Coliseum Site | New Haven, CT

Economic Impact Analysis

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CITY OF NEW HAVEN
ECONOMIC DEVELOPMENT

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I. Executive Summary

Project Description

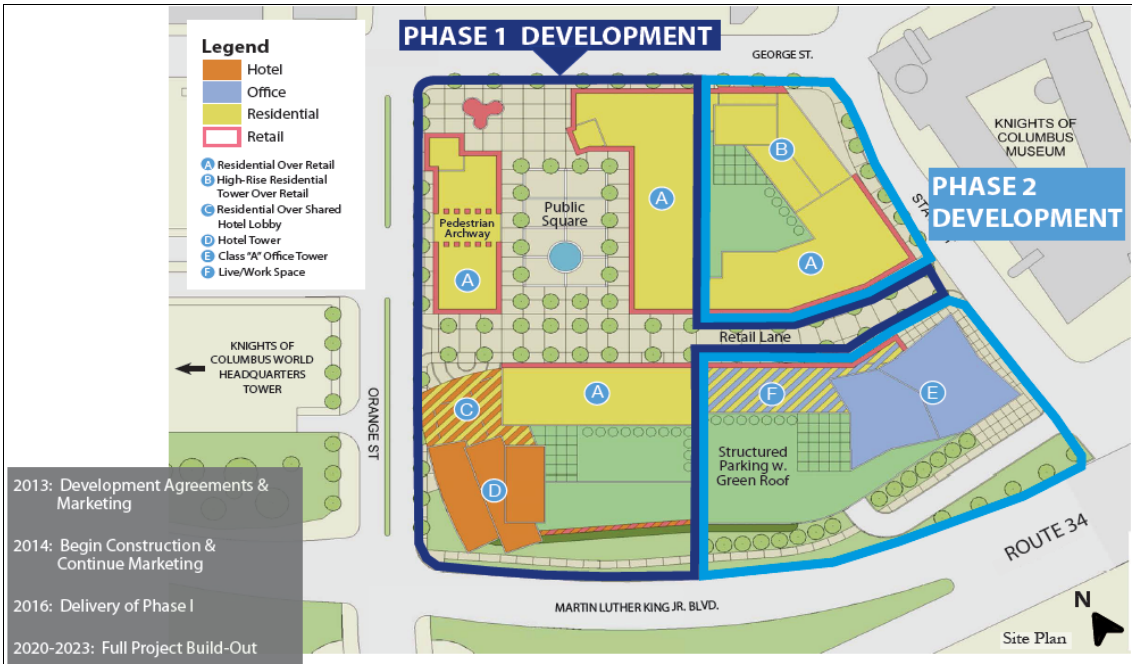
This study estimates the economic impacts, as well as the tax revenues generated by the proposed redevelopment of the 4.5-acre former Coliseum site in the City of New Haven, CT. The City of New Haven partnered with Live Work Learn Play, Inc. (LWLP) to build a mixed-use project that includes:

- 719 residential rental units ;
- 76,900 square feet of retail space, including a fitness center & spa, and live-work space;
- 160 room hotel;
- 200,000 square feet of Class A office space;
- 785 parking spaces; and
- 52,620 square feet of public space.

The first phase of the project, Phase 1A, encompasses the construction of 242 residential units, and 39,200 square feet of retail, 359 parking spaces, and 52,630 square feet of public space. This study analyzes the impacts of the Phase 1A as well as the Full Build-Out of the project.

Construction of the project is scheduled to start in the fall of 2014. The project would be completed over multiple phases, with the first phase (Phase 1A) completed by the summer of 2016. All phases are anticipated to be completed by 2020. Figure 1 illustrates the general location of the site, the proposed uses, as well as a broad timeline of the project. A more detailed development program and schedule is presented in Section II of this report.

Figure 1 - Proposed Project and Phasing



Source: Live Work Learn Play, Inc.

Methodology Summary

Willdan Financial Services (Willdan) is one of the largest public sector financial consulting firms in the United States. The firm is a California corporation established in 1988. Since that time, Willdan has helped over 800 public agencies successfully address a broad range of financial challenges, such as financing the costs of growth and generating revenues to fund desired services. For this assignment, Willdan evaluated a) the economic impact of the proposed project on the State of Connecticut and New Haven County economies, and b) the potential annual property, sales, and transient occupancy (i.e., hotel) tax revenues associated with the project.

The metrics of economic impact included in the analysis are 1) employment and b) labor income created by the project. A detailed definition of these variables is provided in Section III.

The economic impact analysis is segmented in two parts:

1) Economic Impacts during the Construction Phase – Estimates the direct, indirect, and induced impacts of the expenditures related to the construction of the project.[1] The economic impacts of the construction period are not measured on an annual basis; instead they are measured over the duration of the construction period, which extends over several years.
2) Economic Impacts during the Operations Phase – Estimates the annual impacts (direct, indirect, and induced) generated by the multiple uses of the proposed project during a hypothetical 'stabilized year' when the various uses of the project reach stabilized occupancy. Stabilized occupancy may occur anywhere between 6 and 24 months after completion of the project.

The economic impacts of the project are estimated with the IMPLAN Software.[2] IMPLAN is a widely-accepted tool used to measure the impacts of development and many other activities that affect employment or expenditures in the economy. The IMPLAN software package allows the estimation of the multiplier effects of changes in final demand for one industry on all other industries within a local economic area.

This analysis includes the following effects or impacts associated with the project:

1) Direct impacts are the initial change in economic activity from local payroll and expenditures in a specific industry or sector.
2) Indirect impacts are impacts to the local economy as related industries respond to increased demands from the directly affected industries.
3) Induced impacts consist of households and employee spending within the State and County, created by direct and indirect impacts.

A summary of findings is presented below. A detailed description of the methodology used to estimate these impacts, as well as more detailed definitions of the terms presented above, are presented in Section III.

[1] Direct, indirect and induced impacts are described below as well as in page 14.
[2] MIG, Inc., IMPLAN System (data and software), 502 2nd Street, Suite 301, Hudson, WI 54016. www.implan.com

As described above, Willdan also estimated the potential annual property, sales, and transient occupancy (i.e., hotel tax) tax revenues associated with the project. These estimates are summarized below and expounded in greater detail in Section IV.

It is important to note that although tax revenues are estimated separately from the economic impact, tax revenues associated with the project are accounted for in the economic impact results, therefore they should not be considered 'additional' economic benefits. Rather, tax revenues are estimated separately to estimate the government revenues that the project may generate upon completion. Estimated tax revenues are estimated only for the post-development phase (i.e., operations phase), based on a hypothetical 'stabilized-year'.

Economic impact results, as well as estimated tax revenues (property, sales, and transient occupancy taxes) are reported in 2013 U.S. Dollars.

Findings

Economic Impact of Construction Phase

The estimated economic impacts of the construction phase are presented in Table A. The following is a summary of the analysis. Additional details are provided in Section III.

Phase 1A Impacts

- Development costs for Phase 1A are estimated at approximately $114.45 million. This excludes land acquisition cost, which was not yet determined at the time of analysis, but includes approximately $12.5 million in public infrastructure costs. See Table G for a detailed development program, and Table H for estimated development costs by phase.
- *Statewide Impacts:* Construction expenditures during Phase 1A of the project will generate approximately 754 direct jobs and 566 indirect and induced jobs for a total of 1,322 full-time equivalent jobs. Total direct expenditures on labor income are estimated at approximately $55 million. Indirect and induced labor impact is approximately $32 million.
- *County of New Haven Impacts:* Construction expenditures during Phase 1A of the project will generate approximately 754 direct jobs and 513 indirect and induced jobs within the county; for a total of 1,268 jobs (full-time equivalent). Total labor income is estimated at approximately $82 million.

Full Build-Out Impacts

- Development costs for the project as a whole are estimated at approximately $395.49 million. This excludes land acquisition costs, but includes approximately $32.50 million in public infrastructure costs. See Table G for a detailed development program, and Table H for estimated development costs by phase.
- *Statewide Impacts:* During construction phase, the project will generate approximately 2,720 direct jobs and 1,955 indirect and induced jobs for a total of approximately 4,676 jobs. The project will generate approximately in $303 million in labor income.

- *County of New Haven Impacts:* During construction phase, the project will generate approximately 2,720 direct jobs and 1,764 indirect and induced jobs; for a total of 4,485 jobs. Total expenditures on labor income are estimated at approximately $288 million.

Table A – Estimated Economic Impacts during Construction Phase

	Phase 1A [a]		Full Build-Out [b]	
I. State of Connecticut Impacts	**Employment (FTE)**	**Labor Income ($millions)**	**Employment (FTE)**	**Labor Income ($millions)**
Direct	754	$55	2,720	$194
Indirect and Induced	566	$31	1,955	$109
Total Impacts	1,322	$87	4,676	$303
II. New Haven County Impacts				
Direct Impacts	754	$55	2,720	$194
Indirect and Induced	513	$27	1,764	$94
Total Impacts	1,268	$82	4,485	$288

Sources/Notes:

Totals may not add due to rounding.

[a] Construction of Phase 1A will occur over approximately two-years. The construction costs and impacts are reported for the two-year construction period of Phase 1A and not on an annual basis. Includes impacts of approximately $12.5 million dollars in public infrastructure improvements.

[b] Full Build-Out refers to the completion of all phases (1A, 1B, 2A, and 2B) as described in Table G. Construction of all phases will occur over a six-year period. The construction costs and impacts are reported for the duration of the whole construction period and not on an annual basis. Includes impacts of aproximately 32.5 million dollars in public infrastructure improvements.

