Multi-Municipal Comprehensive Plan
Regional Trends & Projections
for Pennsylvania's Allegheny Valley

SOURCE: 4WARD PLANNING, LLC
ECONOMIC AND REAL ESTATE ANALYSIS FOR SUSTAINABLE LAND USE OUTCOMES™

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Glossary of Terms

Household Population Household population, as compared to total population, excludes persons living in dormitories, penal facilities, hospitals, and other institutional settings.

Family A family is a group of two or more people (one of whom is the householder) related by birth, marriage, or adoption and residing together; all such people are considered as members of one family. The number of families is equal to the number of family households; however, the count of family members differs from the count of family household members because family household members include any non-relatives living in the household.

Non-Family A non-family household consists of a householder living alone (a one-person household) or where the householder shares the home exclusively with people to whom he/she is not related.

Household A household consists of all the people who occupy a housing unit. A house, an apartment or other group of rooms, or a single room, is regarded as a housing unit when it is occupied or intended for occupancy as separate living quarters. The count of households excludes group quarters and institutions.

Metropolitan Statistical Area (MSA) Metropolitan Statistical Areas (metro areas) are geographic entities defined by the Office of Management and Budget. A metro area contains a core urban area of 50,000 or more population. Each metro or micro area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core.

Source: US Census Bureau

Methodology

4ward Planning LLC conducted an examination of socio-economic trends (for 2000, 2010, and 2015) in the Pittsburgh Metropolitan Statistical Area (MSA) as part of the Mt. Lebanon Comprehensive Plan update.

The analysis and recommendations that follow are based on a combination of quantitative and qualitative techniques. Quantitative analysis was underpinned by a combination of public and proprietary data sources, including U.S. Census-based data and Esri's Community Analyst software — a socio-economic data analysis tool. Estimated and projected socio-economic trends examined included population and household growth, formation of family and non-family households, household income and tenure, and age cohort characteristics.

The geographies were selected based on the strong likelihood that these areas serve as primary market draws for consumer purchases, labor supply, and housing demand — all key factors associated with this analysis.

Labor and industry trends were analyzed for the Pittsburgh MSA and, for comparison purposes, the State of Pennsylvania. Labor data was gathered from the U.S. Census Bureau's *On The Map* data server. Work area analysis was performed for the most recently available years (2005, 2007, and 2009).

SOCIO-ECONOMIC TRENDS & PROJECTIONS: 2000 to 2015

Household Formation

Figures A-1 and A-2 exhibit annualized change in family and non-family households, respectively, for the MSA. Annualized change in family household formation over the 2000 to 2010 period was slightly negative, with rates expected to remain slightly negative through 2015.

Figure A-1: Annualized Percentage Change in Family Households

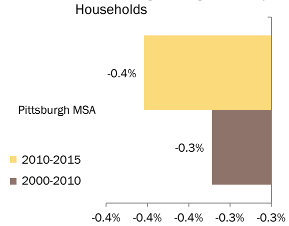
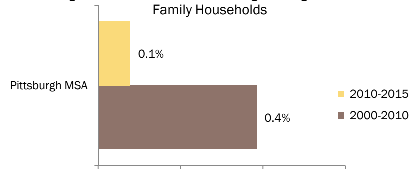


Figure A-2: Annualized Percentage Change in Non-Family Households



Consistent with national and regional household formation trends, non-family households experienced modest growth across from 2000-10; this growth is projected to flatten through 2015. However, as growth in non-family households outpaces change in family households, it will exert a meaningful influence on housing markets and certain retail expenditures (e.g., restaurants).

Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Housing Ownership Trends

The ownership rate in the MSA decreased from 2000 to 2010 and is expected to decrease slightly through 2015. The percentage of rented housing remained largely flat from 2000 to 2010, with that trend continuing through 2015.

