Turnpike Corridor Reinvestment Project

Prepared by the Montgomery County Planning Commission, 2015

In partnership or cooperation with:
  Upper Merion Township
  Norristown Municipality
  Plymouth Township
  Whitpain Township
  Whitemarsh Township
  Upper Dublin Township
  Upper Moreland Township
  Horsham Township
  The Pennsylvania Turnpike Commission
  The Pennsylvania Department of Transportation
  The Delaware Valley Regional Planning Commission
  McCormick Taylor
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Introduction

With its many highways and employment centers, Montgomery County has been an economic powerhouse for decades. The county:

- Has over half a million jobs;
- Leads the state in high-tech jobs;
- Leads the state in manufacturing jobs;
- Imports 86,000 more workers from neighboring counties than commute out; and
- Has a lower unemployment rate than the nation or Pennsylvania.

The Turnpike Corridor, with King of Prussia, Swedeland, Norristown, Plymouth Meeting, Blue Bell, Fort Washington, Willow Grove, Horsham, and other nearby centers, is the backbone of the county’s economy.

![Map of Montgomery County](image)

**PROJECT GOAL**
Reinvigorate business parks between the Valley Forge and Willow Grove interchanges of the Pennsylvania Turnpike

**UNEMPLOYMENT RATE**

Montgomery County’s unemployment rate is lower than the nation’s

![Graph showing unemployment rates](image)
**Issues**

Despite these strengths, Montgomery County’s economy does not seem as invincible as it once did. Recently, the County:
- Has had lackluster job growth; and
- Has seen traditionally strong industries, such as manufacturing and information, adversely affected by structural changes in the nation’s economy. Life sciences, traditionally strong in the area, has also seen cutbacks.

Many of the business parks in the Turnpike Corridor were developed decades ago, and these places are now showing their age, with less new Class A office space, lower rents, and higher vacancy rates than other employment centers in the region, such as the Philadelphia Navy Yard and Great Valley.

**Montgomery County’s job growth has slowed down**

**TOTAL EMPLOYMENT CHANGE IN MONTGOMERY COUNTY ACCORDING TO THE BLS: 2003 - 2013**

Many of the county’s business parks developed decades ago

*King of Prussia in 1965*

*Fort Washington in 1965*
In addition, although the PA Turnpike has been greatly improved over the past 20 years with extensive widenings and interchange expansions, the road was built as an inter-city connector rather than a commuter road, and it is being used for both purposes.

This original design limited the number of interchanges, with relatively long distances from one interchange to the next. Commuter highways, on the other hand, have much closer interchanges. To function properly as both an inter-city and commuter highway, the PA Turnpike needs more interchanges in Montgomery County.

The Turnpike’s Interchanges are far apart.
Opportunities
With its excellent connections to the highway system; easy access to well-educated workers; and location in a prosperous, lower-tax county with beautiful neighborhoods, historic towns, and recreational opportunities, the Turnpike Corridor is in a strong position to attract new development.

- Many properties are ready for redevelopment and improvement. The study area affects 8800 acres of existing office/industrial parks and 1600 acres of proposed redevelopment at the Willow Grove Naval Air Station for a total of 10,400 acres.
- The corridor includes 8 municipalities and 7 school districts, with many more nearby, with all able to increase their tax revenue from new development.

The Turnpike Study Areas contain 10,400 acres of land.

TURNPIKE CORRIDOR AREAS

- Horsham
- Norristown/Plymouth
- Fort Washington
- Plymouth Meeting/Blue Bell
- Willow Grove
- Gulph Mills/Swedeland
- King of Prussia
- Plymouth
- Norristown/Plymouth

• Many properties are ready for redevelopment and improvement. The study area affects 8800 acres of existing office/industrial parks and 1600 acres of proposed redevelopment at the Willow Grove Naval Air Station for a total of 10,400 acres.
• The corridor includes 8 municipalities and 7 school districts, with many more nearby, with all able to increase their tax revenue from new development.
Places in the county have reinvented themselves.

- Twenty years ago, Conshohocken was known as an old, distressed industrial town. Today, it is one of the premier office and apartment addresses in the region, with office rents much higher and vacancy rates much lower than other submarkets in the region.

- The Unisys Property in Whitpain Township is currently being redeveloped and reinvented as a Class A office park with excellent design and amenities.

In addition, many municipalities, both within the Turnpike Corridor and outside of it, have begun planning for changes in their employment centers.

- King of Prussia has approved a Business Improvement District and prepared a master plan for the office center. The township has adopted zoning changes that allow a mix of uses.

- Lower Merion adopted new mixed use and more intensive zoning for the Bala Cynwyd office area on City Avenue.

- Lower Providence adopted new mixed use zoning for the Valley Forge Corporate Center.

- Upper Dublin has adopted transfer of development rights and mixed use zoning for Fort Washington that would stimulate redevelopment and move existing structures out of the floodplain.
Opportunities

There are also transportation opportunities in the Turnpike Corridor.

- All-Electronic Tolling (AET) eliminates regular toll booths and substitutes electronic tolling similar to EZ Pass. It will allow existing interchanges to be modernized and new interchanges to be considered and is expected to be implemented for the whole Turnpike over the next decade.

- The Turnpike Commission is conducting a feasibility study to examine widening the area between the Mid-County and Bensalem interchanges to a minimum of 8 lanes.

- The Turnpike Commission is undertaking a Strategic Plan to prioritize their capital investments.

- A new state Public Private Partnership (P3) initiative could be used to fund new or improved interchanges.

PURPOSE OF REPORT

This report identifies potential PA Turnpike slip ramp locations and possible municipal zoning and land use changes near the Turnpike Corridor that, together, will help reinvigorate the county’s older business parks.
Chapter 1  Market Trends
Chapter 1, Market Trends, describes current market conditions and discusses future prospects for a variety of land uses.

This chapter makes the following conclusions about different land uses:

- **Mixed Uses** will become more popular in the county, particularly near train stations and amenity-rich areas; however, it is unlikely they will become a dominant land use in the county’s business parks.

- **Offices** are changing, with less square footage per employee. The county is expected to add significant office employment which should, even with more intense use of existing office space, yield new office development.

- **Industrial** development has been fairly weak lately, but reshoring, cheaper domestic energy, and distribution changes might lead to a resurgence, although this will most likely only be in selected portions of the Turnpike Corridor.

- **Retail** is built out in the county and in transition, with more online shopping; nevertheless, specific retailers will want to enter the local market.

- **Apartments** are in high demand right now. Even if they end up being overbuilt in the short term, long term demographic trends will support continued apartment construction.
General Trends

The nation is slowly recovering from the Great Recession. What direction will new growth go? Will new offices and businesses continue to gravitate to suburban business parks or will they go elsewhere. Some forecasters think a large shift is already happening:

"The conventional American suburban office park is rapidly becoming an outdated model of development as both employers and employees shift their expectations of the workplace from yesterday’s model of an office in a park to an office in a place."

- Urban Land Magazine, June, 2009

Once a symbol of suburban dominance, office parks from California to New Jersey are being reimagined as little cities. Hoping to stave off suburban blight, local officials in more than a dozen communities have approved plans for developers to turn aging corporate parks into urban-style complexes with amenities including apartments, stores, movie theaters, bike paths, and office space.


Certainly, this conversion of old office parks into mixed use centers is occurring in different parts of the country, with some of the most cutting edge new development following a mixed use pattern. On the other hand, corporate campuses, office parks, business centers, and flex space could remain very popular for the reasons they were created in the first place - excellent highway access, a highly skilled and educated workforce, relatively low taxes, a strong and diverse county economy, and high-quality communities and residential neighborhoods.

When asked why he chose Collegeville, Montgomery County for the relocation of an 800 person research facility, Andrew Liveris, the CEO of Dow Chemical, responded, “Human capital. There is a lot of talent here - we have the ability to grow it and put it all in one place. We wanted a Northeast Technology Center. It would be nonsensical to set up something in other parts.”

- The Philadelphia Inquirer, August 1, 2013

In a November, 2013 article titled The City or the ‘Burbs? Most Go for the Green, the Philadelphia Business Journal analyzed the 100 privately held local companies with the largest percentage revenue growth. Noting that 34 of these were in Montgomery County and only 20 in the city, the paper concluded that the suburbs remain a very attractive place for growing companies.

So, which is right? Are traditional suburban office and business parks going the way of the horse and buggy? Or, will they remain viable, growing places? The answer is probably both—in some areas, mixed use walkable business parks will be more popular, while in others, traditional business parks will remain the norm. With the Great Recession still reverberating through the economy and globalization continuing, it’s always difficult to predict what the economy will do.

Will suburban offices have higher vacancy rates?

Or will they remain a growing part of the county’s economy?
Mixed Use Areas

Nationally, there is great interest in mixed use areas that provide a more vibrant and stimulating environment for workers. Why? Much of this interest is driven by Generations X and Y and the start up entrepreneurs coming out of these generations.

According to an Urban Land Institute article, these generations want workplaces with:

- Opportunities for social exchange beyond the office;
- Reasonable commuting distance from home;
- Walkable destinations with services that meet daily needs; and
- Diverse experiences.

Approximately 77% of Generation Y members have expressed interest in living in an urban setting, and 30% said they would be willing to pay a premium for walkability and proximity to employment, transit, and retail services. Mixed use areas and developments offer many of these amenities.

For companies that need to attract creative and highly-skilled members of Generations X and Y, these preferences are important. Companies that are in urban downtowns or other mixed use settings with housing and retail may have a competitive advantage for recruiting these workers.

A number of companies have relocated or stayed in older downtowns for this reason. Examples include:

- American Eagle Outfitters moved its headquarters from the Pittsburgh suburbs to Southside Works, a new mixed use development on an old steel plant.

  We recognize that our associates are our most valuable resource and providing them with a creative and productive environment is our top priority. The many positive amenities of our new facility, combined with the exciting urban environment offered at Pittsburgh’s Southside Works, will be key to attracting and retaining a talented workforce, which is absolutely essential to our continued success.

  - BusinessWire, October 21, 2005

As part of this move, American Eagle Outfitters did receive significant state economic development assistance.

- In Atlanta, BellSouth Corporation consolidated its 10,000 employees into three sites near mixed use transit stations.

- In Oklahoma, noodleStream.com relocated from the outskirts of Oklahoma City to the downtown to provide better access and a more diverse work environment.

- United Airlines, Navteq Corporation, and Allscripts Healthcare Solutions moved from the Chicago suburbs back to the downtown. Sara Lee is considering a similar move.

- Merck and Company will soon be leaving its 900,000 square foot headquarters in a rural/suburban township in New Jersey for a location that, according to a company announcement, is “adjacent to major transportation hubs and desirable urban centers.”

  - Philadelphia Inquirer, July 14, 2013

New, mixed use development seems to be less common here than in other parts of the country, perhaps because this area already has many old mixed use towns. In addition, the Philadelphia region is a slow growth area that has conservative development tendencies. Nevertheless, mixed uses are expected to become more common in the area, and local business parks are expected to add more uses, such as restaurants, hotels, and apartments.

Around the country, office complexes have started being converted into mixed uses. A few examples include:

- The CT General Life Insurance in Bloomfield, CT, a 1957 acre office park on 600 acres, was converted in 2003 into a golf course, hotel/conference center, and 410 dwelling units;

- The Koger Center in Jacksonville, FL, originally 31 buildings built in 1957, was redeveloped in 2006 as the mixed use Midtown Centre;

- Offices at the former Texas Instruments campus in Attleboro, MA, were retained, while upscale residential units were added.
Industrial to Mixed Use -
The Conshohockens

In the late 1980s, the riverfronts of Conshohocken and West Conshohocken were full of old industrial buildings. Since then, the area has been reinvented as a mixed use center with excellent transportation access - Routes 76 and 476 intersect in West Conshohocken and the Manayunk-Norristown regional rail line has a stop in Conshohocken. Since the mid-1990s, the Conshohockens have had:

• Over 2.5 million square feet of new offices, with hundreds of thousands more proposed;
• Two new hotels; and,
• Over 1,000 new apartment units, with over 1,000 more proposed to be built.

Although there is no new retail along the riverfront, Conshohocken’s downtown has been reinvented as a restaurant destination.

How did this great change happen? The Conshohockens benefited from excellent highway access, proximity to Philadelphia, and proximity to higher-income suburbs. Many younger employees reverse commute to the Conshohockens from Philadelphia on the regional rail.

The Conshohocken were not developed as a master planned community, but they have evolved into a diverse, mixed use place.

Office to Mixed Use -
University Town Center

The University Town Center, in Hyattsville, MD, is next to a metro station and the University of Maryland. From 1963 to 1971, it was developed with three office buildings totaling 1,095,000 square feet. In the past ten years, it has been reinvented as a walkable, mixed-use center, adding 1,100 apartments, 180,000 square feet of office, and thousands of garage parking spaces. Additional offices, a retail main street, a movie theater, a hotel, and more apartments are currently being developed.
Mall to Mixed Use - Vorhees Town Center
The Voorhees Town Center in New Jersey is the remake of the old Echelon Mall. Part of the mall was kept while part was torn down for a new mixed use center that includes a 44,000 square foot office, over 300 apartment units, and over 100,000 square feet of new and proposed retail space. The mixed use area features a boulevard lined with restaurants and shops on the ground floor of new apartment buildings.

Institutional to Mixed Use - The Navy Yard
The Navy Yard, in Philadelphia, PA, is an interesting conversion of an old military base into a modern mixed use center that includes ship manufacturing, baking, offices, a couple of restaurants, and a hotel. Significant residential development is also proposed.
Office Uses

Office construction in the county has tapered off significantly over the past decade, with less than 700,000 square feet being added per year. The last few years have been particularly low.

The national situation in suburban communities is similar. During the peak years of suburban office construction in 1989, 1990, 1999, 2000, and 2001, over 80 million square feet of office space was built per year nationally in the suburbs. The last couple of years, 2011 and 2012, it has been less than 8 million square feet per year.

Are these low county and national suburban office construction numbers the new norm or a temporary blip?

Some indicators point towards a resurgence of office construction. Right now, the Delaware Valley Regional Planning Commission projects that the county will add over 63,000 jobs by 2040, and, if past trends continue, most of these jobs would be in offices. The seven municipalities in this Turnpike Corridor are expected to add about 19,000 jobs, 30% of the jobs that will be added in the county.

(These communities currently have 180,000 jobs, or 33% of the county total.)

The PA Center for Workforce Information and Analysis publishes employment forecasts by industry and occupation. The Center forecasts that Montgomery County will add 40,050 jobs between 2012 and 2022, an 8% increase. Looking at the industries of these jobs, 21,700 might be expected to be in office buildings. If there are 3.32 employees per 1,000 square feet of office, this correlates to 6.5 million square feet of new office space county wide. This might not be as robust as past decades, but it would still be a healthy amount, assuming the forecasts are accurate. If the ratio of employees per square foot changes because of technological changes in offices, say to 4 employees per 1,000 square feet, or if more workers end up working from home, then significantly less new office space would be needed countywide.

