organizations at a declining rate over three years (classified under NAICS 712120: historical sites industry sales). Of all programs GHAC participated in during 2004, we include those listed in Table H-4 in the heritage and historic preservation study. Relevant GHAC grants totaled $129,069 in 2004.

In addition to its collaboration with the Greater Hartford Arts Council and the Hartford Foundation for Public Giving on the Heritage Advancement Program, the Connecticut Humanities Council administers its own Cultural Heritage Development Fund (CHDF). In 2004, the Council awarded 32 CHDF grants totaling $331,296 for heritage projects and activities, as well as four heritage-related grants through its History in the Schools grant program.

Table H-4: Heritage Advancement Grants (Connecticut Humanities Council, Greater Hartford Arts Council and Hartford Foundation Collaborative), 2004

Heritage Advancement Grant Program

Organization		Award
American Clock & Watch		$11,270
The Amistad Foundation		$16,423
Antiquarian & Landmark Society		$9,833
Connecticut Historical Society		$16,423
H.B. Stowe Center		$10,115
Manchester Historical Society		$10,500
Mark Twain House		$12,630
Noah Webster House		$11,255
Stanley-Whitman House		$8,320
Windsor Historical Society		$15,000
Neighborhood Arts & Heritage Grant Program		
First Town Downtown	Revolutionary Windsor 2003	$800
New England Carousel Museum	Preserving the Art and History of the Carousel	$500
Community Events Grant Program		
Hartford Guides	Summer Event Initiative and HPD Museum	$5,000
Wadsworth Atheneum Museum of Art	Native American Night: First Thursday	$1,000
	Total	**$129,069**

As described above, the Certified Local Government Program strengthens local government's historic preservation efforts. NPS and state governments, through their State Historic Preservation Offices (SHPOs), provide technical assistance and small matching grants to communities whose local governments endeavor to keep for future generations what is significant from their community's past. Table H-5 shows Connecticut's CLG 10% pass-through grants for 2004. Administered by the Connecticut Commission on Culture and Tourism, these funds generate new sales for the professional, scientific and technical services industry (NAICS 5413) that includes architects, surveyors, engineering and testing professionals and we assume represent a typical annual expenditure in the early years of the 21st century.

Table H-5: CLG Grants

CLG 10% Pass-Through for Planning & Restoration			
Town	**Actual Federal Share Expended**	**FY2 Match Share**	**Total**
Hamden	$9,000	$6,000	$15,000
New Haven	$12,898	$8,599	$21,497
Waterford	$8,665	$5,776	$14,441
Waterford	$3,855	$2,570	$6,425
Woodbury	$9,650	$6,433	$16,083
Canton	$6,611	$4,407	$11,018
Waterford	$2,655	$1,770	$4,425
Totals	**$53,334***	**$35,555**	**$88,889**

*Note: $2,655 was allocated to construction and is not included in the indicated total for the impact of planning funding.

We assume planning, education, and conservation funds ($47,551,076) itemized above were expended in the year awarded (2004) and represent a typical annual expenditure in the early years of the 21st century.

To summarize and for purposes of economic impact analysis, we aggregate the above spending detail as follows:

1) $5.96 million for visitor bureaus is the sum of QSHC grants (and match) for Community Development & Outreach: 'Walking WeekendS', community revitalization projects (NAICS 561591: convention & visitors bureaus) [$1,831,098] and Economic Development & Tourism: Partnership Program Grants, tourism promotion, visitor center enhancements (NAICS 561591: convention & visitors bureaus) [$4,131,650];
2) $407,238 for professional services is the sum of the CLG 10% Pass-Through for Planning & Restoration (in which we assume planning activity hires professional services) [$88,889 from Table H-5 less $2,655 as noted] and 2004 Private Donations Received to Heritage Trail Planning Services from Save America's Treasures Grants [$344] and CT Trust for Historic Preservation (HPTAG) [$320,660];
3) $24 million QSHC grant and match for Historical & Cultural Resources: Partnership Program Grants, preservation of historic & cultural records & structures, regional interpretive initiatives, archaeology attributed in NAICS 712120: historical sites;

4) $17 million QSHC grant ad match for Natural Resources, Agriculture & Land Use: Green Valley Institute, Partnership Program Grants, natural resource education, land use planning, open space conservation, natural resource protection attributed in NAICS 813312: environment, conservation & wildlife orgs.; and,
5) $769,500 QSHC grant and match for Recreation: Partnership Program Grants, 'Walking WeekendS', infrastructure improvements, trail enhancement & development attributed in NAICS 237990:other heavy & civil engineering construction [open space improvement].

Quality of Life

Preserving Connecticut's unique heritage maintains a legacy of the past that sustains and enhances the quality of life, both now and in the future, and for residents and visitors alike. In this regard, heritage and historic preservation make sense from both an indirect and direct economic perspective. For example, historic buildings and structures serve as a bridge between a shared past and a common present and future. They serve as a generator for individual satisfaction, neighborhood pride and community spirit. Rehabilitating historic buildings also creates jobs (often more jobs than an equivalent expenditure in new construction) and contributes to promoting the health of the economy at both the local and state levels. Rehabilitating historic structures embraces and embodies the ideals of sustainability (use and development that does not deplete our society's natural and economic resources) and environmental conservation. Historic buildings and heritage programs and activities, such as the museums, historical societies, libraries, and other cultural organizations that maintain and provide them, serve as quality "raw" materials for one of Connecticut's leading economic engines -- tourism. While finding an adequate statistical measure for quality-of-life is admittedly problematic, satisfaction, pride, spirit, happiness are no less important of an economic motivator for it. This study omits economic consideration of the quality of life effects of heritage and historic preservation and is therefore conservative.

The Economic Impact of Heritage and Historic Preservation in Connecticut

Using the jobs derived from the employment subsection, and spending from the construction spending, and planning, education and conservation spending subsections above, the economic impact of historic preservation activity in Connecticut is driven by: direct employment in the industry (630 full time equivalents); construction work for the maintenance of historic sites and structures ($25.4 million per year); $15,000 for newsletter publishing (perhaps symbolic of other publishing activity); $407,238 for professional services; $24 million in revenue for historical museums; $5.9 million for visitor bureaus; $17 million in revenue for environment, conservation and wildlife organizations; and, $769.5 thousand for trail and historic site infrastructure work. We assume these numbers represent the direct impact (spending and employment) of historic preservation activity in Connecticut in 2004. In keeping with the counterfactual approach, we subtract this activity so represented from the Connecticut economy for the next 20 years and measure the state economy's contraction. These results reported in Table H-6 represent the positive contribution of heritage and historic preservation activity in Connecticut in 2004. In other words, Table H-6 tells us how much poorer we would be if heritage and historic preservation disappeared from Connecticut.

Table H-6: Economic Impact of Connecticut's Historic and Heritage Industry

Average Yearly Impact (2004-2025)		
	Statewide Estimate	Percent of CT Economy (2004)
Employment (Jobs)	2,166	0.13%
Gross State Product (Mil 2004$)	$111.69	0.06%
Personal Income (Mil 2004$)	$105.16	0.07%
Output (Mil 2004$)	$183.80	0.06%
Population	1,784	0.05%
Labor Force	1,212	0.07%

Table H-7 illustrates the impact of heritage and historic preservation activity on fiscal variables for the state as a whole.

Table H-7: Fiscal Impact of Connecticut's Historic and Heritage Industry

Average Yearly Impact (2004-2025)		
	Statewide Estimate	Percent of Total State and Local (2002)*
State and Local Revenues (Mil 2004$)	$17.8	0.07%
State and Local Expenditures (Mil 2004$)	$18.5	0.07%

*From the most recent Census of Governments

Conclusion

The economic value measured in terms of employment and GRP is conservative yet significant. It is conservative because there are preservation activities carried out and carried on by volunteers whose time has value that we have not counted. It is conservative because we do not know the private investments property owners make in their historic homes or buildings to maintain them (such investments are likely larger for historic properties). It is conservative because we have not estimated the increased property values or high quality infill and new commercial activity that result from preservation activity. Finally, our estimate of the economic value of historic preservation is conservative because we cannot estimate the amenity (quality of life) value of preservation activity to the attractiveness of the region to workers and firms.

Nevertheless, we conservatively estimate that nearly 2,200 additional jobs are maintained each year on average because of historic preservation activity in Connecticut. There is no doubt that Connecticut's historical and heritage assets contribute to travel and tourism that we have excluded from this assessment (visitor spending is included in the travel and tourism report).

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Appendix 1: The REMI Model

The Connecticut REMI model is a dynamic, multi-sector, regional model developed and maintained for the Connecticut Center for Economic Analysis by Regional Economic Models, Inc. of Amherst, Massachusetts. This model provides detail on all eight counties in the State of Connecticut and any combination of these counties. The REMI model includes all of the major inter-industry linkages among 466 private industries, aggregated into 67 major industrial sectors. With the addition of farming and three public sectors (state and local government, civilian federal government, and military), there are 70 sectors represented in the model for the eight counties.

The REMI model is based on a national *input-output* (I/O) model that the U.S. Department of Commerce (DoC) developed and continues to maintain. Modern input-output models are largely the result of groundbreaking research by Nobel laureate Wassily Leontief. Such models focus on the inter-relationships between industries and provide information about how changes in specific variables—whether economic variable such as employment or prices in a certain industry or other variables like population affect factor markets, intermediate goods production, and final goods production and consumption.

The REMI Connecticut model takes the U.S. I/O "table" results and scales them according to traditional regional relationships and current conditions, allowing the relationships to adapt at reasonable rates to changing conditions. Listed below are some salient structural characteristics of the REMI model:

- REMI determines consumption on an industry-by-industry basis, and models real disposable income in Keynesian fashion, that is, with prices fixed in the short run and GDP (Gross Domestic Product) determined solely by aggregate demand.

- The demand for labor, capital, fuel, and intermediate inputs per unit of output depends on relative prices of inputs. Changes in relative prices cause producers to substitute cheaper inputs for relatively more expensive inputs.

- Supply of and demand for labor in a sector determine the wage level, and these characteristics are factored by regional differences. The supply of labor depends on the size of the population and the size of the workforce.

- Migration—that affects population size—depends on real after-tax wages as well as employment opportunities and amenity value in a region relative to other areas.

- Wages and other measures of prices and productivity determine the cost of doing business. Changes in the cost of doing business will affect profits and/or prices in a given industry. When the change in the cost of doing business is specific to a region, the share of the local and U.S. market supplied by local firms is also affected. Market shares and demand determine local output.

- "Imports" and "exports between states are related to relative prices and relative production costs.

- Property income depends only on population and its distribution adjusted for traditional regional differences, *not* on market conditions or building rates relative to business activity.

- Estimates of transfer payments depend on unemployment details of the previous period, and total government expenditures are proportional to population size.

- Federal military and civilian employment is exogenous and maintained at a *fixed* share of the corresponding total U.S. values, unless specifically altered in the analysis.

Because the each variable in the REMI model is related, a change in one variable affects many others. For example, if wages in a certain sector rise, the relative prices of inputs change and may cause the producer to substitute capital for labor. This changes demand for inputs, which affects employment, wages, and other variables in those industries. Changes in employment and wages affect migration and the population level that in turn affect other employment variables. Such chain-reactions continue in time

across all sectors in the model. Depending on the analysis performed, the nature of the chain of events cascading through the model economy can be as informative for the policymaker as the final aggregate results. Because REMI generates extensive sectoral detail, it is possible for experienced economists in this field to discern the dominant causal linkages involved in the results.

The REMI model is a structural model, meaning that it clearly includes cause-and-effect relationships. The model shares two key underlying assumptions with mainstream economic theory: *households maximize utility* and *producers maximize profits*. In the model, businesses produce goods to sell to other firms, consumers, investors, governments and purchasers outside the region. The output is produced using labor, capital, fuel and intermediate inputs. The demand for labor, capital and fuel per unit output depends on their relative costs, because an increase in the price of one of these inputs leads to substitution away from that input to other inputs. The supply of labor in the model depends on the number of people in the population and the proportion of those people who participate in the labor force. Economic migration affects population size and its growth rate. People move into an area if the real after-tax wage rates or the likelihood of being employed increases in a region.

Supply of and demand for labor in the model determine the real wage rate. These wage rates, along with other prices and productivity, determine the cost of doing business for each industry in the model. An increase in the cost of doing business causes either an increase in price or a cut in profits, depending on the market supplied by local firms. This market share combined with the demand described above determines the amount of local output. The model has many other feedbacks. For example, changes in wages and employment impact income and consumption, while economic expansion changes investment and population growth impacts government spending.

Model Overview

Figure 1 is a pictorial representation of the model. The Output block shows a factory that sells to all the sectors of final demand as well as to other industries. The Labor and Capital Demand block shows how labor and capital requirements depend on both output and their relative costs. Population and Labor Supply are shown as

contributing to demand and to wage determination in the product and labor market. The feedback from this market shows that economic migrants respond to labor market conditions. Demand and supply interact in the Wage, Price and Profit block. Once prices and profits are established, they determine market shares, which along with components of demand, determine output.

The REMI model brings together the above elements to determine the value of each of the variables in the model for each year in the baseline forecasts. The model includes each inter-industry relationship that is in an input-output model in the Output block, but goes well beyond the input-output model by including the relationships in all of the other blocks shown in Figure A1.1. In order to broaden the model in this way, it is necessary to estimate key relationships econometrically. This is accomplished by using extensive data sets covering all areas of the country. These large data sets and two decades of research effort have enabled REMI to simultaneously maintain a theoretically sound model structure and build a model based on all the relevant data available. The model has strong dynamic properties, which means that it forecasts not only what will happen, but also when it will happen. This results in long-term predictions that have general equilibrium properties. This means that the long-term properties of general equilibrium models are preserved without sacrificing the accuracy of event timing predictions and without simply taking elasticity estimates from secondary sources.

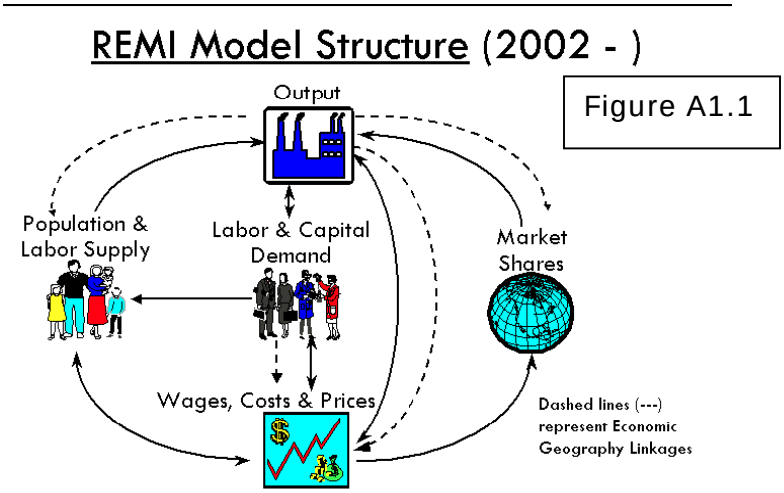

Figure A1.1

Understanding the Model

In order to understand how the model works, it is critical to know how the key variables in the model interact with one another and how policy changes are introduced into the model. To introduce a policy change, one begins by formulating a policy question. Next, select a baseline forecast that uses the baseline assumptions about the external policy variables and then generate an alternative forecast using an external variable set that includes changes in the external values, which are effected by the policy issue.

Figure A1.2

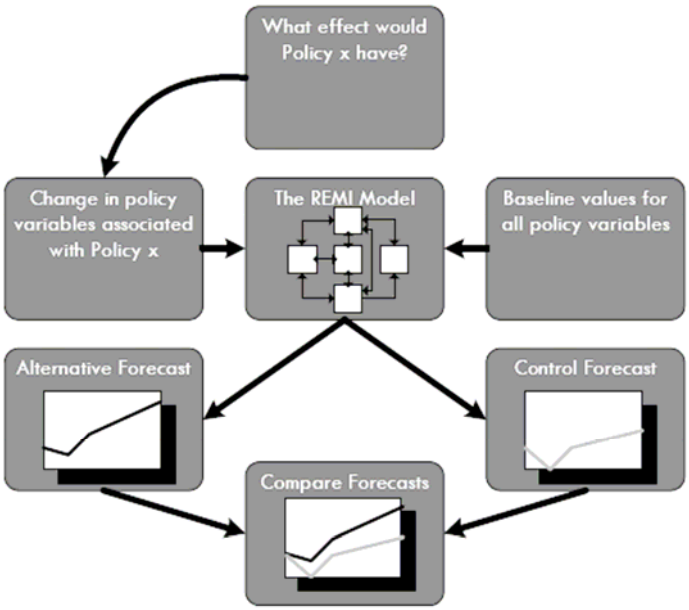

Figure 2 shows how this process would work for a policy change called Policy X. In order to understand the major elements in the model and their interactions, subsequent sections examine the various blocks and their important variable types, along with their relationships to each other and to other variables in the other blocks. The only variables discussed are those that interact with each other in the model. Variables determined outside of the model include:

- Variables determined in the U.S. and world economy (e.g., demand for computers).
- Variables that may change and affect the local area, but over which the local area has no control (e.g., an increase in international migration).
- Variables that are under control of local policy (e.g., local tax rates).

For simplicity, the last two categories are called policy variables. Changes in these variables are automatically entered directly into the appropriate place in the model structure. Therefore, the diagram showing the model structure also serves as a guide to the organization of the policy variables (see Figure 3).

Output Block

The Output Block variables are:

• State and Local Government Spending

• Investment

• Exports

• Consumption

• Real Disposable Income

These variables interact with each other to determine output and depend on variable values determined in other blocks as follows:

Variable in Output Block	**Variables Outside of the Output Block that are Included in its Determinants**
State and Local Government Spending	Population
Investment	Optimal Capital Stock (also the actual capital stock)
Output	Share of Local Market (The proportion of local demand supplied locally, called the Regional Purchase Coefficient)
Exports	The Regional Share of Interregional and International Trade
Real Disposable Income	Employment, Wage Rates and the Consumer Expenditure Price Index

Labor and Capital Demand Block

The Labor and Capital Demand block has only three types of key variables:

● Employment - determined by the labor/output ratio and the output in each industry, determined in the Output block.

● Optimal Capital Stock - depends on relative labor, capital and fuel costs and the amount of employment.

● Labor/Output Ratio - depends on relative labor, capital and fuel costs.

Simply put, if the cost of labor increases relative to the cost of capital, the labor per unit of output falls and the capital per unit of labor increases.

Population and Labor Supply Block

The model predicts population for 600 cohorts segmented by age, ethnicity and gender. This block also calculates the demographic processes - births, deaths and aging. The models deal with different population sectors as follows:

● Retired Migrants are based on past patterns for each age cohort 65 and over.

● International migrants follow past regional distributions by country of origin.

● Military and college populations are treated as special populations that do not follow normal demographic processes.

● Economic migrants are those who are sensitive to changes in quality of life and relative economic conditions in the regional economies. The economic variables that change economic migration are employment opportunity and real after-tax wage rates.

This block allows the determination of the size of the labor force by predicting the labor force participation rates for age, ethnicity and gender cohorts, which are then applied to their respective cohorts and summed. The key variables that change participation rates within the model are the ratio of employment to the relevant population (labor market tightness) and the real after-tax wage rates.

