



**The Economic Impact of the
Redevelopment of the Hartford Civic Center**

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CONNECTICUT CENTER FOR ECONOMIC ANALYSIS

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Executive Summary

Opened in 1975, the Hartford Civic Center and Coliseum is one of the oldest venues in the southern New England area.¹ At its peak circa 1988, the Center was home to an NHL franchise, the Hartford Whalers and hosted 318 events per year.² Today, activity at the Center has declined. Its amenities are economically obsolete and its mechanical systems are aging. This report evaluates a plan to modernize and revitalize the Center and bring new entertainment options to the Hartford area. The goal would be to once more make it a hub of entertainment and economic activity in Hartford.

The plans include a retrofit of the current structure, continuation of tenant events, increased numbers of other events, new tenants, a new atrium space with sport and other retail stores, a new food court, a new restaurant and sports bar, a new broadcast studio at street level, and a new IMAX theater. This analysis incorporates the realization of the goal to return an NHL team to the city starting in 2017. This report compares the redevelopment of the Hartford Civic Center to a baseline in which it has ceased to operate.

Direct spending estimates are based on several sources including: historical operations (reference reports), budgets of the Hartford Convention Center (HCC) and the Wolf Pack, discussions with facility and event managers, a literature review of similar economic impact studies, and CCEA's expertise and knowledge of the Connecticut economy.

Direct economic impacts inside Connecticut include:

- ***\$104.9 million in construction spending (2012-2013);***
- ***\$5.3 million retail and restaurant sales, of which 50% is net new from Atrium Team Sports Store, Geno Auriemma's Fastbreak Pub & Restaurant , Hard Rock Café for a total of 3,369 sq. ft. of retail and 19,423 sq. ft. of restaurant space (2012- onward);³***
- ***\$3.2 million restaurant sales, of which 50% is net new from 68,000 sq foot market / food court open daily 8-6 (2014- onward);³***
- ***\$3.1 million in IMAX theater firm sales (2013 – onward);⁴***
- ***51 FTEs in ongoing Arena Operations (2012 – onward and historical);***
- ***55.6 FTEs for The Connecticut Whale (2012-2016), 38.3 FTEs for the Hartford Wolf Pack ongoing operations (historical),***
- ***0 'net new' FTEs for the UCONN Basketball tenant (2012 – onward);***
- ***\$1.7 and \$3 million in spending on advertising and local retail for traveling event productions;***

¹ CS&L and HOK Sport (2006) "Market Demand and Operational Effectiveness Analysis of the Hartford Civic Center" http://www.hartfordinfo.org/issues/wsd/downtowndevelopment/Civic_Center_analysis.pdf (accessed Sept 18, 2010).

² http://articles.courant.com/1993-05-02/news/0000101513_1_books-conventions-convention-planners-costs

³ While this estimate is necessarily conservative (ie. less than 100%), it is higher than the REMI default impact for restaurant and retail firm sales in Connecticut. This slightly higher percent of net new activity is based on the local popularity of the brands involved and the relative dearth of entertainment options in Hartford, relative to the rest of the state.

⁴ Given the specialty nature of an IMAX theater and proximity of 2 other IMAX facilities, this report uses REMI default firm sales to determine 'net new' amounts.

- **16.6 FTE part-time NHL player Connecticut residents at \$2 million average salary⁵ (2017 – onward);**
- **\$30.1 million NHL operations expenses (2017 – onward);**
- **889,000 to 975,000 annual visitors (2012-2016) based on event projections and an AHL team and 1.4 to 1.5 million annual visitors (2017- 2021) with an NHL team;**
- **\$6.4 to \$10.6 million in on-site (in Arena only) spending on concessions and show merchandise (2012- onward and historical);**
- **\$55.4 to \$93.3 million in annual off-site visitor spending (at local businesses outside the Civic Center) of which \$0 and \$32 million is ‘net new’ (see figure A) (2012- onward);**

Figure A: Visitor Spending ‘Net New’ Scenarios

Visitor Estimates by Year										
Events	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Number of Events (#s)	158	158	165	169	175	179	185	189	195	199
Total Visitor Days (millions days)	0.9	0.9	0.9	0.9	1.0	1.4	1.5	1.4	1.5	1.5
<u>Visitor Spending (in \$2010 millions)</u>										
"On-site" Purchases	\$6.4	\$6.2	\$6.6	\$6.6	\$6.9	\$9.9	\$10.3	\$10.2	\$10.6	\$10.5
"Off-site" Purchases										
Total Off-Site Purchases	\$55.4	\$53.9	\$59.3	\$57.2	\$62.2	\$86.8	\$90.3	\$89.7	\$93.3	\$92.7
Scenario 1 'Net New Only'	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$4.2	\$4.2	\$4.2	\$4.2	\$4.2
Scenario 2 'Net New Only'	\$8.3	\$8.1	\$8.9	\$8.6	\$9.3	\$15.1	\$15.6	\$15.6	\$16.1	\$16.0
Scenario 3 'Net New Only'	\$16.6	\$16.2	\$17.8	\$17.2	\$18.7	\$30.2	\$31.3	\$31.1	\$32.2	\$32.0

This analysis uses the Connecticut State REMI model. The historical operations of the Civic Center are removed from the baseline using a counterfactual approach. The redevelopment scenario is built upon this new baseline. The results then reflect the difference between closing the center and redeveloping it. Results follow.

⁵ Modeled in REMI as a wage bill adjustment; not new spending.

Figure B: Results for Key Economic Indicators (2012-2021)

Annual Average Increase (2012-2021)			
	Scenario 1	Scenario 2	Scenario 3
Employment (Jobs)	1202	1314	1449
Real Gross State Product (\$2010 millions)	\$45.7	\$51.4	\$58.4
Real Disposable Personal Income (\$2010 millions)	\$37.8	\$41.7	\$45.4
Population	514	579	652
Net State Tax Revenues (\$2010 millions)	\$7.4	\$8.1	\$8.4

Based on a 10-year time horizon, this study finds that the NESE redevelopment plan will increase employment by 1202-1449 annually, on average. Real Gross State Product, a measure of total economic activity, will be \$45.3 to \$58.4 million higher on average. Net State Revenues will be \$7.4 to \$8.4 million higher per year. This represents a net present value of \$58.3 to \$66.6 million net state revenues over a 10 – year time horizon. A more realistic bonding time horizon of 20-years yields a net present value of \$83.6 to \$94.3 million (see Appendix B).

This report does not analyze *direct state* revenues or expenses resulting from this plan. In the past, the state and city have had revenue sharing plans that include a ticket surcharge and rent. Accounting for more than 800,000 tickets sold in a typical year, the ticket surcharge represented over \$1.6 million dollars in additional government revenue from the operation of the Center annually. Historically, rent has been as much as \$2 million per year to the Connecticut Development Authority. Any direct revenues to the state or city need to be assessed in addition to the net state revenues reported here.

This once-thriving center brought civic pride and improved local quality of life in the past. It can do so again, with an imaginative rejuvenation plan. The findings from this report come from conservative assumptions made about direct impacts. Consequently, these findings should be regarded as a lower bound on the potential benefit to the state. Even so, these results suggest that this redevelopment plan is a ‘winner’ for both Hartford and the State of Connecticut.

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1. Introduction

This economic impact report evaluates the operations of the Hartford Civic Center (or 'the center') and its value to the State of Connecticut. Located in downtown Hartford, CT, Center complex includes a 16,500 Coliseum, and 68,855 sq. ft. flexible flat floor / exhibition space.⁶ It is currently owned by the City of Hartford, under the authority of the Connecticut Development Authority (CDA) and managed by Northland/ Anschutz Entertainment Group (AEG). The center hosts a variety of events including AHL hockey, University of Connecticut (UCONN) Basketball, concerts and exhibitions. Originally a focal point for entertainment and economic activity in Hartford, an aging facility and a declining number of events have raised concerns about its future. This analysis estimates the economic impact of one possible redevelopment plan for the Center.

Opened in 1975, the Hartford Civic Center and Coliseum is one of the oldest venues in the southern New England area.⁷ At its peak circa 1988, the Center was home to an NHL franchise, the Hartford Whalers and hosted 318 events per year.⁸ Adjacent to the Center was the Civic Center mall. The mall housed 50 small shops and restaurants and was initially anchored by a locally run department store. The entire complex offered entertainment, retail and office space and helped attract business headquarters to Hartford's Trumbull St. area. The Civic Center mall was demolished in 2004 and replaced with Hartford 21, a residential and commercial complex designed to revitalize the area. By then, the number of annual events at the Civic Center declined to around 150 per year.⁹ The profitability of the Civic Center also declined. In 2009, the Connecticut Development Authority (CDA) and Northlands/ AEG Management renegotiated their agreement requiring the CDA to contribute \$1.05 million to the XL center rather than receiving revenue from the Center. This has resulted in a net loss to the CDA of about \$330,000 in both 2009 and 2010.¹⁰

Operational control of the remaining Civic Center is scheduled to revert to the City of Hartford Sept 1, 2013 from its current operators. As the building ages, it becomes difficult to attract other sports leagues like arena football and lacrosse, and one-time "bid" events like the NCAA regional/national basketball tournaments. Many physical and operational characteristics do not meet the standards necessary to attract major professional sports franchises. The facility's mechanical systems are approaching the end of their useful life, broadcast facilities are antiquated, event load-in/load-out space is tight, locker rooms and team areas are outdated, and concourse space is limited. The Civic Center is rapidly reaching a

⁶ <http://www.xlcenter.com/default.asp?xlcenter=91> (accessed Oct 10, 2011).

⁷ CS&L and HOK Sport (2006) "Market Demand and Operational Effectiveness Analysis of the Hartford Civic Center" http://www.hartfordinfo.org/issues/wsd/downtowndevelopment/Civic_Center_analysis.pdf (accessed Sept 18, 2010).

⁸ http://articles.courant.com/1993-05-02/news/0000101513_1_books-conventions-convention-planners-costs

⁹ CS&L and HOK Sport (2006) "Market Demand and Operational Effectiveness Analysis of the Hartford Civic Center" http://www.hartfordinfo.org/issues/wsd/downtowndevelopment/Civic_Center_analysis.pdf (accessed Sept 18, 2010).

¹⁰ Connecticut Development Authority (2010) 'Financial Statements and Supplementary Information Years Ended June 30, 2010 and 2009' <http://www.ctcda.com/Custom-Content/WWW/CMS/files/Annual%20Report/2010-CDA-Audited-FT-Annual-Report.pdf> (accessed Oct 2, 2011)

juncture in its economically useful life. It seems likely that the Hartford Civic Center must either be redeveloped or retired.

Aetna¹¹ retained the Connecticut Center for Economic Analysis (CCEA), of the University of Connecticut, to evaluate New England Sports and Entertainment's (NESE) plan to redevelop the Center. This plan seeks to revitalize and refurbish the Center and once more make it a hub of entertainment and economic activity in Hartford. Their plans include a retrofit of the current structure, continuation of tenant events, increased numbers of other events, new tenants, a new atrium space with a team / sport store, a new market / food court, two new restaurants / bar, a new broadcast studio at street level, and a new IMAX theater. This analysis incorporates the realization of the goal to return an NHL team to the city starting in 2017. For the reasons discussed above, this report compares the redevelopment of the Hartford Civic Center to a baseline in which it has ceased to operate. The economic impact is the difference between the two scenarios.

This report is divided into 14 sections. Section 2 describes the method and purpose of economic impact analysis. Section 3 lays out the economic foot print and time-line of economic activities associated with this redevelopment. Sections 4 – 9 describe each of the economic impact components and REMI inputs associated with each facet of the project. Section 10 considers additional aspects of the project that are not empirically modeled. Section 11 describes the economic modeling approach. This analysis first 'digs a hole' removing Civic Center activity and then 'rebuilds' the center with NESE proposal described herein. Section 12 describes results for key economic indicators. Sections 13 and 14 review limitations and present conclusions. Appendices describe the REMI model and some alternate modeling scenarios.

2. Economic Impact Analysis

An economic impact analysis estimates the economic activity generated from investments or spending in the reference economy. Using a common methodology, economic impact analyses can be used to compare different projects or investment strategies to determine which project yields the greatest economic benefit.

This report uses the Connecticut State REMI model (see appendix A for more detail). The core of this model is the US Department of Commerce Bureau of Economic Analysis (BEA) input-output table that estimates spending shares (or input-output coefficients) by each industry of goods and services from every other industry. REMI improves on the BEA input-output table by customizing the coefficients to a specific region, accounting for purchases made to firms outside the region, incorporating government taxation and spending, population changes and consumer behavior. In a sense, the REMI model represents a mini economy that we can calibrate to perform 'what if...?' scenarios. The economic impact is measured as the difference between a baseline scenario and the 'what if...?' scenario. The REMI model is dynamic so we can trace how the economy adjusts over time.

In the REMI model, new spending drives sales in for different firms in the economy. That money is spent by that firm as purchases of inputs from other firms and workers' wages. In turn, workers and

¹¹ Aetna, Inc. is a Fortune 500 company (rank 77) located in Hartford, CT.

businesses receiving new income will purchase more goods and services and/or hire more workers. This ripple effect is estimated by input-output multipliers that quantify the interrelationships among firms and consumers. For example, if a consumer orders \$1000 of new construction, firms will buy building materials, architectural or design services, etc. from other firms to complete the project. They will also pay workers to use these inputs to produce the new structure. The industries from which the construction firm bought its materials will need to replenish inventories. To do so, they will buy goods from other firms and employ workers to re-stock their inventories. Also, workers will use their income to purchase household goods and services in the economy. In turn, these goods must also be produced – inducing more spending on goods and services.

The initial round of spending is known as direct spending. For a hypothetical project, direct spending estimates are developed from a variety of sources. In this report, direct spending estimates are based on several sources including: historical operations (reference reports), budgets of the Hartford Convention Center (HCC) and the Wolf Pack, discussions with facility and event managers, a literature review of similar economic impact studies, and CCEA’s expertise and knowledge of the Connecticut economy. Sections 4 - 9 report these assumptions in detail.

