
II. LAND USE AND TRANSPORTATION

A. Development History

The County's physical geography and transportation systems helped to form the development pattern in Warren County. The following discusses the evolution of the transportation systems and the development of the County.

In general, the area to the north, except for the Paulins Kill and Pequest valleys, is marked by rugged slopes and relatively shallow soils over bedrock, which discouraged the early development of transportation, agriculture and economic development. To the south, broader limestone valleys with deep soils exist between the ridges, and this landform in contrast to the north encouraged more intense agricultural, development of multi transportation systems and more intense residential and economic development.

Early development in the County primarily occurred in Phillipsburg, Washington, and Hackettstown along the Morris Turnpike (Route 57), the Morris Canal and major rail corridors. In the early 1830's, the Morris Canal opened in Warren County and was a major force in the economic development of the area. Villages such as Port Murray and Rockport in the Township of Mansfield owe their names and their existence to their location along the canal, which connected Warren County's agricultural areas with markets for farm products in the Newark and New York metropolitan areas.

The population centers of Phillipsburg, Hackettstown, Washington and Belvidere contained the commercial support services for the farmers in the region and as a result were actively developed. During the 19th Century, industrial development began in these population centers and a sizable employment base developed. Nonagricultural employment now represents a significant portion of the county's total employment, and manufacturing captures a portion of the county's non-farm private sector payroll.

Prior to 1960, the majority of the development occurred in the southern part of the County around the manufacturing hub and rail hub of Phillipsburg. To a lesser degree, the municipalities of Washington Borough, Belvidere and Hackettstown also experienced significant growth.

In the 1960's there was a noticeable increase in development activity when marginal farmlands were sold to land developers, particularly in the northern part of the county and to a lesser degree in central and southern parts of the county. Growth during this time and into the 1970's was focused in the greater Hackettstown area including portions of Allamuchy, Independence and Mansfield Townships, the Washington area and outside of Phillipsburg in Lopatcong and Greenwich Townships. Blairstown also experienced significant growth in this period due to the low property tax rate as a result of the Yards Creek Power generation plant being sited there. In the southern part of the county farming was in a stronger economic position. Development eventually shifted more to the southern part of the county as more of the missing links on Interstate I-78 were completed and more employment

opportunities became available in the central part of the state along the I-78/I-287 corridors.”

Interstates 78 and 80 each provide east-west access through Warren County. Interstate 80 first impacted the development patterns of northern Warren County when it was completed in the mid 1970's. Interstate 78, which passes through the southern part of the county, first started to impact development in the early and mid 1980's when it was partially built. However, it was not until it was completed in the late 1980's that it had its greatest impact on the county. As a result the southern part of the county along the Routes 22/57/519 corridors in Lopatcong, Pohatcong and Greenwich Townships were inundated with residential land commercial development in the 1990's up to the present.

In recent years, development has increased dramatically in the southern part of the County. The Route 57 corridor between Phillipsburg and Hackettstown has been the location for the County's most recent development.