Wage, Price and Profit Block

Variables contained within the Wage, Price and Profit block are:

• Employment Opportunity

• Wage Rate

• Production Costs

• Housing Price

• Consumer Price Deflator

• Real Wage Rate

• Industry Sales Price

• Profitability

The wage rate is determined by employment opportunity and changes in employment demand by occupation for occupations that require lengthy training. The housing price increases when population density increases. The Consumer Expenditure Price Index is based on relative commodity prices, weighted by their share of U.S. nominal personal consumption expenditures. The model uses the price index to calculate the real after-tax wage rate for potential migrants that includes housing price directly, while the price index used to deflate local income uses the local sales price of construction. Wage rates affect production costs, as well as other costs, and they in turn determine profitability or sales prices, depending on whether the type of industry involved serves mainly local or external markets. For example, a cost increase for all local grocery stores results in an increase in their prices, while an increase in costs for a motor vehicle factory reduces its profitability of production at that facility but may not increase their prices worldwide.

Market Shares Block

The Market Shares Block consists of:

- Share of Local Market
- Share of External Market

An increase in prices leads to some substitution away from local suppliers toward external suppliers. In addition, a reduction in profitability for local factories leads to less expansion of these factories relative to those located in areas where profits have not decreased. These responses occur because the U.S. is a relatively open economy where firms can move to the area that is most advantageous for their business.

The Complete Model

Figure 3 illustrates the entire model and its components and linkages. This diagram is helpful in understanding the complex relationships shared by variables within the various blocks discussed above, as well as their relationships to variables in other blocks.

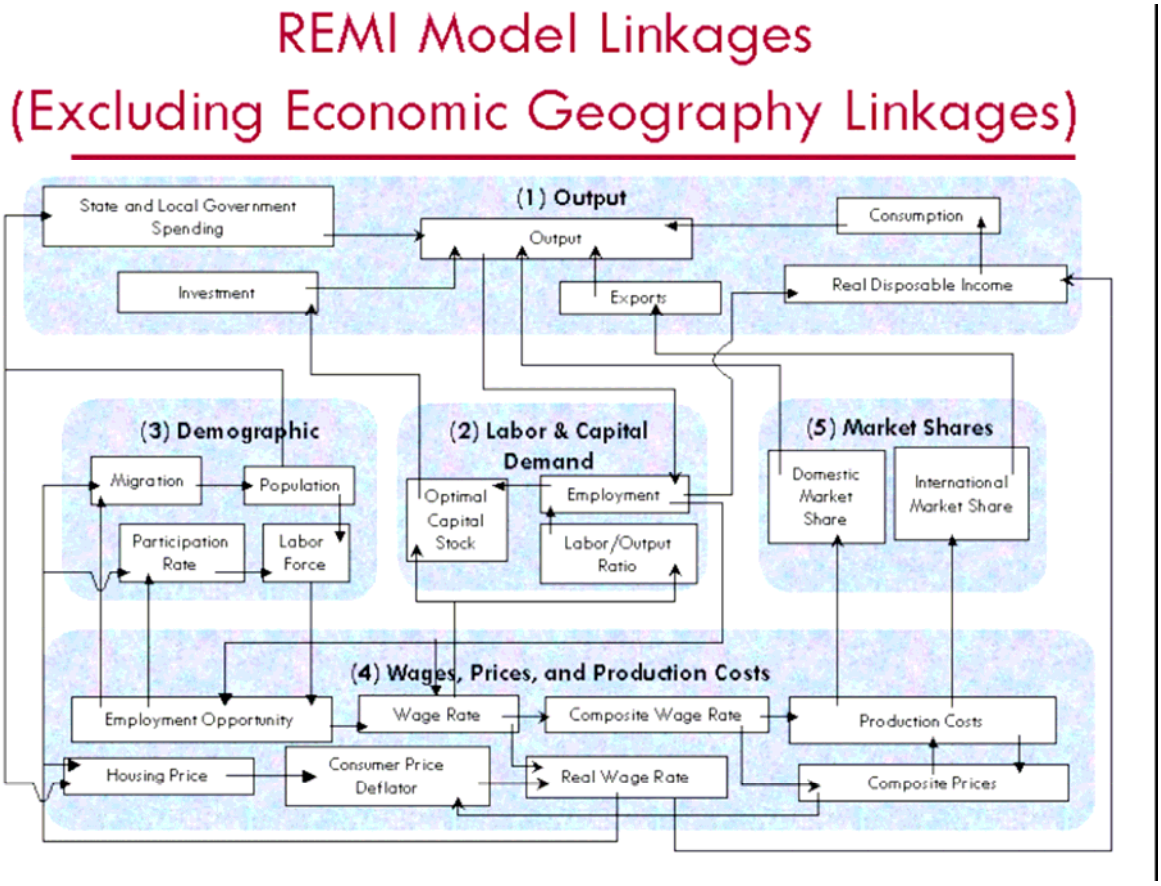
REMI Model Linkages
(Excluding Economic Geography Linkages)
(1) Output
State and Local Government Spending
Output
Consumption
Investment
Exports
Real Disposable Income
(3) Demographic
Migration
Population
Participation Rate
Labor Force
(2) Labor & Capital Demand
Optimal Capital Stock
Employment
Labor/Output Ratio
(5) Market Shares
Domestic Market Share
International Market Share
(4) Wages, Prices, and Production Costs
Employment Opportunity
Wage Rate
Composite Wage Rate
Production Costs
Housing Price
Consumer Price Deflator
Real Wage Rate
Composite Prices

Figure A1.3

Appendix 2: Connecticut Film and Video Tax Credit Legislation

Favorable tax credits have been essential in expanding film and video activity in a number of regions in the U.S. and around the world. According to the 2000 report, "Building New York's Visual Video for the Digital Age," location production is largely driven by cost considerations. Through an extensive interview process with prominent producers and video experts, the report estimates that government policies and incentives have an importance weighting of 10% in location selection.[153] To remain competitive, Connecticut has passed several legislative measures designed at attracting greater business in film and video industries.[154] This study predates Connecticut's 2006 30% production tax credit.

Sales Tax Exemption

In July 1997, Connecticut introduced a 6% sales and use tax exemption on the "sales of and the storage, use, rental, lease or other consumption of any motion picture or video production equipment or sound recording equipment purchased or leased for use in this state for production activities which become an ingredient or component part of any master tapes, records, video tapes or film produced for commercial entertainment, commercial advertising or commercial educational purposes" (General Statute §12-412 (44)).

Property Tax Exemption

In 2001, Connecticut passed a 5-year, 100% local property tax exemption for machinery and equipment used in the production of a motion picture and video and sound master recordings installed on or after October 2, 1996 (General Statutes §12-81(72)). The State of Connecticut reimburses municipalities for taxes they waive for the 'brick and mortar' facilities. These measures were introduced to enhance the competitiveness of in-state production companies and post-production groups by removing the burden of high property taxes when they buy new equipment or upgrade their facilities.

Hotel Tax Exemption

The Connecticut hotel tax is waived for production staff stays in excess of 30 days. While this may not help all producers, it is great for the episodic and reality series that are shot in Connecticut.

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[153] "Building New York's Visual Video Industry for the Digital Age," Boston Consulting Group, 2000, page 17. Other factors included cost of labor (24%), cost of space (14%), industry cluster (7%), script requirements (27%), and talent demands (18%).

[154] See the Film Division of Connecticut Commission on Cultural and Tourism for further information on state incentives at http://www.cultureandtourism.org/film.

Appendix 3: Film and Video Industry 'Below-the-Line' Employment

This table is reproduced from the Manitoba study and illustrates 'below-the-line' workers.

Estimated 8 Hour Days Worked by Production – Case Studies

Production	Indigenous Television Special	Indigenous Documentary	Co-Produced Series	Offshore Television Special
Part B			Tier B	.66 US exchange
CAST				
Casting Asst.			56	
Acting Coach			2	
Principal Actors	162	15	439	103
Supporting Cast				83
Extras/Background/ Stand-ins	2		549	192
Stunt Coordinator			75	45
Stunt Players			22	35
CREW				
Production				
Production Manager	108	75	112	101
Production Coordinator	58		127	67
Asst. Prod. Coordinator			128	49
Office PA	63		93	154
Asst. to Producer		60	157	
Production Asst.		45		
Continuity/Script Supervisor		37	91	75
Accounting				
Production Accountant	74	60	127	116
Asst. Accountant	55		120	96
2nd Asst. Accountant			120	82
Locations				
Location Manager			112	82
Asst. Location Manager			98	105
On Set Asst. Location Manager				54
Location PA	54		98	84
Daily Location PA	14			220

Estimated 8 Hour Days Worked by Production – Case Studies

Production	Indigenous Television Special	Indigenous Documentary	Co-Produced Series	Offshore Television Special
Assistant Directors				
Associate Director	76			
1st AD	59		195	97
2nd AD	52		97	59
3rd AD	45		90	53
Trainee AD			89	
Art Dept.				
Production Designer	67			74
Art Director			105	57
Asst. Art Director			112	
Art Dept. Coordinator				35
Graphic Artist				44
Storyboard Artist			8	
Draftsperson/ model builder	48		10	
Art Dept. Trainee			116	47
Special Effects				
SPFX Supervisor	49		32	28
SPFX Coordinator	53		31	
Camera				
DOP/Camera Operator	40	37	90	90
Camera Operator			83	88
1st Asst. Camera	29	30	82	94
2nd Asst. Camera	34		97	73
B Camera Oper.				83
B Camera Asst.				70
B Camera 2nd Asst.				58
Camera Trainee				38
Still Photographer	22	7	55	19
Video Asst.	20			

Estimated 8 Hour Days Worked by Production – Case Studies

Production	Indigenous Television Special	Indigenous Documentary	Co-Produced Series	Offshore Television Special
Construction				
Construction Coordinator	82		97	45
Head Carpenter	35		82	32
Asst. Carpenter				39
Scenic Carpenter			378	65
Carpenter	228			50
Construction Labour	58		205	41
Key Scenic Artist			84	
Paint Foreman				36
Scenic Artist	27			59
Painter	67			37
Painter's Asst.				3
Daily	37			
Set Dressing				
Set Decorator	38	7	135	81
Lead Dresser			216	77
Set Dresser	55		79	118
On Set Dresser				45
Set Buyer	12		79	64
On Set Dresser Trainee				
Daily	27			63
Greens Person	30			37
Head Wrangler			2	
Props				
Property Master	38		231	64
Asst. Props Master			112	80
Props Trainee	17			50
Electrical				
Gaffer	38	30	92	70
Best Boy Electric	38		89	62
Generator Operator			88	59
Electrics Crew	74		143	162
Rigging/Striking	7			
Daily			42	66

Estimated 8 Hour Days Worked by Production – Case Studies

Production	Indigenous Television Special	Indigenous Documentary	Co-Produced Series	Offshore Television Special
Grips				
Key Grip	33	22	103	67
Best Boy Grip			86	55
Dolly/Crane Grip	1			65
Grip	32		178	154
Grip Trainee	4			
Daily				39
Sound				
Mixer/Sound Recordist		15	85	66
Playback Operator	31			6
Boom Operator			81	50
Sound Trainee				57
Costume/ Wardrobe				
Costume Designer			156	105
Asst. Costume Designer		15	101	77
Costume Supervisor			85	
Truck Costume			99	
Set Supervisor	39			69
Wardrobe Asst.	14			68
Extras Coord.				81
Daily				5
Hair/Makeup				
Key Makeup	36		85	48
Asst. Makeup			30	34
Key Hair	35		81	48
Asst. Hair	5		33	50
Dailies				20
Catering				
Head Chef			75	46
Asst. Chef				40
First Aid/Craft Service				
Craft Service Key			109	70
Craft Service Tech.	26			73

Estimated 8 Hour Days Worked by Production – Case Studies

Production	Indigenous Television Special	Indigenous Documentary	Co-Produced Series	Offshore Television Special
Transportation				
Transport Coordinator			109	98
Driver Captain			110	82
Asst. Picture Vehicle Coord.				65
Honeywagon Driver			192	
Driver				474
Dailies			95	411
Security				
Security Crew			525	301
Total Days Worked	**2,349**	**455**	**8,390**	**7,179**
FTE	**9.4**	**1.82**	**33.56**	**28.71**
Deemed Positions	**1**	**n/a**	**6**	**7**
Trainees	**2**	**n/a**	**13**	**7**
Crew Number	**64**	**14**	**96**	**86**
Dailies	**23**	**n/a**	**68**	**106**

Appendix 4: The Entertainment and Video Industry Study

The report, entitled, "The Entertainment and Video Industry of Connecticut," used 1997 Economic Census data, among other sources, to characterize the size and strength of Connecticut's film and video industries. The report identified a number of industries to be included under the umbrella of film and video.[155] Thus, in the CERC/DECD study and the present work, sector 511 (publishing industries) does not appear. CCEA utilizes the newly released 2002 Economic Census data (which includes 2002 NAICS industry revisions) to provide a current analysis. The industries CERC/DECD considered and our revised list appear in Table A4-1.

The industries we retain from the original CERC/DECD grouping include motion picture and video recording, motion picture post-production, sound recording, motion picture equipment rental and leasing. Each of these industries remains at the core of the film and video industries for their direct involvement in the creation of film and video content, excluding the print publishing industries (sector 511 and subsectors under this major group).[156] However, CCEA makes several significant changes to the initial grouping of industries highlighted by the earlier study.

[155] The 2002 CERC/DECD report does not document its methodology or certain sources, making it difficult to accept or refute the study's choices in defining and representing the industries.
[156] It is possible there is overlap in commercial photography and graphic design services, but it is small.

Table A4-1: Film and Video Industry Definition

Original CERC/DECD Industries (NAICS 1997)	**CCEA Industries (NAICS 2002)**
Motion Picture and Video Production (51211)	Motion Picture and Video Production (51211)
Post-Production (51219)	Post-Production (51219)
Sound Recording Industries (5122)	Sound Recording Industries (5122)
Radio Broadcast (51311) Television Broadcast (51312)	Broadcasting, except Internet (*revised* 515) Includes Television Broadcasting and Cable and other Subscription Programming
Cable and Other Distribution (51322)	In 515
Satellite Broadcast and Uplink (51334)	In 515
	Internet Broadcasting (*newly created* 516)
Other Commercial and Industrial Machinery and Equipment Rental and Leasing, includes Motion Picture Rental/Sales (53249)	Other Commercial and Industrial Machinery and Equipment Rental and Leasing, includes Motion Picture Rental/Sales (53249)
Graphic Design Services, except commercial art and medical art (54143)	Included in Connecticut 'arts' industries
Advertising Agencies, video related (54181)	Not Included
Public Relations Agencies (54182)	Not Included
Video Buying Agencies (54183)	Not Included
Video Representatives (54184)	Not Included
Photographic Services (54192) Includes Commercial and Portrait Photography	Not Included
Musical Groups and Artists (71113)	Included in Connecticut 'arts' industries
Independent Artists, Writers, and Performers (7115)	Included in Connecticut 'arts' industries
'In-House' Corporate Production (no NAICS)	CCEA-defined embedded film and video workers

Appendix 5: SOC Occupational Definitions: Arts, History, Film and Video[157]

We omit the highlighted occupation (27-1021, Commercial and Industrial Designers) from the arts industries because we believe it is not related according to our characterization of arts occupations. Although we would include them, there are no 39-5091, Makeup Artists, Theatrical and Performance in the OES for Connecticut.

13-1010 Agents and Business Managers of Artists, Performers, and Athletes
This broad occupation is the same as the detailed occupation: 13-1011 Agents and Business Managers of Artists, Performers, and Athletes. Business Operations Specialists (minor group). Business and Financial Operations Occupations (major group).
25-1121 Art, Drama, and Music Teachers, Postsecondary
Teach courses in drama, music, and the arts including fine and applied art, such as painting and sculpture, or design and crafts. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-4011 Archivists
Appraise, edit, and direct safekeeping of permanent records and historically valuable documents. Participate in research activities based on archival materials. Archivists, Curators, and Museum Technicians (broad occupation). Librarians, Curators, and Archivists (minor group).

25-4012 Curators
Administer affairs of museum and conduct research programs. Direct instructional, research, and public service activities of institution. Archivists, Curators, and Museum Technicians (broad occupation). Librarians, Curators, and Archivists (minor group). Education, Training, and Library Occupations.

25-4013 Museum Technicians and Conservators
Prepare specimens, such as fossils, skeletal parts, lace, and textiles, for museum collection and exhibits. May restore documents or install, arrange, and exhibit materials. Archivists, Curators, and Museum Technicians. Librarians, Curators, and Archivists (minor group).

25-4021 Librarians
Administer libraries and perform related library services. Work in a variety of settings, including public libraries, schools, colleges and universities, museums, corporations, government agencies, law firms, non-profit organizations, and healthcare providers. Tasks may include selecting, acquiring,

[157] Available at http://stats.bls.gov/soc/socguide.htm

25-4031 Library Technicians
Assist librarians by helping readers in the use of library catalogs, databases, and indexes to locate books and other materials; and by answering questions that require only brief consultation of standard reference. Compile records; sort and shelve books; remove or repair damaged books; register patrons; check materials in and out of the circulation process. Replace materials in shelving area (stacks) or files. Include bookmobile drivers who operate bookmobiles or light trucks that pull trailers to specific locations on a predetermined schedule and assist with providing services in mobile libraries.

27-1011 Art Directors
Formulate design concepts and presentation approaches, and direct workers engaged in art work, layout design, and copy writing for visual communications video, such as magazines, books, newspapers, and packaging. Artists and Related Workers (broad occupation). (minor group).

27-1012 Craft Artists
Create or reproduce hand-made objects for sale and exhibition using a variety of techniques, such as welding, weaving, pottery, and needlecraft. Artists and Related Workers (broad occupation). Art and Design Workers (minor group). Arts, Design, Entertainment, Sports, and Video Occupations (major group).

27-1014 Multi-media Artists and Animators
Create special effects, animation, or other visual images using film, video, computers, or other electronic tools and video for use in products or creations, such as computer games, movies, music videos, and commercials. Artists and Related Workers (minor group).

27-1021 Commercial and Industrial Designers
Develop and design manufactured products, such as cars, home appliances, and children's toys. Combine artistic talent with research on product use, marketing, and materials to create the most functional and appealing product design. Designers (minor group).

27-1022 Fashion Designers
Design clothing and accessories. Create original garments or design garments that follow well established fashion trends. May develop the line of color and kinds of materials. Designers (broad occupation). Art and Design Workers. Arts, Design, Entertainment, Sports, and Video Occupations.

27-1024 Graphic Designers
Design or create graphics to meet a client's specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects. Designers (broad occupation). Arts, Design, Entertainment, Sports, and Video Occupations.

27-1025 Interior Designers
Plan, design, and furnish interiors of residential, commercial, or industrial buildings. Formulate design which is practical, aesthetic, and conducive to intended purposes, such

as raising productivity, selling merchandise, or improving life style. May specialize in a particular field, style, or phase of interior design. Excludes "Merchandise Displayers and Window Trimmers (27-1026)."

27-1026 Merchandise Displayers and Window Trimmers
Plan and erect commercial displays, such as those in windows and interiors of retail stores and at trade exhibitions. Designers (broad occupation). Art and Design Workers (minor group). Arts, Design, Entertainment, Sports, and Video Occupations (major group).

27-1027 Set and Exhibit Designers
Design special exhibits and movie, television, and theater sets. May study scripts, confer with directors, and conduct research to determine appropriate architectural styles. Designers (broad occupation). Arts, Design, Entertainment, Sports, and Video Occupations (major group).

27-2011 Actors
Play parts in stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Interpret serious or comic role by speech, gesture, and body movement to entertain or inform audience. May dance and sing. Actors, Producers, and Directors (broad occupation).