The following spending - round is the induced impact. It represents the sum of the rounds of additional economic activity, such as employment, sales, and earnings resulting from direct spending. New jobs and income are examples of the economic benefits that accrue to new economic activity. New economic activity also generates new tax revenue, depending on the local tax structure. New economic activity may also create the need for new government spending.

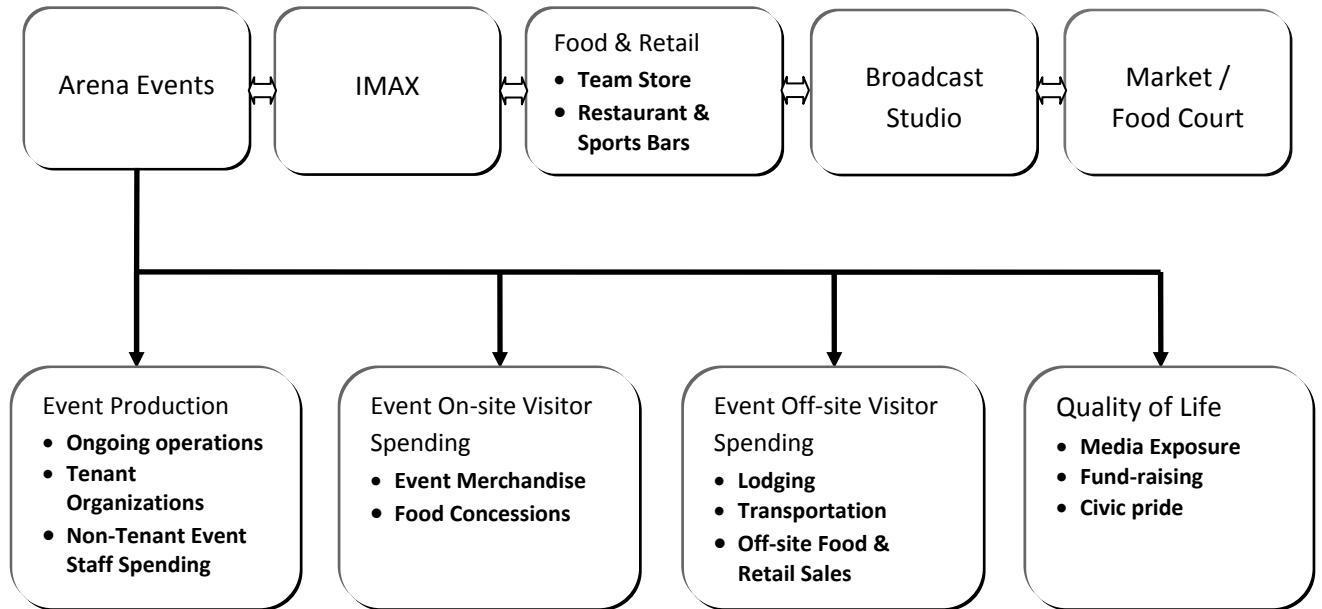
In the REMI model, state “net new revenues” are the difference between tax collections or revenue and public expenditures. State tax revenues include receipts from sales tax, excise taxes, personal income taxes, corporate income taxes, insurance trust revenue, and other taxes. Public expenditures include all spending on government services including: education, highways, public safety, welfare, public health, parks and recreation, government administration, interest on debt, etc. Tax revenues increase when sales, incomes and other economic activity increases. Public expenditures increase as the local population increases. More residents need additional public education slots. Increased traffic on highways places more wear and tear on roadways and so forth. The difference between the new tax revenues and the new public expenditures is state net new revenues.

3. Project Description

This proposal calls for the Center to once again become a hub of economic activity in downtown Hartford. This plan involves a number of distinct activities. The timing of these activities is described in Figure 1 below.

In addition, the ongoing events held at the arena affect arena vendors as well as local business and residents. The economic activity associated with of these components is discussed in sections 4-9 below.

Figure 2: Components of Redevelopment Economic Impact



The impact of arena events can be divided into four main areas:

- ❖ **Event Production:** The spending associated with putting on or bringing an event to the Center including spending by teams and event production staff and the ongoing operation of the center itself,
- ❖ **On-Site Visitor Spending:** Event attendees spend money on-site, meaning inside the arena, on concessions and merchandise,
- ❖ **Off-Site Visitor spending:** Visitors coming to Civic Center events will spend money on-site and off-site for retail, food, accommodations and transportation. Depending on the number and type of visitors the Civic Center attracts, these visitors will bring new business to local establishments.
- ❖ **Quality of Life:** This once-thriving center brought civic pride and improved local quality of life in the past. It can do so again, with an imaginative rejuvenation plan. A vibrant entertainment hub can increase civic pride and help recruit businesses and top skilled labor.

Sections 4 -9 describe the projected activity below.

4. Construction

The foundation of this plan is the modernization and expansion of the Civic Center. A full mechanical and electrical assessment of the Center's systems will begin in October, 2011. After assessing the center's core systems, final architectural and design plans for the center will occur. In order to minimize disrupting activities at the center, areas may be cordoned off with plywood to allow updating to occur while events continue. Construction that requires a full facility shut-down will occur in the quieter summer months, when the Center has booked fewer activities.

Construction will consist of three phases and encompass several distinct projects:

Phase 1. (January 2010- August 2012):

- Arena Feasibility / Building Analysis;
- Preliminary Design;
- Entrance and atrium lobby refurbishment
- Restaurant and sports bar build-out (Geno Auriemma's Fastbreak Pub and Restaurant);
- Team /sports merchandise (The Connecticut Whale, NHL and State College Sports Team) store build-out; and
- Broadcast studio construction.

Phase 2. (August 2012-March 2013):

- Arena Design and Engineering
- Arena Permitting and Pre-Construction;
- IMAX and Hard Rock Café Design and Engineering;
- IMAX construction; and
- Hard Rock Café construction.

Phase 3. (March 2013 – April 2014).

- Arena Construction.

The completion of construction will occur in early 2014. The total projected cost of arena construction is \$104.9 million.¹² Figure 3 below describes specific facility improvements, their timing and their projected cost.

¹² Estimate supplied by Whalers Sport Group.

Figure 3: Hartford Civic Center Construction Expenditures

Construction Expenditures (\$2010 Millions)				
Items	Total Cost	PHASE 1	PHASE 2	PHASE 3
Hard Costs				
1. HVAC Upgrade	\$ 6,542,200	-	-	\$ 6,542,200
2. Seating Enhancements (luxury boxes, etc.)	\$ 14,300,000	-	-	\$ 14,300,000
3. Food Court/Concession Upgrades	\$ 17,640,000	-	-	\$ 17,640,000
4. Facilities (pub. restroom, team locker rooms, etc.) Upgrades	\$ 13,000,000	-	-	\$ 13,000,000
5. Broadcasting/Media Upgrades	\$ 2,750,000	-	-	\$ 2,750,000
6. ADA Improvements	\$ 6,335,000	\$ 1,267,000	-	\$ 5,068,000
7. Atrium/Ticketing Renovations	\$ 1,125,000	\$ 1,125,000	-	-
8. Restaurants / Retail / IMAX	\$ 15,500,000	\$ 5,890,000	\$ 9,610,000	-
Soft Costs				
9. Feasibility Studies/Analysis (ADA, HVAC, etc.)	\$ 192,981	\$ 192,981	-	-
10. Preliminary Design	\$ 231,577	\$ 231,577	-	-
11. Design & Engineering	\$ 8,491,142	\$ 1,698,228	\$ 5,094,685	\$ 1,698,228
12. Permitting & Fees	\$ 424,557	\$ 42,456	\$ 339,646	\$ 42,456
13. Project Management	\$ 3,859,610	\$ 964,903	\$ 964,903	\$ 1,929,805
14. Administration/Office/Accounting/Legal	\$ 771,922	\$ 154,384	\$ 308,769	\$ 308,769
15. LEED	\$ 77,192	\$ 15,438	\$ 30,877	\$ 30,877
16. Contingency (15%)	\$ 13,686,177	\$ 2,737,235	\$ 2,737,235	\$ 8,211,706
Total	\$ 104,927,357	\$ 14,319,202	\$ 19,086,114	\$ 71,522,041

5. IMAX Theater Operations

IMAX films are well-known for their improved movie experience. The average IMAX movie screen is 72 x 52.8 ft tall with all seats being no more than the height of the movie screen away from the screen. Films may be shot in IMAX format or converted from standard movie formats using DMR, Digital Media Remastering, technology into 2 - or 3-D films. DMR technology has facilitated IMAX offerings of first run Hollywood films. The recent popularity of 3-D films has demonstrated the public's willingness to pay a premium for a higher quality film experience.

Connecticut currently has four (4) IMAX theaters: in Plainville, Norwalk, Milford and Manchester.¹³ The Plainville, Milford and Manchester locations are part of larger Cineplexes. Only the Marine Aquarium location in Norwalk is a stand-alone IMAX location. This report assumes that a fifth IMAX location would compete with other local theaters, but it would not put other theaters out of business. The Cineplex locations offer diversified viewing options that would continue to attract patrons. The Norwalk location is roughly a 70 mile driving distance from Hartford. Consequently, the Marine Aquarium IMAX theater serves a different geographic area. Furthermore, five theaters for a state Connecticut's size are not

¹³ See <http://www.imax.com/> (accessed Oct. 2, 2010)

unrealistic. The Greater Boston area has seven IMAX theaters and an estimated population of 4.6 million compared to five IMAX theaters for 3.6 million people in Connecticut.

This report assumes a 300 seat 2-D/3-D IMAX theater operating 10 hours per day, 364 days a year. The IMAX theater offers a concessionary. Following internal IMAX projections, this analysis assumes a ticket price of \$7.40, and an average of \$1.60 in concessions per person.¹⁴ Additional revenues of \$50,000 per year result from facility rentals.¹⁵ Under this pricing structure, 350,000 patrons per year would result in \$3,086,563 in movie theater sales per year beginning in April of 2013. In the REMI model, this sales figure is modeled as firm sales. This approach uses default spatial economics to net out the effects of competition on economic activity.

6. Food and Retail

The Hartford Civic Center refurbishment calls for developing the entrance and mall area. It is anticipated that the area would be used for retail, sports bar /restaurants and a broadcast studio activities. These facilities would be open to the public even when there are no events at the Coliseum.

i. Broadcast Studio

Plans call for a sports broadcasting studio at street level and open to Geno Auriemma's Fast Break Restaurant and Pub. The studio would be open to the street to allow passersby to watch filming; similar to other shows such as "Good Morning America". While the broadcast studio would generate public interest in the Civic Center and its amenities, this analysis does not project any additional economic activity resulting from the studio. This report conservatively assumes that the operations in this studio would represent the transfer of broadcast activities from other locations in the state.

ii. Retail & Restaurant Space

Several currently unused areas will be converted into space for stores and restaurants. Current plans envision a 'team' store selling state college sports and AHL /NHL merchandise. Similarly, Geno Auriemma's Fast Break Pub & Restaurant and a Hard Rock Café or other similar bar/restaurant would be part of the complex. In all, this space would provide an additional 3,369 sq. ft. of retail space and 19,423 sq. ft. of restaurant/bar space. These spaces would operate as independent venues from the arena and be open to the community during regular business hours. We assume revenue will be generated at median national rates for retail and restaurants at local malls on a per sq. ft basis.¹⁶ The Team Sports Store and Fast Break Pub would open in October 2012. The Hard Rock Café would open in April 2013. Figure 4 shows the potential sales for this retail and restaurant space.

¹⁴ Based on IMAX CORPORATION Sample Financial Model supplied by New England Sports and Entertainment.

¹⁵ Based on IMAX CORPORATION Sample Financial Model supplied by New England Sports and Entertainment.

¹⁶ Urban Land Institute (2004) 'Dollars & Cents of Shopping Centers: 2004'

<http://www.uta.edu/faculty/hansz/5334/ProjectF07/2004%20Complete%20Report.pdf> (accessed Sept. 16, 2011).

Figure 4: Atrium Retail and Restaurant Sales (2012 -)

Annual Sales (\$2010)	Total Sales	
	Area (Sq. Ft.)	Projected Sales
Retail	3,369	\$396,407
Restaurant	19,423	\$4,975,861

Because new restaurants and retail will compete with existing restaurants and other on-site retail, this report estimates that only about 50% of these sales will be net new to the region.¹⁷

iii. Market/ Food Court

With the 2005 opening of the Connecticut Convention Center, there is a newer dedicated exhibition space in Hartford, CT compared to the Civic Center.¹⁸ In order to increase appeal and utilization of the center’s exhibition hall, a new market and food court will be opened in 2014. The food court will feature 68,000 sq. feet of vendors and dining space. The market would be similar to other enclosed market places such as Boston’s Faneuil Hall. It will serve the community daily from 8am – 6pm. Estimated revenues come from median national rates for community food courts.¹⁹ This market assumes an estimated leasable space of 12,895 for an estimated 15 small booths with the remaining area as browsing and seating. Figure 5 shows potential annual sales.

Figure 5: Food Court Sales (2014 -)

Annual Sales (\$2010)	Total Sales	
	Area (Sq. Ft.)	Projected Sales
Food Court	68,000	\$3,225,868.36

As conceived, the market will be a relatively new amenity in the area. However, it will compete to some extent with existing restaurants and grocers. This report conservatively estimates net new spending will be about 50% the potential spending listed above.²⁰

¹⁷ While this estimate is necessarily conservative (ie. less than 100%), it is higher than the REMI default impact for restaurant and retail firm sales in Connecticut. This slightly higher percent of net new activity is based on the local popularity of the brands involved and the relative dearth of entertainment options in Hartford, relative to the rest of the state.

¹⁸ The Connecticut Expo Center has recently been sold and is expected to be closed as an exhibition space. NBC News (Aug. 2011) “Expo Center to Close” <http://www.nbcconnecticut.com/news/local/Expo-Center-to-Close-127600583.html> (accessed Oct 2, 2011).