Economic Impacts during the Operations Phase

The estimated economic impacts of the project upon completion are presented in Table B and Table C. Similarly to estimates of impacts during construction period, operations impacts are estimated for Phase 1A and Full Build-Out Scenarios. However, in contrast with the estimates of construction phase economic impacts, the economic impacts of operations are reported on an annual basis.

Economic impacts are estimated for a hypothetical year when each of the two scenarios reach 'stabilized' occupancy. Stabilized occupancy reflects occupancy levels, after the initial lease-up period, that are reasonably expected to continue into the future with the proper marketing, management, and maintenance.

It is important to highlight a caveat before presenting the findings:

> *The economic impact analysis assumes that the project satisfies net new demand for all of the proposed uses (residential, retail, hotel, and office). In other words, it is assumed that all of the*

residents in the new apartments and condominiums are new residents of the State and County as opposed to people relocating from elsewhere in the State/County. The same assumption is made about office employees, and hotel guest. In a nutshell, it is assumed that the project is not drawing from current existing demand within the State/County, but rather it is built to meet new demand. This is a strong assumption, which may not be reasonable in the short-run. However, this assumption in more reasonable in the long-run, given projected population and employment growth within the State and County.

With this caveat in mind, the project will generate the following economic impacts on an annual basis.

Statewide Impacts

- *Phase 1A:* Once completed, when stabilized occupancy is reached, Phase 1A of the project will generate, on an annual basis, approximately 256 full-time equivalent jobs. This includes approximately 156 direct jobs and 98 indirect and induced jobs. Total expenditures on direct labor income are estimated at almost $10 million per year. Approximately 50 percent of this is labor income for direct employment and the other 50 percent for Indirect and induced labor.
- *Full Build-Out:* Once completed, when stabilized occupancy is reached, the Full Build Out scenario of the project will generate approximately 1,389 direct jobs and 1,416 indirect and induced jobs for a total of approximately 2,809. Total expenditures on direct labor income are estimated at approximately $111 million. Indirect and induced labor impact is approximately $78 million. Total labor income generated by the project is approximately $189 million per year.

County Impacts

- *Phase 1A:* Phase 1A of the project will generate, on an annual basis, approximately 249 full-time equivalent jobs. This includes approximately 156 direct jobs and 91 indirect and induced jobs. Total expenditures on direct labor income are estimated at over $9 million per year. Approximately 50 percent of this is labor income for direct employment and the other 50 percent for Indirect and induced labor.
- *Full Build-Out:* The Full Build Out scenario of the project will generate approximately 1,389 direct jobs and 1,310 indirect and induced jobs for a total of approximately 2,701. Total labor income per year will be almost $179 million per year. This includes total expenditures on direct labor income are estimated at approximately $111 million and $68 million in indirect and induced labor impact.

Table B – Estimated Annual Economic Impacts on the State of Connecticut during Operations, Stabilized Year [a]

	Phase 1A			Full Build-Out		
	Direct	Direct & Induced	Total	Direct	Direct & Induced	Total
I. Employment (FTEs)						
Residential [b]		49	49		146	146
Retail	156	49	207	218	74	295
Hotel				91	62	155
Office				1,079	1,133	2,213
Total	156	98	256	1,389	1,416	2,809
II. Labor Income ($millions)						
Residential [b]		$2.61	$2.61		$7.78	$7.78
Retail	$4.62	$2.76	$7.38	$7.18	$4.27	$11.45
Hotel				$3.57	$3.67	$7.24
Office				$100.36	$61.97	$162.33
Total	$4.62	$5.37	$9.99	$111.12	$77.69	$188.81

Sources/Notes:

It is assumed that the project is not drawing from current existing demand within the State, but rather it is built to meet new demand. See accompanying narrative for additional details.

Totals may not add due to rounding.

[a] Stabilized year is a hypothetical period when the project reaches occupancy levels, after the initial lease-up period, that are reasonably expected to continue into the future with the proper marketing, management, and maintenance.

[b] The impacts of the residential portion of the project includes induced effects only. Induced effects reflect changes in local spending that result from income changes. It is assumed that a portion of purchases by project residents will support the new retail space within the project area. In order to avoid double counting the induced effects of household expenditures, the estimated impacts are reduced by two-thirds. There is not sufficient research/evidence available to estimate a reliable discount factor. The 'two-thirds' discount is a conservative approach.

Table C – Estimated Annual Economic Impacts on New Haven County during Operations, Stabilized Year [a]

	Phase 1A			Full Build-Out		
	Direct	Direct & Induced	Total	Direct	Direct & Induced	Total
I. Employment (FTEs)						
Residential [b]		47	47		141	141
Retail	156	44	201	218	69	289
Hotel				91	58	150
Office				1,079	1,042	2,121
Total	156	91	249	1,389	1,310	2,701
II. Labor Income ($millions)						
Residential		$2.46	$2.46		$7.31	$7.31
Retail	$4.62	$2.38	$7.00	$7.18	$3.70	$10.88
Hotel				$3.57	$3.15	$6.72
Office				$100.36	$54.39	$154.75
Total	$4.62	$4.84	$9.46	$111.12	$68.55	$179.67

Sources/Notes:
It is assumed that the project is not drawing from current existing demand within the County, but rather it is built to meet new demand. See accompanying narrative for additional details.

Totals may not add due to rounding.

[a] Stabilized year is a hypothetical period when the project reaches occupancy levels, after the initial lease-up period, that are reasonably expected to continue into the future with the proper marketing, management, and maintenance.

[b] The impacts of the residential portion of the project includes induced effects only. Induced effects reflect changes in local spending that result from income changes. It is assumed that a portion of purchases by project residents will support the new retail space within the project area. In order to avoid double counting the induced effects of household expenditures, the estimated impacts are reduced by two-thirds. There is not sufficient research/evidence available to estimate a reliable discount factor. The 'two-thirds' discount is a conservative approach.

Estimated Jobs Created by Occupation

As described above, Willdan estimates that approximately 4,676 jobs will be created in the State of Connecticut during the construction phase of the Full Build-Out Scenario. Upon stabilization, the project (Full Build-Out) will generate approximate 2,809 jobs per year in the State of Connecticut. Tables D and E provide a breakdown of the estimated jobs created by occupation. As illustrated below, the project will create jobs across a wide variety of occupation categories across all skill levels, from management occupations to production occupations. Supporting Table 7 provides additional information regarding the occupational categories summarized in Tables D and E.

Table D – Estimated Jobs Created during Construction Phase (Full Build-Out) in the State of Connecticut, by Occupation

Code [a]	Description [a]	Jobs [b]	2011 Median Annual Salary [c]
47-0000	Construction and Extraction Occupations	1,641	$50,510
43-0000	Office and Administrative Support Occupations	634	$37,290
41-0000	Sales and Related Occupations	335	$28,080
11-0000	Management Occupations	330	$101,970
49-0000	Installation, Maintenance, and Repair Occupations	296	$47,170
53-0000	Transportation and Material Moving Occupations	248	$29,760
13-0000	Business and Financial Operations Occupations	209	$70,160
35-0000	Food Preparation and Serving Related Occupations	158	$19,930
17-0000	Architecture and Engineering Occupations	127	$74,580
29-0000	Healthcare Practitioners and Technical Occupations	127	$69,790
51-0000	Production Occupations	120	$35,870
37-0000	Building and Grounds Cleaning and Maintenance Occupations	84	$27,260
31-0000	Healthcare Support Occupations	71	$30,790
19-0000	Life, Physical, and Social Science Occupations	54	$70,280
39-0000	Personal Care and Service Occupations	48	$23,270
15-0000	Computer and Mathematical Occupations	48	$79,120
25-0000	Education, Training, and Library Occupations	43	$52,900
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	43	$47,420
33-0000	Protective Service Occupations	35	$47,320
21-0000	Community and Social Service Occupations	15	$46,880
23-0000	Legal Occupations	5	$85,470
45-0000	Farming, Fishing, and Forestry Occupations	3	$25,670
	Total	**4,676**	

Sources/Notes:

[a] Occupational categories and codes from the Bureau of Labor Statistics. See Supporting Table 7 for further details.

[b] Estimated using IMPLAN's Occupational Matrices. Includes direct, indirect, and induced jobs.

[c] Median annual income in the state of Connecticut. U.S. Bureau of Labor Statistics. Available at http://www.bls.gov/oes/oes_dl.htm.

Table E – Estimated Annual Jobs Created during Operations Phase (Full Build-Out) in the State of Connecticut, by Occupation

Code [a]	Description [a]	Jobs [b]	2011 Median Annual Salary [c]
43-0000	Office and Administrative Support Occupations	438	$37,290
19-0000	Life, Physical, and Social Science Occupations	307	$70,280
35-0000	Food Preparation and Serving Related Occupations	277	$19,930
41-0000	Sales and Related Occupations	226	$28,080
11-0000	Management Occupations	207	$101,970
17-0000	Architecture and Engineering Occupations	206	$74,580
13-0000	Business and Financial Operations Occupations	193	$70,160
15-0000	Computer and Mathematical Occupations	172	$79,120
29-0000	Healthcare Practitioners and Technical Occupations	115	$69,790
37-0000	Building and Grounds Cleaning and Maintenance Occupations	99	$27,260
53-0000	Transportation and Material Moving Occupations	94	$29,760
49-0000	Installation, Maintenance, and Repair Occupations	86	$47,170
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	78	$47,420
31-0000	Healthcare Support Occupations	60	$30,790
39-0000	Personal Care and Service Occupations	59	$23,270
51-0000	Production Occupations	45	$35,870
47-0000	Construction and Extraction Occupations	41	$50,510
25-0000	Education, Training, and Library Occupations	41	$52,900
33-0000	Protective Service Occupations	37	$47,320
21-0000	Community and Social Service Occupations	15	$46,880
23-0000	Legal Occupations	8	$85,470
45-0000	Farming, Fishing, and Forestry Occupations	4	$25,670
	Total	**2,809**	

Sources/Notes:

[a] Occupational categories and codes from the Bureau of Labor Statistics. See Supporting Table 7 for further details.