27-2012 Producers and Directors
Produce or direct stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Responsible for creative decisions, such as interpretation of script, choice of guests, set design, sound, special effects. Actors, Producers, and Directors.

27-2031 Dancers
Perform dances. May also sing or act. Dancers and Choreographers (broad occupation). Entertainers and Performers, Sports and Related Workers. minor group). Arts, Design, Entertainment, Sports, and Video Occupations. major group).

27-2032 Choreographers
Create and teach dance. May direct and stage presentations. Dancers and Choreographers (broad occupation). Entertainers and Performers, Sports and Related Workers (minor group). Arts, Design, Entertainment, Sports, and Video Occupations (major group).

27-2041 Music Directors and Composers
Conduct, direct, plan, and lead instrumental or vocal performances by musical groups, such as orchestras, choirs, and glee clubs. Includes arrangers, composers, choral directors, and orchestrators. Musicians, Singers, and Related Workers (broad occupation).

27-2042 Musicians and Singers

Play one or more musical instruments or entertain by singing songs in recital, in accompaniment, or as a member of an orchestra, band, or other musical group. Musical performers may entertain on-stage, radio, TV, film, video, or record in studios. Excludes "Dancers" (27-2031).

27-3041 Editors
Perform variety of editorial duties, such as laying out, indexing, and revising content of written materials, in preparation for final publication. Include technical editors. Writers and Editors (broad occupation). Video and Communication Workers (minor group).

27-3043 Writers and Authors
Originate and prepare written material, such as scripts, stories, advertisements, and other material. Excludes "Public Relations Specialists" (27-3031) and "Technical Writers" (27-3042). Writers and Editors (broad occupation). Video and Communication Workers (minor group).

27-3091 Interpreters and Translators
Translate or interpret written, oral, or sign language text into another language for others.

27-3099 Media and Communication workers, all other
All media and communication workers not listed separately.

27-4011 Audio and Video Equipment Technicians
Set up or set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. May also set up and operate associated spotlights and other custom lighting systems. Exclude "Sound Engineering Technicians" (27-4014).

27-4012 Broadcast Technicians
Set up, operate, and maintain the electronic equipment used to transmit radio and television programs. Control audio equipment to regulate volume level and quality of sound during radio and television broadcasts. Operate radio transmitter to broadcast radio and television programs.

27-4014 Sound Engineering Technicians
Operate machines and equipment to record, synchronize, mix, or reproduce music, voices, or sound effects in sporting arenas, theater productions, recording studios, or movie and video productions.

27-4031 TV, video and motion picture camera operators and editors
Operate television, video, or motion picture camera to photograph images or scenes for various purposes, such as TV broadcasts, advertising, video production, or motion pictures.

27-4099 Miscellaneous Media and Communication Equipment workers
All media and communication equipment workers not listed separately.

39-5091 Makeup Artists, Theatrical and Performance
Apply makeup to performers to reflect period, setting, and situation of their role. Miscellaneous Personal Appearance Workers (broad occupation). Personal Appearance Workers (minor group). Personal Care and Service Occupations.

51-5011 Bindery Workers
Set up or operate binding machines that produce books and other printed materials. Include hand bindery workers. Excludes "Bookbinders" (51-5012). Bookbinders and Bindery Workers (broad occupation). Printing Workers (minor group). Production Occupations.

51-5012 Bookbinders
Perform highly skilled hand finishing operations, such as grooving and lettering to bind books. Bookbinders and Bindery Workers (broad occupation). Printing Workers (minor group). Production Occupations (major group).

51-9123 Painting, Coating, and Decorating Workers
Paint, coat, or decorate articles, such as furniture, glass, plateware, pottery, jewelry, cakes, toys, books, or leather. Excludes "Artists and Related Workers" (27-1011 through 27-1019) "Designers" (27-1021 through 27-1029) "Photographic Process Work."

Appendix 6: NAICS Industry Definitions[158]

Arts occupations appear in parentheses in order of decreasing prevalence in each industry.

221 Utilities (Graphic designers, Designers, all other)

Industries in the Utilities subsector provide electric power, natural gas, steam supply, water supply, and sewage removal through a permanent infrastructure of lines, mains, and pipes. Establishments are grouped together based on the utility service provided and the particular system or facilities required to perform the service.

238 Specialty Trade Contractors (Interior designers, Designers, all other)

The Specialty Trade Contractors subsector comprises establishments whose primary activity is performing specific activities (e.g., pouring concrete, site preparation, plumbing, painting, and electrical work) involved in building construction or other activities that are similar for all types of construction but that are not responsible for the entire project. The work performed may include new work, additions, alterations, maintenance, and repairs. The production work performed by establishments in this subsector is usually subcontracted from establishments of the general contractor type or operative builders but, especially in remodeling and repair construction, work also may be done directly for the owner of the property. Specialty trade contractors usually perform most of their work at the construction site, although they may have shops where they perform prefabrication and other work. Establishments primarily engaged in preparing sites for new construction are also included in this subsector.

There are substantial differences in types of equipment, work force skills, and other inputs required by specialty trade contractors. Establishments in this subsector are classified based on the underlying production function for the specialty trade in which they specialize. Throughout the Specialty Trade Contractors subsector, establishments commonly provide both the parts and labor required to complete work. For example, electrical contractors supply the current-carrying and noncurrent-carrying wiring devices that are required to install a circuit. Plumbing, Heating and Air-Conditioning contractors also supply the parts required to complete a contract.

Establishments that specialize in activities primarily related to heavy and civil engineering construction that are not normally performed on buildings, such as the painting of lines on highways are classified in Subsector 237, Heavy and Civil Engineering Construction.

Establishments that are primarily engaged in selling construction materials are classified in Sector 42, Wholesale Trade, or Sector 44-45, Retail Trade, based on the characteristics of the selling unit.

[158] Available at http://www.census.gov/epcd/naics02/naicod02.htm

311 Food Manufacturing (Graphic designers)

Industries in the Food Manufacturing subsector transform livestock and agricultural products into products for intermediate or final consumption. The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) processed into food products.

The food products manufactured in these establishments are typically sold to wholesalers or retailers for distribution to consumers, but establishments primarily engaged in retailing bakery and candy products made on the premises not for imvideote consumption are included.

Establishments primarily engaged in manufacturing beverages are classified in Subsector 312, Beverage and Tobacco Product Manufacturing.

313 Textile Mills (Fashion designers, Graphic designers)

Industries in the Textile Mills subsector group establishments that transform a basic fiber (natural or synthetic) into a product, such as yarn or fabric that is further manufactured into usable items, such as apparel, sheets towels, and textile bags for individual or industrial consumption. Further manufacturing may be performed in the same establishment and classified in this subsector, or it may be performed at a separate establishment and be classified elsewhere in manufacturing.

The main processes in this subsector include preparation and spinning of fiber, knitting or weaving of fabric, and the finishing of the textile. The NAICS structure follows and captures this process flow. Major industries in this flow, such as preparation of fibers, weaving of fabric, knitting of fabric, and fiber and fabric finishing, are uniquely identified. Texturizing, throwing, twisting, and winding of yarn contain aspects of both fiber preparation and fiber finishing and is classified with preparation of fibers rather than with finishing of fiber.

NAICS separates the manufacturing of primary textiles and the manufacturing of textile products (except apparel) when the textile product is produced from purchased primary textiles, such as fabric. The manufacture of textile products (except apparel) from purchased fabric is classified in Subsector 314, Textile Product Mills, and apparel from purchased fabric is classified in Subsector 315, Apparel Manufacturing.

Excluded from this subsector are establishments that weave or knit fabric and make garments. These establishments are included in Subsector 315, Apparel Manufacturing.

314 Textile Product Mills (Interior designers)

Industries in the Textile Product Mills subsector group establishments that make textile products (except apparel). With a few exceptions, processes used in these industries are

generally cut and sew (i.e., purchasing fabric and cutting and sewing to make non-apparel textile products, such as sheets and towels).

315 Apparel Manufacturing (Fashion designers, Graphic designers)

Industries in the Apparel Manufacturing subsector group establishments with two distinct manufacturing processes: (1) cut and sew (i.e., purchasing fabric and cutting and sewing to make a garment), and (2) the manufacture of garments in establishments that first knit fabric and then cut and sew the fabric into a garment. The Apparel Manufacturing subsector includes a diverse range of establishments manufacturing full lines of ready-to-wear apparel and custom apparel: apparel contractors, performing cutting or sewing operations on materials owned by others; jobbers performing entrepreneurial functions involved in apparel manufacture; and tailors, manufacturing custom garments for individual clients are all included. Knitting, when done alone, is classified in the Textile Mills subsector, but when knitting is combined with the production of complete garments, the activity is classified in Apparel Manufacturing.

316 Leather and Allied Product Manufacturing (Fashion designers)

Establishments in the Leather and Allied Product Manufacturing subsector transform hides into leather by tanning or curing and fabricating the leather into products for final consumption. It also includes the manufacture of similar products from other materials, including products (except apparel) made from "leather substitutes," such as rubber, plastics, or textiles. Rubber footwear, textile luggage, and plastics purses or wallets are examples of "leather substitute" products included in this group. The products made from leather substitutes are included in this subsector because they are made in similar ways leather products are made (e.g., luggage). They are made in the same establishments, so it is not practical to separate them.

The inclusion of leather making in this subsector is partly because leather tanning is a relatively small industry that has few close neighbors as a production process, partly because leather is an input to some of the other products classified in this subsector and partly for historical reasons.

322 Paper Manufacturing (Graphic designers, Merchandise displayers and window trimmers, Designers, all other)

Industries in the Paper Manufacturing subsector make pulp, paper, or converted paper products. The manufacture of these products is grouped together because they constitute a series of vertically connected processes. More than one is often carried out in a single establishment. There are essentially three activities. The manufacture of pulp involves separating the cellulose fibers from other impurities in wood or used paper. The manufacturing of paper involves matting these fibers into a sheet. Converted paper products are made from paper and other materials by various cutting and shaping techniques and include coating and laminating activities.

The Paper Manufacturing subsector is subdivided into two industry groups, the first for the manufacturing of pulp and paper and the second for the manufacturing of converted paper products. Papermaking is treated as the core activity of the subsector. Therefore, any establishment that makes paper (including paperboard), either alone or in combination with pulp manufacturing or paper converting, is classified as a paper or paperboard mill. Establishments that make pulp without making paper are classified as pulp mills. Pulp mills, paper mills and paperboard mills comprise the first industry group.

Establishments that make products from purchased paper and other materials make up the second industry group, Converted Paper Product Manufacturing. This general activity is then subdivided based, for the most part, on process distinctions. Paperboard container manufacturing uses corrugating, cutting, and shaping machinery to form paperboard into containers. Paper bag and coated and treated paper manufacturing establishments cut and coat paper and foil. Stationery product manufacturing establishments make a variety of paper products used for writing, filing, and similar applications. Other converted paper product manufacturing includes, in particular, the conversion of sanitary paper stock into such things as tissue paper and disposable diapers.

An important process used in the Paper Bag and Coated and Treated Paper Manufacturing industry is lamination, often combined with coating. Lamination and coating makes a composite material with improved properties of strength, impermeability, and so on. Laminated materials may be paper, metal foil, or plastics film. While paper is often one of the components, it is not always. Lamination of plastics film to plastics film is classified in the NAICS Subsector 326, Plastics and Rubber Products Manufacturing, because establishments that do this often first make the film. The same situation holds with respect to bags. The manufacturing of bags from plastics only, whether or not laminated, is classified in Subsector 326, Plastics and Rubber Products Manufacturing, but all other bag manufacturing is classified in this subsector.

Excluded from this subsector are photosensitive papers. These papers are chemically treated and are classified in Industry 32599, All Other Chemical Product and Preparation Manufacturing.

323 Printing and Related Support Activities (Art directors, Graphic designers, Bindery workers, Bookbinders)

Industries in the Printing and Related Support Activities subsector print products, such as newspapers, books, labels, business cards, stationery, business forms, and other materials, and perform support activities, such as data imaging, platemaking services, and bookbinding. Support activities included here are an integral part of the printing industry, and a product (a printing plate, a bound book, or a computer disk or file) that is an integral part of the printing industry is almost always provided by these operations.

Processes used in printing include a variety of methods used to transfer an image from a plate, screen, film, or computer file to some medium, such as paper, plastics, metal,

textile articles, or wood. The most prominent of these methods is to transfer the image from a plate or screen to the medium (lithographic, gravure, screen, and flexographic printing). A rapidly growing new technology uses a computer file to directly "drive" the printing mechanism to create the image and new electrostatic and other types of equipment (digital or non-impact printing).

In contrast to many other classification systems that locate publishing of printed materials in manufacturing, NAICS classifies the publishing of printed products in Subsector 511, Publishing Industries (except Internet). Though printing and publishing are often carried out by the same enterprise (a newspaper, for example), it is less and less the case that these distinct activities are carried out in the same establishment. When publishing and printing are done in the same establishment, the establishment is classified in Sector 51, Information, in the appropriate NAICS industry even if the receipts for printing exceed those for publishing.

This subsector includes printing on clothing because the production process for that activity is printing, not clothing manufacturing. For instance, the printing of T-shirts is included in this subsector. In contrast, printing on fabric (or grey goods) is not included. This activity is part of the process of finishing the fabric and is included in the NAICS Textile Mills subsector in Industry 31331, Textile and Fabric Finishing Mills.

325 Chemical Manufacturing (Graphic designers, Art directors, Librarians, Archivists)

The Chemical Manufacturing subsector is based on the transformation of organic and inorganic raw materials by a chemical process and the formulation of products. This subsector distinguishes the production of basic chemicals that comprise the first industry group from the production of intermediate and end products produced by further processing of basic chemicals that make up the remaining industry groups.

This subsector does not include all industries transforming raw materials by a chemical process. It is common for some chemical processing to occur during mining operations. These beneficiating operations, such as copper concentrating, are classified in Sector 21, Mining. Furthermore, the refining of crude petroleum is included in Subsector 324, Petroleum and Coal Products Manufacturing. In addition, the manufacturing of aluminum oxide is included in Subsector 331, Primary Metal Manufacturing; and beverage distilleries are classified in Subsector 312, Beverage and Tobacco Product Manufacturing. As in the case of these two activities, the grouping of industries into subsectors may take into account the association of the activities performed with other activities in the subsector.

326 Plastics and Rubber Products Manufacturing (Graphic designers)

Industries in the Plastics and Rubber Products Manufacturing subsector make goods by processing plastics materials and raw rubber. The core technology employed by establishments in this subsector is that of plastics or rubber product production. Plastics

and rubber are combined in the same subsector because plastics are increasingly being used as a substitute for rubber; however the subsector is generally restricted to the production of products made of just one material, either solely plastics or rubber.

Many manufacturing activities use plastics or rubber, for example the manufacture of footwear, or furniture. Typically, the production process of these products involves more than one material. In these cases, technologies that allow disparate materials to be formed and combined are of central importance in describing the manufacturing activity. In NAICS, such activities (the footwear and furniture manufacturing) are not classified in the Plastics and Rubber Products Manufacturing subsector because the core technologies for these activities are diverse and involve multiple materials.

Within the Plastics and Rubber Products Manufacturing subsector, a distinction is made between plastics and rubber products at the industry group level, although it is not a rigid distinction, as can be seen from the definition of Industry 32622, Rubber and Plastics Hoses and Belting Manufacturing. As materials technology progresses, plastics are increasingly being used as a substitute for rubber; and eventually, the distinction may disappear as a basis for establishment classification.

In keeping with the core technology focus of plastics, lamination of plastics film to plastics film as well as the production of bags from plastics only is classified in this subsector. Lamination and bag production involving plastics and materials other than plastics are classified in the NAICS Subsector 322, Paper Manufacturing.

327 Nonmetallic Mineral Product Manufacturing (Fine artists, including painters, sculptors, and illustrators)

The Nonmetallic Mineral Product Manufacturing subsector transforms mined or quarried nonmetallic minerals, such as sand, gravel, stone, clay, and refractory materials, into products for intermediate or final consumption. Processes used include grinding, mixing, cutting, shaping, and honing. Heat often is used in the process and chemicals are frequently mixed to change the composition, purity, and chemical properties for the intended product. For example, glass is produced by heating silica sand to the melting point (sometimes combined with cullet or recycled glass) and then drawn, floated, or blow molded to the desired shape or thickness. Refractory materials are heated and then formed into bricks or other shapes for use in industrial applications. The Nonmetallic Mineral Product Manufacturing subsector includes establishments that manufacture products, such as bricks, refractories, ceramic products, and glass and glass products, such as plate glass and containers. Also included are cement and concrete products, lime, gypsum and other nonmetallic mineral products including abrasive products, ceramic plumbing fixtures, statuary, cut stone products, and mineral wool. The products are used in a wide range of activities from construction and heavy and light manufacturing to articles for personal use.

Mining, beneficiating, and manufacturing activities often occur in a single location. Separate receipts will be collected for these activities whenever possible. When receipts

cannot be broken out between mining and manufacturing, establishments that mine or quarry nonmetallic minerals, beneficiate the nonmetallic minerals and further process the nonmetallic minerals into a more finished manufactured product are classified based on the primary activity of the establishment. A mine that manufactures a small amount of finished products will be classified in Sector 21, Mining. An establishment that mines whose primary output is a more-finished manufactured product will be classified in the Manufacturing Sector.

Excluded from the Nonmetallic Mineral Product Manufacturing subsector are establishments that primarily beneficiate mined nonmetallic minerals. Beneficiation is the process whereby the extracted material is reduced to particles that can be separated into mineral and waste, the former suitable for further processing or direct use. Beneficiation establishments are included in Sector 21, Mining.

333 Machinery Manufacturing (Graphic designers, Designers, all other)

Industries in the Machinery Manufacturing subsector create end products that apply mechanical force, for example, the application of gears and levers, to perform work. Some important processes for the manufacture of machinery are forging, stamping, bending, forming, and machining that are used to shape individual pieces of metal. Processes, such as welding and assembling are used to join separate parts together. Although these processes are similar to those used in metal fabricating establishments, machinery manufacturing is different because it typically employs multiple metal forming processes in manufacturing the various parts of the machine. Moreover, complex assembly operations are an inherent part of the production process.

In general, design considerations are very important in machinery production. Establishments specialize in making machinery designed for particular applications. Thus, design is considered to be part of the production process for the purpose of implementing NAICS. The NAICS structure reflects this by defining industries and industry groups that make machinery for different applications. A broad distinction exists between machinery that is generally used in a variety of industrial applications (i.e., general purpose machinery) and machinery that is designed to be used in a particular industry (i.e., special purpose machinery). Three industry groups consist of special purpose machinery--Agricultural, Construction, and Mining Machinery Manufacturing; Industrial Machinery Manufacturing; and Commercial and Service Industry Machinery Manufacturing. The other industry groups make general-purpose machinery: Ventilation, Heating, Air Conditioning, and Commercial Refrigeration Equipment Manufacturing; Metalworking Machinery Manufacturing; Engine, Turbine, and Power Transmission Equipment Manufacturing; and Other General Purpose Machinery Manufacturing.