¹⁹ Urban Land Institute (2004) ‘Dollars & Cents of Shopping Centers: 2004’ <http://www.uta.edu/faculty/hansz/5334/ProjectF07/2004%20Complete%20Report.pdf> (accessed Sept. 16, 2011).

²⁰ While this estimate is necessarily conservative (ie. less than 100%), it is higher than the REMI default impact for restaurant and retail firm sales in Connecticut. This slightly higher percent of net new activity is based on the local popularity of the brands involved and the relative dearth of entertainment options in Hartford, relative to the rest of the state.

7. Arena Events

An upgraded arena will attract new and more events. Ongoing Center operations would continue to support and manage these activities. Each event brings with it production spending. Depending on the type of event, production spending includes everything from advertising and materials to lodging for entertainers or opposing teams. While at the event, attendees purchase food and beverages and program merchandise from concessions. Also, some visitors purchase goods and services off-site. Visitors who come to town for the day, day-trippers, may have a meal or a drink in town. They will probably pay to park and may buy gas. In addition, visitors who come from further away, may stay overnight in hotels and visit other Hartford tourist attractions. This visitor spending represents a separate contribution to economic activity. If this spending would not have occurred in-state if the Center were not operating, then this is net new economic activity. Finally, increased recreation activities, dining options, and niche retail make Hartford a more desirable location to live and work.

i. Historical Arena Events

The Hartford Civic Center has held a rough average of 166 events per year with a weighted average attendance of 5748 per event. (See Figure 6 below).

Figure 6: Historical Numbers and Average Attendance by Event Type

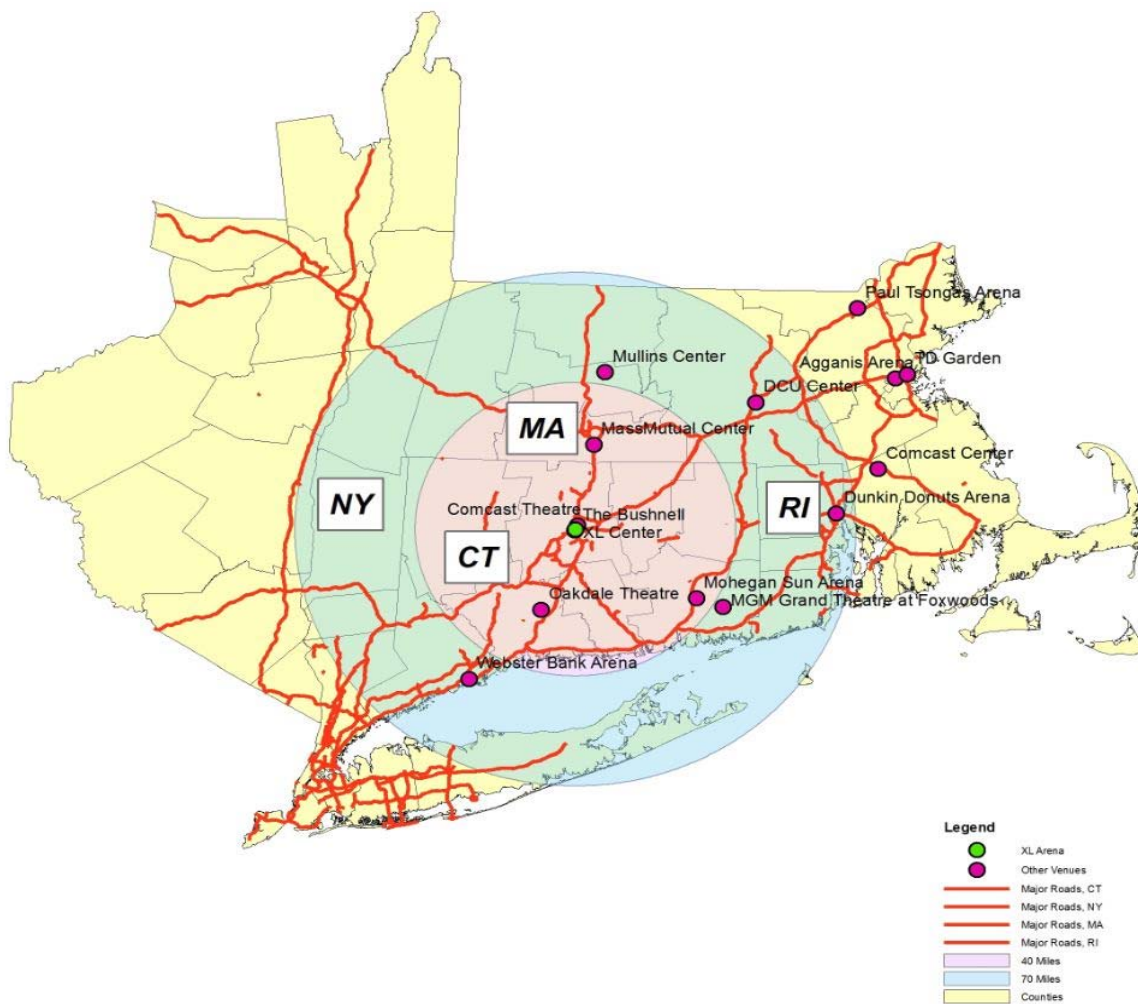
Event Type	Number of Annual Events				Average Event Attendance
	03/04	04/05	05/06	07/08	07/08
AHL	49	43	46	45	4,408
UCONN Basketball	20	21	23	25	11,440
Concerts	7	8	11	14	8,357
Family Shows	35	28	28	25	3,815
Other Events	35	27	34	30	4,750
Subtotal	146	127	142	139	-
Flat Floor Events	39	31	13	25	1,717
Total	185	158	155	164	-

Sources: CS&L and HOK Sport (2006) "Market Demand and Operational Effectiveness Analysis of the Hartford Civic Center" and Northland AEG (2008) "Hartford Civic Center – Hartford Wolf Pack Operating Budget Contract Year Ending FY08"

The two major sports tenants, AHL hockey and NCAA UCONN Basketball, provide a consistent number of annual events, and these events are expected to continue into the future. Touring family shows reliably come to Hartford as they find it to be a lucrative market. These shows include Sesame Street, Disney on Ice, Phineas and Ferb Live, etc. Other events include a variety of non-tenant sports, such as WWF Wrestling, Professional Bull Riding, etc., and other events such as faith-based functions. Recent concerts include Katy Perry. Flat floor or exhibition events have faced stiff competition from the Hartford Convention Center and have declined in importance in the Center's roster of events.

Figure 7 shows other similarly sized venues within an hour's drive of Hartford. The Center competes with a number of specialized and/or similar venues in the region. Webster Bank Arena and the MassMutual center host their own AHL teams. Mohegan Sun casino hosts the Connecticut Sun WBNA team in its 10,000 seat arena. Both Foxwoods and Mohegan Sun venues host high profile concerts; sometimes as loss leaders to bring audiences to the casinos. In Hartford, the Comcast Arena hosts summer concerts and can accommodate up to 20,000 seats. The TD Gardens in Boston, Uniondale Veteran's Arena in Uniondale, NY (not shown), and Madison Square Garden in New York, NY (not shown), all host NHL franchises. Madison Square Garden has also hosted the NCAA Men's Big East Basketball Championships. The competition with these other venues is taken into account when developing our estimates of Hartford Civic Center events moving forward.

Figure 7: Comparable Venues in the Area



ii. Event Examples

This next section describes ‘vignettes’ of events that the Civic Center has hosted in the recent past and could successfully bring to Hartford again if its amenities are updated to attendees’ expectations.

Event Example # 1: Skate America, 2006

Skate America, US Figure Skating Championships, is an example of a high profile event. The Hartford Civic Center hosted Skate America in 2006. The four day event brought skaters, media, and fans to Hartford from around the world. More than 20,000 passes were sold to this event. Many were multi-day passes or multiple passes sold to the same individuals who stayed locally overnight. Local new production expenses were an estimated \$428,000 including \$130,000 in US Figure Skating Association accommodation, travel and food (in \$2010). This figure does not include production or visitor expenses for ABC, ESPN or the other 88 credentialed media that attended. Visitors did more than attend skating competitions. Hartford arts and museum venues, such as the Wadsworth Atheneum, reported a large spike in out-of-state visitors. Media coverage through sports broadcasts, print media, and promotional media reached an estimated 42 million households and even more internationally.²¹

These types of high profile events have the potential to bring new spending to Hartford and Connecticut. Local businesses and attractions benefit from the tourist dollars brought to town. They also raise Connecticut's profile nationally, and internationally. While it can be difficult to monetize the value of a 'higher profile', the coverage of these events does promote Hartford as a place to live and work. It can also be a point of civic pride for local residents.

Event Example #2: Tenant AHL Hockey

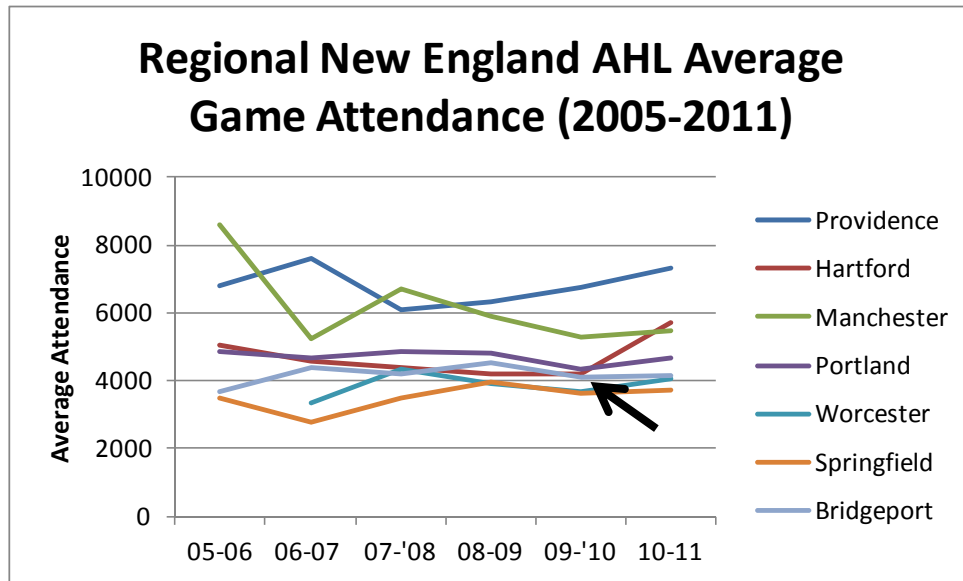
Historically, Hartford's AHL hockey team has played an average of 45 games at the center per year, with an average attendance of 4,408 per event.^{22 23} This past year, new management re-branded the Hartford Wolf Pack to be The Connecticut Whale. With increased promotion and a renewed effort to attract an NHL team, attendance rose by 36% over the previous year. (See Figure 8 below) With an average game attendance of 5,695, The Connecticut Whale moved to second place in attendance in the region. Even though most attendees are local, they still contribute to the Hartford economy. They buy food, beverages, and merchandise on-site. Off-site they may spend on parking, a meal, or some shopping.

²¹ Nutmeg Sports Group (2006) "The World Skated to Connecticut. Marketing Housekeeping Report" supplied by NESE.

²² Northland AEG (2008) "Hartford Civic Center – Hartford Wolf Pack Operating Budget Contract Year Ending FY08" supplied by NESE.

²³ CSL and HOK Sport (2006) "Market Demand and Operational Effectiveness Analysis of the Hartford Civic Center" http://www.hartfordinfo.org/issues/wsd/downtowndevelopment/Civic_Center_analysis.pdf (accessed Sept 14, 2011)

Figure 8: Trends in AHL Average Attendance at the Civic Center



In addition to attracting visitors, AHL hockey operations represent independent economic activity. Under the old management, the Hartford Wolf Pack hired 15 executive FTE's and had \$3.7 million in other expenses.²⁴ The new management estimates they hire about 25 head office FTE's, 7 team support staff and 35 players. Players live in Connecticut a minimum of 8 months per year, yielding 23.3 FTE Connecticut workers.

Example #3 University of Connecticut (UCONN) Men's and Women's Basketball

The University of Connecticut Basketball program has been successful and a point of pride for much of the state. The men's and women's teams both play season games at the Center. This year the Women's Big East Championship was also held there. The program operations occur at Storrs, CT and are not explicitly tied to the Civic Center. Therefore, this report does not consider the 'event production' costs. However, these events do bring visitors to Hartford who spend money both on and off-site.

UCONN supplied season ticket holder information. Shown in Figure 9 below, this data illustrates where visitors are from. The season ticket holder data suggests that most come from Hartford, New Haven and Tolland counties. Relatively few come from Fairfield and Litchfield counties. In fact, a greater percent of season ticket sales come from out-of-state purchasers than from Fairfield and Litchfield counties.

²⁴ Northland AEG (2008) "Hartford Civic Center – Hartford Wolf Pack Operating Budget Contract Year Ending FY08" supplied by Elkinson + Solves, Inc.

Figure 9: UCONN Basketball Season Ticket Purchases by Place of Origin

	UCONN Basketball Season Ticket Holders			
	Mens' and Womens'		Women's Big East Final	
	Regular Season			
	Number	%	Number	%
Fairfield County	165	5.9%	31	4.5%
Hartford County	1296	46.3%	309	44.8%
Litchfield County	111	4.0%	20	2.9%
Middlesex County	147	5.3%	31	4.5%
New Haven County	456	16.3%	113	16.4%
New London County	126	4.5%	42	6.1%
Tolland County	270	9.7%	82	11.9%
Windham County	47	1.7%	19	2.8%
Out-of-State	179	6.4%	42	6.1%

This data illustrate a two main points. First, season ticket holders typically expect to attend more games than individuals who purchase just one ticket. One of the factors affecting game attendance is the distance traveled. That roughly 6% of season ticket holders come from outside Connecticut is significant. Their visitor spending is more likely to be 'net new' to the state. Hartford may be a more convenient venue than traveling to Storrs, CT and the Civic Center seats 6500 more than Gampel Pavilion at Storrs, CT. Further, season ticket holders for regular season games represent just 22% of total purchases.²⁵ All things being equal, this suggests that an even larger portion of the remaining 78% of attendees likely comes from outside Connecticut and can be considered 'net new' economic activity in the state. This finding is taken into consideration when constructing 'new new' visitor spending scenarios below.