Figure A-3: Owner-Occupied Housing Units Comparison

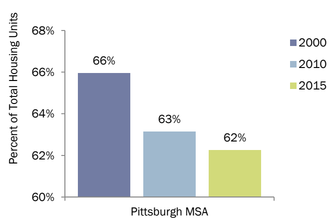
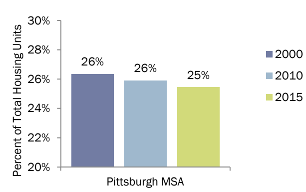


Figure A-4: Rented Housing Units Comparison



Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Age

Reflective of both regional and national demographic trends, the MSA realized decline from 2000 to 2010 within the younger age cohorts due to a variety of factors, including the increase in couples choosing to have fewer or no children. Conversely, the central core of baby boom generation (persons born between 1946 and 1964) is responsible for the marked increase in persons between 55 and 64 years of age in these geographies. Persons in this age group (typically identified with empty-nester households) will exert strong influence on new and smaller housing choices in the local area over the coming two decades. While the percentage increases in the over-85 category are significant, the number of people in this category are a small component of the overall population. Median age increased by four years from 2000 to 2010.

Table A-1: Population Age Trends

Pittsburgh MSA							Percentage Change	
	2000		2010		2015		2000-2010	2010-2015
Total Population	2,431,087	100.0%	2,368,989	100.0%	2,333,063	100.0%	-2.6%	-1.5%
< 5 Years	134,852	5.5%	126,599	5.3%	120,969	5.2%	-6.1%	-4.4%
5 to 14 Years	312,419	12.9%	269,733	11.4%	262,936	11.3%	-13.7%	-2.5%
15 to 34 Years	585,138	24.1%	550,340	23.2%	541,481	23.2%	-5.9%	-1.6%
35 to 54 Years	736,473	30.3%	673,196	28.4%	596,074	25.5%	-8.6%	-11.5%
55 to 64 Years	231,439	9.5%	323,414	13.7%	352,316	15.1%	39.7%	8.9%
> 64 Years	430,740	17.7%	425,707	18.0%	459,240	19.7%	-1.2%	7.9%
Median Age	**40**	**years**	**43**	**years**	**44**	**years**	**7.8%**	**2.1%**

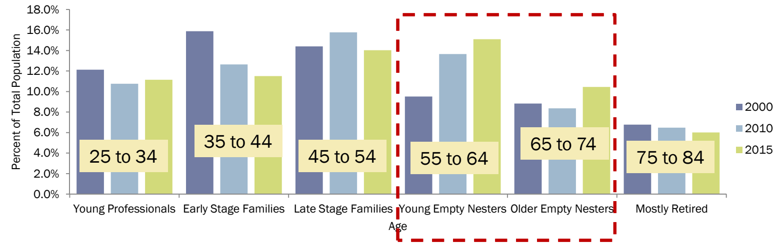
Source: US Census Bureau, Esri Community Analyst; 4ward Planning LLC, 2012

Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Age

The below identified age groups represent the principal source of residential demand within the MSA over the coming two decades. While persons within the 25 to 54 age groups represent the majority of adult residents in the area, trends indicate growth within the 55 to 74 age cohort – a group which will exert considerable influence on the type of housing developed.

Figure A-5: Population by Age Cohorts, Pittsburgh MSA

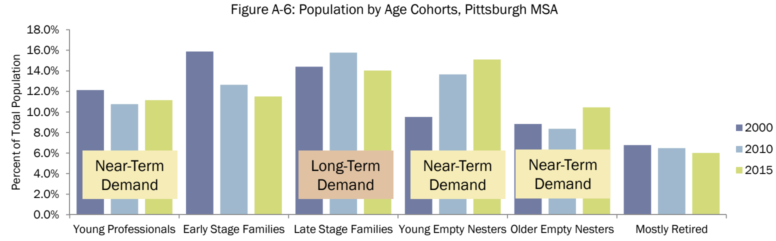


Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Age

Near-term (the next ten years) and long-term (beyond the next ten years) housing demand in the MSA will, principally, come from within the demographic groups highlighted below. These demographic groups are closely associated with downtown or urban living trends, based on national and regional migration patterns.