The Center estimates that the following industries typically found in offices will have the strongest numeric growth:

- Professional and technical services, particularly scientific research and development and computer systems design;
- Ambulatory health care services, including doctor’s offices and home health care;
- Management of companies and enterprises; and
- Financial investment services.

Many companies want to consolidate operations into one distinct geographic area, and this often leads them to suburban sites where there is land and room to grow. Recently, DOW Chemical consolidated research in Oaks while ALMAC pharmaceuticals built consolidated US headquarters near Harleysville. Even Urban Outfitters’ move to the Navy Yard was a consolidation in space that gave them room to grow.

On the other hand, there are some indicators pointing towards a continued decline in suburban office construction. As mentioned earlier, construction has been very low recently and many younger employees favor mixed use, transit-accessible areas. The image of office parks has suffered in the popular imagination, such as seen in the movie Office Space, which associates corporate parks with monotonous office jobs.

Another trend that might lead to less office construction is more flexible office space, which can be seen in benching and hoteling, where employees share offices, cubicles and space. Many places, like Drinker, Biddle and Reath law offices in Philadelphia have reduced common areas like libraries and the size of offices while increasing common sitting and meeting areas where people can collaborate. Their space will drop from 209,000 square feet to 155,000.

The president of the Philadelphia office of GlaxoSmithKline doesn’t even have an office; instead, she has a locker and uses common desks and meeting rooms. Glaxo has announced that most of its office facilities in Upper Merion will be consolidated at their Collegeville site as they shift to this benching and hoteling office model.

These flexible office arrangements, popularized by companies like Google and Apple, are becoming more popular and could lead to less office construction than might happen otherwise.

### Office Construction in Montgomery County

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</tr>
</thead>
<tbody>
<tr>
<td>BUILDING SQUARE FEET</td>
<td>2,126,263</td>
<td>480,345</td>
<td>308,607</td>
<td>466,755</td>
<td>677,585</td>
<td>405,824</td>
<td>635,418</td>
<td>360,980</td>
<td>66,442</td>
<td>229,853</td>
<td>203,353</td>
</tr>
</tbody>
</table>

Source: Montgomery County Planning Commission report based on Board of Assessment data.
Nowadays, office buildings are often being redesigned with larger lobbies and public areas where employees can interact and share ideas, including on-site fitness facilities, cafes, and meeting space. Higher-profile office buildings, such as corporate headquarters, are frequently more environmentally sustainable, with LEED certification, energy star status, and best management practice stormwater control.

When possible, office parks want to offer amenities to workers, such as daycare centers, coffee shops, gyms, sit-down restaurants, copy centers, stores, apartments, public transportation stops, central greens, trails, personal services, upscale meeting space, and hotels.

**Office Rehabilitation - Sentry Park West**

Sentry Park West is an excellent example of an old office development being significantly upgraded. A decade ago, Sentry Park West consisted of five Class C office buildings in Blue Bell totaling 228,000 square feet. Rents were 30% below market. A developer bought the buildings and thoroughly rehabilitated them, turning them into Class A space with higher rents and 40% higher occupancy.

**Office Rehabilitation - Arborcrest**

Arborcrest, also in Blue Bell, is a good example of the reinvention of a corporate campus. This 137 acre property was the Unisys campus. Although Unisys is still a tenant, as is Merck, the over 700,000 square feet of offices were getting old. The site has been redeveloped with modern office space, a sustainable design in a park like setting, and an amenity center with a café, fitness area, and common space for relaxing and mingling. Another 700,000 square feet could be added in the future.

**Office Square Footage, Rents and Vacancy Rates**

<table>
<thead>
<tr>
<th>AREA</th>
<th>TOTAL SQUARE FOOTAGE</th>
<th>% CLASS A OFFICE</th>
<th>RENT PER SQUARE FOOT*</th>
<th>VACANCY RATE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>KING OF PRUSSIA</td>
<td>6,393,060 sf</td>
<td>63%</td>
<td>$24</td>
<td>15%</td>
</tr>
<tr>
<td>SWEDLAND</td>
<td>3,344,577 sf</td>
<td>69%</td>
<td>$24</td>
<td>15%</td>
</tr>
<tr>
<td>NORRISTOWN/PLYMOUTH</td>
<td>805,932 sf</td>
<td>7%</td>
<td>$21</td>
<td>20%</td>
</tr>
<tr>
<td>PLYMOUTH MEETING/BLUE BELL</td>
<td>6,338,901 sf</td>
<td>57%</td>
<td>$24</td>
<td>21%</td>
</tr>
<tr>
<td>FORT WASHINGTON</td>
<td>3,615,544 sf</td>
<td>47%</td>
<td>$22</td>
<td>14%</td>
</tr>
<tr>
<td>WILLOW GROVE</td>
<td>5,430,859 sf</td>
<td>47%</td>
<td>$21</td>
<td>11%</td>
</tr>
<tr>
<td>HORSHAM/NAB</td>
<td>1,378,833 sf</td>
<td>78%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>TURNPIKE CORRIDOR AREA</td>
<td>27,307,706 SF</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>SUBURBAN PHILADELPHIA</td>
<td>124,548,207 SF</td>
<td>38%</td>
<td>$22.65</td>
<td>13.7%</td>
</tr>
<tr>
<td>UNITED STATES</td>
<td>10,305,867,784 SF</td>
<td>31%</td>
<td>$21.36</td>
<td>11.8%</td>
</tr>
</tbody>
</table>

* Rent and Vacancy figures are estimates based on an analysis of specific properties within each study area using available data from the CoStar Group between March, 2013 and September, 2013. “NA” is signifies where not enough data was available to make a reasonable estimate.
Industrial Uses

Industrial construction, which includes factories, distribution centers, warehouses, flex space, and similar uses, has been fairly low countywide over the past decade. Like offices, the past couple of years have been particularly low.

The major reason for this is the shift of manufacturing overseas, particularly to China. Between 2001 and 2011, the number of manufacturing jobs in the county declined 40%, from 72,509 in 2001 to 43,385 in 2011. This is still a lot of jobs, the most for any county in the state. By 2022, the county is projected to lose another 1,200 manufacturing jobs.

Over the past 50 years, manufacturing has shifted in the county. Most of the heavy industrial facilities, the steel plants, tire factories, and chemical plants, have closed, although some still exist. Textiles left earlier than these. A few large manufacturing complexes, such as Lockheed Martin in King of Prussia, which made rockets, or Honeywell in Fort Washington, which made gauges, have changed into office and research facilities.

The county still has a good number of large industrial plants, such as Hatfield Meats; SPS Technologies in Jenkintown, which makes specialty fasteners; the Arcelor Mital steel plant in Conshohocken; or Knoll Industries in Upper Hanover, which makes high end office furniture. There are many of these firms, from small to large, scattered around the county. And, pharmaceutical manufacturing and its packaging remains the most significant type of manufacturing in the county.

Wholesaling, warehousing, and storage are an important part of the industrial sector, accounting for approximately 24,000 jobs in the county in 2010. This is expected to remain relatively stable, perhaps with a few hundred jobs gained by 2022.

A third type of industrial construction is flex space, which typically consists of one story small scale space designed to be adapted to the users needs, whether offices, fabrication, or storage. Flex spaces offer easy to use industrial space for small companies.

Because rents for industrial properties are relatively low, typically around $5 per square foot, industrial land often comes under pressure to convert to other uses. In addition, industrial manufacturing and warehouse operations often need new buildings with high ceilings, modern utilities, and specialized facilities to operate most efficiently. Older industrial buildings often end up being used for secondary uses, like indoor recreation, contractor’s facilities, warehouse retail sales, etc..

What is the future of the industrial sector for Montgomery County? Certainly, the county’s experience over the past decade paints a pessimistic picture. However, two recent trends, natural gas production and reshoring, may reverse the trend.

Declines in natural gas prices, driven by new supply such as Pennsylvania’s Marcellus Shale, may encourage new manufacturing, particularly energy dependent manufacturing. Some of this, or support industries for it, might locate in Montgomery County.

Reshoring, where American manufacturers bring production back to the United States, is definitely happening. Companies like Ford, General Electric, Whirlpool, and Apple have announced reshoring initiatives. Locally, K’NEX industries in Hatfield has announced it is bringing some jobs back to the United States. Companies seem to be reshoring for a variety of reasons, including labor costs in China, transportation costs, supply chain issues, lead times, quality, and intellectual property protection. In addition, productivity in the United States has increased. One issue with reshoring is that many new industrial facilities are highly automated, which means fewer jobs are being created than there would have been in the past.

Because of the price of land, Montgomery County is unlikely to get many large scale new industrial plants. However, the reshoring trend may lead to the expansion of existing manufacturers in the county; pharmaceutical related manufacturing remains an important specialty of the county; and many manufacturers may seek modern space that is more efficient and lower costs.

Recently, most large scale wholesaling and distribution centers, with some of these focusing on online retail distribution, have located in the Lehigh Valley or central Pennsylvania and it is unlikely these will locate in Montgomery County; however, smaller scale facilities that need to be near the Philadelphia market may.

Flex space and light industrial space will most likely continue to be needed by small companies, including new companies and those leaving older obsolete industrial space. In addition, smaller-scale branch manufacturing may start up in the region as manufacturers try to locate as close to their markets as possible.

INDUSTRIAL CONSTRUCTION IN MONTGOMERY COUNTY

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<tbody>
<tr>
<td>BUILDING SQUARE FEET</td>
<td>525,465</td>
<td>432,124</td>
<td>420,415</td>
<td>558,801</td>
<td>255,281</td>
<td>543,185</td>
<td>250,054</td>
<td>248,199</td>
<td>22,698</td>
<td>41,489</td>
<td>82,692</td>
</tr>
</tbody>
</table>

Source: Montgomery County Planning Commission report based on Board of Assessment data.
Pharmaceutical Manufacturing - Almac

Almac opened a new U.S. headquarters in Lower Salford in 2010 which included a 166,000 square foot building for research, manufacturing, packaging, storing, and distribution of clinical trial pharmaceuticals.

Flex Space - Shoemaker Road

This flex space and light industrial development, consisting of five buildings, was built on Henderson Road in Upper Merion between 1999 and 2006. The buildings contain a variety of smaller scale industrial and commercial businesses, including a truck rental place, a bakery, an air conditioning installation firm, a printer, a label manufacturer, a tortilla distributor, a satellite TV installer, and a sports recreation center.

INDUSTRIAL SQUARE FOOTAGE, RENTS AND VACANCY RATES

<table>
<thead>
<tr>
<th>AREA</th>
<th>TOTAL SQUARE FOOTAGE</th>
<th>RENT PER SQUARE FOOT*</th>
<th>VACANCY RATE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>KING OF PRUSSIA</td>
<td>2,950,019 sf</td>
<td>$7</td>
<td>4%</td>
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<tr>
<td>SWEDELAND</td>
<td>5,336,499 sf</td>
<td>$7</td>
<td>4%</td>
</tr>
<tr>
<td>NORRISTOWN/PLYMOUTH</td>
<td>2,683,768 sf</td>
<td>$5</td>
<td>NA</td>
</tr>
<tr>
<td>PLYMOUTH MEETING/BLUE BELL</td>
<td>860,290 sf</td>
<td>$10</td>
<td>17%</td>
</tr>
<tr>
<td>FORT WASHINGTON</td>
<td>897,737 sf</td>
<td>$5</td>
<td>23%</td>
</tr>
<tr>
<td>WILLOW GROVE</td>
<td>2,288,026 sf</td>
<td>$5</td>
<td>18%</td>
</tr>
<tr>
<td>HORSHAM/NAB</td>
<td>1,531,814 sf</td>
<td>NA</td>
<td>8%</td>
</tr>
<tr>
<td>TURNPIKE CORRIDOR AREA</td>
<td>16,548,153 SF</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>SUBURBAN PHILADELPHIA</td>
<td>220,399,154 SF</td>
<td>$5.47</td>
<td>9.1%</td>
</tr>
<tr>
<td>UNITED STATES</td>
<td>20,795,432,076 SF</td>
<td>$5.21</td>
<td>8.6%</td>
</tr>
</tbody>
</table>

* Rent and Vacancy figures are estimates based on an analysis of available data from the CoStar Group between March, 2013 and September, 2013. “NA” is signified where not enough data was available to make a reasonable estimate.
Retail Uses

Retail construction has been very strong over the past decade, and the county now has 36 square feet of shopping center space per resident, while the national average is 23 square feet. Counting all retail space, the county had about 38,800,000 square feet in 2012, while the estimated demand of residents is only 19,600,000 square feet.

Why is there such a disparity? There are two major factors. First, Montgomery County is a regional draw. The King of Prussia malls and Philadelphia Premium Outlets draw from the whole region, while the Montgomery, Cheltenham, Willow Grove, and Plymouth Meeting malls all draw from outside of the county.

Secondly, many shopping centers are converting some space to other uses, even though this space is considered shopping center. For example, the Plymouth Meeting Mall recently converted 23,000 square feet to a healthcare center; an old Kmart in the Eagle Plaza shopping center has been turned into self-storage; and other shopping centers have seen old department or grocery store space converted to back offices and ambulatory care centers.

National vacancy rates have been running a little over 6.5% while the Philadelphia suburbs are slightly lower. Within the turnpike corridor study area, most of the submarkets are below the suburban vacancy rate. The highest vacancies in the county are in the western part of the county, particularly the Route 422 corridor where so much retail space has been added recently.

Overall, it appears the retail market in Montgomery County is saturated and growth will not come from unmet demand of residents. In addition, shopping over the internet is increasing. However, this does not mean there won’t be new retail development. Sometimes, new companies want to enter the market, such as Wegmans in the grocery business, and this means they will want new sites.

Sometimes, companies have new formats that require new buildings, such as drug stores adding drive-throughs or convenience stores adding gas sales. At other times, whole new retail formats emerge, like main-street lifestyle centers, such as the Providence Town Center. In addition, certain retail, like auto sales, is growing quickly and needs new, modern space.

In addition, many retailers want to be in more established suburban areas rather than greenfield sites on the edge of the region. All of these trends mean, that although the retail market is fully saturated in the turnpike corridor, there will be some demand for new space and old space may convert to other uses, at least partially.