[b] Estimated using IMPLAN's Occupational Matrices. Includes direct, indirect, and induced jobs.

[c] Median annual income in the state of Connecticut. U.S. Bureau of Labor Statistics. Available at http://www.bls.gov/oes/oes_dl.htm.

Estimated Property, Sales, and Transient Occupancy Tax Revenues

Willdan estimated the property taxes, sales taxes, and transient occupancy tax (TOT or Hotel tax) revenues that will be generated by the project upon stabilized occupancy. IMPLAN generates its own estimates of tax revenues and incorporates them into the economic impact estimates. However, IMPLAN does not provide details on how tax revenues are calculated. Therefore, the aforementioned tax revenues are calculated outside of IMPLAN in order to understand the underlying assumptions.

Willdan estimated the increases in revenues using a 'case study methodology' in which revenues are estimated by modeling the manner in which they are collected. This 'case study methodology' is widely used in Fiscal Impact Analyses nationwide. For this particular study, revenues are modeled as follows:

1) Property tax revenues are based on an estimate of the increase in assessed valuation associated with the project.
2) Sales tax revenues are based on the estimated expenditures by new residents, workers, and hotel guests in the local (State and County) economy. Taxable sales generated by the new retail space are also included. Taxable sales are adjusted to avoid double counting of benefits.
3) TOT revenues are based on the estimated hotel room revenues generated by hotel guests.

Section IV of this report provides a detailed description of how these revenues are estimated. It should be noted that the allocation of these revenues among potential jurisdictions (State, County, and City) has not been considered as part of this study.

Table F presents the estimated tax revenues generated by the project upon stabilized occupancy. The values are presented in 2013 U.S. dollars. Please note that the estimated property tax revenues shown in Table F are based on the estimated hypothetical assessed value of the property upon project completion.

The estimates of property tax revenues presented below are based on estimated assessed values by Willdan using project operations data provided by LWLP. The hypothetical assessed value and associated property tax revenues presented are based on the best information available and reflect current market expectations about the future financial performance of the project upon completion (during a stabilized year). However, the actual assessed value will be determined by the City of New Haven's Assessor's Office based on actual market conditions at the time of project completion. Therefore, the estimated assessed value, on which the following property tax revenues are based, can vary substantially from the actual assessed value as determined by the Assessor's Office upon project completion.

Table F – Estimated Property, Sales, and Transient Occupancy (Hotel) Tax, Stabilized Year[a]

	Phase 1A [b]	Full Build-Out [b]
Property Tax Revenues [c]	$2,390,000	$8,570,000
Sales Tax Revenues [d]	$1,210,000	$2,350,000
Transient Occupancy Tax (TOT) [e]		$1,100,000

Sources/Notes:

[a] Stabilized year is a hypothetical period when the project reaches occupancy levels, after the initial lease-up period, that are reasonably expected to continue into the future with the proper marketing, management, and

[b] Figures rounded to the nearest $10,000th.

[c] See Table O for details.

[d] See Table P for details.

[e] See Table Q for details.

II. Project Description

Background

This study estimates the economic impacts generated by the proposed redevelopment of the former New Haven Coliseum, which was demolished in 2007 after being vacant for nearly five years.

The City of New Haven's (the City) objective is to redevelop the 4.5-acre site into a mixed-use neighborhood as the gateway to downtown, and to create new jobs, increase the tax base, provide new business opportunities and create a diverse range of housing options. The plan is another component of the Downtown Crossing project, which aims to reconnect downtown New Haven with Union Station, Yale-New Haven Hospital, and the Hill neighborhood, which were divided by the construction of the Route 34 connector nearly a half-century ago.

To achieve this goal, the City selected Live Work Learn Play, Inc. (LWLP) as the developer of the site in 2011. LWLP proposes to build a $363 million, mixed-use project that includes residential, hotel, retail, and office space as well as public spaces. The detailed development program is presented in Table G.

Proposed Development Program

The Development Program in Table G provides information on the four (4) phases of the project: 1A, 1B, 2A and 2B. This economic impact analysis analyzed two scenarios: Phase 1A and Full Build-Out.

Phase 1A encompasses the construction of 242 residential units, and 39,200 square feet of retail, 359 parking spaces, and 52,630 of public space. Phase 1A is scheduled to start construction in the fall of 2014. It will be completed by the summer of 2016.

The Full Build-Out scenario encompasses all Phases of the Project: 1A, 1B, 2A, and 2B. At Full Build-Out, the project will consist of 719 residential units, 76,900 square feet of retail, 160-room hotel, 200,000 square feet of Class A office space, 785 parking spaces, and 52,630 square feet of public space. The Full Build-Out scenario will take approximately six (6) years to complete. Construction of the first phase, Phase 1A, will begin in the fall of 2014. The last phase of the project, Phase 2B, may be completed in the fall of 2020.

Estimated Development Costs

The estimated development costs are presented in Table H. These costs estimates were provided by LWLP and the City of New Haven. The development costs exclude land acquisition costs, but include soft costs as well as $32.5 million in public infrastructure improvements for the reconstruction of the roadway adjacent to the site. Public improvements needed to accommodate Phase 1A are approximately $12.5 million of the total. The remaining $20 million are for improvements needed to accommodate Phase 1B through 2B.

Total developments costs of Phase 1A are estimated to be nearly $114.5 million dollars, including $12.5 million dollars in public infrastructure necessary to support this phase of the project as discussed above. As shown in Table H, this includes $68.5 for the residential portion of the project, $20.6 for structured parking, $6.3 million for retail, and approximately $6.6 million for the construction of the proposed

public square plus an additional $12.5 million in public infrastructure improvements necessary for the project.

Total development costs for the whole project, including Phase 1A, 1B, 2A, and 2B (Full Build-Out Scenario) are estimated at $395.5 million, including $32.5 million for public infrastructure needed to support the project.

The construction cost estimates included in Table H are expressed in 2013 U.S. Dollars. These cost estimates include an inflation contingency, and exclude Fixed Furniture & Equipment (FF&E).

Table G – Proposed Development Program, by Phase

	Phase 1A	Phase 1B	Phase 2A	Phase 2B	Full Build Out
Construction Start	Fall 2014	Spring 2016	2017	2018	Fall 2014
Delivery / Completion	Summer 2016	Fall 2017 / Summer 2018		Fall 2020	Fall 2020
Total Retail Area (Sq. Ft.)	39,200	19,000	5,800	12,900	76,900
Total Public Space and Retail Lane Area (Sq. Ft.)	52,630				52,630
Total Residential Area (Sq. Ft.)	252,500	99,998	40,350	348,650	741,498
Total Residential Units	242	100	47	330	719
Total Hotel Area (Sq. Ft.)		80,882			80,882
Total Hotel Rooms		160			160
Total Office Area (Sq. Ft.)			200,000		200,000
Total Constructed Area (Above Grade Sq. Ft.)	344,330	199,880	246,150	361,550	1,151,910
Total Parking	359	-	235	191	785

Sources:/Notes

[a] Live Work Learn Play, Inc.

Table H – Estimated Development Costs, by Phase ($millions)

Development Type	Phase 1A	Phase 1B	Phase 2A	Phase 2B	Full Build-Out
Residential					
Hard Construction Costs	$57.28	$22.58	$9.45	$79.00	$168.31
Soft Costs	$11.22	$4.85	$1.84	$15.43	$33.33
Total	$68.50	$27.42	$11.29	$94.43	$201.64
Parking (spaces)					
Hard Construction Costs	$17.20		$11.50	$9.40	$38.10
Soft Costs	$3.37	$.00	$2.24	$1.84	$7.44
Total	$20.57	$.00	$13.74	$11.24	$45.54
Retail					
Hard Construction Costs	$5.27		$.80	$2.00	$8.07
Soft Costs	$1.03	$.00	$.16	$.39	$1.58
Total	$6.30		$.96	$2.39	$9.65
Hotel					
Hard Construction Costs		$30.00			$30.00
Soft Costs	$.00	$6.44	$.00	$.00	$6.44
Total	$.00	$36.44	$.00	$.00	$36.44
Office					
Hard Construction Costs			$52.85		$52.85
Soft Costs			$10.29		$10.29
Total	$.00	$.00	$63.14	$.00	$63.14
Public Space					
Hard Construction Costs	$5.50				$5.50
Soft Costs	$1.08				$1.08
Total	$6.58	$.00	$.00	$.00	$6.58
Subtotal - Excluding Public Infrastructure					
Hard Construction Costs	$85.25	$52.58	$74.60	$90.40	$302.83
Soft Costs	$16.70	$11.29	$14.52	$17.66	$60.16
Total	$101.95	$63.86	$89.12	$108.06	$362.99
Public Infrastructure					
Hard Construction Costs	$9.38	$5.00	$5.00	$5.00	$24.38
Soft Costs	$3.13	$1.67	$1.67	$1.67	$8.13
Total	$12.50	$6.67	$6.67	$6.67	$32.50
Total by Phase					
Hard Construction Costs	$94.63	$57.58	$79.60	$95.40	$327.20
Soft Costs	$19.83	$12.95	$16.19	$19.32	$68.29
Total	$114.45	$70.53	$95.79	$114.72	$395.49

Sources/Notes:

[a] Live Work Learn Play, Inc.