Figure A-6: Population by Age Cohorts, Pittsburgh MSA

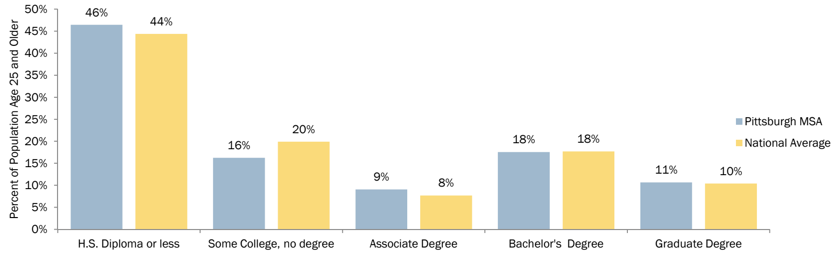


Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Educational Attainment

In the MSA, 29 percent of the residents age 25 and older have earned a bachelor's degree or more, a comparable rate to the national average.

Figure A-7: Educational Attainment 2010 Snapshot, Pittsburgh MSA

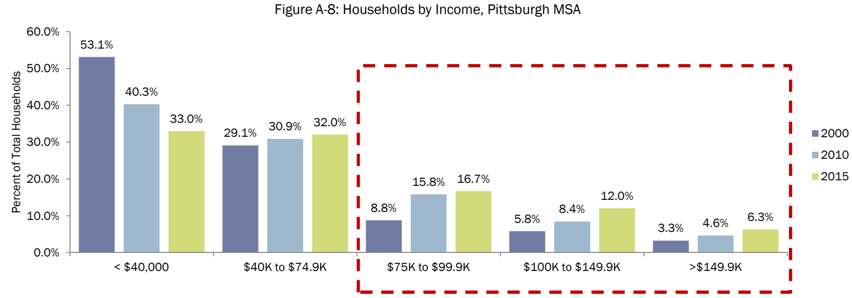


Source: US Census Bureau, Esri CAO; 4ward Planning LLC, 2012

Household Income

The below chart illustrates how household income in the MSA has shifted over the 2000 to 2010 period, as well as the degree to which it is projected to change through 2015. Specifically, in 2000, about 18 percent of households earned more than $75,000 annually. By 2010, this value increased to 29 percent. The growth in upper income households is projected to rise through 2015, with over a third of households in the area projected to earn more than $75,000 annually.

Figure A-8: Households by Income, Pittsburgh MSA



Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Takeaway

Relatively flat population and household growth across all geographies examined is anticipated through 2015. However, the growth that is expected is will likely be concentrated among a number of demographic categories such as higher-income households, 55 to 74 year olds and non-family households. Households in these demographic segments would be expected to prefer smaller living quarters located in walking distance to amenities and prospective employment opportunities.

Labor & Industry Analysis

Study Areas – Labor & Industry Trend Analysis – 2009 Summary

Pittsburgh MSA

Total Primary Jobs: 1,011,159

Pennsylvania

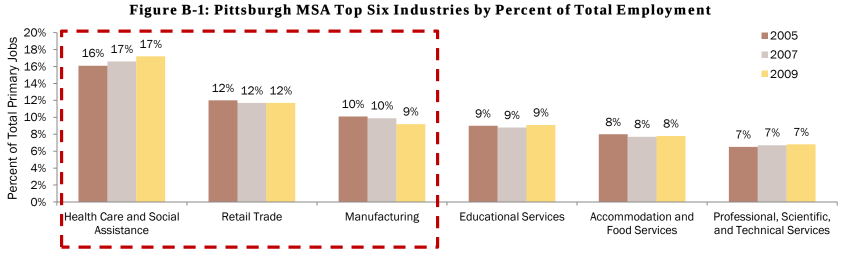
Total Primary Jobs: 4,983,969

Source: US Census Bureau; Esri; Scan US; 4ward Planning LLC, 2012

Top Six Industries by Employment – Pittsburgh MSA

Over the 2005 to 2009 period, the Pittsburgh MSA featured an average annual primary job base of 1,011,159 primary jobs. In 2009, the three leading industries within the MSA, by employment, each held between 9- and 17-percent share of total employment. These three industries combined for 38 percent of employment in the region. The Health Care and Social Assistance industry experienced slight growth from 2005 to 2009, while change in the Manufacturing sector was slightly negative. Employment share in the four remaining categories was relatively flat over the observed time frame.