### RETAIL CONSTRUCTION IN MONTGOMERY COUNTY

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BUILDING SQUARE FEET</td>
<td>1,978,912</td>
<td>541,078</td>
<td>1,401,094</td>
<td>1,130,610</td>
<td>1,587,972</td>
<td>1,046,004</td>
<td>1,699,508</td>
<td>699,970</td>
<td>436,156</td>
<td>821,010</td>
<td>349,255</td>
</tr>
</tbody>
</table>

Source: Montgomery County Planning Commission report based on Board of Assessment data.
Changing Retail - Plymouth Meeting Mall

The Plymouth Meeting Mall, first built in 1966, has gone through many transitions. A few years ago, after IKEA left, the mall was updated with the largest Whole Foods store on the east coast and a group of restaurants clustered around an outdoor courtyard. More recently, the Mercy Health System opened a large healthcare center at the mall.

<table>
<thead>
<tr>
<th>TURNPIKE CORRIDOR REGIONS</th>
<th>2012 RETAIL SQUARE FOOTAGE</th>
<th>ESTIMATED 2010 RETAIL DEMAND OF RESIDENTS</th>
<th>ESTIMATED 2040 RETAIL DEMAND OF RESIDENTS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMBLER REGION</td>
<td>1,630,000 sf</td>
<td>1,750,000 sf</td>
<td>1,940,000 sf</td>
<td>Residents go to Montgomery, Plymouth, and Abington for regional shopping.</td>
</tr>
<tr>
<td>CONSHOHOCKEN/PLYMOUTH MEETING</td>
<td>3,060,000 sf</td>
<td>1,100,000 sf</td>
<td>1,280,000 sf</td>
<td>Region contains 1,020,000 square foot mall and large IKEA store.</td>
</tr>
<tr>
<td>EASTERN MONTGOMERY COUNTY</td>
<td>6,090,000 sf</td>
<td>2,870,000 sf</td>
<td>3,030,000 sf</td>
<td>Region contains two enclosed malls with 2,530,000 square feet.</td>
</tr>
<tr>
<td>WILLOW GROVE</td>
<td>2,900,000 sf</td>
<td>1,680,000 sf</td>
<td>1,910,000 sf</td>
<td>Residents go to Abington for regional shopping.</td>
</tr>
<tr>
<td>MAIN LINE/KING OF PRUSSIA</td>
<td>6,820,000 sf</td>
<td>2,730,000 sf</td>
<td>2,960,000 sf</td>
<td>Region has the King of Prussia malls with 2,800,000 square feet.</td>
</tr>
<tr>
<td>NORRISTOWN REGION</td>
<td>3,770,000 sf</td>
<td>2,170,000 sf</td>
<td>2,450,000 sf</td>
<td>Residents go to Plymouth and King of Prussia for regional shopping.</td>
</tr>
<tr>
<td>MONTGOMERY COUNTY AS A WHOLE</td>
<td>38,790,000 SF</td>
<td>19,600,000 SF</td>
<td>22,200,000 SF</td>
<td></td>
</tr>
</tbody>
</table>

Source: Montgomery County Today, a background report for Montco 2040: A Shared Vision
Apartment Uses

Apartment construction in the county has been relatively strong over the past decade, although 2012 was a down year for new units. Over 500 units are currently under construction in the county, and an additional seven developments with at least 250 units each (three have over 500 units proposed) are in various stages of the planning and design process.

Right now, Montgomery County is following the national trend that has made, according to Integra Realty Resources (IRR), the apartment sector the hottest property sector in 2012, with almost all markets not only demonstrating strong property fundamentals but also experiencing all-time low capitalization rates. These factors have combined to drive new development in many markets, making multifamily the sole major property sector experiencing significant expansion across the country.

At the time of the IRR report, the Philadelphia market area had a 3.7% vacancy rate, well below the national average of 5.16% and very attractive to national investors, which has helped drive the proposals for new apartment construction.

Both nationally and regionally, there is a concern that the apartment market is getting overheated, that too many apartments will get developed at the same time. In the short term, this is a risk, although it hasn’t happened yet, but in the long term, there are fundamental demographic and development shifts that should keep demand for apartments high.

These shifts include an aging population, more non-family households, deferred marriage and child-bearing, a preference of many younger adults for more urban-style living, more immigrants living in the county, less land available for single-family detached homes, and a slower economy.

The county will need to add 39,000 more homes by 2040, and over a third of these are expected to be apartments. The Turnpike Corridor is expected to have an even higher share of its new homes being apartments, mostly because the amount of available land is limited.

### APARTMENT CONSTRUCTION IN MONTGOMERY COUNTY

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DWELLING UNITS</td>
<td>473</td>
<td>956</td>
<td>648</td>
<td>743</td>
<td>1,142</td>
<td>562</td>
<td>407</td>
<td>688</td>
<td>445</td>
<td>92</td>
<td>378</td>
</tr>
</tbody>
</table>

Source: Montgomery County Planning Commission report based on Board of Assessment data.

### HOUSEHOLD COMPOSITION AS A PERCENTAGE OF ALL HOUSEHOLDS: 1980-2040

<table>
<thead>
<tr>
<th>HOUSEHOLD TYPE</th>
<th>1980</th>
<th>2010</th>
<th>2040 PROJECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAMILY HOUSEHOLDS W/ CHILDREN UNDER 18</td>
<td>37.5%</td>
<td>32.3%</td>
<td>32.2%</td>
</tr>
<tr>
<td>OTHER FAMILY HOUSEHOLDS</td>
<td>38.8%</td>
<td>35.6%</td>
<td>33.8%</td>
</tr>
<tr>
<td>HOUSEHOLDER LIVING ALONE</td>
<td>20.4%</td>
<td>26.3%</td>
<td>27.3%</td>
</tr>
<tr>
<td>OTHER NONFAMILY HOUSEHOLDS</td>
<td>3.2%</td>
<td>5.8%</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

Sources: U.S. Census Bureau, Montgomery County Planning Commission
Conshohocken Apartments - The Grande at Riverview

The 387 unit Grande at Riverview was built between 2008 and 2013. It is built up to the street with much of the parking under ground and is designed to appeal to young workers in Conshohocken. Relatively uniquely, this development is condominiums and has remained condos despite the down market that has led most other projects under construction to be rental apartments. Smaller condos of 800 square feet sell for about $170,000 while larger ones of 1,200 square feet sell for around $240,000. This can be compared to local rents of about $1,500 per month for a one bedroom or $1,900 for a two bedroom.

<table>
<thead>
<tr>
<th>HOUSEHOLD TYPE</th>
<th>TOTAL UNITS ADDED</th>
<th>SFD UNITS ADDED</th>
<th>SFA UNITS ADDED</th>
<th>MF UNITS ADDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAMILY HOUSEHOLDS W/ CHILDREN UNDER 18</td>
<td>12,150</td>
<td>8,800</td>
<td>2,350</td>
<td>1,000</td>
</tr>
<tr>
<td>OTHER FAMILY HOUSEHOLDS</td>
<td>8,150</td>
<td>3,100</td>
<td>3,250</td>
<td>1,800</td>
</tr>
<tr>
<td>HOUSEHOLDER LIVING ALONE</td>
<td>13,550</td>
<td>1,300</td>
<td>4,550</td>
<td>7,700</td>
</tr>
<tr>
<td>OTHER NONFAMILY HOUSEHOLDS</td>
<td>5,150</td>
<td>500</td>
<td>1,550</td>
<td>3,100</td>
</tr>
<tr>
<td>TOTAL</td>
<td>39,000</td>
<td>13,700</td>
<td>11,700</td>
<td>13,600</td>
</tr>
</tbody>
</table>

Source: Montgomery County Planning Commission
### Chapter 1  Market Trends

#### FORECASTED NEW HOUSING UNITS IN 2040

<table>
<thead>
<tr>
<th>Area</th>
<th>SFD</th>
<th>SFA</th>
<th>MF</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upper Perkiomen Valley</strong></td>
<td>1,890</td>
<td>1,210</td>
<td>750</td>
<td>3,850</td>
</tr>
<tr>
<td><strong>Indian Valley</strong></td>
<td>1,890</td>
<td>1,210</td>
<td>750</td>
<td>3,850</td>
</tr>
<tr>
<td><strong>Central Perkiomen Valley</strong></td>
<td>1,620</td>
<td>680</td>
<td>510</td>
<td>2,810</td>
</tr>
<tr>
<td><strong>Pottstown Area</strong></td>
<td>1,840</td>
<td>1,200</td>
<td>760</td>
<td>3,800</td>
</tr>
<tr>
<td><strong>Indian Valley</strong></td>
<td>1,890</td>
<td>1,210</td>
<td>750</td>
<td>3,850</td>
</tr>
<tr>
<td><strong>North Penn</strong></td>
<td>1,080</td>
<td>1,560</td>
<td>1,800</td>
<td>4,440</td>
</tr>
<tr>
<td><strong>Norristown Area</strong></td>
<td>1,100</td>
<td>1,360</td>
<td>1,600</td>
<td>4,060</td>
</tr>
<tr>
<td><strong>Conshohocken</strong></td>
<td>1,100</td>
<td>1,360</td>
<td>1,600</td>
<td>4,060</td>
</tr>
<tr>
<td><strong>Main Line / King of Prussia</strong></td>
<td>270</td>
<td>780</td>
<td>2,160</td>
<td>3,210</td>
</tr>
</tbody>
</table>

**Legend**

- **SFD** = SINGLE FAMILY DETACHED
- **SFA** = SINGLE FAMILY ATTACHED
- **MF** = MULTI-FAMILY
Chapter 2, Land Use Analysis, describes existing land use and market conditions in each of the study areas, along with the expected future land use in each area.

The business parks in the Turnpike Corridor are expected to change over time, becoming more diverse places with more concentrated development while remaining critical employment centers for the county’s residents and businesses.

- **King of Prussia** will evolve into a transit-oriented, mixed use employment and residential area over time.
- **Gulph Mills/Swedeland** will intensify as a primarily office and industrial employment area.
- **Norristown/Plymouth** will see transit-oriented mixed use development in Norristown, residential development in Bridgeport along the riverfront, and intensified commercial development in Plymouth.
- **Plymouth Meeting/Blue Bell** will have some mixed use development and intensification of employment areas.
- **Fort Washington** will see new residential, retail, and office development in the office park.
- **Willow Grove** will have more concentrated office and employment uses, with Upper Moreland seeing more of a mix of uses.
- **Horsham** will have a completely new mixed use, walkable town center on the old Willow Grove Naval Air Station, along with intensified office and industrial development along Horsham Road.
King of Prussia Area

King of Prussia is most known for being home to the largest shopping mall in the United States. The original open-air mall was built in 1963, but it has expanded over time to become two side-by-side malls with more than 2.5 million leasable square feet. However, the area is not just a retail hub. The area north of the Pennsylvania Turnpike has developed into a suburban style business campus with office, light industrial, and flex space uses.

The area has prospered due to its automobile access, and now sits at the junction of four major expressways—the PA Turnpike (I-276), Rt. 202, Rt. 422, and the Schulykill Expressway (I-76). While highway access is an asset, the positioning of these access points have come together over time and leave some parts of the study area with more convoluted routes to one or more of the highways.

The King of Prussia area is still growing. A former golf course along North Gulph Road is being developed into a mixed use center called the Village at Valley Forge with shopping, medical, and residential uses. New zoning has been adopted that could transform the office and industrial sections of the area into a more densely developed area with added residential and future train service.
Study Area Quick Facts

Study Area Size = 1,358 Acres
Total Parcels = 249
Total Property Owners = 159
Total Employees (2010) = 31,892
Total Office Space = 6,393,060 sf
  Class A = 4,006,135 sf
  Class B/C = 2,386,925 sf
Total Industrial/Flex Space = 2,950,019 sf
Percent of Buildings Built Before 1980 = 52%
Average Rent*
  Office = $24/sf
  Industrial/Flex = $7/sf
Vacancy Rate*
  Office = 15%
  Industrial/Flex = 4%

* Rent and Vacancy figures are estimates based on an analysis of specific properties using available data from the CoStar Group between March, 2013 and September, 2013.
Land Use

The mall has spurred other nearby commercial development, including shopping centers, big box stores, hotels, and a convention center. However, this commercial development makes up slightly less than half of the nonresidential development in the study area, with office, light industrial, and flex uses accounting for over 9 million square feet.

The largest office development belongs to the Lockheed Martin Corporation, which sits near the mall and big box shopping areas. Additional Class A and Class B office space is found surrounding the Valley Forge Convention Center, along First Avenue, and more recent developments on the South sides of Rt. 202 and the Schuylkill Expressway.

LAND USE TOTALS

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>NET LEASABLE AREA</th>
<th>LOT ACREAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMERCIAL (Retail, Restaurant, Shopping Center, Hotel, Car Service)</td>
<td>8,665,157</td>
<td>342</td>
</tr>
<tr>
<td>FLEX</td>
<td>367,589</td>
<td>41</td>
</tr>
<tr>
<td>INSTITUTIONAL (Church)</td>
<td>89,289</td>
<td>14</td>
</tr>
<tr>
<td>INDUSTRIAL</td>
<td>2,582,430</td>
<td>264</td>
</tr>
<tr>
<td>MUNICIPAL</td>
<td>17,492</td>
<td>7</td>
</tr>
<tr>
<td>OFFICE (Office Class A, Office Class B/C, Convention Center)</td>
<td>6,393,060</td>
<td>497</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>701,988</td>
<td>23</td>
</tr>
<tr>
<td>UNDEVELOPED</td>
<td>0</td>
<td>126</td>
</tr>
<tr>
<td>UTILITY</td>
<td>0</td>
<td>45</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>18,817,005</td>
<td>1,358</td>
</tr>
</tbody>
</table>
Age of Structures

Most of the newer construction in the King of Prussia area has taken place in and around the mall area. Hotels and big box stores have been added behind the mall since 2000. Most of the development around the lower portion of Rt. 202 has been built since 1980, including the most recent activity on a former golf course, now called the Village at Valley Forge. A Wegmans grocery store has already been built and more retail, along with apartments and a Children’s Hospital health care center, are on the way.

The North half above the Turnpike has seen less change in the last 25 years. While some office space was added in the 1980s around the Convention Center and along Allendale Road, most of the office and light industrial space was built in the 1960s and 1970s. This area is more ripe for redevelopment with better design standards, more walkability, and connections to the higher traffic areas below it.
Zoning

The King of Prussia Study Area is located entirely within Upper Merion Township. Past zoning has included several commercial districts along with a shopping center district to regulate most of the mall area and its surroundings. There are also Limited Industrial districts found adjacent to the commercial areas below the PA Turnpike.

The most significant change in zoning occurred at the end of 2014 when the township adopted the King of Prussia Mixed Use District (KPMU). This district replaced what was essentially suburban office zoning north of the PA Turnpike. The KPMU still allows a variety of office and light industrial uses, but also permits multifamily residential uses and more compact development, especially around future train service.

