

**To:** Bob White, Director

Date: June 25, 2004

Redevelopment Authority of the County of Bucks

**From:** Richard Williams, ERA; and Jane Dembner, HNTB**Subject: Summary of Existing Conditions—Future Market Potential (Revised)**

This memorandum sets out the methodology and findings of an analysis of base economic conditions in and, forecasts for the Bucks County Waterfront Study Area that includes part of six municipal jurisdictions: Bensalem Township, Bristol Township, Falls Township, Bristol Borough, Tullytown Borough and Morrisville Borough (the “study area jurisdictions”). This is one of several background memos supporting the Bucks County Waterfront Revitalization Plan. The purpose of the study is to provide for improved access to the riverfront and to promote targeted economic development in the study area.

Under a sub-contract with HNTB, Economic Research Associates (ERA) examined the demographic and economic characteristics, real estate market trends and conditions and then developed preliminary land use planning potentials for the study area. The planning potentials represent the HNTB team’s preliminary estimates of supportable development in the study area over the next twenty years or so. It should be stressed that forecasts based on current market conditions and recent trends therein are of only limited value when looking more than five years into the future.

**Methodology**

ERA’s approach was comprised of the following main components:

- An examination of key regional economic indicators such as employment and population trends and projections.

- An analysis of demographic and economic conditions in the county and study area jurisdictions.

- An assessment of real estate market conditions in the county and recent development activity in the study area jurisdictions.

- The preparation of estimates of supportable development in the study area jurisdictions and the study area for each land use.

The following represents our key findings.

**Economic Overview**

The following is an overview of the economic and demographic trends in the Greater Philadelphia region. This overview helps to gauge the strength of the region’s economic base and overall potential for commercial and residential markets.

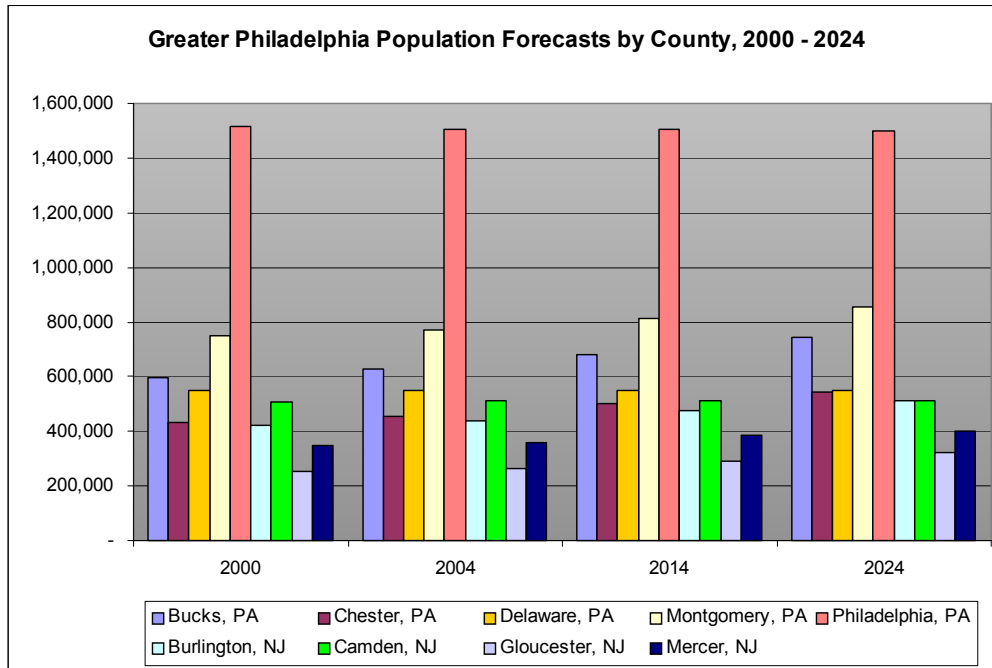
*The Greater Philadelphia Economy*

The Greater Philadelphia economy is in the tail end of a recession, reflective of national economic conditions. Indications of the current recession became evident during the first half of 2001, and increased in severity following the events of September 11. While the recession has and will continue to effect real estate market conditions in the short term, market fundamentals point to continued medium and long-term growth in the region. Indeed, signs of a recovery already exist. For example, unemployment increased from 4.3 percent in 2001 to 5.5 percent in 2002, but held steady at that level during 2003.

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*Population and Household Forecasts*

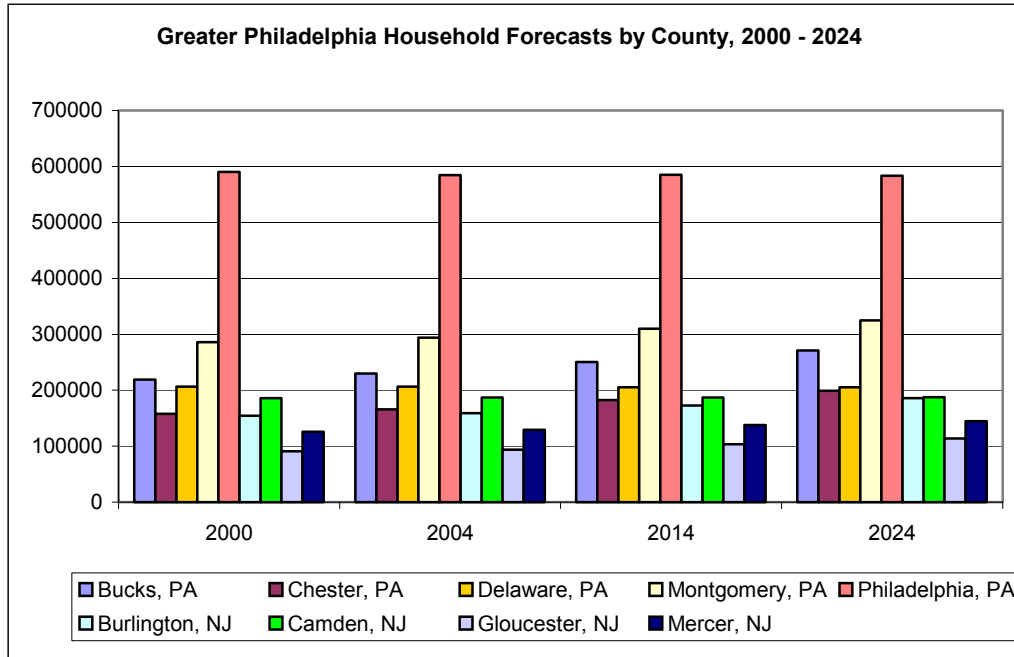
- The region’s population is expected to grow steadily through the forecast period of 2004-2024, averaging approximately 22,900 persons every year. Population growth will be spurred by the long-term strength of the region’s economy; high rates of in-migration; and less rapid declines in average household size than were previously anticipated.
- The largest quantity of population growth to the forecast horizon is projected for Bucks County, which will add 115,000 persons by 2024. This accounts for approximately 25 percent of total regional growth. Both Philadelphia and Delaware Counties are forecasted to experience modest decreases in population.



Source: Delaware Valley Regional Planning Commission; U.S. Census Bureau; Economics Research Associates

- By 2024, Bucks County is forecasted to have a total population of approximately 742,000, increasing its share of the total regional population from 11.4 percent currently to 12.5 percent in 2024.
- Not surprisingly, household trends and forecasts for the region reflect patterns of population change, with approximately 167,500 new households forecasted by 2024. As with population, Bucks County is forecasted to experience the greatest growth—around 42,200 households by 2024, an increase of approximately 18.4 percent from the current estimate of 229,400 households.

