



Project Report
**Mellon Arena Site Redevelopment Strategy –
Economic and Fiscal Impact Analysis**

Prepared for
Pittsburgh Penguins
Pittsburgh, PA

Submitted by
**Economics Research Associates, an AECOM
company (ERA)**

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This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions and considerations.

I. Introduction

The Economics Division of AECOM (formerly Economics Research Associates) was retained by the Pittsburgh Penguins to assess the potential economic and fiscal impacts attributable to the master plan prepared for the redevelopment of the 28-acre Mellon Arena site. The development program was prepared by Urban Design Associates (UDA) in 2009 (an update of an earlier 2005 master plan study), with market analysis input provided by AECOM. The master plan replaces the Mellon Arena and surrounding parking lots with an historic street grid and a mix of retail, office, residential, hotel and parkland. The master plan is also sensitive to the scale and function of the surrounding Hill District land uses and also complements the adjacent new arena.

AECOM analyzed the fiscal and economic impacts of the master plan produced by UDA. The economic impacts focus on the employment generated by the project components, including one-time (temporary) employment resulting from construction and on-going (permanent) employment from operations. The fiscal impacts estimate the taxes that each of the uses at the site would generate for the City of Pittsburgh, the school district, Allegheny County, and the Commonwealth of Pennsylvania.

Summary of Findings

Temporary Construction Impacts

- The primary economic benefits that will accrue to local government during the development of the mixed-use project are employment, earnings, and material sales.
- Analysis of the construction costs of the master plan (determined based on construction cost estimates derived in the 2005 study and also verified by data provided in RS Means construction cost data) is used to determine the amounts that are likely to be paid in wages and salaries to labor during construction. The master plan results in estimated labor costs of approximately \$160.8 million, or a total of 4,231 full-time equivalent jobs. Since construction progresses in stages, the total number of employees involved in the development of the project at any one time will likely vary.
- Total local material purchases of \$209.0 million are projected (assuming that material costs accounts for 60% of total hard construction costs and 80% of the materials are purchased locally).
- A significant portion of tax revenues are attributable to the purchase of construction materials, which is estimated to generate a total of \$15.0 million.

- State earned income tax revenues attributable to construction employment total approximately \$4.9 million. The payroll and local services tax on construction employment also contribute to the total fiscal impact and is estimated at \$1.1 million.

On-going Permanent Impacts

- Permanent benefits are those that will be achieved once the mixed-use development has been built, the space is fully occupied, and stabilized sales and occupancy levels have been achieved. It is assumed that a transition period will be required to achieve stabilization.
- Total employment benefits attributable to the ongoing operations at the proposed development are based on commonly accepted employment ratios by land use type (e.g. 225 square feet of required space per Class A office employee). For the proposed 150-room hotel, total employment has been estimated based on national standards for total labor costs as a percent of total estimated hotel revenues (e.g. according to a recent trend report by PKF Consulting, for limited service hotels, labor costs typically account for about 22% of total revenues).
 - Total on-site employment is estimated at 2,948 jobs, with the largest number of jobs attributable to office employment.
 - Total wages for on-site employment are estimated at approximately \$145.9 million (average wages are based on a wage survey for the Pittsburgh region).
- The real estate taxes for the various uses within the mixed-use redevelopment area were calculated by applying the appropriate tax rates to estimated market value. Market value was estimated by capitalizing the estimated net operating income for each of the uses. The for-sale residential values reflect current operating income parameters (rents and average sales for for-sale units) for similar or comparable properties in the downtown/fringe area.
- It was assumed that the majority of townhome, duplex and flat units would be for-sale units, as well as some of the multi-family units located within the same blocks as these units (the majority of the assumed for-sale units are located proximate to Crawford Square). The for-sale/rental split is also based in part on the market support estimated as part of the most recent master planning effort.
- Based on the analysis of market value, annual property tax revenues are estimated as follows:
 - \$4.6 million for the City of Pittsburgh, \$5.9 million for the school district, and \$2.0 million for Allegheny County.