334 Computer and Electronic Product Manufacturing (Graphic designers, Artists and related workers, all other, Art directors, Archivists)

Industries in the Computer and Electronic Product Manufacturing subsector group establishments that manufacture computers, computer peripherals, communications

equipment, and similar electronic products, and establishments that manufacture components for such products. The Computer and Electronic Product Manufacturing industries have been combined in the hierarchy of NAICS because of the economic significance they have attained. Their rapid growth suggests that they will become even more important to the economies of all three North American countries in the future, and in addition their manufacturing processes are fundamentally different from the manufacturing processes of other machinery and equipment. The design and use of integrated circuits and the application of highly specialized miniaturization technologies are common elements in the production technologies of the computer and electronic subsector. Convergence of technology motivates this NAICS subsector. Digitalization of sound recording, for example, causes both the medium (the compact disc) and the equipment to resemble the technologies for recording, storing, transmitting, and manipulating data. Communications technology and equipment have been converging with computer technology. When technologically-related components are in the same sector, it makes it easier to adjust the classification for future changes, without needing to redefine its basic structure. The creation of the Computer and Electronic Product Manufacturing subsector will assist in delineating new and emerging industries because the activities that will serve as the probable sources of new industries, such as computer manufacturing and communications equipment manufacturing, or computers and audio equipment, are brought together. As new activities emerge, they are less likely therefore, to cross the subsector boundaries of the classification.

335 Electrical Equipment, Appliance, and Component Manufacturing

(Graphic designers)

Industries in the Electrical Equipment, Appliance, and Component Manufacturing subsector manufacture products that generate, distribute and use electrical power. Electric Lighting Equipment Manufacturing establishments produce electric lamp bulbs, lighting fixtures, and parts. Household Appliance Manufacturing establishments make both small and major electrical appliances and parts. Electrical Equipment Manufacturing establishments make goods, such as electric motors, generators, transformers, and switchgear apparatus. Other Electrical Equipment and Component Manufacturing establishments make devices for storing electrical power (e.g., batteries), for transmitting electricity (e.g., insulated wire), and wiring devices (e.g., electrical outlets, fuse boxes, and light switches).

336 Transportation Equipment Manufacturing (Artists and related workers, all other, Graphic designers, Set and exhibit designers, Designers, all other)

Industries in the Transportation Equipment Manufacturing subsector produce equipment for transporting people and goods. Transportation equipment is a type of machinery. An entire subsector is devoted to this activity because of the significance of its economic size in all three North American countries.

Establishments in this subsector utilize production processes similar to those of other machinery manufacturing establishments - bending, forming, welding, machining, and

assembling metal or plastic parts into components and finished products. However, the assembly of components and subassemblies and their further assembly into finished vehicles tends to be a more common production process in this subsector than in the Machinery Manufacturing subsector.

NAICS has industry groups for the manufacture of equipment for each mode of transport - road, rail, air and water. Parts for motor vehicles warrant a separate industry group because of their importance and because parts manufacture requires less assembly, and the establishments that manufacture only parts are not as vertically integrated as those that make complete vehicles.

Land use motor vehicle equipment not designed for highway operation (e.g., agricultural equipment, construction equipment, and materials handling equipment) is classified in the appropriate NAICS subsector based on the type and use of the equipment.

337 Furniture and Related Product Manufacturing (Graphic designers, Interior designers, Set and exhibit designers)

Industries in the Furniture and Related Product Manufacturing subsector make furniture and related articles, such as mattresses, window blinds, cabinets, and fixtures. The processes used in the manufacture of furniture include the cutting, bending, molding, laminating, and assembly of such materials as wood, metal, glass, plastics, and rattan. However, the production process for furniture is not solely bending metal, cutting and shaping wood, or extruding and molding plastics. Design and fashion trends play an important part in the production of furniture. The integrated design of the article for both esthetic and functional qualities is also a major part of the process of manufacturing furniture. Design services may be performed by the furniture establishment's work force or may be purchased from industrial designers.

Furniture may be made of any material, but the most common ones used in North America are metal and wood. Furniture manufacturing establishments may specialize in making articles primarily from one material. Some of the equipment required to make a wooden table, for example, is different from that used to make a metal one. However, furniture is usually made from several materials. A wooden table might have metal brackets, and a wooden chair a fabric or plastics seat. Therefore, in NAICS, furniture initially is classified based on the type of furniture (application for which it is designed) rather than the material used. For example, an upholstered sofa is treated as household furniture, although it may also be used in hotels or offices.

When classifying furniture according to the component material from which it is made, furniture made from more than one material is classified based on the material used in the frame, or if there is no frame, the predominant component material. Upholstered household furniture (excluding kitchen and dining room chairs with upholstered seats) is classified without regard to the frame material. Kitchen or dining room chairs with upholstered seats are classified according to the frame material.

Furniture may be made on a stock or custom basis and may be shipped assembled or unassembled (i.e., knockdown). The manufacture of furniture parts and frames is included in this subsector.

Some of the processes used in furniture manufacturing are similar to processes that are used in other segments of manufacturing. For example, cutting and assembly occurs in the production of wood trusses that are classified in Subsector 321, Wood Product Manufacturing. However, the multiple processes that distinguish wood furniture manufacturing from wood product manufacturing warrant inclusion of wooden furniture manufacturing in the Furniture and Related Product Manufacturing subsector. Metal furniture manufacturing uses techniques that are also employed in the manufacturing of roll-formed products classified in Subsector 332, Fabricated Metal Product Manufacturing. The molding process for plastics furniture is similar to the molding of other plastics products. However, plastics furniture producing establishments tend to specialize in furniture.

NAICS attempts to keep furniture manufacturing together, but there are two notable exceptions: seating for transportation equipment and laboratory and hospital furniture. These exceptions are related to that fact that some of the aspects of the production process for these products, primarily the design, are highly integrated with that of other manufactured goods, namely motor vehicles and health equipment.

339 Miscellaneous Manufacturing (Graphic designers, Archivists, Artists and related workers, all other, Bindery workers)

Industries in the Miscellaneous Manufacturing subsector make a wide range of products that cannot readily be classified in specific NAICS subsectors in manufacturing. Processes used by these establishments vary significantly, both among and within industries. For example, a variety of manufacturing processes are used in manufacturing sporting and athletic goods that include products, such as tennis racquets and golf balls. The processes for these products differ from each other, and the processes differ significantly from the fabrication processes used in making dolls or toys, the melting and shaping of precious metals to make jewelry, and the bending, forming, and assembly used in making medical products.

The industries in this subsector are defined by what is made rather than how it is made. Although individual establishments might be appropriately classified elsewhere in the NAICS structure, for historical continuity, these product-based industries were maintained. In most cases, no one process or material predominates for an industry.

Establishments in this subsector manufacture products as diverse as medical equipment and supplies, jewelry, sporting goods, toys, and office supplies.

423 Merchant Wholesalers, Durable Goods (Graphic designers, Interior designers, Designers, all other, Art directors, Writers and authors)

Industries in the Merchant Wholesalers, Durable Goods subsector sell capital or durable goods to other businesses. Merchant wholesalers generally take title to the goods that they sell; in other words, they buy and sell goods on their own account. Durable goods are new or used items generally with a normal life expectancy of three years or more. Durable goods merchant wholesale trade establishments are engaged in wholesaling products, such as motor vehicles, furniture, construction materials, machinery and equipment (including household-type appliances), metals and minerals (except petroleum), sporting goods, toys and hobby goods, recyclable materials, and parts.

Business-to-business electronic markets, agents, and brokers primarily engaged in wholesaling durable goods, generally on a commission or fee basis, are classified in Subsector 425, Wholesale Electronic Markets and Agents and Brokers.

424 Merchant Wholesalers, Nondurable Goods (Graphic designers, Merchandise displayers and window trimmers, Interior designers, Artists and related workers, all other, Art directors, Fashion designers, Writers and authors)

Industries in the Merchant Wholesalers, Nondurable Goods subsector sell nondurable goods to other businesses. Nondurable goods are items generally with a normal life expectancy of less than three years. Nondurable goods merchant wholesale trade establishments are engaged in wholesaling products, such as paper and paper products, chemicals and chemical products, drugs, textiles and textile products, apparel, footwear, groceries, farm products, petroleum and petroleum products, alcoholic beverages, books, magazines, newspapers, flowers and nursery stock, and tobacco products.

The detailed industries within the subsector are organized in the classification structure based on the products sold.

Business to business electronic markets, agents, and brokers primarily engaged in wholesaling nondurable goods, generally on a commission or fee basis, are classified in Subsector 425, Wholesale Electronic Markets and Agents and Brokers.

425 Wholesale Electronic Markets and Agents and Brokers (Graphic designers, Fashion designers)

Industries in the Wholesale Electronic Markets and Agents and Brokers subsector arrange for the sale of goods owned by others, generally on a fee or commission basis. They act on behalf of the buyers and sellers of goods. This subsector contains agents and brokers as well as business-to-business electronic markets that facilitate wholesale trade.

442 Furniture and Home Furnishings Stores (Merchandise displayers and window trimmers, Interior designers)

Industries in the Furniture and Home Furnishings Stores subsector retail new furniture and home furnishings from fixed point-of-sale locations. Establishments in this subsector usually operate from showrooms and have substantial areas for the presentation of their products. Many offer interior decorating services in addition to the sale of products.

443 Electronics and Appliance Stores (Merchandise displayers and window trimmers, Writers and authors)

Industries in the Electronics and Appliance Stores subsector retail new electronics and appliances from point-of-sale locations. Establishments in this subsector often operate from locations that have special provisions for floor displays requiring special electrical capacity to accommodate the proper demonstration of the products. The staff includes sales personnel knowledgeable in the characteristics and warranties of the line of goods retailed and may also include trained repairpersons to handle the maintenance and repair of the electronic equipment and appliances. The classifications within this subsector are made principally on the type of product and knowledge required to operate each type of store.

444 Building Material and Garden Equipment and Supplies Dealers (Floral designers, Interior designers, Merchandise displayers and window trimmers)

Industries in the Building Material and Garden Equipment and Supplies Dealers subsector retail new building material and garden equipment and supplies from fixed point-of-sale locations. Establishments in this subsector have display equipment designed to handle lumber and related products and garden equipment and supplies that may be kept either indoors or outdoors under covered areas. The staff is usually knowledgeable in the use of the specific products being retailed in the construction, repair, and maintenance of the home and associated grounds.

445 Food and Beverage Stores (Floral designers, Graphic designers, Merchandise displayers and window trimmers)

Industries in the Food and Beverage Stores subsector usually retail food and beverages merchandise from fixed point-of-sale locations. Establishments in this subsector have special equipment (e.g., freezers, refrigerated display cases, refrigerators) for displaying food and beverage goods. They have staff trained in the processing of food products to guarantee the proper storage and sanitary conditions required by regulatory authority.

448 Clothing and Clothing Accessories Stores (Merchandise displayers and window trimmers, Musicians and singers, Graphic designers)

Industries in the Clothing and Clothing Accessories Stores subsector retailing new clothing and clothing accessories merchandise from fixed point-of-sale locations. Establishments in this subsector have similar display equipment and staff that is knowledgeable regarding fashion trends and the proper match of styles, colors, and combinations of clothing and accessories to the characteristics and tastes of the customer.

451 Sporting Goods, Hobby, Book, and Music Stores (Designers, all other, Merchandise displayers and window trimmers, Graphic designers, Floral designers)

Industries in the Sporting Goods, Hobby, Book, and Music Stores subsector are engaged in retailing and providing expertise on use of sporting equipment or other specific leisure activities, such as needlework and musical instruments. Bookstores are also included in this subsector.

453 Miscellaneous Store Retailers (Floral designers, Designers, all other, Merchandise displayers and window trimmers, Graphic designers, Fine artists, including painters, sculptors, and illustrators)

Industries in the Miscellaneous Store Retailers subsector retail merchandise from fixed point-of-sale locations (except new or used motor vehicles and parts; new furniture and house furnishings; new appliances and electronic products; new building materials; and garden equipment and supplies; food and beverages; health and personal care goods; gasoline; new clothing and accessories; and new sporting goods, hobby goods, books, and music). Establishments in this subsector include stores with unique characteristics like florists, used merchandise stores, and pet and pet supply stores as well as other store retailers.

454 Nonstore Retailers (Graphic designers, Writers and authors, Multi-media artists and animators, Artists and related workers, all other, Art directors, Fashion designers)

Industries in the Nonstore Retailers subsector retail merchandise using methods, such as the broadcasting of infomercials, the broadcasting and publishing of direct-response advertising, the publishing of paper and electronic catalogs, door-to-door solicitation, in-home demonstration, selling from portable stalls and distribution through vending machines. Establishments in this subsector include mail-order houses, vending machine operators, home delivery sales, door-to-door sales, party plan sales, electronic shopping, and sales through portable stalls (e.g., street vendors, except food). Establishments engaged in the direct sale (i.e., nonstore) of products, such as home heating oil dealers and newspaper delivery are included in this subsector.

488 Support Activities for Transportation (Writers and authors)

Industries in the Support Activities for Transportation subsector provide services that support transportation. These services may be provided to transportation carrier establishments or to the general public. This subsector includes a wide array of establishments, including air traffic control services, marine cargo handling, and motor vehicle towing.

The Support Activities for Transportation subsector includes services to transportation but is separated by type of mode serviced. The Support Activities for Rail Transportation industry includes services to the rail industry (e.g., railroad switching and terminal establishments).

Ship repair and maintenance not done in a shipyard are included in Other Support Activities for Water Transportation. An example would be floating drydock services in a harbor.

Excluded from this subsector are establishments primarily engaged in providing factory conversion and overhaul of transportation equipment, which are classified in Subsector 336, Transportation Equipment Manufacturing. Also, establishments primarily engaged in providing rental and leasing of transportation equipment without operator are classified in Subsector 532, Rental and Leasing Services.

511 Publishing Industries (except Internet) (Graphic designers, Writers and authors, Art directors, Bindery workers, Multi-media artists and animators, Library technicians, Librarians, Designers, all other, Fine artists, including painters, sculptors, and illustrators, Artists and related workers, all other, Floral designers, Set and exhibit designers)

Industries in the Publishing Industries (except Internet) subsector group establishments engaged in the publishing of newspapers, magazines, other periodicals, and books, as well as directory and mailing list and software publishing. In general, these establishments, which are known as publishers, issue copies of works for which they usually possess copyright. Works may be in one or more formats including traditional print form, CD-ROM, or proprietary electronic networks. Publishers may publish works originally created by others for which they have obtained the rights and/or works that they have created in-house. Software publishing is included here because the activity, creation of a copyrighted product and bringing it to market, is equivalent to the creation process for other types of intellectual products.

In NAICS, publishing the reporting, writing, editing, and other processes that are required to create an edition of a newspaper is treated as a major economic activity in its own right, rather than as a subsidiary activity to a manufacturing activity, printing. Thus, publishing is classified in the Information sector; whereas, printing remains in the NAICS Manufacturing sector. In part, the NAICS classification reflects the fact that publishing increasingly takes place in establishments that are physically separate from the associated printing establishments. More crucially, the NAICS classification of book and newspaper publishing is intended to portray their roles in a modern economy, in which they do not resemble manufacturing activities.

Music publishers are not included in the Publishing Industries (except Internet) subsector, but are included in the Motion Picture and Sound Recording Industries subsector. Reproduction of prepackaged software is treated in NAICS as a manufacturing activity; on-line distribution of software products is in the Information sector, and custom design of software to client specifications is included in the Professional, Scientific, and Technical Services sector. These distinctions arise because of the different ways that software is created, reproduced, and distributed.

The Publishing Industries (except Internet) subsector does not include establishments that publish exclusively on the Internet. Establishments publishing exclusively on the Internet are included in Subsector 516, Internet Publishing and Broadcasting. The Publishing Industries (except Internet) subsector also excludes products, such as manifold business forms. Information is not the essential component of these items. Establishments producing these items are included in Subsector 323, Printing and Related Support Activities.

512 Motion Picture and Sound Recording Industries (Multi-media artists and animators, Music directors and composers, Musicians and singers, Graphic designers, Art directors, Writers and authors)

Industries in the Motion Picture and Sound Recording Industries subsector group establishments involved in the production and distribution of motion pictures and sound recordings. While producers and distributors of motion pictures and sound recordings issue works for sale as traditional publishers do, the processes are sufficiently different to warrant placing establishments engaged in these activities in a separate subsector. Production is typically a complex process that involves several distinct types of establishments that are engaged in activities, such as contracting with performers, creating the film or sound content, and providing technical postproduction services. Film distribution is often to exhibitors, such as theaters and broadcasters, rather than through the wholesale and retail distribution chain. When the product is in a mass-produced form, NAICS treats production and distribution as the major economic activity as it does in the Publishing Industries subsector, rather than as a subsidiary activity to the manufacture of such products.

This subsector does not include establishments primarily engaged in the wholesale distribution of videocassettes and sound recordings, such as compact discs and audiotapes; these establishments are included in the Wholesale Trade sector. Reproduction of videocassettes and sound recordings that is carried out separately from establishments engaged in production and distribution is treated in NAICS as a manufacturing activity.

515 Broadcasting (except Internet) (Multi-media artists and animators, Music directors and composers, Graphic designers, Art directors, Entertainers and performers, sports and related workers, all other, Writers and authors)

Industries in the Broadcasting (except Internet) subsector include establishments that create content or acquire the right to distribute content and subsequently broadcast the content. The industry groups (Radio and Television Broadcasting and Cable and Other Subscription Programming) are based on differences in the methods of communication and the nature of services provided. The Radio and Television Broadcasting industry group includes establishments that operate broadcasting studios and facilities for over the air or satellite delivery of radio and television programs of entertainment, news, talk, and the like. These establishments are often engaged in the production and purchase of programs and generating revenues from the sale of airtime to advertisers and from

donations, subsidies, and/or the sale of programs. The Cable and Other Subscription Programming industry group includes establishments operating studios and facilities for the broadcasting of programs that are typically narrowcast in nature (limited format, such as news, sports, education, and youth-oriented programming) on a subscription or fee basis.

The distribution of cable and other subscription programming is included in Subsector 517, Telecommunications. Establishments that broadcast exclusively on the Internet are included in Subsector 516, Internet Publishing and Broadcasting.

516 Internet Publishing and Broadcasting (Graphic designers, Art directors, Writers and authors)

Industries in the Internet Publishing and Broadcasting subsector group establishments that publish and/or broadcast content exclusively for the Internet. The unique combination of text, audio, video, and interactive features present in informational or cultural products on the Internet justifies the separation of Internet publishers and broadcasters from more traditional publishers included in subsector 511, Publishing Industries (except Internet) and subsector 515, Broadcasting (except Internet).

517 Telecommunications (Multi-media artists and animators, Graphic designers)

Industries in the Telecommunications subsector include establishments providing telecommunications and the services related to that activity. The Telecommunications subsector is primarily engaged in operating, maintaining, and/or providing access to facilities for the transmission of voice, data, text, sound, and video. A transmission facility may be based on a single technology or a combination of technologies. Establishments primarily engaged as independent contractors in the maintenance and installation of broadcasting and telecommunications systems are classified in Sector 23, Construction.

518 Internet Service Providers, Web Search Portals, and Data Processing Services (Graphic designers)

Industries in the Internet Service Providers, Web Search Portals, and Data Processing Services subsector group establishments that provide: (1) access to the Internet; (2) search facilities for the Internet; and (3) data processing, hosting, and related services. The industry groups (Internet Service Providers and Web Search Portals, Data Processing Hosting, and Related Services) are based on differences in the processes used to access information and process information. The Internet Service Providers and Web Search Portals industry group includes establishments that are providing access to the Internet or aiding in navigation on the Internet. The Data Processing, Hosting, and Related Services industry group includes establishments that process data. These establishments can transform data, prepare data for dissemination, or place data or content on the Internet for others. In addition, the shared use of computer resources is included in the Data Processing, Hosting, and Related Services industry group.