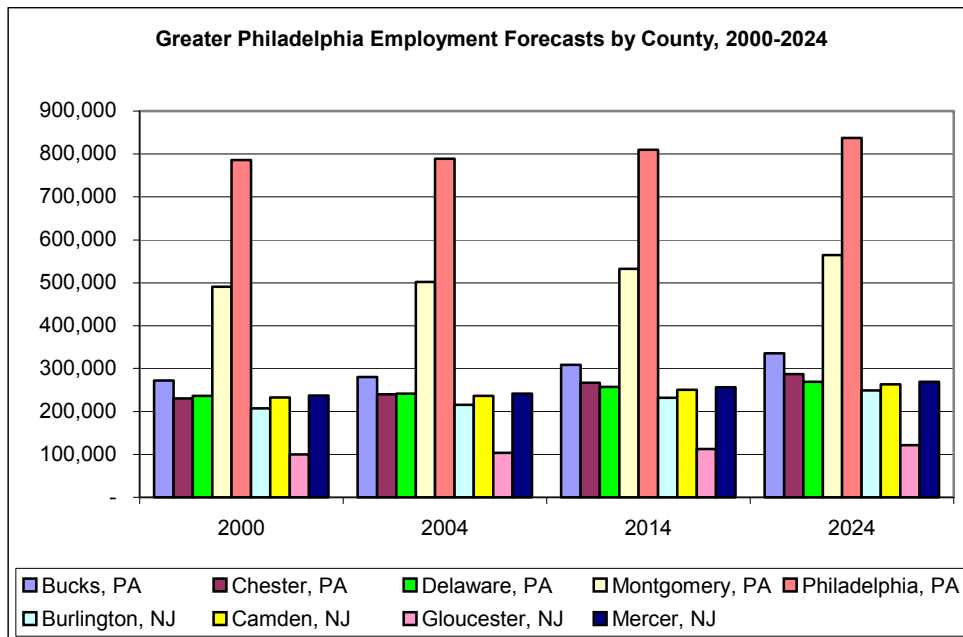
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Source: Delaware Valley Regional Planning Commission; U.S. Census Bureau; Economics Research Associates

**Employment Forecasts**

- According to projections prepared by the Delaware Valley Regional Planning Commission (DVRPC), employment growth is expected to keep pace with population growth. During the next twenty years, the region is forecasted to add approximately 345,900 jobs, growing from 2,849,600 to 3,195,500, an increase of 12.1 percent.



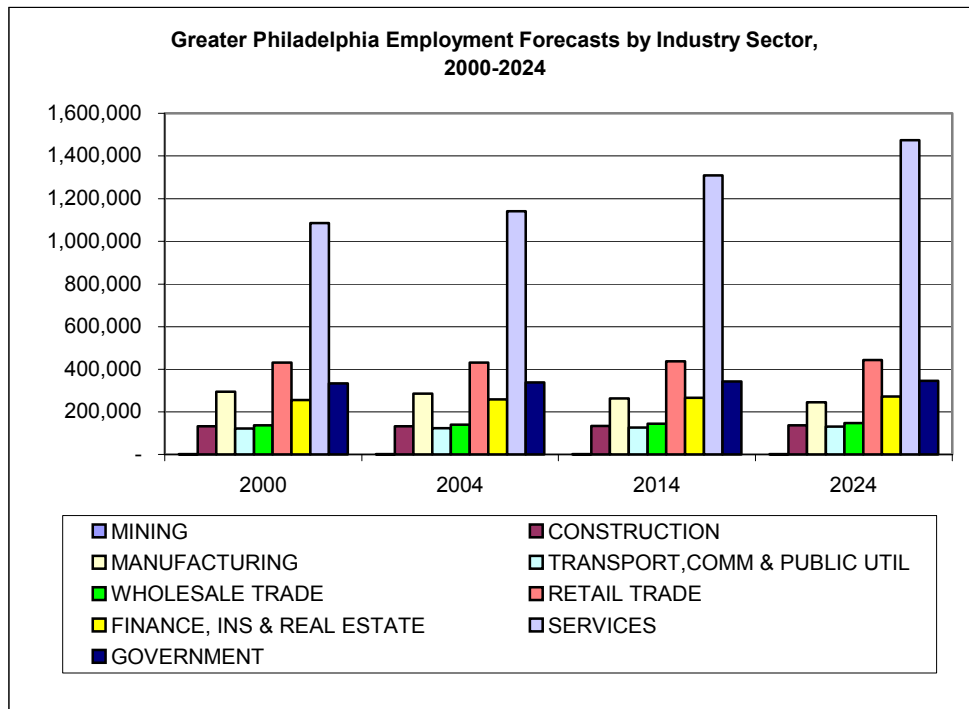
Source: Delaware Valley Regional Planning Commission; Economics Research Associates

- The greatest employment growth is forecasted in Montgomery County, with at 62,000 new jobs to the forecast horizon. Bucks County ranks second with a forecasted 55,300 new jobs by

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2024. Bucks County’s forecasted employment growth is around 19.7 percent, the highest in the region.

- Based on recent employment sector data, by 2024 approximately 54.6 percent of all jobs in the Greater Philadelphia region are anticipated to be in service industries such as engineering, data processing, finance and insurance, business and professional services, and medical research. Growth in these types of jobs will generate substantial demand for new office and industrial space in the region.



Source: Delaware Valley Regional Planning Commission; Woods and Poole Economics; Economics Research Associates

- Reflective of national trends, the manufacturing sector is forecasted to continue to contract, losing approximately 39,500 jobs over the next twenty years. This will negatively impact demand for manufacturing space during the forecast period and significant building redundancy can be anticipated. Conversely, the retail and wholesale trade sectors are forecasted to add approximately 18,200 jobs. This in addition to service sector employment will generate substantial demand for new warehouse and distribution and flex industrial space.

*Summary – Economic Overview*

- The Greater Philadelphia region economy has experienced significant growth during the past decade, a trend that is forecasted to continue during the coming 20 years or so.
- Growth in employment will be driven primarily by service sector industries. Growth is also anticipated in retail and wholesale trade sectors while the manufacturing sector is forecasted to continue to contract.

**Market Analysis**

ERA has conducted an analysis of market conditions in the Greater Philadelphia region and the study area submarkets for office, industrial and residential uses. We have also conducted a demand analysis for these uses and have developed estimates for supportable development in both the study area

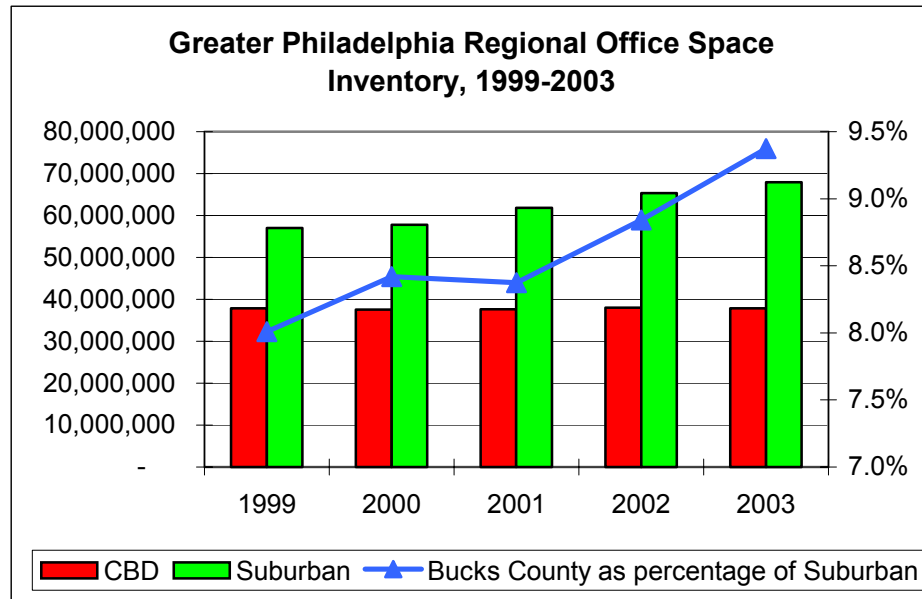
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jurisdictions and the study area over the next twenty years. The following summarizes the findings of our analysis.

**Office Market**

*Inventory*

- At present, there is approximately 105.8 million square feet of office space in the Greater Philadelphia market. Of this space, approximately 37.9 million square feet or 36 percent is located within the Philadelphia central business district and 67.9 million square feet or 64 percent is located in suburban submarkets.