- The entertainment retail space, which is envisioned primarily as national and regional tenant food and beverage establishments, was assumed to achieve sales per square foot values of \$450 annually. Most of these sales would be taxable. Anticipated theater sales are based on average attendance per screen (based on current attendance for Regal Cinemas) and average spending figures derived by the National Association of Theater Owners (\$3.00 per capita for concessions and \$7.18 per capita for tickets). The neighborhood serving retail was assumed to produce lower sales per square foot volumes of around \$350 per square foot on average, noting that this is an average and that sales will vary considerably by type of tenant.
 - Sales tax revenues area estimated as follows: \$2.5 million for the state, \$423,956 for Allegheny County, and \$258,480 for the City of Pittsburgh.
- The parking tax generated in the mixed-use neighborhood is based on stabilized year estimated gross receipts. The gross receipts assume a mixture of spaces with 40% allocated to monthly parking and the remaining 60% dedicated to transient parking. In addition, it was assumed that one parking space would be dedicated to every for-sale unit. A monthly parking rate of \$210 was assumed and an average daily transient rate of \$7 was also incorporated into the analysis. It is estimated that annual parking tax revenues will total approximately \$1.4 million.
- Individual incomes (and taxes) for on-site residents were forecast based on rental rates and sales price estimates for housing. On-site residents are not considered net new residents to the state, and, as a result, only city and school district earned income taxes were derived. City earned income tax revenues are estimated at \$943,884, with school district earned income tax revenues estimated at \$1.9 million.
- We also analyzed the potential tax revenues attributable to on-site employment. For the proposed master plan, city payroll and local services taxes total \$955,884, with a total of \$4.5 million in state income taxes forecast.
- Both construction period impacts and ongoing operational impacts are summarized in the table below:
 - Total construction period tax revenues are forecast at \$21.1 million, with a total of 4,231 full time equivalent jobs estimated. Annual tax revenues from ongoing operations are forecast at \$25.1 million, generating about 2,948 full-time equivalent jobs.

Table 1: Summary of Fiscal and Economic Impacts, Mellon Arena Site Master Plan

FISCAL IMPACT SUMMARY

	City of Pittsburgh	School District	Allegheny County	Commonwealth of PA	Total
<i>Construction Period</i>					
Total Estimated Tax Revenues	\$ 1,104,250	\$ -	\$ 2,143,627	\$ 17,797,461	\$ 21,045,337
<i>Ongoing Operations</i>					
Estimated Annual Tax Revenues	\$ 7,886,564	\$ 7,800,927	\$ 2,416,249	\$ 7,023,629	\$ 25,127,368

ECONOMIC IMPACT SUMMARY

<i>Construction Period</i>	
Total Estimated Full-Time Equivalent Jobs	4,231
Total Payroll	\$160,772,005
<i>Ongoing Operations</i>	
Total Estimated Full-Time Equivalent Jobs	2,948
Total Payroll	\$145,924,814

Source: AECOM

II. Methodology

The estimates of fiscal and economic benefits presented below are based on build-out of the proposed redevelopment option at the Mellon Arena site. Construction benefits, commonly referred to as temporary impacts since they occur only during the construction phase of the project, are analyzed as are ongoing permanent, or annually recurring, impacts. Tables which detail the analysis are included within the appendix of this report. It should be noted that all figures are in current 2009 dollars.

Following is a summary of the development program. The program includes a mix of 1,191 total housing units, 208,750 square feet of retail space, and 605,550 square feet of office space. The proposed plan also includes a 150-room hotel and a multi-screen cinema. As reflected, the plan offers integration with the surrounding neighborhood, while at the same time maximizing the potential offered by the proximity of the new Consol Energy Center.

Table 2: Proposed Development Program

Block	Housing				Total Units	Retail (SF)		Office (SF)		Institutional (SF)	Hotel
	Town house	Flat	Duplex	Multi-Family		Neighborhood	Entertainment	Class A	Other		
A	14	14	8	12	48						
B	10	10	4	46	70						
C	11	11	10	56	88						
D	0	0	0	211	211	10,000			30,000		
E	0	0	0	150	150					3,000	
F	0	0	0	132	132		33,200	136,800			
G	0	0	0	357	357	23,750			8,750		
H	0	0	0	0	0	3,000					150 keys
I	0	0	0	135	135	61,000	65,000	430,000			
J	0	0	0	0	0		12,800				
Total					1191	97,750	111,000	566,800	38,750	3,000	150 keys

Blue indicates for-sale units, primarily proximate to Crawford Square
 Source: UDA, AECOM

Figure 1: Proposed Development Plan



Source: Urban Design Associates

Temporary Construction Impacts

Temporary benefits are those that accrue to local and state governments during the construction phase. The primary economic benefits that will accrue to local government during the development of the mixed-use project are employment, earnings, and material sales.

Development Costs

Cost estimates for the mixed-use development are based on construction cost estimates derived in the 2005 study and also verified by data provided in RS Means. It is estimated that infrastructure and site work (road work, utilities, parks, landscaping, etc.) will add an additional 15% to the total development cost. The total development cost (exclusive of soft costs) for is estimated at \$446.6

million. A construction project of this magnitude will generate notable economic activity in Pittsburgh and the surrounding region, due primarily to the purchase of materials and the employment of workers. As mentioned, the cost does not include soft costs and is based on current market prices.

Construction Employment and Material Purchases

Analysis of the construction costs of the mixed-use project is used to determine the amounts that are likely to be paid in wages and salaries to labor during construction. The proposed plan results in estimated labor costs of approximately \$160.8 million, or a total of about 4,231 full-time equivalent jobs (assuming that labor accounts for about 40% of total construction hard costs and about 90% of the labor will be local). Since construction progresses in stages, the total number of employees involved in the development of the project at any one time will likely vary.

Based on the construction costs enumerated above, total material purchases of \$214.4 million are projected (assuming that material costs accounts for 60% of total hard construction costs and 80% of the materials are purchased locally).

Fiscal Impact

Total temporary tax impacts associated with the construction period are summarized below. The proposed project will result in temporary tax revenues for the City of Pittsburgh, Allegheny County, and the Commonwealth of Pennsylvania.

A significant portion of tax revenues are attributable to the purchase of construction materials, which is estimated to generate a total of \$15.0 million in total sales tax revenues. AECOM applied the Allegheny County one percent sales tax and six percent State sales tax to the estimated cost of construction materials.

State earned income tax revenues attributable to construction employment total approximately \$4.9 million. The city payroll and local services tax on construction employment also contribute to the total fiscal impact, totaling an estimated \$1.1 million. The local services tax is applied to every individual employed within the City of Pittsburgh and is currently \$52 per employee. The payroll expense tax is currently 0.55% of total payroll for employers within the City of Pittsburgh.

As reflected in the following table, we have estimated that the project will generate \$21.1 million in total tax revenues during the construction period.

Table 3: Summary of Construction Period Impacts – Mellon Arena Master Plan Program

Economic Impact - Construction Period

	Direct
Jobs (FTE)	4,231
Payroll	\$ 160,772,005
Material Purchases	\$ 214,362,673

Fiscal Impacts - Construction Period

	City of Pittsburgh	Allegheny County	Commonwealth of PA	Total
Retail Sales Tax	\$ -	\$ 2,143,627	\$ 12,861,760	\$ 15,005,387
Earned Income Tax	\$ -	\$ -	\$ 4,935,701	\$ 4,935,701
Payroll and Local Services Tax	\$ 1,104,250	\$ -	\$ -	\$ 1,104,250
Total	\$ 1,104,250	\$ 2,143,627	\$ 17,797,461	\$ 21,045,337

Source: AECOM

Ongoing Operational Impacts – Mixed-Use Development Options

Permanent benefits are those that will be achieved once the mixed-use development has been built, the space is fully occupied, and stabilized sales and occupancy levels have been achieved. It is assumed that a transition time will be required to achieve stabilization. The benefits covered in the analysis include property taxes, retail sales (including hotel revenues), and employment and earnings.

Employment and Earnings

Total employment benefits attributable to the ongoing operations at the proposed development are based on commonly accepted employment ratios by land use type (e.g. 225 square feet of required space per Class A office employee). For the 150-room hotel, total employment has been estimated based on national standards for total labor costs as a percent of total estimated hotel revenues (e.g. according to a recent trend report by PKF Consulting, for limited service hotels, labor costs typically account for about 22% of total revenues). Total on-site employment is estimated at 2,948 jobs for the proposed master plan, with the largest number of jobs attributable to office employment. Total wages for on-site employment are estimated at approximately \$145.9 million.

Wages are based on a wage and salary survey for the Pittsburgh area by the Pennsylvania Department of Labor and Industry.

Fiscal Impacts

Following is a summary of the projected fiscal impacts associated with ongoing operation of the proposed development option at the Mellon Arena site. Inputs for the various tax benefits were obtained from the City of Pittsburgh, Allegheny County, the Commonwealth of Pennsylvania, and other applicable published sources. Detailed tables are provided within the Appendix.

Real Estate Tax

The recipients of the real estate tax levies from development, and the amounts that would accrue to each entity, are reflected below. No attempt has been made in this study to estimate the real increases in off-site property taxes from permanent impacts from the new mixed-use development. It is difficult to determine where such impacts would occur as well as the appropriate property values to apply. However, it can be assumed that the off-site property tax impact would be positive.

The real estate taxes for the various uses within the mixed-use redevelopment area were calculated by applying the appropriate tax rates to estimated market value. Market value was estimated by capitalizing the estimated net operating income for each of the uses. The for-sale residential values reflect current operating income parameters (rents and average sales for for-sale units) for similar or comparable properties in the downtown/fringe area. For rental units, we have assumed an average rent of \$1.25 per square foot (market rate units) and an average unit size of 1,200 square feet. For market rate for-sale units we have assumed an average sales price of \$250 per square foot and an average size of 1,500 square feet. The following tax rates were applied to the calculated values:

- Pittsburgh 10.80 per \$1,000 of assessed value
- School District 13.92 per \$1,000 of assessed value
- Allegheny County 4.69 per \$1,000 of assessed value

It should be noted that the development program developed as part of the master plan process did not include a breakdown for rental and for sale units. As a result, it was assumed that the majority of townhome, duplex and flat units would be for-sale units, as well as some of the multi-family

units located within the same blocks as these units (the majority of the assumed for-sale units are located proximate to Crawford Square). The for-sale/rental split is also based in part on the market support estimated as part of the most recent master planning effort. It is further assumed that approximately 20 percent of the total residential units will be workforce units. For workforce units, pricing is based on HUD criteria for low-income, or a household earning 80% of the median family income. Market value figures are detailed on the following two pages for each of the development options.

Based on the analysis of market value, annual property tax revenues are estimated as follows:

- \$4.6 million for the City of Pittsburgh, \$5.9 million for the school district, and \$2.0 million for Allegheny County.

Table 4: Derivation of Market Value, Mellon Arena Redevelopment Site

	Size Units	Amount	Income Units	Amount	Occupancy	Net Operating Income		Capitalization Rate	Market Value
						As Percent of Total Income	Net Oper. Income		
Office - Class A	Sq. R.	566,800	Rent/SF/Yr	\$24	90%	80%	\$9,794,304	9.0%	\$108,825,600
Other Office	Sq. R.	38,750	Rent/SF/Yr	\$22	90%	80%	\$613,800	9.0%	\$6,820,000
Hotel	Rooms	150	Roomrate/Day	\$175	67%	35%	\$2,246,803	9.0%	\$24,964,479
Entertainment Retail	Sq. R.	111,000	Rent/SF/Yr	\$35	95%	70%	\$2,583,525	9.0%	\$28,705,833
Neighborhood Retail	Sq. R.	97,750	Rent/SF/Yr	\$35	90%	70%	\$2,155,388	9.0%	\$23,948,750
Rental Units									
Market Rate	Units	668	Rent/Unit/Mnth.	\$1,500	95%	75%	\$8,567,100	8.5%	\$100,789,412
Workforce	Units	167	Rent/Unit/Mnth.	\$750	100%	75%	\$1,127,250	8.5%	\$13,261,765
TOTAL		835							\$114,051,176
Sale Units									
Market Rate	Units	285	Sales/SF	\$250	100%	NA	NA	NA	\$106,800,000
Workforce	Units	71	Sales/SF	\$100	100%	NA	NA	NA	\$10,680,000
TOTAL		356							\$117,480,000
GRAND TOTAL									\$424,795,839

Assumption that 20% of units are workforce units.

Rental Assumptions

Market Rate Rental: Average rent per square foot of \$1.25 and average size of 1,200 square feet

Market Rate Sales: Average sales price per square foot of \$250 and average size of 1,500 square feet.

Workforce Rental: Reflects household earning 80% of median family income (HUD definition of low income) and 29% of disposable income allocated to housing.

Workforce Sale: Reflects household earning 80% of median family income (HUD definition of low income) and 29% of disposable income allocated to housing.

For sale units include all units designated as townhome, duplex, flat and all multi-family units located in Blocks A,B,C.

Source: Urban Design Associates, AECOM

Retail Sales Tax and Amusement Tax

Sales taxes generated by the retail space in the proposed mixed-use redevelopment were determined by applying anticipated sales per square foot to the proposed square footage. The current sales tax rate for the state is 6%, with an additional Allegheny County tax rate of 1%. In addition, a city amusement tax of 5% is applied to gross admissions for the proposed theater.

The entertainment retail space, which is envisioned primarily as national and regional tenant food and beverage establishments, was assumed to achieve sales per square foot values of \$450 annually. Most of these sales would be taxable.

Anticipated theater sales are based on average attendance per screen (based on current attendance for Regal Cinemas) and average spending figures derived by the National Association of Theater Owners (\$3.00 per capita for concessions and \$7.18 per capita for tickets).

The neighborhood serving retail was assumed to produce lower sales per square foot volumes of around \$350 per square foot on average, noting that this is an average and that sales will vary considerably by type of tenant. Additionally, since unprepared food and drug items are anticipated to be among the merchandise, the proportion taxable was estimated at 70 percent.

Sales tax revenues area estimated as follows: \$2.5 million for the state, \$423,956 for Allegheny County, and \$258,480 for the City of Pittsburgh.

Parking Tax

The parking tax generated in the mixed-use neighborhood is based on stabilized year estimated gross receipts. The gross receipts assume a mixture of spaces with 40% allocated to monthly parking and the remaining 60% dedicated to transient parking. In addition, it was assumed that one parking space would be dedicated to every for-sale unit. A monthly parking rate of \$210 was assumed and an average daily transient rate of \$7 was also incorporated into the analysis.

For the master plan program, it is estimated that annual parking tax revenues will total \$1.4 million.

Earnings and Employment Taxes

On-Site Residents

Individual income taxes for on-site residents were forecast based on rental rates and sales price estimates stated earlier. For-sale condominium and townhouse income requirements were calculated assuming 30-year fixed mortgages (with twenty percent down and five percent interest rates). The City and School District tax rates of one percent and two percent, respectively, were applied to the minimum required household incomes. Workforce housing incomes were derived based on the HUD defined income levels stated earlier (80% of median family income). On-site residents are not considered net new residents to the state, and, as a result, only city and school district earned income taxes were derived. For the proposed master plan, city earned income tax revenues are estimated at \$943,884, with school district earned income tax revenues estimated at \$1.9 million.

On-site Employment

AECOM also looked at potential taxes generated by new on-site employment. City payroll (0.55%) and local service (\$52 per employee) taxes were calculated by estimating the number of employees per square feet of the different commercial uses (as described earlier), and applying average earnings data from the Pennsylvania Department of Labor and Industry. It was assumed that on-site employment represents net new employment for the state, and, as a result, state earned income taxes were also derived.

For the proposed development program, city payroll and local services taxes total \$955,884, with a total of \$4.5 million in state income taxes forecast.

Hotel Occupancy Tax

It is assumed that the proposed 150-room hotel will be a limited service hotel, generating estimated annual revenues of \$6.4 million (assuming an average daily rate of \$175 and average occupancy rate of 67%, based on hotel performance indicators for the downtown area). Forecast annual hotel tax revenues are about \$450,000 for both the county and the state.

Table 5: Summary of Fiscal Impact, Ongoing Operations

Annual Revenues from Ongoing Operations

	City of Pittsburgh	School District	Allegheny County	Commonwealth of PA
Real Estate Tax	\$ 4,587,795	\$ 5,913,158	\$ 1,992,292	\$ -
Retail Sales Tax	\$ -	\$ -	\$ 423,956	\$ 2,543,738
Parking Tax	\$ 1,399,000	\$ -	\$ -	\$ -
Earned Income Tax	\$ 943,884	\$ 1,887,768	\$ -	\$ 4,479,892
Payroll and Local Services Tax	\$ 955,884	\$ -	\$ -	\$ -
TOTAL	\$ 7,886,564	\$ 7,800,927	\$ 2,416,249	\$ 7,023,629

Note: Revenues are at project buildout, reflected in 2009 Dollars.
Source: AECOM

Appendix - Supporting Analysis

Table 6: Applicable Tax Rates, Mellon Arena Fiscal Analysis

City of Pittsburgh	
City Real Property Tax	10.80 per \$1,000 of assessed value
Parking Tax	37.50% of gross parking revenues
Payroll Expense Tax	0.55% of total compensation paid
Local Services Tax	\$ 52.00 per head
Earned Income Tax	1.00% of total personal income

Pittsburgh School District	
School Real Property Tax	13.92 per \$1,000 of assessed value
Earned Income Tax	2.000% of total personal income

Allegheny County	
County Real Property Tax	4.69 per \$1,000 of assessed value
County Sales & Use Tax	1.00% of retail purchases
County Hotel Occupancy Tax	7.00% of hotel room revenues

Commonwealth of Pennsylvania	
PA Sales & Use Tax	6.00% of retail purchases
PA Hotel Occupancy Tax	7.00% of hotel room revenues
Personal Income Tax	3.07% of gross personal income

Source: City of Pittsburgh, Allegheny County; State of Pennsylvania; AECOM

Table 7: Comparable Residential Project Description and Pricing

<p>Platt Place Fifth and Forbes</p>	<p>Description: Amenities: Pricing: Absorption</p>	<p>Total of 65 units (one, two and three bedroom condos) Built above retail and office space 66% units are two bedroom Attached parking garage, concierge, courtyard, exercise and business rooms, outdoor space About \$350 psf In 2006, about two per month, recently less than one per month</p>
<p>The Carlyle</p>	<p>Description: Amenities: Pricing: Absorption</p>	<p>60 units in a former bank building (21-story) No dedicated parking Wine cellar, doorman, building valet, business center, community room, pre-wired for tech \$199 to \$265 psf About one per month</p>
<p>151 Firstside</p>	<p>Description: Amenities: Pricing: Absorption</p>	<p>82 condo units ranging from 1,000 to 3,400 sq ft Concierge, on-site parking, balconies, fitness and business center</p>
<p>Otto Milk Building</p>	<p>Description: Amenities: Pricing: Absorption</p>	<p>56 units located in the Strip District high ceilings, rooftop deck, fitness and community center \$183,000 to \$1.3 M Beginning fall 2008, ave of three per month</p>

Source: Various housing projects, AECOM

Table 8: Estimated Construction Costs by Use

Contingency	10% of Development Costs		
	Unit Cost Before Contingency	Contingency Costs	Total Unit Costs Including Contingency
Rental Housing	\$ 125,000 per unit	\$ 12,500 per unit	\$ 137,500 per unit
Condominiums	\$ 130,000 per unit	\$ 13,000 per unit	\$ 143,000 per unit
Duplex/Townhome/Rat	\$ 169,000 per unit	\$ 16,900 per unit	\$ 185,900 per unit
Class A Office	\$ 163 per SF	\$ 16 per SF	\$ 180 per SF
Other Office	\$ 135 per SF	\$ 14 per SF	\$ 149 per SF
Entertainment Retail	\$ 186 per SF	\$ 19 per SF	\$ 204 per SF
Neighborhood Retail	\$ 169 per SF	\$ 17 per SF	\$ 186 per SF
Hotel	\$ 80,000 per room	\$ 8,000 per room	\$ 88,000 per room
Structured Parking (for Mixed-Use)	\$ 20,000 per space	\$ 2,000 per space	\$ 22,000 per space

Note: Construction costs based on 2005 fiscal impact study for Mellon Arena site, RS Means data, and HVS Consulting (for hotel room estimate).

Source: RS Means, HVS Consulting, AECOM

Table 9: Estimated Construction Costs

	Unit Cost	Units	Number	Construction Cost
Rental Housing	\$ 137,500	per unit	985	\$ 135,437,500
Condominiums	\$ 143,000	per unit	114	\$ 16,302,000
Duplex/Townhome/Rat	\$ 185,900	per unit	92	\$ 17,102,800
Class A Office	\$ 180	per SF	566,800	\$ 101,751,174
Other Office	\$ 149	per SF	38,750	\$ 5,756,978
Entertainment Retail	\$ 204	per SF	111,000	\$ 22,698,390
Neighborhood Retail	\$ 186	per SF	97,750	\$ 18,171,725
Hotel	\$ 88,000	per room	150	\$ 13,200,000
Institutional	\$ 150	per SF	3,000	\$ 450,000
Structured Parking (for Mixed-Use)	\$ 22,000	per space	2,215	\$ 48,730,000
Infrastructure Costs (assumed at 15% of total)		total		\$ 66,988,335
Project Total				\$ 446,588,902

Note: Construction costs based on 2005 Mellon Arena fiscal Impact study (inflated to 2009\$). Hotel construction costs based on HVS Consulting estimates for similar hotel type.

Source: FS Means, HVS Consulting, AECOM

Table 10: Summary of Forecast Construction Employment

SUMMARY OF CONSTRUCTION PHASE IMPACTS

Total Hard Costs		\$	446,588,902
Breakout of Construction Materials and Wages			
Construction Materials	60%	of Hard Costs \$	267,953,341
Construction Wages	40%	of Hard Costs \$	178,635,561
		\$	446,588,902
Local Share of Labor	90%	\$	160,772,005
Local Share of Materials	80%	\$	214,362,673

Construction Employment

Construction Wages	\$	160,772,005
/ Mean Annual Construction Wage ^{2/}	\$	38,000
= Person Years of Employment	\$	4,231
/ Estimated Construction Timeframe (Years)		8
= Annual Construction Jobs		529

(1) Average wage for construction occupations for Pittsburgh MSA from Pennsylvania Department of Labor and Industry.

Source: Pennsylvania Department of Labor and Industry; Bureau of Economic Analysis; AECOM

Table 11: Estimated Construction Period Tax Impacts

Breakout of Construction Materials and Wages			
Construction Materials (purchased locally)	\$	214,362,673	
Direct Construction Wages (local)	\$	160,772,005	
Total	\$	375,134,677	
Sales Tax Revenues		County	Commonwealth
Tax Rate		1.00%	6.00%
Total Revenues	\$	2,143,627	\$ 12,861,760
Payroll and State Earned Income Revenues			
City Local Services Tax per Head	\$	52	
City Payroll Tax		0.55%	
City Local Services Tax Revenues	\$	220,004	
City Payroll Tax	\$	884,246	
State Earned Income Tax		3.07%	
State Earned Income Tax Revenues	\$	4,935,701	

Source: AECOM

Table 12: Forecast Real Estate Tax Revenues

	Market Value	Tax Rate			Annual Property Tax Revenues		
		City of Pittsburgh (per \$1,000)	School District (per \$1,000)	Allegheny County (per \$1,000)	City of Pittsburgh	School District	Allegheny County
Office	\$ 115,645,600	10.8	13.92	4.69	\$ 1,248,972	\$ 1,609,787	\$ 542,378
Hotel	\$ 24,964,479	10.8	13.92	4.69	\$ 269,616	\$ 347,506	\$ 117,083
Retail	\$ 52,654,583	10.8	13.92	4.69	\$ 568,670	\$ 732,952	\$ 246,950
Residential							
Rental	\$ 114,051,176	10.8	13.92	4.69	\$ 1,231,753	\$ 1,587,592	\$ 534,900
Condo	\$ 117,480,000	10.8	13.92	4.69	\$ 1,268,784	\$ 1,635,322	\$ 550,981
Total	\$ 424,795,839				\$ 4,587,795	\$ 5,913,158	\$ 1,992,292

Source: City of Pittsburgh, Allegheny County, AECOM

Table 13: Estimated Sales and Use and Amusement Tax Revenues – On-Site Sales

Retail Sales

	Square Feet	Estimated Annual Sales PSF	Estimated Occupancy	Gross Sales	Estimated Percent Taxable	Taxable Sales
Entertainment Retail	46,000	\$ 450	95.00%	\$ 19,665,000	95%	\$ 18,681,750
Neighborhood Retail	97,750	\$ 350	90.00%	\$ 30,791,250	70%	\$ 21,553,875
Cinema	65,000	see detail		\$ 7,329,600	100%	\$ 7,329,600
Total	208,750			\$ 57,785,850		\$ 47,565,225

Retail Sales and Use Tax

	Taxable Sales	State Tax Rate	Annual Tax Revenues				
			Allegheny County Tax Rate	City Amusement Tax	Commonwealth of PA	Allegheny County	City of Pittsburgh
Entertainment Retail	\$ 18,681,750	6.00%	1.00%	--	\$ 1,120,905	\$ 186,818	\$ -
Neighborhood Retail	\$ 21,553,875	6.00%	1.00%	--	\$ 1,293,233	\$ 215,539	\$ -
Cinema - Concessions	\$ 2,160,000	6.00%	1.00%	--	\$ 129,600	\$ 21,600	\$ -
Cinema - Ticket Revenues	\$ 5,169,600	--	--	5.00%	\$ -	\$ -	\$ 258,480
Total	\$ 42,395,625				\$ 2,543,738	\$ 423,956	\$ 258,480

Assumed:	
Size (sq ft)	65,000
Seats/Screen	150
Total screens	20
Total seats	3,000
Average Admission/Screen	36,000
Total Theater Attendance	720,000
Average concession per capita	\$3.00
Average ticket price per capita	\$7.18
Estimated concession revenues	\$2,160,000
Estimated ticket revenues	\$5,169,600

Note: Average spending based on data from National Association of Theater Owners and average attendance based on current patterns for Regal Cinemas

Source: Regal Cinemas, AECOM

Table 14: Forecast Parking Tax Revenues

	Stabilized
ASSUMPTIONS	
Total Structured Parking 1/	1,859
Allocation to Monthly	40%
Monthly Spaces	744
Transient Spaces	1,115
Monthly Stabilized Occupancy	85%
Monthly Rate	\$ 210.00
Transient Stabilized Occupancy	75%
Average Daily Transient Rate	\$ 7.00
Parking Revenue	
Commercial Monthly Gross Revenue	\$ 1,592,791
Commercial Transient Gross Revenue	\$ 2,137,385
Gross Parking Revenue	\$ 3,730,176
Parking Tax Rate	37.50%
City of Pittsburgh Annual Parking Tax Generation	\$ 1,399,000

1/ Total number of spaces reduced by one per for-sale unit.

