

BACKGROUND FOR THE PLAN

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This part of the Plan summarizes major findings in the following subject areas:

- Regional Influences
- Brief History
- Government Profile
- Natural Features
- Population, Housing and Employment
- Existing Land Use
- Community Facilities and Services
- Transportation and Circulation
- Land Use Policies and Zoning in the Region

REGIONAL INFLUENCES

A community's regional setting is a prominent influence on its growth and development. Fleetwood Borough, Maiden creek and Richmond Townships are located in north-central Berks County, a suburban to rural area that has seen steady development pressures from the Lehigh Valley and Reading areas. The area still maintains a very strong agricultural community.

Fleetwood Borough, Maiden creek and Richmond Townships are situated in north-central Berks County in southeastern Pennsylvania. Berks County lies along the western edge of the Delaware Valley region, which is part of the growing urban corridor between New York, Philadelphia and Washington D.C. This corridor is one of the leading industrial and commercial trade regions of the United States.

Fleetwood lies in the southern portion of Richmond Township and is surrounded by the Township on three sides with Ruscombmanor Township being its southern border. Richmond Township is bordered by Greenwich Township to the north, Maxatawny Township to the northeast, Lyons Borough and Rockland Township to the southeast, Ruscombmanor Township to the south and Perry Township to the northwest. Maiden creek Township's is bordered by Richmond Township on the eastern side, Ruscombmanor and Muhlenberg Township on the southern side, Ontelaunee Township to the west and Perry Township to the north. The two Townships and Borough together comprise 39.3 square miles, 1 square mile in Fleetwood, 14.6 square miles in Maiden creek and 23.7 square miles in Richmond. There are currently 73 municipalities within Berks County.

Fleetwood, Maiden creek and Richmond are influenced by their close proximity to the growing Lehigh Valley, Kutztown and Reading areas. Direct access to the area via Interstate 78, and SR 143, SR 662 and SR 737 has increased development pressure in the immediate region. Due to its accessibility, central location and the growing SR 222 corridor that bisects the two Townships and has the terminus of the Kutztown By-pass on the eastern edge of Richmond Township and the terminus of the Sinking Spring By-pass

on the western edge of Maiden creek Township, the area has seen increased amounts of residential and non-residential growth. The relatively high priced housing costs of the western Lehigh Valley region have made this area of Berks County a reasonably priced attractive alternative for commuters from the east and the expansion of the Greater Reading Metropolitan area towards the west, northeast and east of the City have pushed development towards the western part of the area.

Fleetwood Borough is a small, mature community with a variety of residential, commercial and industrial uses, including newer, suburban style residential development in the north-western sector of the Borough. Only a small amount of undeveloped land still exists in Fleetwood. Adaptive reuse of currently underutilized property and appropriate in-fill uses along with re-development are the Borough's primary opportunities for future growth. The Borough's housing stock is a mix of attached and detached housing types, including pristine examples of historic architecture. Several structures in Fleetwood reflect the Borough's prosperous past as both a manufacturing and shipping center in Berks County.

While Maiden creek Township has seen a substantial amount of new residential growth in the last twenty years, a large quantity of land is still in productive agriculture. Much of the land in the Township is covered by prime agricultural soils, a designation based upon the quality and productivity of the soil. Many of the parcels that are farmed today are part of the Agricultural Security Area. Special intensified agricultural zones promote the continued production of mushrooms. Berks County is a leading mushroom producer for the eastern United States, and a considerable percentage of that production comes from Maiden creek Township. The Township also has a majority of the City of Reading's water supply, Lake Ontelaunee, located within its boundary. The Lake bisects the Township's entire northern section from access to the rest of the area. The land surrounding Lake Ontelaunee is heavily used by nature enthusiast, fisherman and hunters. With a large quantity of land within the Township used for farming and the Lake, this has kept most of the new growth, both residential and non-residential in the southeastern portion around and radiating out from the SR 222 and SR 73 intersection, and along the Park Road corridor into Richmond and Fleetwood.

Richmond Township is also, historically, a farming based community that encompasses old and new residential development, a commercial strip along SR 222 that bisects the Township, and some industrial uses. However, the Township is still among Berks County's least densely developed municipalities. Winding roads, hilly terrain, farmland, scenic creek corridors characterizes much of the Township. Historic churches, farmsteads and other remnants of the area's unique heritage are scattered throughout Richmond Township.

BRIEF HISTORY

Local history helps explain why communities look and function the way they do today. The role of farming, mineral resources, Lake Ontelaunee, and the railroad and heavy industry were the strongest influences on the Fleetwood-Maiden creek-Richmond area's formative growth and development.

Early Inhabitants

The Delaware or Lenni Lenape Indians were the earliest known inhabitants of the Fleetwood, Maiden creek and Richmond area. These natives, along with some smaller tribes, lived in villages along the Schuylkill River, Tulpehocken, Manatawny, and Maiden Creeks. The Lenni Lenape were divided into three tribes: the Unamis, or turtles; the Unalachtgos, or turkeys; and the Minsi, or wolf. The Unamis were the most prevalent in Maiden creek, while the Minsi inhabited the Fleetwood and Richmond area. The largest Minsi settlement in Berks County was located at present day Virginville in the northern portion of Richmond Township.

The first European settlers came to the area in the early 1700's after England's King Charles II granted 40,000 square miles of land to William Penn in what is now eastern Pennsylvania. William Penn organized colonization and made friends with the Indians. These early settlers included English members of the Society of Friends (Quakers) and immigrants from Sweden, Holland, Germany, England, Ireland, Scotland, and Wales. Most of the original Quaker settlement is now covered by Lake Ontelaunee. The German settlements grew the fastest. By the first federal census in 1790, Germans and German descendants comprised almost 75% of Berks County's total population.

Berks County Established

The Pennsylvania Assembly established Berks County in 1752 from parts of Chester, Lancaster and Philadelphia Counties. Fear of Indian raids was a major concern throughout most of the northern colonies at this time. As a frontier region between settled area and Indian lands, Berks County was part of a line of forts that extended every 12 miles from the Susquehanna River to the Delaware River. By the time of the American Revolution, Berks County businesses included several small crafts and industries to supplement the area's early reliance on hunting, trapping, fishing and farming. The Berks County seat of Reading became a major colonial center for hat and clock making during the second half of the eighteenth century.

Maiden creek Township Established

The first survey of Maiden creek Township was completed by Benjamin Lightfoot on July 20, 1746. The survey was performed at the request of the local property owners in order to create a new Township. The survey, describing an area of 13,000 acres held by seventeen property owners, was included in a petition and sent to the Court of Quarter

Session in Philadelphia in December of that same year. The area described included present-day Maiden Creek Township, all of the area that is now Ontelaunee Township and the part of Leesport Borough on the east bank of the Schuylkill River. The new township was named for the stream crossing the territory. Maiden Creek was named because it was a branch of the Schuylkill River, which the Indians called “Ontelaunee”, meaning “Little Daughter”. Maiden Creek Township was one of twenty townships already in existence when Berks County was created in 1752. In 1850 the final division of Maiden Creek Township occurred when Ontelaunee Township was incorporated.

Moses Starr, the first settler, was the first and for many years the only representative of Berks County in the Pennsylvania Provincial Assembly. In 1756, the Assembly declared war on the Indians and offered rewards for scalps. This declaration caused many Quakers to resign from the Assembly, hastened the decline of Quaker Rule in Pennsylvania, and brought tension to the Township. Between 1750 and 1758 Indians fought the English settlers with the French. Many Berks County men, women and children were killed and homes burnt, although Maiden Creek Township was not affected by the Indian raids.

The main villages in the Township were Blandon, named after the Bland family, originally named Bland Town and Bland Station; and Molltown and Evansville. These were all formed from the late 1700’s to the mid-1800’s. The first post offices in the Township were established in 1856.

Richmond Township Established

Richmond was organized as a Township in the same year as the creation of Berks County, 1752. However, references to an area of similar boundaries called Moselem (an Indian word meaning “trout stream”) appeared sometime earlier. Eighteenth Century businesses in Richmond Township included three mines, an iron furnace, and iron forge and mills. The Merkel family built two of these mills on Moselem Creek in 1749 and 1796. Richmond’s first church buildings, including the Zion Lutheran Church and the St. Peter’s German Reformed Church date from the 1760’s.

The earliest concentrated settlements within Richmond Township included Virginville, Walnuttown, where there was a small inn, and Coxtown, which later was to become Fleetwood Borough. First references to a road in the area mention a Macungie and Moselem Spring Trail, which Conrad Weiser and other German settlers used on their 1723 migration from New York to the Tulpehocken area of western Berks County. This trail may have been the origin of SR 222.

Fleetwood Borough Established

An 1816 map of the area showed five mills in Richmond, including Eckert’s, Merkel’s, Rothermeil’s, Griesemer’s and one unnamed mill. Coxtown was still only a collection of five to six log buildings at this time and Walnuttown and Virginville were similarly small. Growth in the area was very slow throughout the early decades of the 1800’s.

Coxtown established a post office in 1852. The railroad stimulated genuine development shortly thereafter. By 1860, Coxtown was the site of a freight depot along a newly completed railroad between Reading and Allentown. Local investors then began bringing large quantities of iron ore from surrounding mine to Coxtown for shipping. A shop to repair ore wagons and a carriage shop soon appeared. Town elders changed the name of Coxtown to Fleetwood in 1869, probably after Fleet and Wood, the two men who surveyed the railroad through town. Local officials adopted a plan for the town in 1868 and Fleetwood officially became a borough in 1873. The following year another rail line appeared at the northern end of Richmond Township through Virginville.

Transportation and Industry

The first roads built in the region were the precursors to SR 61 and SR 222. In 1745 “Maiden Creek Road” was constructed between Parvin’s Mill (at the mouth of the Maiden Creek) to Reading. This was originally part of Maiden Creek Township. In 1753 the “Easton Road” was constructed from “Maiden Creek Road” to Easton: the precursor to SR 222. The “Maiden Creek Road” went through additional extensions and eventually, when completed in 1822, went as far as Sunbury, passing through Hamburg and Ashland. This is now the present day SR 61. Another major road was constructed in 1844 that connected the area to Oley, Pottstown, and Philadelphia via Stagecoaches, running along what is now SR 73. The Stagecoach routes also used the “Easton Road”. The stagecoach routes improved travel and spurred migration westward. By 1800, many of the Quakers had migrated westward and the German immigrants or “Pennsylvania Dutch” were established in the area. The construction of the rail line from Reading to Allentown signaled the end of the stagecoach travel.

The main industries of the region were centered on agriculture and the iron industry. Maiden Creek and Richmond Townships were almost entirely agriculture throughout the early and mid 1800’s. The Quakers and Pennsylvania German “Dutch” farmers who first cleared the land planted and cultivated grains and other crops in the area’s fertile soils. The daughters of Moses Starr grew mulberry trees in order to raise silkworms and establish a silk industry. During the late eighteenth and early nineteenth century, grist mills on the area’s many waterways, small iron mines and small iron works sprung up throughout the region. Richmond Township developed into a locally important iron center by 1850. Up to 15,000 tons of iron ore per year were mined from the Moselem iron bed in Richmond Township. Between 1850 and 1880, a thriving iron industry grew in Richmond that featured a large iron furnace along the Moselem Creek, saw mills to supply wood for burning in the furnace, the owner’s mansion, worker housing, a hotel and related development. However, the iron boom was virtually over by the 1890’s.

As Fleetwood Borough and the villages grew, stores, hotels, distilleries, bakeries, craft shops and factories were established. Some of the structures which housed these activities and services are still in evidence today. Evidence of the industriousness of the early settlers is found in the diversity of occupations and the broad range of service and facilities provided. The work ethic of these early residents can be attributed largely to the role of religion and education in their culture.

The Twentieth Century

By the turn of the Twentieth Century, the focus of business in the region was in the Borough and Villages. The substantial building that now houses the Fleetwood National Bank Building was constructed as a hosiery mill and hosiery store in 1898. For decades, Fleetwood was active in carriage construction and repair. In 1909, local investors founded the Fleetwood Metal Body Company in response to the loss of similar businesses that were destroyed by fire or relocated during the first decade of the 1900's. The Company opened with 5,000 square feet of manufacturing space and expanded several times. After a fire in 1917, Fleetwood Metal Body built a modern, 60,000 square foot manufacturing plant in Fleetwood. The plant, which employed 400 people, was one of the largest and best equipped automobile body factories in the United States. Duesenberg, Packard, Lincoln, Pierce Arrow, Bentley, Mercedes, Fiat and Rolls Royce were among the many famous cars that featured Fleetwood auto bodies. Fisher Body Company purchased Fleetwood Metal Body in 1925. Operations were continued in the Borough until Fisher moved the plant to the Detroit area in 1931.

Though Fleetwood lost its world-famous employer, the Borough has taken many important strides since the 1930's. In 1935 Fleetwood organized a recreation board that sponsored a summer program until 1973. The Borough also built a public swimming pool in 1961. The Fleetwood Borough Police Department, which originated in 1930, contracted to extend police protection into Richmond Township in 1957. This became the first formal multi-municipal police service in Pennsylvania and is still in place in 2011. Maiden creek Township also formed a local police force in 1954. Maiden creek and Ontelaunee formed a regional police force in 1991. The Northern Berks Regional Police, which includes Maiden creek, Ontelaunee and Leesport, was established in 1998.

A number of major infrastructure projects occurred during this timeframe. Lake Ontelaunee was created in 1926 by the damming of Maiden Creek to provide the City of Reading with a larger public water supply. This separated Maiden creek Township into two discontinuous sections. After long deliberations, Fleetwood constructed a sewer system and sewage treatment plant to complement its public water system in 1965. Paved roads for auto traffic, the coming of the gas powered tractor in the 1920's and later the wide spread use of electricity changed the life and appearance of the Townships and Borough during the twentieth century. Despite these modifications, Richmond and a significant portion of Maiden creek have largely continued in their role as part of the rural countryside surrounding Fleetwood Borough and the villages. Commerce and traffic have continued to grow along the Route 222 corridor and residential growth is scattered through Richmond and concentrated in the southern portion of Maiden creek around Blandon and Fleetwood.

Even with the development in the region over the last 30 years, farming is still one of the largest income sources today, as it has been since the colonial times. The types of farming operations are varied, from dairy and other animal production to crops, nursery, vegetables and mushrooms. Giorgio Foods, located in Blandon, is a major producer of mushrooms and other food products. The concentration of Mennonite farmers, historic

structures and churches, old barns and one-room school houses are living reminders of the areas colorful heritage. This delicate balance between progress and preservation is one of the major topics this joint comprehensive plan is designed to address.

The Twenty-First Century

With the beginning of the twenty-first century, the area has seen some economic ups and downs along with new housing development pressure highs and subsequently the year 2010 saw the lowest new housing starts in Berks County since prior to 1980. As the economy slowly returns to a more natural level the area is seeing continued maintenance of existing businesses and modest employment growth of some of its industrial and manufacturing facilities. It is anticipated that East Penn Manufacturing, a large nationally known producer of batteries, will expand and the Allentown Cement Company has indicated that it will expand its quarry operations. A number of other businesses such as Sunsweet and F.M. Brown's and Sons are expecting to continue with normal operations.

Historic Sites

The following maps and tables show the most historically significant sites in the Fleetwood-Maiden creek-Richmond area. The Guldin Mill, located in Maiden creek Township, is the only structure in the Township listed on the National Register of Historic Places. Within Richmond Township, Dreibelbis Mill, Virginville Historic District, Dreibelbis Farm, Moselem Farms Mill, Merkel Mill Complex, and the Christian Schlegel Farm are each recognized on the National Register of Historic Places. Currently, within the area, there are nine other sites that are eligible for the National Register along with over a hundred other locally significant sites. These sites include homes, farms, commercial properties, churches, bridges, schools, graveyards and the railroad. Concentrations of buildings with historic and cultural value are generally found within the Borough, Villages and at significant crossroads.

Fleetwood Borough currently does not have any sites that are listed on the National Register; however there are a number of sites that are eligible. The Fleetwood Bank Building, Fleetwood School, and a bridge are all considered eligible sites. There are also a number of other sites that with additional inspection and investigation might be elevated to the eligible list or National Register list. The core of the downtown Fleetwood and adjacent areas that contain Fleetwood's oldest structures are areas that retain a high degree of historic integrity. In recognition of this, the Borough created an Architectural Overlay District. The intent of the new district is to stimulate economic growth while maintaining the existing character of the Borough.

Natural Features

The use of the land is influenced by several types of natural features such as hydrology, steep slopes, woodlands and soil characteristics, among others. This section describes how natural features will continue to influence the ways in which the Fleetwood-Maiden creek-Richmond area is developed and conserved.

Climate

The Fleetwood-Maiden creek-Richmond area enjoys a fairly moderate, humid, continental climate. This is due to the area's location on the leeward side of the mountains of east-central part of Pennsylvania, known as the Appalachian Mountains. When compared to other areas of Pennsylvania at about the same latitude, winters tend to be shorter and milder. Summers are long and frequently humid. The average relative humidity in any given year is usually above sixty-five percent. Two-thirds of the time, skies are clear to partly cloudy, and the average amount of sunshine is about fifty-seven percent of the possible amount. An average annual precipitation of 41.4 inches falls in Berks County. Storms are typically numerous enough to ensure adequate moisture throughout the year. Average monthly temperatures have fluctuated somewhat over the last ten years, however in general range from a low of around twenty-eight to thirty degrees Fahrenheit in January to a high of around seventy-eight to eighty degrees Fahrenheit in July. May is generally the month with the most precipitation. Recently average temperatures have fluctuated, the cause of this fluctuation is still under study.

Hydrology

Hydrology refers to the water-related features such as streams, flood prone areas and drainage characteristics. These features are important for the following primary reasons:

- Streams and creeks provide potential recreational areas, water sources and valuable aquatic habitat,
- Knowledge of drainage basins is necessary in designing sanitary sewers and storm water facilities,
- Alluvial soils and floodplains denote areas prone to flooding. Development in these areas may negatively impact water quality and sensitive habitats, worsen flood conditions and result in loss of property and lives,
- Alluvial soils, hydric soils and wetlands indicate land where chronic or occasional wetness may weaken foundations or otherwise constrain construction, and
- Wetlands are important aquifer recharge areas. These areas act as a natural filter for storm water. They support a uniquely sensitive environment and are protected by both state and federal laws,

- Riparian and wetland buffer areas also help in filtering water before it reaches either the stream or aquifer. These areas also help to reduce the amount of sedimentation that reaches the streams and slows the velocity of the stormwater runoff that can cause damage to the stream banks.