The Village at Valley Forge, between North Gulph Road and Rt. 202, is designated as an Agricultural district based on its prior use as a golf course. However, a court order now allows for the site to be developed as a high-density mixed use district. This is where the current Wegmans is located along with the Children’s Hospital health care center under construction.
Future Land Use for King of Prussia

Development Proposals - Currently, there are a few larger projects under way in King of Prussia, including a 183,000 square foot connection between the Court and Plaza King of Prussia malls, a Children’s Hospital of Pennsylvania outpatient center; and a walkable mixed use center including 365 apartments and 230,000 square feet of retail next to the Wegmans on the former Valley Forge Golf Club.

Municipal Plan - In Upper Merion Township’s Land Use Plan, adopted in 2005, King of Prussia is shown with three land use categories:
• Retail, office, and hotel—this is shown for the King of Prussia mall and nearby properties.
• Office, hotel, and light industry—this is shown for the King of Prussia Industrial Park.
• Parkland, Open Space, and Cemeteries—this is shown for the Valley Forge Golf Club. (The Land Use Plan acknowledges that zoning on this property has been invalidated by a PA Supreme Court ruling. Currently, the court stipulation allows up to 3,000 dwellings and 1,000,000 square feet of commercial space.)

The township Land Use Plan also has a transit-oriented mixed use designation over much of the mall and industrial park area. This designation encourages walkable development around future train stations and includes a mix of apartments, elderly housing, retail stores, offices, and hotels.

County Comprehensive Plan - The county comprehensive plan, Montco 2040: A Shared Vision, was adopted in 2015. It shows King of Prussia as a Regional Mixed Use Center, which includes intensely developed suburban cores with significant retail, office, hotel, entertainment and residential land uses. Over time, Regional Mixed Use Centers are expected to become more mixed use and transit oriented, yet still capable of accommodating the automobile. New development will be closer to the street, more walkable, and taller, possibly with structured parking.

Future Vision - In the past year, the township adopted new zoning that reflects the vision shown in the township’s and county’s comprehensive plans for transit-oriented, mixed use development in the business park portion of King of Prussia. This reflects the master plan vision prepared by the King of Prussia Business Improvement District.
Gulph Mills/Swedeland Area

The Gulph Mills/Swedeland Study Area, also located within Upper Merion Township, is more secluded than King of Prussia with only a piece of Rt.202 going through the Western edge and no direct expressway access. The area has a fair share of office and industrial uses, but is also home to an active quarry, and the research and development facilities for a major pharmaceutical company, GlaxoSmithKline, although they may be leaving in the near future.

The Area has a piecemeal development pattern with these varying uses coming in over a long time frame. Also, two residential neighborhoods still stand in the middle of the Gulph Mills/Swedeland Area. While much of this somewhat detached land serves an appropriate purpose, new opportunities still exist in underdeveloped areas or with the departure of a major landholder, such as GlaxoSmithKline.
Study Area Quick Facts

Study Area Size = 1,876 Acres
Total Parcels = 1,195
Total Property Owners = 869
Total Employees (2010) = 12,795
Total Office Space = 3,344,577 sf
  - Class A = 2,300,716 sf
  - Class B/C = 1,043,861 sf
Total Industrial/Flex Space = 5,336,499 sf
Percent of Buildings Built Before 1980 = 36%
Average Rent*
  - Office = $24/sf
  - Industrial/Flex = $7/sf
Vacancy Rate*
  - Office = 15%
  - Industrial/Flex = 4%

* Rent and Vacancy figures are estimates based on an analysis of specific properties using available data from the CoStar Group between March, 2013 and September, 2013.
Land Use

Light industrial and flex space dominate the area along Church Road and into more recent development in the Renaissance At Gulph Mills Industrial Center. The office space that is located within the area is mostly Class A, especially around Renaissance Boulevard and some of the Glaxo Smith Kline facilities.

Closer to the Schuykill River are heavier industrial uses, including the printing presses for the Philadelphia Inquirer and pharmaceutical manufacturing. Further North along the river is an active quarry, but also a large undeveloped tract that has shown little development interest in the past, despite its valuable location, although a large development is now proposed on this property.

LAND USE TOTALS

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>NET LEASABLE AREA</th>
<th>LOT ACREAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMERCIAL</td>
<td>761,681</td>
<td>107</td>
</tr>
<tr>
<td>FLEX</td>
<td>703,955</td>
<td>77</td>
</tr>
<tr>
<td>INSTITUTIONAL</td>
<td>96,754</td>
<td>24</td>
</tr>
<tr>
<td>INDUSTRIAL</td>
<td>4,632,544</td>
<td>615</td>
</tr>
<tr>
<td>MUNICIPAL</td>
<td>9,212</td>
<td>14</td>
</tr>
<tr>
<td>OFFICE</td>
<td>3,344,577</td>
<td>347</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>270,431</td>
<td>155</td>
</tr>
<tr>
<td>UNDEVELOPED</td>
<td>8,868</td>
<td>354</td>
</tr>
<tr>
<td>UTILITY</td>
<td>6,640</td>
<td>183</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>9,825,794</td>
<td>1,876</td>
</tr>
</tbody>
</table>
Age of Structures
Many of the light industrial uses along Church Road were built back in the 1960s and 1970s. Most newer development has come in along the back end of the Renaissance at Gulph Mills and off of Rt. 202 and Henderson Road.
Zoning

The Gulph Mills/Swedeland Study Area is located entirely within Upper Merion Township. The current zoning mostly consists of the township’s office and industrial districts with the exception of the existing residential areas and some commercial districts along Henderson Road.

These districts are mostly considered appropriate for the location of this area. The Township is not envisioning the same kind of rezoning with mixed uses and more compact development being considered in the King of Prussia area. However there may still be an opportunity for more updated commercial zoning along Henderson Road and slight densification in some of the business areas that could use updating.
Future Land Use for Gulph Mills/Swedeland

**Development Proposals** - A 305,000 square foot FedEx distribution facility is proposed across from the Inquirer plant. GlaxoSmithKline, which is a very large employer and property owner in the area, has announced that their office and research positions will be transferred to their Collegeville property in the near future. This has created uncertainty about the future of their properties.

**Municipal Plan** - In Upper Merion Township’s Land Use Plan, adopted in 2005, the Gulph Mills/Swedeland study area is shown as six land use categories:

- Retail, office, and hotel—this is shown for properties along Route 202.
- Office, hotel, and light industry—this is shown for much of the property along Church and Henderson Roads, as well as the Renaissance at Gulph Mills office park and Glaxo SmithKline offices.
- Industry - this is shown for the quarry and heavier industrial land along the river.
- Convenience Commercial—this is shown near the Hughes Park train station and in Swedeland on River Road.
- Village Residential—this is shown for Hughes Park, Swedeland, and along Henderson Road north and south of the commercial areas on Route 202.
- Parkland, Open Space, and Cemeteries—this is shown on a couple of properties in Swedeland and institutional property on Henderson Road.

The announced future move of many of the GlaxoSmithKline employees to Collegeville has created uncertainty about the office portions of the property.

The township Land Use Plan also has a transit-oriented mixed use designation shown near the Norristown High Speed Line Hughes Park station which spreads into the Renaissance Corporate Center and along Yerkes Road. This designation encourages walkable development around future trains stations and includes a mix of apartments, elderly housing, retail stores, offices, and hotels.

**County Comprehensive Plan** - The county comprehensive plan, Montco 2040: A Shared Vision, was adopted in 2015. It shows a variety of land uses for the study area, including suburban residential for Hughes Park and Town Residential for Swedeland village.

Most of the study area is identified as Business Area, which includes employment-oriented land uses, such as offices, research facilities, and industrial parks with smaller retail uses and higher density residential as possible supporting uses.

Over time, supporting uses might become more prominent in Business Areas, which might also become more transit accessible.

The county comprehensive plan identifies land around the intersection of Henderson Road and Route 202 as Community Mixed Use and Services, which are local community focal points with significant retail or institutional elements with nearby residential uses. Over time, these areas may become more walkable and mixed use in character.

In addition, the county plan shows transit oriented walksheds around the Hughes Park and DeKalb Street train stations.

**Future Vision** - In most of the Gulph Mills/Swedeland study area, the township’s current zoning will most likely stay the same, although it may get tweaked in places to provide flexibility for new job-generating businesses or to allow mixed-uses near the Hughes Park train station.

The property north of Route 202 and east of Henderson Road might eventually become residential, providing a transition from commercial property along Route 202 to single-family detached homes along Ross Road.
Norristown/Plymouth Area

The Norristown/Plymouth Study Area is less of a cohesive district and more of a combination of districts. Not only does it cover portions of five municipalities, but the areas covered include a traditional Main Street corridor, waterfront along the Schuylkill River, a heavy industrial area, an automobile sales cluster, and regional big box shopping attractions. However, some of these areas have declined from what they once were, and are ripe for reimagining.

The Norristown portion includes its Main Street area which used to be a central hub of Montgomery County and is still home to the County Seat and many supporting businesses and services. While the Main Street environment reflects the state of Norristown today, its waterfront area has been long underutilized and is most notable for SEPTA transportation lines, a wastewater treatment facility, a regional trail, and some scattered industrial uses.

The waterfront area in Bridgeport Borough is also underused. The Borough has rezoned it for higher density mixed uses, and significant residential construction is expected.

Plymouth Township has active industrial and retail centers in the area. Redevelopment could also radically change the look of what is there today. While there is access to I-476 off of Ridge Pike at the Area’s edge, a new interchange could open up access to Conshohocken Road, which is mostly industrial today.

NORRISTOWN/PLYMOUTH STUDY AREA—AERIAL MAP
Study Area Quick Facts

- Study Area Size = 1,141 Acres
- Total Parcels = 1,397
- Total Property Owners = 669
- Total Employees (2010) = 9,340
- Total Office Space = 805,932 sf
  - Class A = 55,312 sf
  - Class B/C = 750,620 sf
- Total Industrial/Flex Space = 2,647,191 sf
- Percent of Buildings Built Before 1980 = 70.5%

Average Rent*
- Office = $21/sf
- Industrial/Flex = $5/sf

Vacancy Rate*
- Office = 20%
- Industrial/Flex = NA

* Rent and Vacancy figures are estimates based on an analysis of specific properties using available data from the CoStar Group between March, 2013 and September, 2013. “NA” is signified where not enough data was available to make a reasonable estimate.
Land Use

Industrial is the most common land use in the Norristown/Plymouth Area. Many of these uses are not the typical warehouse and flex spaces found in other study areas. They include the ArcelorMittal steel plant, the county’s waste-to-energy incinerator, a quarry/landfill, and many other operations tucked in along Conshohocken State Road.

Ridge Pike is home to one of the most popular auto sales clusters in the county with wide swaths of parking lots holding dealer inventories. While the Metroplex shopping center is just outside this area, several prominent regional big box stores are located along Alan Wood Road, including an Ikea, BJs Wholesale Club, and Home Depot.

LAND USE TOTALS

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>NET LEASABLE AREA</th>
<th>LOT ACREAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMERCIAL</td>
<td>1,937,823</td>
<td>292</td>
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<tr>
<td>(Retail, Restaurant, Hotel, Car Dealer, Vehicle Service, Recreation/Theater, Mini Storage, Funeral Home)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INSTITUTIONAL</td>
<td>44,519</td>
<td>8</td>
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<tr>
<td>(Church, School, Club, Cemeteries, Day Care, Post Office)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MIXED USE</td>
<td>542,162</td>
<td>9</td>
</tr>
<tr>
<td>MUNICIPAL/COUNTY</td>
<td>715,196</td>
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<tr>
<td>OFFICE</td>
<td>805,932</td>
<td>27</td>
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<tr>
<td>(Office Class A, Office Class B/C)</td>
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<td></td>
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<tr>
<td>PARKING</td>
<td>0</td>
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<tr>
<td>RESIDENTIAL</td>
<td>380,826</td>
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<tr>
<td>TRANSPORTATION</td>
<td>173,670</td>
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<tr>
<td>UNDEVELOPED</td>
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<td>79</td>
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<tr>
<td>UTILITY</td>
<td>248,400</td>
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<tr>
<td><strong>GRAND TOTAL</strong></td>
<td><strong>7,495,719</strong></td>
<td><strong>1,141</strong></td>
</tr>
</tbody>
</table>
Age of Structures

Most of the development in this area has existed since the 1960s and some of it is much older. However, there have been infill redevelopment projects in the Norristown corridor. The car dealers on Ridge Pike expand or rebuild from time to time, and the big box shopping area on Alan Wood Road was built since 2000. A few other infill projects have also occurred within the mostly industrial Conshohocken State Road corridor.
Zoning

Norristown and Bridgeport have both attempted to address their waterfront opportunities with new zoning districts that incorporate a mix of uses, including residential. Norristown also permits a wide variety of uses throughout its Main Street corridor with Town Center Zoning. The rest of the area is a variety of heavy and limited industrial zoning with commercial exceptions on Ridge Pike.
Future Land Use for Norristown/ Plymouth

Development Proposals - Currently, the most significant development proposal in the Norristown/ Plymouth study area is Bridgeview, a residential proposal on the waterfront in Bridgeport for 335 townhouses and 250 apartments. Along Ridge Pike in Plymouth, the car dealers have continued modernizing their facilities and expanding, including a proposal for a 49,000 square foot service facility.

Municipal Plans - In Norristown’s 2009 Comprehensive Plan, most of the study area, which is along the riverfront east of Markley Street, is shown as High Intensity Mixed Use. These areas are expected to include retail, office, hotels, high rise apartments, and entertainment uses. Pinnacle buildings can be 15 stories high, other buildings 10 stories.

Bridgeport does not have a current comprehensive plan but they do have a Community Revitalization Plan from 2003. This plan identifies the waterfront area as an appropriate location for mixed use traditional neighborhood development. The plan recommends that it be primarily residential with a small office area, mixed use commercial core, and extensive open space along the riverfront.

Plymouth Township does not have a current comprehensive plan.

County Comprehensive Plan - The county comprehensive plan, Montco 2040: A Shared Vision, was adopted in 2015. It shows three land uses for the study area:

Most of the study area in Plymouth and part of Norristown is identified as Business Area, which includes employment-oriented land uses, such as offices, research facilities, and industrial parks with smaller retail uses and higher density residential as possible supporting uses.

Over time, supporting uses might become more prominent in Business Areas, which might also become more transit accessible.

A small portion of the study area near Route 476 and Ridge Pike, extending out of the study area to Plymouth Meeting, is shown as a Regional Mixed Use Center, which includes intensely developed suburban cores with significant retail, office, hotel, entertainment and residential land uses.

Over time, Regional Mixed Use Centers are expected to become more mixed use and transit oriented, yet still capable of accommodating the automobile. New development will be closer to the street, more walkable, and taller, possibly with structured parking.