Figure B-1: Pittsburgh MSA Top Six Industries by Percent of Total Employment



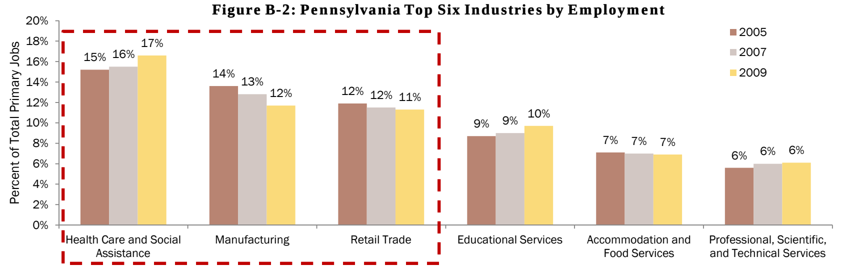
	Health Care and Social Assistance	Retail Trade	Manufacturing	Educational Services	Accommodation and Food Services	Professional, Scientific, and Technical Services
Primary Jobs by Industry, 2009	174,278	118,702	93,238	91,905	79,219	68,913
Average Annual Job Change, 2005-2009	3,566	(146)	(1,720)	627	27	1,065

Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Top Six Industries by Employment – Pennsylvania

Over the 2005 to 2009 period, Pennsylvania had an average annual primary job base of about five million, with Health Care and Social Assistance, Manufacturing, and Retail Trade also serving as the three leading employment sectors, respectively, over that period. With a share of 17 percent in 2009, the Health Care and Social Assistance sector has shown growth since 2005, while Manufacturing and Retail Trade have decreased slightly. The Educational Services sector gained slightly while Accommodation and Food services and Professional Services sectors remained relatively flat between 2005 and 2009.

Figure B-2: Pennsylvania Top Six Industries by Employment



	Health Care and Social Assistance	Manufacturing	Retail Trade	Educational Services	Accommodation and Food Services	Professional, Scientific, and Technical Services
Primary Jobs by Industry, 2009	828,995	580,790	564,118	484,556	345,010	304,158
Average Annual Job Change, 2005-2009	18,525	(22,946)	(6,958)	12,818	(1,456)	6,294

Source: US Census Bureau; Esri; 4ward Planning LLC, 2012

Table B-1 Top Five Largest Occupations by Industry Sector

Industry Sector	Occupation	Projected Percent Employment Growth, 2010-20	Annual Mean Wage, 2011	Projected Annual Mean Wage, 2018
Health Care and Social Assistance	Registered Nurses	26%	$62,130	$73,853
	Nursing Aides, Orderlies, and Attendants	20%	$26,750	$31,797
	Home Health Aides	69%	$20,230	$24,047
	Personal Care Aides	71%	$20,380	$24,225
	Licensed Practical and Licensed Vocational Nurses	22%	$40,680	$48,356
Retail Trade	Retail Salespersons	17%	$26,410	$31,393
	Cashiers	7%	$18,920	$22,490
	Stock Clerks and Order Fillers	1%	$22,440	$26,674
	First-Line Supervisors of Retail Sales Workers	8%	$44,420	$52,801
	Laborers and Freight, Stock, and Material Movers, Hand	15%	$26,890	$31,964
Manufacturing	Team Assemblers	6%	$27,830	$33,081
	First-Line Supervisors of Production and Operating Workers	2%	$56,670	$67,363
	Machinists	9%	$40,800	$48,498
	Inspectors, Testers, Sorters, Samplers, and Weighers	8%	$40,030	$47,583
	Laborers and Freight, Stock, and Material Movers, Hand	15%	$26,890	$31,964
Educational Services	Elementary School Teachers, Except Special Education	17%	$55,280	$65,711
	Teacher Assistants	15%	$23,160	$27,530
	Secondary School Teachers, Except Special and Career/Technical Education	7%	$57,210	$68,005
	Teachers and Instructors, All Other	13%	$28,890	$34,341
	Middle School Teachers, Except Special and Career/Technical Education	17%	$57,170	$67,957
Accommodation and Food Services	Combined Food Preparation and Serving Workers, Including Fast Food	15%	$18,950	$22,526
	Waiters and Waitresses	9%	$20,580	$24,463
	Cooks, Restaurant	13%	$26,370	$31,346
	First-Line Supervisors of Food Preparation and Serving Workers	10%	$37,370	$44,421
	Cooks, Fast Food	-4%	$19,590	$23,286
Professional, Scientific, and Technical Services	Lawyers	10%	$135,590	$161,174
	Accountants and Auditors	16%	$69,120	$82,162
	Office Clerks, General	17%	$28,610	$34,008
	Software Developers, Applications	28%	$80,760	$95,998
	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	6%	$30,210	$35,910