Almost the entire Fleetwood-Maiden Creek-Richmond area lies within the Maiden Creek Watershed drainage basin, which drains approximately twenty percent of Berks County. The Sacony Creek drains parts of this area, from the northern part of Richmond Township and a small portion of southeastern Richmond via Kutztown, and then flows into the Maiden Creek, at Virginville. The Willow Creek forms a sub basin that drains most of the southwestern portion of Richmond, all of Fleetwood and the southern part of Maiden Creek. Runoff from the central portion of Richmond drains into the Maiden Creek via the Moselem Creek. Also, a small part of the headwaters of the Manatawny Creek is found in the southeastern part of Richmond.

The Pennsylvania Department of Environmental Protection (DEP) designates certain streams by their quality, temperature and aquatic value. The portion of the Sacony Creek within the northern part of the joint planning area is considered a Trout Stocking Fishery (TSF). TSF identified streams are those whose water quality should be protected to allow propagation of trout and warm water flora and fauna. The other portion of the Sacony Creek, near Lyons Borough, and the Willow Creek are Cold Water Fisheries (CWF). These are streams that should be protected to remain as habitats for fish species and additional fauna and flora indigenous to cold water. In these streams it is important to maintain a buffer area that includes shade to keep the water temperature from rising. The Moselem Creek is designated a High Quality-Cold Water Fishery (HQ-CWF). This means that the Moselem Creek's water quality is very high and that both quality and temperature should be protected. Peters Creek is designated as Exceptional Value (EV). This is the highest rating that a stream can have. In general the water quality of the stream is considered to be excellent. Extra care should be taken in this area of the region to ensure the quality of the stream is not impaired.

Wetlands are important to recharge groundwater and to support wildlife, fish and other aquatic life. They also act as a natural filter of water pollutants. The Watersheds and Wetlands map following includes the wetlands that are shown on the National Wetland Inventory. These are the approximate locations of the known prominent wetlands. However, this resource does not include all wetlands. When developing a property an additional inventory needs to occur to determine if there are any smaller wetlands located on the property.

Geology and Groundwater

Geology and the availability of groundwater needs to be considered when planning for future development. The Fleetwood-Maiden Creek-Richmond area is broadly classified into three geologic formations; the Ordovician shales, Cambrian limestone and limestone with quartz, and Ordovician limestone. Ordovician shales, found in the northern portion

of the area and the central and southern sections, are underlain by the Cambrian and Ordovician limestones.

The shales found in the northern part of the area tend to produce groundwater whose chemical quality is good, though the water is moderately hard and may be high in iron content. Well yields in these shale foundations are low, averaging 40 gallons per minute in Berks County. The limestone belt underlying the central and southern portions of the area tends to produce hard groundwater that requires softening for most uses. There is also a significant hazard of groundwater contamination in limestone areas, due to fractures and sinkhole potential. Groundwater yields from these limestone formations are extremely variable, ranging from 5 to 1,000 gallons per minute with an average of 40 gallons per minute. Groundwater characteristics are very important in the rural areas of Maiden creek and Richmond Townships, which rely upon individual on-site wells, and also for Fleetwood Borough whose public water, also originates from groundwater located in northern Ruscombmanor Township. Maiden creek Township Authority, which supplies public water to the village of Blandon, relies on three wells in the Township.

Portions of the area are prone to the formation of sinkholes. Sinkholes are a surface depression created when groundwater dissolves the surrounding rock to the point where the void becomes unstable and collapses. Depending upon the size of the void and its proximity to the surface, the sinkhole may be a barely noticeable surface depression or it could occur as a sudden catastrophic event. Areas underlain by limestone and related rock are most prone to sinkholes as they are the most soluble. Acidic groundwater will hasten the dissolution, as the acids chemically react to elements in the limestone. Groundwater acidity may be worsened by acid rain and other pollutants. The creation of underground caverns is associated with this process. One of the more famous underground caverns is found in northern Richmond Township, Crystal Cave.

Geologic Names of the Region		
Allentown Fm	Epler Fm	Granitic Gneiss
Hamburg Sequence	Hamburg Sequence (Shale with Graywacke)	Hamburg Sequence (Shale with Limestone)
Hardyston Fm	Hornblende Gneiss	Jacksonburg Fm
Leithsville Fm	Martinsburg Fm	Ontelaunee Fm
Rickenback Fm	Stonehenge Fm	Warrior Run

Source: USGS; Pennsylvania

Radon

Radon gas is an invisible, odorless, tasteless and radioactive gas whose presence is related to geology. Radon is known to increase health risks when persons are exposed to concentrations of the radon over time. The Surgeon General states that “radon is the second leading cause of lung cancer in the United States today”. Some health studies also indicate that children are more susceptible to radon. Concentrations of radon occur when enclosed areas accumulate this naturally occurring gas. The Fleetwood-

Maiden creek-Richmond area's proximity to the Reading Prong increases the likelihood of the presence of higher levels of radon gas. The Reading Prong is a geologic area which produces a very high level of radon from Reading to the Lehigh Valley along the South Mountain corridor. However, all of Berks County is in what EPA considers as their Zone 1 (Highest Potential for levels greater than 4 pCi/L). Various radon studies, remediation projects and programs have been around for over thirty-five years. It was not until 1984, though, that Pennsylvania realized the severity of the issue in certain areas. A construction worker at the unfinished Limerick Nuclear Generating Station set off the portal radiation monitors entering the facility. Since the facility was not active as yet a study was performed on the individual's home. The study of the Berks County home showed radon gas levels at 2600 pCi/L. The EPA recommends that remedial action be taken when the radon gas levels are above 4 pCi/L.

It is recommended that a radon gas test be performed on all home levels below the third floor and all schools. Radon mitigation equipment is easier and very inexpensive to install in new homes or inhabited structures. Once the home is built a new radon test should be performed and if necessary installation of the radon vent fan should occur. In recent years it is much less expensive to install radon mitigation equipment into existing homes, however every home is different and the cost is dependant upon a number of building structure factors. High levels of radon should not be ignored. Further information can be found in the *PA Citizen's Guide to Radon*.

Step Slopes

The Natural Resources map shows two categories of slopes within the Fleetwood-Maiden creek-Richmond area; land between 15 percent and 25 percent grade (moderately steep slopes) and land over 25 percent grade (very steep slopes). Knowledge of steeply sloping areas is important in planning for future development because:

- Steep slopes are susceptible to erosion when soil and vegetation are disturbed,
- Disturbance of steep slopes can lead to landslides, and
- Construction and maintenance of roads and buildings on steep slopes is very costly.

Almost all of the steep and very steep slopes lie in the northern sections of the Townships and along the southern boundary of the region. The northern section steep slopes are associated with the shale section of the Great Valley, which extends the length of Berks County. The portion of the Fleetwood-Maiden creek-Richmond area lying along the floor of the Great Valley is characterized by rolling farmland and the relatively flat topography that is generally found with good agricultural soils. Only a very few concentrations of steep slopes are found in between Maiden creek Rd/Eagle Rd, on the north side and Park Rd/Fleetwood Lyons Rd, on the south side of the area. The southern section is the area associated with the geologic formation known as the Reading Prong.

Woodlands

Woodlands are areas that contain primarily second and third generation forests. The existence and protection of woodland areas are important for the following reasons:

- Woodlands are a scenic resource that provides visual relief, softening views of the landscape,
- Woodlands provide unique wildlife habitats which, once destroyed, take decades to recover,
- Vegetation cover and root systems of the forest ecosystem protect against erosion and stabilize the soil, and
- Woodlands provide protection and improvement of water quality running into streams and water bodies.

Most of the woodlands that exist in the area are located in the same general location as the steep slopes described previously. These areas are typically unsuitable for farming due to topography and/or rocky soils. There are a few scattered concentrations of woods in the middle portion of the area, however none of any significant size. The southern portion of the region associated with the foothills of Irish Mountain, which is part of the South Mountain that continues along the regions boundaries, have some larger continuous sections of wooded lands. These woods have remained simply because of the steep slopes being difficult to develop. Also, the area surrounding Lake Ontelaunee, owned by the City of Reading, has significant acreage of woodlands. When the lake was created, the surrounding lands were included in the City property to protect the quality of stormwater run-off entering the lake. In this way, the land was protected from conversion into farmland, as well as from all other types of development.

Animals and Plants

In 1991, the Pennsylvania Science Office of the Nature Conservancy prepared the Berks County Natural Areas Inventory. This is a list and mapping of rare and endangered plants, animals and natural communities in Berks County. The Berks County Natural Areas Inventory information was then entered into the Pennsylvania Natural Diversity Inventory (PNDI) data base. The PNDI provides information on sites of statewide significant and for protection of biological diversity. The area contains diverse populations of local flora and fauna. Natural areas in the region, particularly in the more un-developed northern and southern sections, serve as permanent and temporary habitat for a variety of flourishing birds and wildlife species. The PNDI information is updated periodically and prior to developing a parcel, this data base should be checked to make sure that there is not a conflict with a PNDI site.

Soils

Many different soil types with a variety of soil features exist within the Fleetwood-Maiden creek-Richmond area. The United States Department of Agriculture’s Natural Resources Conservation Service (USDA, NRCS), along with input from a variety of other agencies, prepares and maintains the Soil Survey for Berks County. In the past, this was a printed document called the Soil Survey: Berks County, Pennsylvania. All of the information about soils is now accessible through the NRCS website and is called the Soil Data Mart. The Soil Data Mart contains all of the technical information for each of the soils listed on the Soils map and the Agricultural Soils.

A specific soil type is determined by the origin, or “parent material” of the soil, how sandy or clay-like it is, if it has a lot of pebbles or large rocks, how severely eroded it is, and the slope of the area where it is found. Each soil map unit has a two-three letter designation that associates that unit with a specific description of the soil capability. This information includes parent material, runoff classification, depth to restrictive features, drainage capacity, flooding and/or ponding, seasonal high water table information, hydric soil, and land capability class, which can be from Class I-VIII. See map figure 5-A and 5-B for the soil map units within the Fleetwood-Maiden creek-Richmond area.

Many different soil types with a variety of soil features exist within the Fleetwood-Maiden creek-Richmond area. Soils affect land use planning in two principal ways. Perhaps most obviously, soil types are an indication of suitability for various kinds of agricultural activity. Certain soil types have been identified by the State as “Prime Farmland” and “Farmland of Statewide Importance”. These are commonly referred to as Class I, II and III soils. Such soils cover a large portion of the area. See map figure 6-A and 6-B. The following table lists the agricultural soil map unit names that are associated with the agricultural soils. Those listed under Prime Farmland are generally Class I soils, while those listed as Farmland of Statewide Importance are generally Class II and III soils. Class I and II soils are the best for agricultural production purposes.

Agricultural Soils	
Prime Farmland	Farmland of Statewide Importance
BfB	BkB
CmA	BkC
CmB	DfC
CpB	EhC
DbA	GeC
DbB	Ho
EhB	LaC
GeB	MuC
HaB	WeB
LaB	
Me	
MuA	
MuB	

Source: USDA Soil Data Mart

This area has some Class I soils, but most of the soils are Class II with some Class I and III interspersed. Class III soils are limited in their ability to support certain crops and require additional conservation practices.

The other significant affect that soils have are for development purposes. Soil types determine the ability of an area to support on-site septic systems. Soils unsuitable for on-site septic systems are shallow, stony, poorly drained, too permeable or on steeply sloped land. Soil suitability for on-site septic systems is not an important issue in areas served by public sewage systems, such as in and around Fleetwood Borough and in and around the southern and south-western portions of Maiden creek Township. However, soil suitability for on-site septic is an issue in other parts of the area. In general, the soils found north of Lake Ontelaunee and east of Evansville Road and north of Maiden creek Road have varying degrees of limitations for on-site septic systems; from slight to unsuitable for on-site septic systems. The northern portion of Richmond Township has severe limitations for on-site systems. The valley portion of the area that includes from just north and west along the SR 222 corridor and on the south and east to the Park Road and Fleetwood Lyons Road has very few limitations, except along creek corridors, for on-site septic systems. However, this area also contains the best agricultural areas too. The area that is on the south side of Park Road and the Fleetwood Lyons Road starts out with few limitations then as the topography becomes steeper there are moderate to unsuitable areas for on-site septic systems.

Regulatory Control of Natural Features

Certain natural features are subject to regulatory controls by agencies other than, or in addition too, the Fleetwood-Maiden creek-Richmond governments. Federal, State, and other local agencies possess regulatory control over features such as Lake Ontelaunee (which is a man-made reservoir), watersheds, groundwater, surface streams, floodplains, and wetlands. Government entities, such as the U.S. Army Corps of Engineers, Federal Emergency Management Agency, the U.S. Fish and Wildlife Service, the Pennsylvania Department of Environmental Protection, the Pennsylvania Department of Conservation and Natural Resources, the Delaware River Basin Commission, and the Berks County Conservation District limit the authority of the local municipalities policies through their own preemptive standards, regulations, and procedures. The resource protection policies advocated by this Plan respect these regulations and are intended to complement them.

Government Profile

Maidencreek and Richmond’s status as townships and Fleetwood’s designation as a borough mean that there are some differences in the structure of each municipality’s local government. However, each community operates a small to medium sized local government that relies wherever possible on volunteers, with a minimum of municipal staff.

Municipal Structure

Maidencreek and Richmond are both townships of the second class governed by a three-person Board of Supervisors. The Supervisors are elected at large for six-year terms. Fleetwood is a borough governed by a seven-person Borough Council and a Mayor. The Borough Council and Mayor are elected at large for four-year terms. All three municipalities have planning commissions and zoning hearing boards. Fleetwood and Maiden creek each have a recreation board, too.

Each of the three municipalities retains a solicitor, municipal engineer, zoning officer, sewage enforcement officer, and uniform construction code enforcement office. All of the municipalities participate with the Berks County Uniform Construction Code Board of Appeals. Richmond Township and Fleetwood Borough each employ a full-time municipal secretary to assist in day-to-day operations, while Maiden creek Township employs a township manager to oversee the day to day operations. The Community Facilities Map shows the municipal offices and other community facilities located in the area. Fleetwood’s municipal offices are at the Fleetwood Community Center on Arch Street and the Borough garage on West Vine Street adjacent to the Community Park. Maiden creek’s municipal office and garage are located off of Rt 73 on Quarry Road. Richmond’s municipal office and garage are located off of Rt 662 on Kehl Drive.

Municipal Finances

Municipalities rely upon taxes, real estate transfer fees, liquid fuels reimbursement, licenses and permits, fines, interest, grants and various other revenue sources to operate the local government budgets. It is increasingly difficult to balance municipal budgets as the value of real estate has dropped in the last few years, there are fewer transfer fees and the recession economy has created a domino effect reducing ~~on~~ interest, grants and other revenue sources.

In order for the municipalities to maintain services and infrastructure, such as police and roads, hard decisions regarding taxes and which services or facilities to cut or reduce sometime have to be made.

Population, Housing and Employment

Local population, housing and employment trends illustrate how an area's residents, housing stock and economy are changing over time. These trends help determine planning and zoning policies; such as how much land to set aside for commerce, industry and different types of residential uses.

Fleetwood Borough, as with many other communities within Berks County, saw a growth rate that was above normal for the 1990 to 2000 timeframe. Since then, the Borough has seen only a slight increase and with very little vacant land available will see most of its growth in the future from re-development. Maidencreek Township during the 1990's also saw a huge leap in new housing construction and a population growth of 92.90%, almost nine times that of Berks County. This growth now appears to be tied into the inflated market conditions and is now settling down and adjusting into more sustainable levels during the 2000 to 2010 timeframe. Richmond Township's growth spurt occurred prior to 1980 and currently is one of the municipalities that have seen a population reduction in the 2000 to 2010 timeframe of 2.9%. This trend is consistent with other Townships in Berks County that have large tracts of farmed land.

The area's new residents over the last twenty years have generally been younger and better educated. Fleetwood and Maidencreek have also become more affluent, while Richmond has become slightly less affluent, but still better than the overall County poverty percentage. As the area goes through the transition from overbuilding to a more sustainable level of new construction there is an anticipation of more re-development, potentially higher average persons per household, and smaller more affordable homes built.

Total Population

The following numbers are based upon the recent initial release of the decennial 2010 U.S. Census information of population, population by race and total housing units. The remaining information is based upon estimates and other County gathered information from a variety of sources.

Fleetwood Borough's population was 4,085 as of 2010, an increase of 67 persons (1.70%) since 2000. Berks County's overall population grew by 10.10% during the same timeframe. Fleetwood's growth rate spiked between 1990 and 2000 at 15.50%, which was higher than the County's 11.0%. Maidencreek Township's population was 9,126 as of 2010, an increase of 2,573 persons (39.30%) since 2000. Maidencreek's growth rate also spiked in the 1990's at 92.90%.

Richmond Township has seen its population gradually slow down over the last 30 years. Richmond's population was 3,397 as of 2010, a decrease of -2.90% since 2000. Their previous growth rate in the 1990's was 1.80% and in the 1980's it was 7.30%.

Total Population

Total Population By Year	FLEETWOOD BOROUGH			MAIDENCREEK TOWNSHIP			RICHMOND TOWNSHIP			BERKS COUNTY		
	Persons	Number Change	Percent Change	Persons	Number Change	Percent Change	Persons	Number Change	Percent Change	Persons	Number Change	Percent Change
1990	3,478	-	-	3,397	-	-	3,439	-	-	336,523	-	-
2000	4,018	540	15.50%	6,553	3,256	92.90%	3,500	61	1.80%	373,638	37,115	11%
2010	4,085	67	1.70%	9,126	2,573	39.30%	3,397	-103	-2.90%	411,442	37,804	10.10%

Source: Census 2010

Population Projections

The population projections for Fleetwood and Maiden creek were fairly accurate for the year 2010 with Fleetwood at 1.50% and Maiden creek at 38.00%. However, Richmond’s projection was not, the projections estimated an increase of 5.00% when in actuality the population decreased. Generally, the population is estimated to increase over the next twenty years in the area; however these numbers will probably need to be updated to reflect the effects that the recession has had on income and the housing market. It is anticipated that more modest growth will occur in the future rather than the double and almost triple percentage growth that occurred in the more recent past.

Populations Projections

Population Projections By Year	FLEETWOOD BOROUGH			MAIDENCREEK TOWNSHIP			RICHMOND TOWNSHIP			BERKS COUNTY		
	Persons	Number Change	Percent Change	Persons	Number Change	Percent Change	Persons	Number Change	Percent Change	Persons	Number Change	Percent Change
2010	4,078	60	1.50%	9,039	2,486	38.00%	3,674	174	5.00%	411,053	37,415	10.00%
2020	4,461	383	9.40%	9,887	848	9.40%	4,019	345	9.40%	449,306	38,253	9.30%
2030	4,869	408	8.40%	10,790	903	9.13%	4,386	367	9.13%	490,375	41,069	9.14%

Source: BCPC Tax Assessment and PA State Data Center 2008

Population in Adjacent Municipalities

Between 1990 and 2010 Maxatawny, Muhlenberg and Rockland Townships had the highest growth rates among the municipalities adjacent to the Fleetwood-Maiden creek-Richmond area. Their growth rates over the 20-year period were 38.12%, 38.94% and 41.23% respectively. Rockland Township’s major population increase occurred in the 1990’s and has since slowed down considerably. Rockland’s population only increased by .004% between the years 2000 and 2010, while Maxatawny and Muhlenberg Township’s increases are higher for the same period. Greenwich and Ontelaunee Townships have also seen high growth rates during this 20-year period. Greenwich has

had consistent growth, while Ontelaunee actually saw a decrease from 1990 to 2000 then a significant increase for the 2000-2010 timeframe.

Previously, Maidencreek Township was the area’s most rapidly growing municipality. During the 20-year period Maidencreek grew by 168.65%, most of which occurred in the first ten-years. In the second ten-year timeframe Maxatawny and Ontelaunee Townships also grew by a very similar percentage to Maidencreek. Maxatawny grew 32.20%, Ontelaunee grew 35.30% and Maidencreek grew 38.00%. The extraordinary growth that occurred in the area during this timeframe put a severe strain on the facilities in the Fleetwood Area School District, which includes Fleetwood Borough, Maidencreek and Richmond Townships.

Current indications are that the future growth of the area will be smaller than in the past and at a more manageable level. While there are a number of residential developments that have been approved or submitted in Maidencreek Township most of them have not moved forward due to the recession and it is anticipated that they will continue to remain inactive until a more promising market returns.

Population of Adjacent Municipalities

MUNICIPALITIES	1990	2000	2010	PERCENT CHANGE 1990-2010
FLEETWOOD BOROUGH	3,478	4,018	4,085	17.45%
Greenwich Township	2,977	3,386	3,725	25.13%
Lyons Borough	499	504	478	-4.21%
Maxatawny Township	5,724	5,982	7,906	38.12%
Perry Township	2,516	2,517	2,417	-3.93%
MAIDENCREEK TWP.	3,397	6,553	9,126	168.65%
Ontelaunee Township	1,359	1,217	1,646	21.12%
Muhlenberg Township	14,127	16,305	19,628	38.94%
Rockland Township	2,675	3,765	3,778	41.23%
RICHMOND TOWNSHIP	3,439	3,500	3,397	-1.22%
Ruscombmanor Township	3,129	3,776	4,112	31.42%

Source: Census 2010

Gender

Gender refers to the number of males and females in a population. There are no special conditions in Fleetwood Borough or Maidencreek and Richmond Townships that have altered the traditional 50/50 balance between total males and total females.

Population by Gender

AREA	TOTAL POPULATION	MALES		FEMALES	
		NUMBER	PERCENT	NUMBER	PERCENT
FLEETWOOD BOROUGH	4,018	1,946	48.40%	2,072	51.60%
MAIDENCREEK TOWNSHIP	6,553	3,282	50.10%	3,271	49.90%
RICHMOND TOWNSHIP	3,500	1,751	50.0%	1,749	50.00%
BERKS COUNTY	373,638	182,956	49.0%	190,682	51.00%

Source: Census 2000

Persons by Age

Information on local age trends help to assess existing and projected needs for housing, schools, recreation programs and other municipal services. Age trends also provide clues to whether an area is likely to gain or lose population in coming years.

Fleetwood, Maidencreek and Richmond are distinct communities but their age profiles are fairly similar. 35-44 year olds is the largest single age category in each municipality. In the previous Joint Plan and Maidencreek the largest age category was 22-34 year olds. The distribution of residents by age is nearly the same in each municipality except that Maidencreek has more 0-14 year olds than Fleetwood and Richmond, which indicates that Maidencreek has a higher number of younger families. Richmond and Fleetwood have a higher percentage of persons in the 65-74, 75-84 and 85+ categories, which is consistent with a farming community such as Richmond and Fleetwood being an older established borough.

Differences between 1990 and 2000 illustrate how the area is evolving. Residents 45-54 years were the fastest growing age category in Maidencreek; Richmond’s was the 75-84 year age group, while in Fleetwood it was the 35-44 year age group. Both Maidencreek and Fleetwood have growth in all of their age categories, however Richmond does not. Richmond’s growth is stagnant or negative in four age categories; 10-24, 25-34, 55-64 and 85+.

Both Fleetwood and Maidencreek have attracted growth within the age groups that signify families and empty nesters. The affordability of homes in Fleetwood and the availability of a variety of home types within Maidencreek along with easy access to both the Reading and Allentown areas have played a role in this growth. Richmond’s population is more based upon farming and shows trends towards an older population. Richmond saw a significant drop in its 25-34 year age category of -27.6%.

Population by Age

AGE 2000	FLEETWOOD BORO.		MAIDENCREEK TWP.		RICMOND TWP.		BERKS COUNTY	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
0 – 4	254	6.30%	550	8.40%	192	5.50%	23,032	6.20%
5 – 9	294	7.30%	545	8.30%	229	6.50%	26,574	7.10%
10 – 14	300	7.50%	546	8.30%	241	6.90%	26,874	7.20%
15 – 19	227	5.60%	380	5.80%	234	6.70%	26,494	7.10%
20 – 24	207	5.20%	263	4.00%	181	5.20%	21,972	5.90%
25 - 34	592	14.70%	1,021	15.60%	426	12.20%	47,454	12.70%
35 – 44	678	16.90%	1,350	20.60%	626	17.90%	60,489	16.20%
45 – 54	478	11.90%	883	13.50%	513	14.70%	51,305	13.70%
55 – 59	211	5.30%	273	4.20%	192	5.50%	18,388	4.90%
60 – 64	150	3.70%	198	3.00%	161	4.60%	14,866	4.00%
65 – 74	334	8.30%	365	5.60%	299	8.50%	28,766	7.70%
75 – 84	222	5.50%	138	2.10%	178	5.10%	20,164	5.40%
85+	71	1.80%	41	0.60%	28	0.80%	7,260	1.90%
TOTAL	4,018	100.0%	6,553	100.0%	3,500	100.0%	373,638	100.0%

Source: Census 2000

Race

Outside of Reading, Berks County has a relatively small non-white population. Non-whites were 12.2% of Berks County’s population in 2000, but only 2.2% in Fleetwood, 3.4% in Maidencreek and 1.5% in Richmond. This number has increased across the board as a whole for Berks County and the Fleetwood-Maidencreek-Richmond area. The 2010 Census shows that non-whites were 16.8% of Berks County’s population, 4.2% in Fleetwood, 8.2% in Maidencreek and 2.3% in Richmond.

RACIAL CHARACTERISTICS

AREA						
	ALL PERSONS	NON-WHITE PERSONS	ALL PERSONS	NON-WHITE PERSONS	ALL PERSONS	NON-WHITE PERSONS
FLEETWOOD BOROUGH	3,478	35 (1.1%)	4,018	88 (2.2%)	4,085	171 (4.2%)
MAIDENCREEK TOWNSHIP	3,397	102 (3%)	655	224 (3.4%)	9,126	748 (8.2%)
RICHMOND TOWNSHIP	3,439	20 (.6%)	3,500	51 (1.5%)	3,397	79 (2.3%)
BERKS COUNTY	336,523	21,962 (6.5%)	373,638	45,526 (12.2%)	411,442	69,294 (16.8%)

Source: Census 2010

Households refer to all persons living in a housing unit whether related or not. Reflecting a national trend, the area’s and the County’s average households became smaller during the 1970 – 1990 timeframe. Contributing factors to this trend included later marriages, more divorces, fewer children and more elderly families. This trend is starting to see some changes as we move into the 21st century. While some areas are still seeing smaller households, such as Richmond who dropped from 2.83 persons per household in 1990 to 2.49 in 2010, there are others that are either maintaining or expanding their persons per household. Both Fleetwood and Maiden creek have similar persons per household averages from 1990 through 2010. Fleetwood, in 1990 averaged 2.52 persons per household, and currently as of 2010 has 2.46 persons per household. Maiden creek, in 1990 averaged 2.8 persons per household, and currently as of 2010 has 2.85 persons per household. Berks County’s average persons per household have increased since the 1990 census by 0.11% from 2.56 to 2.67. Reasons for the stabilization and increase of the average persons per household include adult children staying at home longer or moving back in with their parents for financial reasons and families taking in elderly relatives due to the high costs of long term care facilities. Also, in Berks County the rise in the average persons per household may be attributed to a higher number of first and second generation immigrants coming from countries where it is normal to have more than one generation living in the same household.

Average Persons per Household

AREA	<u>1990</u>	<u>2000</u>	<u>2010</u>
FLEETWOOD BOROUGH	2.52	2.53	2.46
MAIDENCREEK TOWNSHIP	2.8	2.88	2.85
RICHMOND TOWNSHIP	2.83	2.47	2.49
BERKS COUNTY	2.56	2.55	2.67

Source: Census 2010

Income and Education

Median income is the income level at which half an area’s households earn more and half earn less. Maiden creek Townships’ 1999 median annual household income of \$62,724 is the highest of the three municipalities. Fleetwood Boroughs’ median annual household income is \$48,621 while Richmond Townships’ is \$42,564, which is lower than Berks County’s median of \$44,714. The differences in the average median annual household income from municipality to municipality can be attributed to age of household, number of persons employed in household and in many cases the education level of the employed persons within the household.

According to the 2000 Census, Richmond Township had 8.5% of its population living below poverty level in 1999, compared to 2.8% in Fleetwood Borough, 3.10% in

Maidencreek Township and 9.4% in Berks County overall. Persons in poverty decreased as a proportion of all persons in both Fleetwood and Maidencreek during the 1990's. However, in Richmond and Berks County overall persons in poverty increased during this same timeframe. Since 1964, the federal government has computed annual income levels that represent the threshold of poverty. These figures are adjusted to account for family size, age, gender of family-head, farm or non-farm residence and other considerations. The poverty threshold is intended to measure the minimum income necessary to maintain healthy living conditions.

Education is often related to a person's ability to get and keep a good job. As of 2000, the percentage of all adults in Richmond Township that graduated from high school and may have additional higher education is 33.3%, and those that graduated with a bachelor degree or higher is 18.8%. Maidencreek Township had the lowest percentage of persons to graduate high school and attain an associates degree or take some college courses at 26.1%, however at the other end of the spectrum they had the highest percentage persons attain a bachelor degree or higher at 30.0%. This directly correlates with their high median income level. Fleetwood Borough had the highest rate of graduation from high school with some additional education level at 50.3%, but conversely they had the lowest percentage of persons to attain a bachelor degree or higher at 17.1%. Overall Berks County had a higher number of high school graduation and some additional education at 41.1%, but the number of persons with a bachelor degree or higher was about the same at 18.5%.

AREA	Median Annual Household Income		Persons in Poverty (%)		Bachelor Degrees or Higher (%)		H.S. Diplomas, Assoc. Degrees, College (No Degree) %	
	1989	1999	1989	1999	1990	2000	1990	2000
FLEETWOOD BOROUGH	\$36,347	\$48,621	3.10%	2.80%	14.85%	17.10%	61.95%	50.30%
MAIDENCREEK TOWNSHIP	\$38,550	\$62,724	8.10%	3.10%	13.40%	30.00%	54.00%	26.10%
RICHMOND TOWNSHIP	\$30,206	\$42,564	6.00%	8.50%	9.40%	18.80%	47.80%	33.30%
BERKS COUNTY	\$32,048	\$44,714	7.80%	9.40%	15.10%	18.50%	54.90%	41.10%

Source: Census 2000

Total Housing Units

Trends in total housing units usually mirror changes in total persons. However, even areas losing population tend to add housing units to accommodate the new households being created by singles, divorced people and the elderly. Richmond added 115 housing units from 1990 to 2010, an increase of 8.56%, however over the same timeframe their population growth was -1.2%. Since 2000, Richmond has actually lost 26 housing units.

Maidencreek added 950 housing units during the 2000 to 2010 timeframe, an increase of 40.3%. This is a decrease in the number of units added during the 1990 to 2000

timeframe by 148 units. This trend towards fewer new units being added is consistent across the entire county. Berks County saw an increase of 11.7% from 1990 to 2000, however this dropped to 9.7% for the timeframe from 2000 to 2010.

Fleetwood added 308 housing units during the 20-year timeframe from 1990 to 2010, an overall increase of 21.8%; however from 2000 to 2010 the increase was only 6.0%. This is still a significant increase for a small mostly developed borough. In the future there will most likely be a leveling off of the overall number of housing units in the borough due to the lack of undeveloped land; however the borough does have re-development potential in certain areas and may see different types of residential development in the future.

Occupancy information collected through the Berks County Tax Assessment Office illustrates recent housing construction trends. Maiden creek Township gained 999 new housing units during the most recent ten-year timeframe, an average of 99.9 homes per year. This number is due to the housing boom that occurred in the 1990's through 2006. Since then, there has been a significant decrease in the number of new homes built. The average over the past four-years is only 34.3 homes per year.

Richmond Township gained 127 new housing units during the 2001-2010 timeframe, an average of 12.7 homes per year, which in turn has dropped to average only 7 homes per year over the last four-years. Fleetwood Borough has seen the least number of new homes built in the last ten-years, 17. This is only 1.7 homes per year from 2001-2010 and in the last two-years no new homes have been added to the tax rolls.

Total Housing Units

AREA	TOTAL HOUSING UNITS			1990-2010 CHANGE	
	1990	2000	2010	NUMBER	PERCENT
FLEETWOOD BOROUGH	1,412	1,623	1,720	308	21.81%
MAIDENCREEK TOWNSHIP	1,259	2,357	3,307	2,048	162.67%
RICHMOND TOWNSHIP	1,343	1,484	1,458	115	8.56%
BERKS COUNTY	134,482	150,222	164,827	30,345	22.56%

Source: Census 2010

New Housing Units by Year and Type

	FLEETWOOD BOROUGH									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of Single Family	2	0	2	2	1	1	0	0	0	0
Number of Semi-Detached	0	0	0	0	0	2	4	0	0	0
Number of Townhouses	0	0	0	0	0	0	0	0	0	0
Number of Apartments	0	0	0	0	0	0	0	0	0	0
Number of Mobile Homes	0	1	0	0	0	0	0	1	0	0
Number of Demolished	0	0	0	0	0	0	0	0	0	0
TOTAL PERMITS	2	1	2	2	1	3	4	1	0	0

	MAIDEN CREEK TOWNSHIP									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of Single Family	69	58	86	103	123	82	36	25	12	15
Number of Semi-Detached	14	8	0	0	0	11	0	1	2	2
Number of Townhouses	24	6	0	0	0	14	6	9	21	1
Number of Apartments	0	0	0	73	60	3	1	2	0	0
Number of Mobile Homes	2	2	0	3	0	4	0	1	0	1
Number of Demolished	0	1	0	0	0	2	4	1	0	2
TOTAL PERMITS	109	74	86	179	183	116	47	38	35	19

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	RICHMOND TOWNSHIP									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of Single Family	11	12	13	11	7	9	3	1	3	5
Number of Semi-Detached	0	0	0	0	0	0	0	0	0	0
Number of Townhouses	0	0	0	0	0	0	0	0	0	0
Number of Apartments	1	0	0	0	0	0	0	0	0	0
Number of Mobile Homes	4	3	2	2	1	8	4	5	3	4
Number of Demolished	3	3	0	0	0	7	6	2	4	6
TOTAL PERMITS	16	15	15	13	8	17	7	6	6	9

Source: Berks County Tax Assessment (2001 – 2010)

Housing Type

Households tend to demand various types of housing as they mature. The cycle begins with young adults and family starters who often need smaller, less expensive housing. Households with children tend to prefer larger, single family homes. As the household grows older and divides, housing preferences and needs often return full circle to apartments, townhouses and other small units such as mobile homes.

Fleetwood, as an older community, Richmond, as a farm community, and Maiden creek, with a combination of farming and developing areas, each face different types of housing markets.

In 2000, single family detached home comprised 50.0% of Fleetwood Borough’s housing stock, compared to 35.4% for single family attached units. Fleetwood has a diverse amount of housing types and sizes that is in line with Berks County’s overall housing profile, due to the significant effect of the Reading and urbanized area that has expanded out from Reading.

Richmond and Maiden creek Townships are similar in their percentage of single family homes. 72.4% of Richmond’s and 72.1% of Maiden creek’s housing stock is single family. However, Richmond has 5.7% of single family attached while Maiden creek has 21.0%. Richmond has 3.4% of its housing stock in 2-units and 3⁺-units and Maiden creek has a slightly higher percentage at 5.8%. Richmond has the highest percentage of mobile homes at 16.1% whereas Maiden creek has 3.6%. The differences that Richmond and Maiden creek have with the percentages of single family attached and mobile homes can generally be attributed to the fact that Richmond’s land use is farming and/or rural with very few areas having public sewer or water while Maiden creek has more diverse land

use and more extensive access to public sewer and water which is needed for the building of attached dwelling units. Mobile homes are more often used for additional housing of family or farm workers in agricultural areas.

Housing Type

TYPE	FLEETWOOD BOROUGH		MAIDEN CREEK TOWNSHIP		RICHMOND TOWNSHIP		BERKS COUNTY	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Single Family Detached	811	50.00%	1,697	72.1%	1,086	72.40%	81,581	54.30%
Single Family Attached	575	35.40%	493	21.00%	85	5.70%	34,822	23.20%
2 Units	101	6.20%	25	1.10%	18	1.20%	6,587	4.40%
3+ Units	136	8.40%	55	2.30%	69	4.60%	21,502	14.30%
Mobile Home	0	0%	85	3.6	241	16.10%	5,650	3.80%
Boat, RV, Van, etc.	0	0%	0	0%	0	0%	80	0.05%
TOTAL	1,623	100.00%	2,355	100.10%	1,499	100.00%	150,222	100.05%

Source: Census 2000

Housing Tenure and Value

The amount of rental housing in an area compared to owner-occupied homes affects housing affordability and an area's ability to respond to the life cycle changes in housing demand described earlier. More rental units usually mean less expensive housing, more affordable to singles, young families and older people. Areas with high rates of owner-occupied housing can be less accessible to singles, starter families and the elderly. An area with a variety of housing types in both owner-occupied and rental-occupied is best. To many of any one type of housing or rentals can lead to other issues, whether it's the exclusion of young families and older people or with an over abundance of rentals and potentially absent landlords there may be problems with maintenance, parking and other quality of life issues. Areas with unbalanced amounts of housing are issues for school districts, too.

In 2000, owner-occupied homes accounted for 75.7% in Fleetwood, 87.3% in Maiden creek, 72.8% in Richmond and 69.7% overall in Berks County. Typically townships have a higher percentage of owner-occupied units than boroughs; however Richmond’s numbers are lower. In general, owner-occupancy overall in the County has slightly decreased since 1990.

Berks County’s 2000 vacancy rate of 5.8% was higher than that recorded in Fleetwood (2.4%), Maiden creek (3.4%) and Richmond (4.6%). Vacancy rates of 3% to 5% are usually considered desirable to offer sufficient choice for households moving into an area. Rates lower than this range typically reflects an older, stable population, such as in Fleetwood.

The 2000 median value for owner-occupied homes was \$99,100 in Fleetwood, \$125,400 in Maiden creek, \$113,900 in Richmond and \$104,900 overall in Berks County. Both Maiden creek’s and Richmond’s median are higher than the County’s while Fleetwood’s is lower. This is a reversal from 1990 for Fleetwood and can be somewhat attributed to the fact that the County saw a tremendous growth in new housing stock over that timeframe, while Fleetwood did not, which boosted housing values in certain areas.

Housing Tenure and Value

TENURE	FLEETWOOD BOROUGH		MAIDENCREEK TOWNSHIP		RICHMOND TOWNSHIP		BERKS COUNTY	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
OWNER-OCCUPIED	1,229	75.70%	2,058	87.30%	1,081	72.80%	104,719	69.70%
RENTER-OCCUPIED	355	21.90%	218	9.20%	335	22.60%	36,851	24.50%
VACANT	39	2.40%	81	3.40%	68	4.60%	8,652	5.80%
TOTAL	1,623	100.0%	2,357	100.0%	1,484	100.0%	150,222	100.0%
MEDIAN VALUE OF OWNER-OCCUPIED UNIT	\$99,100		\$125,400		\$113,900		\$104,900	

Source: Census 2000

Housing Age and Overcrowding

Age can be a valuable indicator of housing quality when viewed in conjunction with other characteristics such as housing value and housing condition. Fleetwood’s housing stock is considerably older than both Maiden creek and Richmond and similar in age to Berks County’s overall, 32.6%. In Fleetwood 34.2% of the housing units were built in 1939 or earlier, compared to 13.9% in Maiden creek and 28.2% in Richmond. Overcrowded units comprise of 0.43% for Fleetwood, 1.5% for Maiden creek and 0.77% for Richmond. All three municipalities were less than the County at 2.3%. It is expected that the percent overcrowded number may increase in the future due to the trend of adult children staying at home longer and elderly parent(s) moving in with their adult children.

Housing Age and Overcrowding

Housing Age and Overcrowding 2000	FLEETWOOD BOROUGH	MAIDENCREEK TOWNSHIP	RICHMOND TOWNSHIP	BERKS COUNTY
Percent Overcrowded*	0.43%	1.50%	0.77%	2.30%
Percent Built Before 1939	34.20%	13.90%	28.20%	32.60%
Total Housing Units	1,623	2,357	1,484	150,222

Overcrowding percentage based on 1.01 or more persons per room
Source: Census 2000

Employment by Industry

The U.S. Census reports where adult residents of Fleetwood, Maiden Creek and Richmond were employed as of 2000. Persons working in manufacturing (30.0%); educational, health and social services (16.8%); and in retail trade (12.7%) were the largest categories for Fleetwood Borough residents. Similarly, manufacturing (33.0%); educational, health and social services (16.9%); and retail trade (12.4%) were the top employers of Maiden Creek Township residents. Richmond Township residents worked in the same top three categories, manufacturing (25.7%); retail trade (15.1%); and educational, health and social services (14.7%).

Employment by Industry

EMPLOYMENT BY INDUSTRY	RICHMOND TOWNSHIP		FLEETWOOD BOROUGH		MAIDENCREEK TWP.	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Agriculture, forestry, fishing, hunting and mining	72	4.00%	35	1.00%	7	0.30%
Construction	125	6.90%	116	3.30%	62	2.90%
Manufacturing	1,469	25.70%	1,059	30.00%	700	33.00%
Wholesale Trade	127	7.00%	120	3.40%	59	2.80%
Retail Trade	276	15.10%	449	12.70%	264	12.40%
Transportation, Warehousing and Utilities	62	3.40%	234	6.60%	123	5.80%
Information	20	1.10%	35	1.00%	18	0.80%
Finance, insurance, real estate, rental and leasing	65	3.60%	270	7.60%	142	6.70%
Professional, scientific, management, administrative and waste management	109	6.00%	228	6.50%	103	4.80%

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Educational, health and social services	267	14.70%	595	16.80%	359	16.90%
Arts, entertainment, recreation, accommodation and food services	76	4.20%	144	4.10%	116	5.50%
Other services (except public administration)	129	7.10%	142	4.00%	141	6.60%
Public Administration	25	1.40%	106	3.00%	30	1.40%
TOTAL	2,822	100.20%	3,533	100.0%	2,124	99.90%

Source: Census 2000

Unemployment

The Reading Metropolitan Statistical Area, the urbanized area of Berks County, had an unemployment rate of 4.3% in 2006 that has risen to 9.2% in 2010. Unemployment rates have risen significantly in the last four years due to the economic recession. Total unemployment rates overall in Pennsylvania for 2010 are slightly better than Berks County at 8.7% while they are slightly worse at the country-wide U.S. level of 9.6%.

**Unemployment Rates
Reading MSA, Pennsylvania, USA
2006-2010**

Area	Unemployment Rates				
	2006	2007	2008	2009	2010
Reading MSA	4.3%	4.2%	5.4%	8.7%	9.2%
Pennsylvania	4.5%	4.3%	5.3%	8.0%	8.7%
USA	4.6%	4.6%	5.8%	9.3%	9.6%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics. Year-to-year data may be inconsistent due to revisions to incorporate updated population controls and re-estimation.

Major Employers in the Region

While there have been ups and downs in the economy over the last few years, job creation has seen some stabilization and improvement. Of the top 25 employers in the County, sixteen of them increased their employment numbers from 2009 to 2010. There were six that reduced their workforce, some that stayed the same and a few new names to add to the list. It appears that many firms are using temporary employees to fill the gaps during busier times, rather than committing to a full time employee. Some companies are hiring employees on a temporary basis first then on a permanent basis if needed.

Top 25 Employers in Berks County

09 –Employers Rank- 10	2009	2010
1. Reading Hospital	6,839	6,877 ⁺
2. East Penn Manufacturing	5,348	5,800 ⁺
3. Reading School District	2,637	2,583
4. Berks County	2,500	4,494
5. Carpenter Technology Corp.	1,917	2,040 ⁺
6. Wal-Mart Stores (7)	1,783	1,786 ⁺
7. PA Gov't (6)	1,775	1,800 ⁺
8. St. Joseph Medical Center	1,514	1,525 ⁺
9. Redner's Warehouse Markets	1,415	1,411
10. Boscov's Inc.	1,400	1,400
11. Berks County Intermediate Unit	1,241	1,270 ⁺
12. (tie) Weis Markets	1,200	1,225 ⁺
13. (tie) Penske Truck Leasing (13)	1,200	1,208 ⁺
14. Wilson School District (15)	1,195	1,150
15. U.S. Gov't (14)	1,150	1,200 ⁺
16. Kutztown University (tie 18)	1,146	1,075
Berks and Beyond Employment Services (16)	unlisted	1,107
17. Boyertown School District (tie 18)	1,066	1,075 ⁺
18. Associated (22) Wholesalers Inc.	1,015	964
19. Sovereign Bank (20)	1,000	1,050 ⁺
20. First Energy Corp. (21)	986	988 ⁺
21. Giant Food Stores (17)	910	1,080 ⁺
22. Ashley Furniture Industries Inc. (23)	726	806 ⁺
23. Transcontinental Direct (UL)	675	Unlisted
24. City of Reading (UL)	670	Unlisted
25. Exeter School District (UL)	664	Unlisted
Alcon Inc. (24)	Unlisted	766
IWCO Direct (25)	Unlisted	730

Existing Land Use

Concern for the use of land is the essence of comprehensive planning. Fleetwood is a mature borough that features a unique combination of densely developed older homes and newer residential subdivisions. Fleetwood's small business district is located along Main Street in the center of the Borough. Fleetwood has a strong industrial heritage still represented by a cluster of industries situated along the railroad tracks that bisect the Borough.

Maiden Creek, while experiencing some large scale residential development, has still held onto a significant portion of their agricultural land. With the presence of rich farm soils and the proximity to local markets the area has maintained a large amount of farming along the boundary with Richmond Township, around the Lake Ontelaunee watershed and on the north side of the Lake. The areas around the villages of Blandon and Maiden Creek have become surrounded by residential growth, commercial growth along the major routes and intersections and in the southwestern area industrial growth. The availability of public sewer and water to these areas has allowed the development to be centered here, rather than scattered through the agricultural and Lake Ontelaunee watershed areas. There is also the presence of high-quality limestone in the Township that supports quarrying activity near Evansville.

Richmond remains a mostly rural, largely agricultural municipality. Farming and scenic wooded hillsides still dominate most of the Township, although there are some newer residential subdivisions found around Fleetwood Borough, where sewer and water is present. Commerce is concentrated along the Route 222 corridor and to a lesser extent along Park Road and in Virginville. Richmond's industrial development occurs, for the most part, along the railroad tracks. One of the largest employers in Berks County is East Penn Manufacturing, which is located in the southeastern portion of the Township next to Lyons Borough. Limestone deposits that are quarried are also found in Richmond Township along Eagle Road and the boundary with Maxatawny Township.

Residential Land Uses

Fleetwood Borough

Fleetwood's housing stock is a mix of single family detached, attached units and apartments. Fleetwood's single family detached homes include older homes in the original parts of the Borough and newer, suburban style homes in the outlying sectors. Willow Run and Willow Creek located on opposite sides of North Richmond Street are two of the newer subdivisions. Most of the newer single family detached development is on lot sizes that range between 10,890-21,780 square feet. In general, the size of lots for the older housing stock ranges from 2,900-10,890 square feet.

Single family attached homes represent nearly one-third of Fleetwood's housing stock. Single family attached housing in the Borough consists of largely row homes but also

includes Cloverleaf Crossing, a more recent twin home development. Tarsus Manor and Laurel Court are Fleetwood's two largest apartment complexes. Apartments created by converting former single family homes or other structures comprise most of the Borough's remaining multi-family housing. Fleetwood contains only very limited mobile home development.

Maiden creek Township

Residential uses within Maiden creek are quite extensive and include low, medium and high density single family detached and attached, multi-family and mobile home parks. The low density residential uses are single family detached homes, typically on lots of one acre or more. These are served by on-lot septic disposal systems. The Village of Molltown, located in the northeast corner of the Township, is a more densely populated area of single family homes with on-lot septic disposal systems. Most of the newer development is within the public sewer and water services areas. This new residential development is on lots sizes that range from 8,750-15,000 square feet and includes both single family detached and semi-detached dwellings. Multi-family residential development including townhouses and apartments are found in older buildings within Blandon Village and newer townhouse developments. Mobile homes located on individual lots exist within the Township as well as a mobile home park, designated as housing for 55 and older residents, located in the southeastern portion of the Township near the Ruscombmanor Township boundary line. The Township is seeing growth in housing that services the aging baby boom generation in two assisted living facilities and two 55 and older communities.

Richmond Township

Farmsteads and single family detached homes are the two main housing types in Richmond Township. Farmsteads are located along major and minor roads in every part of the Township. Single family detached homes are scattered throughout the Township, generally in small groupings. There are very few planned residential subdivisions in Richmond. Virginville and Walnuttown are the Township's two largest clusters of village style development. These areas have single family detached, semi-detached, apartments and mobile homes. Very few townhomes are found in the Township. The Walnuttown area has public sewer service available to a limited number of residents and the Virginville area is slated to receive public sewer when a funding source is found. Both of these areas were developed, in general, at densities that do not support on-site septic systems and on-site water systems. Pockets of residential development are found along Rt. 222, Kutztown Road, Crystal Ridge Road, Virginville Road and Ruth Road. Also, there is a mobile home park, Berkleigh Heights, located along Kempsville Road.

Commercial Land Uses

Fleetwood Borough

Fleetwood's traditional downtown Main Street is home to most of the Borough's commercial uses. The heaviest concentration of these uses is clustered along Main Street between Franklin and Richmond Streets, the two roads that carry Rt. 662 in and out of Fleetwood. An assortment of small retail, restaurant, service and office uses are also scattered along other portions of Main Street, North Franklin Street, South Franklin Street, South Richmond Street and a few other locations elsewhere in the Borough. The Borough is making a concerted effort to maintain the traditional downtown area of Fleetwood and its surrounding neighborhoods. The Borough has undertaken an Architecture Overlay District to maintain current local businesses, attract new businesses and incentivize rehabilitation of the area.

Maiden creek Township

There are no large scale shopping centers in Maiden creek, these types of commercial uses are found in nearby Muhlenberg and Spring Township and Wyomissing Borough. The Township has a variety of small strip commercial developments along Rt. 222, near Maiden Creek Village (the intersection of Rt. 73), in the Village of Blandon, and along the Park Road corridor. There are also a number of small freestanding shops restaurants, and health care providers located in these areas.

Richmond Township

The commercial uses found within the Township are retail, small office uses, and service oriented businesses. Most commercial land uses in Richmond Township are situated along the Rt. 222 corridor between the western end of the Kutztown bypass and Richmond's boundary with Maiden creek Township. The portion of Rt. 222 from Rt. 662 west to Maiden creek contains the heaviest concentration of these commercial uses. Growing traffic congestion and the traffic problems that strip commercial add to the already congested Rt. 222 are a major concern for the Township. An assortment of restaurants, auto-related businesses, healthcare, and retail stores exist there now.

Other commercial clusters in Richmond include uses along Park Road just west of Fleetwood Borough, Virginville, and areas in and around the village of Walnuttown. The Kutztown Produce Auction, a farm products wholesale business, is a unique commercial use located on Schiery Road in the heart of the Township's prime agricultural area.

Industrial Land Uses

The industrial land uses are important employers and generators of substantial economic activity in Fleetwood, Maiden creek and Richmond. Most of these industries are stand alone businesses or manufacturers adjacent to the railroad areas. Maiden creek has an industrial park in the southwestern part of the Township.

Fleetwood Borough

Fleetwood has a long tradition of industrial development dating back to the Borough's prominence as an auto body manufacturing center in the early 1900's and a railroad shipping center beginning in the second half of the 19th century. Today, Fleetwood's major industries are still clustered along the railroad, including Sunsweet Growers, F.M. Brown Mills, Fleetwood Shirt Company and other smaller businesses.

Maiden creek Township

With access to both rail and a major highway, Maiden creek Township is well suited for industrial development. A quarry and production facility, operated by the Lehigh-Portland Cement Company and a custom dye manufacturer, Custom Milling and Consulting, is located along Maiden creek Road in Evansville. W.D. Zwicky and Sons is located nearby on Buena Vista Road. This facility produces mulch, compost, soils and alternate fuels for area factories. A variety of industrial operations are found along Park Road between Blandon Village and the Ontelaunee Township line. The Excelsior Industrial Park near Blandon includes several large industrial operations; there are still a few vacant tracts here for future development. Food processing and construction related operations dominate. Giorgio Foods also has some of their mushroom growing operations in this area. Redner's Markets has their headquarters and a distribution center just north of the main industrial area at Maiden Creek Village, west of the Rt. 222 and Rt. 73 intersection.

Richmond Township

East Penn Manufacturing (Deka Battery), which is Berks County's second largest employer, is located in the southeastern corner of Richmond adjacent to Lyons Borough. A quarry, that will also supply raw material to the Lehigh-Portland Cement Company in Maiden creek Township, is located in the northeastern part of Richmond Township along Eagle Road. There are also some small industrial uses scattered throughout the Township.

Institutional Uses

Institutional uses are generally public and semi-public facilities that include schools, churches, cemeteries, municipal buildings, and other non-profits.

Fleetwood Borough

Institutional uses in Fleetwood Borough include the Fleetwood High School-Middle School-Elementary School complex, the Fleetwood Community Center, Fleetwood Volunteer Fire Company and ambulance, a municipal parking lot, and several church properties, including cemeteries. The Fleetwood Borough offices are located inside of the Fleetwood Community Center.

Maiden creek Township

The institutional uses found in Maiden creek Township are the Rajah Temple, Andrew-Maier Elementary School, a Mennonite School on Pleasant Hill Road, Township's municipal building, Blandon Post Office, ambulance and fire department headquarters, several churches and cemeteries, and a few utility installations. Most of these are found in and around the village of Blandon.

Richmond Township

Institutional uses that are located in Richmond Township include the Richmond Elementary School, Willow Creek Elementary School, the Township's municipal building, two granges, Fleetwood Borough's sewage treatment plant, two Mennonite schools, Union Fire Company of Walnuttown, the Virginville Fire Company, the post offices in Virginville and along Park Road just west of Fleetwood, and several church properties, including cemeteries.

Recreation and Open Space Land Uses

This land use includes both publicly accessible parks and open space along with other private or non-profit park, fitness and open space opportunities in the area. Fleetwood Borough, Maiden creek Township and the Fleetwood School District properties contain all of the public athletic fields.

Fleetwood Borough

Fleetwood's Recreation and Open Space lands include the following sites.

- Fleetwood Community Park and Swimming Pool – West Main Street
- Willow Run open space – North Richmond Road
- Public park – West Arch Street
- Public open space – East Washington Street
- Public open space – East Locust Street
- Tri-Valley YMCA – West Arch Street

Maiden creek Township

- Aquabilities Swim School – Park Road (Facility closed in June 2011)
- Blandon Fire Co. Neighborhood Park – West Wessner Road
- Cornerstone Drive Neighborhood Park – Cornerstone Drive
- Faith Drive Basketball Courts – Faith Drive
- Wyatt Drive Tot Lot – Wyatt Drive
- Lake Ontelaunee – Rt. 73
- Maiden creek Community Park – Park Road
- Maiden creek Open Space
- Maiden creek Municipal Building – Quarry Road

- Municipal Tennis Courts – Quarry Road
- Maier’s Grove – Grove Drive
- Ontelaunee Heights Park – Longleaf Drive
- Pleasant Hills Golf Course – Pleasant Hills Road
- Rich Maiden Golf Course – Maiden creek Road
- Shady Glen Picnic Grove – Rt. 222
- Treetops Park – Acer Drive
- Willow Creek Greenway – Between Rt. 73 and Schaeffer Road
- Rajah Shrine – Orchard Road

Richmond Township

Richmond’s Recreation and Open Space lands include the following sites.

- Berkleigh Country Club – Rt. 222
- Moselem Springs Golf Club – Rt. 662
- Tri-Valley YMCA – Crisscross Road
- Conservancy Land – Lake Road
- Deka Softball Field – Fleetwood-Lyons Road
- Crystal Cave – Crystal Cave Road
- Fleetwood Fish and Game Commission – Dryville Road
- Gennetti’s Mini Golf/Range
- Smith Little League Field
- Gamelands 182
- Richmond Elementary School
- Willow Creek Elementary School
- Virginville Fire Company
- Saucony Park Campsites – Saucony Road

Agricultural Land Uses

The agricultural land uses comprise the largest amount of land use within the area. Maiden creek and Richmond Townships have significant acreage in farming, while Fleetwood Borough has only a small portion. Agricultural uses include cultivating for crops, animal production, pasture areas, farm buildings and mushroom production. A large amount of the agricultural land in the area is enrolled in the “Clean and Green”, Act 319, program. This program gives farmland a reduction in property tax assessment in exchange for keeping the property as farmland. Should the owner decide to develop the property there is a payment of back taxes for a specific timeframe that is required.

Fleetwood Borough

The agricultural land use is found within the Borough in the northeastern corner. This area stretches from Rt. 662 along the boundary with Richmond Township over to the area south of the Fleetwood Lyons Road. The area on either side of the Fleetwood Lyons

Road is within the Richmond Township Agricultural Security Area and is also preserved through a Berks County Agricultural Easement.

Maiden creek Township

The agricultural land use in Maiden creek Township is found mostly in the eastern, central and northern portions. A significant amount of this land is enrolled in the Maiden creek Township Agricultural Security Area. There are a number of farms in the eastern and northern parts of the Township that have sold their development rights to Berks County and are now eased. Certain types of farm activities have been regulated by their intensity and are allowed in an area just north of Evansville and in the southeastern corner of the Township, next to the industrial area. This is mainly mushroom farming activities; however many farmers are beginning to turn to more intense agricultural uses such as chicken farming and dry lot dairies in all agricultural zoned areas

Richmond Township

Agricultural uses are the predominant land use in Richmond Township. Farming is done on both a large and small scale and is found in every sector of the Township. A large portion of the farms have been placed within the Richmond Township Agricultural Security Area, which is a requirement if the farm owners want to have their development rights purchased through the Berks County Agricultural Easement Program. The first farm to be purchased by the Berks County program is located in Richmond. Much of the farmland between the Fleetwood Lyons Road and Rt. 222 has had their development rights purchased by the County. There are also some farms within the northern part of the Township that have sold or donated their development rights to the Berks County Conservancy.

Rural/Woodland Land Use

The Rural/Woodland Land Use includes land within the area that is sparsely populated, wooded, and contains steep slopes, watershed, some floodplains, and some small areas of farming.

Fleetwood Borough

There is very little Rural/Woodland Land Use within the Borough. The two areas are along the Willow Creek and on the southern side of the Borough along the boundary with Richmond and Ruscombmanor Townships.

Maiden creek Township

The largest section of Rural/Woodland Land Use within the Township is the Lake Ontelaunee Watershed land. This is generally the land that the City of Reading owns to protect the water quality of Lake Ontelaunee, the drinking water supply for the City and surrounding urban areas. There are also parcels found along the Willow Creek through

developments, in the southern portion of the Township known as Irish Mountain, and along many of the creeks that are tributaries to Lake Ontelaunee in the northern part of the Township.

Richmond Township

The Rural/Woodland Land Use in Richmond Township is generally found in the extreme southern portion where the land becomes steep and in the northern part where there are significant areas of woodland and steep slopes. The northern part of the Township is also where the Maiden Creek, the main tributary of Lake Ontelaunee, is located, and the Sacony Creek combines with the Maiden Creek at Virginville.

COMMUNITY FACILITIES AND SERVICES

Municipalities and other community oriented entities provide a wide variety of facilities and services. Examples of community facilities and services include recreation, education, public utilities and emergency services. Knowledge of community facilities and service, and locations is critical in planning for future development and land use.

Education

Fleetwood Borough, Maiden Creek Township and Richmond Township all belong to and make up the entire service area of the Fleetwood Area School District. The current enrollment, as of November 2010, of the District is 2,730. This is an increase in 652 students since the 1995-1996 school year. The enrollment of the District has steadily increased and led to a number of building renovations and constructions. The District includes the following schools:

Secondary Schools:

Fleetwood Area High School (9-12)
803 N. Richmond Street
Fleetwood PA 19522

The High School, which started out on Arch Street in the Borough, then moved to North Richmond Street in 1968 and is now at 803 North Richmond Street, was built in 1998.

Fleetwood Area Middle School (5-8)
407 N. Richmond Street
Fleetwood PA 19522

The Middle School, which began by sharing the building on Arch Street with the High School, then moved to a new building on North Richmond Street in 1989, has now moved into the previous High School that was renovated in 1999.

Elementary Schools

Andrew Maier Elementary School (k-4)
355 Andrew Maier Blvd.
Blandon PA 19510

This building was originally built in 1951 and renovated in 1973 and 1992.

Fleetwood Elementary School
109 W. Vine Street
Fleetwood PA 19522

This building no longer contains an elementary school. The District rents the building out for other similar uses.

Richmond Elementary School
14432 Kutztown Road
Fleetwood PA 19522

This building was originally built in 1955 and renovated in 1972 and 1992-1993.

Willow Creek Elementary School
603 Crisscross Road
Fleetwood PA 19522

This is a brand new school that was opened at the beginning of the 2010-2011 school year. This building is also attached to the new Tri-Valley YMCA Building that opened in 2011.

The Fleetwood Area School District has significantly expanded and renovated their facilities over the last twenty years due to the rapid growth that the area saw from 1980 to 2000. While there is still growth projected in the area for the future, the projections are not for the type of rapid growth seen in the past.

There are five Christian and Mennonite schools located in Fleetwood Borough, Maiden creek and Richmond Townships. Other private schools are located within the region, but not in the immediate area.

The nearest Colleges and Universities to the Fleetwood-Maiden creek-Richmond Area are:

Kutztown University – Kutztown Borough
Albright College – City of Reading
Alvernia College – City of Reading
Penn State University, Berks Campus – Spring Township
Reading Area Community College – City of Reading
Cedar Crest College – City of Allentown

Muhlenberg College – City of Allentown
Penn State University, Allentown Campus – Upper Macungie Township
Lehigh University – City of Bethlehem
Allentown College of St. Francis de Sales – Upper Saucon Township
Moravian College – City of Bethlehem

Library

The Fleetwood Public Library, located in the Fleetwood Community Center on Arch Street, is the area's main library. Residents are also served by the Kutztown Public Library, and the Reading Public Library. Residents are eligible to use the Rohrbach Library of Kutztown University.

Solid Waste Collection and Recycling

Each household and business in the Fleetwood-Maiden creek-Richmond Area is responsible for arranging their own solid waste collection. Maiden creek Township was mandated after the 2000 census to begin a residential curb-side recycling program and provide a yard waste drop off center. Richmond Township has a drop-off recycling program that is run by the Berks County Solid Waste Authority for their residents. Fleetwood does not have an official recycling program; although residents may drop off their recycling at Berks County-run recycling facilities. Maiden creek Township, Fleetwood Borough and Ontelaunee Township received a grant in 2003 for the purchase of a tree chipper that is shared among the municipalities for the chipping of Christmas trees and brush.

Public Water

The Fleetwood Borough Water Department serves the entire Fleetwood Borough. They also serve portions of the adjacent areas in Richmond and Ruscombmanor Townships. The Borough's water comes from wells and springs mostly located in Ruscombmanor Township along with 1 well located off of East Locust Street and 1 located off of Hickory Drive in the Borough. In the past, the Water Department expanded the system to accommodate Sunsweet Growers need for additional water on certain days.

The Water Department chlorinates its water at a treatment plant on Willow Road in Ruscombmanor Township. At this time there are no supply or quality problems throughout the Borough. Except for some additional lines to provide additional volume in specific areas of the Borough, the transmission lines in the Borough are fairly old. Currently, the Borough deals directly with the customers located beyond their municipal boundaries.

In Maiden creek Township public water is available to the Village of Blandon and the Village of Maiden creek. The Maiden creek Township Authority operates the public water supply system. Water is supplied to the system by three wells. Two wells are located near Blandon while the remaining well is located along Route 222. The Township's

original source of public water, springs located in Ruscombmanor Township, have been taken offline and removed from the public water system, though the land remains under the Maiden creek Township Authority ownership. The system does not have any supply or quality problems at this time.

The remaining areas of Maiden creek and Richmond Townships not served by public water supplies are served by on-lot water sources. There is one part of the area that is adjacent to a public water supply. This is the part of Richmond that is adjacent to Lyons Borough and Maxatawny Township. Lyons Borough's public water services this area.

Public Sewer

The Fleetwood Borough Sewer Authority owns a public sewer system that it leases to Fleetwood Borough. The Authority's sewage treatment plant is located off of Crisscross Road in Richmond Township. The Authority serves all of Fleetwood and some adjacent areas of Richmond Township along and extending out from the Park Road corridor. The system includes a number of pump stations both in Fleetwood and also in the Richmond Township service area. Sunsweet Growers and some other industries pretreat their waste before it flows into the sewer system.

In Maiden creek Township public sewer is available to the southern third of the Township, where the majority of businesses and residents are located. The collection and treatment system is owned and operated by the Maiden creek Township Authority. The sewer treatment plant is located along Willow Creek, in nearby Ontelaunee Township and also provides serve to a portion of Ontelaunee Township. The plant has a maximum monthly permitted capacity of 1,000,000 gallons per day.

The eastern part of Richmond that is adjacent to Lyons Borough, where East Penn Manufacturing is located, is served by the Lyons Borough sewer system. This is to accommodate East Penn's facilities. As East Penn expands they coordinate with Lyons Borough to expand for needed sewer capacity. There is also a proposed sewer service area that extends from Lyons Borough south to the Rockland Township boundary line.

There are three other areas where adjacent municipalities are proposing sewer service areas. Ontelaunee Township is proposing a sewer service area along their boundary with Maiden creek Township from Rt. 73 south to the Muhlenberg Township boundary line. Also, Maxatawny Township is proposing a sewer service area along Richmond Township's boundary line from Rt. 222 south to Sheridan Road. Ruscombmanor Township, when funding becomes available, is planning to provide sewer service to the area along SR 662, from the boundary with Fleetwood Borough, further south. This area has failing residential on-lot septic systems.

The remaining areas of Richmond and Maiden creek Townships are served by on-lot septic systems. Virginville, located in northern Richmond Township, has been identified as having many failing on-lot septic systems. This is mainly due to the fact that the lots

are too small to accommodate on-lot septic disposal. Richmond is in the process of applying for funds to build a public sewer system for Virginville.

With the cost of building, expanding and maintaining a public sewer or water system the municipalities of the region should continue to work together to provide these services on a regional basis. There have been conflicts between the municipalities over provisions of these services in the past. A cooperative and regional approach to providing these services would help to save money and keep growth in the areas that are more appropriate for it.

Hospitals and Social Services

Hospitals in the Reading and Allentown areas serve the Fleetwood-Richmond-Maiden creek area. Saint Joseph's Hospital is located in Bern Township, across from the Reading Regional Airport. Reading Hospital is located in West Reading Borough. There are a number of hospitals in the Allentown area; however the Lehigh Valley Hospital services the eastern part of this area. The Lehigh Valley Hospital recently opened a medical center in the historic Moselem Springs Inn building, while St. Joseph's Hospital operated an imaging center and urgent care facility in Maiden creek Township. Both the Reading and Lehigh Valley Hospitals provide the area with trauma centers and both provide medical helicopter service to this area. Fleetwood Borough has an office of CONCERN, a nonprofit child welfare agency that provides foster care, life skills training and delinquency services to the area.

Other notable facilities include; the Wernersville State Hospital, which houses and treats the mentally ill, the Hamburg Center that houses and serves the mentally retarded, the Reading Rehabilitation Hospital that has both inpatient and outpatient services and The Caron Foundation that provides treatment and rehabilitation for persons with drug and alcohol dependencies.

Police Protection

The Fleetwood Borough Police Department provides police service to both Fleetwood and Richmond. Since 1957, Richmond has contracted with the Borough to provide police service. This is one of the oldest inter-municipal arrangements in Pennsylvania. Recently, Fleetwood has been investigating cooperating with other police departments on a more regional basis.

Maiden creek Township participates in a regional police department, Northern Berks Regional Police. The Northern Berks Regional Police also provides service to Ontelaunee Township and Leesport Borough.

All of the police departments in Berks County participate with the Berks County District Attorney with regard to certain types of investigations and services. There is also a Pennsylvania State Police Barracks located in Hamburg.

Fire Protection, Ambulance Service, and Rescue

Three fire companies cooperate to provide fire protection and rescue services for the Richmond and Fleetwood area:

- Community Fire Company of Virginville
- Union Fire Company of Walnuttown
- Fleetwood Volunteer Fire Company

The Fleetwood Volunteer Fire Company Ambulance Service is the primary provider of emergency medical services for the Fleetwood-Richmond area.

The Blandon Fire Company serves Maiden creek Township. They are a volunteer company located in the Village of Blandon and have been providing service to the area for over 100 years. Ambulance service is provided by the Blandon Community Ambulance Association, which has been providing primary BLC service to Maiden creek Township for fifty years. Schuylkill Valley EMS provides emergency medical transport to areas north of Lake Ontelaunee and Maiden creek Township contracts with Fleetwood ALS for advance life support and paramedic services for the entire Township.

Rescue services are provided to the Fleetwood-Maiden creek-Richmond area through the Fleetwood Ambulance ALS.

Parks, Recreation and Open Space

Parks, Recreation and Open Space refer to the recreation lands, recreation facilities and recreation programs available to residents of the Fleetwood-Maiden creek-Richmond area. Recreation lands are categorized as either regional or local depending upon who they are designed to serve.

Regional Recreation Lands

Regional recreation lands available to residents of the Fleetwood-Maiden creek-Richmond area include publicly accessible open space properties within a 25-mile radius that are in federal, state, or county ownership. The Hawk Mountain Sanctuary, regional hiking trails and the watershed land of the City of Reading are also included. Regional recreation lands attract visitors from throughout Berks County and beyond. Typically, these sites offer a range of opportunities for picnicking, boating, fishing, camping, hiking and various other activities. They may also include areas for nature study, wildlife habitat and conservation. Regional recreation lands within a 25-mile radius are as follows:

Federal Lands

- Blue Marsh Lake National Recreation Area

State Parkland and Forests

- Locust Lake State Park – Schuylkill County

- Tuscarora State Park – Schuylkill County
- Weiser State Forest – Berks County
- State Gamelands #80 – Berks County
- State Gamelands #106 – Berks County
- State Gamelands #110 – Berks County
- State Gamelands #182 – Berks County
- State Gamelands #280 – Berks County
- State Gamelands #141 – Carbon County
- State Gamelands #205 – Lehigh County
- State Gamelands #217 – Lehigh County
- Leaser Lake (PA Fish and Boat Commission Lands – Lehigh County
- State Gamelands #222 – Schuylkill County
- State Gamelands #227 – Schuylkill County
- State Gamelands #257 – Schuylkill County
- State Gamelands #286 – Schuylkill County

County Parkland

- Camp Joy – Berks County
- Kaercher Creek – Berks County
- Hunsinger's Grove – Berks County
- Tulpehocken Valley Creek – Berks County
- Youth Recreation Facility – Berks County
- Antietam Park – Berks County
- Mauch Chunk Lake County Park – Carbon County
- Leaser Lake – Lehigh County
- Trexler Lehigh County Game Preserve – Lehigh County

Hiking Trails

- Appalachian Trail
- Pinnacle Side Trail
- Blue Blazed Trail
- Valley Rim Trail
- Horse Shoe Trail
- Schuylkill River Trail (including the Thun Trail)

Other Regional Parkland

- Hawk Mountain Sanctuary – Private Non-Profit
- Lake Ontelaunee and surrounding land – City of Reading
- Neversink Mountain and trails – Berks County & Berks County Conservancy

Local Recreation Lands

Local recreation lands refer to parks and other recreation related properties designed primarily to serve residents of a specific municipality or area, such as the Fleetwood-

Maiden creek-Richmond area. Local recreation lands can be owned by municipalities, school districts, semi-public organizations, such as sports clubs and fire companies, or private entities. Local recreation lands described in this comprehensive plan are categorized as either publicly accessible or private. Publicly accessible local recreation lands usually provide athletic sports or individual activities. However, some publicly accessible lands are open space areas or greenways without active recreation facilities. Publicly accessible local recreation lands are usually open to the public without charge. Private local recreation lands include company-owned softball fields, private golf courses, fish & game clubs, commercial campgrounds and private conservancy lands, among other sites that either require an admission fee or are only open to members or by invitation. All local recreation lands in the Fleetwood-Maiden creek-Richmond area are listed as follows:

**Local Recreation Lands
Publicly Accessible**

NAME	LOCATION
Fleetwood Community Park and Pool	Fleetwood
Willow Run Open Space	Fleetwood
Public Park – West Arch Street	Fleetwood
Public Open Space – East Washington St.	Fleetwood
Public Open Space – East Locust Street	Fleetwood
Smith Little League Field	Richmond
Richmond Elementary School	Richmond
Willow Creek Elementary School	Richmond
Andrew Maier Elementary School	Maiden creek
Fleetwood High School -Middle School- Elementary School Complex	Fleetwood
Blandon Fire Co. Neighborhood Park	Maiden creek
Cornerstone Drive Neighborhood Park	Maiden creek
Wyatt Drive Tot Lot	Maiden creek
Lake Ontelaunee Watershed Land	Maiden creek
Maiden creek Community Park	Maiden creek
Maiden creek Open Space	Maiden creek
Maiden creek Municipal Building	Maiden creek
Faith Drive Basketball Courts	Maiden creek
Maier’s Grove	Maiden creek
Ontelaunee Heights Park	Maiden creek
Treetops Park	Maiden creek
Willow Creek Greenway	Maiden creek

Local Recreation Lands

Private

<i>NAME</i>	LOCATION
Open Space adjacent to Virginville Fire Co.	Richmond
Crystal Cave	Richmond
Berkleigh Country Club	Richmond
Moselem Springs Golf Club	Richmond
Fleetwood Fish and Game Club	Richmond
Gennetti’s Mini-Golf/Range	Richmond
Deka Softball Field	Richmond
Saucony Park Campsites	Richmond
Private Conservancy Land	Richmond
Walnuttown Fish and Game	Richmond
Tri-Valley YMCA (West Arch Street)	Fleetwood
Tri-Valley YMCA (Crisscross Road)	Richmond
Aquabilities Swim School (closed June 2011)	Maiden creek
Pleasant Hills Golf Course	Maiden creek
Rich Maiden Golf Course	Maiden creek
Shady Glen Picnic Grove	Maiden creek
Rajah Shrine	Maiden creek

Private Recreation

The Fleetwood-Maiden creek-Richmond area has significant acreage in private recreational facilities. Most of the acreage is in private golf courses. There are five golf courses in the area. While the above listed facilities are private they do provide a considerable amount of recreational opportunities for the immediate and surrounding areas. Also, Crystal Cave is a natural geologic phenomenon that draws tourists to the area and has historical significance. The Tri-Valley YMCA specifically caters to local residents, and especially families. They provide a number of programs and cooperate with Fleetwood Borough to operate the Borough Pool and summer recreation program.

Existing Recreation Lands vs. NRPA Guidelines

The National Recreation and Parks Association (NRPA) recommends that communities should have 6.25 to 10.5 acres of developed close to home space per 1,000 residents. The current population of the Fleetwood-Maiden creek-Richmond area is 14,071. Based upon NRPA standards the combined recommended acreage of recreational land for the Fleetwood-Maiden creek-Richmond area is 88 to 148 acres. Based upon the following numbers the area has sufficient acreage on the low range to medium range, but is deficient for the medium to upper range. However, when the acreage for the Fleetwood School District is added, ^{+/-}50 acres, then the area has sufficient acreage for all recommended ranges.

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Background Report

Total current publicly accessible recreational lands are:

Fleetwood	– +/-37 acres
Maidencreek	– +/-76 acres
Richmond	– +/-3 acres
Total	= +/-116 acres

This total does not include the recreational acreage of the school districts, Lake Ontelaunee or private facilities. The total is based upon the parcel size of the parks, which may include parking and open space areas. When this total acreage is combined with the acreage of the school facilities, Lake Ontelaunee and private facilities the acreage of overall recreational, open space and park facilities is over 3,000 acres.

Lake Ontelaunee and the surrounding publicly owned land is a very popular recreational destination in the area. The recreational opportunities at the Lake are limited to passive activities such as hiking, hunting and fishing from the shore; boats are prohibited. The lake and the surrounding lands are owned by the City of Reading, but the Pennsylvania State Game Commission has responsibilities for some of the residual lands surrounding the Lake. Since the reservoir is the primary source of drinking water for the City, current policy prohibits active recreational uses, such as boating and swimming, but allows passive uses along the shore. Maiden creek Township has little say over the management of the Lake or surrounding land. The Lake and surrounding land is 2,034.5 acres.

Location	Active Recreation					School Facilities				
	BB/SF	SO/FB	BT	TE	IF	SW	TL	FH	TR	NS
Richmond El.	X	X	X				X			
Andrew-Maier El.	X	X	X				X			
Fleetwood El.			X				X			
Middle	X		X				X			X
Sr. High	X	X		X	X			X	X	
Willow Creek El.	X	X	X				X			X

Active and Passive Recreation: Public Facilities		
Name	Location	Types of Activity
East Locust Street Park	Fleetwood	BT, PA, TL
East Washington Street Park	Fleetwood	Open Space
Fleetwood Park and Pool	Fleetwood	BT, FI, HI, IH, OF, OA, PA, SW, TL
West Arch Street Playground	Fleetwood	BT, VB
Willow Run Open Space	Fleetwood	Greenway
Blandon Fire Co. Playground	Maidencreek	BB, BT, PA, TE, TL
Blandon Meadows Park	Maidencreek	Greenway
Lake Ontelaunee	Maidencreek	FI, HI, HU, NS
Maidencreek Community Park	Maidencreek	BB, BT HI, PA, SO, TL
Maiden Creek Open Space	Maidencreek	Open Space
Maidencreek Municipal Building	Maidencreek	TE

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Maiden creek Open Space	Maiden creek	Open Space
Ontelaunee Heights Park	Maiden creek	BY
Treetops Park	Maiden creek	TL
Willow Creek Greenway	Maiden creek	BT, BI, HI, PA, TL
Wyatt Drive Tot Lot	Maiden creek	TL
Smith Little League Field	Richmond	BY

BB – baseball

BY – baseball youth

SF – softball

BT – basketball

TE – tennis

IF – indoor fitness

SW – swimming

TL – tot lot

FH – field hockey

TR – track

NS – nature study

FI – fishing

HI – hiking

HU – hunting

PA – picnic area

SO – soccer

IH – ice hockey

OF – open field sports

VB – volleyball

OA - outdoor amphitheatre

Maiden creek Township has a significant amount of municipal controlled recreational facilities. Fleetwood also has a good amount of facilities that are controlled by the Borough. Richmond Township does not own or operate any recreational facilities. The Fleetwood School District also owns and operates a large amount of the recreational facilities in the area. There are a number of youth sports groups that help to provide sports program for children, including baseball, softball, soccer and basketball.

TRANSPORTATION AND CIRCULATION NETWORK

BACKGROUND

The relationship between the use of land and its impacts on the circulation network is an important element in the comprehensive planning effort. A community's quality of life is highly dependent on the efficient use of land as well as the effectiveness of its circulation network. One has to understand that a network of transportation and circulation within a region not only pertains to vehicular traffic, but also pedestrian and bicycle uses as well – they are all parts of the transportation system. In order for a network to adequately serve adjacent land uses, it must be regularly evaluated as new development or redevelopment occurs. Different land uses require different road characteristics, and addressing future transportation needs is dependent on a sound understanding of the current network.

Existing and proposed development areas must be considered when making future road programming decisions. In turn, future development patterns should not adversely affect the circulation system. It is necessary to follow appropriate design standards, improve existing roads and manage access so the road network will be capable of performing its intended function. Municipal and individual land use decisions are strongly influenced by existing or proposed circulation systems, while at the same time these same land use decisions can affect the circulation systems and the functions which the roads are expected to perform.

The circulation system within a community has an important influence on the type and location of development which occurs. The location of residential, commercial, and industrial uses can influence the function or classification of roads, their design and their condition. In addition to influencing the character of the community by influencing land uses, the perception of a community can be influenced by the circulation system itself. A municipality with relatively narrow winding roads abutting agricultural and wooded areas will often be perceived as having a rural character, while a municipality with high traffic volumes, unsynchronized signalization, and delays at intersections could be perceived as gridlocked. In areas where development has occurred which does not respect the limitations of the circulation system, the perception can be one of poor planning and frustration.

The transportation system will function properly only when each community has adequate access to the system. The identification of problem areas throughout a region's transportation network, as well as a logical land use plan that enables residents to make fewer vehicle trips are key components to a joint comprehensive plan.

READING AREA TRANSPORTATION STUDY (RATS)

The Reading Area Transportation Study (RATS), the Metropolitan Planning Organization (MPO) for Berks County, was created in 1964 through a legal agreement between the City of Reading, Berks County, and the Pennsylvania Department of Highways (now the Pennsylvania Department of Transportation). According to the Federal-Aid Highway Act

of 1962, any urban area with a population of more than fifty thousand people must maintain a continuing, comprehensive and cooperative (“3C”) transportation planning process consistent with the comprehensively planned development of the urbanized area in order to be eligible to receive Federal funding for transportation projects. RATS enables Berks County to be eligible to receive state and federal funding for highway and transit system capital improvements and operations.

There are two committees that comprise RATS: the Coordinating Committee and the Technical Committee. The Technical Committee is responsible for reviewing items brought before the group and recommending actions to the Coordinating Committee. The Coordinating Committee is the policy body that formally adopts items reviewed by the Technical Committee. The role of the MPO is to promote transportation plans, programs, projects and policies that are consistent with current federal transportation planning legislation and the Clean Air Act. The Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) is the current planning legislation. The transportation planning staff of the Berks County Planning Commission serves as the technical staff to RATS.

RATS recognizes the interconnection between transportation and land use issues. The Berks County Planning Commission works closely with local governments throughout Berks County on land use planning issues. However, under Pennsylvania law, implementation of land use policies is the responsibility of local governments; therefore, RATS has no authority over local land use planning or zoning. However, municipalities are encouraged to attend RATS meetings and provide the valuable input on their priorities and concerns as it relates to their transportation and circulation systems.

The Berks County Planning Commission is the lead agency for the Region’s Metropolitan Planning Organization, RATS. As the lead agency, the BCPC performs all tasks associated with the Unified Planning Work Program (UPWP). This includes Clean Air Act requirements, development of the PennDOT Twelve Year Program for Berks County, Transportation Enhancements, functional classification updates, and traffic volume counts.

BICYCLE AND PEDESTRIAN AND NON-MOTORIZED VEHICLES

Providing appropriate accommodations for the non-motorized traveler should be an important transportation and land use consideration for municipalities. The level of walkability is often an indicator of a healthy and economically vibrant community. Municipalities that identify issues surrounding pedestrian and/or bicycle activity should consider data collection for bicycle and pedestrian facilities. In areas with Amish or Plain Sect populations, data regarding the presence and condition of roadway shoulders and sight distance limitations at high volume intersections can be critical in evaluating the safety level for horse and buggy traffic.

Additional field work and resident input may be necessary to identify areas where: sidewalks are either inconsistent, in poor condition, or absent; people are using roadway

shoulders for walking and bicycling; and bicycle and pedestrian facilities are desired. Special attention should be paid to areas such as parks and schools to determine if appropriate connections to residential areas exist. The Willow Creek Elementary School Safe Routes to School Report of February 2010 outlines potential projects for safer accessibility by pedestrians and students alike.

In urban or more densely populated areas like the Borough of Fleetwood, the focus may be on rehabilitating sidewalks and finding ways to better accommodate on-road bicyclists. A suburban or rural community may focus on providing multipurpose trails for recreation. In either case, data collection should proceed with these goals in mind. Consideration should be given to creating a bicycle and pedestrian plan for the region in order to create a concrete listing of problem areas and develop a plan of attack to rectify them.

Bicycle and Pedestrian Facilities

Despite recent efforts, facilities designated for walking and biking as a means of transportation are few and far between within the study area. Alternatives to motorized transportation are limited within the Fleetwood-Maiden creek-Richmond area. Furthermore, the volume and speed of motor traffic on the major roads make cycling and walking dangerous along these routes. Within Fleetwood Borough a network of sidewalks exists along most streets and Maiden creek Township's facilities are geared more towards the recreational user rather than the commuter. Gaps or missing links, poor conditions of certain segments, malfunctioning pedestrian signals and areas not easily accessible to physically handicapped persons hinder the maximum efficient use of these sidewalks by pedestrians. Sidewalks in Richmond Township's village areas have similar problems and sidewalks within the newer subdivisions of Maiden creek Township do not connect to anywhere. No formal pedestrian and bicycle trails now exist within the study region. However, the Berks County Greenway, Park and Recreation Plan (December 2007) and Maiden creek Township's Comprehensive Open Space and Recreation Plan (December 1990) identifies potential trails and connectors that could provide users with other options rather than motorized travel.

As part of the update to the Berks County Bicycle and Pedestrian Transportation Plan of 2010 a list of informal on-road bicycle routes was established and identified in the maps for this chapter. The routes identified were put together from input gathered from various stakeholders/committee members that were part of the planning process for the Bicycle and Pedestrian Transportation Plan update.

Missing Links

Missing links or *Gaps* as they might be referred to are contributors to an inefficient and unsafe pedestrian circulation system or network. These gaps serve as barriers for people walking to work, the store, or even children walking to school. Maintenance and the condition of the network is a major concern for bicycle and pedestrian transportation users. Examples of maintenance and condition issues include:

- Shoulder cutting to remove trees and overgrowth for increased visibility
- Shoulder, road, and curb ramp sweeping for cinders, glass and other debris
- Replacing missing signs or installing new ones
- Keeping paved shoulder edges and sidewalks in good condition
- Maintaining clear sidewalk and intersection access, particularly during inclement winter weather
- Proper sidewalk ramp construction

The maps associated with this section show the bicycle and pedestrian network that exists in the region. As mentioned earlier in this section, most, if not all of the sidewalks are located within Fleetwood Borough with some located within the newer subdivisions of Maiden creek Township. Greater effort should be given to provide for more connections between facilities and areas of interest. Maintenance should be done or a comprehensive maintenance schedule developed in order for the existing network to continue to work as an alternative transportation mode for its users.

Presence and Condition of Road Shoulders

The presence and condition of road shoulders is an important aspect when talking about bicycle and pedestrian friendly communities. Proper maintenance of these facilities enables bicyclists and/or walkers to safely and efficiently use the shoulders of the roads for transportation purposes. Municipalities should (if not already doing so) incorporate into their maintenance schedules the clearing of shoulders of debris and snow during winter months. Some thought should be given to creating a database of transportation assets, including deteriorated shoulders, so that an efficient and cost effective maintenance schedule can be incorporated into the existing road maintenance schedule of the municipalities.

Richmond Township has a large Mennonite population that uses the shoulders of the roads for bicycle transportation and horse-drawn buggy. An effort should be made to accommodate this population of users by identifying the most heavily used sections and keeping them maintained for their safe and efficient use. Municipalities should continue to work with PennDOT when doing road improvements to incorporate shoulder maintenance and development into proposed projects.

Developers should be required to improve shoulders along the frontages of their tracts when they develop. In addition, the Municipalities could take it upon themselves to improve shoulders along existing roads. Shoulders should be a minimum of 4 ft. wide, or the minimum width necessary to provide for trails in accordance with the guidelines in the Statewide Bicycle and Pedestrian Master Plan. Simple shoulder improvements go a long way in promoting bicycle commuting and short-trip use and are a valuable tool in congestion management.

Sight and other Limitations at High Volume Intersections

A number of intersections have been identified by the Planning Committee that they consider to be dangerous or unsafe because of speed and visibility issues. The following is a list of these hazardous intersections:

Richmond Township

- Kutztown Road (SR 222) / Kempsville Road
- Kutztown Road (SR 222) / Krause Road
- Kutztown Road (SR 222) / Farmers Drive
- Kutztown Road (SR 222) / Richmond Road
- Kutztown Road (SR 222) / Richmaiden Road
- Kutztown Road (SR 222) / School Road
- Eagle Road / Kempsville Road
- Eagle Road / Moselem Springs Road (SR 662)
- Maiden creek Road / Moselem Springs Road / SR 143 / Hard Hill Road
- Maiden creek Road / Richmond Road
- Fleetwood Lyons Road / Deka Road / Mertz Road / Weaver Road
- Pleasant Hill Road / Park Road
- Pleasant Hill Road / Crisscross Road / South View Road
- Keller Road / Park Road
- Kutztown Road / Schuler Road
- Kutztown Road / Crystal Cave Road
- Moselem Springs Road / Scheiry Road
- Crystal Cave Road / Knittle Road
- Fleetwood Lyons Road / Baldy Road
- Fleetwood Lyons Road / Oakhaven Road
- Fleetwood Lyons Road / School Road
- Fleetwood Lyons Road / Dryville Road
- School Road / East Vine Street
- Moselem Springs Road / Forge Hill Road
- Moselem Springs Road / Lake Road
- Hard Hill Road / Sieger Road
- Hard Hill Road / Becktree Road
- Hard Hill Road / Virginville Road
- School Road / Schuler Road
- Ruth Road / Dryville Road
- Lenhart Road / Park Road
- Crisscross Road / Lenhart Road
- Moselem Church Road / Schoyer

Maiden creek Township

- SR 222 / SR 73
- Tamarack Boulevard / SR 222

- Pleasant Hill Road / SR 222
- Maiden creek Road / SR 73
- Pleasant Hill Road / Maiden creek Road
- Park Road / Hill Road
- Park Road / East Wesner Road
- SR 73 / West Wesner Road / Mountain Spring Road

Fleetwood Borough

- Main Street (SR 1010) / North Franklin Street (SR 662)
- Main Street (SR 1010) / Richmond Street (SR 662)
- Main Street (SR 1010) / Willow Street
- Main Street (SR 1010) / Beech Street
- Richmond Street (SR 662) / New Alley
- Main Street / Fleetwood Lyons Road (SR 1010)

Although this is a large list of problem intersections and can be quite overwhelming when you consider the cost and time associated with rectifying all of these problem areas. Municipalities can make it a more manageable task by prioritizing these intersections into high, medium and low categories and advancing their efforts where they are needed the most. Consideration should be given to developing such a list/program and working with PennDOT, where appropriate, to alleviate these problem intersections starting with the worst ones first. Also keep in mind that sometimes a simple fix is all that is needed rather than a complete reconstruction. A comprehensive list should take this into account.

PUBLIC TRANSPORTATION

Public transportation provides transportation choice, particularly for individuals who do not drive, and therefore is an important component within the transportation and land use framework. One typical issue that is sometimes overlooked is whether bus stops are easily accessible. In suburban communities bus stops can sometimes be located in areas without sidewalks or other pedestrian amenities.

BARTA Bus Routes and Park ‘N Ride Service

The Berks Area Regional Transit Authority (BARTA) operates a fixed route bus service from the City of Reading to the East Penn Manufacturing Inc. site in Richmond Township. Currently this service provides transportation along the SR 1010 (Park/Fleetwood Lyons Road) corridor bisecting the planning region and making stops depending on demand. There are two designated bus stop locations within the Borough of Fleetwood along Main Street. One stop is located at Franklin Street and the other is located at Richmond Street. Both are signed bus stop locations erected by the Borough for use along BARTA’s existing route. Maiden creek Township has one bus stop along Park Road at Buy Rite Liquidators. This bus service is predominantly a transportation tool for workers associated with East Penn Manufacturing Inc. There is no Park ‘N Ride Facilities located within the planning region.

Paratransit Service

BARTA provides door to door van service under their Special Services Division to anyone in Berks County physically unable to use regular bus service. The BARTA Special Services program provides ADA related paratransit services as well as service for a number of other programs such as the Medical Assistance Transportation Program (MATP), Office of Aging trips to places such as Senior Centers and nursing homes and trips for Mentally Handicapped/Mentally Retarded clients. Special Services are also available for individuals that are not associated with a support funding program. In these instances, the individual pays a fare for the transportation service. If the passenger is enrolled in any of the support funding programs, Special Services will bill that funding agency for related trips.

Commuter Service

Commuter Services of Pennsylvania currently operates within the region. They are a non-profit agency whose main goal is to provide transportation alternatives for commuters, other than driving alone, by reaching out to employers so that they can help their workforce find those options. By creating these other options for commuters, they can improve air quality, decrease congestion and increase safety on highways. More information can be found on their website at: www.pacommuterservices.com.

Long-Distance Bus Service

Long distance, inter-city bus service is provided by Capital Trailways and Bieber Tourways. Capital Trailways provides daily service from Reading to Philadelphia with a direct route and a route with stops depending on the time of departure. A route between Reading and Lebanon and Harrisburg via U.S. 422 is also available with service to Allentown and Pottsville. Bieber Buses provide service between Kutztown and Reading, plus offer routes to Atlantic City and New York.

AVIATION

Reading Regional Airport

The nearest airport is the Reading Regional Airport approximately ten miles away. There are three charter services based at Reading. Additionally, there are Corporate and other general aviation aircraft operating out of the airport. Commercial commuter passenger service to Philadelphia and Pittsburgh was available as recently as 2004 but has since been discontinued.

Need for Airport Hazard Zoning Overlay District

Pennsylvania Law (Act 1984-164) requires municipalities located within an airport hazard area to have zoning regulations in place to prevent hazards to air navigation.

Neither Richmond Township, Fleetwood Borough nor Maiden creek Township is impacted by an airport hazard area.

RAIL SERVICE AND AT-GRADE CROSSINGS

Railroad Locations

The availability of rail service is an important aspect for a region's economic development potential. Currently there is no passenger rail service that is available in the region but freight service is readily available as a line passes through the southeastern portion of Maiden creek Township through Fleetwood Borough and southeastern Richmond Township. This line is the main freight rail line running from the Lehigh Valley to the New York City area and beyond. There is also a spur located in Maiden creek Township that services a quarry operation near Lake Ontelaunee. Some consideration should be given to extending this spur to encourage future industrial and commercial development within the region. Municipalities should utilize the availability of rail access throughout the region to encourage more industrial and commercial development.

Industries Served

Currently there are four industries serviced by rail within the planning region. East Penn Manufacturing Inc., F.M. Brown and Sons, Lehigh Cement Company's Evansville plant and Sunsweet Growers Inc.

Crossing Locations

There are numerous locations where rail lines cross the region's roads. Most of the crossings are considered "at-grade" crossings because the road and rails are level with each other when they intersect. Also identified within this plan are two "grade-separated" crossings where the rail line passes over the road on a bridge. The transportation map associated with this section identifies the existing "at-grade" and "grade-separated" rail crossings.

Crossing Issues

Through meetings with the Joint Comprehensive Plan Committee five railroad crossings were identified. They are listed below with the reasons they are considered dangerous by the planning committee:

- Walnuttown Road – visibility
- South Beech Street – speed, careless attention
- Ridge Street – speed, careless attention, visibility
- Weavers Road Rail Overpass – height restriction/low bridge
- Dryville Road Rail Overpass – height restriction/low bridge

FUNCTIONAL CLASSIFICATION AND FEDERAL AID STATUS

How a particular highway is used determines the function that it serves in the system. Highway and roadway classification are based on analysis of the volume of traffic using the facility, the type of trip provided, the length of the trip, and the speed of the trip.

The principal arterial system consists of a commercial road network of continuous routes having the following characteristics:

- Serve the corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel.
- Provides connections to all, or nearly all, urban areas of 50,000 and over population and a large majority of those with population of 25,000 and over.
- Provide an integrated network without stub connections except where unusual geographies of traffic flow conditions dictate otherwise (e.g., internal boundary connections and connections to coastal cities).

Principal Arterial System – The principal arterial system is divided into the following two subsystems:

Interstate System - The interstate system consists of all presently designated routes of the Interstate System located outside small urban and urbanized areas.

Other Principal Arterial System - This system consists of all non-Interstate principal arterial highways located outside small urban and urbanized areas.

Minor Arterial System - The minor arterial system should, in conjunction with the principal arterial system, form a network having the following characteristics:

- Link cities and towns (and other generators, such as a major resort area, that are capable of attracting travel over similarly long distances) and form an integrated network providing interstate and inter-county service.
- Be spaced at such intervals, consistent with population density, so that all developed areas are within a reasonable distance of an arterial highway.
- Provide service to corridors with trip lengths and travel density greater than those predominately served by rural collector or local systems. Minor arterial highways therefore constitute routes whose design should be expected to provide for relatively high overall travel speeds, with minimum interference to through movement.

Collector Road System – The collector routes carry local traffic between minor streets and arterials and provide land access service and traffic circulation in residential neighborhoods, commercial and industrial areas.

Local Road System - The local road should have the following characteristics: (1) Serve primarily to provide access to adjacent land; and (2) Provide service to travel over relatively short distances as compared with collector roads or other highway systems. Local roads will, of course, constitute the rural mileage not classified as part of the principal arterial highway, minor arterial, or collector road systems.

HIGHWAY FUNCTIONAL CLASSIFICATIONS AND RECOMMENDED DESIGN FEATURES			
<u>Classification</u>	<u>General Provisions</u>	<u>Right-of-Way Width (ft.)</u>	<u>Cartway Width</u>
Interstate Expressway	55+ MPH Limited Access No Parking Noise Barrier/Buffer (where required)	Minimum 120; however, may be wider based on local conditions and design	Minimum four 12' wide travel lanes with 10' wide shoulders capable of supporting heavy vehicles
Arterial (Principal and Minor)	35-65 MPH Some access controls to and from adjacent development. Encourage use of reverse and side street frontage and parallel access road. No Parking	80	48-52 feet; 12' wide travel lanes with shoulders in rural area and curbing in urban areas
Collector (Major and Minor)	25-35 MPH Some access controls to and from adjacent development. Parking permitted on one or both sides.	60	34-40 feet; 12' wide travel lanes with stabilized shoulders or curbing; 8' wide lanes provided for parking.
Local	15-35 MPH No access control to and from adjacent development. Parking permitted on one or both sides.	53	28-34 feet with stabilized shoulders or curbing; cartway widths can be reduced based on interior traffic patterns.

Roads are classified on the Transportation Map. The following is the list of each existing type of functional classification in the Region based on the PennDOT criteria:

Arterials: PA Route 222, PA Route 73, Park Road/Fleetwood Lyons Road (SR 1010)

Collectors: PA Route 662, PA Route 143, Moselem Springs Road, Maiden creek Road, Pleasant Hill Road, Dryville Road, Crystal Ridge Road, Crystal Cave Road, Richmond Road, School Road, Walnuttown Road, Poplar Road, Saucony Road

Local Roads: all other roads

TRAFFIC COUNTS AND TRUCK PERCENTAGES

Traffic Volumes and Patterns

Traffic volumes are determined through traffic counts taken at specific locations within a transportation corridor. The volume is usually portrayed in terms of annual average daily traffic (AADT). This represents the average count for a 24 hour period, factoring in any fluctuations due to the day of the week or month of the year. The AADT is an important factor that, in conjunction with the previous factors outlined, helps in determining the functional classification of a road. For the purpose of this plan we are using 2009 traffic volume data which is based on the most current count information available.

Information available on traffic volumes is important in determining the potential for capacity problems. Roads that are not used for the purpose for which they are intended can experience capacity problems. This is particularly evident in areas experiencing a significant amount of new development without concurrent upgrades to the transportation corridors. Capacity problems become particularly evident when the number of lanes is reduced and traffic is funneled from a roadway with a higher number of lanes to one with a lower number of lanes.

In addition to the increased development in the Region, capacity on the Region's roads is also heavily influenced by traffic originating outside the area. Roads in the region that experience capacity problems are PA Route 222, PA Route 73, SR 1010 and PA Route 662, because these roads are carrying traffic to Township locations as well as regional traffic at increasingly higher volumes. Traffic volumes are beginning to increase on other roads throughout the region as well.

There are several factors contributing to the traffic impact in the Region. There is regional traffic, which includes trucks, tourists, and commuters going to Allentown and New Jersey and employment centers, local traffic patronizing businesses in Fleetwood, Richmond and Maiden creek as well as residents of outlying areas using PA Route 222 as a route to the Reading area and vice versa.

Highest average daily traffic volume in the Region is PA Route 222 in Maiden creek Township just east of PA Route 73, at 26,324. Another section of PA Route 222 just east of PA Route 662 has a high volume of 23,173. SR 1010 has high volume with AADT counts west of PA Route 73 of 13,922 and east of PA Route 73 of 13,252. PA Route 73 also has significant counts of 8,598 and 8,683 through the village of Blandon north and south of the intersection with SR 1010.

AADT numbers for selected roads can be found on the transportation map associated with this section. When referencing this map one should take into consideration that these numbers are averages and may be only for one direction of traffic. This is the reason that there may be some discrepancies in volume numbers between different sections of the same roadway that are relatively close in proximity.

Major Traffic Routes and Parallel / Relief Routes

As discussed in the prior paragraph the region's most heavily traveled route is the PA Route 222 corridor that bisects the whole region. This route is used by commuters both coming from the City of Reading and to the City for work and or business. This is the major, if not only, direct route between the City of Reading and Allentown and is considered a highly congested corridor.

Because of this corridor's documented volume and increased travel times more and more people are trying to find ways to bypass the corridor. Consequently this causes high volumes on roads that are not accustomed to seeing this type of volume. The major parallel/relief route away from PA Route 222 in the region is SR 1010 (Park Road/Fleetwood Lyons Road) and it is seeing an ever increasing amount of traffic as people try to find alternatives to PA Route 222. People are also using Maiden creek Road (SR 1005) as another parallel/detour route around the heavily congested Route 222 corridor.

Access Management

Access management problems are situations where conflicts between mobility and access are, or will be, intense and result in congestion and safety problems. Access management problems typically occur on roads serving high volumes, high speed traffic, and abutting intense trip generating uses. An example of an access management problem would be where commercial development occurs on a road and the mobility of traffic is adversely affected by the increase in driveways from adjacent land to the road on which the land fronts. As the number of driveways increases, the safety and efficiency of the road can decrease. Access management will be an increasing concern on the roads in the Region in the future. The biggest concerns in the area are PA Route 222 and Route 1010 (Park Road). Access management has been an issue in the past and continues to plague the Region with increased businesses along the corridors and increased traffic along the Routes. Consideration should be given to adopting an access management ordinance as part of the municipal SALDO requirement.

The major elements in access management include the following:

- Driveway design standards
- Reduce number of entrances to roads
- Traffic Impact Analysis where development is proposed
- Left turn lanes and right turn lanes constructed at road and driveway intersections
- Install medians
- Adequate parking lot/internal circulation design in developments
- Shared access to properties
- Interconnect properties developed along roads
- Service roads paralleling Route 222 or Park Road
- Improve intersection design/spacing
- Acceleration and deceleration lanes at access drives
- Signalized high volume driveways
- Control of access
- Direct development access roads to signalized driveways
- Prohibit inappropriate turning movements

More information on access management ordinances can be found in PennDOT Publication 574 “Access Management Model Ordinances for Pennsylvania Municipalities Handbook” updated February, 2006.

TRAFFIC CONTROL DEVICES

Signal Locations

Traffic signal locations within the region are displayed on the map. In total there are eight traffic signals within the Fleetwood-Maiden creek-Richmond region.

BRIDGES

Bridges serve as critical links in the highway system providing crossings of rivers, streams, railroads, and other highways. Within Berks County, the Pennsylvania Department of Transportation maintains an inventory of 858 bridges. Of these bridges, 639 with lengths of 8 feet or more lie on State highways and are maintained by the State and the remaining 219 are on municipal highways and have a length of 20 feet or greater. Data collected by the Berks County Planning Commission indicates that as many as 150 additional bridges between 8 and 20 feet in length located on municipal roads throughout the County may not be included in this inventory because they are not required to participate in the National Bridge Inspection Program. The municipality in which they are located maintains the majority of these structures.

Maintaining the bridge network is important because of diversions in travel created when bridges have posted limits or need to be closed. Not only is the movement of people and goods adversely affected, emergency vehicle response times can be increased greatly due to bridge restrictions.

As bridges age, they deteriorate physically. Bridges that are found to have deterioration to one or more of their major components are referred to as being Structurally Deficient. Although this deterioration is present, Structurally Deficient bridges are considered safe as long as used within any posted limits. Bridges may also become Functionally Obsolete due to evolving design standards. Examples of functional obsolescence are a bridge with a narrow width or one with a height limit that is insufficient of accommodating today's taller vehicles. Based on PennDOT's records from December 2007, within Berks County, 99 (15.5%) of the state bridges are Structurally Deficient and 205 (32.1%) are Functionally Obsolete. Of the inventoried local bridges in the County, 70 (32.0%) are Structurally Deficient and 77 (35.2%) are Functionally Obsolete.

PennDOT District 5-0 has promoted preventative maintenance activities on bridges to extend the useful life of the bridge. These activities include scour protection, minor bridge deck rehabilitation, and spot painting. However, because these activities do not bring bridges fully up to current standards, Critical Bridge funds cannot be used for these activities. They are intended to extend the life of the bridge and postpone a more costly major rehabilitation or replacement. RATS will consider these needs and make funds available whenever possible to support preventive maintenance activities on bridges. Municipalities should also consider developing a detailed maintenance schedule and work with PennDOT, where appropriate, to evaluate, rehabilitate and/or replace any bridge within their municipal boundaries as necessary.

Information on existing bridge conditions, including posting status, is important for municipalities and counties dealing with aging bridge issues. General bridge information such as location, use (rail, road, pedestrian/trail), condition, historic status, and crossing type (at-grade verse grade separated) can be found on the Pennsylvania Department of Transportation's website as well as the Berks County Planning Commission's (broken down to the county level) website under Transportation at: www.co.berks.pa.us/planning.

State Owned

The State Department of Transportation owns a total of 23 bridges located throughout the study region. Of those 23 bridges 14 are found in Richmond Township, eight in Maiden creek Township and one within Fleetwood Borough. Of these 23, five of them are deemed structurally deficient, four functionally obsolete and one is closed to vehicular traffic. The bridge that is closed is the Lake Ontelaunee West Shore Drive Bridge in Maiden creek Township. This bridge is currently in the design phase and slated for rehabilitation.

County Owned

The County of Berks owns three bridges within the study area. All three are located on the local road network. All three of these bridges are posted with weight restrictions.

Locally Owned

There are a total of five bridges within the study region that are owned by the municipalities. Of these five bridges, two are posted with weight restrictions. The municipalities should include these bridges in their maintenance and capital improvement program.

PARKING

Parking is always a concern in densely populated areas like villages and boroughs and the same goes for the study area. For the most part the study area is made up of suburban communities where parking is not or may not be an issue. Where it could become an issue is in the Borough of Fleetwood where houses are closer together with narrower streets and a commercial district. Close attention should be given to where parking supply appears to be an issue.

Where parking is an issue, some thought should be given to creating an inventory of existing parking facilities. The existing conditions inventory should identify shared parking opportunities and how land uses are utilizing shared parking. In suburban communities, where expansive parking lots are often the norm, parking lot utilization during peak demand times should be noted. In addition to determining whether present and future parking needs are being met, this evaluation can guide future parking development through shared parking ordinances or modifications to parking supply requirements.

ACT 247 (SECTION 501 – 506A OF MPC)

Act 209 Transportation Impact Fees

The Municipalities Planning Code (MPC) allows municipalities to assess a traffic impact fee provided they have adopted a traffic impact fee ordinance. Also, municipalities involved in a Joint Comprehensive Plan can adopt a joint traffic impact fee. With a traffic impact fee system in place, a municipality can collect fees to finance improvements to the road system.

The Municipalities Planning Code indicates that when municipalities have prepared a multi-municipal plan, to allow for the provision of transportation capital improvements in a cooperative manner, the municipalities may cooperate to enact joint transportation impact fee ordinances.

In municipalities where traffic impact fee systems are not in place, financial contributions from developers for road improvements should be negotiated. Developer-financed road improvements at existing intersections and along road segments could correct current deficiencies and mitigate traffic increases associated with new development. The following table identifies the steps involved in setting up and implementing an impact fee ordinance.

SUMMARY OF THE STEPS FOR IMPLEMENTING
TRAFFIC IMPACT FEE ORDINANCE

Task	Responsible Entity
<p>1. Establish Transportation Service Area and appoint an advisory committee. <i>Note: Committee must be at least 7 members, can be the <u>entire</u> Planning Commission, with ad hoc members if necessary to meet the 40% builder/realtor requirement. Other than this, the committee <u>cannot</u> contain municipal officials or employees.</i></p>	Governing Body
<p>2. Public Notice of Intent to implement a Traffic Impact Fee Ordinance. <i>Note: This allows for fees to start being collected <u>and</u> starts an 18 month clock, by which time the Ordinance must be adopted.</i></p>	Governing Body
<p>3. Committee oversees preparation of Land Use Assumptions plan, holds public hearing, forwards to Governing Body for adoption.</p>	Impact Fee Advisory Committee
<p>4. Committee oversees preparation of Roadway Sufficiency Analysis and forwards to Governing Body for approval.</p>	Impact Fee Advisory Committee
<p>5. Committee oversees preparation of Capital Improvements Plan, holds public hearing, forwards to Governing Body for approval.</p>	Impact Fee Advisory Committee
<p>6. Impact Fee Ordinance text developed and Ordinance adopted.</p>	Governing Body

Before incurring the up-front costs of implementing a transportation impact fee ordinance, municipalities should consider several issues related to existing traffic conditions and projected land development activity to help determine whether the investment would indeed be worthwhile. A municipality should conduct a feasibility or cost-benefit analysis of these issues before proceeding with the implementation of an impact fee ordinance. The analysis should focus on the following factors:

- Future land use projections

- Review of proposed road improvements
- Traffic volumes and roadway capacity
- Potential revenue generation from impact fees

A municipality that chooses to adopt an impact fee ordinance must complete a series of reports: Land Use Assumptions, Roadway Sufficiency Analysis, and a Capital Improvements Plan. Each report requires action by a Traffic Impact Fee Advisory Committee and governing body after receiving public comment. It is critical that a municipality meet all of these legal requirements of the MPC so that land development applicants cannot challenge the legality of impact fee implementation procedures.

With all that being said, adopting a transportation impact fee ordinance involves complying with certain regulations and completing specific studies which represent a significant investment by the municipality. We cannot fit a total description and guidance about traffic impact fees within this document however PennDOT has developed a handbook called Transportation Impact Fees: A Handbook for Pennsylvania's Municipalities to assist municipalities in:

- Understanding the background of impact fee use in Pennsylvania
- Determining the feasibility of impact fees for their community
- Understanding the process required by the MPC to establish an impact fee ordinance
- Administering the program after ordinance adoption
- Developing ordinance language
- Funding and implementing a capital improvement plan

A copy of this document can be found by contacting PennDOT or the Berks County Planning Commission for more assistance regarding the traffic impact fee handbook.

Official Map

The Official Map is a planning implementation tool and a strategy that municipalities can use for making sound land use decisions. The Official Map as authorized by Article IV of the MPC is a graphic depiction of elements of the Municipality's Comprehensive Plan, in this case Joint Comprehensive Plan. The Official Map can show existing and proposed roads, watercourses and public grounds, public parks, playgrounds, open space reservations, pedestrian ways and easements, transit right-of-ways, flood control and stormwater management areas, drainage easements, and properties to be held by public bodies when these elements are part of the Comprehensive Plan.

Rather than having just a listing of public needs and elements of those needs in the Comprehensive Plan, the Official Map will show interested parties what is intended and how it will affect their property or development proposal. It allows all parties to work in concert with each other as they move toward their individual goals. Most important it puts the Municipality in the position of being able to accomplish the elements of its Comprehensive Plan and it can help to inform citizens of prior thought to community

needs and changes when a development proposal is brought forward. It can be used to reserve land that cannot be purchased immediately and can be used when seeking funding sources to purchase those lands or other rights.

LIQUID FUELS AND OTHER FUNDING

General Funding Discussion

The Municipal Liquid Fuels Program funds a range of projects to support municipalities' construction, reconstruction, maintenance and repair of local roads and streets. Funds are only available to municipalities that submit annual reports and make deposits and payments or expenditures in compliance with the Liquid Fuels Tax Act.

The amount of a municipality's allocation is based on its population and miles of roads on their approved Liquid Fuels Inventory. To be placed on the system a road must have minimum of 33' right-of-way in a township and 16' in a borough. The "cartway" (drivable surface) must be a minimum width of 16', and the road must be a minimum of 250' in length. If the road is a dead end, it must have cul de sac (turnaround) at the end with a minimum 40' radius.

To continue to receive Liquid Fuels funds, a road must be maintained in such a condition that it can be driven safely at 15 mph.

PennDOT's Transportation Enhancement Program is another source of funding for a variety of transportation related projects. Projects must fall into one or more of twelve eligible categories. Within these categories, projects must have a relationship to the surface transportation system. An example would be the rehabilitation of an historic train station. Also, a project may function as a component of a transportation system-such as a bike/pedestrian path.

Proposals must be for a complete, identifiable, usable facility or activity. Funds are not available for partial projects that cannot function as a complete and useful activity. Funding is available, however, for a particular phase of a multi-phase project. The program is designed to fund transportation related projects that are over and above what is considered routine construction and maintenance.

Asset Management

As transportation planners and metropolitan planning organizations (MPOs) evaluate current system conditions and alternate future scenarios to make informed decisions on allocating resources, they must balance funding realities with mobility needs; public expectations; and community, legislative, and environmental considerations. Transportation Asset Management (TAM) provides a valuable tool to maximize system performance, improve customer satisfaction, and minimize life-cycle costs.

From increased vehicle miles traveled, growing population, and greater congestion to aging infrastructure and escalating operating costs, today's challenging circumstances put

demands greater than ever on transportation networks. The goal of a TAM program is to minimize the life-cycle costs for managing and maintaining transportation assets, including roads, bridges, tunnels, rails, and roadside features. As defined by the American Association of State Highway and Transportation Officials' Subcommittee on Asset Management, "TAM is a strategic and systematic process of operating, maintaining, upgrading, and expanding physical assets effectively through their life cycle. It focuses on business and engineering practices for resource allocation and utilization, with the objective of better decision-making based upon quality information and well defined objectives." Through the use of management systems, engineering and economic analysis, and other tools, MPOs and transportation agencies can more comprehensively view the big picture and evaluate collected data before making decisions as to how specific resources should be deployed. TAM principles and techniques should be applied throughout the planning process, from initial goal setting and long-range planning to development of a Transportation Improvement Program and Statewide Transportation Improvement Program and then through to operations, preservation, and maintenance.

LINKING LAND USE AND TRANSPORTATION

General Discussion

The idea of linking transportation and land use is an important factor in creating, maintaining and in some cases redeveloping vibrant, sustainable communities. PennDOT has been working to ensure that transportation improvement projects are born out of a sound planning process that truly links transportation planning decisions with community land use decisions. Effective implementation of planning at the local level helps strengthen the partnership between municipalities and PennDOT in establishing a sustainable transportation/land use environment for the future. More information can be found on linking land use and transportation and the tools to implement it in PennDOT's handbook entitled Improving the Land Use – Transportation Connection through Local Implementation Tools. This handbook is a valuable tool and designed to provide the support necessary to strengthen the implementation phase of any planning effort, thereby supporting municipal and county officials in their efforts to integrate transportation and land use and improve the overall sense of place of Pennsylvania's many communities.

SMART TRANSPORTATION

General Discussion

Smart Transportation is a new approach to roadway planning and design, in which transportation investments are tailored to the specific needs of each project. The different contexts – financial, community, land use, transportation, and environmental – determine the design of the solution. The best transportation solution arises from a process in which a multi-disciplinary team, considering a wide range of solutions, works closely with the community. Inclusive of context-sensitive solutions (CSS), Smart Transportation also encompasses network connectivity, and access and corridor management. It will help communities adapt to the new financial context of constrained resources.

LAND USE POLICIES IN THE REGION

In preparing this plan, Fleetwood Borough, Maiden creek Township and Richmond Township considered comprehensive planning policies, zoning policies and development trends within their boundaries, adjacent municipalities and Berks County. The following section summarizes these existing planning and zoning policies.

Existing Zoning

Fleetwood Borough

R-1 Low Density Residential – permits single family detached homes on 10,000 square foot lots. Allows single family semi-detached, on 5-acre minimum tracts with at least 4,000 square foot lots per unit, by conditional use. Also allowed by condition on 5-acre minimum tracts are; townhouses at a maximum density of 12 units per acre, apartments at a maximum density of 16 units per acre.

R-2 Medium Density – permits single family detached homes on 6,000 square foot lots. This district permits semi-detached and duplexes on 4,000 square foot lots per unit. Also permits townhouses and apartments under the same conditions as the R-1 district.

C-1 General Commercial – permits a range of retail, service and offices uses without stipulating a specific minimum lot size. There are minimum set-backs, parking and off-street loading requirements. Within this district, residences in commercial buildings, gas stations, car washes and wholesale businesses are permitted with zoning hearing board approval. Townhouses and apartments are permitted under the conditions outlined in the R-1 and R-2 districts, provided that these developments are for senior citizen housing only.

I-1 Industrial – permits wide range of industrial uses. No specific minimum lots size is stipulated. There are minimum set-backs, parking and off-street loading requirements. Commercial businesses strictly related to a specific industrial use are permitted, but all residential uses are prohibited.

Maiden creek Township

A Agriculture – specifically for agricultural uses, except special intensified agriculture. All single family residential is governed by a sliding scale. Berks County considers this district Effective Agriculture due to the limitations placed upon uses other than agriculture.

R-1 Low Density Residential – permits single family residential on 2 acre lots.

R-2 Moderate Density Residential – permits single family, single family semi-detached, two-family by right. 1.5 acres lots with on-lot sewer and water, 10,000 square

feet with central sewer and water. Planned Residential Developments are allowed by special exception.

R-2A High Density Residential – permits single family, two-family on lots from 15,000 to 5,000 square feet. Multi-unit, townhouse and Planned Residential Developments are allowed by special exception.

R-3 Village Density Residential – permits single family, single family semi-detached, two family, multi-unit and townhouse on lots of 1.5 acres with on-lot sewer and water, 10,000 square feet with central sewer and water. Planned Residential Developments are allowed by special exception.

R-4 Multi-Family Residential – permits single family, single family semi-detached, two-family, multi unit, and townhouse on lots of 1.5 acres with on-lot sewer and water, 10,000 square feet with central sewer and water. Planned Residential Development and Mobile Home Parks are allowed by special exception.

C-R Commercial – Residential – permits day to day retail needs of the immediate area, including small offices and businesses and restaurants. Single family, single family semi-detached and multi-family are allowed on lots of 1.5 acres with on-lot sewer and water, 10,000 square feet with central sewer and water.

C-1 Local Commercial – permits commercial uses that are generally geared towards the local area.

C-2 Regional Commercial – permits larger commercial uses on 10 acre lots.

I Industrial – permits a combination of heavy commercial and industrial uses on lots of 50,000 square feet.

SIA Special Intensified Agriculture – permits mushroom production and composting along with other industrial uses.

Richmond Township

R-C Rural Conservation – permits single family on lots of 2 to 4 acres based upon net-out for steep slopes. Cluster Development is allowed by special exception on 50 acres. (currently in process of updating this language)

R-A Rural Agriculture – specifically for agricultural uses. Single family residential is allowed by conditional use and is subject to a sliding scale. Berks County considers this Effective Agricultural Zoning due to the limitations placed upon uses other than farming. (currently in process of updating this language)

R-1 Low Density Residential – permits single family on lots of 1.5 acres with on-lot sewer and water and .5 acres with central sewer and water. Cluster Development is allowed by special exception on 50 acres.

TN Traditional Neighborhood – permits single family, single family semi-detached, two family, two family semi-detached on lots of 1.5 acres with on-lot sewer and water and .5 acres with central sewer and water. Cluster Development and Mobile Home Parks are allowed by special exception. Mobile Home lots must be a minimum of 5,000 square feet.

R-2 Medium Density Residential – permits single family, on lots of 1 acre with on-lot sewer and water, 10,000 square feet with central sewer and water.

C-1 Village Commercial – permits local retail and businesses. Single family, single family semi-detached, conversions, multi-family, townhouse are allowed by special exception. Lot sizes are 1 acre with on-lot sewer and water, 10,000 square feet with central sewer and water. Multi-family developments require 5 acres. Townhouse developments require 3 acres.

C-2 Commercial – permits retail, services, business on lots of 10,000 square feet.

L-I Light Industrial – permits office, storage, warehousing on lots of 20,000 square feet.

I Industrial – permits heavy commercial and general industrial uses. Lot sizes are 1 acre with on-lot sewer and water, 20,000 square feet with central sewer and water. Residential uses are prohibited.

Adjacent Municipalities

At the present time there are no major conflicts between Fleetwood-Maiden creek-Richmond area’s land use policies and the planning or zoning policies governing adjacent lands. Following are the adjacent zoning categories:

Greenwich Township – This municipality shares the northeastern boundary with Richmond Township starting at Virgenville running to the Maxatawny Township boundary. There are three zoning categories along the boundary; Agricultural Preservation, and Rural and Public Recreation/Open Space. Berks County considers the Agricultural Preservation zoning Effective Agricultural Zoning due to its limitations on uses other than farming.

Maxatawny Township – This municipality shares most of their eastern boundary with Richmond Township. There are seven zoning categories along the boundary; Agricultural Preservation, Agricultural Residential, Medium Density Residential, Residential, Light Industrial and Industrial.

Lyons Borough – This municipality shares their entire western boundary with a portion of Richmond Township’s eastern boundary. There are three zoning categories along the boundary; Low to Medium Density Residential, Planned Mixed Development and Light Industrial.

Rockland Township – This municipality shares their central northern boundary with Richmond Township. The entire boundary line area is considered Rural Conservation. There is also an EP-3 Steep Slope Overlay along parts of this boundary.

Ruscombmanor Township – This municipality shares their entire northern boundary with portions of all three municipalities. There are five zoning categories along the boundary; Residential, R-2 and R-2A are Multi-Family Residential, and LI-1 and LI-2 are Limited Industrial.

Muhlenberg Township – This municipality shares their most northern tip with Maiden creek Township’s most southwestern boundary. There is only one zoning category along the boundary, Low Density Residential.

Ontelaunee Township – This municipality shares their eastern boundary with Maiden creek Township’s entire western boundary. There are six zoning categories along this boundary; Rural, A-1 Agricultural, A-2 Agricultural, A-3 Agricultural, Low Density Residential and General Commercial.

Perry Township – This municipality shares the central and eastern portions of their southern boundary with the entire northern boundary of Maiden creek Township and the western portion of Richmond Township’s northern border. There is only one zoning category along the entire boundary, Rural-Agriculture. Berks County considers this zoning category Effective Agricultural Zoning due to the limitations on uses other than farming.

Berks County Comprehensive Plan

The Fleetwood-Maiden creek-Richmond Joint Comprehensive Plan is generally consistent with the Berks County Comprehensive Plan, Vision 2020. The County is currently in the process of updating their Comprehensive Plan.

Overall, the Vision 2020 Future Land Use Plan and the Future Land Use Plan of the Fleetwood-Maiden creek-Richmond Joint Comprehensive Plan are calling for preservation of agriculture and environmentally sensitive lands and promoting future growth and development in the same general areas.

SUMMARY OF ASSETS AND CONCERNS

The Fleetwood-Maiden creek-Richmond area’s strengths and weaknesses are the basis for preparing a plan to guide the area’s future growth and preservation. This Plan attempts to capitalize on each municipality’s assets and identify ways to overcome or mitigate concerns. This Plan is the vision to planning for the future.

The following summary of assets and concerns reflects the themes most frequently cited by municipal officials, community leaders and residents who provided input into this plan. Citizen participation initiatives included public meetings, surveys given out to residents, surveys pick-up at local municipal offices and post offices, and interviews with municipal officials and other community and business leaders.

Assets

- Quality of Life is a genuine advantage due to the area’s combination of scenic beauty, school system, recreational opportunities, rural environment, strong agricultural community, and small town, village character.
- A Strong Sense of History, particularly involving the area’s Pennsylvania German and Quaker heritage along with the farming, industrial and railroad history of the area.
- Effective Agricultural Zoning in Maiden creek and Richmond is currently protecting a significant part of the two Townships’ prime farmland from suburban development and helping to preserve the area’s farming and farm economy. This is also supported by the Berks County Agricultural Easement Program and the Berks County Conservancy Agricultural Easements.
- Affordable Housing in the area supplies ample choice and opportunity to both prospective homeowners and renters. The area in the Borough has a ready supply of existing affordable homes and the areas in the southeastern section of Richmond and Maiden creek Townships have ample supply of both new and existing housing in a variety of sizes and types.
- Park System and Open Space found in the area are very well used and provide a different recreational opportunities for residents.
- Intergovernmental Cooperation between the municipalities through this planning effort will hopefully extend into other areas of mutual interest.

Concerns

- Residential Development in the Region has had a major affect upon the Fleetwood-Maiden creek-Richmond area’s rural and agricultural environment and increased service need from municipalities and the school district.
- Rapid Growth along the Route 222 Corridor, from the City of Reading to the City of Allentown, has contributed to traffic congestion, created hazardous ingress/egress conditions and resulted in some unforeseen residential and commercial development. In addition, the lower cost of housing in Berks County contributes to the increase of residents that live in Berks County, but travel to

- work outside the County. Other contributing factors include a lack of road enhancement projects to the Corridor to improve capacity and development pressures from areas outside of the region.
- Failing Septic Systems in Virginville and Ruscombmanor Township (near Fleetwood's water source) are a health hazard and concern to Fleetwood, Richmond and all downstream users of the waters that flow from the Maiden Creek Watershed to the Schuylkill River and beyond.
 - Continuing to conserve farmland and other open space, including sensitive natural areas such as steep slopes, woodlands, habitat, riparian buffers and flood prone property, is an important issue in preserving the area's unique character.
 - More Business/Industrial Development is needed in the appropriate locations that provide family supporting jobs and stimulate the area's economy. This includes various types of manufacturing, research and development and other professional services.
 - More Public Parkland and Improvements to Existing Parkland were viewed by many residents as a genuine need in the area. Residents are interested in parkland, hiking and biking opportunities and open space.
 - Historic Structures and Farms, which many residents listed specific structures or farms as "treasures", in the area should be preserved and/or protected.
 - Traffic Congestion in other areas of the Townships and Borough, not just Rt. 222, are a concern for the safety and movement of both residents and persons traveling through the area.