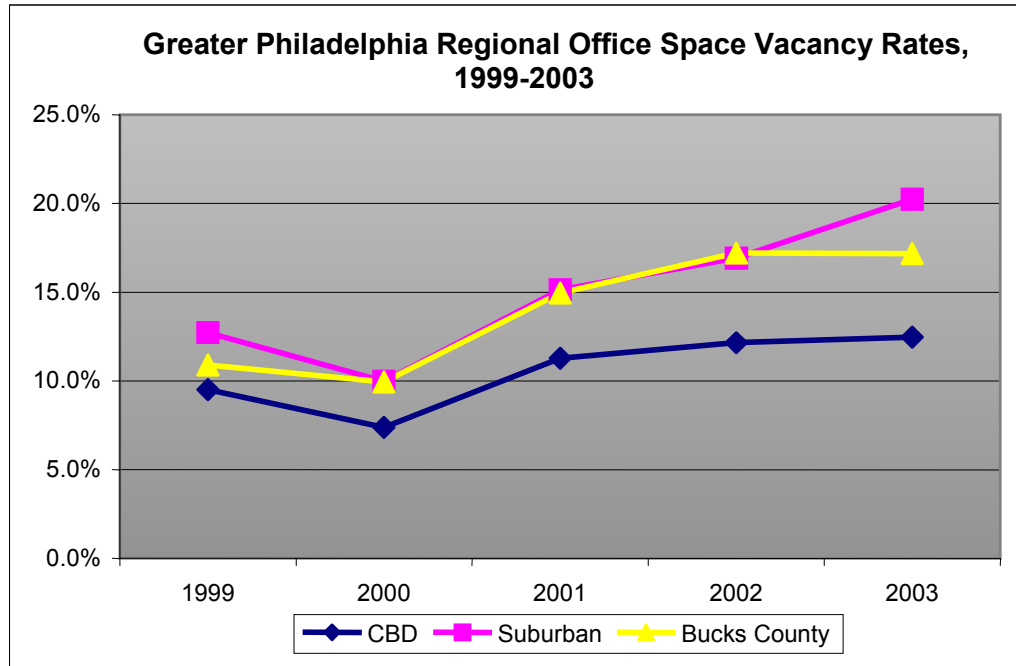


Source: Grubb and Ellis; Economics Research Associates

- Approximately 10.9 million square feet of space has been added to the inventory between 1999 and 2003 almost entirely in suburban sub-markets. As a result, the suburban share of total inventory increased from 60 percent in 1999 to 64.2 percent by the end of 2003.
- Bucks County has witnessed the construction of approximately 1.8 million square feet of space during the last five years, approximately 16.5 percent of the suburban total. Its share of suburban inventory increased from approximately 8.0 percent in 1999 to 9.4 percent in 2003.
- Most of the new construction activity in Bucks County has occurred in emerging locations such as Yardley and Newtown at the expense of more established locations within such as Trevoze/Bensalem. The availability of executive-quality housing products has been a key factor in this trend.

*Vacancy*

- Office space vacancy rate trends during the last five years in the Greater Philadelphia region have reflected national trends. CBD vacancy rates dipped from 9.5 percent in 1999 to 7.4 percent in 2000 indicating significant pent-up demand for space. However, with the onset of the recession, vacancy rates in the CBD jumped to 11.3 percent in 2001 and climbed to 12.5 percent in 2003. However, these rates remain at the margins of typical stabilized vacancy rates in healthy markets. The recent trends suggest that vacancy may well have peaked at current levels and should fall during 2004.



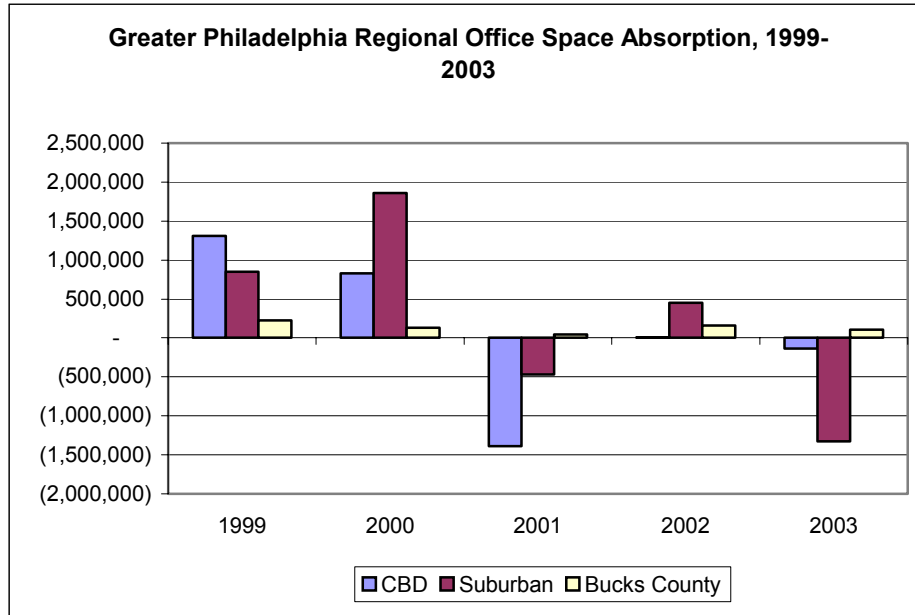
Source: Grubb and Ellis; Economics Research Associates

- Vacancy rates in suburban markets have followed similar trends to those in the CBD. However, a more elastic economic environment has historically resulted in more rapid supply responses to demand. As a result, healthy vacancy rates at around 10 percent in 2000 climbed sharply during 2001 and continued through 2003 to around 20.2 percent. This suggests substantial over-supply as new deliveries remain vacant. At present, there is approximately 7.8 million square feet of surplus space in suburban markets.
- Bucks County sub-market vacancy trends have reflected broader suburban market trends, although they have shown signs of improving during 2003, leveling-off at approximately 17.2 percent. Existing over-supply in this sub-market is estimated at 750,000 square feet.

#### *Space Absorption*

- Changes in occupied space, or net absorption, best illustrate the strength of demand in the market during the past five years. Within the CBD, space absorption fell from a healthy 1.3 million square feet during 1999 to a negative 1.4 million square feet during 2001. Demand improved, however, to slightly positive absorption during 2002 although this weakened slightly during 2003. This can largely be explained by the approximately 150,000 square feet of space taken off the multi-tenant market during 2003.

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Source: Grubb and Ellis; Economics Research Associates

- Suburban markets have experienced similar demand trends and recovered during 2002. The 1.3 million square feet of negative absorption during 2003 was largely supply-driven, due to the 6.1 million square feet of space delivered to the market during the past two years.
- Bucks County is one of only two sub-markets in the region that have experienced positive space absorption every year for the last five years. During years of positive suburban absorption, Bucks County averaged approximately 16.5 percent of total suburban absorption, ranging from 7.1 percent in 2000 to 36.1 percent during 2002. In total during the entire five years of the analysis, the county has accounted for nearly 50 percent of total regional suburban absorption.

*Demand Forecasts*

- As discussed above, regional employment growth, particularly in the service sectors, will generate substantial demand for office space to the twenty-year forecast horizon. ERA has developed an office space demand model to generate estimates for new office space in the region, suburban markets and the Bucks County sub-market. The results are presented in the chart on the next page.
- Regional employment will generate demand for approximately 37.8 million square feet of office space in the Greater Philadelphia region during the next 20 years.
- Suburban areas will capture approximately 69 percent of the market, resulting in demand for approximately 18.2 million square feet of net new space to the 2024 forecast horizon.
- Based on recent market trends, historical development activity, regional accessibility and other factors, Bucks County should be capable of capturing approximately 15 percent of the suburban Philadelphia market. This would result in demand for approximately 3.1 million square feet of additional space in the county during the next twenty years or around 315,000 square feet annually.