Source: Bureau of Labor Statistics; 4ward Planning LLC, 2012

Occupation and Wages

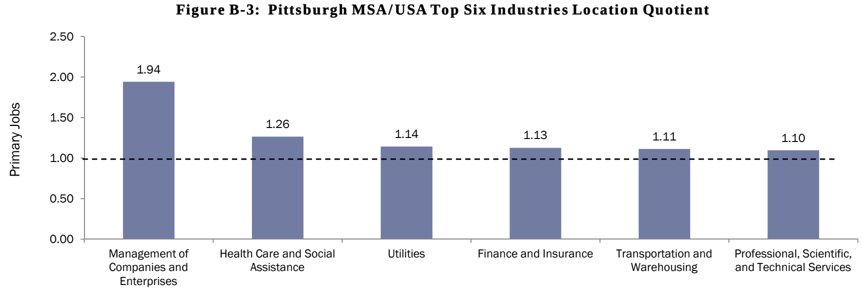
Table B-1 shows the top five largest occupations (by employment) in each of the top six industry sectors in the region. Projected percent employment growth is based on national estimates provided by the Bureau of Labor Statistics (BLS). The annual mean wage listed is based on wages in the Pittsburgh MSA. Because the BLS does not project wages, the 2018 projected wages are based on an annual inflation rate of 2.5 percent.

Based on the data shown, home health aides and personal care aides are projected to exhibit the most growth through 2020, with an overall growth of about 70 percent projected. All of the top five occupations in the Health Care industry sector are expected to grow by at least 20 percent through 2020. Occupations in the Manufacturing industry sector are anticipated to show the least growth, with growth expected of less than ten percent in each of the top four occupations through 2020.

Location Quotient Analysis

Location Quotient (LQ) analysis is used to compare the relative concentration of employment in a given industry, relative to total employment for a particular geography. An LQ greater than 1.0 for a given industry suggests that the subject geography has a relative competitive advantage to a comparison geography, for that industry. The below graph depicts the top six industries by LQ in the Pittsburgh MSA maintain as benchmarked against employment in the continental US, with the greatest comparative advantages in the Management and Health Care industries.

Figure B-3: Pittsburgh MSA/USA Top Six Industries Location Quotient

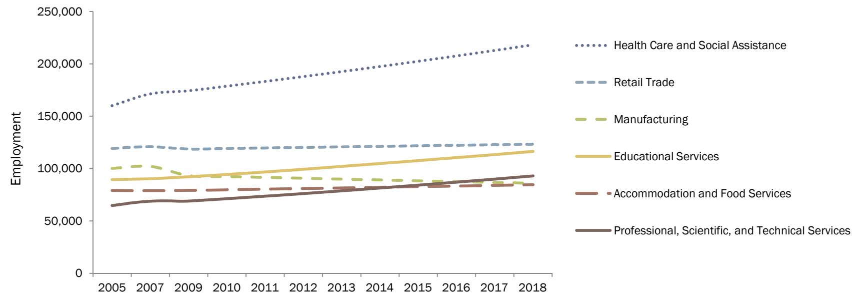


Source: US Census Bureau, OnTheMap; 4ward Planning LLC, 2011

Employment Projections

Using Bureau of Labor Statistics estimates for employment growth and U.S. Census data for employment within the top six sectors, 4ward Planning projected growth in employment for the top six industries in the Pittsburgh MSA from 2010 through 2018. Of the top six industries, highest average annual growth rates are expected in Professional, Scientific, and Technical Services (3.4 percent), Educational Services (2.7 percent), and Health Care and Social Assistance (2.5 percent).

Figure B-4: Pittsburgh MSA Top Six Industries, Projected Growth in Employment



Source: US Census Bureau, QWI Online; 4ward Planning LLC, 2012

Takeaway

The Pittsburgh MSA is experiencing employment growth in professional and white collar services sectors such as Health and Social Services, Educational Services, and Professional, Scientific, and Technical Services. Largely, these industries are projected to continue to employ growing numbers of workers, while the Retail Trade and Manufacturing sectors exhibit decreasing shares of employment in the region.