Establishments that are publishing exclusively on the Internet are included in Subsector 516, Internet Publishing and Broadcasting and establishments that are retailing goods using the Internet are included in Sector 44-45, Retail Trade.

519 Other Information Services (Library technicians, Librarians, Archivists)

Industries in the Other Information Services subsector group establishments supplying information, storing information, providing access to information, and searching and retrieving information. The main components of the subsector are news syndicates, libraries, and archives.

522 Credit Intermediation and Related Activities (Interior designers, Graphic designers)

Industries in the Credit Intermediation and Related Activities subsector group establishments that (1) lend funds raised from depositors; (2) lend funds raised from credit market borrowing; or (3) facilitate the lending of funds or issuance of credit by engaging in such activities as mortgage and loan brokerage, clearinghouse and reserve services, and check cashing services.

523 Securities, Commodity Contracts, and Other Financial Investments and Related Activities (Graphic designers, Art directors, Writers and authors)

Industries in the Securities, Commodity Contracts, and Other Financial Investments and Related Activities subsector group establishments that are primarily engaged in one of the following: (1) underwriting securities issues and/or making markets for securities and commodities; (2) acting as agents (i.e., brokers) between buyers and sellers of securities and commodities; (3) providing securities and commodity exchange services; and (4) providing other services, such as managing portfolios of assets; providing investment advice; and trust, fiduciary, and custody services.

524 Insurance Carriers and Related Activities (Graphic designers, Writers and authors, Curators, Museum technicians and conservators, Librarians, Multi-media artists and animators, Interior designers, Designers, all other, Bindery workers, Artists and related workers, all other, Art directors, Archivists)

Industries in the Insurance Carriers and Related Activities subsector group establishments that are primarily engaged in one of the following: (1) underwriting (assuming the risk, assigning premiums, and so forth) annuities and insurance policies or (2) facilitating such underwriting by selling insurance policies, and by providing other insurance and employee-benefit related services.

525 Funds, Trusts, and Other Financial Vehicles (Bindery workers, Graphic designers)

Industries in the Funds, Trusts, and Other Financial Vehicles subsector are comprised of legal entities (i.e., funds, plans, and/or programs) organized to pool securities or other assets on behalf of shareholders or beneficiaries of employee benefit or other trust funds. The portfolios are customized to achieve specific investment characteristics, such as diversification, risk, rate of return, and price volatility. These entities earn interest, dividends, and other property income, but have little or no employment and no revenue from the sale of services. Establishments with employees devoted to the management of funds are classified in Industry Group 5239, Other Financial Investment Activities.

Establishments primarily engaged in holding the securities of (or other equity interests in) other firms are classified in Sector 55, Management of Companies and Enterprises.

531 Real Estate (Merchandise displayers and window trimmers)

Industries in the Real Estate subsector group establishments that are primarily engaged in renting or leasing real estate to others; managing real estate for others; selling, buying, or renting real estate for others; and providing other real estate related services, such as appraisal services. Establishments primarily engaged in subdividing and developing unimproved real estate and constructing buildings for sale are classified in Subsector 236, Construction of Buildings.

Establishments primarily engaged in subdividing and improving raw land for subsequent sale to builders are classified in Subsector 237, Heavy and Civil Engineering Construction.

Real Estate Investment Trusts (REITS) are classified in Subsector 525, Funds, Trusts, and Other Financial Vehicles, because they are considered investment vehicles.

532 Rental and Leasing Services (Merchandise displayers and window trimmers)

Industries in the Rental and Leasing Services subsector include establishments that provide a wide array of tangible goods, such as automobiles, computers, consumer goods, and industrial machinery and equipment, to customers in return for a periodic rental or lease payment.

The subsector includes two main types of establishments: (1) those that are engaged in renting consumer goods and equipment and (2) those that are engaged in leasing machinery and equipment often used for business operations. The first type typically operates from a retail-like or storefront facility and maintains inventories of goods that are rented for short periods of time. The latter type typically does not operate from retail-like locations or maintain inventories, and offers longer term leases. These establishments work directly with clients to enable them to acquire the use of equipment on a lease basis, or they work with equipment vendors or dealers to support the marketing

of equipment to their customers under lease arrangements. Equipment lessors generally structure lease contracts to meet the specialized needs of their clients and use their remarketing expertise to find other users for previously leased equipment. Establishments that provide operating and capital (i.e., finance) leases are included in this subsector.

Establishments primarily engaged in leasing in combination with providing loans are classified in Sector 52, Finance and Insurance. Establishments primarily engaged in leasing real property are classified in Subsector 531, Real Estate. Those establishments primarily engaged in renting or leasing equipment with operators are classified in various subsectors of NAICS depending on the nature of the services provided (e.g., Transportation, Construction, and Agriculture). These activities are excluded from this subsector since the client is paying for the expertise and knowledge of the equipment operator, in addition to the rental of the equipment. In many cases, such as the rental of heavy construction equipment, the operator is essential to operate the equipment. Likewise, since the provision of crop harvesting services includes both the equipment and operator, it is included in the agriculture subsector. The rental or leasing of copyrighted works is classified in Sector 51, Information, and the rental or leasing of assets, such as patents, trademarks, and/or licensing agreements is classified in Subsector 533, Lessors of Nonfinancial Intangible Assets (except Copyrighted Works).

533 Lessors of Nonfinancial Intangible Assets (except Copyrighted Works) (Interior designers, Graphic designers, Artists and related workers, all other, Art directors, Writers and authors)

Industries in the Lessors of Nonfinancial Intangible Assets (except Copyrighted Works) subsector include establishments that are primarily engaged in assigning rights to assets, such as patents, trademarks, brand names, and/or franchise agreements for which a royalty payment or licensing fee is paid to the asset holder. Establishments in this subsector own the patents, trademarks, and/or franchise agreements that they allow others to use or reproduce for a fee and may or may not have created those assets.

Establishments that allow franchisees the use of the franchise name, contingent on the franchisee buying products or services from the franchisor, are classified elsewhere.

Excluded from this subsector are establishments primarily engaged in leasing real property and establishments primarily engaged in leasing tangible assets, such as automobiles, computers, consumer goods, and industrial machinery and equipment. These establishments are classified in Subsector 531, Real Estate and Subsector 532, Rental and Leasing Services, respectively.

541 Professional, Scientific, and Technical Services (Graphic designers, Interior designers, Art directors, Writers and authors, Multi-media artists and animators, Librarians, Designers, all other, Bindery workers, Library technicians, Merchandise displayers and window trimmers, Musicians and singers, Artists and related workers, all

other, Floral designers, Fashion designers, Entertainers and performers, sports and related workers, all other)

Industries in the Professional, Scientific, and Technical Services subsector group establishments engaged in processes where human capital is the major input. These establishments make available the knowledge and skills of their employees, often on an assignment basis, where an individual or team is responsible for the delivery of services to the client. The individual industries of this subsector are defined on the basis of the particular expertise and training of the services provider.

The distinguishing feature of the Professional, Scientific, and Technical Services subsector is the fact that most of the industries grouped in it have production processes that are almost wholly dependent on worker skills. In most of these industries, equipment and materials are not of major importance, unlike health care, for example, where "high tech" machines and materials are important collaborating inputs to labor skills in the production of health care. Thus, the establishments classified in this subsector sell expertise. Much of the expertise requires degrees, though not in every case.

551 Management of Companies and Enterprises (Graphic designers, Writers and authors, Designers, all other, Merchandise displayers and window trimmers, Art directors)

Industries in the Management of Companies and Enterprises subsector include three main types of establishments: (1) those that hold the securities of (or other equity interests in) companies and enterprises; (2) those (except government establishments) that administer, oversee, and manage other establishments of the company or enterprise but do not hold the securities of these establishments; and (3) those that both administer, oversee, and manage other establishments of the company or enterprise and hold the securities of (or other equity interests in) these establishments. Those establishments that administer, oversee, and manage normally undertake the strategic or organizational planning and decision making role of the company or enterprise.

561 Administrative and Support Services (Interior designers, Designers, all other, Bindery workers, Bookbinders, Multi-media artists and animators, Merchandise displayers and window trimmers, Graphic designers, Artists and related workers, all other, Fine artists, including painters, sculptors, and illustrators, Set and exhibit designers, Writers and authors)

Industries in the Administrative and Support Services subsector group establishments engaged in activities that support the day-to-day operations of other organizations. The processes employed in this sector (e.g., general management, personnel administration, clerical activities, cleaning activities) are often integral parts of the activities of establishments found in all sectors of the economy. The establishments classified in this subsector have specialized in one or more of these activities and can, therefore, provide services to clients in a variety of industries and, in some cases, to households. The

individual industries of this subsector are defined on the basis of the particular process that they are engaged in and the particular services they provide.

Many of the activities performed in this subsector are ongoing routine support functions that all businesses and organizations must do and that they have traditionally done for themselves. Recent trends, however, are to contract or purchase such services from businesses that specialize in such activities and can, therefore, provide the services more efficiently.

The industries in this subsector cannot be viewed as strictly "support." The Travel Arrangement and Reservation Services industry group includes travel agents, tour operators, and providers of other travel arrangement services, such as hotel and restaurant reservations and arranging the purchase of tickets, serves many types of clients, including individual consumers. This group was placed in this subsector because the services are often of the "support" nature (e.g., travel arrangement) and businesses and other organizations are increasingly the ones purchasing such services.

The administrative and management activities performed by establishments in this sector are typically on a contract or fee basis. Establishments that are part of the company or enterprise may also perform these activities. However, establishments involved in administering, overseeing, and managing other establishments of the company or enterprise, are classified in Sector 55, Management of Companies and Enterprises. These establishments normally undertake the strategic and organizational planning and decision-making role of the company or enterprise. Government establishments engaged in administering, overseeing and managing governmental programs are classified in Sector 92, Public Administration.

611 Educational Services (Librarians, Library technicians, Art, drama, and music teachers, postsecondary, Choreographers, Writers and authors, Curators, Museum technicians and conservators, Graphic designers, Bindery workers, Musicians and singers, Music directors and composers, Dancers, Fine artists, including painters, sculptors, and illustrators, Artists and related workers, all other, Art directors, Set and exhibit designers, Entertainers and performers, sports and related workers, all other, Archivists)

Industries in the Educational Services subsector provide instruction and training in a wide variety of subjects. Specialized establishments, such as schools, colleges, universities, and training centers, provide the instruction and training.

The subsector is structured according to level and type of educational services. Elementary and secondary schools, junior colleges and colleges, universities, and professional schools correspond to a recognized series of formal levels of education designated by diplomas, associate degrees (including equivalent certificates), and degrees. The remaining industry groups are based more on the type of instruction or training offered and the levels are not always as formally defined. The establishments are often highly specialized, many offering instruction in a very limited subject matter, for

example ski lessons or one specific computer software package. Within the sector, the level and types of training that are required of the instructors and teachers vary depending on the industry.

Establishments that manage schools and other educational establishments on a contractual basis are classified in this subsector if they both manage the operation and provide the operating staff. Such establishments are classified in the educational services subsector based on the type of facility managed and operated.

621 Ambulatory Health Care Services (Librarians, Library technicians)

Industries in the Ambulatory Health Care Services subsector provide health care services directly or indirectly to ambulatory patients and do not usually provide inpatient services. Health practitioners in this subsector provide outpatient services, with the facilities and equipment not usually being the most significant part of the production process.

622 Hospitals (Librarians, Graphic designers, Multi-media artists and animators, Library technicians, Art directors, Fine artists, including painters, sculptors, and illustrators, Archivists, Writers and authors)

Industries in the Hospitals subsector provide medical, diagnostic, and treatment services that include physician, nursing, and other health services to inpatients and the specialized accommodation services required by inpatients. Hospitals may also provide outpatient services as a secondary activity. Establishments in the Hospitals subsector provide inpatient health services, many of which can only be provided using the specialized facilities and equipment that form a significant and integral part of the production process.

623 Nursing and Residential Care Facilities (Graphic designers)

Industries in the Nursing and Residential Care Facilities subsector provide residential care combined with either nursing, supervisory, or other types of care as required by the residents. In this subsector, the facilities are a significant part of the production process and the care provided is a mix of health and social services with the health services being largely some level of nursing services.

624 Social Assistance (Writers and authors, Librarians, Multi-media artists and animators, Graphic designers)

Industries in the Social Assistance subsector provide a wide variety of social assistance services directly to their clients. These services do not include residential or accommodation services, except on a short stay basis.

711 Performing Arts, Spectator Sports, and Related Industries (Musicians and singers, Actors, Producers and directors, Writers and authors, Fine artists, including painters, sculptors, and illustrators, Entertainers and performers, sports and related

workers, all other, Dancers, Choreographers, Music directors and composers, Set and exhibit designers, Artists and related workers, all other, Art directors, Merchandise displayers and window trimmers, Graphic designers)

Industries in the Performing Arts, Spectator Sports, and Related Industries subsector group establishments that produce or organize and promote live presentations involving the performances of actors and actresses, singers, dancers, musical groups and artists, athletes, and other entertainers, including independent (i.e., freelance) entertainers and the establishments that manage their careers. The classification recognizes four basic processes: (1) producing (i.e., presenting) events; (2) organizing, managing, and/or promoting events; (3) managing and representing entertainers; and (4) providing the artistic, creative and technical skills necessary to the production of these live events. Also, this subsector contains four industries for performing arts companies. Each is defined on the basis of the particular skills of the entertainers involved in the presentations.

The industry structure for this subsector makes a clear distinction between performing arts companies and performing artists (i.e., independent or freelance). Although not unique to arts and entertainment, freelancing is a particularly important phenomenon in this Performing Arts, Spectator Sports, and Related Industries subsector. Distinguishing this activity from the production activity is a meaningful process differentiation. This approach, however, is difficult to implement in the case of musical groups (i.e., companies) and artists, especially pop groups. These establishments tend to be more loosely organized and it can be difficult to distinguish companies from freelancers. For this reason, NAICS includes one industry that covers both musical groups and musical artists.

This subsector contains two industries for Industry Group 7113, Promoters of Performing Arts, Sports, and Similar Events, one for those that operate facilities and another for those that do not. This is because there are significant differences in cost structures between those promoters that manage and provide the staff to operate facilities and those that do not. In addition to promoters without facilities, other industries in this subsector include establishments that may operate without permanent facilities. These types of establishments include: performing arts companies, musical groups and artists, spectator sports, and independent (i.e., freelance) artists, writers, and performers.

Excluded from this subsector are nightclubs. Some nightclubs promote live entertainment on a regular basis and it can be argued that they could be classified in Industry Group 7113, Promoters of Performing Arts, Sports, and Similar Events. However, since most of these establishments function as any other drinking place when they do not promote entertainment and because most of their revenue is derived from sale of food and beverages, they are classified in Subsector 722, Food Services and Drinking Places.

712 Museums, Historical Sites, and Similar Institutions (Curators, Museum technicians and conservators, Archivists, Library technicians, Artists and related workers,

all other, Librarians, Art directors, Set and exhibit designers, Graphic designers, Writers and authors)

Industries in the Museums, Historical Sites, and Similar Institutions subsector engage in the preservation and exhibition of objects, sites, and natural wonders of historical, cultural, and/or educational value.

713 Amusement, Gambling, and Recreation Industries (Choreographers, Entertainers and performers, sports and related workers, all other)

Industries in the Amusement, Gambling, and Recreation Industries subsector (1) operate facilities where patrons can primarily engage in sports, recreation, amusement, or gambling activities and/or (2) provide other amusement and recreation services, such as supplying and servicing amusement devices in places of business operated by others; operating sports teams, clubs, or leagues engaged in playing games for recreational purposes; and guiding tours without using transportation equipment.

This subsector does not cover all establishments providing recreational services. Other sectors of NAICS also provide recreational services. Providers of recreational services are often engaged in processes classified in other sectors of NAICS. For example, operators of resorts and hunting and fishing camps provide both accommodation and recreational facilities and services. These establishments are classified in Subsector 721, Accommodation, partly to reflect the significant costs associated with the provision of accommodation services and partly to ensure consistency with international standards. Likewise, establishments using transportation equipment to provide recreational and entertainment services, such as those operating sightseeing buses, dinner cruises, or helicopter rides, are classified in Subsector 48-49, Transportation and Warehousing.

The industry groups in this subsector highlight particular types of activities: amusement parks and arcades, gambling industries, and other amusement and recreation industries. The groups, however, are not all inclusive of the activity. The Gambling Industries industry group does not provide for full coverage of gambling activities. For example, casino hotels are classified in Subsector 721, Accommodation; and horse and dog racing tracks are classified in Industry Group 7112, Spectator Sports.

811 Repair and Maintenance (Interior designers, Fine artists, including painters, sculptors, and illustrators)

Industries in the Repair and Maintenance subsector restore machinery, equipment, and other products to working order. These establishments also typically provide general or routine maintenance (i.e., servicing) on such products to ensure they work efficiently and to prevent breakdown and unnecessary repairs.

The NAICS structure for this subsector brings together most types of repair and maintenance establishments and categorizes them based on production processes (i.e., on the type of repair and maintenance activity performed, and the necessary skills, expertise,

and processes that are found in different repair and maintenance establishments). This NAICS classification does not delineate between repair services provided to businesses versus those that serve households. Although some industries primarily serve either businesses or households, separation by class of customer is limited by the fact that many establishments serve both. Establishments repairing computers and consumer electronics products are two examples of such overlap.

The Repair and Maintenance subsector does not include all establishments that do repair and maintenance. For example, a substantial amount of repair is done by establishments that also manufacture machinery, equipment, and other goods. These establishments are included in the Manufacturing sector in NAICS. In addition, repair of transportation equipment is often provided by or based at transportation facilities, such as airports, seaports, and these activities are included in the Transportation and Warehousing sector. A particularly unique situation exists with repair of buildings. Plumbing, electrical installation and repair, painting and decorating, and other construction-related establishments are often involved in performing installation or other work on new construction as well as providing repair services on existing structures. While some specialize in repair, it is difficult to distinguish between the two types and all have been included in the Construction sector.

Excluded from this subsector are establishments primarily engaged in rebuilding or remanufacturing machinery and equipment. These are classified in Sector 31-33, Manufacturing. Also excluded are retail establishments that provide after-sale services and repair. These are classified in Sector 44-45, Retail Trade.

812 Personal and Laundry Services (Graphic designers)

Industries in the Personal and Laundry Services subsector group establishments that provide personal and laundry services to individuals, households, and businesses. Services performed include: personal care services; death care services; laundry and drycleaning services; and a wide range of other personal services, such as pet care (except veterinary) services, photofinishing services, temporary parking services, and dating services.

The Personal and Laundry Services subsector is by no means all-inclusive of the services that could be termed personal services (i.e., those provided to individuals rather than businesses). There are many other subsectors, as well as sectors, that provide services to persons. Establishments providing legal, accounting, tax preparation, architectural, portrait photography, and similar professional services are classified in Sector 54, Professional, Scientific, and Technical Services; those providing job placement, travel arrangement, home security, interior and exterior house cleaning, exterminating, lawn and garden care, and similar support services are classified in Sector 56, Administrative and Support, Waste Management and Revideotion Services; those providing health and social services are classified in Sector 62, Health Care and Social Assistance; those providing amusement and recreation services are classified in Sector 71, Arts, Entertainment and Recreation; those providing educational instruction are classified in

Sector 61, Educational Services; those providing repair services are classified in Subsector 811, Repair and Maintenance; and those providing spiritual, civic, and advocacy services are classified in Subsector 813, Religious, Grantmaking, Civic, Professional, and Similar Organizations.