III. Economic Impact Analysis Methodology

Willdan Financial Services (Willdan) evaluated the economic impact of the proposed project on the State of Connecticut and New Haven County economies. The economic impacts of the project are estimated with the IMPLAN (Impact Analysis for Planning).[3] By constructing Social Accounts that describe the structure and function of the local economy, IMPLAN can estimate the number of jobs that will be generated by the introduction of a new business into the study economy. IMPLAN uses multiplier effects to measure not only the direct effects of the jobs generated by the new business, but also the indirect and induced effects generated by subsequent rounds of spending in the local economy. The impacts included in the analysis are:

- *Direct effects* are the initial change in economic activity from local payroll and construction expenditures in a specific industry or sector. For this project, for example, the direct effects to the State and County are the wages and other expenditures at the site, both during construction and operation of the proposed facility.

- *Indirect effects* are changes in inter-industry transactions as supplying industries respond to increased demands from the directly affected industries. For example, the new industries that will occupy the new office space at the site will purchase other goods from the local economy. Indirect effects are the additional jobs and labor income created by these expenditures in the local economy.

- *Induced effects* consist of households and employee spending within the State and County, created by direct and indirect impacts. In other words, this is impact of households and employees spending their earnings on local goods and services, such as food, clothing, real estate, education, health services, etc.

The metrics of direct, indirect and induced economic impacts included in the analysis are:

- *Employment,* which is the number of number of full-time equivalent (FTE) jobs.

- *Labor Income*, which includes employee compensation plus proprietor income. Employee compensation is the total payroll cost of the employee paid by the employer. This includes wage and salary, all benefits (health, retirement, etc.) and employer-paid payroll taxes (social security, unemployment, etc.) Proprietor income consists of payments received by self-employed individuals and unincorporated business owners, and includes the capital consumption allowance.

The economic impact analysis is segmented in two parts: 1) economic impacts during the construction phase, and 2) economic impacts during operations phase (i.e., once the project is completed in and operations stabilize). The reason for this is that construction impacts are 'one-time' impacts which, for

[3] MIG, Inc., IMPLAN System (data and software), 502 2nd Street, Suite 301, Hudson, WI 54016 www.implan.com

practical purposes, will dissipate once the construction phase is completed. On the other hand, the economic impacts associated with the operation of the hotel, office, retail, apartments, etc. will accrue on a recurring basis over an indefinite period of time. The following sections describe how impacts are estimated in each case.

Economic Impacts during the Construction Phase

"Economic Impacts during the Construction Phase" are estimates of the direct, indirect, and induced economic impacts of the construction expenditures related to the construction of the project. The economic impacts of the construction period are not reported on an annual basis; instead they are measured over the duration of the construction period, which extends over several years.

The impacts during the construction period are modeled with IMPLAN as an 'Industry Change' analysis. In an 'Industry Change' analysis in IMPLAN, changes in sales, employment, wages (employee compensation), and proprietor income can all be used to measure the effects a specific industry or sector has on the local economy. In this particular case, the estimated project construction costs are input into IMPLAN as the change in sales in the construction sectors. Table I shows the inputs used in the IMPLAN analysis.

Table I – Assumptions for Construction Phase Analysis

Development Type	Phase 1A ($ millions)	Full Build Out ($ millions)
Residential	$68.50	$201.64
Parking (spaces)	$20.57	$45.54
Retail	$6.30	$9.65
Hotel	N/A	$36.44
Office	N/A	$63.14
Public Space	$6.58	$6.58
Infrastructure	$12.50	$32.50
Total	$114.45	$395.49

Sources/Notes

Provided by Live Work Learn Play, Inc. See Table H.

The estimated economic impacts during the construction phase of the project are summarized in Table J. Within the State of Connecticut, the construction of the project will generate a total of 1,322 full-time equivalent jobs during Phase 1A and 4,676 jobs for the whole project (i.e. Full Build-Out). This includes direct, indirect, and induced jobs. Within the County of New Haven, the construction of the project will generate a total of 1,268 full-time equivalent jobs during Phase 1A and 4,485 jobs for the Full Build-Out scenario.

Table J – Estimated Economic Impacts during Construction Phase

	Phase 1A [a]		Full Build-Out [b]	
	Employment (FTE)	Labor Income ($millions)	Employment (FTE)	Labor Income ($millions)
I. State of Connecticut Impacts				
Direct	754	$55	2,720	$194
Indirect and Induced	566	$31	1,955	$109
Total Impacts	1,322	$87	4,676	$303
II. New Haven County Impacts				
Direct Impacts	754	$55	2,720	$194
Indirect and Induced	513	$27	1,764	$94
Total Impacts	1,268	$82	4,485	$288

Sources/Notes:

Totals may not add due to rounding.

[a] Construction of Phase 1A will occur over approximately two-years. The construction costs and impacts are reported for the two-year construction period of Phase 1A and not on an annual basis. Includes impacts of approximately $12.5 million dollars in public infrastructure improvements.

[b] Full Build-Out refers to the completion of all phases (1A, 1B, 2A, and 2B) as described in Table G. Construction of all phases will occur over a six-year period. The construction costs and impacts are reported for the duration of the whole construction period and not on an annual basis. Includes impacts of aproximately 32.5 million dollars in public infrastructure improvements.

Economic Impacts during Operations Phase

It is assumed that once the project is completed and fully occupied, it will generate recurring economic benefits over an indefinite period of time. For this reason, the economic impacts of the project during the operations phase are reported on an annual basis. The impacts are estimated for a hypothetical 'stabilized year' when the various uses of the project reach stabilized occupancy. Stabilized occupancy reflects occupancy levels, after the initial lease-up period, that are reasonably expected to continue into the future with the proper marketing, management, and maintenance. Stabilized occupancy may occur anywhere between 6 and 24 months after completion of the project.

There are two important caveats that must be considered in the analysis of economic impacts during the operations phase:

1) This economic impact analysis assumes that the project satisfies net new demand for all of the proposed uses (residential, retail, hotel, and office). In other words, it is assumed that all of the residents in the new apartments and condominiums are new residents of the State and County as opposed to people relocating from elsewhere in the State/County. The same assumption is made about office employees, and hotel guest. It is also assumed that sales by the new retailers at the site will capture new expenditures. If that were NOT the case, the impacts would not be

net new impacts to the State and County but rather a translocation of the same spending from one sub-region to another sub-region within the same geography.

In a nutshell, it is assumed that the project is not drawing from current existing demand within the State/County, but rather it is built to meet new demand. This is a strong assumption, which may not be reasonable in the short-run. However, this assumption in more reasonable in the long-run, given projected population and employment growth within the State and County.

2) As illustrated below, the impacts of the various project components (residential, retail, hotel, and office) are estimated separately. However, the impacts of various project components include measures of indirect impacts (purchases from other local businesses) and induced impacts (employees and households spending locally). This creates the possibility that some of the indirect and induced benefits may be double counted. According to IMPLAN, the possibility of double counting of operational values of office or hotels is relatively small, as these will not likely see much if any significant purchases from the new residents based on general trends for regional economies. However, there is higher risk of double counting the impact of households purchasing goods from the on-site retail. For this reason, the induced impacts associated with the new household spending are reduced by two-thirds to account reduce the potential for double counting of benefits.[4]

With these caveats in mind, the estimated impacts during the operations phase of the project are presented below. Table K presents the estimated economic impacts on the State of Connecticut and Table L presents the estimated economic impacts on the County of New Haven.

[4] There is not sufficient research/evidence available to estimate a reliable discount factor. The 'two-thirds' discount is a conservative approach.

Table K - Estimated Annual Economic Impact on the State of Connecticut during Operations, Stabilized Year [a]

	Phase 1A			Full Build-Out		
	Direct	Direct & Induced	Total	Direct	Direct & Induced	Total
I. Employment (FTEs)						
Residential [b]		49	49		146	146
Retail	156	49	207	218	74	295
Hotel				91	62	155
Office				1,079	1,133	2,213
Total	156	98	256	1,389	1,416	2,809
II. Labor Income ($millions)						
Residential [b]		$2.61	$2.61		$7.78	$7.78
Retail	$4.62	$2.76	$7.38	$7.18	$4.27	$11.45
Hotel				$3.57	$3.67	$7.24
Office				$100.36	$61.97	$162.33
Total	$4.62	$5.37	$9.99	$111.12	$77.69	$188.81

Sources/Notes:

It is assumed that the project is not drawing from current existing demand within the State, but rather it is built to meet new demand. See accompanying narrative for additional details.

Totals may not add due to rounding.

[a] Stabilized year is a hypothetical period when the project reaches occupancy levels, after the initial lease-up period, that are reasonably expected to continue into the future with the proper marketing, management, and maintenance.

[b] The impacts of the residential portion of the project includes induced effects only. Induced effects reflect changes in local spending that result from income changes. It is assumed that a portion of purchases by project residents will support the new retail space within the project area. In order to avoid double counting the induced effects of household expenditures, the estimated impacts are reduced by two-thirds. There is not sufficient research/evidence available to estimate a reliable discount factor. The 'two-thirds' discount is a conservative approach.

Table L - Estimated Annual Economic Impacts on the County of New Haven during Operations, Stabilized Year [a]

	Phase 1A			Full Build-Out		
	Direct	Direct & Induced	Total	Direct	Direct & Induced	Total
I. Employment (FTEs)						
Residential [b]		47	47		141	141
Retail	156	44	201	218	69	289
Hotel				91	58	150
Office				1,079	1,042	2,121
Total	156	91	249	1,389	1,310	2,701
II. Labor Income ($millions)						
Residential		$2.46	$2.46		$7.31	$7.31
Retail	$4.62	$2.38	$7.00	$7.18	$3.70	$10.88
Hotel				$3.57	$3.15	$6.72
Office				$100.36	$54.39	$154.75
Total	$4.62	$4.84	$9.46	$111.12	$68.55	$179.67

Sources/Notes:
It is assumed that the project is not drawing from current existing demand within the County, but rather it is built to meet new demand. See accompanying narrative for additional details.

Totals may not add due to rounding.

[a] Stabilized year is a hypothetical period when the project reaches occupancy levels, after the initial lease-up period, that are reasonably expected to continue into the future with the proper marketing, management, and maintenance.

[b] The impacts of the residential portion of the project includes induced effects only. Induced effects reflect changes in local spending that result from income changes. It is assumed that a portion of purchases by project residents will support the new retail space within the project area. In order to avoid double counting the induced effects of household expenditures, the estimated impacts are reduced by two-thirds. There is not sufficient research/evidence available to estimate a reliable discount factor. The 'two-thirds' discount is a conservative approach.

Estimated Jobs Created by Occupation

The IMPLAN software estimates economic impacts of a particular project on an industry basis. However, in order to better understand the types of skill that may be required by, and hence the type of pay associated with, the jobs created by the project it is necessary to estimate jobs created by occupation.[5] To estimate jobs by occupation, Willdan relied on occupational matrices developed by IMPLAN. These occupational matrices use country wide averages to convert employment by industry sector to jobs by occupation. These matrices are described in more detail at http://www.implan.com.

[5] "Occupation" is a better indicator of the level of skill, and hence salary & wages of a particular job.

As described above, Willdan estimates that approximately 4,676 jobs will be created in the State of Connecticut during the construction phase of the Full Build-Out Scenario. Upon stabilization, the project (Full Build-Out) will generate approximate 2,809 jobs per year in the State of Connecticut. Tables M and N provide a breakdown of the estimated jobs created by occupation. As illustrated below, the project will create jobs across a wide variety of occupation categories across all skill levels, from management occupations to production occupations.

Table M – Estimated Jobs Created during Construction Phase (Full Build-Out) in the State of Connecticut, by Occupation

Code [a]	Description [a]	Jobs [b]	2011 Median Annual Salary [c]
47-0000	Construction and Extraction Occupations	1,641	$50,510
43-0000	Office and Administrative Support Occupations	634	$37,290
41-0000	Sales and Related Occupations	335	$28,080
11-0000	Management Occupations	330	$101,970
49-0000	Installation, Maintenance, and Repair Occupations	296	$47,170
53-0000	Transportation and Material Moving Occupations	248	$29,760
13-0000	Business and Financial Operations Occupations	209	$70,160
35-0000	Food Preparation and Serving Related Occupations	158	$19,930
17-0000	Architecture and Engineering Occupations	127	$74,580
29-0000	Healthcare Practitioners and Technical Occupations	127	$69,790
51-0000	Production Occupations	120	$35,870
37-0000	Building and Grounds Cleaning and Maintenance Occupations	84	$27,260
31-0000	Healthcare Support Occupations	71	$30,790
19-0000	Life, Physical, and Social Science Occupations	54	$70,280
39-0000	Personal Care and Service Occupations	48	$23,270
15-0000	Computer and Mathematical Occupations	48	$79,120
25-0000	Education, Training, and Library Occupations	43	$52,900
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	43	$47,420
33-0000	Protective Service Occupations	35	$47,320
21-0000	Community and Social Service Occupations	15	$46,880
23-0000	Legal Occupations	5	$85,470
45-0000	Farming, Fishing, and Forestry Occupations	3	$25,670
	Total	**4,676**	

Sources/Notes:

[a] Occupational categories and codes from the Bureau of Labor Statistics. See Supporting Table 7 for further details.

[b] Estimated using IMPLAN's Occupational Matrices. Includes direct, indirect, and induced jobs.

[c] Median annual income in the state of Connecticut. U.S. Bureau of Labor Statistics. Available at http://www.bls.gov/oes/oes_dl.htm.

Table N – Estimated Annual Jobs Created during Operations Phase (Full Build-Out) in the State of Connecticut, by Occupation

Code [a]	Description [a]	Jobs [b]	2011 Median Annual Salary [c]
43-0000	Office and Administrative Support Occupations	438	$37,290
19-0000	Life, Physical, and Social Science Occupations	307	$70,280
35-0000	Food Preparation and Serving Related Occupations	277	$19,930
41-0000	Sales and Related Occupations	226	$28,080
11-0000	Management Occupations	207	$101,970
17-0000	Architecture and Engineering Occupations	206	$74,580
13-0000	Business and Financial Operations Occupations	193	$70,160
15-0000	Computer and Mathematical Occupations	172	$79,120
29-0000	Healthcare Practitioners and Technical Occupations	115	$69,790
37-0000	Building and Grounds Cleaning and Maintenance Occupations	99	$27,260
53-0000	Transportation and Material Moving Occupations	94	$29,760
49-0000	Installation, Maintenance, and Repair Occupations	86	$47,170
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	78	$47,420
31-0000	Healthcare Support Occupations	60	$30,790
39-0000	Personal Care and Service Occupations	59	$23,270
51-0000	Production Occupations	45	$35,870
47-0000	Construction and Extraction Occupations	41	$50,510
25-0000	Education, Training, and Library Occupations	41	$52,900
33-0000	Protective Service Occupations	37	$47,320
21-0000	Community and Social Service Occupations	15	$46,880
23-0000	Legal Occupations	8	$85,470
45-0000	Farming, Fishing, and Forestry Occupations	4	$25,670
	Total	**2,809**	

Sources/Notes:

[a] Occupational categories and codes from the Bureau of Labor Statistics. See Supporting Table 7 for further details.

[b] Estimated using IMPLAN's Occupational Matrices. Includes direct, indirect, and induced jobs.

[c] Median annual income in the state of Connecticut. U.S. Bureau of Labor Statistics. Available at http://www.bls.gov/oes/oes_dl.htm.

IV. Estimated Tax Revenues Methodology

Willdan estimated the potential annual property, sales, and transient occupancy (i.e., hotel tax) revenues associated with the project. Willdan estimated tax revenues independently from the economic impacts. It is important to note that tax revenues are accounted for in the economic impact results, therefore they should not be considered 'additional economic benefits'. Rather, tax revenues are estimated separately to be able to understand the assumptions behind the estimates of government revenues that the project may generate. Estimated tax revenues are estimated only for the post-development phase, based on a hypothetical 'stabilized-year'.[6]

Estimated Property Tax Revenues

Estimated property tax Revenues are based on the estimated assessed value of the project upon completion during a stabilized year. According to the City of New Haven's Office of the Assessor, the assessed value of real property is estimated as 70 percent of its Fair Market Value (FMV). The FMV of real property, for taxation purposes, is determined by the City of New Haven's Assessor Office. The Assessor determines a property's FMV using various established techniques including income analysis, cost estimates, and sales data comparisons.[7]

For purposes of this analysis, Willdan estimated the FMV of the project using an 'income approach' based on expected income and expenses during operations. Income and expense information were provided by LWLP. This 'income approach' converts future income and expenses into a single current (i.e., discounted) amount. With this approach, the FMV reflects current market expectations about those future amounts.

The estimates of property tax revenues presented below are based on estimated assessed values by Willdan using project operations data provided by LWLP. The hypothetical assessed value and associated property tax revenues presented are based on the best information available and reflect current market expectations about the future financial performance of the project upon completion (during a stabilized year). However, the actual assessed value will be determined by the City of New Haven's Assessor's Office based on actual market conditions at the time of project completion. Therefore, the estimated assessed value, on which the following property tax revenues are based, can vary substantially from the actual assessed value as determined by the Assessor's Office upon project completion.

Property tax revenues are based on a mill rate of 40.80 is based on the 2012 rate published by the City of New Haven's Office of the Assessor.[8] A mill rate of 40.80 means that owners of real property are taxed at a rate of $40.80 on every $1,000 of assessed taxable property. Table O presents the estimated property tax revenue generated by the project during a stabilized year.

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[6] A stabilized year is when 'stabilized occupancy' is reached. Stabilized occupancy reflects occupancy levels, after the initial lease-up period, that are reasonably expected to continue into the future with the proper marketing, management, and maintenance.

[7] http://www.cityofnewhaven.com/assessor/pdfs/New%20Haven%20Revaluation%20Questions.pdf

[8] http://www.cityofnewhaven.com/assessor/

Table O – Estimated Property Revenue during Stabilized Year, excluding land value

The estimates of Fair Market Value below are based on an Income Approach methodology. Fair Market Value for taxation purposes is determined by the County of New Haven's Assessor Office . The estimates below assume that the income generated by the project (capitalized at a reasonable rate) provides a reasonable approximation to the actual assessed value, which will be determined by the assessor upon project completion. However, the actual fair market value, as determined by the Assessor can differ substantially from these estimates; it can be higher or lower.

Phase IA

	Residential	Retail	Parking	Total
Estimated Fair Market Value				
Gross Income [a]	$6.32	$0.78	$0.98	$8.09
Effective Gross Income [a]	$6.33	$2.03	$0.98	$9.34
Operating Expenses [a]	$3.22	$1.03	$0.00	$4.25
NOI Before Debt Service [a]	$3.11	$1.00	$0.98	$5.09
Cap Rate [b]	6.0%	6.0%	6.5%	6.1%
Supportable Investment=FMV	$51.80	$16.67	$15.08	$83.54
Estimated Assessed Value				
Assessment Portion [c]	70%	70%	70%	70%
Estimated Assessed Value	$36.26	$11.67	$10.55	$58.48
Estimated Property Tax Revenues				
Mill Rate Assumption [d]	40.80	40.80	40.80	40.80
Estimated Property Tax Revenues	**$1.48**	**$0.48**	**$0.43**	**$2.39**

Full Build Out

	Residential	Retail	Parking	Hotel	Office	Total
Estimated Fair Market Value						
Gross Income [a]	$18.58	$1.33	$1.27	$8.64	$4.00	$33.82
Effective Gross Income [a]	$18.53	$3.10	$1.27	$6.20	$7.59	$36.68
Operating Expenses [a]	$9.05	$1.47	$0.00	$3.98	$3.45	$17.95
NOI Before Debt Service [a]	$9.48	$1.63	$1.27	$2.22	$4.14	$18.73
Cap Rate [b]	6.0%	6.0%	6.5%	7.0%	6.5%	6.2%
Capitalized Value = FMV [c]	$157.98	$27.08	$19.46	$31.71	$63.66	$299.90
Estimated Assessed Value						
Assessment Portion [d]	70%	70%	70%	70%	70%	70%
AV= 70% of FMV	$110.59	$18.96	$13.62	$22.20	$44.56	$209.93
Estimated Property Tax Revenues						
Mill Rate Assumption [e]	40.80	40.80	40.80	40.80	40.80	40.80
Estimated Property Tax Revenues	**$4.51**	**$0.77**	**$0.56**	**$0.91**	**$1.82**	**$8.57**

Sources/Notes:

[a] Income and expense data provided by LWLP, Inc.

[b] Based on CBRE's 2013 Cap Rate Survey. February 2013. Residential cap rate is based on average for Multi-family housing Infill/Urban properties; Retail is based on averages for neighborhood/community centers and power centers; Office cap rate is based on Class A space in central business district; Hotel cap rate is based on averages for full service hotels;

[c] A direct capitalization method is used to convert an estimate of a single, stabilized year's income expectancy into an indication of value in one direct step.

[d] The assessment is that portion of a property value that is subject to the municipality's tax rate. With few exceptions, Connecticut law requires municipalities to assess all types of property at 70% of value market value. City of New Haven, "City of New Haven Revaluation Public Information Sessions", December 2011.

[e] City of New Haven's Office of the Tax Collector. A mill rate of 40.80 means that owners of real property are taxed at a rate of $40.80 on every $1,000 of assessed taxable property. www.cityofnewhaven.com/assessor/

When completed, Phase 1A will generate approximately $2.39 million in annual property taxes. When all phases of the project are completed, the project will generate approximately $8.57 million dollars in annual property tax revenue.

Estimated Sales Tax Revenues

Table P presents the estimated sales tax revenue generated by the project after completion. Revenues are estimated for a hypothetical 'stabilized year' when the various elements (residential, retail, hotel, and office) of the project reach stabilized occupancy. Stabilized occupancy reflects occupancy levels, after the initial lease-up period, that are reasonably expected to continue into the future with the proper marketing, management, and maintenance. Stabilized occupancy may occur anywhere between 6 and 24 months after completion of the project.

It is assumed that the project will generate tax revenue from the expenditures of new households, hotel guests, and office workers, in addition to retail sales associated with the new retail space at the site. The methodology for calculating revenues from each of these categories is described below. In all instances, the assumed sales tax rate is 6.5 percent.

Table P – Estimated Sales Tax Revenues during Stabilized Year

Revenue Category	Phase 1A	Full Build-Out
Sales Tax from New Household Spending [a]	$230,000	$670,000
Sales Tax from New Employee Spending [b]		$360,000
Sales Tax from Hotel Guests Spending [c]		$130,000
Sales Tax from New Retail Space [d]	$980,000	$1,180,000
Total Sales Tax Revenues	**$1,210,000**	**$2,340,000**

Sources:

[a] See Supporting Table 1 for details.

[b] See Supporting Table 2 for details.

[c] See Supporting Table 3 for details.

[d] See Supporting Table 4 for details.

Sales Revenues from New Household Spending

The proposed project will create 719 additional residential units in downtown New Haven. Assuming a stabilized vacancy of 3 percent, the project will house approximately 698 households. These households will generate taxable sales revenue through their discretionary consumer spending in the region. Willdan estimates of sales revenues from Household Spending are presented in Supporting Table 1.

Estimates of taxable sales revenues rely on the following assumptions:

- Area Median income (AMI): $80,500 per household

- Affordability mix:
    - Approximately 80 percent of units are market rate units occupied by households earning 160 percent of AMI.
    - Approximately 10 percent of units are occupied by households earning 40 percent of AMI.
    - Approximately 10 percent of units are occupied by households earning 80 percent of AMI.
- Discretionary income: Ranges from 12.62 to 22.73 percent of household income. This includes expenditures in food at home, food away from home, alcoholic beverages, housekeeping supplies, household furnishings & equipment, apparel & services, vehicle purchases, gasoline & motor oil, personal care products & services, reading, and tobacco products & smoking supplies. These percentages:
    - Account for adjustments for income taxes.
    - Represent expenditures on taxable goods only;
    - Are adjusted to account to potential sales 'leakage' (i.e., out of state purchases by Connecticut residents); and
    - Are reduced to account for potential purchases by residents on on-site retail. Tax revenues from the on-site retail space are estimated separately; therefore household expenditures are reduced to avoid double counting of benefits.[9]

Sales Tax Revenues from Worker Spending

The proposed project will create an additional 200,000 square feet of office space. Taking into account vacancy, the efficiency rate of the building, and average employment densities (i.e., square feet per employees), Willdan estimates that, at stabilized occupancy, this space may accommodate approximately 1,080 employees. These employees will spend money on the local economy during work hours, which will in turn generate sale tax revenues.

Estimates of tax revenues generated by office workers rely on the following assumptions:

- Average expenditures around the office of $135.55 per week[10], which is based on estimates by the International Council of Shopping Centers[11] for downtown office workers in the U.S.
- Fifty (50) work-weeks per year.
- Worker expenditures are reduced by 12 percent to account for non-taxable sales.[12]
- A portion of the office workers expenditures will take place within retail stores and food establishments located in the project. Tax revenues from the on-site retail space are estimated

[9] Household expenditures in food away from home, alcoholic beverages, and personal care products & services are reduced by two-thirds to account for purchases from the on-site retail space. There is not sufficient research/evidence available to estimate a reliable discount factor. The 'two-thirds' discount is a conservative approach.

[10] Excluding transportation and online purchases made at the office.

[11] International Council of Shopping Centers, "Office Worker Retail Spending in a Digital Age", 2012.

[12] Workers' expenditures on Drug Stores are reduced by 50 percent; expenditures in grocery stores are reduced by 80 percent.

separately; therefore office workers' expenditures are reduced to avoid double counting of benefits.[13]

Under these assumptions, office workers will generate approximately $360,000 per year in taxable sales revenues.[14] These calculations are shown in Supporting Table 2.

It should be noted that in addition to expenditures in the local economy by office workers, the office component of the project could potentially generate a significant amount of sales tax revenue through business-to business and other non-retail transactions for which the project is identified as the point of sale. These potential sale tax revenues are excluded from the analysis. Future analysis could include estimates of these revenues by sampling select existing high quality office buildings in the City and determine the current range of non-retail sales taxes which are generated.

Sales Tax Revenues from Hotel Guest Spending

Hotel guests will generate sales tax revenues through their expenditures in food, beverages, and services during their stay. Estimates of sales tax revenues are presented in Supporting Table 3. These estimates are based on the following assumptions:

- Average occupancy rate of 70 percent;
- Average hotel spending of $75 per room;
- One (1) guest per room; and
- A portion of the hotel guests' expenditures will take place within retail stores and food establishments located in the project. Tax revenues from the on-site retail space are estimated separately; therefore hotel guests' expenditures are reduced to avoid double counting of benefits.[15]

Supporting Table 3 provides additional information and sources for these assumptions. Total sales tax revenues per year generated by hotel guests' expenditures are estimated at approximately $130,000 per year.[16]

Sales Tax Revenues from Retail Space

The proposed development program calls for the construction of approximately 76,900 square feet of retail space. This includes space for:

- Food and beverage establishments, which includes mobile food services, drinking places (alcoholic beverages), full- and limited-service restaurants, cafeterias, buffets, and snack and nonalcoholic beverage bars.

[13] Household expenditures in food away from home, alcoholic beverages, and personal care products & services are reduced by two-thirds to account for purchases from the on-site retail space. There is not sufficient research/evidence available to estimate a reliable discount factor. The 'two-thirds' discount is a conservative approach.
[14] Rounded to the nearest $10,000th.
[15] There is not sufficient evidence to estimate how much of a hotel guest's expenditures may be spent on site. This analysis, assumes that one-third (or one meal) may be consumed on-site.
[16] Rounded to the nearest $10,000th.

- Miscellaneous retail, which includes art galleries, florists, office supplies and stationary stores, gift, novelty, and souvenir shops, antique dealers, etc.
- Fitness center & Spa. In addition to revenues from membership fees, fitness centers generate taxable sales through food and beverage concession and sales of clothing and other miscellaneous items. Retail sales tax revenues from the fitness center are expected to be a modest revenue source, therefore they excluded from this analysis.
- Live Work space, which may include firms engaged in management, scientific, and technical consulting services. These businesses may generate a significant amount of sales tax revenue through business-to business and other non-retail transactions for which the project is identified as the point of sale. These potential sale tax revenues are excluded from the analysis. Future analysis could include estimates of these revenues by sampling select existing high live-work buildings in the City and determine the current range of non-retail sales taxes which are generated.

Supporting Table 4 presents the estimated sales tax revenues generated by the project's new retail space. It is assumed that a portion of purchases by new employees, residents, and hotel guests will occur at the new retail space within the project area. Tax revenues from the expenditures of new employees, residents, and hotel guests have been discounted in order to avoid 'double-counting'.