As professional industries in both the local area and the region remain prosperous, ***demand for both office space and housing to accommodate their employees is likely to increase. Further, this growing number of highly compensated white collar professionals suggests a forthcoming increase in dollars spent locally on dining, personal services, and other related businesses***.

RESIDENTIAL TRENDS ANALYSIS

Apartment Inventory

4ward Planning utilized Reis, a nationally recognized supplier of office, retail, industrial, and multi-family rental data, to acquire current real estate trend data. The change in inventory, examined below, indicates in broad terms whether new real estate construction has been active in the area.

According to Reis, apartment inventory change in the Pittsburgh MSA was slightly positive from 2008 through 2012. The Northeast region and the nation as a whole experienced modest growth in multi-family residential rental inventory in this timeframe. Similar inventory growth in these regions is forecasted to continue through 2016.

Table C-1: Multi-family Residential Rental Inventory Comparison

	Inventory Growth					
		Quarterly			Annualized	
	2Q12	1Q12	YTD Avg	1 Year	3 Year	5 Year
Pittsburgh MSA	0.0%	0.2%	0.1%	0.3%	0.3%	0.3%
Northeast	0.2%	0.1%	0.2%	0.5%	0.8%	0.8%
United States	0.1%	0.1%	0.1%	0.4%	0.9%	1.0%
Period Ending	6/30/12	3/31/12	6/30/12	12/31/11	12/31/11	12/31/11

Source: Reis; 4ward Planning LLC 2012

OFFICE TREND ANALYSIS

Methodology - Key Steps for Analyzing Office Trends

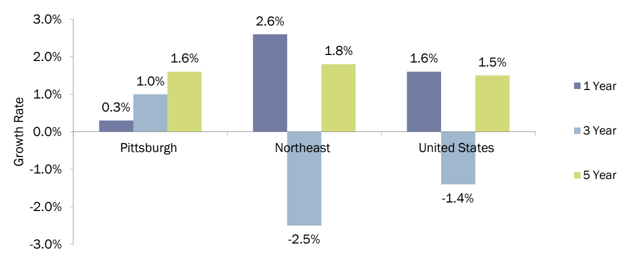
Analyzing Office Space Supply Factors

The supply of office space data is analyzed using data obtained from REIS, a real estate analysis service. REIS provides key office space supply details and comparisons for rent, vacancy, inventory, and construction and absorption. For context, the Pittsburgh MSA was compared to the larger region and the nation.

Office Asking Rent

The asking rent in the Pittsburgh MSA has shown decreasing growth rates over the past five years, indicating weakening activity in the office market. The MSA performed better than the Northeast region and the nation as a whole in the previous three-year period, but lags behind the two surrounding geographies in the one- and five-year periods.

Figure D-1: Pittsburgh Office Asking Rent Growth Rates

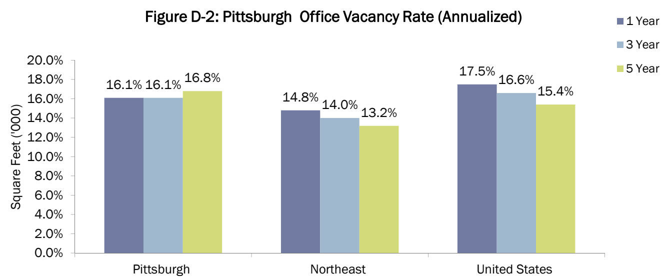


Source: REIS; 4ward Planning LLC 2012

Office Vacancy Rates

The approximate 17-percent annualized average vacancy rate for the past year represents no change from the average rates of the past three- and five-year periods. As Figure X indicates, average vacancy rates within the Pittsburgh MSA have consistently been higher than average office vacancy rates in the Northeast and comparable to those in the U.S.

Figure D-2: Pittsburgh Office Vacancy Rate (Annualized)

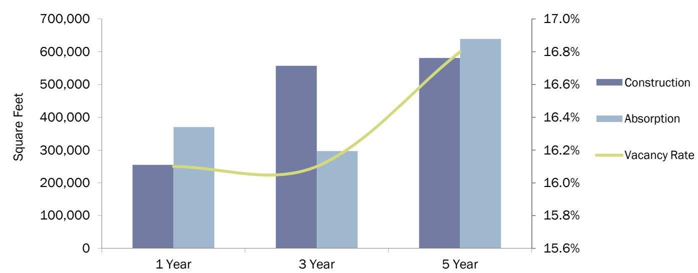


Source: REIS; 4ward Planning LLC 2012

Office Absorption

The office space market in the Pittsburgh MSA has demonstrated positive construction and absorption in the last five years while vacancy rates have decreased slightly, indicating modest strength in the office demand market.

Figure D-3: Pittsburgh Office Space Trends, Annualized



Source: REIS; 4ward Planning LLC 2012

Takeaway – Office Trends

The combination of flat/slightly decreasing vacancy rates and positive construction and absorption rates within the Pittsburgh MSA over the past five years suggests modest attraction for corporate office space users. However, and notwithstanding the above observations, niche office product, such as medical office buildings, may find demand in the region outside downtown Pittsburgh based on area demographics (e.g., an aging population which will drive demand for outpatient medical services).

OFFICE SUPPLY-DEMAND ANALYSIS

Methodology - Key Steps for Deriving Office Demand

Projecting 2018 Primary Jobs
To determine projected office space demand, primary jobs in the Pittsburgh MSA were projected through 2018 based on 2009 primary jobs data and Bureau of Labor Statistics industry growth rates. Primary jobs were then aggregated into industry sectors.

Estimating the Number of Office Workers
A National Center for Real Estate Research study has estimated the percentage of workers in various industry sectors that typically work in an office environment. Using these percentages, we were able to estimate the number of workers in the Pittsburgh MSA who would work in an office.

Determining Office Space Demand
Assuming a space requirement of 150 square feet per worker, the total demand for office space was estimated based on the projected office workers for each year through 2018.

Projected Office Jobs – Pittsburgh MSA

The tables below show the projected jobs and office workers, respectively, aggregated by industry sector, for the Pittsburgh MSA.

Table E-1: Primary Jobs (Projected), Pittsburgh MSA

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Health Care and Social Assistance	178,681	183,196	187,825	192,571	197,436	202,425	207,540	212,784	218,160
Manufacturing	119,208	119,715	120,225	120,737	121,251	121,768	122,286	122,807	123,330
Retail Trade	92,401	91,571	90,749	89,934	89,127	88,326	87,533	86,747	85,968
Educational Services	94,343	96,846	99,415	102,052	104,759	107,538	110,391	113,319	116,325
Accommodation and Food Services	79,797	80,379	80,966	81,556	82,151	82,751	83,354	83,962	84,575
Professional Services	71,251	73,669	76,168	78,752	81,424	84,187	87,043	89,997	93,050
Finance and Insurance	54,038	54,327	54,618	54,910	55,203	55,498	55,795	56,093	56,393
Administration & Support	50,771	51,712	52,670	53,646	54,640	55,653	56,684	57,735	58,805
Wholesale Trade	47,506	48,350	49,210	50,084	50,974	51,879	52,801	53,739	54,694
Construction	45,660	45,856	46,053	46,250	46,449	46,648	46,848	47,049	47,251
Total	833,656	845,621	857,897	870,493	883,415	896,674	910,277	924,233	938,552

Source: U.S Census Bureau, 4ward Planning LLC 2012

Table E-2: Estimated Average Office Workers Per Industry, Pittsburgh MSA

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Health Care and Social Assistance	86,927	89,123	91,375	93,684	96,051	98,478	100,966	103,517	105,562
Manufacturing	35,113	35,262	35,412	35,563	35,714	35,867	36,019	36,173	36,472
Retail Trade	21,641	21,447	21,255	21,064	20,875	20,687	20,501	20,317	20,010
Educational Services	53,388	54,804	56,258	57,750	59,282	60,855	62,469	64,126	65,880
Accommodation and Food Services	5,916	5,960	6,003	6,047	6,091	6,135	6,180	6,225	6,273
Professional Services	63,404	65,556	67,780	70,080	72,457	74,916	77,458	80,086	82,835
Finance and Insurance	52,058	52,337	52,617	52,898	53,181	53,465	53,751	54,038	54,331
Administration & Support	17,758	18,087	18,423	18,764	19,112	19,466	19,827	20,194	20,606
Wholesale Trade	27,693	28,185	28,686	29,196	29,714	30,242	30,780	31,326	31,598
Construction	9,099	9,138	9,178	9,217	9,257	9,296	9,336	9,376	9,347
Total	372,999	379,900	386,986	394,262	401,734	409,407	417,287	425,380	432,914