The second point addresses concerns that the Hartford Civic Center sporting events might draw visitors away from Webster Bank Arena, located in Fairfield County. In particular, an AHL or NHL team located in Hartford might be said to increase its attendance only at the cost of reducing attendance at the Webster Bank Arena. This data suggests this is not the case. Even where there is a non-competing popular sports event, individuals from the western half of the state do not consistently attend Hartford events in high numbers. While this conclusion needs to be treated with caution, it is significant to note UCONN's season ticket holders are more likely to come from outside Connecticut than from Fairfield County.

These examples illustrate the different types of economic activity generated by events at the Center and how it can range across different event types.

²⁵ By comparison, a survey of attendees at the HP Pavilion at San Jose found just 2% of all visitors came from out of state. SportsEconomics, LLC (2008) "Economic Impact Analysis of HP Pavilion, Sharks Ice at San Jose, and Three Primary Events' <http://www.sjeconomy.com/publications/pressreleases/ei.hp.pavilion.pdf> (accessed Sept 20, 2011)

iii. Event Projections

This report's event projections reflect NESE's construction and business plan for redeveloping the Hartford Civic Center. One of their goals is to increase traffic through the Hartford Civic Center and make it an anchor for local on-site and off-site businesses. This approach calls for not only bringing entertainment to Hartford but also turning the Civic Center into a resource for local residents. With upgrades, facility expansion and retrofits, this report projects the number of events at the Coliseum will initially decrease during the construction period and gradually increase to about 200 per year by 2021. Changes in the number of events, at average attendee levels, drive the visitor spending scenarios discussed below.

Redevelopment plans call for construction to occur during the slowest part of the year, the summer. Most upgrades can be done behind the scenes or by closing off small areas without disrupting activities. Some shut down is unavoidable. Using averages of available event data presented in Figure 6, above this analysis uses a baseline of 168 events for 2011. These projections call for a reduction of 10 events, to 158, in both 2012 and 2013. Beginning in 2014, the number of events increases from baseline by 5 events per year until 2021 and then remains constant. Excepting AHL hockey and bid events, each event is multiplied by the average attendance reported in Figure 6 above. AHL attendance estimates (5,500 per event) use the most recent attendance levels since new management took over and re-branded the team as The Connecticut Whale. Bid event attendance reflects a multi-day event like Skate America described above. These two components build the total annual number of visitors.

Moving forward, the two major sports tenants, AHL and UCONN Basketball, are not expected to change the number of events held at the Hartford Coliseum because there is no anticipated change in their season games or league standing. However, one of the Coliseum's limiting factors in attracting NCAA Basketball has been its outdated broadcast capabilities. Part of this redevelopment would install state of the art broadcast facilities, which may increase its chances at hosting NCAA Big East (men's) or March Madness tournaments.

Similarly, this report conservatively assumes no significant change in the number of concerts or family events hosted at the Center. Though the total number will fluctuate from year to year, Hartford currently captures most of the family events on tour. For concerts, the Coliseum faces stiff competition from the Comcast Center (for summer events) and Mohegan Sun and Foxwoods Casinos. The casinos have traditionally paid premiums to acts to come to the casinos. In the current economic environment, it is not clear if this 'loss leader' approach will continue to be a feasible marketing strategy for the casinos. Conservatively, this report estimates the number of concerts and family events remain at baseline levels of 10 and 29, respectively.

Despite the opening of the Connecticut Convention Center nearby, the Hartford Civic Center/Coliseum has continued to host some flat floor/exhibition type events. The recent sale and closing of the Connecticut Expo Center may affirm HCC as an option for flat floor events. New amenities such as the food court, new restaurants, and other new retail opportunities may make the Center a more attractive option than in the past. Nonetheless, this analysis conservatively assumes that the number of exhibition events declines by 5 to 20 events per year from its 07/08 level.

The Center will increase its 'other and non-tenant sports events'. After upgrades are in place, the Coliseum will be more competitive in bringing bid events to Hartford, such as Skate America (held at HCC in 2006) or the U.S. Gymnastic Championships (held at HCC in 2010). This analysis assumes that one bid event will be held every other year. In particular, upgraded and modernized broadcast capabilities would overcome current deficiencies and play an important role in attracting these types of events. This report uses Skate America 2006 as a template for potential attendance and spending for all bid events.

Other sport leagues, such as the National Lacrosse League (NLL) have expressed interest in locating a team at the Coliseum.²⁶ In the past, the Center has hosted teams from the Arena Football League²⁷, American Basketball League²⁸ and the Major Indoor Soccer League²⁹ and could potentially do so again.

Hockey remains a popular sport in Hartford. New operators would target NHL exhibition or all-star games to bring to Hartford. The Connecticut Whale, Hartford's AHL team, would continue to serve as an important draw for the Coliseum. NCAA College Hockey is another potential route for expanding the number of HCC events. The success of UCONN's men's and women's basketball, suggest the possibility of increasing the profile and popularity of UCONN's men's and women's Division I hockey teams. A refurbished Coliseum would be a more competitive site for holding other regional events.

These potential new activities drive annual attendance estimates, which in turn drive visitor spending estimates developed below.³⁰ Between 2012 and 2016, total attendees are expected to grow from 899,000 to 975,000 annually. Without attracting an NHL team, the refurbishment of the Civic Center and Coliseum would extend the functional life of this Hartford landmark. By increasing entertainment options and events, the redevelopment would increase 'traffic' through Hartford downtown and help situate the Center as a hub for sports and entertainment.

Based on the NESE vision for the Hartford Civic Center, this analysis considers the impact of bringing an NHL team to Connecticut and discontinuing the AHL team in 2017. There are many factors that contribute to the award of an NHL hockey team. One factor is an arena that meets modern standards for configuration and size. Local fan support and management experience are also important factors. This report does not analyze how Connecticut might attract a NHL team to the Hartford Coliseum, but attempts to characterize what its economic foot print would be. This section quantifies potential attendance based on Hartford's previous experience with the NHL and current NHL data.

²⁶ The NLL has expressed interest in locating a franchise in Hartford, which would increase other events by at least 8 per year (per conversation with NESE and CSL and HOK Sport (2006) "Market Demand and Operational Effectiveness Analysis of the Hartford Civic Center" http://www.hartfordinfo.org/issues/wsd/downtowndevelopment/Civic_Center_analysis.pdf (accessed Sept 14, 2011)).

²⁷ Connecticut Coyotes (1995-1996) and New England Sea Wolves (1999-2000).

²⁸ New England Blizzard (1996-1998).

²⁹ Hartford Hellions (1980-1981).

³⁰ It is worth noting that the number of events is not the only driver of total attendees. In terms of the total number of attendees, one additional concert would bring almost twice as many attendees as one additional 'other and non-tenant' event. While the expected number of events is based on conversations with NESE, the increase in events is moderated by selecting one of the lower attendance events to ramp up over time.

The NESE management team has experience in running several NHL teams. Howard Baldwin was a managing partner for the Hartford Whalers until 1988. Figure 10 below shows average Whaler attendance per game on an annual basis.³¹ Whaler attendance per game builds to its peak of 14,574 with Howard Baldwin as managing partner. After his departure, attendance declines until the 1994-95 season, but attendance never matches its peak again. This record echoes the improvements wrought in The Connecticut Whale’s attendance with its change to this management team.

Figure 10: Hartford Whaler Annual Average Attendance (1979-1996)

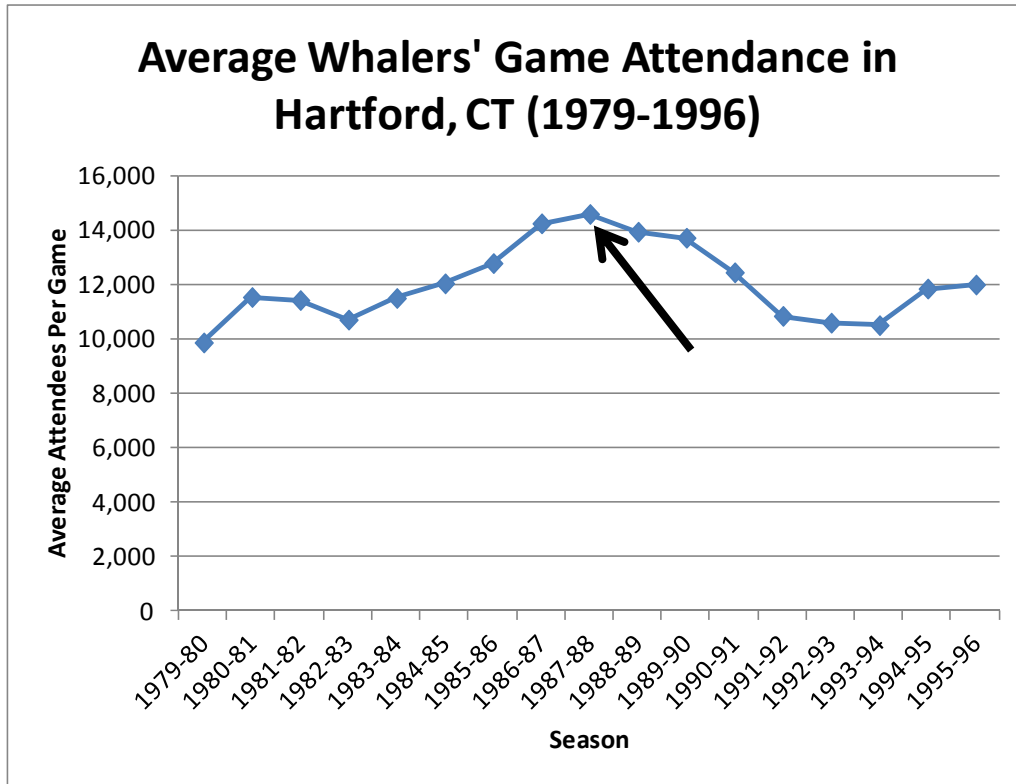


Figure 11 below shows how Hartford’s regional population has changed since the 1980s. Greater Hartford also known as the Hartford MSA includes Hartford, Middlesex and Tolland Counties. Historically, this area represents the bulk of Whaler attendees. Across this region population has increased by 15% with Tolland County growing the most, 33% and Hartford County growing the least at 11%. With the demolition of the New Haven Veterans’ Memorial Coliseum in 2007, New Haven County may represent an additional market for an NHL team located in Hartford. The 40 mile distance, the trip from New Haven to Hartford is under an hour’s drive. New Haven has also seen a 13% population increase between 1980 and 2010. These population figures show that the potential audience for an NHL team has increased since the attendance listed above.

³¹ Hartford Whalers (1997-98) Media Guide.

Figure 11: Connecticut Population by County (1980-2010)

County	1980	1990	2000	2010	% change (1980-2010)
Fairfield	807,143	827,645	882,567	916,829	13.59%
Hartford	807,769	851,783	857,183	894,014	10.68%
Litchfield	156,768	174,092	182,193	189,927	21.15%
Middlesex	129,017	143,196	155,071	165,676	28.41%
New Haven	761,337	804,219	824,008	862,477	13.28%
New London	238,410	254,957	259,088	274,055	14.95%
Tolland	114,823	128,699	136,364	152,691	32.98%
Windham	92,313	102,525	109,091	118,428	28.29%

Source: US Decennial Census (2000) and (2010) www.census.gov (accessed Oct 8, 2011).

In combination, this region represents a potential market of roughly 2,000,000. Figure 12 below reports average home game attendance for current NHL teams.

Figure 12: NHL Market Penetration (2010-2011 Season)

Team	MSA Population	Average Home	
		Game Attendance	Market Penetration
New York Rangers	19,007,000	17,608	0.1%
New Jersey Devils	19,007,000	17,789	0.1%
New York Islanders	19,007,000	17,380	0.1%
Los Angeles Kings	12,873,000	17,045	0.1%
Anaheim Ducks	12,873,000	17,089	0.1%
Chicago Black Hawks	9,750,000	17,875	0.2%
Dallas Stars	6,300,000	16,844	0.3%
Philadelphia Flyers	5,838,000	17,525	0.3%
Florida panthers	5,415,000	16,973	0.3%
Atlanta Thrashers	5,376,000	16,681	0.3%
Washington Capitals	5,358,000	17,149	0.3%
Toronto Maple Leafs	5,113,000	16,894	0.3%
Boston Bruins	4,523,000	17,847	0.4%
Detroit Red Wings	4,425,000	18,224	0.4%
Phoenix Coyotes	4,282,000	16,719	0.4%
San Jose Sharks	4,275,000	17,200	0.4%
Montreal Canadiens	3,636,000	17,473	0.5%
Minnesota Wild	3,230,000	16,444	0.5%
St Louis Blues	2,817,000	16,229	0.6%
Tampa Bay Lightning	2,734,000	16,971	0.6%
Colorado Avalanche	2,507,000	17,121	0.7%
Pittsburgh Penguins	2,351,000	17,986	0.8%
Vancouver Canucks	2,117,000	17,115	0.8%
Columbus Blue Jackets	1,773,000	16,672	0.9%
Carolina Hurricanes	1,579,000	16,789	1.1%
Nashville Predators	1,551,000	16,287	1.1%
Ottawa Senators	1,131,000	17,150	1.5%
Buffalo Sabres	1,124,000	17,036	1.5%
Calgary Flames	1,079,000	16,558	1.5%
Edmonton Oilers	1,035,000	17,076	1.6%
Winnipeg Jets	684,100	13,469	2.0%
Hartford Estimate	2,074,858	18,363	0.9%

Source: NHL attendance 2010-2011 http://espn.go.com/nhl/attendance/_/year/2011 (accessed Oct 4, 2011).