813 Religious, Grantmaking, Civic, Professional, and Similar Organizations (Writers and authors, Curators, Librarians, Music directors and composers, Musicians and singers, Art directors, Library technicians, Graphic designers, Archivists)

Industries in the Religious, Grantmaking, Civic, Professional, and Similar Organizations subsector group establishments that organize and promote religious activities; support various causes through grantmaking; advocate various social and political causes; and promote and defend the interests of their members.

The industry groups within the subsector are defined in terms of their activities, such as establishments that provide funding for specific causes or for a variety of charitable causes; establishments that advocate and actively promote causes and beliefs for the public good; and establishments that have an active membership structure to promote causes and represent the interests of their members. Establishments in this subsector may publish newsletters, books, and periodicals, for distribution to their membership.

Appendix 7: Summary Results of Connecticut's Lodging, Marina and Campground Establishment and Sample Surveys

In May 2005, the Connecticut Campground Owners Association, the Connecticut Marine Trade Association, and the Connecticut Lodging Association supplied CCEA with their membership databases. CCEA updated these databases using statewide directories (e.g., Google Local) including lodging, marinas and campgrounds that were not members of their respective association. CCEA mailed each establishment identified in the augmented database the appropriate survey presented below. We wanted a response rate of 30% for each survey group to estimate reasonable industry averages and projections. Through phone calls and repeated mailings, we achieved a response rate of 37% for lodging establishments, 45% for campgrounds and 41% for marinas.

The surveys gather information on the types of operations, occupancy rates, patron characteristics, costs, and revenues among other characteristics. Our analysis considered and evaluated outliers and omissions. For missing data, we used averages that best suited the characteristics of each specific industry and the data collected. We calculate lodging averages by tourism region, marina averages by type of operation, and campground averages on a statewide basis.

CCEA calculates revenue for each property by multiplying seasonal occupancy rates by the number of days in each season by the number of rooms/campsites/slips of each specific establishment and by the cost per unit for each establishment. We compare this number with each establishment reporting its gross revenue. If the reported gross revenue seemed reasonable, we used that number instead of the calculated revenue.

Revenues are not based on the number of slips for establishments describing themselves as boat dealers or repair shops. For dealers not reporting gross revenue, we calculate it as a simple average from those dealers that did. We took further care adjusting the averages for hotels located on tribal nation lands that collect but do not remit the state's 12% room tax. For those hotels, the 12% was added to their gross hotel revenue.

Once CCEA sorted the data and imputed revenues for each marina, lodging and campground, we calculated county and state level averages. To control for upward bias, we removed Mohegan Sun and Foxwoods hotels' gross revenue in calculating the

average revenues for the state and New London County. In the tables below, most of these results are simple averages. We derived projections by multiplying the total number of establishments by their average revenue. We add Mohegan Sun and Foxwoods' gross lodging revenues to the appropriate projection separately.

The averages and projections have biases including sampling from a finite population, and the possibility that responding establishments have a self-selection bias. Moreover, by surveying all establishments, we do not have a random sample, and there may be human error in filling out the survey.

Nevertheless, we feel that as an approximation, the robustness of these averages and projections are reasonable. Our effort in collecting large portions of the lodging, marina and campgrounds establishment population compensates somewhat for the inherent statistical hurdles presented in analyzing this type of data. These are approximations and should be treated and understood as such. Our 2004 estimate for campground revenue of $35 million is in the ballpark of the 2002 Economic Census report of $47.4 million that includes fifty-one (51) RV parks, recreational camps, vacation camps, and campgrounds. Our 2004 estimate for marina sales of $108.4 million compares reasonably to the 2002 Economic Census estimate of $127.9 million for 118 such establishments.

Following the summary tables are the lodging, campground, and marina survey instruments we use in the travel and tourism study to estimate revenue received by these establishments and to develop a profile of visitorship and occupancy by season and day of week. The data appearing in the tables below is gleaned directly form the survey instruments. We do not report the very few responses to the last question of each survey dealing with issues or concerns impacting the respondent's business to maintain confidentiality. Further, the reported number of rooms, revenues, and other data are weighted by property size.

Lodging Survey Summary

Lodging Response Rates			
Region	Surveys Sent	Surveys Responded	Percent Responded
Fairfield County	41	11	27%
Greater New Haven	54	15	28%
Mystic Country	116	49	42%
Litchfield Hills	101	37	37%
River Valley	110	43	39%
Connecticut	422	155	37%

Various Lodging Characteristics				
Region	Number of Rooms	Length of Stay (Days)	Cost Per Room	Average Guests Per Room
Fairfield County	106	2.6	$126	2.3
Greater New Haven	50	1.9	$104	1.7
Mystic Country	39	2.3	$117	1.8
Litchfield Hills	34	1.7	$121	2.1
River Valley	65	1.8	$92	1.7
Connecticut	56	2.0	$108	1.9

Lodging Weekend Occupancy Rates				
Region	Winter	Spring	Summer	Fall
Fairfield County	41%	53%	71%	62%
Greater New Haven	41%	53%	72%	59%
Mystic Country	40%	52%	79%	73%
Litchfield Hills	27%	45%	71%	66%
River Valley	43%	60%	74%	64%
Connecticut	38%	54%	73%	66%

Lodging Weekday Occupancy Rates				
Region	Winter	Spring	Summer	Fall
Fairfield County	48%	54%	68%	58%
Greater New Haven	35%	43%	56%	48%
Mystic Country	27%	35%	52%	41%
Litchfield Hills	18%	30%	48%	44%
River Valley	41%	52%	65%	61%
Connecticut	32%	43%	58%	54%

Types of Lodging		
Type	Number	Percent
Bed and Breakfast	58	37%
Hotel	46	30%
Motor Hotel or Motel	29	19%
Country Inn	11	7%
Resort Hotel	4	3%
Resort (Cottages and Cabins)	3	2%
Something Else	3	2%
Hotel and Cottages	1	1%

Lodging Average and Projected Revenue		
Region	Average Revenue Per Establishment	Projected Revenues for Region
Fairfield County	$3,452,349	$141,546,327
Greater New Haven	$771,611	$41,666,977
Mystic Country	$947,681[159]	$197,413,873[160]
Litchfield Hills	$592,936	$59,886,570
River Valley	$1,473,336	$162,066,975
Connecticut	$1,333,784	$649,567,417

Lodging Guest Purpose for Visiting					
Region	Leisure	Meetings	Tours	Business	Other
Fairfield County	31%	13%	5%	38%	13%
Greater New Haven	46%	7%	3%	33%	11%
Mystic Country	53%	7%	3%	26%	11%
Litchfield Hills	54%	8%	3%	18%	17%
River Valley	42%	9%	4%	28%	16%
Connecticut	45%	9%	4%	26%	15%

[159] Mohegan Sun and Foxwoods hotels' gross revenues are not included in this average.
[160] Mohegan Sun and Foxwoods hotels' gross revenues were added separately into the projection.

Geographic Distribution of Lodging Guests							
Region	CT	New England	New York City	New York State (Not NYC)	PA	Other States	Foreign Countries
Fairfield County	30%	19%	14%	9%	3%	18%	7%
Greater New Haven	24%	14%	20%	8%	4%	20%	9%
Mystic Country	32%	20%	20%	12%	4%	9%	2%
Litchfield Hills	31%	17%	19%	9%	4%	15%	6%
River Valley	42%	14%	17%	8%	4%	12%	3%
Connecticut	36%	16%	17%	9%	4%	13%	4%

Campground Survey Summary

Campground Response Rates			
Region	Surveys Sent	Surveys Responded	Percent Responded
Fairfield County	1	0	N/A
Greater New Haven	2	0	N/A
Mystic Country	40	18	45%
Litchfield Hills	14	6	43%
River Valley	7	5	71%
Connecticut	64	29	45%

Campground Averages						
Region	Sites Per Campground	Cabins Per Campground	People Per Campsite	Months Open	Number of Sites	Cost per Night
Litchfield Hills	134.8	1.7	3.5	7.3	135	$21.50
Mystic Country	150.3	2.2	6.4	7.4	150	$32.13
River Valley	152.0	5.2	3.0	6.0	49	$21.00
Connecticut	147.4	3.2	5.2	7.1	147	$27.54

Average Campground Weekend Occupancy Rates				
Region	Winter	Spring	Summer	Fall
Litchfield Hills	4%	39%	88%	47%
Mystic Country	2%	29%	86%	50%
River Valley	0%	36%	90%	44%
Connecticut	2%	32%	87%	48%

Average Campground Weekday Occupancy Rates				
Region	Winter	Spring	Summer	Fall
Litchfield Hills	1%	16%	51%	19%
Mystic Country	1%	7%	49%	20%
River Valley	0%	20%	53%	17%
Connecticut	0%	11%	50%	19%

Campground Revenue			
Region	Total Revenue of Surveyed	Average Revenue of Surveyed	Projected Total Revenue
Litchfield Hills	$3,084,849	$514,142	N/A[161]
Mystic Country	$10,095,268	$560,848	N/A
River Valley	$2,672,645	$534,529	N/A
Connecticut	$15,852,762	$546,647	$34,985,407

Types of Campgrounds		
Type of Campground	Number of Type	Percent
A privately owned campground, nearly all short-stay campers (4 weeks or less)	1	4%
A privately owned campground, nearly all campers rent seasonally (more than 4 weeks)	3	11%
A privately owned campground, mix of short stay and seasonal campers	19	68%
A State Park/State Forest campground	5	18%

Average Geographic Distribution of Campground Visitors							
Region	CT	New England	New York City	New York State (Not NYC)	PA	Other States	Foreign Countries
Litchfield Hills	75%	9%	8%	5%	1%	2%	1%
Mystic Country	63%	24%	3%	4%	1%	3%	1%
River Valley	63%	13%	4%	3%	1%	14%	2%
Connecticut	64%	19%	5%	4%	1%	6%	1%

Campground Visitors: Purpose of Visit					
Region	Leisure	Groups	Meetings	Business	Other
Litchfield Hills	70%	23%	1%	3%	2%
Mystic Country	74%	21%	3%	1%	1%
River Valley	89%	11%	0%	0%	0%
Connecticut	74%	21%	2%	2%	1%

[161] Even though response rates for campgrounds were high, projecting a the number of site and total revenue for each region is not feasible due to small sample sizes.

Marina Establishment Summary

Marina Response Rates			
Region	Surveys Sent	Surveys Responded	Percent Responded
Fairfield County	48	15	31%
Greater New Haven	37	15	41%
Mystic Country	62	20	32%
Litchfield Hills	16	5	31%
River Valley	56	35	63%
Connecticut	219	90	41%

Marina Averages						
Region	Slips Per Establishment	Moorings Per Establishment	Months Open	Percent Seasonal	Percent Transient	Percent Other
Fairfield County	96	3	10.8	90%	2%	8%
Greater New Haven	60	21	10.4	83%	17%	0%
Mystic Country	69	14	11.3	98%	1%	0%
Litchfield Hills	75	16	11.4	99%	1%	0%
River Valley	66	12	10.7	93%	6%	1%
Connecticut	71	13	10.8	93%	6%	1%

Average Marina Weekend Occupancy Rates				
Region	Winter	Spring	Summer	Fall
Fairfield County	16%	23%	33%	28%
Greater New Haven	10%	17%	39%	33%
Mystic Country	4%	19%	40%	37%
Litchfield Hills	9%	26%	41%	24%
River Valley	5%	20%	41%	34%
Connecticut	8%	20%	39%	33%

Average Marina Weekday Occupancy Rates				
Region	Winter	Spring	Summer	Fall
Fairfield County	18%	22%	31%	29%
Greater New Haven	12%	18%	38%	32%
Mystic Country	3%	26%	38%	34%
Litchfield Hills	13%	23%	37%	27%
River Valley	7%	21%	39%	32%
Connecticut	10%	22%	37%	32%

Average and Projected Revenue		
Region	Average Revenue Per Establishment	Total Revenue by Region
Fairfield County	$608,708	N/A[162]
Greater New Haven	$485,342	N/A
Mystic Country	$484,325	N/A
Litchfield Hills	$462,457	N/A
River Valley	$461,659	$25,852,881
Connecticut	$495,195	$108,447,798

Types of Marinas		
Type of Establishment	Number Responded	Percent
Full-Service Marina	55	61%
Boat Dealer/Repair Shop	7	8%
Boat Storage	12	13%
Other	16	18%

Average Geographic Distribution of Marina Customers							
Region	CT	New England	New York City	New York State (Not NYC)	PA	Other States	Foreign Countries
Fairfield County	75%	6%	7%	5%	0.0%	0.0%	0.0%
Greater New Haven	71%	5%	8%	1%	0.1%	1.0%	0.4%
Mystic Country	85%	8%	4%	7%	0.4%	0.1%	0.1%
Litchfield Hills	35%	9%	20%	7%	0.2%	0.2%	2.4%
River Valley	80%	11%	6%	3%	0.2%	0.2%	0.0%
Connecticut	78%	9%	7%	4%	0.2%	0.3%	0.2%

[162] Even though response rates for marinas were high, projecting total revenue for all regions is not feasible due to small sample sizes.

Connecticut Hotels/Motels/Resorts Survey 2004

YOUR SECURITY CODE:

Q1. In which Connecticut town is your facility located? _____.

Q2. Check or circle which category best describes your lodging business and indicate the number of units (rooms/cottages/condos/cottages):

1) Hotel _____room
2) Resort Hotel _____rooms
3) Resort (Cottages and Cabins) _____units
4) Motor Hotel or Motel _____rooms
5) Bed and Breakfast _____rooms
6) Hotel and Cottages _____units
7) Condos or Apartments _____units
8) Guest House _____units
9) Country Inn _____units
10) Timeshare _____units
11) Something else _____units

Q3. What was the **average** number of persons per night occupying one room or unit in 2004? _____.

Q4. Think now of how many of your visitors came from CT and elsewhere:

a. About what percent of your total business in 2004 came from guests who live in Connecticut? _____%. (If 100%, skip to Q5)

b. Other New England States (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island)? _____ %.

c. The New York Metropolitan Area, including New York City, Long Island, and Westchester? _____ %.

d. New York State and New Jersey, NOT including New York City Metro Area? _____%.

e. Pennsylvania? _____ %.

f. Other states? _____ %.

g. Foreign countries including Canada and Mexico? _____ %.

Q5. What months were you open for business in 2004?
_____.

Q6. For each season you were open, what was the average occupancy on WEEKENDS in 2004?

a. Weekends in Winter (December-February): _____%
b. Weekends in Spring (March-May): _____%
c. Weekends in Summer (June-August): _____%
d. Weekends in Autumn (September-November): _____%

Q7. For each season you were open, what was the average occupancy on WEEKDAYS in 2004?

a. Weekdays in Winter: _____%
b. Weekdays in Spring: _____%
c. Weekdays in Summer: _____%
d. Weekdays in Autumn: _____%

Q8. What were your average room/cottage/condo/cottage sales in 2004 for the:

a. Winter: $_____
b. Spring: $_____
c. Summer: $_____
d. Autumn: $_____

Q9. Approximately what was the **average** number of nights guests stayed in your facility in 2004? _____.

Q10. What was your average room/cottage/condo/cottage rate per night, including state taxes, in 2004? $_____.

RESPONSES TO QUESTIONS 12a. - 12d. should add to 100%

Q11. Approximately, what percentage of your room/cottage/condo/cottage rentals were accounted for by:

a. people on vacation or leisure trips _____ %
b. conventions or meetings _____ %
c. tour groups _____%
d. business other than conventions and meetings (e.g., client or customer visits? _____%
e. rentals other than the categories previously mentioned (e.g., weddings)? _____%

Q12. What issues or concerns impacted your business in 2004?

Thank you very much for your effort in providing this information for Connecticut tourism!

Connecticut CAMPGROUNDS SURVEY 2004

YOUR SECURITY CODE:

Q1. In what Connecticut town is your campground physically located?

_____.

Q2. Check or circle which **one** of the following categories **best** describes your camping operations?

1) A privately owned campground, nearly all short-stay campers (4 weeks or less)
2) A privately owned campground, nearly all campers rent seasonally (more than 4 weeks)
3) A privately owned campground, mix of short stay and seasonal campers
4) A State Park/State Forest campground
5) Another publicly owned campground
6) A campground in which sites are rented or leased semi-permanently
7) A campground for special groups (e.g. church, YMCA, youth groups, etc)
8) A campground for people living in mobile homes (RV park)

Q3. How many total campsites and cabins on average did you have open for use in 2004?_____ campsites _____cabins. Percent open during winter?____%. Percent open during summer?____%.

Q4. What was the **average** size of a camping party (number of persons per night) using a single campsite in 2004? _____ persons.

Q5. Thinking about your camping parties in 2004, about what percent of them came from the following areas?

a. Connecticut?_____% (If 100%, skip to Q7)

b. Other New England States (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island)? _____ %.

c. The New York Metropolitan Area, including New York City, Long Island, and Westchester? _____ %.

d. New York State and New Jersey, NOT including New York City Metro Area? _____ %.

e. Pennsylvania? _____ %.

f. All other states within the U.S.A.? _____ %.

g. Foreign countries including Canada and Mexico? _____ %.

Q6. What months were you open for business in 2004? _____.

Q7. For each of the seasons, what was the average occupancy (of available sites) on WEEKENDS in 2004?

a. Weekends in Winter (December-February): _____%
b. Weekends in Spring (March-May): _____%
c. Weekends in Summer (June-August): _____%
d. Weekends in Autumn (September-November): _____%

Q8. What was the average occupancy (of available sites) on WEEKDAYS in 2004?

a. Weekdays in Winter: _____%
b. Weekdays in Spring: _____%
c. Weekdays in Summer: _____%
d. Weekdays in Autumn: _____%

Q9. What was your average campsite and cabin rate per night, including taxes, in 2004?

Campsite $_____. Cabin $_____.

Q10. Approximately what was the average length of stay (number of nights) of a typical camping party in 2004? _____ nights.

Q11. Approximately what were your total sales (site rental fees) for calendar year 2004? $_____.

THE RESPONSES TO QUESTIONS 12a. - 12d. SHOULD TOTAL 100%

Q12. Approximately, what percentage of your campsites in 2004 were accounted for by

a. people on vacation or leisure trips _____ %
b. members of groups (e.g., family reunions) _____%
c. conventions or meetings _____ %
d. business other than conventions or meetings (e.g., client or customer visits)? _____%
e. something other than the categories listed above (e.g., weddings, special ceremonies)? _____% ?

Q13. If you rented travel trailers, what percent of total sales and dollar volume did that represent in 2004? _____% and $_____.

Q14. If you rented cabins, what percent of total sales and dollar volume did that represent in 2004? _____% and $_____.

Q15. What issues or concerns impacted your business in 2004?

Thank you very much for your effort in providing this information for Connecticut tourism!

Connecticut MARINA SURVEY 2004

YOUR SECURITY CODE:

Q1. In what Connecticut town is your marina physically located? _____.

Q2. Check or circle which **one** of the following categories **best** describes your marina operations?

1. Full-Service Marina
2. Boat Dealer/Repair Shop
3. Boat Storage
4. Other (Please Specify)_____

Q3. How many total slips and moorings on average did you have open for use in 2004?