The waterfronts of Norristown and Bridgeport are identified as Town Center, which includes underutilized industrial land next to traditional downtowns. This redeveloping land is expected to include large scale offices, multifamily, townhouse, and other dense residential development. Buildings should be designed in an urban form that supports pedestrians and public transportation with parking located to the rear of buildings.

Future Vision - In Norristown, the municipality envisions a transformation of the waterfront, similar to what has happened in Conshohocken. So far, the market has not gone down this path, but the Lafayette Extension project might change these market dynamics and bring new development to this Downtown area.

In Bridgeport, lower scale, primarily residential development will probably occur along the waterfront.

In Plymouth, the township envisions new offices and shopping centers along Conshohocken Road, although, in the nearer term, the area is likely to remain industrial and heavy commercial with an emphasis on car dealers and vehicular storage/service.

NEW DEVELOPMENT IN NORRISTOWN COULD TAKE ADVANTAGE OF THE SCHUYLKILL RIVER.
Plymouth Meeting/Blue Bell Area

The Plymouth Meeting /Blue Bell area is known for the Plymouth Meeting Mall, the Metroplex power shopping center, and the Blue Bell employment area. Generally, the shopping centers are in Plymouth Township and are closest to the interchanges, while the majority of the offices are in the Blue Bell portion of Whitpain Township, although offices are scattered throughout the study area. A small part of the study area is in Whitemarsh Township.

This area has grown and prospered because it is near the interchanges at the intersection of Routes 476 and 276, which includes the PA Turnpike and the Northeastern Extension of the Turnpike.

Plymouth Meeting/Blue Bell continues to evolve and change. The old Unisys corporate office campus is being transformed into a modern office campus with diverse amenities. The Plymouth Meeting Mall has added a large Whole Foods store. The Chemical Road area has moved from industrial to retail and office.
Study Area Quick Facts

Study Area Size = 1,408 Acres
Total Parcels = 879
Total Property Owners = 624
Total Employees (2010) = 22,487
Total Office Space = 6,338,901 sf
  Class A = 3,628,199 sf
  Class B/C = 2,710,702 sf
Total Industrial/Flex Space = 860,290 sf
Percent of Buildings Built Before 1980 = 35%
Average Rent*
  Office = $24/sf
  Industrial/Flex = $10/sf
Vacancy Rate*
  Office = 21%
  Industrial/Flex = 17%

* Rent and Vacancy figures are estimates based on an analysis of specific properties using available data from the CoStar Group between March, 2013 and September, 2013.
Land Use

Although retail commercial and office uses are the primary land uses in Plymouth Meeting/Blue Bell, apartments have a presence in Plymouth Meeting and industrial uses are scattered throughout the area.

LAND USE TOTALS

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>NET LEASABLE AREA</th>
<th>LOT ACREAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRICULTURE</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>COMMERICAL (Shopping Center, Car Service, Hotel, Restaurant, Retail)</td>
<td>3,277,898</td>
<td>251</td>
</tr>
<tr>
<td>FLEX</td>
<td>168,538</td>
<td>19</td>
</tr>
<tr>
<td>INDUSTRIAL (Light Industrial, Parking)</td>
<td>691,752</td>
<td>143</td>
</tr>
<tr>
<td>INSTITUTIONAL (Post Office, Church, Cemetery, Day Camp, Day Care)</td>
<td>31,090</td>
<td>16</td>
</tr>
<tr>
<td>OFFICE (Office Class A, Office Class B/C, Convention Center)</td>
<td>6,338,901</td>
<td>620</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>257,640</td>
<td>136</td>
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<tr>
<td>UNDEVELOPED</td>
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<td>106</td>
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<tr>
<td>UTILITY</td>
<td>36,588</td>
<td>68</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>10,802,407</td>
<td>1,408</td>
</tr>
</tbody>
</table>
Age of Structures

Much of the newer construction is located on old industrial land off Chemical Road, such as the Metroplex retail and office buildings. The Unisys campus has also had new construction.

Some properties, such as the Plymouth Meeting Mall, have had extensive upgrades even though the original construction date is from the 1960s.
Zoning

Most of the Plymouth Meeting/Blue Bell study area consists of industrial, office, research, and retail commercial zoning. These districts are not oriented towards residential or walkable mixed use development, with the exception of a small section along Plymouth Road at Butler Pike, where it is zoned for the Mixed Use Village Residential District.
Future Land Use for Plymouth Meeting/Blue Bell

Development Proposals - Currently, there are a couple of significant development proposals in the Plymouth Meeting/Blue Bell study area. One is Arborcrest, the redevelopment of the old Unisys site. The developers are in the middle of the project, which is expected to eventually include 800,000 square feet of new office space with modern amenities, including common areas, a café, and a gym. The second, which is under construction, is 134 Plymouth Road, a 398 unit apartment complex.

Municipal Plans - In Whitpain’s 2006 Comprehensive Plan, most of the study area is shown as office/office campus, with a small area identified as industrial.

Whitemarsh’s 2001 Comprehensive Plan identifies the area off Butler Pike as IO Industrial Office, which would permit some light manufacturing.

Plymouth Township does not have a current comprehensive plan.

County Comprehensive Plan - The county comprehensive plan, Montco 2040: A Shared Vision, was adopted in 2015. It shows two land uses for the study area:

The Blue Bell portion of the study area in Plymouth and Whitpain townships is identified as Business Area, which includes employment-oriented land uses, such as offices, research facilities, and industrial parks with smaller retail uses and higher density residential as possible supporting uses. A small portion in Whitemarsh Township near Butler Pike is also shown as Business Area.

Over time, supporting uses might become more prominent in Business Areas, which might also become more transit accessible.

The core areas of Plymouth Meeting, including the mall, is shown as a Regional Mixed Use Center, which includes intensely developed suburban cores with significant retail, office, hotel, entertainment and residential land uses.

Over time, Regional Mixed Use Centers are expected to become more mixed use and transit oriented, yet still capable of accommodating the automobile. New development will be closer to the street, more walkable, and taller, possibly with structured parking.

Future Vision - In Whitpain, the township envisions a continuing evolution of the business parks and is open to mixed use development designed to modernize these parks and make them more competitive.

In Plymouth Meeting, the mall might become more commercially mixed use and walkable over time. Currently, the township is not interested in apartments at this site but may receive requests to add apartments as part of a mixed use overhaul of the mall property.

In Whitemarsh, the small industrial, flex space, and office area off Butler Pike is expected to retain its current character.
Fort Washington Area

This study area is essentially comprised of what is known as the Fort Washington Office Center. The area began developing with office and industrial uses in the 1950s with much of the existing structures having been originally built throughout the 1960s and 1970s. The area lies at the confluence of four waterways and the propensity of flooding in the area has diminished the value of many properties. Much of the development was built before modern environmental regulations were in place and good stormwater management practices were implemented.

In 2013, Upper Dublin Township constructed two major dry dams to mitigate flooding impact on properties downstream in the Ft. Washington Office Park. Additional stormwater management, infrastructure, and transportation improvements are in planning and development.

Despite the flooding issues, the area has prospered as a suburban employment center due to its location just outside of Philadelphia and access to highways such as the Pennsylvania Turnpike and State Route 309. Slip ramps with electronic tolling were built off of the turnpike at Virginia Drive in 2000, although they only allow west-bound traffic to get on and off the turnpike. Route 309 has been improved more recently and was essentially overhauled with improved interchanges, widening, and sound barriers. It is also surrounded by fairly affluent communities in Upper Dublin and Whitemarsh Townships.
Study Area Quick Facts

Study Area Size = 538 Acres

Total Parcels = 126
Total Property Owners = 77
Total Employees (2010) = 9,298
Total Office Space = 3,615,544 sf
  - Class A = 1,696,364 sf
  - Class B/C = 1,901,048 sf
Total Industrial/Flex Space = 897,737 sf
Percent of Buildings Built Before 1980 = 83%

Average Rent*
  - Office = $22/sf
  - Industrial/Flex = $5/sf

Vacancy Rate*
  - Office = 14%
  - Industrial/Flex = 23%

* Rent and Vacancy figures are estimates based on an analysis of specific properties using available data from the CoStar Group between March, 2013 and September, 2013.
Land Use

Almost 90 percent of the square footage in the study area is devoted to office or light industrial / flex uses. The area began with a greater emphasis on industrial uses, but office development and reuse has gradually come to dominate the uses within the study area. The growth of residential development surrounding the area and the rising value of the location as an employment center have contributed towards this shift over the last forty years. The industrial uses that remain are generally of warehousing or distribution character, including a Fed Ex facility and an auto parts distributor. Only a few manufacturing businesses remain.

Office uses in the study area cover a range of classes and rents. Almost half of the office space is considered Class A, with the majority located in the upper section of the area.

**LAND USE TOTALS**

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>NET LEASABLE AREA</th>
<th>LOT ACREAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMERCIAL</td>
<td>438,099</td>
<td>40</td>
</tr>
<tr>
<td>Car Dealer, Car Wash, Fitness Center, Gas Station, Hotel</td>
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<tr>
<td>FLEX</td>
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<td>INSTITUTIONAL</td>
<td>24,004</td>
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<tr>
<td>(Church, Post Office)</td>
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<td>INDUSTRIAL</td>
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<td>MUNICIPAL</td>
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<tr>
<td>OFFICE (Office Class A, Office Class B/C)</td>
<td>3,615,544</td>
<td>330</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>UNDEVELOPED</td>
<td>0</td>
<td>39</td>
</tr>
<tr>
<td>UTILITY, (Utility, Septa Parking)</td>
<td>108,056</td>
<td>14</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>5,083,440</td>
<td>538</td>
</tr>
</tbody>
</table>

Turnpike Corridor Reinvestment Project
Age of Structures

The vast majority of the office park was built in the 1960s and 1970s, although many of these buildings have been renovated.

There are a couple of newer office buildings, as well as a new Wawa store and LA Fitness gym.
Zoning

Most of the Fort Washington study area is covered by one zoning district, Upper Dublin’s EC Employment Center District.

Recently, the township adopted a new Transfer of Development Rights option within Fort Washington. This option allows extra development and residential uses in certain parts of the office park in exchange for removing development from portions of the office park that are within the 100 year floodplain.
Future Land Use for Fort Washington

Development Proposals - Currently, there are a number of significant development proposals in the Fort Washington study area, including a proposed 124 room hotel at Office Center and Virginia Drives, a 112,000 square foot Life Time Fitness Facility, and a 320,000 square foot conversion of a portion of the old Expo site into a new executive business center and expo center.

Municipal Plans - Upper Dublin’s 2010 Comprehensive Plan has a number of recommendations for the Fort Washington office park, recognizing that the park is aging and prone to flooding. The plan recommends restricting development in flood prone areas while allowing additional development in more appropriate parts of the office park. This shifting of development could be accomplished through a Transfer of Development Rights program. In addition, the plan recommends that mixed use development, including apartments, be allowed in the office park and that all new development have a “green” design.

Whitemarsh’s 2001 Comprehensive Plan identifies the area along Pennsylvania Avenue as CO Commercial Office. This plan notes that the zoning of the area could be modified to encourage higher density office and commercial development, given its proximity to the Fort Washington train station and Turnpike interchange.

County Comprehensive Plan - The county comprehensive plan, Montco 2040: A Shared Vision, was adopted in 2015. It shows the whole study area as Regional Mixed Use Center.

Regional Mixed Use Centers include intensely developed suburban cores with significant retail, office, hotel, entertainment and residential land uses.

POTENTIAL FORT WASHINGTON INFILL DEVELOPMENT

Over time, Regional Mixed Use Centers are expected to become more mixed use and transit oriented, yet still capable of accommodating the automobile. New development will be closer to the street, more walkable, and taller, possibly with structured parking.

In addition, a transit oriented development walkshed is shown around the Fort Washington station.

Future Vision - Upper Dublin recently passed new zoning implementing the comprehensive plan vision, which uses transfer of development rights to allow more intense office, apartment, and mixed use developments outside of the floodplain. Apartments are limited to a couple of core sites.

Whitemarsh is open to transit-oriented development along Pennsylvania Avenue and recognizes that some of this proposed development might be residential or mixed use.
Willow Grove Area

Willow Grove is a large area of business parks and commercial uses. The study area actually sits between two well-known “Willow Groves” - the Willow Grove mall/downtown area and the Willow Grove Naval Air Station.

Because of its access to the Willow Grove Interchange of the Turnpike and relatively quick access to a highly-skilled workforce, the area has seen significant growth.

The portion of Willow Grove closest to the interchange and the area along Horsham Road have been in transition, with older industrial buildings converting to shopping centers and retail stores.
Study Area Quick Facts

- **Study Area Size**: 1,166 Acres
- **Total Parcels**: 263
- **Total Property Owners**: 148
- **Total Employees (2010)**: 20,554
- **Total Office Space**: 5,430,859 sf
  - **Class A**: 2,528,731 sf
  - **Class B/C**: 2,902,130 sf
- **Total Industrial/Flex Space**: 2,288,026 sf
- **Percent of Buildings Built Before 1980**: 40%
- **Average Rent***
  - **Office**: $21/sf
  - **Industrial/Flex**: $5/sf
- **Vacancy Rate***
  - **Office**: 11%
  - **Industrial/Flex**: 18%

*Rent and Vacancy figures are estimates based on an analysis of specific properties using available data from the CoStar Group between March, 2013 and September, 2013.

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**TRANSPORTATION IN THE WILLOW GROVE STUDY AREA**

![Map of the Study Area showing transportation routes](image-url)
Land Use

Most of the land area and building square footage is now office. The largest office complex is the Prudential site.

Industrial uses are dominated by the large UPS distribution facility, but older industrial properties are scattered throughout the Upper Moreland portion of the study area. Some industrial uses have changed to retail commercial ones.

Residential uses are primarily located in Upper Moreland.

LAND USE TOTALS

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>NET LEASABLE AREA</th>
<th>LOT ACREAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMERCIAL</td>
<td>1,851,610</td>
<td>171</td>
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<td>(Car Dealer, Restaurant, Retail, Shopping Center, Animal Care, Vehicle Service, Hotel, Indoor Recreation, Mini Storage)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLEX</td>
<td>410,208</td>
<td>39</td>
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<tr>
<td>INSTITUTIONAL</td>
<td>206,820</td>
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<tr>
<td>(Church, Club, Nursing Home, School)</td>
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<td>INDUSTRIAL</td>
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<td>MUNICIPAL</td>
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<td>OFFICE (Office Class A, Office Class B/C)</td>
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<td>543</td>
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<tr>
<td>RESIDENTIAL</td>
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<td>UTILITY (Power Line)</td>
<td>468</td>
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<tr>
<td>GRAND TOTAL</td>
<td>10,371,988</td>
<td>1,166</td>
</tr>
</tbody>
</table>
Age of Structures

Much of the Pennsylvania Business Campus and Horsham Business Campus was built in the 1980s. The Willow Grove Industrial and Office Center, which is right next to the interchange, was built much earlier, with many buildings constructed before 1960. Some of these buildings were razed to build the Willow Grove Pointe and Horsham Gate shopping centers in the 2000s.