In figure 12, NHL teams are ranked by the size of their market. The home game attendance as a percent of the metropolitan statistical area (MSA) population (or market) is the ‘penetration ratio’. The average of similar sized market penetration ratios is 0.9%. If an NHL team in Hartford were to enjoy the same popularity that teams in similar markets enjoy, average game attendance would be just over 18,000.

This is a plausible indicator of the demand for NHL hockey in Hartford given the increased population and the current profile of NHL hockey. However, this report scales back this estimate to 14,000 attendees per game. First, the Coliseum currently seats just 15,635 for hockey. Second, the Whaler's most successful year had an average attendance of 14,574 per game. Based on these factors, 14,000 per game is a conservative estimate.

With regular season, exhibition, all-star and potential post-season games, this analysis assumes about 45 NHL events per year will be held at the Coliseum beginning in 2017 and continuing throughout the period of analysis. Adding trends in other events described above, the number of event attendees is expected to jump to 1.4 million per year in 2017 and increase to 1.5 million by 2021. In addition to the anticipated hockey and other events, Halloween and Christmas displays would be set up around these holidays. In the past, these high quality displays have drawn roughly 50,000 visitors to the Civic Center per display over the holiday periods. These types of activities are not accounted for in these estimates.

8. Event Production Costs

i. AHL Hockey Tenant

AHL hockey tenant event production costs are spending that occurs here in Connecticut. For the purposes of this report, we consider the AHL tenant operations with the Hartford Wolf Pack and The Connecticut Whale. The Hartford Wolf Pack hired an estimated 38.3 Connecticut FTEs. This report assumes that the team and its staff live in Connecticut only during the hockey season, representing 23.3 FTEs. Front office personal represent the remaining 15 FTEs.³² The Connecticut Whale has a slightly larger contingent in Connecticut. Players live part time in the state, but coaches and staff live in the state. The front office staff consists of 25 FTEs. The total number of Connecticut FTEs is 55.3.³³ The Hartford Wolf Pack represents the historical impact of AHL hockey in Connecticut and the Connecticut Whale represents the impact moving forward. This production cost estimate is conservative because it does not consider the economic footprint of visiting teams to the state. These amounts would include hotel, transportation and food.

ii. UCONN Basketball Tenant

UCONN Basketball operations are part of the University of Connecticut, Storrs Campus. If the Coliseum were to disappear, UCONN would continue to operate and, likely hold games at Gampel Pavilion in Storrs, CT. UCONN Basketball operations are not directly related to the Coliseum and are not part of the economic impact. The extent to which attendees are net new is unclear. Gampel Pavilion is a smaller venue, at roughly 10,000 seats. This would reduce attendance at regular season games and may prove a limiting factor at holding any post season games. Attendance is modeled under the scenarios listed below as 'net new': 0%, 15% and 30%. This production cost estimate is conservative because it does not consider the economic footprint of visiting teams and media to the state. These amounts would include hotel, transportation and food.

³² Northland AEG (2008) "Hartford Civic Center – Hartford Wolf Pack Operating Budget Contract Year Ending FY08" supplied by Elkinson + Solves, Inc.

³³ Based on conversations with The Connecticut Whale head office.

iii. NHL Hockey Tenant

Because a NHL hockey team is a prospective tenant, this analysis uses data from current NHL teams to estimate the impact. Hockey player salaries and benefits are roughly \$2 million per player. This figure is based on league averages and a prospective \$55 million team budget. Players spend only the hockey season in Connecticut. Their economic impact is measured as 16.6 FTEs with a wage bill adjustment just for these players.

Other operations are modeled on league averages. The most recent publicly available data comes from the Forbes Magazine 2010 Team Valuation.³⁴ Figure 13 below shows estimated league revenues, player salaries, net earnings, team value and arena seating based on Forbes calculations from the 2010 season. Operating expenses are exclusive of team salary and are the difference between revenues and net earnings. To estimate the operating expenses of a Hartford NHL team, this report takes the average other operating expenses for the league's teams with the smallest arenas. This results in an estimated \$36 million operating budget. This operating budget, exclusive of player costs, represents the intermediate demand associated with an NHL team from 2017 moving forward.

³⁴ http://www.forbes.com/lists/2010/31/hockey-valuations-10_land.html

Figure 13: Average NHL Operating Expenditures

2010 Season							
Team	Revenue (millions)	Player Costs (millions)	Net Earnings (millions)	Other Operating Expenses (millions)	Team Value	MSA Population	Arena Capacity
Montreal Canadiens	\$130	\$54	\$31	\$45	\$339	3,636,000	21,273
Detroit Red Wings	\$130	\$55	\$27	\$48	\$337	4,425,000	20,066
Tampa Bay Lightning	\$80	\$45	-\$2	\$37	\$191	2,734,000	19,758
Chicago Black Hawks	\$108	\$50	\$21	\$37	\$258	9,750,000	19,717
Philadelphia Flyers	\$101	\$62	\$3	\$36	\$273	5,838,000	19,537
Calgary Flames	\$95	\$61	-\$1	\$35	\$200	1,079,000	19,289
Florida panthers	\$74	\$50	-\$14	\$38	\$159	5,415,000	19,250
Ottawa Senators	\$90	\$57	-\$4	\$37	\$197	1,131,000	19,153
St Louis Blues	\$80	\$46	-\$3	\$37	\$176	2,817,000	19,150
Vancouver Canucks	\$109	\$49	\$20	\$40	\$239	2,117,000	18,810
Toronto Maple Leafs	\$168	\$47	\$79	\$42	\$470	5,113,000	18,800
Buffalo Sabres	\$79	\$51	-\$5	\$33	\$170	1,124,000	18,690
Carolina Hurricanes	\$82	\$49	-\$5	\$38	\$177	1,579,000	18,680
Atlanta Thrashers	\$68	\$39	-\$2	\$31	\$143	5,376,000	18,545
Dallas Stars	\$97	\$53	\$12	\$32	\$246	6,300,000	18,532
Washington Capitals	\$83	\$55	-\$5	\$33	\$189	5,358,000	18,277
New York Rangers	\$139	\$61	\$28	\$50	\$416	19,007,000	18,200
Columbus Blue Jackets	\$77	\$49	-\$10	\$38	\$165	1,773,000	18,144
Los Angeles Kings	\$92	\$39	\$11	\$42	\$208	12,873,000	18,118
Minnesota Wild	\$95	\$52	\$2	\$42	\$210	3,230,000	18,064
Colorado Avalanche	\$84	\$50	\$3	\$31	\$205	2,507,000	18,007
New Jersey Devils	\$97	\$53	\$1	\$43	\$223	19,007,000	17,625
Boston Bruins	\$108	\$50	\$12	\$46	\$271	4,523,000	17,565
San Jose Sharks	\$84	\$53	-\$5	\$36	\$184	4,275,000	17,562
Anaheim Ducks	\$94	\$50	\$5	\$39	\$206	12,873,000	17,174
Phoenix Coyotes	\$66	\$39	-\$19	\$46	\$138	4,282,000	17,125
Nashville Predators	\$71	\$45	-\$6	\$32	\$156	1,551,000	17,113
Pittsburgh Penguins	\$93	\$50	\$3	\$40	\$222	2,351,000	16,940
Edmonton Oilers	\$83	\$52	\$10	\$22	\$166	1,035,000	16,781
New York Islanders	\$62	\$40	-\$6	\$28	\$149	19,007,000	16,234
Hartford	na	na	na	\$36	na	2,053,883	15,635

Source: Forbes Magazine Online (2011) "The Business of Hockey" http://www.forbes.com/lists/2010/31/hockey-valuations-10_land.html (accessed Oct 2, 2011).

This NHL production cost estimate is conservative because it does not consider the economic footprint of visiting teams and media to the state. These amounts would include hotel, transportation and food.

iv. Other Events' Production Costs

Staging events in Hartford brings new spending to the area. When a concert or family event comes to the Hartford Civic Center, it brings with it performers and staff who must be housed, and fed. Promoters advertise events in local broadcast and print media. They may also purchase other goods and services locally. Another type of event is the bid event. The estimates for production costs are listed above in the detailed description of Skate America.

These production expenses vary by type of event. An 'A-list' concert, like Billy Joel, might bring with it over 80 people who will stay and eat locally.³⁵ A family concert such as Disney on Ice employs as many as 50 skaters with additional backstage staff including make-up artist, hairstylists, costumers, property hands, lighting and sound technicians, etc.³⁶ Traveling sports teams playing 'away' games at Hartford typically bring about 40 players with additional coaching and other staff.³⁷ Similarly, event advertising may vary depending on the type of event and projected attendance.

No data is publicly available for advertising and travel expenses associated with events at the Hartford Civic Center. However, a recent report on the Nationwide Arena in Columbus, Ohio tracks and reports these expenses. Figure 14 shows the per unit average spending by type of show events. These estimates are an average based on data from FY01-FY08 and reported in \$2010. Applying these estimates to projected HCC events would result in a range of production expenditures for these types for shows from a low of \$6.4 million in 2012 to a high of \$8.8 million in 2021.

Figure 14: Average Production Expenses per Event

Per Show Spending (\$2010)						
Type of Spending	Concerts		Family Shows		Conventions / Flat Floor	Non-Hockey Sports
Advertising, Goods & Services	\$	60,516	\$	101,329	\$	50,664
Traveling Crews / Artists	\$	-	\$	4,222	\$	10,133
Total	\$	60,516	\$	105,551	\$	60,797

Source: Based on annual average calculations from John Glenn School of Public Affairs (2008) "Assessment of the Gross Impact of the Columbus Blue Jackets and Nationwide Arena on the Greater Columbus Area".

The market for traveling shows is denser in the New England region than in Ohio. Venues are located close together. A higher percent of concerts and family shows may opt to stay outside of Hartford and come in for the day. Similarly, regional teams may be more inclined to travel easier distances in for the day rather than stay overnight, as in Ohio. This fact suggests that the spending profile may be lower in Hartford than in Ohio. To be conservative, this report excludes expenses related to traveling crews and artists from the economic impact.

This report uses this estimate of per show advertising, goods and services purchases and applies these figures to 'net new' shows only. The economic impact measures the difference between the baseline

³⁵ Based on discussions with MassMutual Center Executive Staff (September 16, 2011).

³⁶ <http://www.feldentertainment.com/careers/PerformerAuditions.aspx> (accessed Oct 2, 2011).

³⁷ Based on discussions with MassMutual Center Executive Staff (September 16, 2011).

and the constructed ‘what if...?’ scenario. In this report, the baseline scenario is that the Civic Center becomes obsolete and ceases to operate. If that were the case, this report projects that many of the events that come to the Hartford Civic Center will find alternate venues in Connecticut. As described in Section 7 above, only 10% of concerts, 25% of family shows, 10% of conventions/flat floor events and 60% of other and non-tenant sports events will be unable to find alternate venues if the Hartford Civic Center ceases to operate. Consequently, only advertising and other spending associated with these ‘new’ events can be considered net new to the state. ‘Net new’ production expenses for non-tenant events range from \$1.7 million in 2012 to a maximum of \$3 million in 2021.

9. Visitor Spending

All of these events attract visitors to Hartford. The visitors spend money both at the Center and in the surrounding community. ‘On-site’ spending is spending directly related to the Coliseum and excludes spending at the Civic Center operations or local businesses. This spending includes programs, souvenirs, and food from in-arena concessions. It is ‘on-site’ in the sense that it occurs directly in the event itself. ‘Off-site spending’ is at local hotels, parking operations, gas stations and food. For this analysis, the spending at the new Civic Center operations is calculated separately from ‘off-site spending’. The rationale behind this is that the Atrium retail and restaurant operations discussed in Section 6 are not directly related to events. The Atrium operations occur daily, during usual business hours and service local businesses and residents. However, the Atrium outlets sales are reduced by 50% to account for competition with local businesses and in-arena spending. This section estimates potential visitor spending outside the Atrium and Arena. It develops three scenarios for estimating the portion of spending that is ‘net new’ to the state. ‘Net new’ spending is spending that would not have occurred in Hartford except for the presence of the Center.

i. On-site Event Related Spending

On-site spending occurs primarily in the arena at an event. Event organizers sell merchandise such as programs or souvenirs. Privately contracted concession stands sell snacks and beverages to general admission patrons. Currently, the Arena has limited general food concession offerings because of a lack of infrastructure to permit food preparation. Premium seats, such as box or club seats, may access a broader array of fare through catered meals. This study considers on-site sales as they are now and as they would be after arena amenities have been upgraded and premium seating expanded.

Sales are driven by the types of show, the types of seat and the number of attendees. The baseline and projected event types and numbers of attendees have been discussed above. These same figures are used to develop total spending amounts. Post-construction, the number of premium attendees increases by 5% to account for more premium spaces – with a commensurate decrease in general attendees.

Figure 15 below shows expected per attendee sales for the arena as it is and as it will be post-construction. The pre-construction estimates come from Northlands / AEG FY08 budgeted amounts.³⁸

³⁸ Northland AEG (2008) “Hartford Civic Center – Hartford Wolf Pack Operating Budget Contract Year Ending FY08” supplied by Elkinson + Solves, Inc.

Post- construction amounts account for projected sales with the new Center configuration. There is little change in the spending per person.³⁹ Pre-Construction, NHL and bid events are not included in projected sales. After the new food court and team sports store are open, sales of tenant merchandise and food decline. Events held in the exhibition hall will be next to the food court area. This analysis assumes attendees will purchase from the food court. Bid event merchandise is likely to be unique to each event and thus merchandise spending remains comparable to merchandise spending before the team store opens.