_____slips and _____moorings.

Q4. Thinking now about your recreational boaters in 2004, about what percent of them came from the following areas?

a. Connecticut?_____% . (If 100%, skip to Q6)

b. Other New England States (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island)? _____ %.

c. The New York Metropolitan Area, including New York City, Long Island, and Westchester? _____ %.

d. New York State and New Jersey, NOT including New York City Metro Area? _____ %.

e. Pennsylvania? _____ %.

f. All other states within the USA? _____ %.

g. Foreign countries including Canada and Mexico? _____ %.

Q5. What months were you open for business in 2004? _____.

Q6. For each of the seasons you were open, what was your average occupancy on WEEKENDS in 2004 by transients and long-term clients?

a. Weekends in Winter (December-February): _____%
b. Weekends in Spring (March-May): _____%
c. Weekends in Summer (June-August): _____%
d. Weekends in Autumn (September-November): _____%

Q7. For each of the seasons you were open, what was the average occupancy on WEEKDAYS in 2004 transients and long-term clients?

a. Weekdays in Winter: _____%
b. Weekdays in Spring: _____%
c. Weekdays in Summer: _____%
d. Weekdays in Autumn: _____%

Q8. What was your average slip rate per night, including taxes, in 2004? $_____

Q9. What was your average mooring cost per night, including taxes, in 2004? $_____

Q10. Approximately what was the average length of stay (number of days/nights) of a typical recreational boater in 2004? _____ days/nights.

Q11. Approximately what were your total sales (for slip/mooring rentals and/or fees) for calendar year 2004? $_____.

THE RESPONSES TO QUESTIONS 12a. – 12c. SHOULD TOTAL 100%

Q12. Approximately, what percentage of your slips and moorings were accounted for by

f. Seasonal slip and moorings _____ %
g. Transient slip and moorings _____ %
h. Something other than the categories listed above? _____%

Q13. What percent of your customers pay a membership fee? _____%

Q14. What issues or concerns impacted your business in 2004?

Thank you very much for your effort in providing this information for Connecticut tourism!

2005 Visitor Intercept Study

Doc#:

Intv

Date

Site:

Day:

Hour:

1) Are you in the area today as part of a group tour?
2) What is the primary purpose of this trip?

3) Estimate what your travel party's total spending will be while in Connecticut on this trip/outing.

a) Recreation /Entertainment /Attractions *(Not including gambling/wagers)*
b) Food / Meals / Dining
c) Shopping / Retail / Gifts
d) Gasoline/Fuel/Oil purchases while in CT
e) Other Auto *(in-state payments for car rentals, repairs, parking etc.)*
f) Local Transportation *(in-state payments for taxi, train, bus, limousine, etc. while in CT)*
g) Lodging / Hotels / Camping
h) Wagers / Gambling

4) How many people are in your travel party today?
5) Your party includes children: If yes, Children age 10 or younger?
6) List the primary residence State and Zip code every <u>household</u> in your party:
7) Counting today, how many <u>days</u> of this trip/outing are in CT?
<u>IF SOME OUT OF STATE RESIDENTS</u>: (*IF PARTY IS ALL CT RESIDENTS, SKIP TO Q7b *)*
7a) How many <u>nights</u> will <u>out of state</u> members of your party spend in CT?
8a) Where will these <u>out of state</u> members of your party be lodging? (*circle all that apply*):
<u>IF SOME CT RESIDENTS</u>: (IN NO CT RESIDENTS, SKIP TO Q9 **)
* 7b) How many <u>nights</u> will <u>CT residents</u> spend <u>away from home</u> in CT?
8b) Where will these <u>CT residents</u> be lodging away from home? (*circle all that apply*):
<u>FOR ALL:</u>
** 9) Which best describes this visit/outing in Connecticut:

1 CT is <u>only</u> State planned for this trip/outing.
2 CT is <u>one of several</u> States planned for this trip/outing.
3 <u>CT not planned</u>. Stopped <u>while going-through CT</u> to another State.

10) What other destinations outside of Connecticut are part of this trip?
11) How satisfied are you with this experience in Connecticut? 0-10 Scale
11a) If low rating…why that rating?
12) How satisfied are you with <u>this particular</u> place/attraction? 0-10 Scale
12a) If low rating…why that rating?
13) How likely are you to return to CT places/attractions for a non-business trip at some point in the next two years? 0-10 Scale
14) During this trip in CT, what <u>other</u> places/attractions have you visited… or will you be visiting?

14a) Will you (or have you) visited one of the State's casinos <u>during this visit</u> to the State?
15) What other non-business activities or events will you be enjoying <u>during this visit</u> in Connecticut? (*circle all that apply*)

- Rate these two tourism destinations…from what you know or have heard.
  In each box, score a 0–10 where… 0 is Poor and 10 is Excellent.
  a) Lots to see and do
  b) Close-by
  c) Fun
  d) Interesting
  e) Re-invigorating
  f) Scenic

20) How long ago did you decide to visit this Connecticut place/attraction?
21) In the past 12 months, did you contact The State of Connecticut for tourism info?
22) How have you gathered information for this trip? (*circle all that apply*)
23) Before today, had you seen the 52 getaways described in any CT info?
23a) IF SEEN, Were any of these ideas considered during your planning for this trip?
24) Prior to today, had you seen a copy of this year's Connecticut Vacation Guide? (*sample*)
25) Prior to today, had you seen a copy of this year's Connecticut Vacation newspaper insert? (*sample)*
26) Counting this trip…In the past 12 months, how many pleasure trips did you take?
27) How many of these trips were to or within Connecticut?
28) Is this your first-ever pleasure trip to a Connecticut attraction?
28a) In what year was your most recent pleasure trip to/in Connecticut?
29) Beginning with yourself, list the age of each member of your household:

30) Which categories describe the heritage of members in your party? (*circle all that apply*)
31) In which range is your household's combined annual income?

Appendix 8: Detailed Travel and Tourism Visitor Spending Estimation Methodology

Data and Methodology for Tourism Impact Study

The primary economic impact of the tourism industry is driven by spending patterns of visitors in five categories: hotels, motels and resorts (HMR), day-trippers (DT), those visitors staying with their family and friends (VFR), marinas, and campgrounds.

We calculate visitor spending in eight expenditure categories (shopping, lodging, meals, recreation, wagers, fuel, other auto, and local transportation) in each county. We use variety of methods and data sources to estimate visitor spending. We call CCEA's method of estimation the "accommodation mode" as lodging revenues are driving the entire estimation process.

I. Data Sources

We use three sources of data:

1) Travel Industry Association (TIA) TravelScope Household Survey for Connecticut in 2004.

2) Lodging gross receipts (taxable revenue) from the Department of Revenue Services (DRS), one of the most reliable data sources with regard to HMR room sales revenue.

3) Surveys (lodging establishments and visitor intercept surveys).

We conducted mail and phone surveys of lodging establishments including HMRs, marinas and campgrounds (Appendix 7contains sample surveys). The combined response rate for HMRs is 37%, for marinas is 41%, and for (public and private) campgrounds is 45%.

In order to get an updated visitor spending pattern, Witan Intelligence, Inc. conducted field-intercept surveys in the spring, summer and fall of 2004 and the winter of 2005. Questions in the intercept survey reflect spending in the eight expenditure categories. Twenty intercept sites were recruited and nearly 2,500 visitor parties interviewed. The surveys took place on weekdays and weekends at each site. Sites included:

Coastal Fairfield Connecticut Welcome Center - Darien	**Greater New Haven** Peabody Museum of Natural History Yale Bowl Yale Center for British Art
Litchfield Hills Connecticut Welcome Center - Danbury Litchfield White Memorial Mt. Mohawk Ski Area Quassy Amusement Park	**Mystic Country** Foxwoods Resort Casino Hammonassett Beach State Park Mashantucket Pequot Museum Mohegan Sun Mystic Seaport Rocky Neck State Park Vanilla Bean Café
River Valley Mark Twain House Talcott Mountain State Park Tanger Factory Stores Wadsworth Atheneum Museum of Art	

II. Method to Estimate Visitor Expenditures

We calculate travel and tourism expenditures of five types of visitors: HMR, DT, VFR, marinas, and campgrounds. We apply different methods to capture their spending as accurately as possible.

II.1. Total Spending of Visitors Who Stay in HMRs in each County:

We calculate HMR-related visitor spending utilizing the DRS gross lodging receipts (hotel sales), the CCEA lodging establishment survey, and visitor intercept survey by county. If we know what fraction of the HMR-related visitor spending accrues to lodging, we can calculate total spending of HMR visitors by expenditure category. The following subsections explain the procedure of CCEA's calculation in more detail.

II.1.a. Annual HMR lodging spending (DRS annual gross lodging Receipts and Adjustments for Exemptions)

The DRS gross lodging receipt data was obtained at the county level. There was a small portion of properties listed as "county unknown," which comprise retail chains that report their results as a statewide aggregate. To include these receipts in our calculation,

we distributed them across all counties in relation to each county's relative proportion of total room receipts. The DRS gross lodging receipt represents only the taxable amount and does not include exemptions.[163] Exemptions are calculated as 12% of gross taxable receipts[164] in all counties, except Hartford County (government center), where exemptions are set at 20%, and New London County (military establishments), where exemptions are set at 18%. Furthermore, hotel revenue derived from Mashantucket Pequot and Mohegan Tribal Nation lands (Foxwoods hotels and Mohegan Sun hotel) is not included in DRS data, and we add it to the annual HMR lodging receipts in New London County.

$$ALS_{HMR,i} = \frac{\sum_{k=1}^{12} HS_{HMR,i,k}}{0.88} \qquad (1)$$

where $ALS_{HMR,i}$ = annual HMR lodging spending in the *ith* county, and

$HS_{i,k}$ = hotel sales in the *kth* month for the *ith* county.

For New London, we use the following formula to get the Annual HMR Lodging Spending:[165]

$$ALS_{HMR,i} = \frac{\sum_{k=1}^{12} HS_{HMR,i,k}}{0.82} + Revenue_{Foxwood's\ Hotels\ and\ Mohegan\ Sun\ Hotel}. \qquad (2)$$

For Hartford, we use the following formula:

$$ALS_{HMR,HF} = \frac{\sum_{k=1}^{12} HS_{HMR,HF,k}}{0.8}. \qquad (3)$$

[163] There are four types of entities or persons who may claim exemption from state hotel tax: nonprofit organizations, military, government, and permanent residents (people who are staying 30 days or longer).
[164] 12 % exemption rate is consistent with the estimates of Source Strategies, Inc. for the Office of Texas Comptroller. For details, see Texas Tourism Division at http://www.research.travel.state.tx.us/hotelreport.asp.
[165] This is a decrease in the exemption rate in New London from the 2001 study. The exemption rate declined from 20% to 18% due to a decrease in government traffic.

II.1.b. Spending ratios for each expenditure category by visitor type (HMR, DT, and VFR)

From the intercept survey, we calculate the average spending per visitor in each expenditure category and the total average spending per day per visitor in each county. We calculate spending ratios for each county by dividing the overall visitor spending in each expenditure category by the overall total visitor spending.

II.1.c. Annual spending for each expenditure category except lodging by HMR visitors

Once we have the ratios for each expenditure category, we can calculate the total amount of spending for HMR visitors. Then we distribute this total spending into the other seven expenditure categories as follows:

$$AST_{HMR,i} = \frac{ALS_{HMR,i}}{SSR_{HMR,i,l}} \quad (4)$$

$$ASC_{HMR,i,j} = AST_{HMR,i} \times SSR_{HMR,i,j} \quad (5)$$

where $AST_{HMR,i}$ = annual total spending by HMR visitors in the *ith* county,

$ASC_{HMR,i,j}$ = annual HMR spending in the *jth* expenditure category of the *ith* county (except lodging spending for HMR visitors, as we obtain data from DRS and adjusted as explained above),

$ALS_{HMR,i}$ = annual lodging spending of HMR visitors in the ith county (see formulas 1-3),

$SSR_{HMR,i,j}$ = HMR spending ratio in the *jth* expenditure category in the *ith* county (from intercept survey, see step b),

$SSR_{HMR,i,l}$ = HMR spending ratio in the lodging category in the *ith* county (from intercept survey, see step b).

For example, if we know that 20% of total spending goes to lodging category and annual lodging expenditure is $1 million, we obtain total HMR visitor spending as $5 million (= $1 million/20%). Furthermore, we distribute this total spending into each expenditure category other than lodging by multiplying the spending ratios in each category by $5 million.

II.2. Spending by Day-trippers in each County

From TIA TravelScope, we gather the average statewide ratio of visitors by type of accommodation for HMR, DT and VFR. Using TIA ratios and total average spending from the CCEA intercept survey, we obtain the weighted spending ratio for each of the three types of visitors (HMR, DT, and VFR). From the annual total HMR spending and the weighted spending ratios in each county, we calculate total visitor spending (the sum of HMR, DT, and VFR).

Once we have the total visitor spending (including HMR, DT, VFR), we are able to obtain the spending by DT and VFR using the weighted spending ratios. Finally, we distribute the amount of spending by each type of visitor into each expenditure category according to the spending ratios. The detailed procedure is as follows:

II.2.a. Total visitor (HMR, DT, and VFR) spending in each county

II.2.a.i. Weighted spending ratios

$$WSR_{t,i} = \frac{TAS_{t,i} \times F_t}{\sum_{t=1}^{3} (TAS_{t,i} \times F_t)}, \qquad (6)$$

where $WSR_{t,i}$ = weighted spending ratio of the *tth* type of visitors for the *ith* county,

$TAS_{t,i}$ = total average spending per day per visitor of the *tth* type of visitor in the *ith* county (from intercept survey), and

F_t = frequency for the *tth* type of visitors (0.43 for the DT, 0.27 for VFR, and 0.3 for HMR based on TIA data (percentage of visitors by type of accommodation for 3rd quarter, 2001)).

II.2.a.ii. Total visitor (HMR, DT, VFR) spending

$$TVS_{3,i} = \frac{AST_{HRM,i}}{WSR_{HRM,i}}, \qquad (7)$$

where $TVS_{3,i}$ = Total visitor (HMR, DT, VFR) spending in the *ith* county

$AST_{HMR,i}$ = annual total spending by HMR visitors in the *ith* county (see formula 4), and

$WSR_{HMR,i}$ = weighted spending ratio of HMR for the *ith* county.

II.2.b. Total spending by DT

$$AST_{DT,i} = TVS_{3,i} \times WSR_{DT,i}, \quad (8)$$

where $AST_{DT,i}$ = annual total spending by DT visitors in the *ith* county,

$TVS_{3,i}$ = total visitor (HMR, DT, VFR) spending in the *ith* county, and

$WSR_{DT,i}$ = weighted spending ratio of DT for the *ith* county.

II.2.c. Spending in each sector by DT

$$ASC_{DT,i,j} = AST_{DT,i} \times SSR_{DT,i,j}, \quad (9)$$

where $ASC_{DT,i,j}$ = annual DT spending in the *jth* expenditure category of the *ith* county,

$AST_{DT,i}$ = total visitor spending by DT visitors in the *ith* county, and

$SSR_{DT,i,j}$ = spending ratio in *jth* expenditure category in *ith* county for DT (from intercept survey, as step b of the procedure for total spending of visitors who stay in HMRs).

II.3. Spending by people staying with Family and Friends in each county

The VFR spending calculation follows the same procedure as that for DT. Using steps (b) and (c) in the procedure for DT, we obtain spending in each sector by VFR.

II.3.a. Total spending by VFR

$$AST_{VFR,i} = TVS_{3,i} \times WSR_{VFR,i}, \quad (10)$$

where $AST_{VFR,i}$ = annual total spending by VFR visitors in the *ith* county,

$TVS_{3,i}$ = total visitor (HMR, DT, VFR) spending in the *ith* county, and

$WSR_{VFR,i}$ = weighted spending ratio of VFR for the *ith* county.

II.3.b. Spending in each sector by VFR

$$ASC_{VFR,i,j} = AST_{VFR,i} \times SSR_{VFR,i,j}, \quad (11)$$

where $ASC_{VFR,i,j}$ = annual VFR spending in the *jth* expenditure category of the *ith* county,

$AST_{VFR,i}$ = total visitor spending by VFR visitors in the *ith* county, and

$SSR_{DT,i,j}$ = spending ratio in *jth* expenditure category in *ith* county for VFR (from intercept survey, as step (b) of the procedure for total spending of HMR visitors).

II.4. Spending in Marinas in each county

We allocate marina visitor spending in five expenditure categories: lodging, meals, shopping, local transportation, and marina-related spending (marina sales include membership fees, boat rentals, slip and mooring fees, boat repair, sail repair, notary services, chandlery services). We assume marina visitors spending on wagers and 'other auto' is negligible.

We calculate total marina sales using data from the marina survey, as well as online data for marinas. For the other four expenditure categories above, we use visitor spending from the Marine Angler Expenditures in the Northeast Region (Steinback and Gentner, U.S. Department of Commence, 1998). We distribute this state level spending to counties based on the numbers of marinas in each county as follows:

$$ASC_{MARINA,i,j} = SS_{MARINA,j,y} \times PS_{MARINA,i,y} \qquad (12)$$

where $ASC_{MARINA,i,j,y}$ = annual marina visitors spending in the *jth* expenditure category of the *ith* county (except total marina sales),

$SS_{MARINA,j,y}$ = state total marina spending in the *jth* expenditure category, and

$PS_{MARINA,i,y}$ = marina share in the *ith* county.

We calculate total marina spending using the marina survey and extrapolate the findings to all marinas.

II.5. Campground Visitor spending in each county

To estimate campground revenues, we use the campground survey, as well as data from campgrounds' websites. In terms of spending ratios, we treat campground visitor spending pattern in the same manner as that of HMR visitors. We obtain annual

campground spending for each expenditure category in a similar way as that for HMR and DT category spending.

II.5.a. Campground revenues from campground survey

We calculate campground revenues using the following formula based on the campground operation data from lodging survey and online information:

$$CR_c = \sum_{k=winter,spring,summer,fall} \sum_{p=weekend,weekdays} OR_k \times W_p \times Per, \qquad (13)$$

where $CR_c =$ camping revenues from the *cth* campground,

OR_k = occupancy rate in the *kth* season,

W_p = weekend or weekdays, and

Per = percentage of sites open.

II.5.b. Total revenues from campgrounds

We obtain total revenues by summing up the revenues from all 66 campgrounds in step (a):

$$TR_{i,camping} = \sum_{c=1}^{66} CR_{c,i}, \qquad (14)$$

where $TR_{i,camping}$ = total revenues from camping for the *ith* county, and

$CR_{c,i}$ = camping revenues from the *cth* campground in the *ith* county.

II.5.c. Annual campground visitor spending for each sector except camp sales and rentals in each county

Using the same logic as for other visitor types, spending in each category follows using the spending ratios in each category:

$$AST_{CAMP,i} = \frac{TR_{i,camping}}{SSR_{CAMP,i,camping}}, \qquad (15)$$

$$ASC_{CAMP,i,j} = AST_{CAMP,i} \times SSR_{CAMP,i,j}, \qquad (16)$$

where $AST_{CAMP,i}$ = annual total spending by HMR visitors in the *ith* county,

$TR_{i,camping}$ = total revenues from camping in the *ith* county,

$SSR_{CAMP,i,j}$ = spending ratio in the *jth* expenditure category in the *ith* county for campgrounds (assuming they are the same as those in HMR), and

$ASC_{CAMP,i,j}$ = annual campground spending in the *jth* expenditure category in the *ith* county.