B. Infrastructure

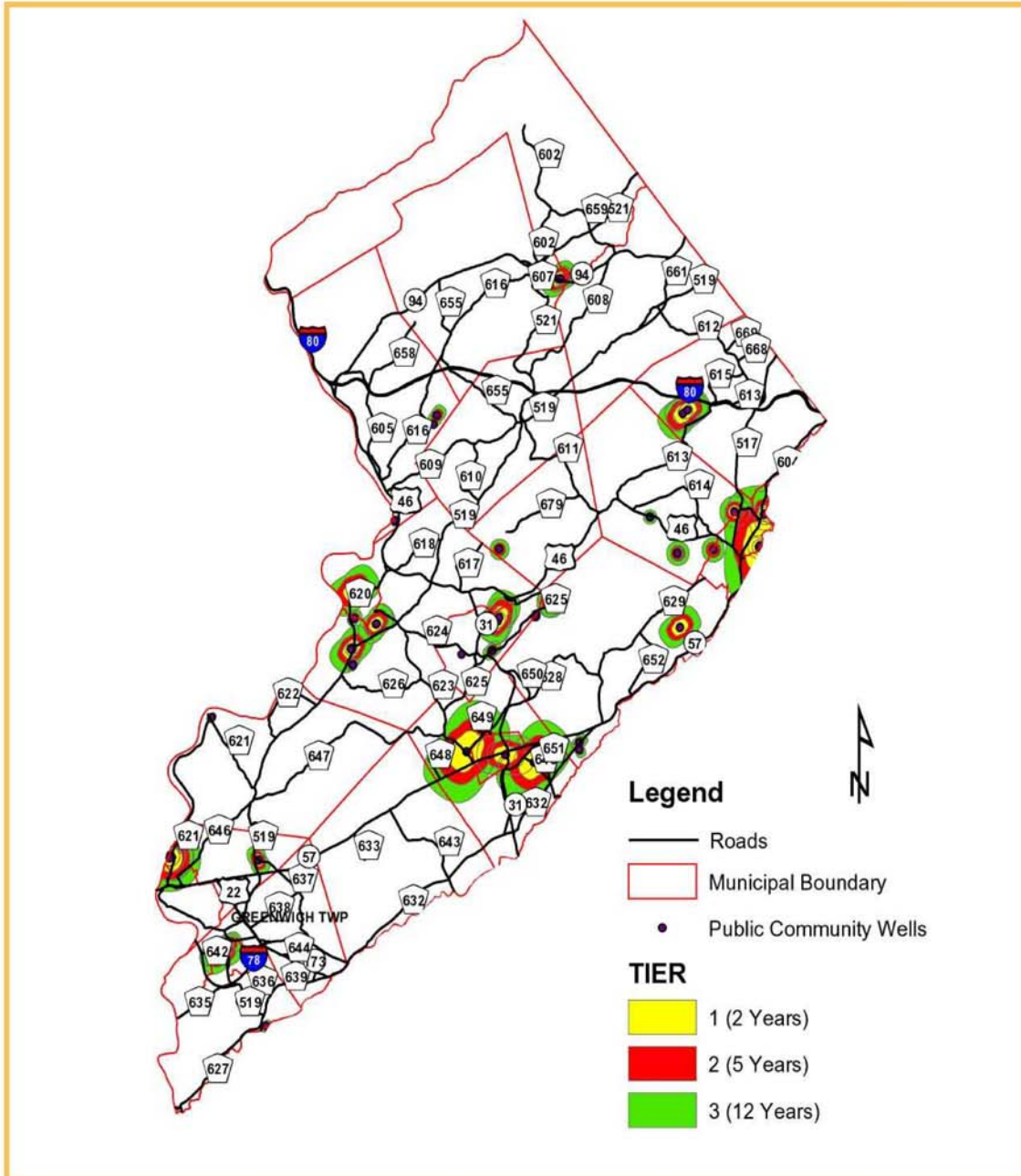
Warren County currently has 25 public community water supply systems, 262 public non-community systems and approximately 15,000 private wells according to the County Health Department *2002 Environmental Health Assessment and Improvement Plan*. All drinking water in the county is from groundwater as opposed to surface water supplies. The location of the 25 community water supply wells is shown on **Figure 2** (see next page). Nearly 40% of households in Warren County use private wells and septic systems. The high percentage of households utilizing private wells and septic systems is a potential threat to the public health if septic systems are improperly designed and maintained.