Figure 15: On-Site Visitor Spending

	Pre-Construction			Post-Construction		
	General	Premium		General	Premium	
	Merchandise	Concessions	Concessions	Merchandise	Concessions	Concessions
Concerts	\$6.00	\$6.50	\$ 12.50	\$6.00	\$6.50	\$12.50
Family Shows	\$2.90	\$2.90	\$ 1.00	\$2.90	\$2.95	\$1.00
Tenant (NCAA)	\$1.50	\$4.00	\$12.50	\$0.75	\$4.05	\$12.50
Tenant (AHL)	\$1.50	\$6.00	\$12.50	\$0.75	\$6.00	\$12.50
Other & Non Tenant Sports	\$1.50	\$3.00	\$12.50	\$1.50	\$3.00	\$12.50
Flat Floor Events	\$0.00	\$4.00	\$12.50	\$0.00	\$0.00	\$0.00
NHL	\$0.00	\$0.00	\$0.00	\$0.75	\$6.00	\$12.50
Bid Events	\$0.00	\$0.00	\$0.00	\$1.50	\$6.00	\$12.50

Prior to construction, on-site purchases result in \$6.9 million in economic activity. After the renovations, on-site economic activity ranges from \$6.4 million while construction is being completed to a maximum of \$10.5 million annually.

ii. 'Off-Site' Visitor Spending

In addition to on-site purchases, event attendees also make purchases at local establishments such as restaurants, retail shops and parking lots. Depending on the nature of the event and the distance from which visitors come, some may stay overnight. Only 'net new' visitor spending is relevant to our economic impact study. Visitors to the reconfigured Center may create net new spending if they come from out of state. 'Re-captured' local 'visitors' who spend money in state rather than going out of state may also be net new.

The best approach to estimating visitor spending is to perform an intercept survey, which stops people as they enter or exit the venue and asks questions about their visit and spending. As an intercept survey was not within the scope of this analysis, this study uses a second best solution of reviewing survey results from similar settings.

³⁹ Family shows are two categories merged with a weighted average in spending. Changes represent changes in attendee composition.



A study of the Uniondale Veteran's Arena,⁴⁰ home to the New York Islanders, has a similar event profile to the Center and is geographically proximal. They estimate that visitors who come for the day, 'day trippers', spend \$32.20 outside the arena. Overnight visitors spend \$232.93 per visit. About 15% of visitors are overnight visitors and 85% are day trippers. Their estimates are based on regional visitor survey data. Intercept survey data for three different types of events, including NHL hockey, found average visitor spending ranging from \$84 to \$411 at the HP Pavilion in San Jose.⁴¹ Per day spending ranged from \$64 to \$143. This study excluded 'local' visitors but averaged spending between day trippers and overnight visitors who came from outside San Jose City. An analysis of events at the Nationwide Arena in Columbus, Ohio estimated overnight visitors spend an average of \$189 per day.⁴²

This analysis adopts the spending vectors from the Uniondale Veteran's Arena. The results are conservative but at the same time, Uniondale, NY reflects local travel and costs. This study nets out spending inside the arena. Because Connecticut specific data is available for on-site spending, this feature allows for a better picture of Connecticut expenditures. This analysis also assumes that 85% of visitors are day trippers and 15% are overnight stays. Although a little high, this is in line with the UCONN NCAA basketball findings that more than 6% of season-ticket holders are from outside Connecticut. It also allows for events like Skate America which disproportionately draws overnight visitors, which balance out local attractions like AHL hockey. Figure 16 below shows the anticipated distribution of visitor spending outside of the Center.

⁴⁰ Camoin Associates Economic Development (2011) "Uniondale Hub Redevelopment Project Economic Impact Analysis" http://islanders.nhl.com/v2/ext/HUB%20REDEVELOPMENT%20PROJEC_001.pdf (accessed Sept 20, 2011)

⁴¹ SportsEconomics, LLC (2008) "Economic Impact Analysis of HP Pavilion, Sharks Ice at San Jose, and Three Primary Events" <http://www.sjeconomy.com/publications/pressreleases/ei.hp.pavilion.pdf> (accessed Sept 20, 2011)

⁴² John Glenn School of Public Affairs, The Ohio State University (2008) "Assessment of the Gross Impact of the Columbus Blue Jackets and Nationwide Arena on the Greater Columbus Area" <http://bluejackets.nhl.com/ext/2008/AssessmentGEIArenaDistrictonGreaterColumbus.pdf> (accessed Sept. 20, 2011)

Figure 16: Visitor Spending Vectors for Overnight and Day-Tripper Visitors

Off-Site Visitor Spending per Person (\$2010)		
	Day tripper	Overnight
Gas	\$10.43	\$37.34
Parking	\$8.00	\$28.66
Retail	\$5.77	\$35.00
Lodging	-	\$55.93
Other Entertainment	\$5.00	\$20.00
Food	\$3.00	\$56.00
Total	\$32.20	\$232.93

Source: Camoin Associates Economic Development (2011) "Uniondale Hub Redevelopment Project Economic Impact Analysis"

iii. Visitor Spending Scenarios

Not all of this spending is net new to the state. Only spending that would not have occurred were it not for the Center events, is net new to the state. Spending by visitors from outside Connecticut is generally net new. Because the New England states are geographically small, Hartford is an easy draw for out-of-state visitors; such as those along the I-91 interstate-corridor up into Western Massachusetts. Local attendees who would have left the state to go to similar events also represent net new spending. This visitor spending is 're-captured' back to the state. For particular fans, having entertainment options locally may also induce individuals to attend Center events who would otherwise forgo these activities. These factors need to be considered to develop net new ratios to apply to visitor spending categories listed above.

This study considers three 'net new' scenarios, low (0%), medium (15%) and high (30%).

- ❖ Scenario 1 assumes that all current visitor spending would take place in Connecticut in the absence of the Center. Local 'tourists' would find another event or venue to spend their entertainment dollars. Out-of-state visitors would still come to Connecticut but to other events.
- ❖ Scenario 3 assumes 30% of visitor spending is net new. The rationale for this estimate comes from considering what that alternative that the Center will cease to operate in 2012 if it is not refurbished. In this scenario, 60% of AHL hockey fans would travel to Springfield rather than Bridgeport to see AHL hockey. All UCONN Basketball events will remain in-state and continue to draw the same out-of-state visitors. Most other events will find new venues: 90% of concerts, 75% of family shows, 90% of flat floor events and 40% of 'other events' will find other venues. There are multiple venues for most types of shows in the state but not all are as convenient or willing to host these types of events.

- ❖ Scenario 2 is the mid-point between the two scenarios assuming 15% of visitor spending is net new.

These scenarios are conservative estimates of net new percentages. The reports referenced above estimate 92% net new spending in the county,⁴³ and 62% net new spending in the city.⁴⁴ The third study does not adjust for net new spending and, thus, considers 100% of visitor spending to be net new.⁴⁵ In part, these studies report a higher 'net new' percentage because they consider a smaller geography and all venues have an NHL team.

This study accounts for higher levels of net new visitor spending associated with the projected return of the Hartford Whalers. Currently, local NHL fans have to travel out-of-state to either New York or Boston to see an NHL game. Historically, New York Islanders', New York Rangers' and Boston Bruins' fans would travel to Hartford to see their team's away games. In the 1980s, these games were typically sell-outs because of the out-of-town draw for fans. At the same time, an NHL team would replace AHL hockey in many household budgets. To be conservative, this study assumes net new spending percentages associated with NHL visitors of low (10%), medium (20%) and high (40%).

Figure 17 below reports total visitor spending for 2012-2021. After 2021, this report projects visitor spending will remain at 2021 levels. This table reports both 'on-site' spending which includes spending at events inside the Coliseum (as opposed to the Civic Center daily operations). Off-site purchases include spending at local hotels, parking facilities, shops and restaurants. Spending is reported by each of the scenarios discussed above.

⁴³ Camoin Associates Economic Development (2011) "Uniondale Hub Redevelopment Project Economic Impact Analysis" http://islanders.nhl.com/v2/ext/HUB%20REDEVELOPMENT%20PROJEC_001.pdf (accessed Sept 20, 2011)

⁴⁴ SportsEconomics, LLC (2008) "Economic Impact Analysis of HP Pavilion, Sharks Ice at San Jose, and Three Primary Events" <http://www.sjeconomy.com/publications/pressreleases/ei.hp.pavilion.pdf> (accessed Sept 20, 2011)

⁴⁵ John Glenn School of Public Affairs, The Ohio State University (2008) "Assessment of the Gross Impact of the Columbus Blue Jackets and Nationwide Arena on the Greater Columbus Area" <http://bluejackets.nhl.com/ext/2008/AssessmentGEIArenaDistrictonGreaterColumbus.pdf> (accessed Sept. 20, 2011)

Figure 17: Visitor Spending 'Net New' Scenarios

Visitor Estimates by Year										
Events	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Number of Events (#s)	158	158	165	169	175	179	185	189	195	199
Total Visitor Days (millions days)	0.9	0.9	0.9	0.9	1.0	1.4	1.5	1.4	1.5	1.5
Visitor Spending (in \$2010 millions)										
"On-site" Purchases	\$6.4	\$6.2	\$6.6	\$6.6	\$6.9	\$9.9	\$10.3	\$10.2	\$10.6	\$10.5
"Off-site" Purchases										
Total Off-Site Purchases	\$55.4	\$53.9	\$59.3	\$57.2	\$62.2	\$86.8	\$90.3	\$89.7	\$93.3	\$92.7
Scenario 1 'Net New Only'	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$4.2	\$4.2	\$4.2	\$4.2	\$4.2
Scenario 2 'Net New Only'	\$8.3	\$8.1	\$8.9	\$8.6	\$9.3	\$15.1	\$15.6	\$15.6	\$16.1	\$16.0
Scenario 3 'Net New Only'	\$16.6	\$16.2	\$17.8	\$17.2	\$18.7	\$30.2	\$31.3	\$31.1	\$32.2	\$32.0

10. Quality of Life

Although this report does not model very real benefits to the quality of life in Hartford and its surrounds, they are important effects to be considered. In addition to the quantifiable economic and fiscal benefits of a redeveloped Center, potential non-quantifiable benefits include:

- Diversifying recreation, entertainment, dining and sports activities for local residents;
- Growing community pride and self-image;
- Expanding media coverage can show Hartford to advantage and encourage people to visit in the future;
- Enhancing Hartford’s reputation as a good place to live and/or locate a business nationally and internationally; and
- Attracting and retaining a younger workforce – who currently thinks there is ‘nothing to do’ in Hartford.

The psychic value of a cultural asset, like a professional sports team, is the emotional value placed on having that asset in the community. Economists sometimes use surveys to determine what residents would be ‘willing to pay’ to either gain a professional sports or to keep one. Such an evaluation found that Pittsburg residents would be willing to pay, collectively, \$16 million to retain the NHL Pittsburg Penguins over and above any actual spending on the team.⁴⁶ A study in Indianapolis reported a psychic value of \$35 million per year for the Indian Pacers.⁴⁷ Similarly, the Minnesota residents would be

⁴⁶ SportsEconomics, LLC (2008) “Economic Impact Analysis of HP Pavilion, Sharks Ice at San Jose, and Three Primary Events” <http://www.sjeconomy.com/publications/pressreleases/ei.hp.pavilion.pdf> (accessed Sept 20, 2011)

⁴⁷ SportsEconomics, LLC (2008) “Economic Impact Analysis of HP Pavilion, Sharks Ice at San Jose, and Three Primary Events” <http://www.sjeconomy.com/publications/pressreleases/ei.hp.pavilion.pdf> (accessed Sept 20, 2011)

willing-to-pay an average of \$10 per state resident to keep the Minnesota Vikings.⁴⁸ The Whaler fan base that endures almost 15 years after they left Hartford is indicative of positive psychic value for a local NHL team.

11. REMI Modeling Approach

As described in Appendix A, the REMI model is a dynamic economic impact model. At its core are the interrelationships between industries, consumer and government. The dynamic aspects of the model allow it to account for changes in price related to supply and demand, which in turn allows agents in the model to modify their behavior, which in turn changes supply and demand and prices, and so on, until a new equilibrium is reached where prices and sales are stable. An economic impact is measured as the difference between the baseline economy and new economic activity.

This report considers the redevelopment of the Hartford Civic Center and Coliseum. Currently, the Center is old and economically obsolete. Use for the center continues to decline as its internal systems age. If the Center is not revitalized, it is not clear that the Center will continue to operate. This report compares revitalizing the Center to the discontinuation of Center operations. A new economic baseline is created by removing the Center from the current economic baseline moving forward. This requires that current operations be subtracted from the current economy and a new baseline constructed. This report then compares the economic redevelopment plans to Connecticut without the Hartford Civic Center.

12. Results

This Section reports REMI results for the State of Connecticut as a whole. Among the key economic indicators are income measures, i.e., CT real gross domestic product (CT RGDP) and real personal disposable income (RPDI), as well as employment, population, and net fiscal benefits (NFB). Each metric is briefly described below.

- *Real CT Gross Domestic Product (CT RGDP)* is the dollar value of all final goods and services produced in the state in one year prior to depreciation of any capital.
- *Personal Income* refers the total amount of money an individual (or household, depending on the context) earns.
- *Real Personal Disposable Income (RPDI)* is the amount of Personal Income available to an individual or household after adjusting for the effects of inflation (or deflation) and taxes.
- *Net State Revenue (NSR)* has two components: (1) the impact of increased/(decreased) revenues from tax collections, and (2) the effects from decreased/(increased) transfer payments (such as welfare and similar social programs, uncompensated care payments, and the like).

⁴⁸ SportsEconomics, LLC (2008) "Economic Impact Analysis of HP Pavilion, Sharks Ice at San Jose, and Three Primary Events" <http://www.sjeconomy.com/publications/pressreleases/ei.hp.pavilion.pdf> (accessed Sept 20, 2011)

Figure 18 shows the combined average direct and indirect effects on several key variables. The values presented in Figure 18 summarize the real average annual impact that the Hartford Civic Center redevelopment will have on the State’s economy in comparison to the REMI base-line forecast, that is, the benefits accruing directly from the project over-and-above the State’s likely economic trajectory in the absence of this initiative. Positive values indicate the increased benefits of the corresponding metric, while negative values represent decreases. All values are presented in constant \$2010.