The Prudential office building was erected in the 1970s.
Zoning

The zoning in Horsham is primarily suburban office and light industrial, while Upper Dublin’s zoning provides for a primarily office setting. The Upper Moreland area has a variety of zoning districts, including general commercial areas that provide for some retail and hotel uses. Upper Moreland also features several residential districts that permit garden apartment and townhouse development.
Future Land Use for Willow Grove

Development Proposals - Currently, there are a number of pending development proposals including two hotel/apartment projects for Maryland Road, a Lexus dealership, and an expansion of the Abington Hospital facility. On the Prudential property in Upper Dublin, there is an outstanding approval for approximately one million square feet of office campus space, although only one building has been built in the past ten years.

Municipal Plans - Upper Dublin’s 2010 Comprehensive Plan recommends commercial office for the Prudential property and includes a detailed fiscal analysis comparing office development on this property with other land use alternatives, concluding that offices would have the best fiscal impact.

Horsham’s 2011 Comprehensive Plan Update essentially expects the Horsham Business Center and Pennsylvania Business campus to remain as primarily office parks. The large United Parcel Service site is also expected to remain. Along Route 611, the township envisions revitalization of the retail businesses, with consolidated properties, beautification, and combined driveway access points.

Upper Moreland does not have a current comprehensive plan but is preparing one.

County Comprehensive Plan - The county comprehensive plan, Montco 2040: A Shared Vision, was adopted in 2015. It shows two land uses for the study area.

The bulk of the area is identified as Business Area, which includes employment-oriented land uses, such as offices, research facilities, and industrial parks with smaller retail uses and higher density residential as possible supporting uses. Over time, supporting uses might become more prominent in Business Areas, which might also become more transit accessible.

The areas around Welsh and Blair Mill Roads and the Willow Grove interchange of the Turnpike are identified as Community Mixed Use and Services, which are local community focal points with significant retail or institutional elements with nearby residential uses. Over time, these areas may become more walkable and mixed use in character.

Future Vision - In Upper Dublin, the township envisions the Prudential site developing as more offices; however, there have been rezoning requests in the past to change this property to a shopping center and age restricted housing. These requests may reappear in the future.

In Horsham, the township wants the business parks to continue prospering and recognizes that minor zoning changes allowing supporting uses, mixed uses, more height, and higher impervious coverage ratios might be necessary. The township is currently preparing a master plan for the business parks.

In Upper Moreland, the business park areas have already started changing, with some parts now shopping centers and with a car dealer, medical office, apartment, and hotel proposals. The township expects this area to continue becoming more mixed use and less industrial, perhaps with apartments as part of the mix.
Horsham Area

The Horsham area has two main components. On the northern end of Route 611, the study area is dominated by the Willow Grove Naval Air Station, which is currently closed. Most of this study area (862 acres) will be converted to private development; however, a substantial portion will remain as the Horsham Air Guard Station.

Along Horsham Road, the study area consists of a series of industrial and office parks, including the Horsham Ridge Industrial Center, Keith Valley Business Park, Commonwealth National Corporate Center, Babylon Business Center, and Horsham Valley Industrial Park.

This area accesses the PA Turnpike via Route 611 South.

The proposed new development on the Willow Grove Naval Air Station will have a dramatic effect on this area, with over 2 million square feet of non-residential buildings and nearly 1,500 homes expected over the next 25 years.
Study Area Quick Facts

- **Study Area Size = 1,630 Acres**
- **Total Parcels = 105**
- **Total Property Owners = 76**
- **Total Employees (2010) = 4,625**
- **Total Office Space = 1,378,833 sf**
  - Class A = 1,080,680 sf
  - Class B/C = 298,153 sf
- **Total Industrial/Flex Space = 1,531,814 sf**
- **Percent of Buildings Built Before 1980 = 42%**

**Average Rent**

- **Office = NA**
- **Industrial/Flex = NA**

**Vacancy Rate**

- **Office = NA**
- **Industrial/Flex = 8%**

---

*Rent and Vacancy figures are estimates based on an analysis of specific properties using available data from the CoStar Group between March, 2013 and September, 2013.
Land Use

The Horsham area is currently dominated by the Willow Grove Naval Air Station, which has over 1,000 acres.

Along Horsham Road, Class A offices are primarily in the Commonwealth Center on the north side, while industrial and flex space uses are south of Horsham Road.

LAND USE TOTALS

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>NET LEASABLE AREA</th>
<th>LOT ACREAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMERCIAL (Retail, Hotel, Restaurant, Animal Care, Club House, Contractor)</td>
<td>193,008</td>
<td>36</td>
</tr>
<tr>
<td>FLEX</td>
<td>606,930</td>
<td>59</td>
</tr>
<tr>
<td>INSTITUTIONAL (School, Day Care, Post Office)</td>
<td>59,431</td>
<td>115</td>
</tr>
<tr>
<td>INDUSTRIAL</td>
<td>924,884</td>
<td>112</td>
</tr>
<tr>
<td>MILITARY BASE</td>
<td>N/A</td>
<td>1,027</td>
</tr>
<tr>
<td>MUNICIPAL</td>
<td>25,051</td>
<td>10</td>
</tr>
<tr>
<td>OFFICE (Office Class A, Office Class B/C)</td>
<td>1,378,833</td>
<td>183</td>
</tr>
<tr>
<td>RECREATIONAL (Golf Course)</td>
<td>0</td>
<td>41</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>UNDEVELOPED</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>UTILITY</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>3,188,137</td>
<td>1,630</td>
</tr>
</tbody>
</table>

LAND USES IN THE HORSHAM STUDY AREA, 2013
Age of Structures

Along Horsham Road, most of the offices were built in the 1980s and 1990s, most of the industrial uses were built in the 1970s, and most of the flex space was built in the 1970s and 1980s. Most of the structures on the Naval Air Station are quite old, but they would likely be replaced when the area gets redeveloped.
Zoning

The zoning outside of the Naval Air Station is almost completely industrial and office. The Air Station is zoned for industrial use, but future redevelopment of the base will be subject to the NAS-JRB Willow Grove Redevelopment Plan and it will be overseen by the Horsham Land Redevelopment Authority. The Redevelopment Plan calls for mixed use development which includes a traditional town center with retail, offices, a museum, recreational space, and a variety of residential types including multifamily apartments, townhomes, and single-family detached residences.
Future Land Use for Horsham Area

Development Proposals - Currently, there are no significant development proposals in this area; however, much of the Willow Grove Naval Air Station is in the process of being transferred to the Horsham Land Redevelopment Authority, which expects to have significant future development on the property.

Municipal Plans - Horsham’s 2011 Comprehensive Plan Update essentially expects the Commonwealth Corporate Center, Horsham Valley Industrial Park, Babylon Business Center, Keith Valley Business Park, and Horsham Ridge Industrial Center to remain either office or industrial. The plan has a more detailed discussion of the Naval Air Station and notes that this property should be considered a unique opportunity for smart growth with mixed use development.

Specifically, the plan recommends that redevelopment of the Naval Air Station include future employment centers, key recreation areas, a central location for limited retail and business services in the form of a traditional town center, a variety of housing choices for all people, and a future school site.

County Comprehensive Plan - The county comprehensive plan, Montco 2040: A Shared Vision, was adopted in 2015. It shows two land uses for the study area, one an overlay of the other.

Most of the naval air station and nearby land is shown as Regional Mixed Use Center, which includes intensely developed suburban cores with significant retail, office, hotel, entertainment and residential land uses.

Over time, Regional Mixed Use Centers are expected to become more mixed use and transit oriented, yet still capable of accommodating the automobile. New development will be closer to the street, more walkable, and taller, possibly with structured parking.

The areas around Horsham Road and Route 611 and County Line Road and Route 611 are identified as Community Mixed Use and Services, which are local community focal points with significant retail or institutional elements with nearby residential uses. Over time, these areas may become more walkable and mixed use in character.

The remaining area along Horsham Road is identified as Business Area, which includes employment-oriented land uses, such as offices, research facilities, and industrial parks with smaller retail uses and higher density residential as possible supporting uses. Over time, supporting uses might become more prominent in Business Areas, which might also become more transit accessible.

In addition, the Naval Air Station is shown as a unique county wide use.

Future Vision - In Horsham, the township wants the business parks to continue prospering and recognizes that minor zoning changes allowing supporting uses, more height, and higher impervious coverage ratios might be necessary.

In cooperation with the township, the Horsham Land Redevelopment Authority has prepared a master plan for the site that includes 690 single family homes, 400 apartments, 326 age-restricted or assisted living units, 1,253,392 square feet of office space, a hotel and conference center, 494,230 square feet of retail and entertainment space, a school, housing for the homeless, a recreation center, and an aviation museum. Over time, this development is expected to generate 7,000 jobs and accommodate 4,000 residents.

REDEVELOPMENT PLAN FOR THE NAVAL AIR STATION PREPARED BY THE HORSHAM LAND REDEVELOPMENT AUTHORITY.
Chapter 3 Transportation Analysis
Chapter 3, Transportation Analysis, is focused on proposed Turnpike Interchange improvements. The transportation context for each study area is summarized, followed by a map and description of proposed Turnpike Interchange changes, when changes are warranted.

This chapter makes the following Turnpike Interchange recommendations:

- **King of Prussia** - modernize Valley Forge Interchange by connecting directly with the King of Prussia Business Park.
- **Gulph Mills/Swedeland** - add new interchange at intersection of Henderson Road and Saulin Boulevard.
- **Norristown/Plymouth** - add new interchange at Lafayette Street and Ridge Pike.
- **Plymouth Meeting/Blue Bell** - no changes to current interchanges.
- **Fort Washington** - connect Fort Washington Interchange directly with office park. Make Virginia Drive Interchange a full interchange.
- **Willow Grove** - add new interchange at Welsh Road. Modernize Willow Grove Interchange by redesigning connection to Route 611. (The Horsham study area, which includes the Willow Grove Naval Air Station, does not have direct access to the turnpike and is included in the Willow Grove study area transportation analysis.)

Overall, new zoning, new and improved interchanges, and the Turnpike widening are expected to add 50,050 new trips on the Turnpike by 2040, generating an additional $564 million in additional revenue by 2040.
**King of Prussia Area**

**Transportation Context**

King of Prussia is the highway hub of the county, where the Pennsylvania Turnpike, Schuylkill Expressway, Route 422, and Route 202 come together. This highway network connects the Philadelphia region with central and western Pennsylvania.

King of Prussia is currently served by an extensive public bus transportation system.

Future improvements underway or planned:

<table>
<thead>
<tr>
<th>INTERCHANGE IMPROVEMENTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The current Turnpike interchange is proposed to be redesigned to provide direct access to First Avenue.</td>
<td>A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OTHER TRANSPORTATION IMPROVEMENTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Route 422 bridge over the Schuylkill River will be widened, including a bike and pedestrian bridge.</td>
<td>1</td>
</tr>
<tr>
<td>Route 23 at Allendale Road will be relocated onto a new bridge that eliminates a sharp turn.</td>
<td>2</td>
</tr>
<tr>
<td>Valley Forge Road (Route 23) will be relocated to reduce traffic within Valley Forge Park.</td>
<td>3</td>
</tr>
<tr>
<td>The Norristown High Speed Line will be extended to King of Prussia. This is a long-term, capital-intensive project.</td>
<td>4</td>
</tr>
<tr>
<td>The Chester Valley Trail will be completed, providing a connection to Norristown.</td>
<td>5</td>
</tr>
</tbody>
</table>
King of Prussia Area

Valley Forge Interchange Modernization

Currently, the Valley Forge Interchange in King of Prussia connects directly with the Schuylkill Expressway but does not provide a connection in the other direction into the King of Prussia Business Park. The modernized interchange would:

- Provide direct access from the Turnpike to and from the King of Prussia Business Park and other development on the north side of the Turnpike.
- Provide direct access from the Schuylkill Expressway to the King of Prussia Business Park via ramps leading to a signalized intersection at Moore Road and First Avenue.
- Improve access to the Freedom Business Center campus.

### Traffic Volumes at Modernized Valley Forge Interchange

<table>
<thead>
<tr>
<th>Turnpike Construction and Zoning Scenarios</th>
<th>Daily Traffic Volume at Valley Forge Interchange</th>
<th>Increase from No Turnpike Interchange Improvements and No Zoning Change Scenario (2040)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Traffic Volumes (2013)</td>
<td>64,200</td>
<td>70,600</td>
</tr>
<tr>
<td>Future Traffic Volumes with No Turnpike Interchange Improvements and No Zoning Changes (2040)</td>
<td>87,000</td>
<td>16,400</td>
</tr>
<tr>
<td>Future Traffic Volumes with Turnpike Interchange Improvements Only (2040)</td>
<td>87,000</td>
<td>17,100</td>
</tr>
<tr>
<td>Future Traffic Volumes with Turnpike Interchange Improvements and Zoning Changes (2040)</td>
<td>87,700</td>
<td>18,000</td>
</tr>
<tr>
<td>Future Traffic Volumes with Turnpike Interchange Improvements, Turnpike Widening, and Zoning Changes* (2040)</td>
<td>88,600</td>
<td>18,000</td>
</tr>
</tbody>
</table>

* Turnpike Widening would be the section from Mid-County to Bensalem going from 3 lanes in each direction to 4 lanes. These scenarios assume all proposed interchange improvements are completed.
Gulph Mills/Swedeland Area

Transportation Context

Although the Turnpike goes through Swedeland, there is no easy way to get from the Turnpike to this area. Recent improvements in the area include a partial interchange at the Schuylkill Expressway (Route 76) and Henderson Road. Portions of Henderson Road have been widened to four lanes.

Swedeland is served by bus routes and stations along the Norristown High Speed Line.

Future improvements underway or planned:

**INTERCHANGE IMPROVEMENTS**

A new Turnpike interchange is proposed at Henderson Road and Saulin Boulevard.

**OTHER TRANSPORTATION IMPROVEMENTS**

The Chester Valley Trail will be completed, providing a connection to Norristown.

The Norristown High Speed Line will be extended to King of Prussia. This is a long-term, capital-intensive project.

Portions of Henderson Road and South Gulph Road will be widened.
Gulph Mills/Swedeland Area

New Henderson Road Interchange

Henderson Road provides an important connection between the Schuylkill Expressway (Route 76) and Route 202 and Norristown, as well as access to the Renaissance at Gulph Mills office complex and the Gulph Mills Industrial Center.