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<b>MARKET SHARE ANALYSIS OF OFFICE SPACE DEMANDED IN BUCKS COUNTY SUBMARKET (2004 - 2024)</b>					
SUBMARKET	TOTAL INVENTORY (Sq. Ft.)	VACANT SPACE (Sq. Ft.)	UNDER CONSTR. (Sq. Ft.)	ABSORPTION (Sq. Ft.)	
				1999 - 2003 Total	Avg. Ann'l
<b>SUBURBAN PHILADELPHIA (000s)</b>					
	67,917.7	13,751.2	1,326.1	1,365.5	273.1
<b>Total Inventory:</b>	<b>67,917.7</b>	<b>13,751.2</b>	<b>1,326.1</b>		<b>273.1</b>
<i>As % of Regional Market</i>	<b>64.2%</b>				<b>68.7%</b>
Less Pre-leased Space @ 25.0%			331.5		
Less Build-to-Suit Space @ 15.0%			198.9		
<b>Total - Vacant &amp; New Inventory:</b>			<b>14,546.9</b>		
Over-supply			<b>7,755.1</b>		
<b>Suburban Demand Forecast</b>					
		<b>25,951.3</b>			
<b>Projected Demand for Net New Space Based on Projected Employment (2004 - 2024)</b>					
		<b>18,196.2</b>			
(Less Over-supply)					
<b>BUCKS COUNTY (000s)</b>					
	6,366.4	1,093.9	488.7	675.9	135.2
<b>Total Inventory:</b>	<b>6,366.4</b>	<b>1,093.9</b>	<b>488.7</b>		<b>135.2</b>
<i>As % of Region</i>	<b>9.4%</b>				<b>49.5%</b>
Less Pre-leased Space @ 40.0%			195.5		
<b>Total - Vacant &amp; New Inventory:</b>			<b>1,387.1</b>		
Over-supply			<b>750.4</b>		
<b>Forecast Market Share of Suburban Market</b>		<b>15.0%</b>			
<b>Projected Sub-Market Demand for Net New Space Based on Projected Employment (2004 - 2024)</b>					
		<b>3,142.3</b>			
<b>Annual Average</b>		<b>157.1</b>			

Source: Delaware Valley Regional Planning Commission; Woods and Poole Economics; Economics Research Associates, April 2004.

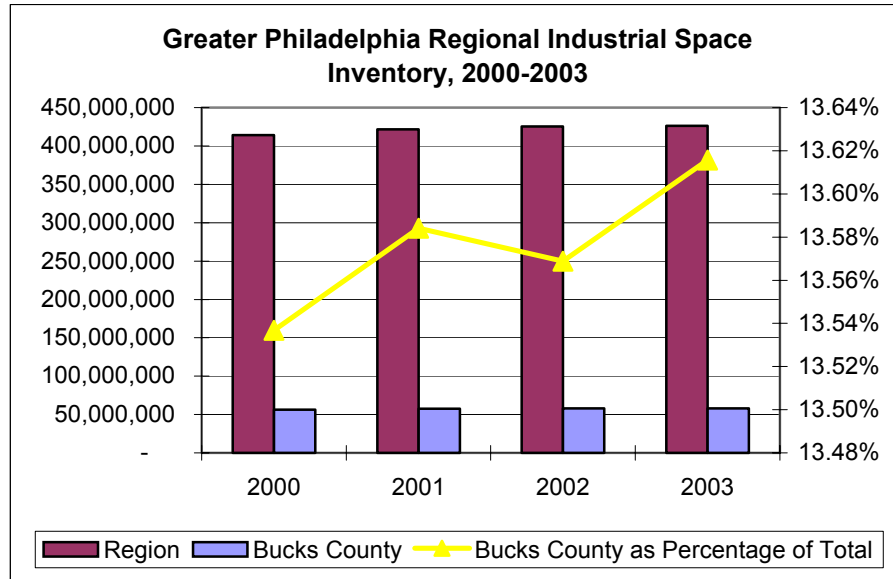
- Analysis of recent market activity in the county, historical development activity, regional accessibility and other factors suggests that the six study area jurisdictions in lower Bucks County should be capable of capturing approximately 20 percent of the county market generating demand for 620,000 square feet of space by 2024.

**Industrial Market**

*Inventory*

- Regional inventory trends during the past four years indicate continued strong growth in the Greater Philadelphia industrial base, with over 12 million square feet of space added to the inventory during this period.
- While pure manufacturing space continues to dwindle in the region, growth in warehouse and distribution, retail, and service sector industries is generating substantial demand for warehouse, distribution and flex space, which accounts for 90 to 95 percent of inventory growth.

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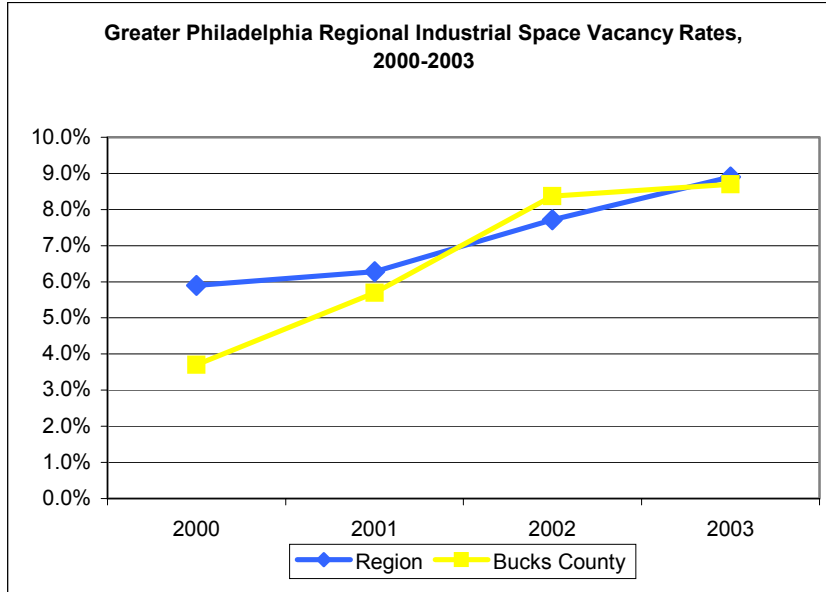
Source: Grubb and Ellis; Economics Research Associates

- Bulk/warehouse and distribution space currently accounts for approximately 90 percent of regional space, while and flex accounts for the remaining 10 percent. Flex space has accounted for approximately 22 percent of the new inventory delivered during the past four years.
- Bucks County’s inventory has grown by around 2 million square feet since 2000 to approximately 58 million square feet by year-end 2003. This represents around 16.3 percent of total regional inventory growth and resulted in the County’s share of regional inventory increasing by approximately one-tenth of a percent to 13.6 percent in 2003. Approximately 80 percent of the county’s inventory is located in lower Bucks County.

*Vacancy*

- Regional industrial vacancy rates have climbed sharply during the current recession, from a healthy 5.9 percent in 2000 to 8.9 percent in 2003. Typical stabilized vacancy rates do not exceed 7 percent and, at present, there is an estimated over-supply of 8.7 million square feet in the region.
- Vacancy rates in Bucks County were around 3.7 percent in 2000 effectively representing full occupancy and indicating substantial pent-up demand. Since then, however, they have risen to approximately 8.7 percent. This suggests an estimated current over-supply of 985,000 square feet in the County.

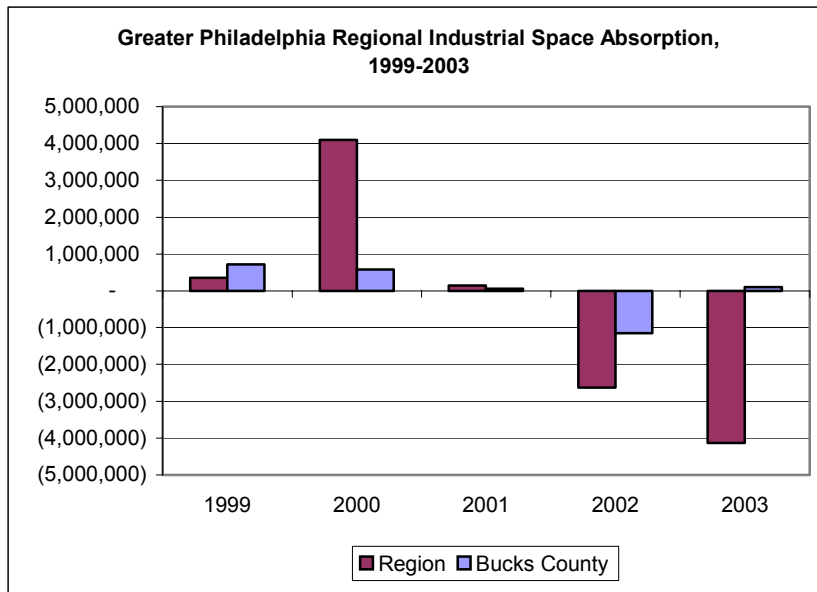
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Source: Grubb and Ellis; Economics Research Associates

*Space Absorption*

- Since experiencing positive absorption of over 4 million square feet in 2000, regional supply has outpaced demand with 6.8 million square feet of negative absorption during the past two years. This has to be placed in the context of the 12.1 million square feet of space delivered to the market place since 2000.