Figure 18: Key Economic Indicators (2012-2021)

Annual Average Increase (2012-2021)			
	Scenario 1	Scenario 2	Scenario 3
Employment (Jobs)	1202	1314	1449
Real Gross State Product (\$2010 millions)	\$45.7	\$51.4	\$58.4
Real Disposable Personal Income (\$2010 millions)	\$37.8	\$41.7	\$45.4
Population	514	579	652
Net State Tax Revenues (\$2010 millions)	\$7.4	\$8.1	\$8.4

As is shown in Figure 18, the specific impact across all of the economic indicators varies depending on the Scenario.⁴⁹ However, while the numbers are different, the trend in all three cases is the same; that is, regardless of which growth Scenario one assumes, the Hartford Civic Center redevelopment project provides a ubiquitous economic benefit for Connecticut’s residents, as well as the State’s government. The Center’s redevelopment will add an additional 1202-1449 full time equivalent jobs, on average, each year to the state’s economy. Real Gross State Product will be \$45.7 to \$58.4 million higher each year, on average. Net revenues to the state will be \$7.4 to \$8.4 million higher than they would have been in the absence of the center and its redevelopment.

Figure 19 (below) presents the total real dollar impact in net present value (NPV) terms. As indicated in Figure 19, the rate used when discounting annual figures is 4%, which is a representative approximation of the current cost of capital implied by State bond yields.⁵⁰ Discounting future dollar figures is necessary to compensate for nominal changes in the value of a dollar; that is, to adjust for the time value of money.⁵¹

⁴⁹ See Section XX above for a description of the Scenarios.

⁵⁰ For example, Connecticut’s 4.750% GO series A 12/15/2024 bonds (CUSIP: 20772GPK8) are currently trading in the secondary market at a premium, implying a yield-to-maturity (YTM) of approximately 3.3%. (http://connecticut.municipalbonds.com/bonds/general_obligations/) While this study does not purport to forecast the weighted average cost of capital (WACC) for the Hartford Civic Center redevelopment initiative, based on a conversation with Connecticut’s Office of Policy and Management, the 4% discount rate is suitable for modeling purposes.

⁵¹ The NPV formula is

$$NPV = \sum_{t=1}^T \frac{X_t}{(1+r)^t}$$

Where T equals the total number of periods, t is the specific period, r is the discount rate (4% here), and X_t is the value in 2010-dollars.

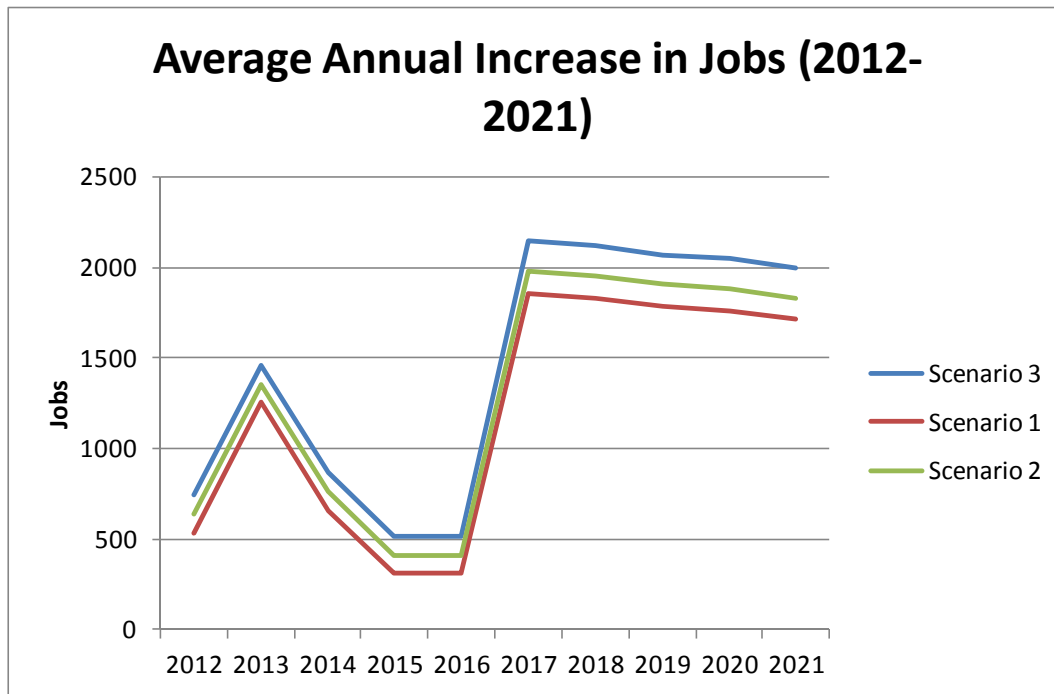
Figure 19: Net Present Value of Key Economic Indicators

Net Present Value 2012-2021 (\$2010 millions)			
	Scenario 1	Scenario 2	Scenario 3
Real Gross State Product	\$365.2	\$411.1	\$465.8
Real Disposable Personal Income	\$293.7	\$324.2	\$353.6
Net State Tax Revenues	\$58.3	\$64.4	\$66.6

As the above results illustrate, the Hartford Civic Center redevelopment will provide substantial economic benefits to the state. Over a 10 year time horizon, the state will reap an additional \$58.3 to \$66.6 million in net tax revenues. Appendix B considers a 20 year time horizon, which is in keeping with a more likely bonding time period. Over a 20 year time horizon, the state will reap an additional \$83.6 to \$94.3 million in net tax revenues.

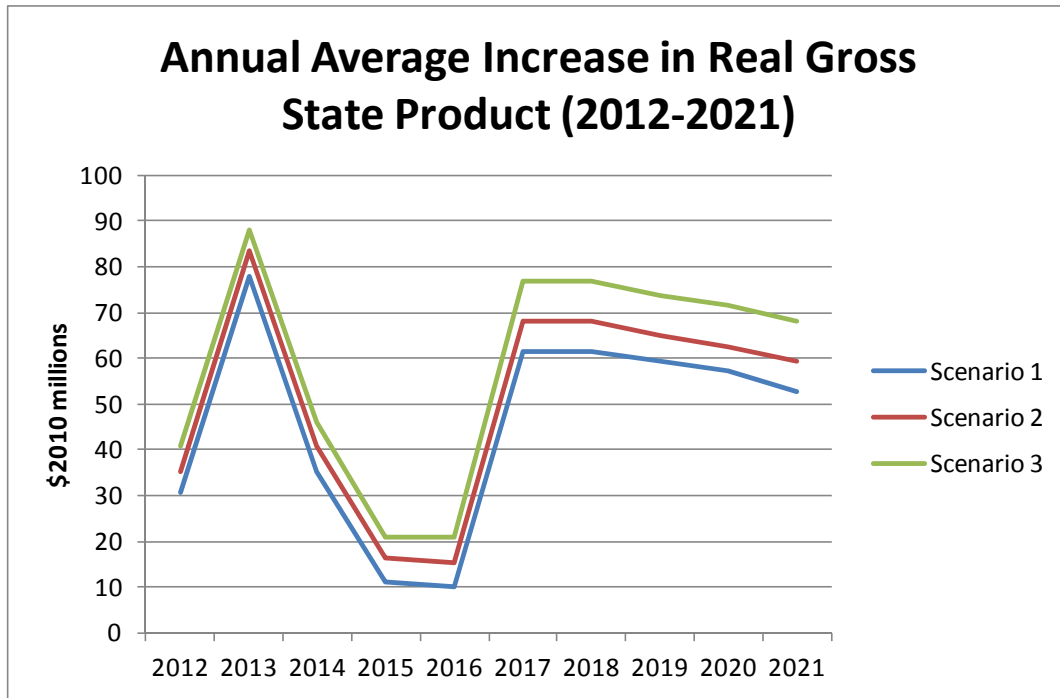
Figures 20-23 graphically depict the REMI model’s time series results from 2012-2021.

Figure 20: Annual Increase in Jobs (2012 - 2021)



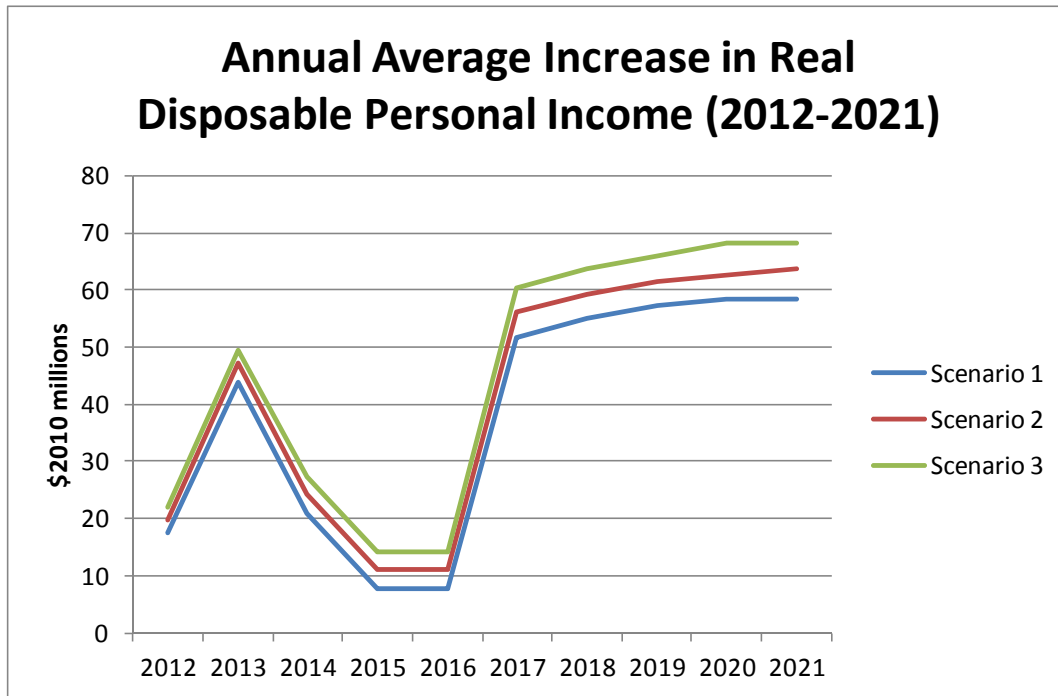
Jobs increase as construction ramps up in the initial phases of redevelopment through 2012-2014. New jobs settle to between 312 and 517 during normal operations with an AHL team. As visitors increase with an NHL team, new jobs increase to 1780 to 2077 from 2017-2021. As job opportunities increase, population is drawn to the area. This increases both state tax revenues and state expenditures. Overall, the results from the REMI simulation show that the Center project will result in the addition of 1,202-1,449, on average per year (not cumulative), to the State economy above the baseline economy (2012-2021).

Figure 21: Annual Change in Real Gross State Product (\$2010)



Increased Real Gross State Product (RGSP) estimates the impact on total economic output. It represents the value of all of the goods and services produced and sold in the Connecticut economy as a result of the Center redevelopment and ongoing operations. The average annual increase in RGSP ranges from \$45.7 to \$58.4 million from 2012-2021. From 2012-2014, RGSP will increase an average of \$48-\$58.3 million over baseline during this construction phase. Between 2014 and 2016, the center will operate in its refurbished state with a similar tenant profile to the Center’s profile now. From 2017-2021, RGSP will be \$58.5, \$64.6 and \$73.4 higher on average from 2017-2021 for scenarios 1, 2, and 3 respectively.

Figure 22: Annual Average Change in Real Disposable Income (\$2010)

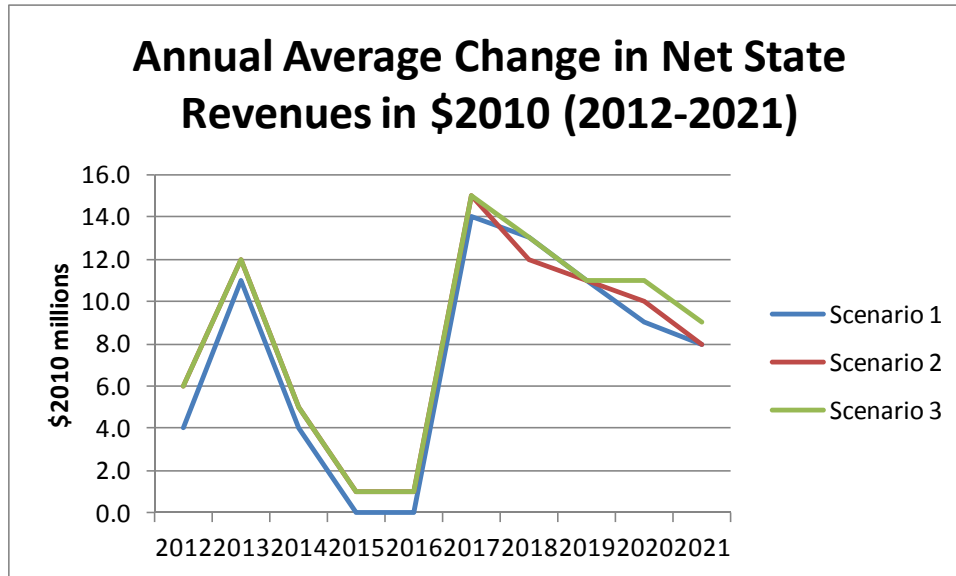


Real Disposable Personal Income (RDPI) is the amount of money that households have after accounting for inflation and taxes. An increase in RDPI represents an increase in the spending power of households. The increase in RDPI results from increases in economic activity in the state. Overall, RDPI increases an average of \$37.8 to \$45.4 million annually compared to an economy without the Center.

Just as Real Disposable Personal Income indicates the increase in the funds households can spend at their discretion, Net State Revenue represents enhanced fiscal flexibility at the State level. Net State Revenue is the difference between the tax revenues collected by the state and expenditures made by the state. In Connecticut, state tax revenues consist of income taxes, sales and use taxes, licenses and corporate profit taxes / insurance trust revenue. State expenditures are driven primarily by population. As the Connecticut's population grows, so do the services provided by state government. Those service expenditures include education, health, welfare, highways, police, corrections, parks and recreation and other government administration.