Source: NCRER, U.S Census Bureau, 4ward Planning LLC 2012

Projected Office Space Demand – Pittsburgh MSA

The table below shows the projected office space demand, aggregated by industry sector, for the Pittsburgh MSA, as derived based on projected office workers and assuming an estimated requirement of 150 square feet per worker. As shown, the anticipated increase in office space demand from 2010 to 2018 is 8,987,323 square feet.

Table E-3: Estimated Total Office Space Per Industry, Sq. Ft., Pittsburgh MSA

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Health Care and Social Assistance	13,039,048	13,368,505	13,706,286	14,052,602	14,407,668	14,771,706	15,144,941	15,527,608	15,834,258
Manufacturing	5,266,876	5,289,306	5,311,832	5,334,454	5,357,173	5,379,988	5,402,900	5,425,910	5,470,826
Retail Trade	3,246,225	3,217,077	3,188,190	3,159,563	3,131,193	3,103,078	3,075,215	3,047,602	3,001,507
Educational Services	8,008,174	8,220,608	8,438,679	8,662,534	8,892,327	9,128,216	9,370,362	9,618,932	9,882,006
Accommodation & Food Services	887,459	893,934	900,456	907,025	913,642	920,308	927,022	933,785	940,988
Professional Services	9,510,674	9,833,361	10,166,997	10,511,952	10,868,611	11,237,372	11,618,644	12,012,852	12,425,232
Finance and Insurance	7,808,763	7,850,511	7,892,483	7,934,679	7,977,101	8,019,749	8,062,626	8,105,731	8,149,644
Administration & Support	2,663,739	2,713,105	2,763,386	2,814,598	2,866,759	2,919,888	2,974,000	3,029,116	3,090,924
Wholesale Trade	4,153,952	4,227,760	4,302,879	4,379,332	4,457,144	4,536,339	4,616,941	4,698,975	4,739,647
Construction	1,364,905	1,370,761	1,376,643	1,382,550	1,388,482	1,394,440	1,400,423	1,406,432	1,402,106
Total	55,949,815	56,984,929	58,047,830	59,139,289	60,260,101	61,411,083	62,593,075	63,806,944	64,937,138

Source: NCRER, U.S Census Bureau, 4ward Planning LLC 2012

Takeaway – Office Supply-Demand

The office demand analysis indicates a projected 2018 demand for office space of approximately 65 million square feet, based on anticipated jobs by industry in the Pittsburgh MSA. This represents a net demand increase of about 8.9 million square feet, over 2010 inventory in the metropolitan region.

The office space market is overall slightly positive for the Pittsburgh MSA; in the coming years as the market improves, demand will likely increase for the downtown submarket ahead of the outlying areas. National trends indicate the potential for increased demand for medical office space, signifying a niche market which may do well in outside downtown Pittsburgh. Overall, however, prospective office development should proceed cautiously unless developing build-to-suit office projects.

General & Limiting Conditions

4ward Planning LLC has endeavored to ensure that the reported data and information contained in this report are complete, accurate, and relevant. All estimates, assumptions and extrapolations are based on methodological techniques employed by 4ward Planning LLC and believed to be reliable. 4ward Planning LLC assumes no responsibility for inaccuracies in reporting by the client, its agents, representatives, or any other third party data source used in the preparation of this report.

Further, 4ward Planning LLC makes no warranty or representation concerning the manifestation of the estimated or projected values or results contained in this study. This study may not be used for purposes other than that for which it is prepared or for which prior written consent has first been obtained from 4ward Planning LLC. This study is qualified in its entirety by, and should be considered in light of, the above limitations, conditions, and considerations.