Source: Grubb and Ellis; Economics Research Associates

- Supply market corrections during 2002 and 2003, together with continued economic recovery should result in significantly improved space absorption statistics during 2004.
- Within Bucks County, absorption was a negative 1.2 million square feet during 2002 but recovered to a positive 104,000 square feet during 2003. Between 1999 and 2001, absorption in Bucks County accounted for approximately 29.8 percent of total regional absorption.

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*Demand Forecasts*

- As discussed above, regional employment growth, particularly in the retail, warehouse and distribution and service sectors, will generate substantial demand for industrial space to the twenty-year forecast horizon. As with office space, ERA has modeled demand forecasts for industrial space in both the region and the Bucks County sub-market. The results are presented in the chart below.
- Regional employment will generate demand for approximately 19.5 million square feet of industrial space in the Greater Philadelphia region during the next 20 years.
- Bucks County will be capable of capturing approximately 30 percent of the market, resulting in demand for approximately 7.4 million square feet of net new industrial space to the 2024 forecast horizon.
- Based on recent market trends, historical development activity, regional accessibility and other factors, a conservative estimate is that the six study area jurisdictions in lower Bucks County should be capable of capturing approximately 60 percent of the county market. This would result in demand for approximately 4.25 million square feet of additional space during the next twenty years or around 212,500 square feet annually.
- Recent absorption and new delivery market data analysis suggests that this space will be comprised of approximately 80 percent warehouse/distribution/bulk space and 20 percent flex space.

**MARKET SHARE ANALYSIS OF INDUSTRIAL SPACE DEMANDED  
BY TYPE OF SPACE IN BUCKS COUNTY SUBMARKET  
2004 - 2024**

SUBMARKET	TOTAL INVENTORY (Sq. Ft.)	VACANT SPACE (Sq. Ft.)	UNDER CONSTR. (Sq. Ft.)	ABSORPTION (Sq. Ft.)	
				1999 - 2001 Total	Avg. Ann'l
<b>GREATER PHILADELPHIA REGION (000'S)</b>					
<b>Total Inventory:</b>	426,171.7	37,929.3	1,233.0	4,603.8	767.3
	<b>426,171.7</b>	<b>37,929.3</b>	<b>1,233.0</b>		<b>767.3</b>
Less Pre-leased Space @ 30.0%			369.9		
Less Build-to-Suit Space @ 25.0%			308.3		
<b>Total - Vacant &amp; New Inventory:</b>			<b>38,484.1</b>		
Over-supply			8,652.1		
<b>Regional Demand Forecast based on Employment Growth (2004-2024)</b>					
		28,112.6			
<b>Projected Demand for Net New Space Less Over-supply</b>					
		19,460.5			
<b>BUCKS COUNTY SUB-MARKET (000'S)</b>					
<b>Total Inventory:</b>	58,026.1	5,048.3	-	1,370.6	228.4
As % of Region	13.6%	5,048.3	-		228.4
					<b>29.8%</b>
Less Pre-leased Space @ 30.0%			-		
Less Build-to-Suit Space @ 25.0%			-		
<b>Total - Vacant &amp; New Inventory:</b>			<b>5,048.3</b>		
Over-supply			986.4		
<b>Projected Demand for Net New Industrial Space Based on Projected Employment and Historical Market Share (2004 - 2024)</b>					
			<b>7,383</b>		
<b>Estimated Proportion Bulk/Warehouse/Distribution</b>					
			<b>80.0%</b>		
<b>Estimated Proportion Flex</b>					
			<b>20.0%</b>		
<b>Projected Demand for Bulk/Warehouse/Distribution Space</b>					
			<b>5,906.2</b>		
<b>Projected Demand for Flex Space</b>					
			<b>1,181.2</b>		

Source: Delaware Valley Regional Planning Commission; Woods and Poole Economics; Economics Research Associates, April 2004.

**Residential Market**

ERA has conducted a demand analysis to determine the potential for both single family and multi-family residential uses in the study area jurisdictions.<sup>1</sup> This analysis has focused on building permit activity in the region, county and each of the study area jurisdictions. A market share approach has been utilized similar to that employed for commercial development potentials. The following summarizes the findings of the analysis.

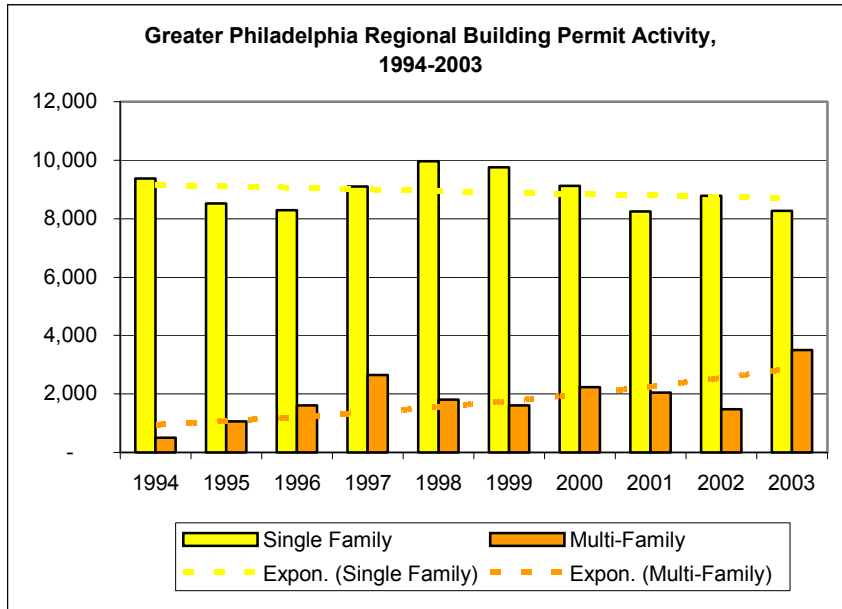
*Residential Building Permit Activity*

- The chart below illustrates single and multi-family building permit trends in the Greater Philadelphia region. During the 10-year period of the analysis, approximately 107,900

<sup>1</sup> Single Family is defined here as detached and attached (townhomes, row houses) units.

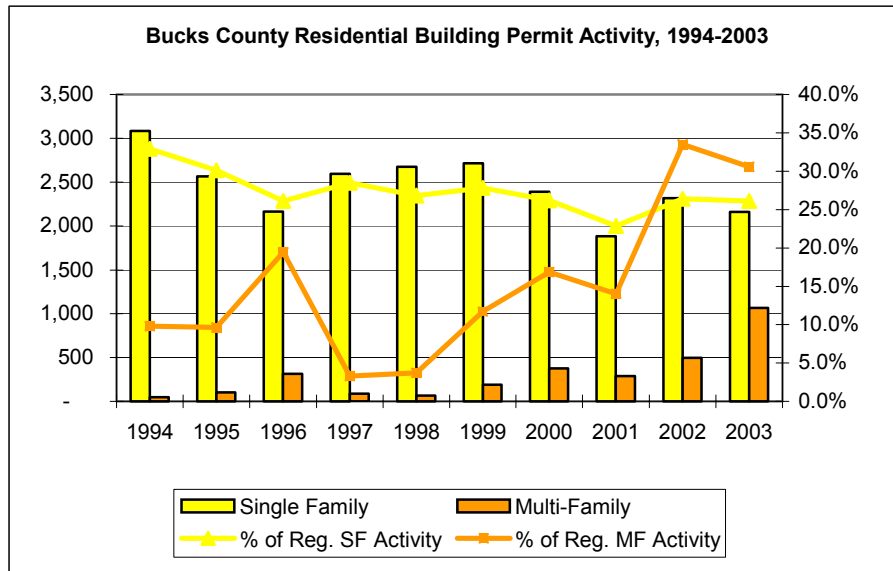
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residential building permits were issued in the region. These permits were comprised of 89,400 single family permits (83 percent of the total), and 18,500 multi-family permits.