A new interchange at Henderson Road would:

- Provide access from the Turnpike to the Swedeland employment center that includes the Renaissance at Gulph Mills and Gulph Mills Industrial Center.
- Provide an alternative to Route 202 and the Schuylkill Expressway (Route 76) for traffic moving around King of Prussia, Swedeland, Gulph Mills, Bridgeport, and Norristown.
- Provide relief to the Valley Forge Interchange by allowing traffic traveling west that originates in Norristown, Bridgeport, and Upper Merion to enter the Turnpike more conveniently.

<table>
<thead>
<tr>
<th>TURNPIKE CONSTRUCTION AND ZONING SCENAROS</th>
<th>DAILY TRAFFIC VOLUME AT HENDERSON ROAD INTERCHANGE</th>
<th>INCREASE FROM NO TURNPIKE INTERCHANGE IMPROVEMENTS AND NO ZONING CHANGE SCENARIO (2040)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRENT TRAFFIC VOLUMES (2013)</td>
<td>0</td>
<td>- - -</td>
</tr>
<tr>
<td>FUTURE TRAFFIC VOLUMES WITH NO NEW TURNPIKE INTERCHANGES AND NO ZONING CHANGES (2040)</td>
<td>0</td>
<td>- - -</td>
</tr>
<tr>
<td>FUTURE TRAFFIC VOLUMES WITH NEW TURNPIKE INTERCHANGES (2040)</td>
<td>20,600</td>
<td>20,600</td>
</tr>
<tr>
<td>FUTURE TRAFFIC VOLUMES WITH NEW TURNPIKE INTERCHANGES AND ZONING CHANGES (2040)</td>
<td>20,900</td>
<td>20,900</td>
</tr>
<tr>
<td>FUTURE TRAFFIC VOLUMES WITH NEW TURNPIKE INTERCHANGES, TURNPIKE WIDENING, AND ZONING CHANGES* (2040)</td>
<td>21,100</td>
<td>21,100</td>
</tr>
</tbody>
</table>

* Turnpike Widening would be the section from Mid-County to Bensalem going from 3 lanes in each direction to 4 lanes. These scenarios assume all proposed interchange improvements are completed.

CURRENT LAND USES IN THE HENDERSON ROAD AREA.

<table>
<thead>
<tr>
<th>COST FOR NEW HENDERSON ROAD INTERCHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSTRUCTION COSTS</td>
</tr>
<tr>
<td>ESTIMATED COST OF INTERCHANGE CONSTRUCTION (2014 DOLLARS)</td>
</tr>
</tbody>
</table>

* Estimated costs do not include right-of-way acquisitions.

EVEN WITH NO OTHER TURNPIKE IMPROVEMENTS, THE NEW HENDERSON ROAD INTERCHANGE HAS A POSITIVE IMPACT

<table>
<thead>
<tr>
<th>NEW TRIPS TO THE TURNPIKE AND CUMULATIVE REVENUE</th>
<th>TRIPS AND DOLLARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESTIMATED NEW DAILY TRIPS TO THE TURNPIKE IF ONLY THE NEW INTERCHANGE IS BUILT, WITH NO OTHER TURNPIKE IMPROVEMENTS OR ZONING CHANGES</td>
<td>4,250 to 6,800 trips</td>
</tr>
<tr>
<td>ESTIMATED CUMULATIVE REVENUE FROM 2020 TO 2040 FROM THE NEW INTERCHANGE ALONE</td>
<td>$47,980,000 to $76,630,000</td>
</tr>
</tbody>
</table>
Norristown/Plymouth Area

Transportation Context

Direct highway access to Norristown does not currently exist. The extension of Lafayette Street, when combined with a new Turnpike interchange, will provide this access. The southern portion of Plymouth Township does have access from Route 476, although the design of this access is confusing.

Norristown is well served by public transit, including regional rail, the Norristown High Speed Line, and multiple bus lines.

Future improvements underway or planned:

<table>
<thead>
<tr>
<th>INTERCHANGE IMPROVEMENTS</th>
<th>OTHER TRANSPORTATION IMPROVEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A new Turnpike interchange is proposed at Ridge Pike, Conshohocken Road, and Lafayette Street.</td>
<td>Lafayette Street is currently being extended to Conshohocken Road. The existing portion of Lafayette Street will be improved next, and eventually Lafayette Street should have direct access from Markley Street.</td>
</tr>
<tr>
<td>Ridge Pike will be widened and improved, including elimination of the jug handle at Alan Wood Road and improved access from the interchange with Route 476.</td>
<td></td>
</tr>
</tbody>
</table>
Norristown/Plymouth Area
Lafayette/Ridge Interchange

Although the Turnpike comes very close to Norristown, it does not currently have an interchange that is near Norristown. The closest is 2 miles away.

A new interchange at Lafayette Street and Ridge Pike would:

- Provide access from the Turnpike to Norristown, which is the county seat, as well as access to industrial properties and car dealerships in Plymouth.
- When combined with the new Henderson Road interchange, provide a convenient river crossing between Norristown and Conshohocken. Currently, the Schuylkill River is a significant barrier for the road system.
- Take pressure off roads leading to the current Norristown interchange (which is two miles from Norristown, while the new interchange will only be half mile from the downtown.)

<table>
<thead>
<tr>
<th>TRAFFIC VOLUMES AT NEW LAFAYETTE/RIDGE INTERCHANGE</th>
<th>COST FOR NEW LAFAYETTE/RIDGE INTERCHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TURNPIKE CONSTRUCTION AND ZONING SCENARIOS</strong></td>
<td><strong>CONSTRUCTION COSTS</strong></td>
</tr>
<tr>
<td><strong>CURRENT TRAFFIC VOLUMES (2013)</strong></td>
<td>DOLLARS $48,000,000</td>
</tr>
<tr>
<td><strong>FUTURE TRAFFIC VOLUMES WITH NO NEW TURNPIKE INTERCHANGES AND NO ZONING CHANGES (2040)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>FUTURE TRAFFIC VOLUMES WITH NEW TURNPIKE INTERCHANGES ONLY (2040)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>FUTURE TRAFFIC VOLUMES WITH NEW TURNPIKE INTERCHANGES AND ZONING CHANGES (2040)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>FUTURE TRAFFIC VOLUMES WITH NEW TURNPIKE INTERCHANGES, TURNPIKE WIDENING, AND ZONING CHANGES * (2040)</strong></td>
<td></td>
</tr>
</tbody>
</table>

* Turnpike Widening would be the section from Mid-County to Bensalem going from 3 lanes in each direction to 4 lanes. These scenarios assume all proposed interchange improvements are completed.

CURRENT LAND USES IN THE LAFAYETTE STREET AND RIDGE PIKE AREA.

CURRENT LAND USES IN THE LAFAYETTE STREET AND RIDGE PIKE AREA.

* Estimated costs do not include right-of-way acquisitions.

EVEN WITH NO OTHER TURNPIKE IMPROVEMENTS, THE NEW LAFAYETTE/RIDGE INTERCHANGE HAS A POSITIVE IMPACT

**NEW TRIPS TO THE TURNPIKE AND CUMULATIVE REVENUE**

**ESTIMATED NEW DAILY TRIPS TO THE TURNPIKE IF ONLY THE NEW INTERCHANGE IS BUILT, WITH NO OTHER TURNPIKE IMPROVEMENTS OR ZONING CHANGES**

5,900 to 8,000 trips

**ESTIMATED CUMULATIVE REVENUE FROM 2020 TO 2040 FROM THE NEW INTERCHANGE ALONE**

$66,410,000 to $90,180,000

Chapter 3 Transportation Analysis
**Plymouth Meeting/Blue Bell Area**

**Transportation Context**

This area is well served by two Turnpike interchanges, one that connects with Route 476 and one that connects with Germantown Pike and the local road system.

Because these interchanges function well under their current design, no changes or new interchanges are proposed. If the other interchanges in the corridor are built, the zoning changes take place, and the widening happens, the two interchanges in Plymouth Meeting/Blue Bell are expected to have 108,600 total trips in 2040, which is less than the 116,500 expected in 2040 if no improvements or zoning changes were made.

The area is served by six SEPTA bus routes.

New interchanges along the Turnpike will actually reduce daily traffic volume at the Norristown and Mid-County interchanges.

Future improvements underway or planned:

<table>
<thead>
<tr>
<th>OTHER TRANSPORTATION IMPROVEMENTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Northeast Extension (Route 476) is currently being widened from four lanes to six lanes.</td>
<td>1</td>
</tr>
<tr>
<td>These will be a future study of feasibility of a new interchange at the intersection of the Northeast Extension with Route 202.</td>
<td>2</td>
</tr>
<tr>
<td>The Cross County Trail, which currently ends at Germantown Pike, will be extended to Fort Washington and beyond.</td>
<td>3</td>
</tr>
</tbody>
</table>
Fort Washington Area

Transportation Context

This area is at the intersection of the Turnpike with Route 309, which was recently rebuilt and significantly improved. The Fort Washington Turnpike Interchange provides excellent access to Route 309 but roundabout access to the Fort Washington office park. The Virginia Drive slip ramp interchange only provides access for westbound traffic.

A SEPTA regional rail station is on the edge of the office park, and the park is served by a bus.

Future improvements underway or planned:

**INTERCHANGE IMPROVEMENTS**

A The Virginia Drive half-interchange is proposed to be converted into a full interchange.

B The Fort Washington Interchange is proposed to be improved to provide direct access to the office park.

**OTHER TRANSPORTATION IMPROVEMENTS**

1 Virginia Drive will be improved with a road diet, and the series of roads leading from Pennsylvania Avenue to Virginia Drive will be modified to improve traffic flow.

2 The Cross County Trail will be built through Fort Washington, connecting Plymouth Meeting with Willow Grove.
Fort Washington Area

Fort Washington Interchange Modernization

Currently, the Fort Washington Interchange connects directly with Route 309 but does not provide direct access to the office park.

The modernized interchange would:
- Provide direct access from the Turnpike to the Fort Washington office park.
- Provide AM peak congestion relief to Pennsylvania Avenue and the Route 309 Interchange.

### Traffic Volumes at Modernized Fort Washington Interchange

<table>
<thead>
<tr>
<th>Turnpike Construction and Zoning Scenarios</th>
<th>Daily Traffic Volume at Fort Washington Interchange</th>
<th>Increase from No Turnpike Interchange Improvements and No Zoning Change Scenario (2040)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Traffic Volumes (2013)</strong></td>
<td>51,500</td>
<td>- - -</td>
</tr>
<tr>
<td><strong>Future Traffic Volumes with No Turnpike Interchange Improvements and No Zoning Changes (2040)</strong></td>
<td>55,500</td>
<td>- - -</td>
</tr>
<tr>
<td><strong>Future Traffic Volumes with Turnpike Interchange Improvements Only (2040)</strong></td>
<td>63,200</td>
<td>7,700</td>
</tr>
<tr>
<td><strong>Future Traffic Volumes with Turnpike Interchange Improvements and Zoning Changes (2040)</strong></td>
<td>64,300</td>
<td>8,800</td>
</tr>
<tr>
<td><strong>Future Traffic Volumes with Turnpike Interchange Improvements, Turnpike Widening, and Zoning Changes * (2040)</strong></td>
<td>66,100</td>
<td>10,600</td>
</tr>
</tbody>
</table>

* Turnpike Widening would be the section from Mid-County to Bensalem going from 3 lanes in each direction to 4 lanes. These scenarios assume all proposed interchange improvements are completed.

### Cost for Modernized Fort Washington Interchange

<table>
<thead>
<tr>
<th>Construction Costs</th>
<th>Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Cost of Interchange Modernization (2014 Dollars)</td>
<td>$4,700,000</td>
</tr>
</tbody>
</table>

* Estimated costs do not include right-of-way acquisitions.
CONCEPTUAL INTERCHANGE DESIGN

NEW DIRECT ZIP RAMP FROM FORT WASHINGTON INTERCHANGE TO COMMERCE DRIVE

CAPACITY IMPROVEMENTS REQUIRED TO ACCOMMODATE NEW ACCESS POINT

NEW SIDEWALK

NEW OR WIDENED PAVEMENT

PAVEMENT REMOVAL

NEW OR RECONSTRUCTED STRUCTURE

NEW RETAINING WALL

NEW SIDEWALK

Turnpike Corridor Reinvestment Project
Fort Washington Area

Virginia Drive Interchange Completion

Currently, the Virginia Drive Interchange is only half an interchange, providing access to westbound traffic with EZ-Pass.

A complete interchange would:

- Provide direct access from the Turnpike to the northern end of the Fort Washington office park for eastbound traffic.
- For eastbound traffic, take pressure off the Fort Washington Interchange, particularly during the AM and PM peaks.
- Provide access to redevelopment sites on the southern side of the Turnpike.

<table>
<thead>
<tr>
<th>TURNPIKE CONSTRUCTION AND ZONING SCENARIOS</th>
<th>DAILY TRAFFIC VOLUME AT VIRGINIA DRIVE INTERCHANGE</th>
<th>INCREASE FROM NO TURNPIKE INTERCHANGE IMPROVEMENTS AND NO ZONING CHANGE SCENARIO (2040)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRENT TRAFFIC VOLUMES (2013)</td>
<td>5,800</td>
<td>- - -</td>
</tr>
<tr>
<td>FUTURE TRAFFIC VOLUMES WITH NO TURNPIKE INTERCHANGE IMPROVEMENTS AND NO ZONING CHANGES (2040)</td>
<td>6,800</td>
<td>- - -</td>
</tr>
<tr>
<td>FUTURE TRAFFIC VOLUMES WITH TURNPIKE INTERCHANGE IMPROVEMENTS ONLY (2040)</td>
<td>11,400</td>
<td>4,600</td>
</tr>
<tr>
<td>FUTURE TRAFFIC VOLUMES WITH TURNPIKE INTERCHANGE IMPROVEMENTS AND ZONING CHANGES (2040)</td>
<td>11,700</td>
<td>4,900</td>
</tr>
<tr>
<td>FUTURE TRAFFIC VOLUMES WITH TURNPIKE INTERCHANGE IMPROVEMENTS, TURNPIKE WIDENING, AND ZONING CHANGES * (2040)</td>
<td>11,900</td>
<td>5,100</td>
</tr>
</tbody>
</table>

* Turnpike Widening would be the section from Mid-County to Bensalem going from 3 lanes in each direction to 4 lanes. These scenarios assume all proposed interchange improvements are completed.

COST FOR VIRGINIA DRIVE INTERCHANGE COMPLETION

- **ESTIMATED COST OF INTERCHANGE COMPLETION (2014 DOLLARS):** $27,500,000

Even with no other Turnpike improvements, a completed Virginia Drive Interchange has a positive impact.