Source: UDA, AECOM

Table 15: Projected City Earned Income Tax Revenues from On-site Residents

Individual Income Taxes from On-site Residents

	Occupied Housing Units	Average Rent / Sales Price	Annual Rent / Mortgage Payments	Estimated Average Household Income	Annual City Earned Income Tax (1.0%)	Annual School District Earned Income Tax (2.0%)
Rental Housing - Market Rate	668	\$ 1,500	\$ 18,000	\$ 90,000	\$ 601,200	\$ 1,202,400
For Sale Housing - Market Rate (1)	285	\$ 375,000	\$ 19,515	\$ 97,577	\$ 277,900	\$ 555,799
Rental Housing - Workforce	167	\$ 750	\$ 9,000	\$ 38,793	\$ 64,784	\$ 129,569
For Sale Housing - Workforce	71	\$ 150,000	--	\$ 38,793	\$ 27,621	\$ 55,241
TOTAL	1,191				\$ 943,884	\$ 1,887,768

(1) For-sale assumes 30-year fixed mortgage at 5.0% interest, with 20% down payment. Assumes 25% of disposable income applied to housing cost.

Note: On-site residents not considered net new residents to the state, as a result, state tax revenues are not included.

Source: City of Pittsburgh, AECOM

Table 16: Forecast On-site Employment and Payroll

Payroll and EM Taxes from On-site Employment

	Total Square Feet	Occupied Square Feet	Square Feet per Employee	Employment	Average Annual Salary / Wages 1/	Total Payroll
Class A Office	566,800	510,120	225	2,267	\$ 56,275	\$ 127,587,679
Other Office	38,750	34,875	250	140	\$ 41,644	\$ 5,809,314
Entertainment Retail	111,000	105,450	400	264	\$ 21,385	\$ 5,637,533
Neighborhood Serving Retail	97,750	87,975	400	220	\$ 24,761	\$ 5,445,915
Hotel		see detail		58	\$ 25,000	\$ 1,444,373
TOTAL	814,300			2,948		\$ 145,924,814

1/ Wages based on Pennsylvania Department of Labor and Industry occupational wages data. Class A office based on a weighted average of numerous office-using occupations. Entertainment Retail based on a weighted average of several restaurant-related occupations. Neighborhood Serving Retail based on retail sales persons.

Source: Pennsylvania Department of Labor and Industry, AECOM

Table 17: Estimated City Payroll/ Local Services Tax Revenues and State Earned Income Tax Revenues, On-Site Employment

	Total Employment	Total Payroll	City Local Services Tax per Head	City Payroll Tax Rate	Annual City Payroll Tax + Local Services Tax	State Earned Income Taxes at 3.07%
Class A Office	2,267	\$ 127,587,679	\$ 52	0.55%	\$ 819,627	\$ 3,916,942
Other Office	140	\$ 5,809,314	\$ 52	0.55%	\$ 39,205	\$ 178,346
Entertainment Retail	264	\$ 5,637,533	\$ 52	0.55%	\$ 44,715	\$ 173,072
Neighborhood Serving Retail	220	\$ 5,445,915	\$ 52	0.55%	\$ 41,389	\$ 167,190
Hotel	58	\$ 1,444,373	\$ 52	0.55%	\$ 10,948	\$ 44,342
TOTAL	2,948	\$ 145,924,814			\$ 955,684	\$ 4,479,692

Source: AECOM

Table 18: Forecast Limited Service Hotel Employment and Hotel Tax Revenues

Hotel Employment					
Total Keys					150 keys
Average Daily Rate (ADR)				\$	175.00
Occupancy Rate					67%
Daily Revenue per Key				\$	117.25
Estimated Total Annual Revenue				\$	6,419,438
Estimated Annual Operating Expenses	1/	@	51.2%	of revenue	\$ 3,286,752
Estimated Labor Costs	1/	@	22.5%	of revenue	\$ 1,444,373
Average Annual Wages - Hospitality Sector	2/			\$	25,000
Estimated On-Site Employment					58
County Hotel Tax		@	7%	room revenue	449,361
State Hotel Tax		@	7%	room revenue	449,361

1/ Operating assumptions based on national standards for limited service hotels, as shown in PKF Consulting 2008 Annual Trends Report

2/ Wages taken from recent Wage Survey for metropolitan area.

Source: PKF Consulting, AECOM