As Figure 23 depicts, the Hartford Civic Center redevelopment initiative will result in an increase of Net State Revenue (NSR).

Figure 23: Average Annual Change in Net State Revenues (\$2010)



Connecticut’s state government will see an average annual incremental net gain of \$7.4 to \$8.4 million as result of this initiative. While expenses will increase moderately, revenues from tax collections will more than compensate for the costs, resulting in a situation where not only Connecticut households benefit from the Hartford Civic Center redevelopment, but the State’s finances do as well. This impact is exclusive of any profit-sharing, ticket surcharges or rent the state or local governments may negotiate.

13. Conclusions

Overall, the redevelopment of the Hartford Civic Center and Coliseum will increase economic activity and net state revenues in Connecticut. This redevelopment plan calls for taking the aging center and giving it new life as a community sports and entertainment hub through refurbishment and new business. Without redevelopment, it is possible that another pillar of Hartford’s downtown will disappear. Declining entertainment options make Hartford a less attractive place to do business and to live.

This study has a number of limitations. The assumptions in this report are conservative and necessarily rely on limited Connecticut-specific available information. This report did not conduct an independent visitor survey that would have captured visitor spending in Hartford more accurately. Further, this analysis is at the state rather than county level. The potential for business displacement is likely less in Hartford than the rest of the state given Hartford lacks comparable entertainment amenities to elsewhere in the state. Where impacts are unclear, they are omitted from the report. Some examples of economic activity that are conservative in the report include:

- ❖ Sponsorship amounts and associated expenditures are excluded;

- ❖ AHL and Arena operations are modeled at industry FTE averages, which likely significantly underestimate indirect expenditures associated with these FTEs;
- ❖ The new broadcast studio is not associated with any new economic activity;
- ❖ Average attendance for events is pegged pre-refurbishment levels instead of projecting a potential increase in attendance related to improved amenities;
- ❖ Market penetration ratios suggest that there is a larger market for NHL hockey than included in this analysis or permitted by the current Coliseum size;
- ❖ Visitor spending scenarios that peg 'net new spending' at 0% to 30% for basic operations and 10% to 40% for NHL operations; and
- ❖ The impact of Halloween and Christmas Shows, which have historically attracted upwards of 50,000 visitors per show, are omitted.

This report does not analyze *direct state* revenues or expenses resulting from this plan. In the past, the state and city have had revenue sharing plans that include a ticket surcharge and rent. Accounting for more than 800,000 tickets sold in a typical year, the ticket surcharge represents over \$1.6 million dollars in additional government revenue from the operation of the Center annually. Historically, rent has been as much as \$2 million per year to CDA. Any direct revenues to the state or city need to be assessed in addition to the net state revenues reported here.

This study finds that the NESE redevelopment plan will increase employment by 1202-1449 annually, on average. Real Gross State Product, a measure of total economic activity, will be \$45.7 to \$58.4 million higher on average. Net State Revenues will be \$7.4 to \$8.4 million higher per year. This represents a net present value of \$58.3 to \$66.6 million net state revenues over a 10 – year time horizon. A more realistic bonding horizon of 20-years gives a net present value of \$83.6 to \$94.3 million (see Appendix B). These findings suggest that this redevelopment plan is a 'winner' for both Hartford and the State of Connecticut.

Appendix A: The REMI Model

REMI is a dynamic, multi-sector, regional model used as an analysis tool by the Connecticut Center for Economic Analysis. The REMI model includes all of the major inter-industry linkages between private industries and government sectors. Analysis can be as detailed as 316 sub-sectors or 67 private 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.

The REMI model is based on a nationwide 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 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 variables 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 dynamically at reasonable rates to changing conditions. Some of the salient structural characteristics of the REMI model are:

- Consumption is determined on an industry-by-industry basis, and is based on real disposable income in Keynesian fashion, i.e., 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 and demand for labor in a sector determine wages weighted by regional differences. The supply of labor depends on the size of the population and the size of the workforce.
- Migration – which 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, it will also affect the share of local and U.S. markets supplied by local firms. Market share 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 variables in the REMI model are all related, a change in any 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, which in turn affect other employment variables. Such chain-reactions continue throughout 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 the model generates such extensive sector detail, it is possible for experienced economists in this field to discern the dominant causal linkages involved in the results. Results reported are the combined direct, indirect and induced effects of the economic activity.

Appendix B: Alternate Results for a 20 – Year Time Horizon (2012-2031)

This appendix reports the same indicators discussed in the report but extends the analysis another 10 years. All direct spending values are continued at the 2021 levels through 2031. This report presents these values to present more realistic estimates of returns to the state over a more realistic bonding time period.

Figure B-1: Key Economic Indicators (2012-2031)

Annual Average Increase (2012-2031)			
	Scenario 1	Scenario 2	Scenario 3
Employment (Jobs)	1388	1500	1643
Real Gross State Product (\$2010 millions)	\$44.7	\$50.5	\$58.2
Real Disposable Personal Income (\$2010 millions)	\$49.0	\$53.6	\$58.4
Population	883	976	1087
Net State Tax Revenues (\$2010 millions)	\$6.0	\$6.3	\$6.7

Figure B-2: Net Present Value of Key Economic Indicators (2012-2031)

Net Present Value 2012-2031 (\$2010 millions)			
	Scenario 1	Scenario 2	Scenario 3
Real Gross State Product	\$606.2	\$684.2	\$785.1
Real Disposable Personal Income	\$622.9	\$682.6	\$743.4
Net State Tax Revenues	\$83.6	\$89.3	\$94.3

@ 4.0% projected State Government Bonding Rate

Figure B-3: Annual Increase in Jobs (2012 - 2031)

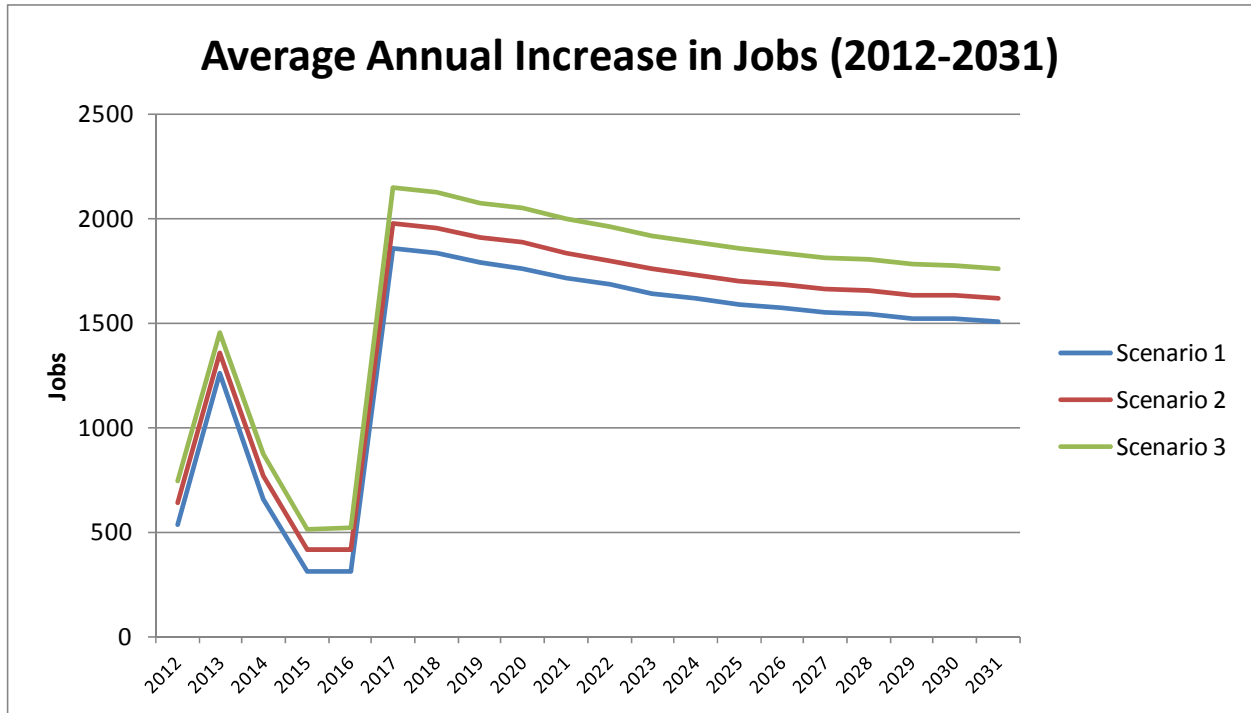


Figure B-4: Annual Change in Real Gross State Product (\$2010)

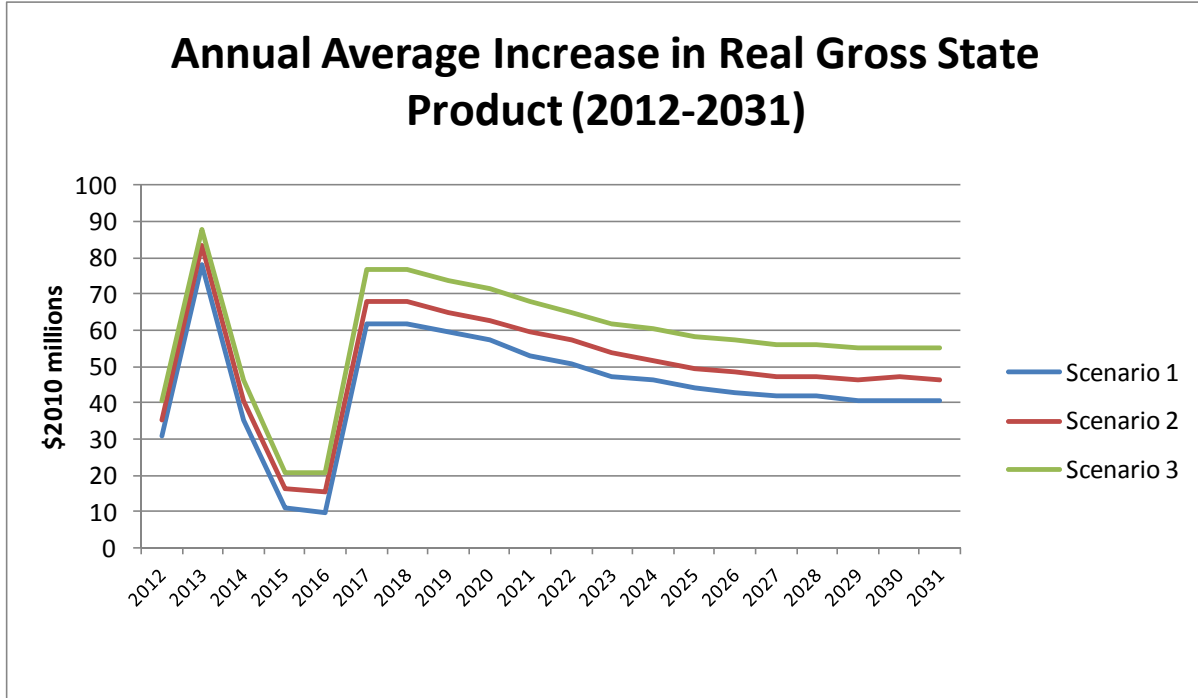


Figure B-5: Annual Change in Real Disposable Personal Income (\$2010)

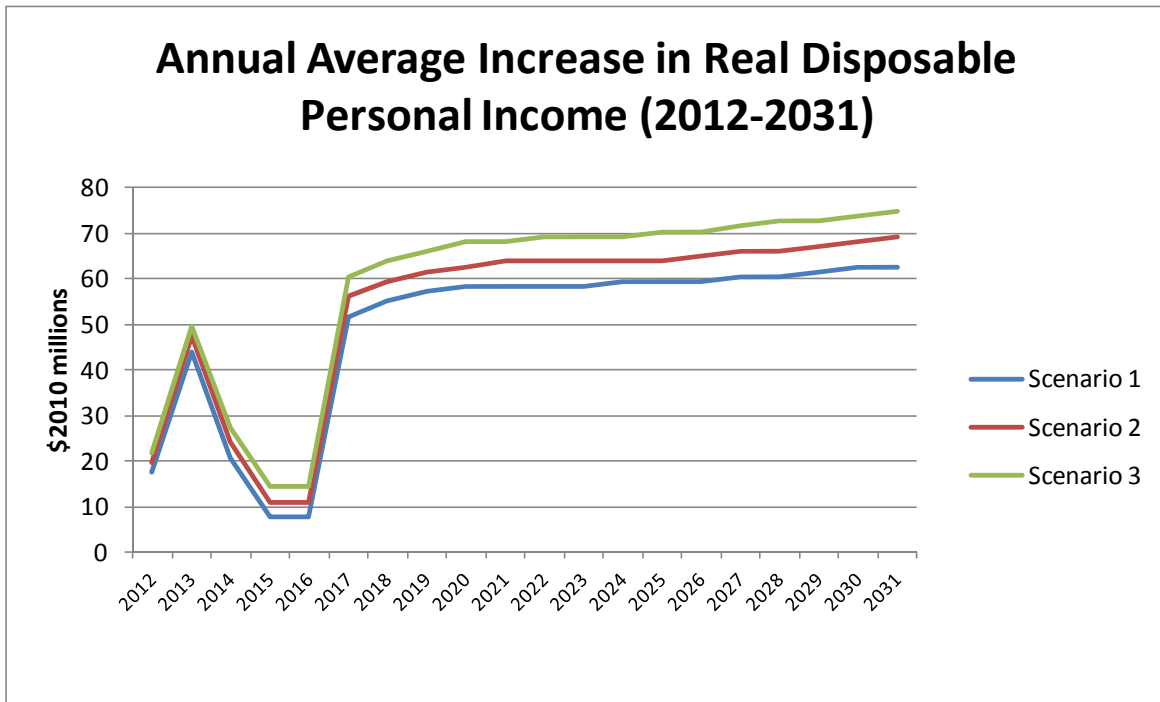


Figure B-6: Annual Change in Real Gross State Product (\$2010)

Annual Average Change in Net State Revenues in (2012-2031)