- **ESTIMATED NEW DAILY TRIPS TO THE TURNPIKE IF ONLY THE NEW INTERCHANGE IS BUILT, WITH NO OTHER TURNPIKE IMPROVEMENTS OR ZONING CHANGES:** 2,050 to 2,650 trips
- **ESTIMATED CUMULATIVE REVENUE FROM 2020 TO 2040 FROM THE NEW INTERCHANGE ALONE:** $23,100,000 to $29,760,000

* Estimated costs do not include right-of-way acquisitions.
Willow Grove Area

Transportation Context

The Willow Grove area, as well as the Horsham Area, is primarily served by the Turnpike Interchange with Route 611. Because of the high volumes feeding into this interchange, Route 611 and Horsham Road have needed significant improvements. There is currently a study being completed about future improvements in the Route 611 corridor.

SEPTA regional rail stations are outside of the study areas, although buses do serve these areas.

Future improvements underway or planned:

<table>
<thead>
<tr>
<th>INTERCHANGE IMPROVEMENTS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Willow Grove interchange is proposed to be improved to avoid backups on Route 611, including two lane southbound access from Route 611.</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>A new interchange is proposed for Welsh Road. Welsh Road would need extensive improvements.</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OTHER TRANSPORTATION IMPROVEMENTS</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route 611 will need additional intersection and widening improvements, possibly with an expansion to six lanes, particularly as the Willow Grove Naval Air Station redevelops.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>The Cross County Trail will be built through Willow Grove to the Pennypack and Power Line Trails.</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
**Willow Grove Area**

**New Welsh Road Interchange**

Welsh Road provides access to a large employment area but crosses the Turnpike without an interchange.

A new interchange at Welsh Road would:

- Provide access from the Turnpike to existing employment in the Prudential Office Campus, Horsham Business Center, and Pennsylvania Business Center.
- Provide an alternative to Route 611 for traffic going to industrial and office parks along Horsham Road and future development at the Willow Grove Naval Air Station property.
- Provide relief to the Willow Grove Interchange and local arterial roads.
- Provide direct access to vacant land on the Prudential Office Campus.

### CURRENT LAND USES IN THE WELSH ROAD AREA.

**Traffic Volumes at New Welsh Road Interchange**

<table>
<thead>
<tr>
<th>Turnpike Construction and Zoning Scenarios</th>
<th>Daily Traffic Volume at Welsh Road Interchange</th>
<th>Increase from No Turnpike Interchange Improvements and No Zoning Change Scenario (2040)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Traffic Volumes (2013)</td>
<td>0</td>
<td>- - -</td>
</tr>
<tr>
<td>Future Traffic Volumes with No New Turnpike Interchanges and No Zoning Changes (2040)</td>
<td>0</td>
<td>- - -</td>
</tr>
<tr>
<td>Future Traffic Volumes with New Turnpike Interchanges Only (2040)</td>
<td>24,700</td>
<td>24,700</td>
</tr>
<tr>
<td>Future Traffic Volumes with New Turnpike Interchanges and Zoning Changes (2040)</td>
<td>24,900</td>
<td>24,900</td>
</tr>
<tr>
<td>Future Traffic Volumes with New Turnpike Interchanges, Turnpike Widening, and Zoning Changes * (2040)</td>
<td>25,500</td>
<td>25,500</td>
</tr>
</tbody>
</table>

### Cost for New Welsh Road Interchange

- **Estimated Cost of Interchange Construction (2014 Dollars)**: $54,600,000

*Estimated costs do not include right-of-way acquisitions. In addition, costs are inflated because Welsh Road bridges need replacement.*

**Even with no other Turnpike improvements, the new Welsh Road interchange has a positive impact**

- **Estimated New Daily Trips to the Turnpike and Cumulative Revenue**
  - **Estimated New Daily Trips to the Turnpike if Only the New Interchange is Built, with No Other Turnpike Improvements or Zoning Changes**: 6,050 to 8,900 trips
  - **Estimated Cumulative Revenue from 2020 to 2040 from the New Interchange Alone**: $68,190,000 to $100,390,000

*Turnpike Widening would be the section from Mid-County to Bensalem going from 3 lanes in each direction to 4 lanes. These scenarios assume all proposed interchange improvements are completed.*

Chapter 3 Transportation Analysis
Willow Grove Area

Willow Grove Interchange Modernization

Currently, the Willow Grove Interchange is adversely affected by backups from the intersection of Route 611 and Mill Road.

The modernized interchange would:

- Lengthen the distance of the northbound on-ramp from Mill Road, providing more room for traffic waiting for the light at Mill Road.
- Improve merging and weaving movements on Route 611 near the interchange.
- Improve through-movements on Route 611.
- Provide two lanes of access from Route 611 for southbound traffic.

### Traffic Volumes at Modernized Willow Grove Interchange

<table>
<thead>
<tr>
<th>Turnpike Construction and Zoning Scenarios</th>
<th>Daily Traffic Volume at Willow Grove Interchange (2013)</th>
<th>Increase from No Turnpike Interchange Improvements and No Zoning Changes (2040)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Traffic Volumes (2013)</td>
<td>55,400</td>
<td>-</td>
</tr>
<tr>
<td>Future Traffic Volumes with No Turnpike Interchange Improvements and No Zoning Changes (2040)</td>
<td>57,500</td>
<td>-</td>
</tr>
<tr>
<td>Future Traffic Volumes with Turnpike Interchange Improvements Only (2040)</td>
<td>49,000</td>
<td>- 8,500</td>
</tr>
<tr>
<td>Future Traffic Volumes with Turnpike Interchange Improvements and Zoning Changes (2040)</td>
<td>49,100</td>
<td>- 8,400</td>
</tr>
<tr>
<td>Future Traffic Volumes with Turnpike Interchange Improvements, Turnpike Widening, and Zoning Changes * (2040)</td>
<td>50,200</td>
<td>- 7,300</td>
</tr>
</tbody>
</table>

### Cost for Modernized Willow Grove Interchange

<table>
<thead>
<tr>
<th>Construction Costs</th>
<th>Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Cost of Interchange Modernization (2014 Dollars)</td>
<td>$33,900,000</td>
</tr>
</tbody>
</table>

* Estimated costs do not include right-of-way acquisitions.

* Turnpike Widening would be the section from Mid-County to Bensalem going from 3 lanes in each direction to 4 lanes. These scenarios assume all proposed interchange improvements are completed.
Chapter 4  Turnpike Corridor Vision
Chapter 4, Turnpike Corridor Vision, describes the future transportation and land use visions for business parks near turnpike interchanges.
General Vision

The Turnpike Corridor is currently the key transportation and economic corridor in the county, providing access to premier business locations and highly-skilled workforces around the county. This role is expected to continue in the future.

Over the next couple of decades, the Turnpike Corridor will see many changes. On the transportation front, there will be new and improved interchanges, all electronic tolling, and a widening to a minimum of 4 lanes in each direction from Mid-County to Bensalem. There will be better transit access, new trails, new sidewalks, and significant nearby road improvements. On the land use front, there will be new zoning, infrastructure and greening improvements, and stronger partnerships and collaborations.

All of the improvements will:

- Provide excellent locations for new high tech, life sciences, professional, financial services, advanced manufacturing, research, and other businesses;
- Make commuting easier;
- Allow Turnpike users to get directly to where they want to go;
- Relieve congestion on the local road system;
- Provide walkable live and work environments;
- Create appealing mixed use places that provide interesting entertainment, restaurant, service, and living options for workers; and
- Attract highly-skilled workers of all ages, experience-levels, and education.

Zoning changes, new and improved interchanges, and a Turnpike widening are expected to add:

- 50,050 additional daily trips on the Turnpike
- $564 million in additional revenue to the Turnpike Commission by 2040
- 26,500 additional jobs
- 4,150 additional homes
Turnpike Interchanges

A key part of this study is identifying new and improved Turnpike Interchanges that will bring new investment to the employment centers along the corridor. There will be three new interchanges—Henderson Road, Lafayette/Ridge, and Welsh Road—a full interchange at Virginia Drive, and improvements at the Valley Forge, Fort Washington, and Willow Grove Interchanges. Future Turnpike improvements should use all electronic tolling, better signage, stormwater best management practices, and context sensitive design.

The Turnpike itself will benefit greatly from these improvements, which will:

- Bring in more revenue;
- Get people more directly where they want to go;
- Move vehicles on and off the Turnpike more quickly; and
- Make access for incidents and maintenance easier.
Business Park Trends

People work differently and have different expectations than they did a generation ago. They no longer drive to work, stay all day, and then drive home, forgetting about work until the next day. Instead, they are connected and active, with variable schedules and high expectations of what they’ll find in their work environment. These expectations, along with evolving market, demographic, and business trends, will continue effecting the Turnpike Corridor’s business parks.

Business park changes might include:

- More Activity
- More Uses
- Expanded Transit Access
- More extensive Transportation Demand Management
- Better Walkability
- More Amenities, both Public and Private
- Stronger Sustainability
- Focused Green Space Improvements

Office buildings will have more amenities to appeal to Millennials, such as restaurants, cafes, coffee shops, fitness centers, day care, doggy day care, game rooms, gathering spaces, outdoor patios, conference space, and inviting lobbies. They will also be greener and more sustainable.

Office parks will see much more non-business activity and uses than in the past, such as restaurants, food trucks, concerts, community exercise classes, dog walking, apartments, shopping, pop-up beer gardens, games, entertainment, festivals, farmer’s markets, special events, etc.
King of Prussia Vision

King of Prussia will continue to evolve as the suburb’s largest employment center, highway hub, and gateway to central and western Pennsylvania.

The Transportation Vision includes:

- A modernized Valley Forge Interchange with a direct connection to the King of Prussia Business Park;
- An extension of the Norristown High Speed Line to the mall and business park;
- Significant road improvements, particularly at Route 422’s crossing of the Schuylkill River; and
- A complete pedestrian network that connects to local and regional trails.

The Land Use Vision includes:

- New, transit-oriented, mixed-use, and green employment and residential areas;
- Road diets, a linear park, new streetscaping, and other improvements to common areas;
- New meeting space that will complement existing facilities; and
- A walkable, mixed-use center with retail, offices, and apartments on the Village at Valley Forge site.
**Gulph Mills/Swedeland Vision**

The Gulph Mills and Swedeland area will continue to provide a convenient location for new industrial and office development close to the regional highway system and Philadelphia.

The Transportation Vision includes:

- A new Turnpike interchange at the intersection of Henderson Road and Saulin Boulevard;
- Completion of the regional Chester Valley Trail, providing access to Norristown and Chester County; and
- Road widenings and improvements.

The Land Use Vision includes:

- New, large-scale industrial, office, and research development in the core employment area;
- Walkable development oriented towards the Norristown High Speed Line station at Hughes Park; and
- A mix of land uses in the Route 202 corridor.

The Swedeland area will continue to support large scale industrial, office, and research facilities.
**Norristown/Plymouth Vision**

The Norristown/Plymouth area will see significant redevelopment, particularly along the Schuylkill River and in the county seat of Norristown.

The Transportation Vision includes:
- A new Turnpike interchange at Lafayette Street and Ridge Pike;
- Extensive improvements to local roads, particularly Ridge Pike;
- Continued enhancements to the Norristown Transportation Center; and
- Completion of the Chester Valley Trail connection with the Schuylkill River Trail and new trail promenades along the Schuylkill River.

The Land Use Vision includes:
- Mixed-use, transit-oriented, river-focused residential and employment development in Norristown and Bridgeport;
- New and rehabilitated arts and culture, entertainment, restaurant, retail, office, and mixed-use buildings in downtown Norristown; and
- New investment on commercial land in Plymouth.

New development in Norristown and Bridgeport could take advantage of river frontage along the Schuylkill River.
Plymouth Meeting/Blue Bell Vision

The Plymouth Meeting and Blue Bell areas will continue to evolve as a mixed-use crossroads and gateway from Philadelphia to Northeastern Pennsylvania.

The Transportation Vision includes:

- Continued road improvements;
- A new trail, the Cross County Trail, running from Conshohocken to Willow Grove; and
- An analysis of a possible interchange of the Northeast Extension of the PA Turnpike at Route 202.

The Land Use Vision includes:

- New mixed use development supporting local business centers;
- Reinvented office campuses and business parks; and
- Continued evolution of the Plymouth Meeting Mall into a walkable mixed commercial and institutional center.
Fort Washington Vision

Fort Washington will be recharged as a green, amenity-rich employment hub for northwestern suburban communities along the Route 309 corridor. Two newly-constructed dams have been a game-changer for flooding in Fort Washington’s roadways.

The Transportation Vision includes:

- A direct connection from the Fort Washington interchange to the business park;
- Completion of the Virginia Drive interchange to provide on and off access to both west and east bound traffic;
- A new trail through the middle of the business park providing access to the Wissahickon greenway, Ambler, and Willow Grove; and
- Better pedestrian connections to the Fort Washington train station.

The Land Use Vision includes:

- New mixed-use development including offices, apartments, restaurants, fitness centers, hotels, meeting space, and services;
- A naturalized green ribbon of open space along Pine Run; and
- A road diet and new green infrastructure and parks along Virginia Drive.
Willow Grove Vision

Willow Grove will remain one of Montgomery County’s largest employment areas, drawing from high-skilled workers in Montgomery County, Bucks County, and New Jersey.

The Transportation Vision includes:

- A new interchange at Welsh Road;
- A more efficient and modern Willow Grove interchange;
- Interconnected trails and sidewalks, including the Power Line and Cross County trails; and
- Significant road and intersection improvements in the Route 611 Corridor.

The Land Use Vision includes:

- New supporting uses in business areas, such as hotels, apartments, restaurants, day care, and services;
- Redevelopment of older and underperforming office and industrial buildings; and
- A central green and other outdoor gathering spaces.
Horsham Vision

The Horsham area will be transformed by the redevelopment of the Willow Grove Naval Air Station into a large mixed use town center for Horsham Township.

The Transportation Vision includes:

- Significant improvements to Route 611 and nearby roads and intersections; and
- A new connected road system within the Naval Air Station property that includes an extension of Norristown Road to Route 611, establishment of a spine road from Keith Valley Road to Horsham Road, and two additional connections between Horsham Road and Route 611.

The Land Use Vision includes:

- A new walkable town center that includes ground floor retail, apartments, a central plaza, and a full mix of uses;
- Extensive new office development, preferably as large scale complexes and campuses; and
- A full range of civic uses, including a school, parks, a recreation center, an aviation museum, and senior housing and services.

The Willow Grove Naval Air Station will have a walkable town center, similar to these examples from northern Virginia and Lancaster County.
**Companion Documents**

This study is accompanied by two companion documents:

