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General & Limiting Conditions

Every reasonable effort has been made to ensure that the data contained in this report are accurate as of the date of this study; however, factors exist that are outside the control of Economics Research Associates, an AECOM company (ERA) and that may affect the estimates and/or projections noted herein. This study is based on estimates, assumptions and other information developed by Economics Research Associates from its independent research effort, general knowledge of the industry, and information provided by and consultations with the client and the client's representatives. No responsibility is assumed for inaccuracies in reporting by the client, the client's agent and representatives, or any other data source used in preparing or presenting this study.

This report is based on information that was current as of February 2009 and Economics Research Associates has not undertaken any update of its research effort since such date.

Because future events and circumstances, many of which are not known as of the date of this study, may affect the estimates contained therein, no warranty or representation is made by Economics Research Associates that any of the projected values or results contained in this study will actually be achieved.

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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

Economics Research Associates (ERA) was retained by the Pittsburgh Penguins to update a previous 2001 analysis for the redevelopment of the Mellon Arena site in Pittsburgh, Pennsylvania. The city remains interested in using the site as a link to the surrounding neighborhoods and also to enhance nearby downtown. The following analysis identifies potential site programming and absorption based on existing and projected market conditions in the region. Specifically, ERA has addressed potential programming for residential, office, hotel, and retail uses at the project site.

It is anticipated that the new arena will be completed in August of 2010. The arena will serve as the home for the Pittsburgh Penguins and will also host large concerts and special events. The arena will seat 18,500 spectators and will also include retail space along Fifth Avenue and public open space. It is estimated that the new arena will host approximately 1.7 to 1.8 million visitors annually when it opens.

Key Findings

Office Market

- Employment growth within the Pittsburgh MSA has been under one percent annually over the past three years, with job losses recorded from 2002 through 2005. The area has been slow to generate jobs in the past due in part to an aging population and the ongoing transition from a manufacturing based economy. According to Bureau of Labor Statistic figures, total employment has not yet returned to the peak level reached in 2001.
- Since 2006, the Pittsburgh office market has performed steadily, with vacancy rates decreasing and rents increasing slightly within the downtown/fringe Pittsburgh submarkets (the data does not include owner occupied, government, and medical buildings). Downtown office rents typically remain relatively stable, absent the bigger swings seen in other metro area office markets. At the end of 2006, Pittsburgh's office market was at the bottom of most national rankings, but, according to new data by New York-based Reis Inc, the Pittsburgh office market has made a comeback and is now in the middle of the rankings for metro office markets.
- Nevertheless, according to data provided by Grubb & Ellis, vacancy in the downtown/fringe area remains a relatively high 16% (compared to about 14% in the suburbs) and vacancy within the CBD recently increased after moves by several companies to new locations (adding a total of 370,000 square feet of vacant space plus 363,000 square feet of sublease space). While the CBD recorded net negative absorption in 2005 and 2006, over 500,000 square feet of space was

absorbed in 2007, followed by 369,593 square feet in 2008. Absorption in the suburbs decreased from 943,035 square feet in 2007 to just over 500,000 square feet last year.

- ERA looked at the potential for new office space based on employment projections for the Pittsburgh region. Approximately 17,000 new jobs are projected for the region from 2007 to 2017. Based on assumptions for the percent of employees using office space by sector, we have derived net new office space demand of about 2.1 million square feet for the entire region. A capture of between 20 and 30 percent of new office space demand would generate the need for approximately 400,000 to 600,000 square feet of office space over the next ten years within the downtown/fringe submarket.
- The Buncher Company announced that it is no longer interested in purchasing the downtown State Office Building at Gateway Center. The 800 employees of the building are being relocated to three different locations. Tentative plans call for relocation to 178,000 square feet of space at Piatt Place, 45,000 square feet at the former Chamber of Commerce Building at 411 Seventh Avenue, and 57,000 square feet at the 11 Stanwix Street building.
- Equitable Resources and Siemens Power Generation have made commitments to downtown locations and there presence will become more visible in 2009. Equitable Resources announced that it will be moving its corporate headquarters and expanding production and midstream business units to the 625 Liberty Avenue building, the former Dominion Tower, where it will be leasing 257,000 square feet of space. Equitable has no plans to abandon their current location on the North Shore, although there are plans to sublease 100,000 square feet of the existing space. Siemens Power Generation is moving into the Union Trust Building (occupying four of the buildings eleven stories or 185,000 square feet).
- It is not likely that new employment growth within the region will drive demand for substantial new office space within the downtown area. However, given the lack of developable land within the Golden Triangle and the desire by many office tenants to be near the CBD, the project site will offer desired proximity to downtown resources (although there is also competition from the North Shore). Some demand may be driven by industry shift within the greater Pittsburgh region. There may be an opportunity for a high profile single user or for three of four smaller tenants seeking a location near downtown amenities. High growth industry sectors include specialized niches such as robotics.

Office conclusion

Retail/Entertainment Market

- Over the past four years, the amount of vacant retail space in the CBD/fringe submarket has declined from 526,898 square feet in 2005 to 285,864 square feet in 2008. Rent levels have remained relatively unchanged (about $35.00 in the CBD and $27.00 in the fringe submarket for well located, new space). The majority of new construction within the region is currently occurring in the Parkway West Corridor (Settler's Ridge development), followed by the North Pittsburgh and Butler County submarkets. According to data provided by Costar, retail construction starts decreased significantly in the second half of 2008, with only 140,000 square feet recorded through the entire Pittsburgh region.

- ERA looked at potential space demand from nearby residents and workers. While on-site residents are critical to creating a successful and active mixed-use project, they typically do not generate demand for substantial new retail space. It is also important ~~that new retail~~ at the project site not compete with ongoing retail efforts within the CBD and strip district. We estimate that the immediate market would generate demand for about 46,000 to 71,000+ square feet of neighborhood retail (e.g. local market, services). Outlying areas are well served by existing retail centers and clusters. The Urban Land Institute projects that mixed-use and infill development and neighborhood retail centers will be favored in the next round of retail development.

New Nearby? Grocery.

- There is significant competition for "entertainment" retail in the area. While entertainment retail makes sense near a large event venue, it is important not to over supply retail targeted at arena users (new ~~retail is also~~ planned for the arena site). Entertainment retail constructed at the project site must also draw visitors from the broader region in order to succeed. ERA also looked at programming at a few sports venue driven entertainment projects (see Appendix): The Banks (Cincinnati, under construction); Ballpark Village (proposed in San Diego); and, the Arena District (Columbus). Retail programming at these locations ranges from a minimum of 115,000 to about 300,000 square feet. The term "retail" can include restaurants, athletic clubs, sports-oriented retail stores, nightclubs, and so forth. A cinema may be a potential future candidate at the site (Southside Works is the closest first-run theater to the site, other major first-run theaters within about five miles include AMC Loews Waterfront 22 and Carmike Cinema Southland 9).

Hotel Market

- Over the past six years, the room night supply in the downtown area has increased by about 11%, with room night demand increasing by about 20%. As a result, occupancy has increased from 60.9% in 2003 to 65.6% in 2008. Average daily rate has increased by about 5.5% annually, partly as a result of increased demand.

- While hotel performance indicators are positive, a total of approximately 320 hotel rooms will be added to the downtown area inventory over the next few years. A new limited service hotel may be a longer term option at the project site, after the new inventory has been absorbed.

Residential Market

- According to the Downtown Partnership, there are a total of 7,206 rental housing units located in the downtown core. This includes 1,121 pipeline units, 1,860 market rate units, 907 affordable units and approximately 2,377 student units (approximately 6,000 beds).
- The overall vacancy rate for 2008 for downtown was 5 percent. Overall, there is clearly demand for rental housing, especially in light of the limited new supply added to the inventory in the past several years. Additionally, the area is less likely to have the "shadow" rental condominium units or conversions to rental seen in other markets that had larger surges of condominium construction as the for-sale market struggles with sales.
- Downtown rents have increased at a fast rate. Between the fourth quarter of 2005 and 2008, average monthly total rent had a compound annual growth of 8.8 percent, growing from $1,332 to $1,715 per month. However, because the average apartment sizes have also grown, the per square foot rate has increased at a slower rate: 4.2 percent.
- Beyond the immediate area, the Cork Factory in the Strip District has been a recent rental success. Developed in 2006 by McCafferty Interests, much of the building was pre-leased prior to completion; 45 percent of the project's first phase (100 units) was leased prior to the grand opening. The building is currently reportedly nearly 100 percent leased, with minimal turnover.
- According to the Downtown Partnership, in 2008 there were 56 condo sales in the downtown area, and these were more or less evenly split between resales and new units. New units sold on average for $295 per square foot while re-sales sold for less than half of that. The overall average was $205 per square foot, which was higher than the $174 per square foot achieved in the previous year. The earliest available data obtained from the Partnership was in 2005. In this year, 39 units sold.
- The first tenants moved into Piatt Place at the end of February. Most of the sales happened before the major economic downturn. Six sales have occurred between August and February (for an average absorption of one per month). When sales began in 2006, there was an average of just over two sales per month. Estimated overall monthly absorption is less than one unit per month (at a sales price of $350+ per square foot).

- 151 Firstside was the first new construction condominium in the Golden Triangle in over 35 years when it began construction in 2006. The project consists of 82 condominiums ranging from 1,000 to 3,400 square feet. Amenities include concierge service, one on-site parking space per unit, balconies, and a fitness and business center. The project, which began sales in 2006, still has thirty percent of its units remaining.
- The Otto Milk building, in the Strip District, will have 56 condominiums ranging from $183,000 to $1.3 million. Construction is anticipated to be completed in late 2009. As of late February, 21 were under contract (38 percent). Beginning sales in Fall 2008, average monthly absorption is approximately three units.
- 941 Penn, developed by Otto Milk's developer, Solara Ventures, is a 17-unit condominium project which was the first to take advantage of the ten-year tax abatement program. The first residents moved in November 2008. Condos in the building range from 1,350 to 3,000 square feet. As of fall 2008, there was only one unit available.
- On-site housing demand will be primarily for rental units – reflective of the majority of households in Pittsburgh and Allegheny County being renters. Rental demand is estimated to be between 50 and 83 units per year. Condominium demand is estimated at 13 to 21 units per year. Town home demand is estimated at an additional 4 to 6 units annually. The development range presented on the lower end is most likely representative of potential absorption during project ramp-up, while the higher end of the range represents potential absorption as the project gains exposure and time on the market. It is assumed that the project will include a mix of both market rate and affordable housing units.
- A potential master plan development program is reflected below.
- Given the magnitude of the development program, the direct economic and fiscal impact of development in terms of additional tax revenues and jobs generated (both during construction and after development is complete) is expected to be significant. The project will also generate indirect impacts by helping to rebuild the presence of the Lower Hill district and also by generating increased rounds of spending in the region as a result of additional residents living in the area and also additional jobs.

Table 1: Potential Master Plan Market Support, Mellon Arena Redevelopment Site

	Total Units/ Square Feet	Annual Absorption	Proposed Density	Buildout	Anticipated Rent Level/Sales Price (2008$)	Tenant Characteristics
Commercial						
Office	600,000	200,000	Mid-rise, potential mixed-use with ground level retail, or one signature project	3	$24	Single high profile user or three to four smaller tenants seeking proximity to CBD resources
Neighborhood Retail	75,000	25,000	Street level mixed-use retail, proximity to residential component	3	$35	Market, service-oriented retail, take out food for nearby residents and office workers
Entertainment Retail	150,000	40,000	Entertainment cluster with proximity to new arena	3.75	$35	Assumes 8 to 9 restaurants averaging 8,000 sq ft and about 78,000 sq ft of other visitor oriented retail (including theater)
Hotel	125 - 150	–	mid-rise	later years	–	Limited service
Residential						
For Sale Condominium/Townhome	270	27, increasing to 38+ after the first three years	Low to mid rise	8	$250(market rate), also include affordable component	Singles, seniors, childless couples
Rental	830	83, increasing to 115+ after first 3 years	Mid-rise	8	$1.25 - $1.30 psf (market rate), also include affordable component	Singles, seniors, childless couples

Source: Economics Research Associates

II. Market Findings

Demographic Review

Population and Household Trends

Pittsburgh and the region have experienced a steady population decline in recent decades. The City lost an average of 0.87 percent of its population annually from the 2000 Census to 2008. Demographic projections by ESRI for 2013, however, expect this rate to decrease to a 0.70 percent loss annually. This population decline reflects the continued response of the Pittsburgh region to a changing economic structure, resulting in outward migration, and an increasingly aging population, with deaths increasingly outpacing births.

The area immediately surrounding the Mellon Arena site has experienced half of this loss—at 0.45 percent annual loss each year between 2000 and 2008 and a 0.36 percent loss projected between 2008 and 2013. These trends reflect an increased interest in downtown living to the west and a more stable institutional presence by Duquesne University immediately south of the site.

The city's loss of households is less than that of population, reflecting a nationwide trend toward smaller households. Indeed, the size of Pittsburgh's households is expected to decrease from 2.17 people in 2000 to 2.10 people in 2013. This is smaller than the average American household size of 2.59 persons.

As the City has lost population, it has also decreased its share of the County's and metro area's population. The City's share of Allegheny County's population dropped a percentage point, from 26 percent in 2000 to 25 percent in 2008. The City only has approximately 13 percent of the MSA's population, which is also a percentage point lower than in 2000.

Table 2: Population Growth

	2000	2008	2013	00-'08 CAGR	08-'13 CAGR
1-mile Radius	13,519	13,037	12,805	-0.5%	-0.4%
City of Pittsburgh	334,563	312,020	301,255	-0.9%	-0.7%
Allegheny County	1,281,666	1,231,149	1,196,824	-0.5%	-0.6%
Pittsburgh MSA	2,431,087	2,392,636	2,362,255	-0.2%	-0.3%
Note: CAGR means Combined Annual Growth Rate					

Source: ESRI Business Analyst; Economics Research Associates, 2009.

Age

An area's age can impact the types of housing product marketable. There has been much publicity about the aging population of Pittsburgh. However, the aging population as the Baby Boomers reach retirement is a national trend, and the City of Pittsburgh is actually keeping pace with the US in its share of population by age, with just over half of its population in the traditional "working years" of 25 to 64 and with a median age of just under 37. By 2013, projections indicate that the City is expected to have a slightly greater percentage of its population aged 65 or above compared to the US (16 percent versus 13 percent). The MSA population as a whole is older, with 18 percent expected to be over 65 in 2013. The area around the site is markedly younger, with just under half under the age of 25, and the majority of that population between the ages of 15 to 24, again, reflecting a large student population.

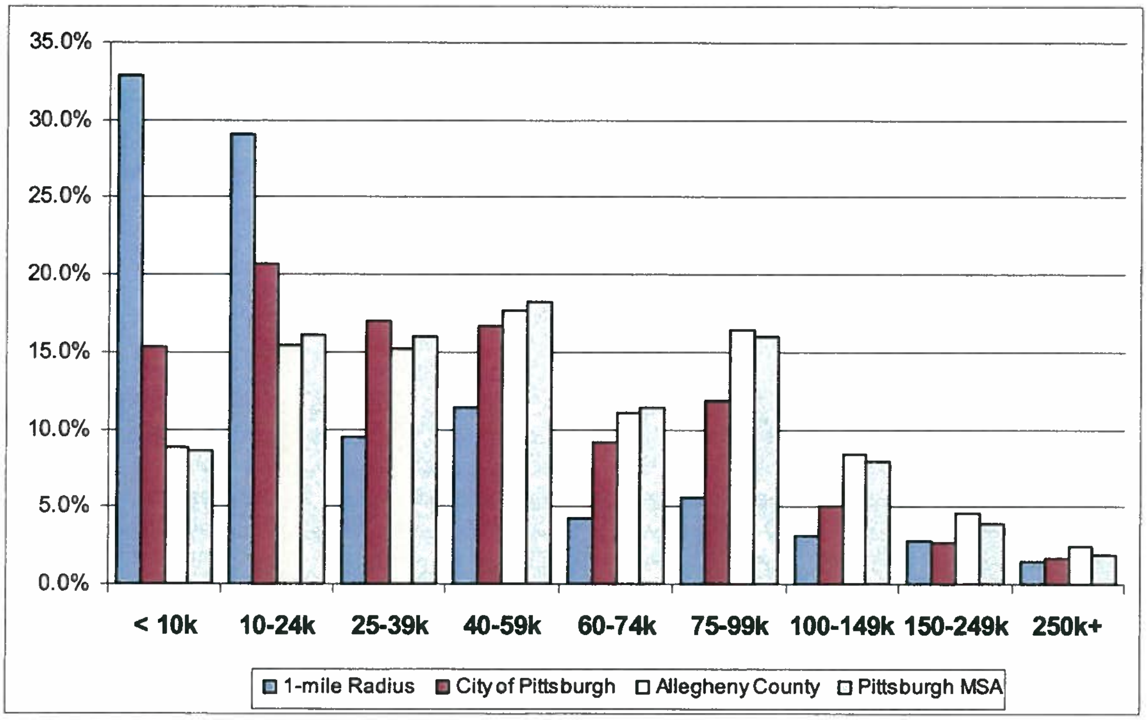
Household Income

ERA reviews household income data to better understand the purchasing capacity of potential homebuyers, the site and region's economic context, and the market for additional retail and services. The area immediately around the Arena site has markedly lower household incomes than the region, both due to a lower-income neighborhood east of the site and with the student population of Duquesne University. The median household income in 2008 of the 1-mile radius around the site was $17,536, which is approximately half the median household income of the City and a smaller percentage of the incomes of the County and MSA.

Overall, households in the region earn modest incomes, which are lower than the state and nation's median household incomes. In 2000, the Pittsburgh MSA's median household income was 13 percent lower than the US as a whole. This gap in incomes is expected to narrow to 6 percent by 2013. The median household income in the region has more or less maintained pace with inflation, increasing an average of approximately 3 percent annually.

Average household incomes are higher than the median incomes, suggesting that there is imbalance between the upper and lower ends of the income spectrum. In the United States, the median household income is approximately 75 percent of the average household income. This is approximately the same ratio as for the state of Pennsylvania, the Pittsburgh MSA, and Allegheny County. The City of Pittsburgh is slightly lower—with the median household income representing approximately 68 percent of average income. The 1-mile area around the site is dramatically different, with the median household income at 41 percent of the average income of $42,265, suggesting a greater income disparity in the immediate area. The immediate area has more than half of its households earning under $20,000 per year. In contrast, the MSA as a whole has 19 percent earning in this income bracket. At the same time, the area has approximately the same share as the MSA (1.7 percent versus 1.9 percent) earning over $250,000 annually.

Figure 1: Households by Household Income, 2008



Source: ESRI Business Analyst; Economics Research Associates, 2009.

Housing Tenure

The area immediately around the site is comprised of a majority of renting households—87 percent rent as of 2008, and this is expected to climb to 88 percent in 2013. Though less than in the immediate area, the City also has more of its households renting, with approximately 40 percent owner-occupied. There is progressively a larger share of owner-occupied housing in the larger geographies, with almost 60 percent of Allegheny County's units and 64 percent of the MSA's units owner-occupied. The share of owner-occupied units is expected to go down in all geographies from 2008 to 2013, dropping between 2 and 3 percent in the City through MSA levels.

Table 3: Housing by Tenure, 2000-2013

	2000	2008	2013
1-mile Radius	4,997	5,138	5,204
% Owner-Occ	14%	13%	12%
% Renter-Occ	86%	87%	88%
City of Pittsburgh	163,366	163,007	163,506
% Owner-Occ	46%	43%	40%
% Renter-Occ	54%	57%	60%
Allegheny County	583,646	589,982	591,184
% Owner-Occ	62%	59%	57%
% Renter-Occ	38%	41%	43%
Pittsburgh MSA	1,078,481	1,105,041	1,117,580
% Owner-Occ	66%	64%	62%
% Renter-Occ	34%	36%	38%

Source: ESRI Business Analyst, 2008; Economics Research Associates, 2009

Household Migration and Household Move Rates

Household relocations are at the core of residential demand. To better understand the quantity of key source markets, ERA reviewed IRS county-to-county migration data. This data set provides year-to-year changes in where households file their income tax returns. This data does not pinpoint the exact number of people relocating, but it is a useful proxy to understand broader geographic trends in population movement and the relative quantity of households moving to or from a location.

As expected from population and household data, the Pittsburgh region has had an outward migration of households. Using IRS county-to-county migration data, some idea of household movement is possible at the county level. Allegheny County has had an annual average net outward migration of approximately 2,700 households.

This data is used in ERA's modeling to better understand the characteristics of the consumer market for new housing in the area. Therefore, ERA examines the in-migrating households' originating locations. The county with the greatest number of in-migrants is adjacent Westmoreland County. An average of almost 1,700 households annually move into Allegheny County from Westmoreland. The households from this county, along with other Pennsylvania counties, comprise the greatest percentage of households moving into Allegheny—the County receives three-quarters of its new households from the Commonwealth. The County also receives in-migrating households from counties with other populous cities, including Cuyahoga County, OH (home to Cleveland—8th), Philadelphia County (10th), Cook County, IL (home to Chicago—13th), Los Angeles County (14th), and New York County (16th). Fairfax County, outside of Washington, DC, is the county with the 19th most residents moving into Allegheny County.

The preferences and characteristics of these households will help form demand considerations. Because the City represents only a quarter of County households, the data's use needs to be tempered with ERA's qualitative knowledge about the dynamics of the region.

In addition to households moving into the area, there are also households moving within the County that will also be accounted for in the demand model. According to 2000 Census data, City households and those from the 1-mile radius around the site are more mobile than the state and nation as a whole. In the City, 20 percent had moved to the residence within a year, whereas in the state, 15 percent had and in the U.S., only 7 percent had. These households that are moving within the City—or "churn"—are another potential market for new housing at the Mellon Arena site.

The more recent 2007 American Community Survey data by the U.S. Census (available only at the County and above level) reports that of Allegheny County's 1.17 million households, 12 percent had moved in the year prior to the survey. This percentage is higher for renting households (29 percent) than for owning households (6 percent). Of the moving households, 71 percent were from Allegheny County, another 12 percent from the MSA, with the remaining 17 percent from outside the MSA. Owner-occupied households had a higher propensity to be from within the County, as shown in Table 4.

Table 4: Allegheny County Household Move Rates by Tenure, 2007

	City of Pittsburgh					
	Owner-Occ		Renter-Occ		Total	
Households	158,629		109,279		267,908	
Moved within Past Year	14,062		34,766		48,828	
% of Households in Category	9%		32%		18%	
Moving Households	HH	% of Movers	HH	% of Movers	HH	% of Movers
From Within Same County	10,402	74%	21,135	61%	31,537	65%
From Within Same Metro Area	737	5%	3,874	11%	4,611	9%
From Outside Metro Area	2,923	21%	9,757	28%	12,680	26%
	Allegheny County					
	Owner-Occ		Renter-Occ		Total	
Households	855,281		315,621		1,170,902	
Moved within Past Year	54,093		90,248		144,341	
% of Households in Category	6%		29%		12%	
Moving Households	HH	% of Movers	HH	% of Movers	HH	% of Movers
From Within Same County	39,831	74%	62,900	70%	102,731	71%
From Within Same Metro Area	5,011	9%	12,170	13%	17,181	12%
From Outside Metro Area	9,251	17%	15,178	17%	24,429	17%

Source: U.S. Census Bureau American Community Survey, 2007; Economics Research Associates, 2009.

Employment Trends

As reflected below, employment growth within the Pittsburgh MSA has been under one percent annually over the past three years, with job losses recorded from 2002 through 2005. The area has been slow to generate jobs in the past due in part to an aging population and the ongoing transition from a manufacturing based economy. According to Bureau of Labor Statistic figures, total employment has not yet returned to the peak level reached in 2001. As with most regions of the country, the majority of new jobs are being created in the service industry.

Table 5: Employment Growth Trends

Historical Employment Growth - Pittsburgh MSA

	Total Non-Farm	Annual Change Total	%
1997	1,093,300	--	--
1998	1,109,100	15,800	1.4%
1999	1,126,700	17,600	1.6%
2000	1,147,000	20,300	1.8%
2001	1,153,900	6,900	0.6%
2002	1,142,100	-11,800	-1.0%
2003	1,134,000	-8,100	-0.7%
2004	1,133,600	-400	0.0%
2005	1,132,800	-800	-0.1%
2006	1,137,100	4,300	0.4%
2007	1,145,500	8,400	0.7%

Note: The Pittsburgh MSA includes Allegheny, Armstrong, Beaver, Butler, Fayette, Washington and Westmoreland Counties. Full year 2008 data not yet available.
Source: Bureau of Labor Statistics, Economics Research Associates

Visitor Market Trends

There are currently an estimated 10 million annual visitors to the Pittsburgh region, with top origin markets including New York, Johnstown-Altoona and Washington D.C. As reflected below, the median age of visitors to the region is 42 and the typical traveling party is visiting without children (single adult, couple). The visitor market is dominated by individuals visiting friends and family or attending a convention/business.

Table 6: Visitor Characteristics, Pittsburgh Region

Total Estimated Visitors	10 million
Median Age	42
Median Annual Household Income	$64,000
Typical Traveling Party	One Adult, Couples
Primary Purpose of Stay	Visiting Friends and Relatives, Conventions
Average Length of Stay	3.9 Days
Primary Accommodations	Private Home
Top Activities	Shopping, Dining, Sightseeing
Secondary Activities	Entertainment
Average Expenditures: Per Person Per Day	$78.10
Average Expenditures: Per Travel Party Per Trip	$725

Source: Pittsburgh Convention and Visitor's Bureau, Economics Research Associates

Anticipated Demand by Land Use

Office

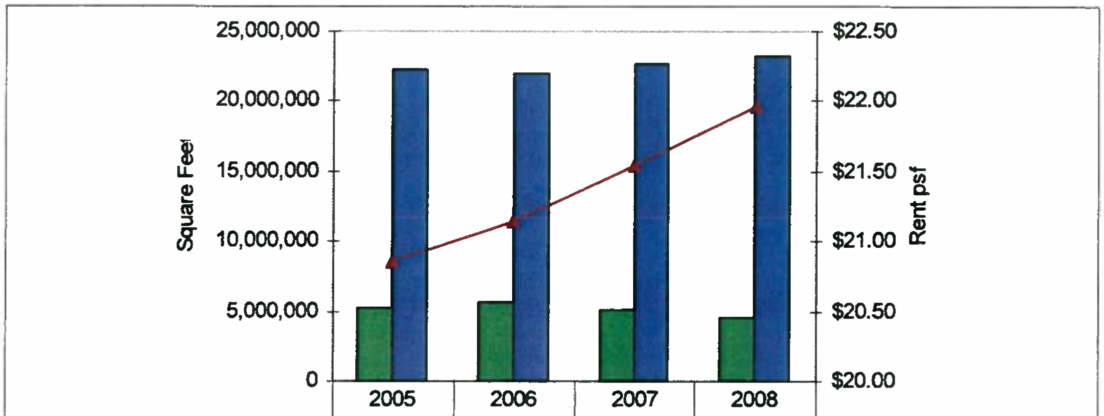
Market Indicators

The national office market has been impacted by the credit squeeze and volatility in the capital markets over the past several months. The national office market vacancy increased to 14% in second quarter 2008, the second consecutive quarterly increase. Job growth has historically had the biggest impact on the office property market and nationwide the number of office-using jobs being cut has increased dramatically.

As reflected below, since 2006, the Pittsburgh office market has performed steadily, with vacancy rates decreasing and rents increasing slightly within the downtown/fringe Pittsburgh submarkets (the data does not include owner occupied, government, and medical buildings). Downtown office rents typically remain relatively stable, absent the bigger swings seen in other metro area office markets. At the end of 2006, Pittsburgh's office market was at the bottom of most national rankings, but, according to new data by New York-based Reis Inc, the Pittsburgh office market has made a comeback and is now in the middle of the rankings for metro office markets. Pittsburgh was able to move up in the rankings while many other metro area office markets faltered.

Nevertheless, according to data provided by Grubb & Ellis, vacancy in the downtown/fringe area remains a relatively high 16% (compared to about 14% in the suburbs) and vacancy within the CBD recently increased after moves by several companies to new locations. Also, increased corporate downsizing and the credit crisis have lead to a large inventory of sublease space (about 100,000 square feet) in the fringe submarket. Construction continues on PNC Three, a 23-story high-rise on Fifth Avenue which will include 326,000 square feet of space and will be occupied by Reed Smith (law firm) and PNC Bank. PNC Three is the first major new office building to be constructed in the CBD since 1987. The Golden Triangle is to some degree land constrained, with few sites remaining for new office development.

Figure 2: Office Trends, Downtown/Fringe Submarkets, Pittsburgh



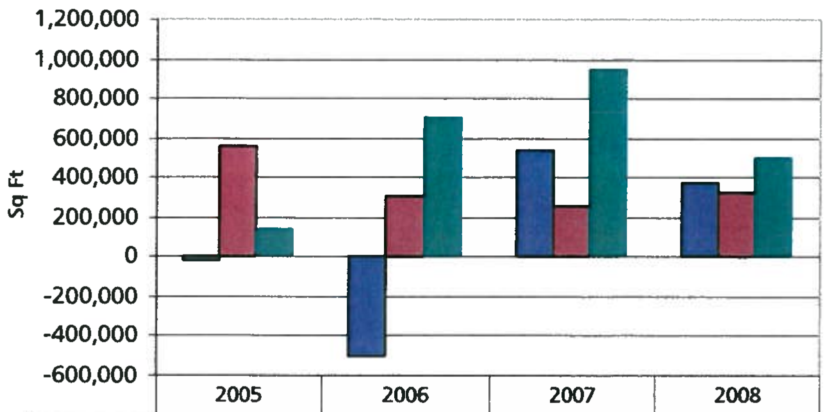
	2005	2006	2007	2008
Vacant Space	5,219,023	5,647,719	5,016,169	4,510,879
Occupied Space	22,252,190	21,940,867	22,696,532	23,279,332
Rent (Class A)	$20.86	$21.14	$21.54	$21.97

Source: Grubb & Ellis Company

While the CBD recorded net negative absorption in 2005 and 2006, over 500,000 square feet of space was absorbed in 2007, followed by 369,593 square feet in 2008. Absorption in the suburbs decreased from 943,035 square feet in 2007 to just over 500,000 square feet last year.

The area within close proximity of the site (primarily to the south, east of Crosstown Boulevard) consists primarily of scattered Class B and C office space, with the exception of Two Chatham Center (which is reportedly 92% leased). This submarket includes approximately 1.4 million square feet of office space with a current vacancy rate of 8% (see Appendix for detail). Vacancy rates have been decreasing in this area over the past few years, with no change in the total inventory. Other major office buildings in the area include One Chatham Center (225,747 square feet, Class B), Forbes Pride Building (66,000 square feet, Class B), Forbes-Stevenson Building (90,000 square feet Class B), and the Ketchum Building (56,000 square feet, Class B).

Figure 3: Office Absorption Trends, Pittsburgh Market



	2005	2006	2007	2008
CBD	-15,151	-500,899	536,278	369,593
Fringe	559,403	309,669	260,274	320,867
Suburbs	136,013	707,472	943,035	501,280

Source: Grubb & Ellis Company

Demand Based on Employment Growth

ERA also looked at the potential for new office space based on employment projections for the Pittsburgh region. As reflected in the table below, approximately 17,000 new jobs are projected for the region from 2007 to 2017. Based on assumptions for the percent of employees using office space by sector, we have derived net new office space demand of about 2.1 million square feet for the entire region. A capture of between 20 and 30 percent of new office space demand would generate the need for approximately 400,000 to 600,000 square feet of office space over the next ten years within the downtown/fringe submarket.

Table 7: Potential New Office Space Demand, Pittsburgh MSA

	Employment Growth 2007 - 2017	Percent Office Using	Office Space Demand Growth 2007 - 2017
Natural Resources, Mining, Construction	1,450	10%	28,996
Education, Health Services	20,269	20%	810,749
FIRE	340	75%	51,009
Government	-1,069	40%	-85,522
Information	1,377	40%	110,133
Leisure and Hospitality	6,108	20%	244,332
Manufacturing	-7,414	10%	-148,286
Other Services	1,620	40%	129,573
Professional/Business Services	10,097	75%	1,514,547
Trade, Transportation and Utilities	-7,777	40%	-622,151
TOTAL	**25,000**		**2,033,381**
Vacancy Adjustment (5%)			107,000
Total Office Space Demand			**2,140,400**
Downtown Capture at 12% 1/			**256,800**
Downtown Capture at 20%			**428,080**
Downtown Capture at 30%			**642,120**

1/ Estimated 140,000 downtown workers, or 12% of total MSA employment.

Note: Assumes average building square feet per employee of 200.

Source: Economics Research Associates

Current and Proposed Developments

- There appears to be a general consensus that Pittsburgh is insulated to some degree from the current economic cycle because of the increasing importance of certain key industries such as energy, healthcare, and education.
- There has been a recent increase in vacancy in the CBD due to movement among several firms (added a total of 370,000 square feet of vacant space plus 363,000 square feet of sublease space).
  - Approximately 265,000 square feet of space will be vacated at the Henry W. Oliver Building when K&L Gates law firm moves to One Oliver Plaza.
  - US Steel is moving an undisclosed number of employees to 47,000 square feet of space at Penn Liberty Plaza (strip district).
  - Cohen & Grigsby law firm moved to 85,000 square feet at 625 Liberty Avenue.

- The first residents are expected to move into Piatt Place (the former Lazarus-Macy's store), located at Fifth Avenue and Wood Street, in March/April. In addition to 58 condominium units, the development, by Millcraft Industries, will include 180,000 square feet of office space. The state many occupy the majority of the office component. Millcraft purchased the building for $8.5 million in an agreement with the Urban Redevelopment Authority.
- Three PNC Plaza, as mentioned above, will include 320,000 square feet of office space and a 185-room Fairmont Hotel (including 28 luxury condos located on the top floors).
- There is ongoing long term speculation in the downtown market as property owners hold properties in anticipation of new projects coming on line and also in light of rising construction costs and the current economy.
- The Buncher Company announced that it is no longer interested in purchasing the downtown State Office Building at Gateway Center. The 800 employees of the building are being relocated to three different locations. Tentative plans call for relocation to 178,000 square feet of space at Piatt Place, 45,000 square feet at the former Chamber of Commerce Building at 411 Seventh Avenue, and 57,000 square feet at the 11 Stanwix Street building.
- The University of Pittsburgh Medical Center (UPMC) will continue its relocation from Oakland to the U.S. Steel Tower. It is anticipated that UPMC will lease five floors initially (185,000 square feet), potentially expanding to one half million square feet in the future. It is expected that the move will bring 2,000 to 3,000 UPMC workers to the downtown location.
- The $230 million Baum Liberty Crossing hotel and retail complex proposed by Doc-Economou at the Don Allen site in Bloomfield has been put on hold. The 700,000 square foot mixed-use complex was to include office space, condominiums, townhomes, and a 150-room hotel. important
- Equitable Resources and Siemens Power Generation have made commitments to downtown locations and there presence will become more visible in 2009. Equitable Resources announced that it will be moving its corporate headquarters and expanding production and midstream business units to the 625 Liberty Avenue building, the former Dominion Tower, where it will be leasing 257,000 square feet of space. The relocation and expansion initially will bring 500 people downtown but the space can accommodate as many as 700 employees. Equitable has no plans to abandon their current location on the North Shore, although there are plans to sublease 100,000 square feet of the existing space. Public officials have spoken with Equitable regarding a public subsidy for the move. Siemens Power Generation is moving into the Union Trust Building (occupying four the buildings eleven stories or 185,000 square feet). Earlier, the state

pledged $2.95 million in grants and tax credits to a division of Siemens in order to help with a proposed expansion (which will add 550 employees over three years).

- In 2008, the Union Trust Building (594,984 square feet) was purchased for $24.1 million by Los Angeles based Mika Realty Group. The same group also purchased the James H Reed Building (435 Sixth Avenue) for $6.5 million (formerly owned by the partners of Reed Smith Law firm, which is moving to PNC Three).
- It is likely that continued layoffs and hiring freezes will increase the amount of sublet space available in the market and new construction of speculative office space (among all submarkets) is expected to halt in 2009.
- National City Bank has put some of its space at National City Center on the market for sublease as well as 100,000 square feet of space at Allegheny Center on the North Side.
- The University of Pittsburgh is moving into the newest building at the Pittsburgh Technology Center – taking most of the space at the 150,000 square foot Bridgeside Pointe II. The department of microbiology and molecular genetics will move into the space along with researchers from the McGowan Institute for Regenerative Medicine. The building is the last one within the center located along the riverfront and was constructed on speculation.
- There are plans in place to convert the Connelly Learning Center into the "Pittsburgh Green Innovators". The group has a 90 day option to purchase or lease the building from the Pittsburgh School District. It would provide an education program for K-12th graders and also students from Carnegie Mellon and Penn State. The center could also provide incubator space for emerging technologies. Pittsburgh Green Innovators is seeking $30 million in funding from the state and the federal stimulus package.

Implications for Project Site

As reflected above, it is not likely that new employment growth within the region will drive demand for substantial new office space within the downtown area. However, given the lack of developable land within the Golden Triangle and the desire by many office tenants to be near the CBD, the project site will offer desired proximity to downtown resources (although there is also competition from the North Shore). ? Some demand may be driven by industry shift within the greater Pittsburgh region. There may be an opportunity for a high profile single user or for three of four smaller tenants seeking a location near downtown amenities. High growth industry sectors include specialized niches such as robotics. Pittsburgh is currently considered one of the major hubs for robotics, with more than 30 robotics companies based in the area. The universities in the region also continue to drive an increase in healthcare research employment.

Retail

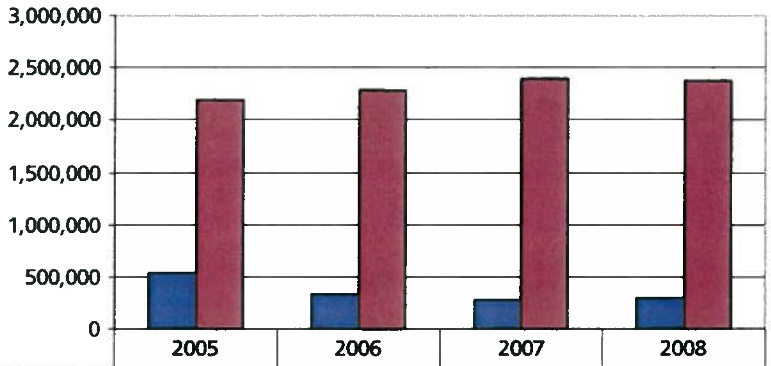
Market Indicators

As with the other sectors, the retail market is currently challenged by rising unemployment and declining home values. As a result, most retailer expansion plans have been cut back significantly. In downtown Pittsburgh, the Cultural District continues to evolve with a small variety of bar/dining options. As was identified in a recent retail market study for the downtown, keeping "anchor" tenants such as Saks Fifth Avenue and Macy's is critical to effectively competing with competition in the outlying areas. Similar to other downtown markets, downtown Pittsburgh hopes to eventually create a critical mass of retailers (previously attempted with the redevelopment project proposed at Fifth and Forbes) in order to generate more "destination" shopping in the downtown area.

As reflected below, over the past four years, the amount of vacant retail space in the CBD/fringe submarket has declined from 526,898 square feet in 2005 to 285,864 square feet in 2008. Rent levels have remained relatively unchanged (about $35.00 in the CBD and $27.00 in the fringe submarket for well located, new space). The majority of new construction within the region is currently occurring in the Parkway West Corridor (Settler's Ridge development), followed by the North Pittsburgh and Butler County submarkets. According to data provided by Costar, retail construction starts decreased significantly in the second half of 2008, with only 140,000 square feet recorded through the entire Pittsburgh region.

As with all sectors, the declining economy has impacted retail with increasing bankruptcies (Circuit City, Filene's Basement, KB Toys) and greatly reduced expansion plans by retailers. For example, American Eagle has announced that they are cutting new store openings for 2009 from 90 to 28. Landlord concessions are expected as a way to backfill existing vacancies in all submarkets.

Figure 4: Retail Vacancy Trends, CBD/Fringe Submarkets



	2005	2006	2007	2008
Vacant Space	526,898	331,588	274,661	285,864
Occupied Space	2,191,874	2,280,028	2,386,955	2,375,752

Table 8: Retail Space Under Construction, Greater Pittsburgh Market

	Under Construction Inventory		
	# Buildings	Total GLA	Preleased %
Parkway West Corridor	7	410,600	13.1%
North Pittsburgh	7	189,095	54.3%
Butler County	4	121,746	91.6%
Westmoreland County	2	97,000	0.0%
South Pittsburgh	2	12,875	100.0%
Washington County	1	3,800	0.0%
Greater Downtown	0	--	--
Parkway East Corridor	0	--	--
Central Business Corridor	0	--	--
Northeast Pittsburgh	0	--	--
Total	23	835,116	33.6%

Source: Costar, Economics Research Associates

Current and Proposed Development

Within the CBD, vacancy rates are currently at about 10%, with vacancy rates of less than 5% reported in emerging markets such as North/Cranberry. Open air and mixed-use centers have also attracted new retailers to the Pittsburgh market. Settlers Ridge is a lifestyle development located off the Parkway West via the Settlers Cabin/Road interchange and will include specialty retailers and restaurants. Bakery Square in East Liberty is also slated to include retailers new to the Pittsburgh market.

Following are some current and proposed retail-oriented development projects occurring within the area:

- Market Square Place will convert the former G.C. Murphy store into a new YMCA, condominiums, and approximately 30,000 square feet of street level retail. The city has also announced a $5 million plan for Market Square, including eliminating all bus traffic, the doubling of sidewalk widths around the square, and installation of decorative lighting.
- Ross Park Mall opened new high-end tenants including Nordstrom and Tiffany & Company.
- In East Liberty, Bakery Square, a new mixed-use development with 135,000 square feet of retail space, recently signed Anthropologie and West Elm furniture and is on schedule to open next year. The only other major new retail development slated to open next year is the Settler's Ridge retail project located in Robinson.
- Right by Nature, a 22,000 square foot affordable natural food store, opened at the Cork Factory in the Strip District.
- Two upscale restaurants opened at Piatt Place – Capital Grille and McCormick & Schmick's.
- The Pittsburgh History & Landmarks Foundation is renovating the old Regal Shoe Co. building (and two additional buildings) located at Fifth and Market. The development will reportedly include seven apartments and retail.
- According to the Downtown Partnership, new retail announcements will be made for both the Fifth Avenue and Penn Avenue corridors over the next few weeks.

Demand Based on Nearby Market Support

In order to estimate the demand for neighborhood oriented retail, ERA looked at potential space demand from nearby residents and workers. While on-site residents are critical to creating a successful and active mixed-use project, they typically do not generate demand for substantial new retail space. As was stated in the earlier analysis, it is also important that new retail at the project site not compete with ongoing retail efforts within the CBD and strip district. As reflected below, we estimate that the immediate market would generate demand for about 46,000 to 71,000 square feet of neighborhood retail (e.g. local market, services).

Table 9: Projected Demand, Neighborhood Oriented Retail Space

Low Estimate

	Total Market	Average Annual Spending	Total $ Potential	Capture	Total Retail Sales	Supportable Space @ $350psf
Resident Households (within one mile)	3,785	$6,400	$24,224,000	10%	$2,422,400	
Employees	5,200	$2,600	$13,520,000	50%	$6,760,000	
Estimated New Households	1,000	$12,160	$12,160,000	20%	$2,432,000	
Estimated New On-Site Employees	1,600	$2,600	$4,160,000	70%	$2,912,000	
Inflow @ 10%					$4,526,044	
					$16,140,444	**46,000**

High Estimate

	Total Market	Average Annual Spending	Total $ Potential	Capture	Total Retail Sales	Supportable Space @ $350psf
Resident Households (within one mile)	3,785	$6,400	$24,224,000	20%	$4,844,800	
Employees	5,200	$2,600	$13,520,000	60%	$8,112,000	
Estimated New Households	1,000	$12,160	$12,160,000	30%	$3,648,000	
Estimated New On-Site Employees	1,600	$2,600	$4,160,000	80%	$3,328,000	
Inflow @ 20%					$8,311,200	
					$24,916,000	**71,000**

Assumptions:
Average are household income of $42,000, approximately 19% of disposable income spent on retail annually.
Number of nearby employees based on nearby office inventory of 1.3 M sq ft, 250 sq ft per employee
Source: ESRI, Costar, Economics Research Associates

Implications for Project Site

Primary demand for neighborhood oriented retail will come from local residents and employees in the immediate area. Outlying areas are well served by existing retail centers and clusters. The Urban Land Institute projects that mixed-use and infill development and neighborhood retail centers will be favored in the next round of retail development. Demand from nearby residents and employees should support about 50,000 square feet of neighborhood-oriented retail. Additional retail demand will be generated by visitors to the Arena (as well as visitors to the downtown area) and will be addressed below in the discussion about entertainment retail.

Entertainment

Current and Proposed Development

As indicated in the first market report for the Mellon Arena site, there are currently several competitive destinations for entertainment-oriented development within close proximity to the site.

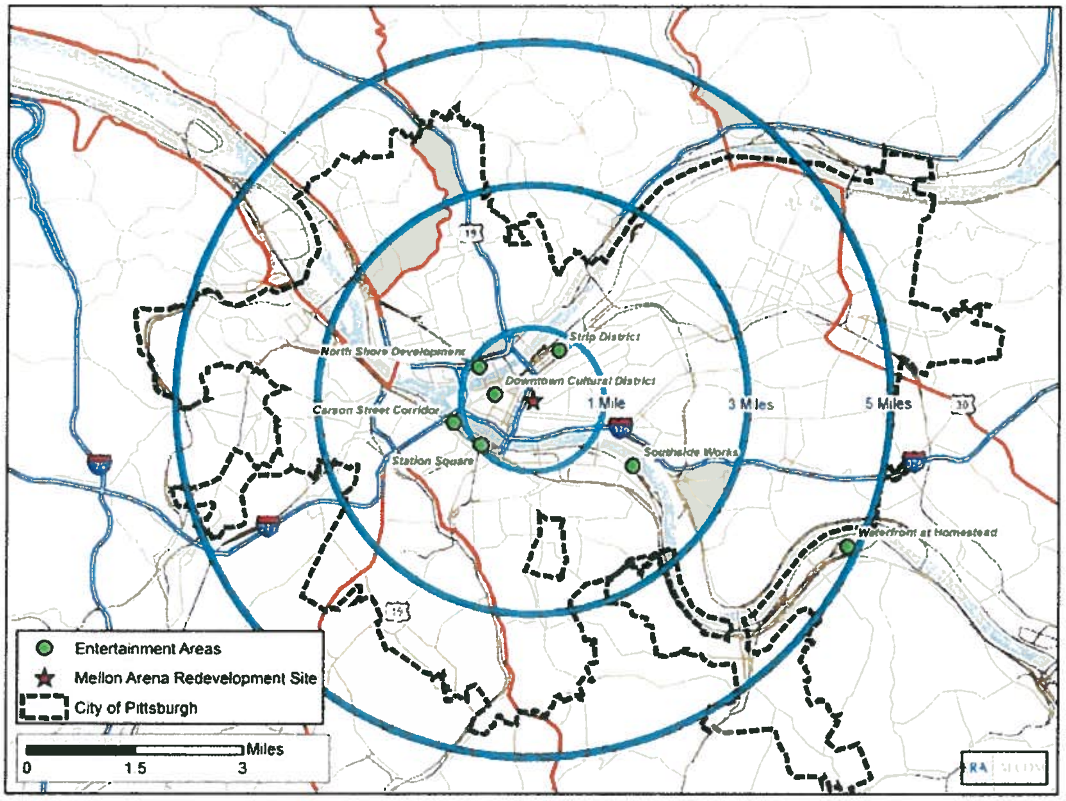
While the environment and offerings of each destination is unique, they each appeal to an important market segment:

- The Strip District – offers a unique one-of-a-kind destination for shopping and dining. The strip includes both retail and wholesale businesses and offers street vendors as well as nightclubs and restaurants. The Strip is also a popular daytime destination, especially on the weekends. Neighbors in the Strip, a non-profit community development company, had been developing plans to develop a public market in the 140,000 square foot Pennsylvania Railroad Fruit Auction & Sales Building. However, the URA has decided to extend the leases of existing fruit wholesalers who currently occupy about 90% of the building. The Strip District

  URA/SEA

- Southside Works is anchored by tenants such as REI, Cheesecake Factory, and Southside Works Cinema. Before American Eagle opened their headquarters, retailers suffered from a lack of nearby office workers in the area. Recently, the project has suffered from the economic downturn, with four tenants closing including Sharper Image, Cole Haan, Z Gallerie, and Ann Taylor Loft. The closings indicate, in part, weak store performance at the Southside Works location.
- The Waterfront at Homestead is anchored by national chain tenants such as Dave & Busters, Macy's, PF Changs, and Loews Theater and the combination town square and big box offerings offers a destination draw for area residents. The project is located at the former site of U.S. Steel and serves a diverse population base, filling a retail void in the region.
- Carson Street/South Side Flats/Station Square. East Carson is known for its 15 blocks of historic Victorian architecture and eclectic retail, galleries, and entertainment. The vacancy rate on Carson Street is reportedly less than 10 percent, compared to more than 40 percent in 1982. More than 120 storefronts have been restored and renovated.
- The downtown Cultural District continues to evolve as a nighttime destination. With several theater anchors and several restaurant options, the area offers a viable entertainment option for Pittsburgh residents. The Pittsburgh Cultural Trust continues to support new retail efforts, including streetscape improvements and support for needed parking facilities in the area.

Figure 5: Entertainment Districts near Project Site



- North Shore Development – The North Shore is currently home to Heinz Field and PNC Park and includes a variety of entertainment options. Steelers running back Jerome Bettis recently opened a 8,500 square foot restaurant (including 40 high definition televisions) at the Del Monte Foods building. Other development in the area includes McFadden's Restaurant and Saloon, Hyde Park Steakhouse (with eight steakhouses in central and northeastern Ohio) and Calico Jacks Cantina. The Hyde Park restaurant was drawn to the location by the office population at the Equitable building and Del Monte Foods and by the lack of quality steak restaurants in the area. There are also a string of restaurants located along Federal Street, across from PNC Park. However, the area around the stadiums had not always been lucrative for restaurants. A group from Philadelphia, which opened three restaurants several years ago in a new parking garage, has since closed two of the three operations. Other area closures include Villa Rosa (across from the Andy Warhol Museum) and James Street Tavern.

  The Steelers and Continental Real Estate Cos. also have plans for a $12 million amphitheater/nightclub complex on the North Shore (they are seeking a $4 million grant from the state). The new casino will also have a small riverfront amphitheater (by agreement).

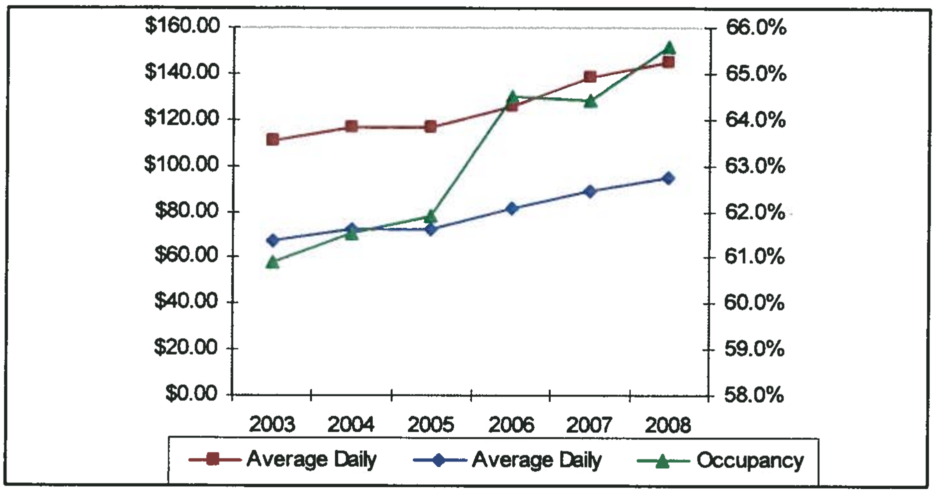
Implications for Project Site

As reflected above, there is significant competition for "entertainment" retail in the area. While entertainment retail makes sense near a large event venue, it is important not to over supply retail targeted at arena users (new retail is also planned for the arena site). Entertainment retail constructed at the project site must also draw visitors from the broader region in order to succeed. ERA also looked at programming at a few sports venue driven entertainment projects (see Appendix): The Banks (Cincinnati, under construction); Ballpark Village (proposed in San Diego); and, the Arena District (Columbus). Retail programming at these locations ranges from a minimum of 115,000 to about 300,000 square feet. The term "retail" can include restaurants, athletic clubs, sports-oriented retail stores, nightclubs, and so forth. A cinema may be a potential future candidate at the site (Southside Works is the closest first-run theater to the site, other major first-run theaters within about five miles include AMC Loews Waterfront 22 and Carmike Cinema Southland 9).

Hotel

ERA looked at current hotel trends with respect to hotel room supply and demand for the nine major hotels (3,713 rooms) located in the downtown area. Over the past six years, the room night supply has increased by about 11%, with room night demand increasing by about 20%. As a result, occupancy has increased from 60.9% in 2003 to 65.6% in 2008. Average daily rate has increased by about 5.5% annually, partly as a result of increased demand. The increase in occupancy and average daily rate, especially over the past year, is encouraging in light of current economic conditions.

Figure 6: Hotel Performance Indicators, Downtown Area Hotels



Other recent hotel developments include the following:

- As mentioned, Fairmont is building a new hotel at Three PNC Plaza. The hotel will include 165 rooms, 19 one-bedroom suites, and one presidential suite. The new hotel will also include a 6,000 square foot hotel, bar, full-service restaurant, and 12,000 square feet of event space.
- A new hotel will be developed on Centre Avenue next to the new arena. The proposed hotel will include about 135 rooms and conference facilities.
- The URA recently purchased two parcels from Highland Hotel LLC that were to be used to build a 105-room Homewood Suites and a 113-room Hampton Inn in East Liberty. The URA stepped in after the developers were unable to secure financing.

Implications for Project Site

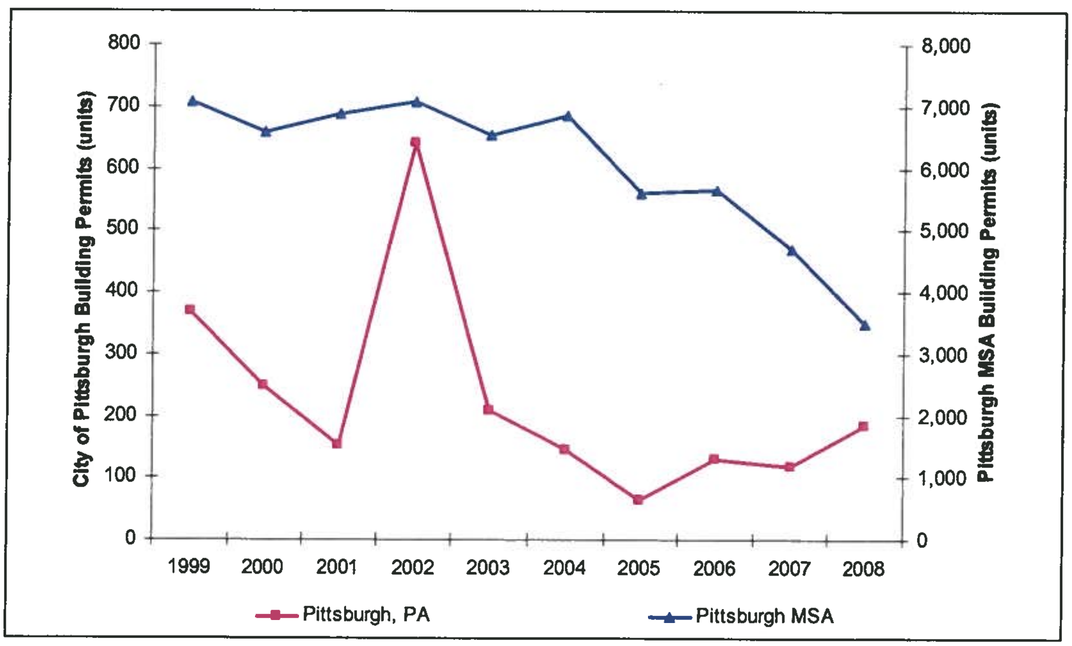
While hotel performance indicators are positive, a total of approximately 320 hotel rooms will be added to the downtown area inventory over the next few years. A new limited service hotel may be a longer term option at the project site after the new inventory has been absorbed.

Residential

Building Permits

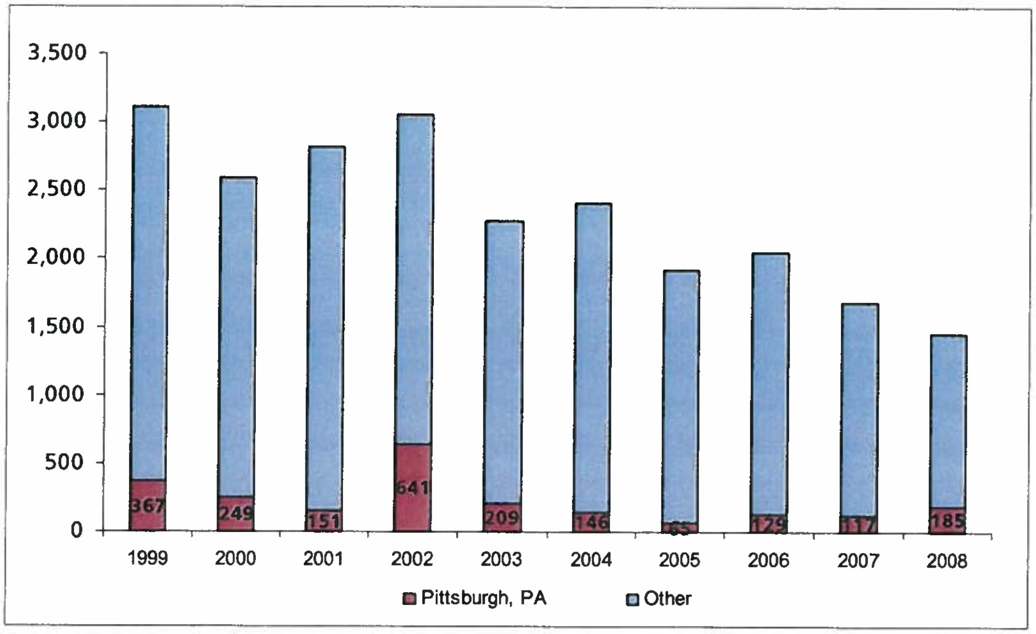
The number of residential units in the City of Pittsburgh varied considerably over the last 10 years, from a high of 641 units in 2002 to a low of 65 in 2005. The variance is much greater than that of the County and MSA, as shown in Figure 7. The average annual number of total permitted units was 226 over the 1999 to 2008 time period. This represents approximately 8 percent of the average number of total permitted units in Allegheny County (2,872). The City's permitted multifamily units represented 11 percent of the County's over the ten-year period, and the single family units represented 6 percent of the County's.

Figure 7: Comparison of Building Permit Trends in the City of Pittsburgh and the Pittsburgh MSA



Source: Census Bureau, as reported by the U.S. Department of Housing and Urban Development SOCDS; Economics Research Associates, 2009.

Figure 8: Pittsburgh Residential Building Permits as a Share of Total Allegheny County Residential Building Permits



Source: Census Bureau, as reported on US Department of Housing and Urban Development, SOCDS; Economics Research Associates, 2009

As would be expected from an area's metropolitan center, the City has historically had a larger percentage of its permitted units as multifamily housing—a full 42 percent over the ten-year period, versus 29 percent in Allegheny County and 23 percent in the MSA. However, in the last two years, the City has not had any multifamily units permitted. The last significant year for multifamily permitting in the City was 2005, with 108 units permitted. There have been some permitted units in the last several years in the County and MSA, but fewer than in previous years. There were an average annual of 825 multifamily units permitted in Allegheny County from 1999 to 2008; however, there were only 214 in 2008 and 119 in 2007. Additional tables and charts illustrating this data are available in the Appendix.

For-Rent Apartment Market

As shown in the demographic overview section above, in the area immediately surrounding the subject site and in Pittsburgh, rental housing units predominate. In the one-mile radius around the site, 87 percent of housing units are renter-occupied, and in the city, 57 percent are renter-occupied. Allegheny County's percentage of renter-occupied housing compares to the US as a whole (around

40 percent) and the MSA's compares to the state as a whole (36 percent). These data include both single family homes rented by an owner as well as small apartment buildings and apartment complexes.

ERA reviewed data by REIS to evaluate rental properties' historic performance. REIS collects data from for-rent multifamily buildings and complexes which have 40 or more units, and therefore, not all renter-occupied units are covered. However, the reported data gives an overview of competitive projects' performance in the marketplace. To this, ERA added our examination of data collected by the Pittsburgh Downtown Partnership (Partnership) on its data for 15 buildings in the Central Core area.[1]

Inventory Characteristics

REIS includes Downtown and the Arena site in a submarket of the Pittsburgh Metro Apartment Market (metro) called "Bellefield/Shadyside" (submarket). The Pittsburgh Metro Apartment Market includes Allegheny, Beaver, Butler, and portions of Westmoreland Counties, but excludes certain counties (Armstrong, Fayette, and Washington) which are included in the Census definition of the MSA.

The submarket as of the end of 2008 contained 17,943 rental apartment units (in the complexes containing 40 units or more). This represents an additional 1,247 (5 percent total growth) over 1995, an average annual increase of approximately 96 units per year. These units represent 21 percent of the metro market's units, which totaled 84,447 at the end of 2008. The metro market grew by approximately 544 units each year, for a total growth of 8 percent between 1995 and 2008. The submarket has maintained a more or less even share of the metro market.

According to data from the Partnership, the Central Core had 1,860 units at the end of 2008. This was an increase of 297 units, which reflected the Cork Factory apartments in the Strip District coming online. The Partnership breaks this inventory into units by type, as shown in Figure 9. More than half of these apartments have one bedroom. Approximately 38 percent have either one

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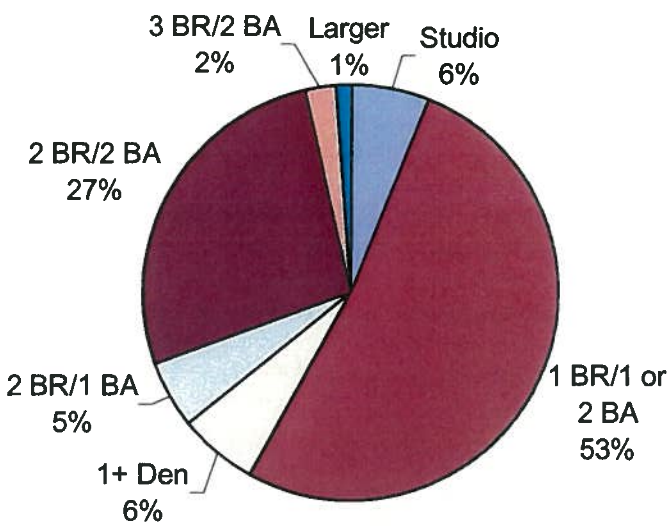
[1] This area, smaller than the Bellefield/Shadyside submarket includes, in addition to the Golden Triangle, the Arena site and area around it (Uptown/the Bluff), the Golden North Shore, the South Shore, the Lower Hill, and the Near Strip (to 26th Street).

bedroom plus den or two bedrooms. In the metro area, there is a tendency toward a greater percentage of 2-bedrooms, so that the proportion of one and two bedroom apartments is more or less the same—42 and 45 percent, respectively.

The average size of the Central Core projects surveyed by the Partnership was 1,224 in the 4th quarter of 2008. The most common unit size—the one bedroom—was an average of 999 square feet, and the second most common unit size—the two bedroom/two bath unit—was an average of 1,145 square feet. The new larger units at the Cork Factory increased the overall average unit size by approximately 50 square feet.

Figure 9: Central Core/Downtown Apartments by Type



Source: Pittsburgh Downtown Partnership, 4th Quarter 2008; Economics Research Associates, 2009.

The Pittsburgh Downtown Partnership considers the Arena Site to be in the "Uptown" area of the Central Core. The Partnership surveyed 15 buildings in its 2008 survey, which included those buildings shown in Table 10.

Table 10: Central Core Apartment Buildings

Building Name	Neighborhood	Total Units
Washington Plaza	Uptown	386
Cork Factory	Strip	297
Heinz Lofts	North Side	267
Pennsylvanian	Golden Triangle	242
Lincoln at North Shore	North Side	232
Encore on 7th	Golden Triangle	151
Penn-Garrison	Golden Triangle	117
625 Stanwix Street	Golden Triangle	83
900 Penn Avenue	Golden Triangle	22
930 Penn Avenue	Golden Triangle	20
The Brake House Lofts	Strip	18
River City Flats	Uptown	12
905 Liberty Avenue	Golden Triangle	8
947 Liberty Avenue	Golden Triangle	3
#2 Market Square	Golden Triangle	2
		1,860

Source: Pittsburgh Downtown Partnership, 2008; Economics Research Associates, 2009.

In addition to the market-rate rental units included in the statistics above, there are also affordable and student housing in the area. There are a total of 907 affordable units and approximately 2,377 student units (approximately 6,000 beds). The Partnership also tracks the number of condominiums and "private homes and other housing types" (384) in the area. In total, including 1,121 pipeline units, there are 7,206 housing units in the Central Core.

Table 11 Total Central Core Housing Units by Type

Type	Units	%
Market Rate	1,860	31%
Affordable	907	15%
Student	2377	39%
Condominiums	557	9%
Other	384	6%
Total	**6,085**	**100%**

Source: Pittsburgh Downtown Partnership, 2008; Economics Research Associates, 2009.

Vacancy and Absorption

On average, the submarket's vacancy rate is less than that of the metro as a whole. The average of vacancy rates from 1995 to 2008 for the submarket was 3.7 percent, versus 4.8 percent in the metro. This is low even for a stabilized market. Nationally, the vacancy rate hovers around 6 or 7 percent. The submarket had a vacancy rate of 3.5 percent in 2008, with 628 units vacant. This was the lowest vacancy rate since 2000 when the rate dipped below 3 percent. The metro's vacancy rate, at 4.9 percent, was also lower than it had been for the previous several years when the rate was around or above 7 percent.

The submarket had an overall average annual absorption of 61 units annually, with an average absorption of 368 units in the metro. The end of 2008 had an overall absorption of 467 units, likely reflecting the completion of a successful lease-up of the Cork Factory's 297 units as well as other projects in the Shadyside/East Liberty area.

In the Central Core, as reported by the Partnership, there is an overall vacancy rate of 7.4 percent in the fourth quarter of 2008. The highest vacancy rates are in the three-bedroom/two-bath category (16.8 percent), the category with the second largest number of units, the two-bedroom/two-baths (9 percent), and the category with the greatest number of units, the one-bedrooms (7.3 percent). The overall vacancy rate for 2008 was 5 percent, putting it more in line with the submarket statistics.

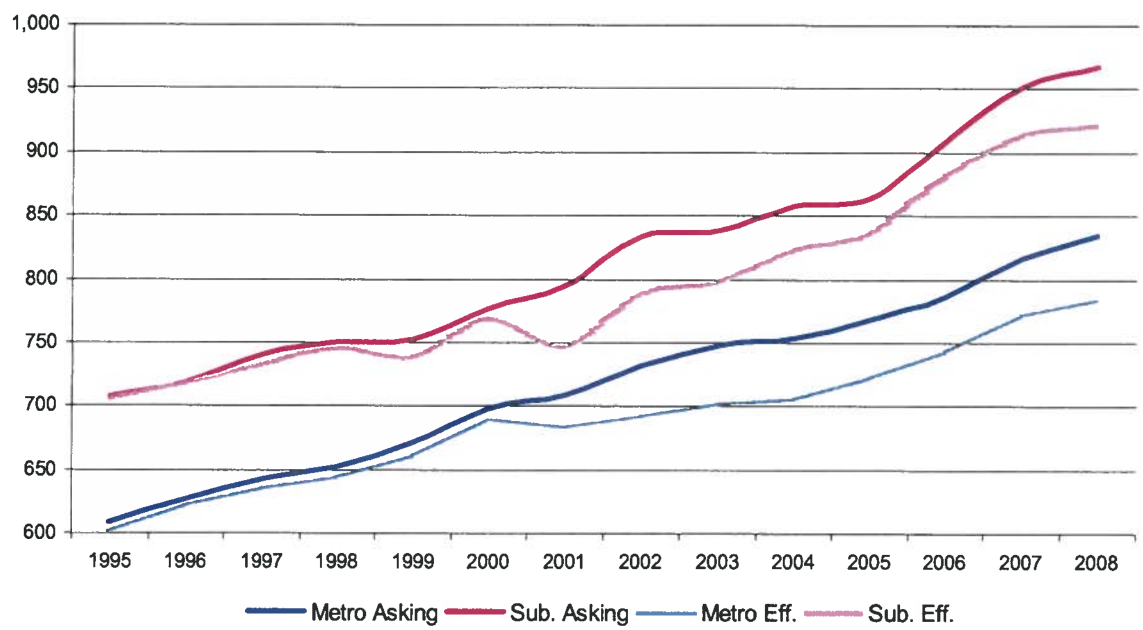
The Partnership also collects data on the number of showings and units rented in a quarter. In the fourth quarter of 2008, there were 434 showings less than the 745 in the previous quarter and the 910 in the second quarter, but higher than the 401 in the first quarter of 2008. However, there were 160 units rented, making the "capture" of these showings higher—36 percent versus 31 percent in the third quarter and 28 percent in the second quarter.

Overall, there is clearly demand for rental housing, especially in light of the limited new supply added to the inventory in the past several years. Additionally, the area is less likely to have the "shadow" rental condominium units or conversions to rental seen in other markets that had larger surges of condominium construction as the for-sale market struggles with sales.

Rents

The average asking rent at year-end 2008 was $967 in the submarket, higher than the metro's average of $835. Both the submarket and metro has had a compound annual growth rate (CAGR) of approximately 2.5 percent annually, indicating that the average rents have essentially kept pace with inflation. The submarket, for the most part, has typically had closer effective and asking rents, which could indicate that the properties are better able to attract tenants without concessions.[2] In addition to having rents higher than the metro market, it also has the highest rents of any of the 7 metro submarkets. The next highest market is North/Butler/Beaver County, the largest submarket.

Figure 10: Submarket and Metro Apartment Asking and Effective Rents, 1995-2008



Source: REIS; Economics Research Associates, 2009

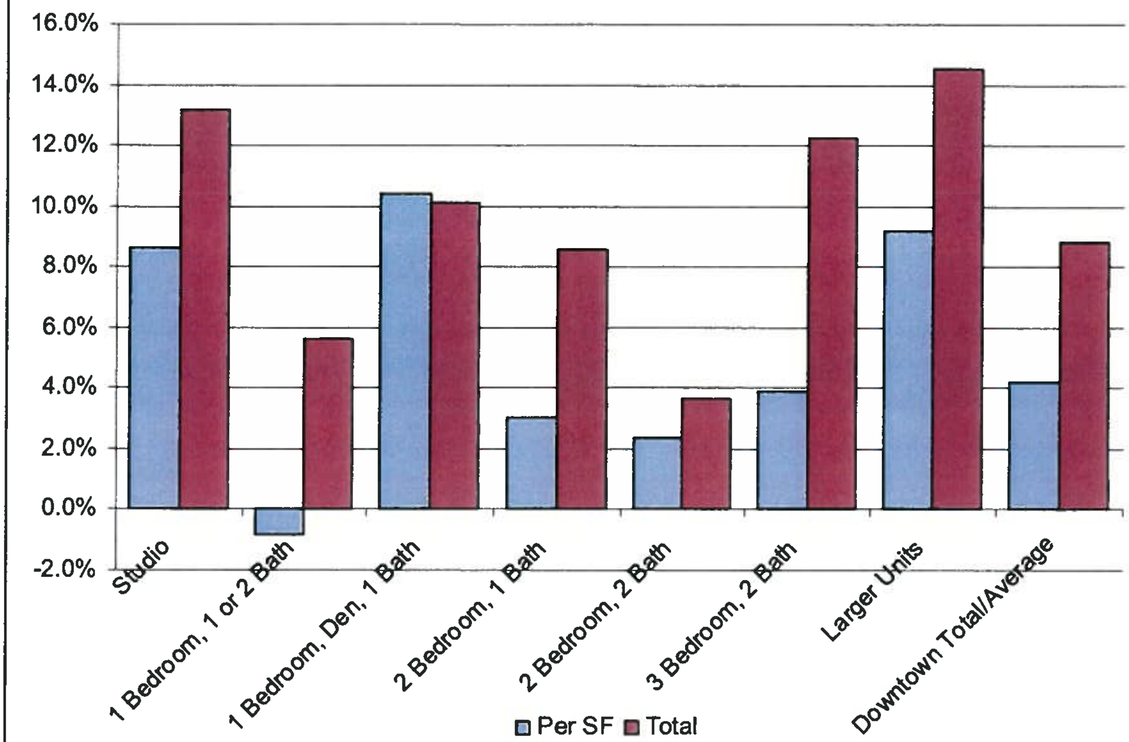
The Partnership reports quarterly effective rent ranges in its Market Survey reports. In the 4th Quarter of 2008, apartments rented for between $1,511 and $1,919 per month, for an average monthly rent of $1,715—in other words, much higher than the submarket and metro as a whole. The Central Core is the premier location for apartment rentals and commands a rent premium. The overall rental rate per square foot in the fourth quarter was $1.50, slightly lower than the overall $1.52 per square foot for the entire year. One-bedroom units rented for between $1,002 and $1,346, with an average effective rent of $1,174 and a per square foot rent of $1.18. Two-bedroom/two-bath units rented for

[2] Effective Rent is the contract rent less any free rent, cash allowances, and other concessions.

between $1,455 and $2,111, with an average of $1,783 and per square foot rent of $1.35. The most profitable units on a square foot basis were units larger than three bedrooms ($1.85/square foot), studios ($1.78/square foot), three-bedroom units ($1.52/square foot), and one-bedroom plus den units ($1.51/square foot).

Downtown rents have increased at a fast rate. Between the fourth quarter of 2005 and 2008, average monthly total rent had a compound annual growth of 8.8 percent, going from $1,332 to $1,715 per month. However, because the average apartment sizes have also grown, the per square foot rate has increased at a slower rate: 4.2 percent. The one bedroom plus den category had the highest per square foot increase—a 10.4 percent compound annual growth from $1.12 to $1.51.

Figure 11: CAGR of Per Square Foot and Total Downtown Rents, 4Q 2005-4Q 2008



Source: Pittsburgh Downtown Partnership, 4th Quarter 2008; Economics Research Associates, 2009.

Representative Projects

Neighborhood Map?

In the "Uptown" area near the project site, there are 398 market-rate rental units, 188 condo units, 538 affordable units, and 1,664 student units. The market-rate rental project with 98 percent of units is Washington Plaza. This building, designed by I.M. Pei in 1964, is located at 1420 Centre Avenue, directly across from the Arena site. Units range from a 480 square foot studio to a 1,080 square foot two-bedroom, two-bath. The building has numerous amenities such as a swimming pool, tennis courts, and on-site retail/services. These apartments are reportedly popular with students and elderly residents. One-bedroom units start at approximately $940 per month, and two-bedroom units start at $1,240.

The remaining 12 rental units in the Uptown area are at the River City Flats at 1919 Forbes Avenue. These loft-style units, located in a factory renovated in 2003, are sized between 1,500 and 2,800 square feet, and priced at $750 to $1,250 per month.

Built in three phases starting in the early 1990s and finishing in 2000, Crawford Square is adjacent to the Arena site, and consists of low-rise mixed-income apartments and townhomes funded through the City's Urban Redevelopment Authority. The total project consisted of for-sale units and rental units both with and without subsidies. The unsubsidized one-bedroom units currently rent for $800 and up.

Beyond the immediate area, the Cork Factory in the Strip District has been a recent rental success. Developed in 2006 by McCafferty Interests, much of the building was pre-leased prior to completion; 45 percent of the project's first phase (100 units) was leased prior to the grand opening. The building is currently reportedly nearly 100 percent leased, with minimal turnover. Features include a pool, fitness and business centers, and garage parking. Currently advertised rents for one bedrooms range from $1,019 to $1,550; two bedrooms from $1,780 to $2,330; and three bedrooms from $3,570 to $3,800.

There have been several other significant rental projects, which had the effect of increasing the overall Central Core inventory from 1,105 in the fourth quarter of 2005 to its current level of 1,860.In addition to the Cork Factory, these included Encore 151 on 7th Street (151 units), 930 Penn (20 units), 2 Market Square (2 units), and Heinz Lofts on the North Side (267 units).

For-Sale

Metro Home Affordability

The upside of the region's declining population is a reduction in housing volatility. The area had not experienced the massive spike in housing prices of many metro areas; when some areas had double-digit appreciation, Pittsburgh area house prices rose by between 4 and 6 percent. Therefore, the area is feeling fewer of the repercussions of the current down market. In 2007 and 2008, housing appreciation exceeded the U.S. national average. Pittsburgh benchmarking website Pittsburgh Today, of the Regional Indicators Consortium, compares the area's home appreciation with several other similar metro areas, as shown in Table 12. Of these areas, Pittsburgh ranked first in one-year appreciation as of the third quarter of 2008 and seventh in five-year appreciation. Though the five year appreciation of homes in the Pittsburgh area (19.79 percent) was below the national average

(28.79 percent), the area's had a positive one-year appreciation of 2.21 percent compared to a percent depreciation in prices nationwide.

Table 12: Pittsburgh Area Home Appreciation Compared to Other U.S. Metro Areas

Region	1-year Appr.	1-year Rank	5-year Appr.	5-year Rank
Pittsburgh	2.21	1	19.79	7
Charlotte	1.58	2	26.80	4
Denver	0.57	3	8.30	13
Indianapolis	0.54	4	9.47	12
Richmond	-0.83	5	51.17	2
Cincinnati	-0.90	6	10.61	11
St. Louis	-0.96	7	23.53	6
Milwaukee	-1.78	8	25.99	5
Philadelphia	-1.81	9	44.64	3
Kansas City	-2.62	10	11.92	10
Baltimore	-3.82	11	60.56	1
Boston	-4.13	12	12.83	8
Cleveland	-5.66	13	-0.89	14
Minneapolis	-6.47	14	12.20	9
Detroit	-13.29	15	-18.36	15
Benchmark average	-2.49		19.90	
US average	-4.00		28.79	

Source:Office of Federal Housing Enterprise Oversight (OFHEO) at http://www.pittsburghtoday.org, 3rd Quarter 2008; Economics Research Associates, March 2009.

The slower rate of appreciation in the area has kept housing prices affordable. In 2008, the Pittsburgh area's median housing price was $118,400. This was 40 percent below the U.S. average of $197,100 and slightly lower than the median house price of 2007. Of the benchmark metros covered by Pittsburgh Today, the only metro with more affordable housing was Cleveland, at $108,500. As illustrated in the appreciation rates above, Cleveland's home prices dipped by over five percent between 2007 and 2008. Pittsburgh's home prices are 67 percent lower than the most expensive metro surveyed (Boston).

Table 13: Pittsburgh and Other Metro Area Median Existing Home Prices, 2005 to 2008

	Median Home Price ($000s)			
Region	**2005**	**2006**	**2007**	**2008**
Baltimore	265.3	279.9	286.1	274.1
Boston	413.2	402.2	395.6	360.5
Charlotte	180.9	190.6	204.3	197.8
Cincinnati	145.9	143.2	140.8	131.8
Cleveland	138.9	134.4	130	108.5
Denver	247.1	249.5	245.4	219.3
Detroit	163.8	151.7	140.3	
Indianapolis	123.8	119.3	120.5	111.2
Kansas City	156.7	155.8	153.3	144.2
Milwaukee	215.7	220.9	223.4	212.3
Minneapolis	234.8	232.3	225.4	202.0
Philadelphia	215.3	230.2	234.9	231.4
Pittsburgh	116.1	116.1	120.7	118.4
Richmond	201.9	225.5	233.7	229.2
St. Louis	141.0	148.4	145.4	133.2
Benchmark average	203.2	206.0	205.7	196.6
US average	219.0	221.9	217.9	197.1

Source:National Association of Relators, at http://www.pittsburghtoday.org, 2008; Economics Research Associates, March 2009.

Central Core

The most appropriate comparable sales data for for-sale housing product at the site is in projects in and around Downtown. The Downtown Partnership collects condominium sales data for each quarter. In the 4th Quarter of 2008, there were 12 sales, the majority (8) of which were at 941 Penn Avenue, one at Chatham Tower, two at Gateway Towers, and one at the Roma Bottling Lofts. These Condominiums sold for from $100,000 (at the older Chatham Tower) to $552,000 at 941 Penn Avenue. The per square foot price ranged from $90.91 (at Gateway Towers) to $274.66 (at 941 Penn Avenue). The whole year of 2008 had 56 sales, and these were more or less evenly split between resales and new units. New units sold on average for $295 per square foot while re-sales sold for less than half of that. The overall average was $205 per square foot, which was higher than the $174 per square foot achieved in the previous year. The earliest available data obtained from the Partnership was in 2005. In this year, 39 sold. Per square foot ranges were not available, but based on the purchase prices (ranging from $34,500 at Chatham Tower to $849,000 at 2901 Smallman

Street). The average sales price in that year was $156,928. The average in 2008 was $278,968, a 77 percent increase (21 percent annually).

Table 14: Quarterly Downtown Condominium Sales Statistics, 2007-2008

Q Yr	Total Sales	Average Days on market	Average Asking Price	Average Sales Price	High Sales Price	Low Sales Price	Avg SF	Avg Sales/SF
4 2008	12	60	$340,177	$336,527	$552,000	$100,000	1,535	$207.00
3 2008	14	157	$262,636	$248,929	$750,000	$53,500	1,266	$185.00
2 2008	19	85	$292,566	$262,617	n/a	n/a	1,090	$240.00
1 2008	11	84	$256,069	$267,801	$483,906	$52,000	1,154	$189.73
4 2007	30	73	$339,636	$338,634	$554,900	$57,000	1,402	$234.31
3 2007	32	31	$247,922	$251,469	n/a	n/a	1,223	$201.71
2 2007	12	123	$151,817	$143,608	$399,000	$42,500	1,268	$127.82
1 2007	14	158	$118,364	$108,104	$320,000	$70,000	984	$131.92
4 2006	13	115	$177,485	$162,515	n/a	n/a	n/a	n/a
3 2006	10	153	$276,360	$247,750	n/a	n/a	n/a	n/a
2 2006	12	123	$157,817	$143,608	n/a	n/a	n/a	n/a
1 2006	14	158	$118,364	$108,104	n/a	n/a	n/a	n/a
4 2005	8	101	$141,575	$141,013	n/a	n/a	n/a	n/a
3 2005	11	110	$146,791	$132,455	n/a	n/a	n/a	n/a
2 2005	6	165	$177,617	$171,533	n/a	n/a	n/a	n/a
1 2005	14	160	$195,821	$182,714	n/a	n/a	n/a	n/a
Total	**144**							
Average		**96**	**$251,148**	**$244,711**	**$509,968**	**$62,500**	**1,240**	**$189.69**

Source: Pittsburgh Downtown Partnership; Economics Research Associates, 2009

Representative New Projects Absorption/Pricing

In addition to looking at the Partnership's collected data, to better understand the Downtown for-sale market, ERA examined the advertised sales prices for several projects and estimated absorption. ERA also toured two of the new Downtown projects to better understand the market for new housing in and around Downtown.

The majority of new projects in the Downtown area are condominiums. The closest major projects including townhouses are on the South Side, at the Summerset at Frick Park development in Squirrel Hill, and the Crawford Square development previously discussed.

Piatt Place

The Piatt Place condominiums are part of a mixed-use project at the building which formerly held the Lazarus department store at Fifth and Forbes developed by Millcraft Industries. The 65 one-, two-, and three-bedroom condominiums were built on three new floors above the four floors of office and retail space built into the former department store space. The ground floor has two restaurants signed, including national restaurant chains McCormick and Schmick's and The Capital Grille. According to the sales office, as of the end of February 2009, 46 percent of the units were sold.

Features in the building include an attached parking garage with one included space per unit, concierge, courtyard, and exercise and business rooms. All units have outdoor space—on floors 5 and 6, there are balconies; on 7, there are optional rooftop spaces.

According to the sales representative, existing buyers typically were either established couples moving from the suburbs or singles and couples moving from another metro area.

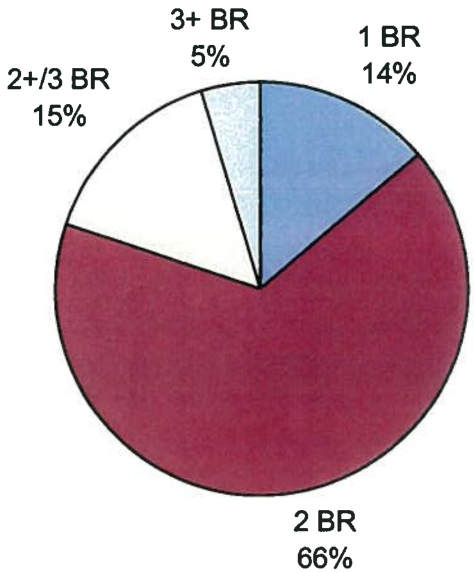
The available units at the end of February 2008 ranged from a one-bedroom, one-bath unit for $344,324 on the first residential level (5) to a two-to-three-bedroom for $678,644 on the top floor (7). The sales prices are in the mid $300s on a per-square-foot basis, which is double the overall per square foot sales amount in the Downtown.

ERA estimated unit types for the sold units (based on comparison with listed available units). Several of the units have been combined by pre-construction buyers, either vertically or horizontally, so that unit counts and sizes are not exact. Buyers at this project can take advantage of the City's ten-year tax abatement program, which allows owners a tax abatement for up to $250,000 of value for ten years.

Of the 65 units, 66 percent are two-bedroom. These are also the most popular sellers, with 67 percent of all sales in this category. Forty-seven percent of the two-bedroom units have sold. Two-bedroom plus den or three bedroom units constitute 15 percent of all units and 20 percent of all sales; one-bedroom units represent 14 percent of all units and 10 percent of all sales; and three-bedroom-plus-den(or fourth bedroom) units are 5 percent of all units and 3 percent of sales. The two-plus-bedroom and three-bedroom category has had the majority (60 percent) of its units absorbed. Only one-third of both the three-plus-bedroom and one-bedroom categories are sold.

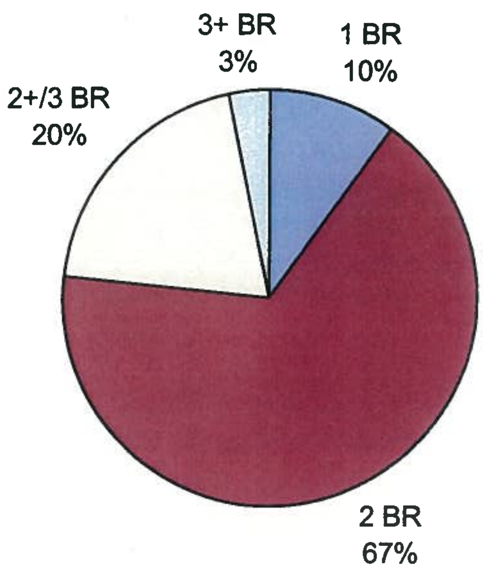
The first tenants moved into Piatt Place the week ERA visited (February 23). Most of the sales happened before the major economic downturn. Six sales have occurred between August and February (for an average absorption of one per month). When sales began in 2006, there was an average of just over two sales per month. Estimated overall monthly absorption is less than one unit per month.

Figure 12: Piatt Place Unit Mix, All Units



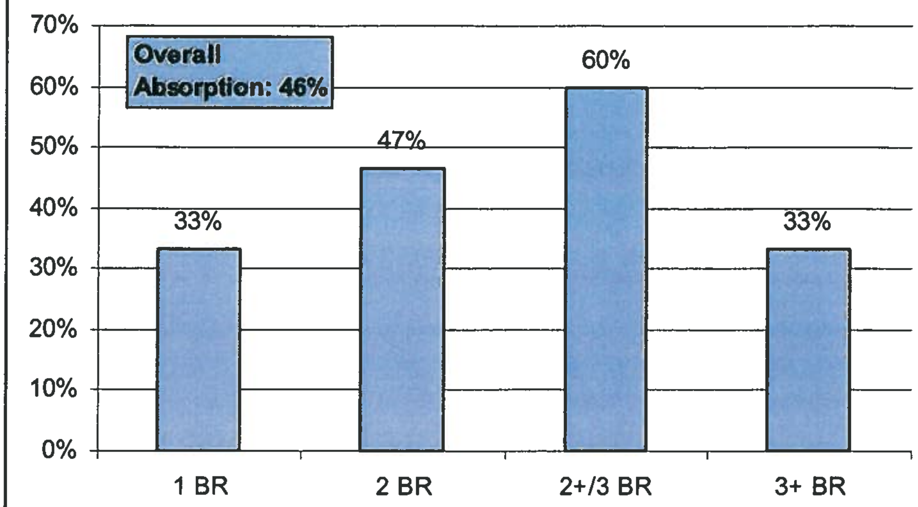
Source: Piatt Place sales materials, 2/5/09; Economics Research Associates, March 2009.

Figure 13: Piatt Place Sold Unit Mix



Source: Piatt Place sales materials, 2/5/09; Economics Research Associates, March 2009.

Figure 14: Piatt Place Percent of Total Units Absorbed



Source: Piatt Place sales materials, 2/5/09; Economics Research Associates, March 2009.

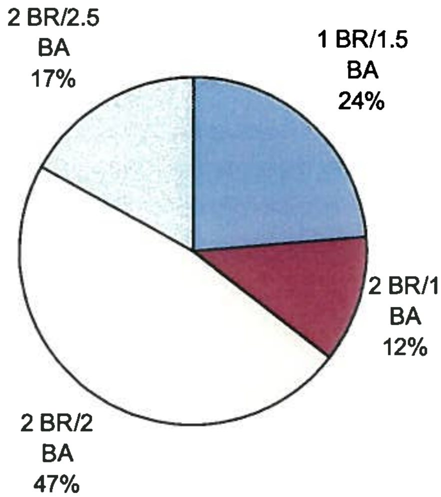
The Carlyle

The Carlyle is a 60-unit condominium building in a former bank building developed by E.V. Bishoff Company. The 21-story building has up to four of the one or two-bedroom units on each of 19 floors plus a penthouse unit on the 21st floor. There is no dedicated parking at this project, with the developer offering parking plans for purchase which include parking passes or valet-parking. Amenities of the building include a wine cellar in a former bank vault, a doorman and building valet, and a business center and community room. Units are pre-wired for data, with several of the units pre-wired for flat panel televisions. This project's buyers are also eligible for the ten-year tax abatement.

As of late February 2009, approximately 50 percent of all units were sold at The Carlyle. Construction was not finished as of this time, and pricing received by ERA was reportedly preview pricing. The remaining available units were priced between $263,222 for a 1,170-square foot two-bedroom, two-bath unit on the second floor to $530,190 for a 22nd-floor, two-bedroom, two-and-a-half-bath unit on the 20th floor. Per square foot prices ranged from $199 per square foot to $265 per square foot, which are less than the comparable Piatt Place project several blocks away and likely reflective of the lack of included parking.

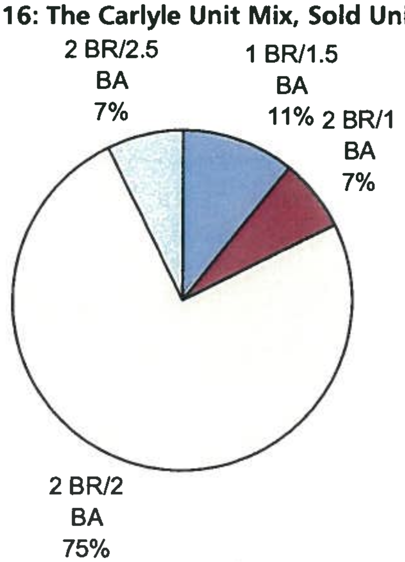
Over half of all units have two bedrooms. Of those, most have at least one and a half baths. The majority of units sold as of February had two bedrooms and two baths; 75 percent of these units have been sold, compared to under 30 percent of other unit types. Over the last year, 12 units total have sold, for an average of one per month, the same as at Piatt Place.

Figure 15: The Carlyle Unit Mix, All Units



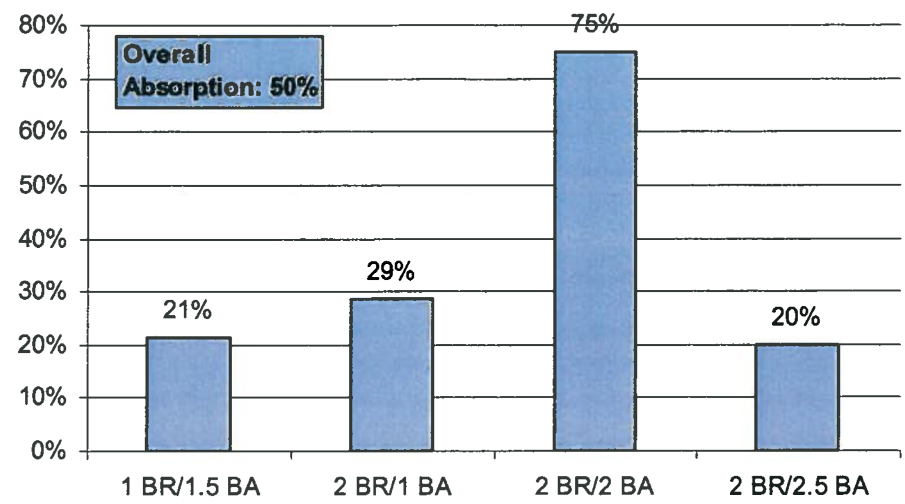
Source: The Carlyle sales materials, 2/5/09; Economics Research Associates, March 2009.

Figure 16: The Carlyle Unit Mix, Sold Units



Source: The Carlyle sales materials, 2/5/09; Economics Research Associates, March 2009.

Figure 17: The Carlyle Percent of Units Absorbed



Source: The Carlyle sales materials, 2/5/09; Economics Research Associates, March 2009.

Other Projects

There are several other notable for-sale residential projects currently selling or occupied in or around the Downtown area. 151 Firstside was the first new construction condominium in the Golden Triangle in over 35 years when it began construction in 2006. The project consists of 82 condominiums ranging from 1,000 to 3,400 square feet. Amenities include concierge service, one on-site parking space per unit, balconies, and a fitness and business center. The project, which began sales in 2006, still has thirty percent of its units remaining.

The Otto Milk building, in the Strip District, will have 56 condominiums ranging from $183,000 to $1.3 million. Construction is anticipated to be completed in late 2009. As of late February, 21 were under contract (38 percent). Beginning sales in Fall 2008, average monthly absorption is approximately three units.

941 Penn, developed by Otto Milk's developer, Solara Ventures, is a 17-unit condominium project which was the first to take advantage of the ten-year tax abatement program. The first residents moved in in November 2008. Condos in the building range from 1,350 to 3,000 square feet. As of Fall 2008, there was only one unit available.

The Keystone Lofts is a project of 12 loft units ranging from 840 to 1,100 square feet. The project had its grand opening in January and at that time, was 50 percent sold. As of 4th Quarter 2008, 58 percent of units were sold. Units were priced at between $205,000 and $245,000.

Area Residential Pipeline

The Pittsburgh Downtown Partnership identifies 227 condominium units under construction in the Central Core (this number includes the projects identified above). There are an additional 127 rental units under construction and four planned. There are also 676 or more additional units in the conceptual stages. REIS lists projects with 532 rental, 1,014 condominium, and 60 townhouse units as "proposed" or "planned" within the City. Of these, 150 of the rentals are in the Central Core area and 850 of the Condominiums are (REIS reports 700 units at the Cultural District Riverfront which are included in this total).

Table 15: Central Core Residential Project Pipeline

Condominiums

Project Name	Units	% Pre-Sold	Targeted First Units Occupied	Developer
5 Lofts on Penn	5	20%	May 2009	Ninth & Liberty LLC
The Carlyle	63	52%	Mar 2009	EV Bishoff Co.
Keystone Picture Frame	12	58%	Feb 2009	Vista Development
Piatt Place	63	50%	Feb 2009	Millcraft Industries
3 PNC Place	28	7%	Dec 2009	PNC Financial Service Group
Otto Milk Building	56	39%	Apr 2010	Solara Ventures LLC

Rental Apartments

Project Name	Units	Targeted First Units Occupied	Developer
Market At Fifth	7	Mar 2009	PHLF
31st Street Lofts	14	May 2009	McSorley
Century Building	60	Jun 2009	Trek Development
Market Square Place	46	Aug 2009	Millcraft Industries
Penn Garrison Expansion	4	Oct 2009	RIDC

Conceptual Multifamily Developments (undetermined product type)

Project Name	Units	Targeted First Units Occupied	Developer
333 Boulevard of the Allies	10	2010	Urban Ever-Green Group
The Gardens	250	2011	Millcraft Industries
Cultural District Riverfront	TBD	TBD	Pittsburgh Cultural Trust
The Granite Building	6	TBD	Granite Building LLC
319 3rd Avenue	50	TBD	EV Bishoff Co.
North Shore	300	TBD	Continental Real Estate
Commonwealth Building	60	TBD	EV Bishoff Co.

Source: Pittsburgh Downtown Partnership 2008 Market Survey, dated 1/13/2009; Economics Research Associates, 2009

Residential Demand

Methodology

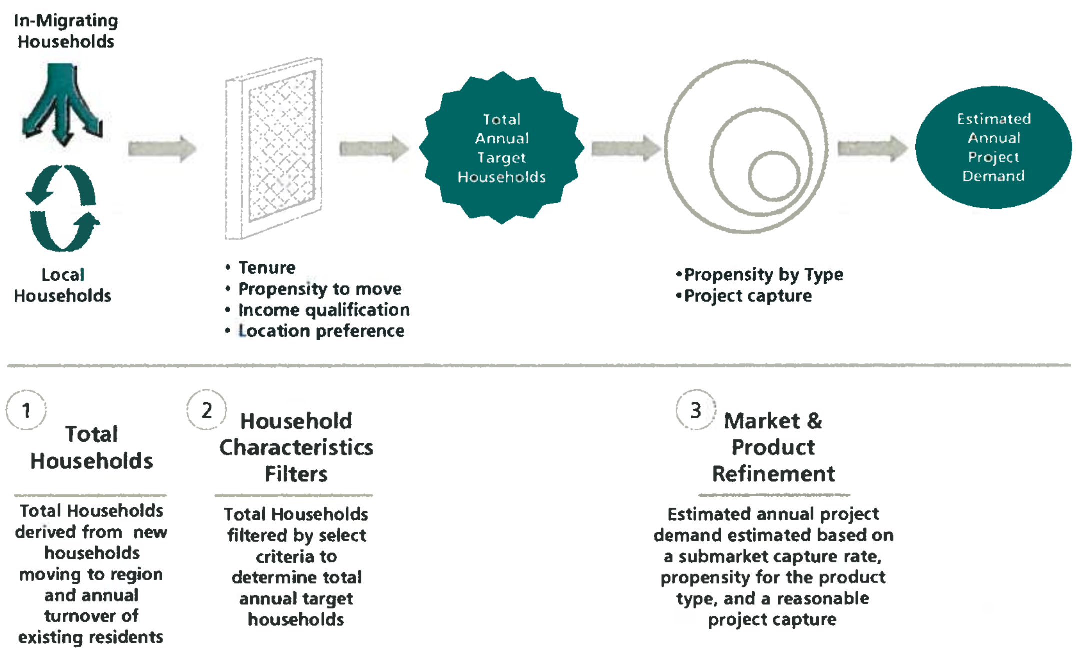
In order to estimate market demand for housing units at the site, ERA first measured the total annual demand for new housing units in Allegheny County. New housing demand is expected to be generated by three primary market groups: households already residing within the county who are likely to turn over and relocate to a new home next year (this includes renters who will convert to buyers), households migrating into the county from elsewhere within the MSA, and other types of households migrating into the county – namely those from outside the MSA and a small portion of foreign migration. Census ACS data is used to estimate the number of households likely to turn over within the county and IRS County-to-County migration data is used to analyze the number, and characteristics, of all households migrating into the county.

ERA's analytical technique includes the use of ESRI LifeMode segmentation data, which divides US households into 12 summary segments based on demographic variables such as age, income, home value, occupation, household type, education, and other consumer behavior characteristics. In conjunction with ACS data, ERA utilized the ESRI LifeMode data in order to segment the market groups by income, tenure, unit preference, and locational preference. Households were income qualified in order to limit the demand estimate to persons from each lifestyle segment who will be able to afford to rent, or buy, a home at the site. For this study, only persons earning at least Allegheny County's median household income of $52,000 were included in the potential draw market for the site. Preferences of incoming households to own or buy were estimated through consideration of the ratio of buyers to renters across household income cohorts in the county and the MSA.

This demand estimate is for market rate housing and is limited to households with the appropriate characteristics that indicate they would have some preference to live in the type of housing that will be offered on the site. Total demand includes only persons who would have preference for multi-family rental and multi-family for-sale product in the principal city urban environment of Pittsburgh. On-site demand was estimated through applying capture rates to the total demand. Capture rates were assigned for each tapestry segment based on unit type. The annual demand estimated is for a well positioned development; meaning that it is competitively developed, advertised, has an appropriate pricing strategy, and is programmed with the market-appropriate unit mix and sizing.

ERA's program summary, which makes recommendations for the size and pricing of units, is based on professional expertise with similar urban housing markets and through careful consideration of the site given an analysis of comparable developments.

Figure 18: Residential Demand Methodology



Demand Source and Characteristics

Of the three market segments driving new housing demand, ERA estimates that the majority of capturable demand for for-sale product will originate in Allegheny County from current home owners moving to new homes and from renters who are converting to home owners. Total capturable demand, demand from persons who are income qualified and with preference for the type of development proposed at the site, will consist of a total of approximately 5,000 units annually. Annual capturable demand will be for 3,250 apartment units, 427 condominium units, and 329 town homes.

The majority of housing demand across all housing types will be generated from within Allegheny County – 87 percent of the potential apartment market, 76 percent of the condominium market, and 68 percent of the town home market will originate from within the county. The large portion of demand generated by persons already residing within the County indicates that a successful development program must be competitive with the many other developments already happening in and around the County.

The second largest generator of demand will come from persons outside of the MSA. Persons outside the MSA account for 12 percent of the potential apartment market, 23 percent of the condominium market, and 29 percent of the town house market.

Households from other Counties within the MSA constitute the smallest share of new housing demand-between 1 and 3 percent.

Table 16: Geographic Source of Potential Buyer Pool

	Apartments	Condominiums	Town Homes
Allegheny County	87%	76%	68%
Pittsburgh MSA	1%	1%	3%
Outside MSA	12%	23%	29%
Total	100%	100%	100%

Source: Economics Research Associates, 2008.

ERA segmented the demand from each geographic category into lifestyle segmentations in order to analyze the psychographic characteristics of the source markets. Differing preferences in each LifeMode segment will ultimately affect their likelihood to locate on the site. The lifestyle characteristics were analyzed separately for each in-migrating county, and separately for for-sale and rental units based on building size. Tapestry segmentations from each geographic source market were then summed and are presented in the table below. Because of the size and breadth of the existing rental market in the metro area, ERA estimates that only a small portion of demand outlined below can be potentially captured on site. Unlike new home buyers, who may have strong preference for a newly constructed home, renters are less likely to consider the newness of a building when searching for a unit; ERA estimates that over 50 percent of the potential rental market will locate in an existing building.

Table 17: Tapestry Segmentation of Potential Buyer Pool

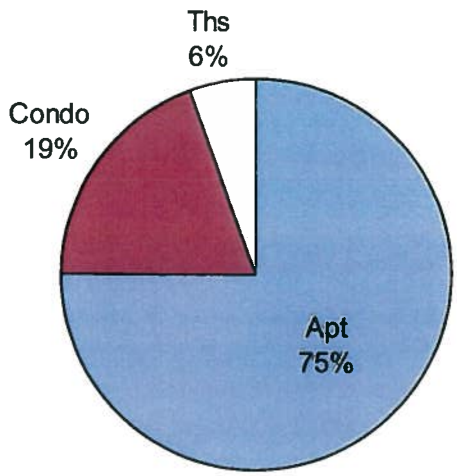
		Apartments	Condominiums	Town Homes
L1	High Society	0.96%	1.86%	6.43%
L2	Upscale Avenues	3.71%	4.49%	7.73%
L3	Metropolis	6.55%	6.48%	21.44%
L4	Solo Acts	36.22%	40.13%	15.67%
L5	Senior Styles	30.53%	29.26%	22.61%
L6	Scholars & Patriots	4.31%	3.08%	1.93%
L7	High Hopes	2.15%	2.03%	4.15%
L8	Global Roots	2.94%	3.37%	3.43%
L9	Family Portrait	9.65%	6.71%	8.89%
L10	Traditional Living	2.70%	2.39%	7.14%
L11	Factories & Farms	0.27%	0.19%	0.58%
L12	American Quilt	0.01%	0.01%	0.01%

Source: Economics Research Associates, 2009.

ERA reduced overall County demand estimates by a Downtown capture rate. Downtown capture of apartment dwellers was between 5 and 20 percent—with the higher capture of those Tapestry Segments that were most urban-inclined. For condominiums, the capture range for Downtown was between 10 and 50 percent, again with the upper-market tapestry segments having the highest capture rates. ERA assumed that Downtown would capture less of the townhouse demand, because of availability of other options outside of the Core. Capture rates, informed by ERA's professional expertise, are derived through a careful consideration of the psychographic qualities of each market segment and through a careful consideration of the local housing market including the other planned projects. Capture rates of the Arena site of the Downtown demand ranged between 5 and 10 percent of apartments, 10 and 25 percent of condominiums, and a large capture—60 percent—of the Core's townhouse demand. This results in a capture of between 2 and 20 percent of the County's demand. The average capture rate was 2.4 percent.

Using these capture rates, the overall total average absorption is approximately **88 units annually**, broken down as shown in Figure 19.

Figure 19: Distribution of Demand by Unit Type



Source: Economics Research Associates, 2009.

To accommodate market fluctuation, ERA upwardly and downwardly adjusted demand numbers. The resulting demand by product type is shown in Table 18. As shown above, on-site housing demand will be primarily for rental units – reflective of the majority of households in Pittsburgh and Allegheny County being renters. Rental demand is estimated to be between 50 and 83 units per year. Condominium demand is estimated at 13 to 21 units per year. Town home demand is estimated at an additional 4 to 6 units annually. The development range presented on the lower end is most likely representative of potential absorption during project ramp-up, while the higher end of the range represents potential absorption as the project gains exposure and time on the market.

Table 18: On-Site Residential Demand Range

	Low	Mid	High
For-Rent Apartments	50	66	83
For-Sale Condominiums	13	17	21
For-Sale Townhouses	4	5	6
Total	**67**	**88**	**110**

Source: Economics Research Associates, 2009.

Table 19 illustrates the distribution by lifestyle category. The top three lifestyle segments represent the greatest market potential are (as described by ESRI's Community Tapestry Handbook):

> **Solo Acts: (Segment Codes: 08, 23, 27, 36, 39**: "The Solo Acts summary group features singles who prefer city life. Many are young, startup households located in America's more densely populated neighborhoods; some are wellestablished singles who have eschewed homeownership and child-rearing responsibilities. Second only to High Society, this group tends to be well-educated, working professionals who are either attending college or already hold a degree. Their incomes reflect their employment experience, ranging from a low median of $40,400 among the newest households to approximately $91,000 among established singles. Contrary to modern migration patterns that flow away from the largest cities, Solo Acts' residents are moving into major cities such as New York City; Chicago; Washington, D.C.; Boston; Los Angeles; and San Francisco. With considerable discretionary income and few commitments, their lifestyle is urban, including the best of city life—dining out, attending plays, and visiting museums—and, for a break from constant connectivity, extensive travel domestically and abroad."
>
> **Senior Styles** Segment Codes: 14, 15, 29, 30, 43, 49, 50, 57, 65: "Nearly 14.2 million households in the nine Senior Styles segments comprise one of the largest LifeMode summary groups. As the U.S. population ages, two of the fastestgrowing American markets are found among The Elders and the Silver and Gold segments. Senior Styles segments illustrate the diversity among today's senior markets. Although incomes within this group cover a wide range, the median is approximately $44,094, attributable mostly to retirement income or Social Security payments. Younger, more affluent seniors, freed of their child-rearing responsibilities, are traveling and relocating to warmer climates. Settled seniors are looking forward to retirement and remaining in their homes. Some of the older, less privileged segments live alone and collect Social Security and other benefits. Their choice of housing depends on their income. This group may reside in single-family homes, retirement homes, or high-rises. Their lifestyles can be as diverse as their circumstances, but senior markets do have common traits among their preferences. This is the most politically active market group, from voting to participating in election campaigns. Golf is clearly their sport of choice, from playing to just watching the Golf Channel. They read the newspaper daily and

prefer to watch news shows on television. Although their use of the Internet is nearly average, they are more likely to shop through QVC than online."

Metropolis Segment Codes: 20, 22, 45, 51, 54, 62: "The six segments of the Metropolis group live and work in America's cities. They live in older, single-family homes or row houses built in the 1940s or earlier. Those living in larger cities tend to own fewer vehicles and rely more on public transportation, but the majority of markets in Metropolis feature commuters to service-related jobs. The median value of their homes is $166,249. The Metropolis group reflects the segments' diversity in housing, age, and income. For example, ages among segments range from Generation Xers to retirees; households include married couples with children and single parents with children. Employment status also varies from well-educated professionals to unemployed. The median household income of the group is approximately $41,099. Their lifestyle is also uniquely urban—and media oriented. They like dancing and music, especially urban and jazz formats; watch a variety of television programs from news to syndicated sitcoms; and prefer movies to books."

Table 19: Estimated Distribution of On-site Demand by Tapestry Segment by Unit Type

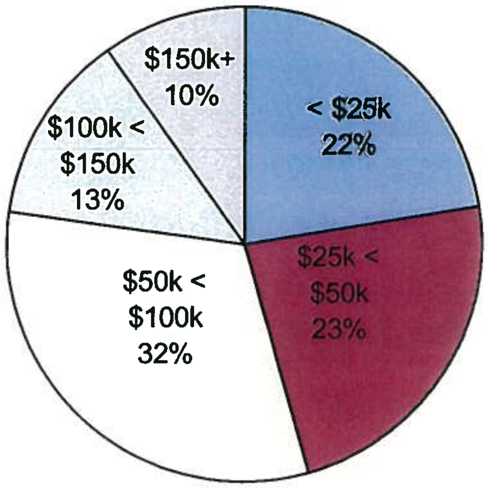
		Apartments	Condominiums	Town Homes
L1	High Society	0%	0%	11%
L2	Upscale Avenues	5%	0%	22%
L3	Metropolis	14%	13%	33%
L4	Solo Acts	45%	63%	22%
L5	Senior Styles	31%	25%	11%
L6	Scholars & Patriots	4%	0%	0%
L7	High Hopes	1%	0%	0%
L8	Global Roots	0%	0%	0%
L9	Family Portrait	0%	0%	0%
L10	Traditional Living	0%	0%	0%
L11	Factories & Farms	0%	0%	0%
L12	American Quilt	0%	0%	0%
Annual Unit Demand		**100%**	**100%**	**100%**

Source: Economics Research Associates, 2008.

Income Distribution of Demand and Pricing

The pricing of homes on the Arena site will be a factor of existing sale prices, ability to pay, and time. The overall pool of potential buyers (county-wide) for housing distributes into the income groups shown in Figure 20 (based on national average income distributions of the included tapestry groups).

Figure 20: Income Distribution of Countywide Demand



Source: ESRI; Economics Research Associates, 2009

Estimated housing affordability assumes that a household income should represent 30 percent of the corresponding sales price. The range of sales prices and the corresponding share of countywide demand potential are shown in Table 20.

Table 20: Affordable Housing Prices by Income Range

	% of Countywide Demand Potential	Estimated Affordable Housing Price /1
< $25k	22%	$83,330
$25k - $50k	23%	$166,663
$50k - $100k	32%	$333,330
$100k - $150k	13%	$499,997
$150k+	10%	Above $500,000
Total	**100%**	

1/ Assumes qualifying income as 30% of sale price

Source: ESRI; Economics Research Associates, 2009

It is likely, because of the tapestry segments and income qualification targeted for the Arena site, that the household incomes will trend toward the middle and upper of this range.

ERA recommends a pricing strategy that encompasses a variety of price points, to ensure weathering the peaks and valleys of the real estate market. Many of the existing and planned projects in and around Downtown are positioned at the upper end of the pricing spectrum, with per square foot sales costs at the mid $300s. Targeting an average per square foot cost of the low- to mid- $200s would open up the project to a wider market. Similarly, rental units should reflect pricing of similar projects within the Downtown. The average rental was $1,332, or $1.28 per square foot in the 4th quarter of 2008. The range of rents should be in the $900 to $1,700 range, to remain competitive. The site is currently less likely to be able to compete with Downtown locations, or those in established neighborhoods, because of distance from the business core and potential neighborhood perception issues. However, with positive project positioning and design, Downtown views, and features to bridge the site's divide from Downtown, there is great potential for both rental and for-sale residential

III. Proposed Program

Based on the analysis completed above, we have identified a potential development program for the site. The findings are preliminary and will evolve as the planning team develops site plans for the area. Programming options are reflected below and include probable absorption, density, anticipated rent/sales levels, and tenant characteristics.

Table 211: Potential Development Program

	Total Units/ Square Feet	Annual Absorption	Proposed Density	Buildout	Anticipated Rent Level/Sales Price (2008$)	Tenant Characteristics
Commercial						
Office	600,000	200,000	Mid-rise, potential mixed-use with ground level retail, or one signature project	3	$24	Single high profile user or three to four smaller tenants seeking proximity to CBD resources
Neighborhood Retail	75,000	25,000	Street level mixed-use retail, proximity to residential component	3	$35	Market, service-oriented retail, take out food for nearby residents and office workers
Entertainment Retail	150,000	40,000	Entertainment cluster with proximity to new arena	3.75	$35	Assumes 8 to 9 restaurants averaging 8,000 sq ft and about 78,000 sq ft of other visitor oriented retail (including theater)
Hotel	125 - 150	–	mid-rise	later years	–	Limited service
Residential						
For Sale Condominium/Townhome	270	27, increasing to 38+ after the first three years	Low to mid rise	8	$250(market rate), also include affordable component	Singles, seniors, childless couples
Rental	830	83, increasing to 115+ after first 3 years	Mid-rise	8	$1.25 - $1.30 psf (market rate), also include affordable component	Singles, seniors, childless couples

Source: Economics Research Associates

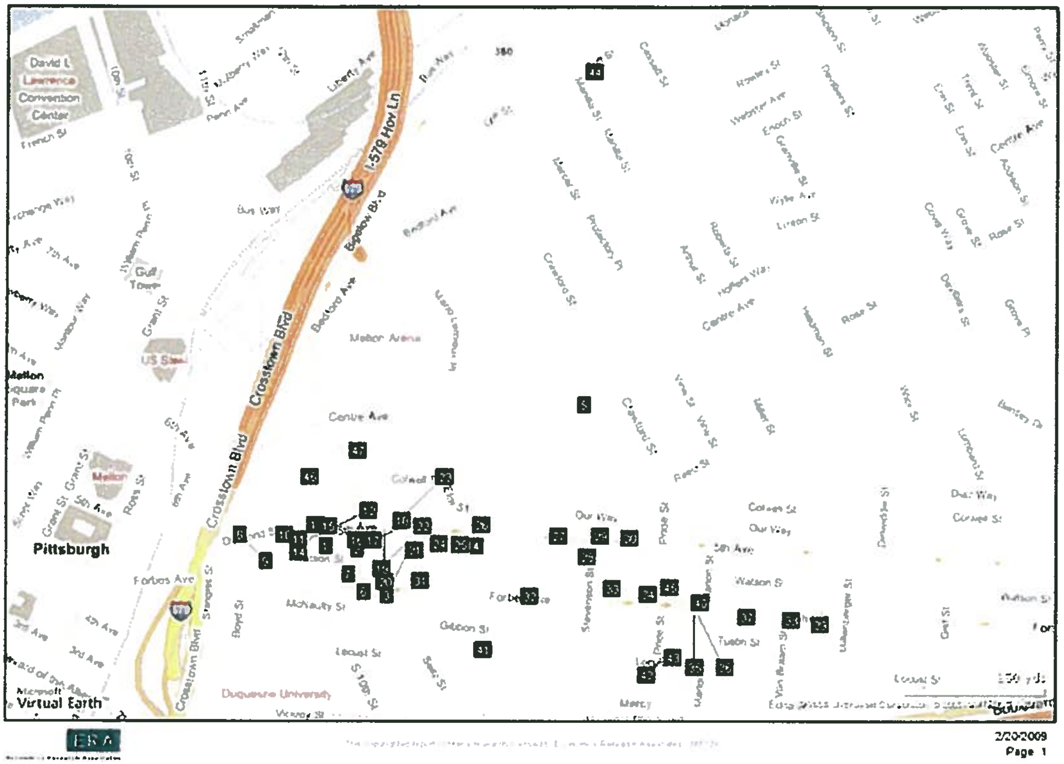
Appendix

Table A-1: Office Market Trends, Selected Area near Project Site

Study Area Submarket

	Total Buildings	Total RBA	Total Vacant	Total Average Rent
4Q 2008	45	1,363,301	8.00%	$17.68/fs
4Q 2007	45	1,363,301	10.83%	$16.10/fs
4Q 2006	45	1,363,301	11.92%	$15.88/fs
4Q 2005	45	1,363,301	17.50%	$17.18/fs
4Q 2004	45	1,363,301	17.88%	$17.51/fs
4Q 2003	45	1,363,301	8.93%	$17.51/fs
4Q 2002	45	1,363,301	3.53%	$17.61/fs
4Q 2001	45	1,363,301	6.38%	$17.25/fs

Source: Costar, Economics Research Associates



Pittsburgh
Crosstown Blvd
I-579 Hov Ln
Mellon Arena
Centre Ave
Bedford Ave
Forbes Ave
5th Ave
6th Ave
4th Ave
3rd Ave
Duquesne University
US Steel
Gulf Tower
David L Lawrence Convention Center
Virtual Earth
ERA
2/20/2009
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Table A-2: Downtown Area Office Market Characteristics by Class, 2008

	# Buildings	Total RBA	Vacancy Direct SF	Total SF	% Vacant	YTD Absorption	YTD Deliveries	Under Construction	Quoted Rent
Class A Market									
CBD	33	17,400,149	1,957,530	2,091,120	12.0%	198,307	0	0	$23.26
Greater Downtown	24	3,690,406	287,884	298,316	8.1%	188,270	0	150,000	$20.96
Class B Market									
CBD	137	12,841,768	1,683,422	1,824,785	14.2%	56,368	0	6,350	$17.00
Greater Downtown	167	8,221,768	763,935	960,852	11.7%	-35,144	12,000	11,000	$19.46
Class C Market									
CBD	94	1,193,594	198,380	198,380	16.6%	-78,995	0	0	$11.77
Greater Downtown	249	1,791,940	116,565	116,565	6.5%	56,597	0	0	$16.72

Source: Costar, Economics Research Associates

Figure A-1: Movie Theaters Proximate to Project Site

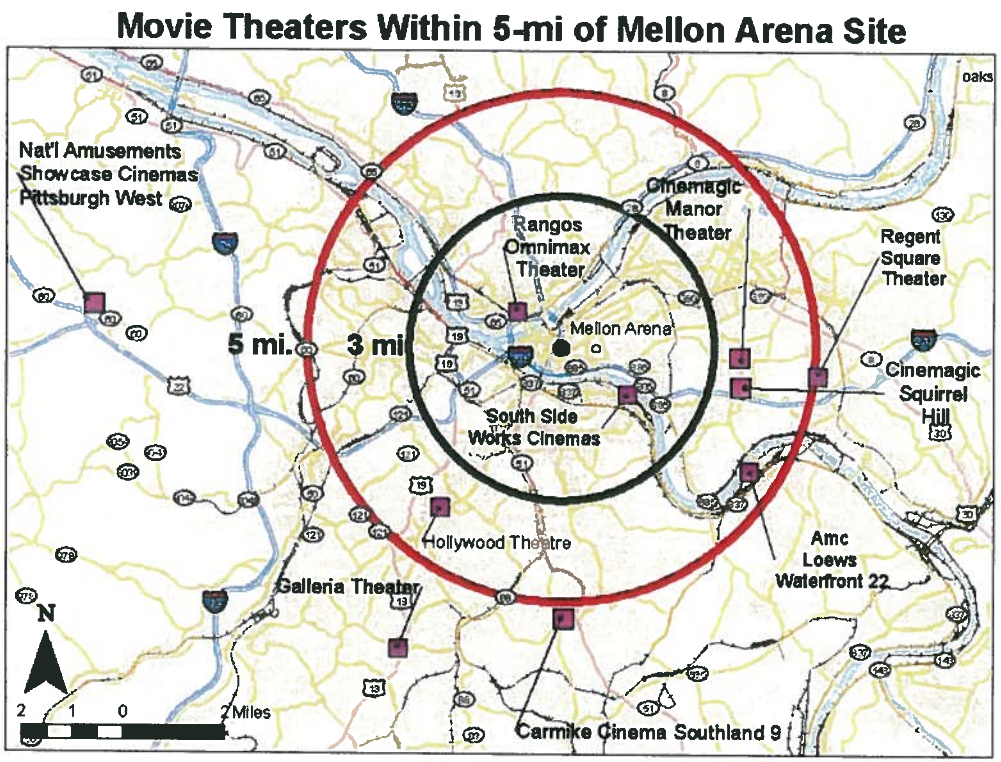

Table A-3: Selected Developments Proximate to Arenas/Stadiums

Project	Site Size	Neighboring Facilities	Cost ($M)	Developer	Project Description	Subsidy
The Banks	18 acres	Bengals Brown Stadium	$600	Riverbarks Renaissance LLC	First phase to include 300 apartments, 70,000 sq ft retail. Scheduled for 2010 completion, focus on restaurants, support retail for residents.	Phase I - $12 M grant from City of Cincinnati and Hamilton County for residential
Cincinnati, OH		Reds' Great American Ball Park			Second phase to include office building of 200,000 sq ft, possible hotel.	
					Subsequent phases could include 1 - 1.8 M sq ft apartments/condos, 200,000 - 1 M sq ft office, 200,000 to 400,000 sq ft retail, hotel, parking for 1,800 cars, park	
Ballpark Village	about 7	PETCO Park	dna	JMI Realty	Planned 3.2 million square feet of space - , including a minimum of 300,000 square feet of office and 115,000 square feet of retail	
San Diego, CA						
Gallery Place (other area development)	dna	Verizon Center	$224	Akridge	210,000 sq ft office, 14-screen cinema, 192 condos, 200,000 sq ft retail (approximately 7.2M square feet of commercial/residential development within vicinity of Verizon Center	
The Arena District	75-acre, including stadiums	Nationwide Arena, Huntington Ballpark (AAA minor league baseball)	$700	Nationwide Realty Investors	Total of 1.5 million square feet of office, retail and entertainment. Includes 1.2 million sq ft office, Arena Grand Movie Theater, performance hall, ice rink, athletic club, several restaurants, nightclub, 252-unit luxury apartments, 98-unit condominium project, 109-unit tower/loft project, three-acre park.	$35 M in city financed infrastructure (TIF)
Columbus, OH						

Source: Economics Research Associates