II.6. Total Annual Spending in each sector in each county

Once we have the spending in each category for all the five visitor types, we add them up within each category by county.

$$TSC_{i,j} = \sum_{t=1}^{5} ASC_{t,i,j} \,, \qquad (17)$$

where $TSC_{i,j}$ = total annual spending by each type of visitor (HMR, DT, VFR, marinas, or campgrounds) for the *jth* expenditure category in the *ith* county, and

$ASC_{t,i,j}$ = annual spending in *jth* expenditure category of *ith* county for the *tth* type of visitor.

We then convert these expenditure categories to REMI policy variables.

Appendix 9: 2004 Connecticut Vacation Guide Sites and Venues Reporting Visitor Counts

Travel and Tourism Sites and Venues from 2004 Vacation Guide Survey

Bridgeport to Port Jefferson, NY
State Capitol & Legislative Office Building
Gone Ballooning
Connecticut Audubon Society Coastal Center
Hammonasset Beach State Park
Hartford Civic Center
Mystic Aquarium & Institute for Exploration
Sherwood Island State Park
The Maritime Aquarium at Norwalk
International Skating Center of Connecticut
Rocky Neck State Park
Captain's Cove Seaport
Arena at Harbor Yard
Hartford Wolf Pack Hockey Club
Shoreline Star Greyhound Park & Entertainment Complex
Ocean Beach Park
Mystic Carousel & Fun Center
Rentschler Field
Quassy Amusement Park
Bridgeport Bluefish
Harkness Memorial State Park
New Britain Rock Cats
Connecticut's Beardsley Zoo
Stafford Motor Speedway
Bridgeport Sound Tigers
Science Center of Connecticut
Wickham Park
Stepping Stones Museum for Children
Connecticut Defenders
Peoples State Forest
Mohegan Park & Memorial Rose Garden
Powder Ridge Ski Area
The Only Game in Town
Blue Jay Orchards
Stamford Museum & Nature Center
Thompson International Speedway
Kent Falls State Park
Bushnell Park Carousel
Caprilands Herb Farm
Lime Rock Park
Talcott Mountain State Park
Silverman's Farm
The Discovery Museum
Mount Southington Ski Area
Kidcity Children's Museum
Rose's Berry Farm
Lake McDonough
Earthplace - The Nature Discovery Center
Chester/Hadlyme
Housatonic Meadows State Park
Burr Pond State Park
Connecticut Audubon Society Center at Fairfield
Elizabeth Park Rose Gardens
Hopkins Vineyard
Ansonia Nature & Recreation Center
Children's Museum of Southeastern Connecticut
Stonington Vineyards
Foxwoods Resort Casino
University of Connecticut
DiGrazia Vineyard & Winery
The Nature Conservancy
Dinosaur Crossing
Lutz Children's Museum
Mohegan Sun
4-H Center at Auer Farm
Denison Pequotsepos Nature Center
Farmington River Tubing
Stanley Quarter Park
New Britain Youth Museum
Haight Vineyard & Winery
U.S. Coast Guard Academy
Roaring Brook Nature Center

Arts Sites and Venues from 2004 Vacation Guide Survey

Evelyn Preston Memorial Fund Concert Series
New England Dodge Music Center
The Bushnell Center for the Performing Arts
Shubert Theater
Tours of the Shubert
Chevrolet Theatre
Bruce Museum of Arts & Science
Wadsworth Atheneum Museum of Art
Goodspeed Opera House
Yale Center for British Art
Hartford Stage
Yale University Art Gallery
Walsh Art Gallery
Quick Center for the Arts
Downtown Cabaret Theatre
Warner Theatre
Garde Arts Center
Guilford Art Center
Jorgensen Center for the Performing Arts
Westport Country Playhouse
Creative Arts Workshop
Palace Theatre, Stamford Center for the Arts
Yale Repertory Theatre
Seven Angels Theatre
Levitt Pavilion for the Performing Arts
The Sculpture Mile
Lincoln Theater
New Britain Museum of American Art
Florence Griswold Museum
Center for the Arts
William Benton Museum of Art
Ives Concert Park
Real Art Ways
Hill-Stead Museum
Connecticut Repertory Theatre
Norwalk Concert Hall
Ivoryton Playhouse
Long Wharf Theatre
The Hartt School Concert Series
Lyman Allyn Art Museum
Rich Forum, Stamford Center for the Arts
The Aldrich Contemporary Art Museum
Brookfield Craft Center
The Norma Terris Theatre
TheaterWorks
Thomaston Opera House
Music Under The Stars Concerts
Leamy Hall Auditorium
Mystic Arts Center
Silvermine Guild Arts Center
Artspace
Little Theatre of Manchester
Norfolk Chamber Music Festival
Weir Farm National Historic Site
Farmington Valley Arts Center
Theatre of Northeastern Connecticut at the Bradley Playhouse
Austin Arts Center
Lyme Art Association
Summer Concert Series
Stamford Theatre Works
Playhouse on the Green
Center for the Arts
Clockwork Repertory Theatre
Oddfellows Playhouse Youth Theater
Contemporary Art Galleries
Music Mountain
Artworks Gallery
Rowayton Arts Center
Slater Memorial Museum and Converse Art Gallery
Housatonic Museum of Art
Connecticut Theater Festival
Fine Arts Center
Musicals at Richter
Stratford Theatre

Historic and Heritage Sites from 2004 Vacation Guide Survey

Roseland Cottage-Bowen House
Freedom Schooner Amistad
New Haven
Gillette Castle State Park
Mystic Seaport
Mashantucket Pequot Museum & Research Center
Peabody Museum of Natural History (Yale University)
Historic Ship Nautilus & Submarine Force Museum
Essex
Connecticut Fire Museum
Essex Steam Train & Riverboat Ride
Connecticut Museum of Natural History & Connecticut Archaeology Center
The Mark Twain House & Museum
New England Air Museum
Beinecke Rare Book & Manuscript Library
Fort Griswold Battlefield State Park
Dinosaur State Park
Mattatuck Museum
The Connecticut Historical Society Museum
Eli Whitney Museum
Tarrywile Park & Mansion
Barker Character, Comic & Cartoon Museum
Connecticut Trolley Museum
Knights of Columbus Museum
Old State House
Supreme Court Building Tours
Lockwood-Mathews Mansion Museum (c.1864)
Boothe Memorial Park & Museum
Harriet Beecher Stowe Center
The Barnum Museum
Museum of Connecticut History
Institute for American Indian Studies
Fairfield Historical Society Museum
Old New-Gate Prison & Copper Mine
National Iwo Jima Memorial Monument
Shore Line Trolley Museum
Connecticut River Museum
Bush-Holley Historic Site
Noah Webster House & West Hartford Historical Society
The Trash Museum
Litchfield History Museum
Tapping Reeve House & Litchfield Law School
Connecticut Antique Machinery Association Museum
New Haven Colony Historical Society
Timexpo: The Timex Museum
Old Lighthouse Museum
Carousel Museum of New England
Danbury Railway Museum
Military Museum of Southern New England
Stanley-Whitman House
Sheffield Island Lighthouse
Wood Memorial Library
Wethersfield Historical Society
Webb-Deane-Stevens Museum
Windham Textile and History Museum
New Canaan Historical Society
Phelps Tavern Museum
Henry Whitfield State Museum
Nathan Hale Homestead (1776)
American Clock & Watch Museum
Keeler Tavern Museum (c.1713)
Ogden House & Gardens
Sloane-Stanley Museum and Kent Furnace
Torrington Historical Society - Hotchkiss-Fyler House
Barnes Museum (c.1836)
Westport Historical Society
Wadsworth Mansion
Military Historians Museum
Windsor Historical Society
Thomas Griswold House
Norwalk Museum
New Britain Industrial Museum
Glebe House & Gertrude Jekyll Garden
Shaw Mansion

Appendix 10: Heritage and Historical Sites Survey and Responses

Institution/Venue	FTE Paid Employees	Volunteer hours	Donations	Membership	Grants	Other	TOB	Exp on Renovation	Exp on Education	Total	Students/ Education
Phelps-Hatheway House											
Connecticut Historical Society Museum											
Brookfield Museum and Historical Society											
Connecticut Antique Machinery Museum											
Capitol Information and Tours		2.7	0.6	0	0	100000	100000	0	0	37500	31125
Timexpo Museum											
Tapping Reeve House and Law School											
Litchfield History Museum											
Osborne Homestead Museum											
Museum of Fife & Drum											
Center Cemetery	0	NA	800	1100	3000	NA	AD HOC	BY PROJECT	YES	UNK	SOME
Mashantucket Pequot Museum											
Danbury Historical Society & Museum											
Bristol Historical Society											
Glebe House Museum & Gertrude Jekyll Garden	1.5	5	20390	17330	18530	67177	156883	NA	6904	5000	461
American Clock and Watch Museum											
Old State House											
CT Sons of the American Revolution											
Fairfield Historical Society	11	3	4690	34265	15054	184184	449326	289765.34	21617	11000	3000
Thomas Griswold House Museum	2	3	25000	6800	0	44500	NA	34000	2900	1500	NA
Mark Twain House & Museum											

Mattatuck Museum	12	6	200000	65000	279210	1000000	1500000	0	150000	50000	8000
Mystic River Historical Society											
Mystic Seaport	215	1300	10672900	1243000	1098096	10847000	20822000	240600	2142000	300000	30000
Shaw Mansion											
New England Carousel Museum											
Bristol Center for Arts and Culture											
Torrington Historical Society											
Webb-Deane-Stevens Museum											
Westport Historical Society											
Windsor Historical Society											
Stanley-Whitman House	3	15	180000	6000	320000	171000	177000	510000	8600	13000	6000
Keeler Tavern Museum											
Kent Historical Society											
The Barnum Museum											
AMISTAD America, Inc.											
Canton Historical Museum											
Connecticut Women's Hall of Fame											
Lockwood-Mathews Mansion Museum											
Old Manchester Museum											
Keeney Schoolhouse											
New Canaan Historical Society											
Old Sturbridge Village											

Stone-Otis House											
Cedar Hill Cemetery											
Phelps Tavern Museum & Homestead											
Simsbury Historical Society											
Pleasant Valley District #5 Schoolhouse Museum											
Thankful Arnold House											
Denison Homestead Museum											
Shore Line Trolley Museum	2.75	15	90000	25000	0	130000	245000	60000	45000	15000	2000
Wethersfield Museum at Keeney Memorial											
Dr. Hezekiah Chaffee House											
John and Sarah Strong House											
Berlin Historical Society Museum											
Bellamy-Ferriday House & Garden											
Prudence Crandall Museum	2	0	3162.25	NA	NA	14479	NA	NA	500	1539	298
Hitchcock-Phillips House	0	1	2503	2920	0	5686	11000	0	0	700	475
Barker Cartoon Museum											
Capt. Elisha White House											
Colchester Historical Society											
Colchester Center & Historic District											
Columbia Historical Society											
Nathan Hale Homestead	10	150	1975693	47900	1430363	208501	2750998	YES	YES	16000 paid, 4000 unpaid	4800
Tarrywile Mansion	4	3	4,000	0	10,000	365,000	400,000	250,000		47,000	4700

Danbury Railway Museum	0	20								20,000	6000
Killingly Historical Center											
Stone House											
Deep River Historical Society											
Beckley Iron Furnace											
Old New-Gate Prison and Copper Mine	3	200 hours	531	0	0	46688	NA	6000	1000	7855	1667
East Haddam Historical Society & Museum											
East Hartford Public Library/Raymond											
Ethnic Heritage Center											
Smith Harris House											
Thomas Lee House (c.1660)											
East Windsor Academy at Scantic											
Connecticut Fire Museum											
East Windsor Historical Society	0	1	3460	870	0	8100	15178	138051628	359	138	
Hill-Stead Museum											
Merwinsville Hotel											
Abijah Rowe House	0	2	2595	2923	0	15147	22476	0	0	500	150
Putnam Cottage	0	5								800	80
Guilford Antiques Show to benefit the Hyland House											
Henry Whitfield State Museum	2	0	2400	0	0	15945 FROM ADMISSIONS &SALES	NA	0	YES, PART OF LARGER STATE AGENCY	5370	390
Guilford Keeping Society											
Eli Whitney Boarding House for Single Wo											

CT League of History Organizations											
Hartford Medical Society											
Butler-McCook House & Garden											
Isham-Terry House											
Harriet Beecher Stowe Center											
Museum of Connecticut History											
Harwinton Historical Society											
Haddam Shad Museum	0	2	0	0	0	0	500	0	0	50	NA
Griswold Historical Society Museum											
Sloane Stanley Museum	0	0	146	0	0	9731	NA	1332.82	0	1990	270
Jonathan Trumbull Jr. House											
Lebanon Green											
Deacon John Grave House											
Manchester Historical Society											
CT Firemen's Historical Museum											
Solomon Goffe House											
Amasa Day House											
James Morris Museum											
Naugatuck Historical Society											
New Britain Local History Room	0.5	0	0	0	0	0	Part of NB Public Lib	0	0	329	70
New Britain Industrial Museum	0	0.375	1092	8625	6450	374	14323	0	0	1500	500
New Haven Colony Historical Society											
Fort Nathan Hale and Black Rock Fort											
Monte Cristo Cottage Museum											

Hempsted Houses											
US Coast Guard Museum											
New Milford Historical Society & Museum											
Newtown Meeting House	0	1	59500	0	0	86900	52000	87600	0	6000	700
Newtown Historical Society											
Norfolk Historical Museum											
North Haven Historical Society											
Broadway and Union Streets											
Indian and Colonial Research Center											
Academy Museum	0	20									
Pwned											
Plainville Historic Center											
Quinebaug-Shetucket Heritage Corridor											
Salisbury Association											
Plumb Memorial Library/Huntington Branch	4.53	1	200	0	0	3760	170000	0	3000	??	??
The Old Store	1	3	NA	NA	NA	57845	18000	3398	122	1400	104
Southington Historical Center											
Barnes Museum											
NE Civilian Conservation Corps Museum											
Stonington Historical Society											
Lock Museum of America											
Old Tolland County Courthouse	0	6 to 8	2898	3621	NA	29565	35537	NA	397	3075	1400

Old Tolland County Jail and Museum											
Vernon Historical Society											
Wallingford Historical Society											
Samuel Parsons House											
Institute for American Indian Studies											
Noah Webster House & West Hartford Historical Soc.											
Museum of American Political Life											
Savin Rock Museum and Education Center											
Windham Textile & History Museum											
Weir Farm National Historic Site	11	0.5	NA	NA	Partnership, in kind labor with Weir Farm Trust, approx. 2 FTE of volunteer labor	750000	75000	190000	12000	1200	
New England Air Museum	4	74	223713	72816	71350	681887	1049766	0	98000	58607	11100
Roseland Cottage/Bowen House											
Old Bethlehem Historical Society											
Branford Historical Society	0	0	760	2937	1000	12939	19184	0	0	176	75
Harrison House											
Museum of Fire History											

Brooklyn Historical Society Museum	0	172 HOURS	149	1424	0	3721.73	NA	0	400	178	10
Daniel Putnam Tyler Law Office, Brooklyn	SAME AS ABOVE	SAME AS ABOVE	SAME AS ABOVE	SAME AS ABOVE	SAME AS ABOVE	SAME AS ABOVE	SAME AS ABOVE	SAME AS ABOVE	SAME AS ABOVE	SAME AS ABOVE	SAME AS ABOVE
Clinton Historical Society											
Cromwell Historical Society											
Stevens-Frisbie House											
Bates-Scofield House											
Darien Historical Society											
Deep River Ancient Muster											
Historical Society of East Hartford											
Nellie McKnignt Museum											
Enfield Historical Society											
Essex Historical Society											
Ogden House and Gardens											
Brown's Forge Museum, A Blacksmith Shop											
Gaylord One-Room Schoolhouse											
Gaylordsville Historical Society											
Washington Oak											
Historical Society of Glastonbury											
Museum on the Green											
Welles-Shipman-Ward House											
Colton-Hayes Tobacco Barn											

Cooley School											
Salmon Brook Historical Society											
Weed-Enders House											
Bush-Holley Historic Site & Visitor Center											
Historical Society of Greenwich											
Old Town Hall											
Dorothy Whitfield Historic Society	0	1	4000	2000	NA	25000	NA	3000	500	1000	300
Hyland House											
Haddam Historical Society											
Ancient Burial Yard of 30 Mile Island											
Hamden Historical Society	0	5	150	1500	0	3500	5000	NA	NA	250	170
Jonathan Dickerman House											
Burnham-Hibbard House											
Hampton Antiquarian and Hist. Society											
Antiquarian and Landmarks Society											
Holley House Museum											
Salisbury Cannon Museum											
Falls Village-Canaan Historical Society											
Dr. William Beaumont House											

Lebanon Historical Society Museum & Visitor Ctr.											
Governor Jonathan Trumbull House											
Revolutionary War Office											
Litchfield Historical Society											
Madison Historical Society	1	4	7953.87	same AS donations	5000	29988	50285	17123	1555	450	200
Cheney Homestead	1	0.25	3599	0	39500	12616	65091	51790	465	1200	890
General Mansfield House											
Middlesex County Historical Society											
Wadsworth Mansion at Long Hill Estate	2	NA	1600	0	7150	469250	478000	60000	0	17000	200
Bryan Downs House											
Eells Stow House											
Milford Historical Society											
Nathan Clark Stockade House											
Porterville Academy											
Hanford-Silliman House											
New Hartford Historical Soc											
Friends of Grove Street Cemetery											
Grove Street Cemetery											
John Slade Ely House											
New London County Historical Society											
New London Maritime Society											
N. Stonington Historical Society											

Norwichtown											
Norwichtown Cemetery											
Norwichtown Green											
Washington and Broad Streets											
Chelsea District											
Florence Griswold Museum											
General William Hart House											
Old Saybrook Historical Society											
Greystone											
Hotchkiss House Museum											
Prospect Historical Society	0	0.09	50	100	0	8000	10500	500	0	200	NA
Cass Gilbert Garden House											
Academy Hall Museum											
Rocky Hill Historical Society											
Edward Waldo House											
Scotland Historical Society											
Seymour Historical Society											
Seymour Historical Society Museum											
Gay-Hoyt House											
Sharon Historical Society	1.25	0	26362	26362	16000	75755	118117	0	2500	1100	250
Shelton Historical Society											
Shelton History Center											
David Northrop House and Museum	0	1	0	8870	0	5	16600	3750	1428	410	104

Sherman Historical Society											
Hoyt-Barnum House											
Stamford Historical Society and Museum											
Mansfield Historical Society											
Mansfield Historical Society Museum											
Capt. David Judson House											
Stratford Historical Society	0	0	5,000	1,000		50,000	55,000	150,000	300	460	0.5
Old Thompson Town Hall	0	2	5000	0	0	2000	12000	4000	1000	350	100
Thompson Historical Society											
Hicks-Stearns Museum											
Tolland Green Courthouse											
Hotchkiss-Fyler House	3	2	26500	11900	30100	197500	270368	35000	27300	6000	500
Trumbull Historical Society											
Tolland Agricultural Center											
Waterford Historical Society	0	0	150	3000	0	9000	16000	11000	400	2000	1700
Sarah Whitman Hooker Homestead											
Ward-Heitman House Museum	0 to 2 part time	1	5000	500	4000	30000	40000	0	3500	750	400
Westbrook Drum Corps											
Wheeler House											
Buttolph-Williams House											
Wethersfield Historical Society											
Wilton Heritage Museum											

Wilton Historical Society											
Woodstock Historical Society											
	Not Received	212									
	Received	46									
	Response	17.8%									
	Paid FTEs	298									
	Volunteers	1650									
	Volunteers incl. Hours & FTE range	1657									