Source: US Department of Housing and Urban Development; Economics Research Associates

- An analysis of trends during the 10-year period indicates that, while permit activity generally increased throughout the period, there was a modest slowing in the rate of single family permit issuance and an increase in multi-family permit issuance.
- Within Bucks County, approximately 27,600 residential building permits have been issued during the 10-year period of the analysis. These have been comprised of approximately 24,600 single family permits (89 percent of the total), and 3,000 multi-family permits.



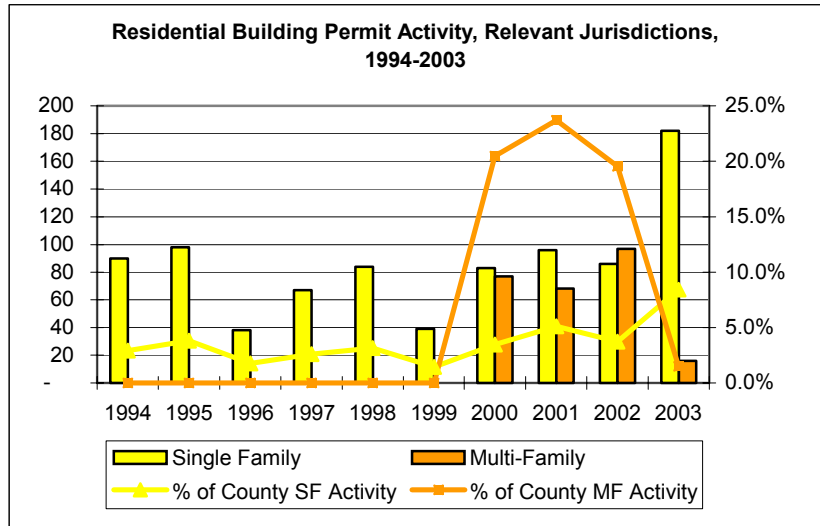
Source: US Department of Housing and Urban Development; Economics Research Associates

- The trends in permit activity reflect regional trends, with a shift toward more multi-family permits and fewer single family permits. This shift has been more marked in Bucks County and its share of multi-family issuance has increased from around 9.8 percent in 1994 to 30.6

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percent in 2003. Conversely, the Bucks County share of regional single family activity fell from 32.9 percent in 1994 to 26.1 percent in 2003.

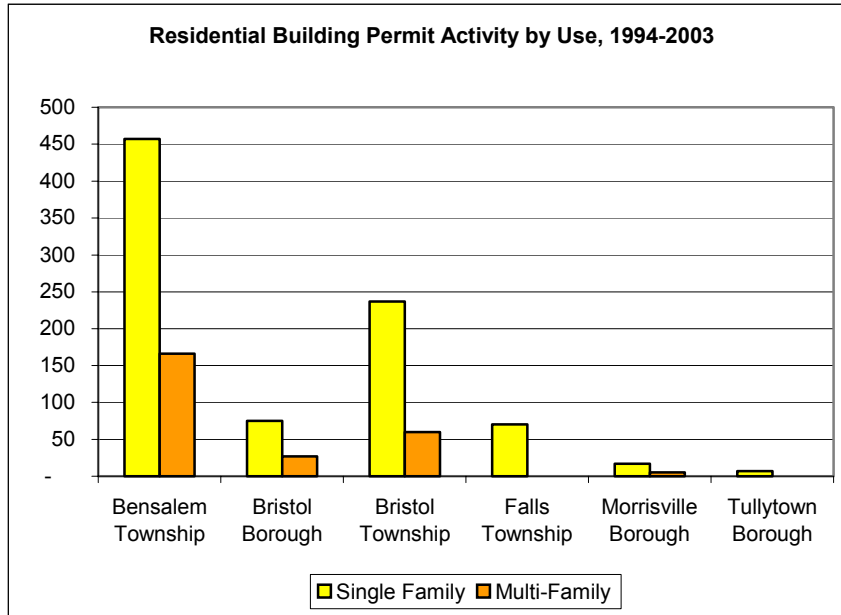
- Over the entire 10-year period, Bucks County has accounted for approximately 27.5 percent of regional single family permit issuance and 16.4 percent of multi-family issuance.
- In the study area jurisdictions, there have been approximately 1,100 residential building permits issued during the last 10 years. These were comprised of 860 single family permits (77 percent of the total), and 260 multi-family permits.



Source: US Department of Housing and Urban Development; Economics Research Associates

- There has been a general increase in the rate of permit issuance for both uses, with single family permits reaching 182 in 2003, 8.4 percent of the county total. Multi-family permit issuances spiked between 2000 and 2002 with 242 permits issued during this period. Overall single permit issuances in the study area jurisdictions accounted for 3.5 percent of the county total and multi-family issuance around 8.5 percent.
- The chart below illustrates the distribution of permit activity within the study area jurisdictions. Clearly, permit activity has been concentrated in Bensalem and Bristol Townships.

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Source: US Department of Housing and Urban Development; Economics Research Associates

*Residential Demand Forecasts*

- Forecasted residential demand potentials for the county and study area jurisdictions are based on regional household growth forecasts presented above, permit issuance by use, and historic share of permit activity. The results of the analysis are presented in the chart below.

**Residential demand Forecast by Unit Type, Greater Philadelphia Region, Bucks County, and Study Area Jurisdictions, 2004-2014**

Geography/Unit Type	2004-2014	2014-2024	Total
<b>Region</b>			
Single Family	70,329	68,552	<b>138,881</b>
Multi-Family	14,515	14,148	<b>28,663</b>
<b>Total</b>	<b>84,844</b>	<b>82,700</b>	<b>167,544</b>
<b>Bucks County</b>			
Single Family	19,316	18,828	<b>38,144</b>
Multi-Family	3,987	3,886	<b>7,873</b>
<b>Total</b>	<b>23,303</b>	<b>22,714</b>	<b>46,017</b>
<b>Study Area Jurisdictions</b>			
Single Family	679	662	<b>1,341</b>
Multi-Family	339	331	<b>670</b>
<b>Total</b>	<b>1,018</b>	<b>993</b>	<b>2,011</b>

Source: Delaware Valley Regional Planning Commission; U.S. Department of Housing and Urban Development; Economics Research Associates

- Demand should be sufficient to support an additional 138,900 single family units and 28,700 multi-family units in the Greater Philadelphia region during the next twenty years.
- Bucks County should be capable of capturing approximately 38,100 single family units and around 7,900 multi-family units. Of these, the demand in the study area jurisdictions should be capable of supporting approximately 1,300 single family units and 700 multi-family units.

**Preliminary Land Use Planning Potentials**

- The table below presents a summary of the findings of a market analysis and estimates of net new supportable space and units in the study area jurisdictions as a whole and study area over the next 20 years. The preliminary planning targets are intended to help illustrate the development and redevelopment potential in the study area and the conversion of such potential to acreages for land use planning purposes.
- The estimates of development potential are baseline estimates and assume no substantial improvements in the study area to the planning horizon. The impact of potential study area improvements on market performance will be addressed later in the process.
- To arrive at preliminary capture rates for the study area, we have considered several influencing factors, including: Geographic size in relation to the study area jurisdictions; historical development patterns; proximity to regional sub-regional transportation infrastructure; availability of developable tracts; potential waterfront locations and associated marketing assets; and existing zoning and land use.
- In preparing land use and development plans for the study area, it is important that aggregate totals of development for each land use do not exceed that which is capable of being supported by the market. The planning targets set forth here are therefore intended to act as a reasonable envelope of supportable development.

**Preliminary Land Use Planning Potentials, 2004-2024**

	Employment			Residential	
	Office	Bulk/ Warehouse	Flex	Single Family	Multi- Family
<b><i>Bucks County Market Demand</i></b>					
Estimated Study Area Jurisdictions Market Share (as % of County Market)	3,100,000	5,900,000	1,181,000	38,100	7,900
<b>Estimated Study Area Jurisdictions Demand Potential (2000-2024)</b>	<b>0.20</b>	<b>0.60</b>	<b>0.60</b>	<b>0.05</b>	<b>0.10</b>
Avg. FAR/Density	<b>620,000</b>	<b>3,540,000</b>	<b>708,600</b>	<b>1,905</b>	<b>790</b>
<b>Land Required (Acres)</b>	<b>0.40</b>	<b>0.25</b>	<b>0.30</b>	<b>4</b>	<b>20</b>
	<b>36</b>	<b>325</b>	<b>54</b>	<b>476</b>	<b>40</b>
<b><i>Study Area Demand Potential (2000-2024)</i></b>					
Estimated Study Area Jurisdictions Market Share	30%	50%	50%	40%	40%
<b>Estimated Study Area Jurisdictions Demand Potential (2000-2024)</b>	<b>186,000</b>	<b>1,770,000</b>	<b>354,300</b>	<b>762</b>	<b>316</b>
Avg. FAR/Density	0.40	0.30	0.40	4.00	20
<b>Land Required (Acres)</b>	<b>11</b>	<b>135</b>	<b>20</b>	<b>191</b>	<b>16</b>

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**Appendix**

**Appendix Table 1**

**Regional Population Growth Forecast**

County	2000	2004	2014	2024	2004 to 2024	
					Change	% Change
Bucks, PA	597,635	626,927	683,219	742,174	115,247	18.4%
Chester, PA	433,501	454,220	501,160	545,724	91,504	20.1%
Delaware, PA	550,864	551,397	547,066	547,663	(3,734)	-0.7%
Montgomery, PA	750,097	771,091	814,023	853,148	82,057	10.6%
Philadelphia, PA	1,517,550	1,503,518	1,504,510	1,500,501	(3,017)	-0.2%
Burlington, NJ	423,394	435,703	472,773	509,760	74,057	17.0%
Camden, NJ	508,932	511,202	512,688	513,456	2,254	0.4%
Gloucester, NJ	254,673	263,335	290,196	319,562	56,227	21.4%
Mercer, NJ	350,761	359,824	383,186	402,918	43,094	12.0%
<b>Region</b>	<b>5,387,407</b>	<b>5,477,217</b>	<b>5,708,821</b>	<b>5,934,906</b>	<b>457,688</b>	<b>8.4%</b>

Source: Delaware Valley Regional Planning Commission; Economics Research Associates, April, 2004.

**Appendix Table 2**

**Regional Household Growth Forecast**

County	2000	2004	2014	2024	2004 to 2024	
					Change	% Change
Bucks, PA	218,725	229,445	250,047	271,624	42,179	18.4%
Chester, PA	157,905	165,452	182,550	198,783	33,331	20.1%
Delaware, PA	206,320	206,520	204,898	205,121	(1,399)	-0.7%
Montgomery, PA	286,098	294,106	310,480	325,403	31,298	10.6%
Philadelphia, PA	590,071	584,615	585,001	583,442	(1,173)	-0.2%
Burlington, NJ	154,371	158,859	172,375	185,860	27,002	17.0%
Camden, NJ	185,744	186,573	187,115	187,395	822	0.4%
Gloucester, NJ	90,717	93,802	103,371	113,831	20,029	21.4%
Mercer, NJ	125,807	129,058	137,437	144,514	15,456	12.0%
<b>Region</b>	<b>2,015,758</b>	<b>2,048,429</b>	<b>2,133,273</b>	<b>2,215,973</b>	<b>167,544</b>	<b>8.2%</b>

Source: Delaware Valley Regional Planning Commission; U.S. Census Bureau; Economics Research Associates, April, 2004.

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**Appendix Table 3**

**Regional Employment Growth Forecast**

County	2000	2004	2014	2024	2004 to 2024	
					Change	% Change
Bucks, PA	271,880	280,256	308,135	335,579	55,323	20.3%
Chester, PA	230,350	240,150	266,540	287,020	46,870	20.3%
Delaware, PA	236,330	241,178	256,772	268,738	27,560	11.7%
Montgomery, PA	491,200	502,520	532,845	564,520	62,000	12.6%
Philadelphia, PA	786,150	789,350	809,995	837,445	48,095	6.1%
Burlington, NJ	207,050	215,090	231,995	248,860	33,770	16.3%
Camden, NJ	232,290	236,546	250,309	262,916	26,370	11.4%
Gloucester, NJ	99,700	103,420	112,495	121,725	18,305	18.4%
Mercer, NJ	236,650	241,130	256,470	268,715	27,585	11.7%
<b>Region</b>	<b>2,791,600</b>	<b>2,849,640</b>	<b>3,025,556</b>	<b>3,195,518</b>	<b>345,878</b>	<b>12.4%</b>

Source: Delaware Valley Regional Planning Commission; Economics Research Associates, April, 2004.

**Appendix Table 4**

**Regional Employment Growth Forecast by Sector**

Building Type	2000	2004	2014	2024	2004 - 2024 Change	
					Change	% Change
MINING	2,073	2,018	2,007	2,071	52	2.5%
CONSTRUCTION	131,447	131,702	134,177	135,978	4,276	3.3%
MANUFACTURING	293,448	284,552	262,105	245,092	(39,460)	-13.4%
TRANSPORT, COMM & PUBLIC UTIL	121,044	123,132	126,319	129,957	6,825	5.6%
WHOLESALE TRADE	136,799	139,249	143,398	146,511	7,262	5.3%
RETAIL TRADE	431,819	432,527	438,351	443,508	10,982	2.5%
FINANCE, INS & REAL ESTATE	255,283	257,545	265,396	271,901	14,356	5.6%
SERVICES	1,084,983	1,140,575	1,309,761	1,473,915	333,341	30.7%
GOVERNMENT	334,705	338,340	344,040	346,586	8,246	2.5%
<b>Total</b>	<b>2,791,600</b>	<b>2,849,640</b>	<b>3,025,556</b>	<b>3,195,518</b>	<b>345,878</b>	<b>12.4%</b>

Source: Delaware Valley Regional Planning Commission; Woods and Poole Economics; Economics Research Associates, April 2004.

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Appendix Table 5

**Demand Analysis, All Industrial Space, Greater Philadelphia Region, 2004-2024**

Sector	% of Users	Sq. Ft. Per User (1)	Demand for New Space (000s of Sq. Ft.)		Total Demand 2004-2024	Average Annual 2004-2024
			2004-2014	2014-2024		
Mining & Construction	75%	400	739.0	559.4	1,298.4	129.8
Manufacturing	80%	600	(10,774.5)	(8,166.3)	(18,940.8)	(1,894.1)
Trans., Communications, Warehousing, & Util.	40%	600	765.0	873.0	1,637.9	163.8
Wholesale & Retail Trade	60%	700	4,189.2	3,473.1	7,662.3	766.2
Finance/Insurance/Real Estate	5%	500	196.3	162.6	358.9	35.9
Services	20%	500	16,918.6	16,415.4	33,334.1	3,333.4
Government	10%	250	142.5	63.6	206.1	20.6
<b>Demand From New Employment:</b>	<b>41%</b>	<b>507</b>	<b>12,176.0</b>	<b>13,380.8</b>	<b>25,556.9</b>	<b>2,555.7</b>
Plus Vacancy Adjustment:	5.0%	(2)	608.8	669.0	1,277.8	127.8
Plus Cumulative Replacement Demand:	5.0%	(3)	608.8	669.0	1,277.8	127.8
<b>Total Demand in Sq. Ft. - All Industrial Space:</b>			<b>13,393.7</b>	<b>14,718.9</b>	<b>28,112.6</b>	<b>2,811.3</b>

(1) Reflects employees in each employment sector requiring space for bulk warehouse, distribution and flex-tech operations.

(2) This allows for "frictional" vacancy in new space delivered to the market.

(3) This represents new space required by existing businesses to replace obsolete or otherwise unusable space.

Source: Delaware Valley Regional Planning Commission; Woods and Poole Economics; Economics Research Associates, April 2004.

Appendix Table 6

**DEMAND ANALYSIS FOR ALL OFFICE SPACE IN THE  
GREATER PHILADELPHIA REGION, 2004 - 2024**

EMPLOYMENT SECTOR	% OF USERS	SQ. FT. PER USER (1)	DEMAND FOR NEW SPACE (In 000s of Sq. Ft.)		Total Demand 2004-2024	AVG. ANN'L (20 YEARS) 2004-2024
			2004-2014	2014-2024		
Mining/Construction	20%	225	110.9	83.9	194.8	9.7
Manufacturing	20%	225	(1,010)	(766)	(1,775.7)	(88.8)
Trans./Comm./Public Utilities	60%	225	430	491	921.3	46.1
Wholesale/Retail Trade	20%	225	448.8	372.1	821.0	41.0
Finance/Insurance/Real Estate	95%	225	1,678.2	1,390.4	3,068.5	153.4
Services	40%	225	15,226.8	14,773.9	30,000.7	1,500.0
Government	60%	225	769.6	343.6	1,113.2	55.7
<b>Demand From New Employment:</b>	<b>45%</b>	<b>225</b>	<b>17,654.4</b>	<b>16,689.3</b>	<b>34,343.7</b>	<b>1,717.2</b>
Plus Vacancy Adjustment:		(2)	882.7	834.5	1,717.2	85.9
Plus Cumulative Replacement Demand:		(3)	882.7	834.5	1,717.2	85.9
<b>TOTAL DEMAND IN SQ. FT. - ALL OFFICE SPACE:</b>			<b>19,419.8</b>	<b>18,358.3</b>	<b>37,778.1</b>	<b>1,888.9</b>

(1) Reflects office - using employees in each employment sector requiring office space.

(2) This allows for a 5.0% "frictional" vacancy rate in new space delivered to the market.

(3) This represents new space required by existing businesses to replace obsolete or otherwise unusable space. This is assumed to represent 5% of the total implied demand.

Source: Delaware Valley Regional Planning Commission; Woods and Poole Economics; Economics Research Associates, April 2004.

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Appendix Table 7

Residential Building Permit Activity by Unit Type, Greater Philadelphia Region, Bucks County and Relevant Jurisdictions, 1994-2003

Geography/Unit Type	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total	Percentage of Total
<b>Region</b>												
Single Family	9,372	8,519	8,291	9,105	9,965	9,758	9,125	8,243	8,780	8,270	89,428	82.9%
Multi-Family	501	1,059	1,604	2,642	1,801	1,604	2,227	2,041	1,481	3,497	18,457	17.1%
<b>Total</b>	<b>9,873</b>	<b>9,578</b>	<b>9,895</b>	<b>11,747</b>	<b>11,766</b>	<b>11,362</b>	<b>11,352</b>	<b>10,284</b>	<b>10,261</b>	<b>11,767</b>	<b>107,885</b>	<b>100.0%</b>
<b>Bucks County</b>												
Single Family	3,085	2,568	2,165	2,596	2,675	2,716	2,392	1,884	2,319	2,162	24,562	89.0%
Multi-Family	49	102	312	87	67	188	376	287	496	1,069	3,033	11.0%
<b>Total</b>	<b>3,134</b>	<b>2,670</b>	<b>2,477</b>	<b>2,683</b>	<b>2,742</b>	<b>2,904</b>	<b>2,768</b>	<b>2,171</b>	<b>2,815</b>	<b>3,231</b>	<b>27,595</b>	<b>100.0%</b>
<b>Bucks County Share of Region</b>												
Single Family	32.9%	30.1%	26.1%	28.5%	26.8%	27.8%	26.2%	22.9%	26.4%	26.1%	27.5%	N/A
Multi-Family	9.8%	9.6%	19.5%	3.3%	3.7%	11.7%	16.9%	14.1%	33.5%	30.6%	16.4%	N/A
<b>Total</b>	<b>31.7%</b>	<b>27.9%</b>	<b>25.0%</b>	<b>22.8%</b>	<b>23.3%</b>	<b>25.6%</b>	<b>24.4%</b>	<b>21.1%</b>	<b>27.4%</b>	<b>27.5%</b>	<b>25.6%</b>	<b>N/A</b>
<b>Relevant Jurisdictions</b>												
Single Family	90	98	38	67	84	39	83	96	86	182	863	77.0%
Multi-Family	-	-	-	-	-	-	77	68	97	16	258	23.0%
<b>Total</b>	<b>90</b>	<b>98</b>	<b>38</b>	<b>67</b>	<b>84</b>	<b>39</b>	<b>160</b>	<b>164</b>	<b>183</b>	<b>198</b>	<b>1,121</b>	<b>100.0%</b>
<b>Relevant Jurisdictions Share of Bucks County</b>												
Single Family	2.9%	3.8%	1.8%	2.6%	3.1%	1.4%	3.5%	5.1%	3.7%	8.4%	3.5%	N/A
Multi-Family	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.5%	23.7%	19.6%	1.5%	8.5%	N/A
<b>Total</b>	<b>2.9%</b>	<b>3.7%</b>	<b>1.5%</b>	<b>2.5%</b>	<b>3.1%</b>	<b>1.3%</b>	<b>5.8%</b>	<b>7.6%</b>	<b>6.5%</b>	<b>6.1%</b>	<b>4.1%</b>	<b>N/A</b>

Source: U.S. Department of Housing and Urban Development; Economics Research Associates, April 2004.

Appendix Table 8

Residential Building Permit Activity, Relevant Jurisdictions, 1994-2003

Jurisdiction/Unit Type	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total	% of Lower Bucks County
<b>Bensalem Township</b>												
Single Family	32	50	14	28	29	17	42	53	64	128	457	53.0%
Multi-Family	-	-	-	-	-	-	53	-	97	16	166	64.3%
<b>Total</b>	<b>32</b>	<b>50</b>	<b>14</b>	<b>28</b>	<b>29</b>	<b>17</b>	<b>95</b>	<b>53</b>	<b>161</b>	<b>144</b>	<b>623</b>	<b>55.6%</b>
<b>Bristol Borough</b>												
Single Family	1	2	6	16	4	4	14	23	2	3	75	8.7%
Multi-Family	-	-	-	-	-	-	24	3	-	-	27	10.5%
<b>Total</b>	<b>1</b>	<b>2</b>	<b>6</b>	<b>16</b>	<b>4</b>	<b>4</b>	<b>38</b>	<b>26</b>	<b>2</b>	<b>3</b>	<b>102</b>	<b>9.1%</b>
<b>Bristol Township</b>												
Single Family	53	44	16	16	13	16	24	12	17	26	237	27.5%
Multi-Family	-	-	-	-	-	-	-	60	-	-	60	23.3%
<b>Total</b>	<b>53</b>	<b>44</b>	<b>16</b>	<b>16</b>	<b>13</b>	<b>16</b>	<b>24</b>	<b>72</b>	<b>17</b>	<b>26</b>	<b>297</b>	<b>26.5%</b>
<b>Falls Township</b>												
Single Family	4	2	-	6	38	-	-	-	-	20	70	8.1%
Multi-Family	-	-	-	-	-	-	-	-	-	-	-	0.0%
<b>Total</b>	<b>4</b>	<b>2</b>	<b>-</b>	<b>6</b>	<b>38</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>20</b>	<b>70</b>	<b>6.2%</b>
<b>Morrisville Borough</b>												
Single Family	-	-	-	-	-	2	2	6	2	5	17	2.0%
Multi-Family	-	-	-	-	-	-	-	5	-	-	5	1.9%
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>11</b>	<b>2</b>	<b>5</b>	<b>22</b>	<b>2.0%</b>
<b>Tullytown Borough</b>												
Single Family	-	-	2	1	-	-	1	2	1	-	7	0.8%
Multi-Family	-	-	-	-	-	-	-	-	-	-	-	0.0%
<b>Total</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>-</b>	<b>7</b>	<b>0.6%</b>
<b>Lower Bucks County</b>												
Single Family	90	98	38	67	84	39	83	96	86	182	863	100.0%
Multi-Family	-	-	-	-	-	-	77	68	97	16	258	100.0%
<b>Total</b>	<b>90</b>	<b>98</b>	<b>38</b>	<b>67</b>	<b>84</b>	<b>39</b>	<b>160</b>	<b>164</b>	<b>183</b>	<b>198</b>	<b>1,121</b>	<b>100.0%</b>

Source: U.S. Department of Housing and Urban Development; Economics Research Associates, April 2004.