Supporting Table 4 presents the estimated sales tax and associated tax revenue generated by new retail space at the site during a stabilized year. The sales tax revenues generated by Phase 1A are approximately $980,000 per year.[17] The Full Build-Out project will generate approximately $1.18 million per year in sales tax revenues.

Estimated Transient Occupancy Tax Revenues

Willdan estimated Transient Occupancy Tax (TOT) revenues by estimating potential total room revenues based on hotel market data for current and prior years. The current TOT rate in the City of New Haven is 15 percent of room revenues. For purposes of this analysis, the hotel is assumed to achieve a stabilized occupancy rate of 70 percent. The average daily rate estimated for this type of hotel is $180. Estimated TOT revenue is presented in Table Q.

[17] Rounded to the nearest $10,000th.

Table Q – Estimated Hotel Revenues and Transient Occupancy Tax during Stabilized Year

	Phase 1A	Full Build-Out
Number of Hotel Rooms	N/A	160
Average Occupancy Rate [a]	N/A	70%
Average Number of Daily Occupied Rooms	N/A	112
Annual Occupied Room Nights	N/A	40,880
Average Daily Rate [a]	N/A	$180
Total Annual Room Revenues	N/A	$7,358,400
Additional Hotel Revenue		
Non Room Revenue (%) [b]	N/A	67%
Non Room Revenue ($)	N/A	$4,905,600
Total Hotel Revenues	N/A	$12,264,000
Lodging Tax Rate [c]	N/A	15.00%
Total Lodging Taxes Generated [d]	**N/A**	**$1,103,760**

Sources:

[a] Willdan Financial Services.

[b] banquets, health club, spa, gift shop, telecommunications, cancellation fees, etc. Based on average for a luxury Full Service hotel, per STR Host Study, 2012.

[c] State of Connecticut General Assembly.

[d] Calculated by multiplying lodging tax rate by room revenues.

V. Excluded Economic Benefits

Due to data and time limitations, this study does not take into account many of the additional economic benefits generated by the project that are difficult to quantify. This section provides a brief qualitative discussion on some of those benefits.

Increased Value of Property in Surrounding Area

The public space and other amenities built at the site are likely to further enhance property values in the surrounding community. Numerous studies on the impact of active public spaces on property values have been published in recent years. Some studies have found that values can increase up to 33 percent for properties adjacent to urban public spaces. These studies have also found that a noticeable positive effect on property values can be observed up to one quarter-mile from the new public amenity.[18]

The public square proposed by the project, which will be surrounded by active retail space and a mix of uses will have a positive impact on the values of surrounding property. However, due to data limitations these benefits have not been quantified.

Benefits of Public Infrastructure

The project includes investment of nearly $35 million dollars in public infrastructure. While the increased accessibility provided by the public infrastructure investment will help to insure the project's feasibility, these improvements also provide benefits that are difficult to quantify to the larger downtown area. While this study includes a measure of the employment and labor income created by the construction expenditures associated with the infrastructure improvements, it does not measure the benefits of the improved access to and from Downtown, the Medical District, Union Station and the Hill Neighborhood. Those benefits need to be taken into consideration although they were not included in the quantitative modeling exercise.

Boosting Local Economies by Attracting Knowledge Workers

More and more, the U.S. economy is driven by high technology and service businesses selling knowledge and intellectual expertise. Attracting these types of businesses is a top economic development priority for many regions, especially Connecticut and the City of New Haven.

The decision by high technology companies to locate in a particular place/region/city is largely determined by their need to attract talented and qualified personnel. More and more, such 'top, skilled talent' tends to concentrate in urban locations with lots of amenities (restaurants, bars, parks, open space, cultural activities, public transit, etc.) By increasing the offer of these types of amenities, the proposed project will help the City of New Haven and the State of Connecticut to compete for the highly trained, in-demand workers of the knowledge economy, and the money they spend with local companies/employers, such as restaurants, retailers, and hotels.

[18] Appendix B of the "Downtown Minneapolis Park Space Initiative Final Report," City of Minneapolis, presents a brief overview of studies

Supporting Tables

Supporting Table 1

Household Expenditures Estimates and Related Taxable Sales Revenues during Stabilized Year

Coliseum Site Redevelopment Economic Impact **September 19, 2013**

Development Type	**Phase 1A**	**Full Build Out**
Rental Units - Market Rate		
Number of Units [a]	194	575
Vacancy Rate [b]	3%	3%
Total Households	188	558
Average Household Income [c]	$128,800	$128,800
Total Household Income	$24,214,400	$71,870,400
% of discretionary Income - taxable only [d]	12.62%	12.62%
Discretionary consumer expenditures	$3,054,693	$9,066,589
Rental Units - Affordable below 50 % AMI		
Number of Units [a]	24	72
Vacancy Rate [b]	3%	3%
Total Households	23	70
Average Household Income [c]	$32,200	$32,200
	$740,600	$2,254,000
% of discretionary Income - taxable only [d]	22.73%	19.48%
Discretionary consumer expenditures	$168,350	$439,174
Rental Units - Affordable 60 to 100% AMI		
Number of Units [a]	24	72
Vacancy Rate [b]	3%	3%
Total Households	23	70
Average Household Income [c]	$64,400	$64,400
	$1,481,200	$4,508,000
% of discretionary Income - taxable only [d]	19.26%	19.26%
Discretionary consumer expenditures	$285,209	$868,027
Total Household Income	**$26,436,200**	**$78,632,400**
Total Discretionary Consumer Expenditures	**$3,508,252**	**$10,373,790**
Sales Tax Rate [d]	6.50%	6.50%
Total Sales Tax Revenues	**$228,036**	**$674,296**

Sources

[a] Affordability mix assumes that rental units are approximately 80% market rate and 20% affordable (roughly 10% at below 50% AMI, 10% between 60-100%AMI).

[b] Willdan Financial Services; based on five-year average in New Haven.

[c] Based on HUDs estimates for Area Median Income (AMI) for New Haven-Meriden. It is assumed that tenants in market rate rental units earn 160% of AMI; tenants in affordable units earn 40% and 80% of AMI, respectively. Area Median Income as reported by Connecticut Housing Finance Authority.

[d] Based on data from the Bureau of Labor Statistics' Consumer Expenditure Survey; July 2011 through June 2012 Tables. It represents the share of household income spent in taxable products in the following expenditure categories: Food at home, food away from home, alcoholic beverages, housekeeping supplies, household furnishings & equipment, apparel & services, vehicle purchases, gasoline & motor oil, personal care products & services, reading, and tobacco products & smoking supplies. These percentages have been adjusted to account to potential sales 'leakage' (i.e., out of state purchases by Connecticut residents).

[e] It is assumed that a portion of purchases by project residents will occur at the new retail space within the project area. Household expenditures in food away from home, alcoholic beverages, and personal care products & services are reduced by two-thirds to account for purchases from the on-site retail space.

Supporting Table 2

Estimated Office Workers' Expenditures and Associated Sales Tax Revenues during Stabilized Year

Coliseum Site Redevelopment Economic Impact **September 19, 2013**

Annual Expenditures per Worker	**Phase 1A**	**Full Build-Out**
Estimated Office Workers [a]	N/A	1,080
Average Office Worker Expenditures per Week [b]	N/A	$135.55
Total Annual Expenditures	N/A	$7,319,700
Annual Taxable Sales		
Percent of Expenditures that is Taxable [c]	N/A	94%
Total Taxable Sales	N/A	$6,916,806
Reduction to avoid double counting		
Reduction factor [d]	N/A	19%
Adjusted Taxable Sales	N/A	$5,584,783
Estimated Sales Tax Revenue		
Sales Tax Rate [e]	N/A	6.50%
Estimated Tax Revenues	N/A	$363,011

Sources:

[a] See Supporting Table 5.

[b] ICSC's "Office Worker Retail Spending in a Digital Age". Average weekly expenditures by Downtown Workers in 2012.

[c] Willdan Financial Services. Certain retail categories, such as food purchased from grocery stores have been discounted to account for non taxable sales.

[d] It is assumed that a portion of purchases by on-site office workers will occur at the new retail space within the project area. Employee expenditures on full-service restaurants and fast food, clothing stores, office supplies/stationary/novelty gifts and cards/, florists, personal care shops, and personal services are reduced by two-thirds to account for purchases on-site retail space.

[e] State of Connecticut General Assembly.

Supporting Table 3

Estimated Hotel Guest Expenditures and Taxable Sales Revenues during Stabilized Year

Coliseum Site Redevelopment Economic Impact **September 19, 2013**

	Phase 1A	Full Build-Out
Number of Hotel Rooms [a]	N/A	160
Average Occupancy Rate [b]	N/A	70%
Average Number of Daily Occupied Rooms	N/A	112
Annual Occupied Room Nights	N/A	40,880
Average Daily Hotel Guest Spending [c]	N/A	$75
Guests per Room [b]	N/A	1.0
Total Annual Spending	N/A	$3,066,000
Reduction to avoid double counting		
Reduction factor [d]	N/A	33.33%
Adjusted Taxable Sales	N/A	$2,044,000
Sales Tax Rate	N/A	6.50%
Total Sales Tax Revenues	N/A	$132,860

Sources:

[a] See Table G.

[b] Willdan Financial Services

[c] Willdan Financial Services based on a survey of businesses and government entities' guidelines for meals and incidental expenses.

[d] Willdan Financial Services

Supporting Table 4

Estimated Total Sales and Tax Revenue Generated by New Retail Space during Stabilized Year

Coliseum Site Redevelopment Economic Impact **September 19, 2013**

	Phase 1A	Full Build-Out	
Total Square Feet of Retail [a]	39,200	76,900	
Efficiency Rate [b]	95%	95%	
Occupancy Rate [c]	95%	95%	
Total Rentable Space (sq. ft.)	35,378	69,402	
Occupancy by Retail Category (Share)			
Food and Drinking Places [d]	70%	41%	
Miscellaneous [e]	30%	23%	
Fitness Center & Spa		20%	
Live Work [f]		17%	
Total	100%	100%	
Occupancy by Retail Category (Sq. Ft.)			**Taxable Sales/Sq. Ft. [g]**
Food and Drinking Places	24,765	28,375	$500
Miscellaneous	10,613	15,848	$250
Fitness Center & Spa	0	13,538	N/A
Live Work	0	11,642	N/A
	35,378	69,402	
Estimated Taxable Sales			
Food and Drinking Places	$12,382,300	$14,187,300	
Miscellaneous	$2,653,350	$3,961,975	
Fitness Center & Spa	N/A	N/A	
Live Work	N/A	N/A	
Total Sales	$15,035,650	$18,149,275	
Taxable Rate	6.5%	6.5%	
Total Estimated Taxable Sales	**$977,317**	**$1,179,703**	

Sources:

[a] Gross Square Feet. See Table H.

[b] Live Work Learn Play, Inc.

[c] Willdan Financial Services.

[d] Includes mobile food services, drinking places (alcoholic beverages), full- and limited-service restaurants, cafeterias, buffets, and snack and nonalcoholic beverage bars.

[e] Includes art galleries, florists, office supplies and stationary stores, gift, novelty, and souvenir shops, antique dealers, etc.

[f] Assumes that this space will be occupied by businesses management, scientific, and technical consulting services.

[g] Estimates by Willdan Financial Services based on industry averages. Retail sales tax revenues from the fitness center & Spa are expected to be a modest revenue source, therefore they are excluded from the analysis. The live-work component of the project could potentially generate a significant amount of sales tax revenue through business-to business and other non-retail transactions for which the project is identified as the point of sale. However, due to data limitations these potential sale tax revenues are excluded from the analysis.

Supporting Table 5
Office Employee Estimates during Stabilized Year
Coliseum Site Redevelopment Economic Impact **September 19, 2013**

	Phase 1A	Full Build-Out
Total Office Space (GSF) [a]	N/A	200,000
Efficiency Rate [b]	N/A	90%
Rentable Sq. Ft.	N/A	180,000
Occupancy Rate [c]	N/A	90%
Avg. Occupied Space (Sq. Ft.)	N/A	**162,000**

Job creation calculations at Full Build-Out

Occupancy by Industry	% of Total Occupancy [a]	Avg. Occupied Sq. Ft.	Sq. Ft. / Employee [b]	Average Annual Employees
High Tech [d]	50%	81,000	150	540
Biotech [e]	50%	81,000	150	540
Total	100%	162,000	150	1,080

Sources/notes:

[a] See Table G.

[b] LiveWorkLearnPlay, Inc.

[c] Willdan Financial Services

Supporting Table 6
Retail Space Employee Estimates during Stabilized Year
Coliseum Site Redevelopment Economic Impact **September 19, 2013**

Occupied Sq. Ft. by Retail Category [a]	Phase 1A	Full Build-Out
Food Services and Drinking Places [b]	24,765	28,375
Miscellaneous [c]	10,613	15,848
Fitness Center & Spa	0	13,538
Live Work [d]	0	11,642
	35,378	69,402

Square Feet Per Employee By Retail Category

	Sq. Ft./ Employee [e]
Food Services and Drinking Places	230
Miscellaneous	220
Fitness Center & Spa	N/A
Live Work	500

Estimated Total Employment [e]

	Phase 1A	Build out
Food Services and Drinking Places	108	124
Miscellaneous	48	72
Fitness Center & Spa	N/A	N/A
Live Work	N/A	23
Total Estimate Employment	156	219

Sources/notes:

[a] See Supporting Table 4 for additional details.

[b] IMPLAN Sector 413 Food Services and Drinking Places, which includes mobile food services, drinking places (alcoholic beverages), full- and limited-service restaurants, cafeterias, buffets, and snack and nonalcoholic beverage bars.

[c] IMPLAN Sector 330, which includes art galleries, florists, office supplies and stationary stores, gift, novelty, and souvenir shops, antique dealers, etc.

[d] IMPLAN Sector 374, which includes management, scientific, and technical consulting services.

[e] Estimated number of square feet of space per full-time equivalent based on industry averages. Willdan Financial Services. The impacts of the fitness center and spa are included in the analysis of the hotel, therefore the employment generated by the fitness center & spa are excluded from this analysis.

Supporting Table 7
Detailed Occupation Categories
Coliseum Site Redevelopment Economic Impact **September 19, 2013**

Occupation Code	Occupation Description	2011 Median Annual Salary
00-0000	All Occupations	$41,320
11-0000	Management Occupations	$101,970
11-1021	General and Operations Managers	$122,890
11-2022	Sales Managers	$100,330
11-9081	Lodging Managers	$50,540
13-0000	Business and Financial Operations Occupations	$70,160
13-2011	Accountants and Auditors	$67,950
13-2031	Budget Analysts	$76,860
13-2051	Financial Analysts	$85,050
15-0000	Computer and Mathematical Occupations	$79,120
15-1131	Computer Programmers	$77,630
15-1132	Software Developers, Applications	$91,070
15-1141	Database Administrators	$81,190
17-0000	Architecture and Engineering Occupations	$74,580
17-1011	Architects, Except Landscape and Naval	$85,250
17-2071	Electrical Engineers	$83,290
17-2112	Industrial Engineers	$79,780
19-0000	Life, Physical, and Social Science Occupations	$70,280
19-2012	Physicists	$84,060
19-3011	Economists	$87,250
19-3022	Survey Researchers	$52,110
21-0000	Community and Social Service Occupations	$46,880
21-1011	Substance Abuse and Behavioral Disorder Counselors	$41,330
21-1013	Marriage and Family Therapists	$51,330
21-1021	Child, Family, and School Social Workers	$63,950
23-0000	Legal Occupations	$85,470
23-1011	Lawyers	$125,120
23-1023	Judges, Magistrate Judges, and Magistrates	$166,160
23-2099	Legal Support Workers, All Other	$58,120
25-0000	Education, Training, and Library Occupations	$52,900
25-1123	English Language and Literature Teachers, Postsecondary	$67,610
25-9041	Teacher Assistants	$28,410
25-9099	Education, Training, and Library Workers, All Other	$60,820
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	$47,420
27-1021	Commercial and Industrial Designers	$66,910
27-2032	Choreographers	$39,710
27-4099	Media and Communication Equipment Workers, All Other	$67,020
29-0000	Healthcare Practitioners and Technical Occupations	$69,790
29-1021	Dentists, General	$153,150
29-1067	Psychiatrists	$181,090
29-1123	Physical Therapists	$79,310
31-0000	Healthcare Support Occupations	$30,790
31-1011	Home Health Aides	$27,120
31-2022	Physical Therapist Aides	$25,310
31-9092	Medical Assistants	$32,940

Supporting Table 7
Detailed Occupation Categories
Coliseum Site Redevelopment Economic Impact **September 19, 2013**

Occupation Code	Occupation Description	2011 Median Annual Salary
33-0000	Protective Service Occupations	$47,320
33-2011	Firefighters	$58,410
33-3041	Parking Enforcement Workers	$38,760
33-9011	Animal Control Workers	$36,400
35-0000	Food Preparation and Serving Related Occupations	$19,930
35-1011	Chefs and Head Cooks	$49,460
35-2011	Cooks, Fast Food	$19,200
35-3011	Bartenders	$18,800
37-0000	Building and Grounds Cleaning and Maintenance Occupations	$27,260
37-2012	Maids and Housekeeping Cleaners	$22,430
37-2019	Building Cleaning Workers, All Other	$30,060
37-2021	Pest Control Workers	$34,340
39-0000	Personal Care and Service Occupations	$23,270
39-5012	Hairdressers, Hairstylists, and Cosmetologists	$26,640
39-5092	Manicurists and Pedicurists	$18,750
39-6011	Baggage Porters and Bellhops	$20,680
41-0000	Sales and Related Occupations	$28,080
41-2031	Retail Salespersons	$22,000
41-9021	Real Estate Brokers	$61,580
41-9041	Telemarketers	$32,160
43-0000	Office and Administrative Support Occupations	$37,290
43-2021	Telephone Operators	$28,800
43-3011	Bill and Account Collectors	$39,720
43-3071	Tellers	$28,150
45-0000	Farming, Fishing, and Forestry Occupations	$25,670
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	$46,410
45-2011	Agricultural Inspectors	$69,590
45-2041	Graders and Sorters, Agricultural Products	$18,910
47-0000	Construction and Extraction Occupations	$50,510
47-2031	Carpenters	$49,030
47-2061	Construction Laborers	$43,540
47-2111	Electricians	$55,070
49-0000	Installation, Maintenance, and Repair Occupations	$47,170
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	$50,770
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	$55,180
49-9041	Industrial Machinery Mechanics	$50,660
51-0000	Production Occupations	$35,870
51-3011	Bakers	$26,940
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	$39,040
51-9081	Dental Laboratory Technicians	$36,860
53-0000	Transportation and Material Moving Occupations	$29,760
53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians	$26,470
53-3021	Bus Drivers, Transit and Intercity	$30,820
53-6021	Parking Lot Attendants	$21,830

Source/Notes:
Data are from IMPLAN's Occupational Matrices, which are derived from data from the U.S. Bureau of Labor Statistics. Occupational categories with codes ending in '000' are the broad categories used in this report. The three (3) occupational sub-categories listed under each broad category are for illustrative purposes. A complete list of all the occupational sub-categories is available at http://www.bls.gov/oes/oes_dl.htm.