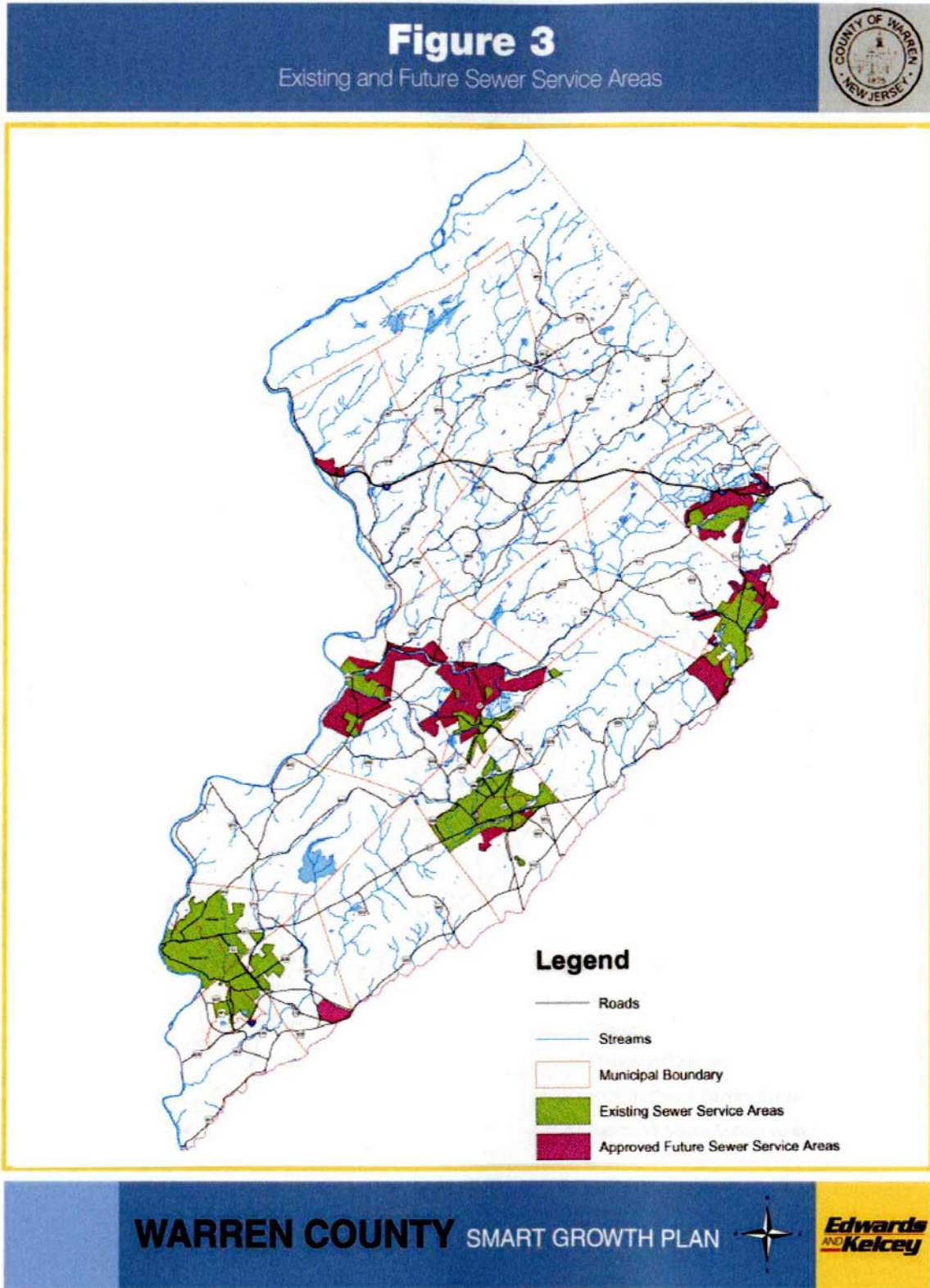
Figure 2 shows the source water assessment areas for public water community wells in Warren County. A source water assessment area for ground water sources is the area from which water flows to a well within a certain time period. Each ground water source water assessment area in New Jersey contains three tiers, labeled as Tier 1, Tier 2, and Tier 3. Tier 1 is a two-year time of travel, which means the groundwater within this tier flows to the well within a two year time period. Tier 2 is a five-year time of travel; the ground water within this tier will flow and reach the well within five years. Tier 3 is a twelve year time of travel, in which the ground water within this tier will flow and reach the well within twelve years.

The percentage of the county served by public utilities varies. One hundred percent of the County is served by electric and telephone utilities. Public water as well as public sewage and industrial waste serve approximately 10-15%, while 25-30% is served by public gas utilities.

Figure 3 (see page 24), illustrates the location of Existing and Future Sewer Service areas. Surface water discharge areas in Warren County correspond with the higher populated areas of the County.

Figure 2
Public Community Wells





Areas such as Lopatcong, Phillipsburg, Alpha, Belvidere, Oxford, Hackettstown and Washington Borough have surface water discharge sewers. Small portions of Greenwich, Allamuchy, Mansfield, Franklin and Washington Townships have surface water discharge.

In addition to surface water discharge, one area located in the western portion of Harmony Township has a ground water discharge of greater than 20,000 gallons per day (gpd) and parts of Franklin Township have a ground water discharge of less than 20,000 gpd. The remaining parts of the county have septic systems with a ground water discharge of less than 2,000 gpd.

Future sewer service areas are generally extensions of existing systems. The ground water discharge of less than 20,000 gpd area located in Harmony Township will grow considerably and serve the majority of the western portion of the township. A smaller area in the northwest portion of the township will be ground water discharge greater than 20,000 gpd. In addition, Knowlton Township will also have ground water discharge of less than 20,000 gpd.

C. Commuter and Local Mass Transit

Existing transit services in Warren County are illustrated on **Figure 4** (see next page) and described below.

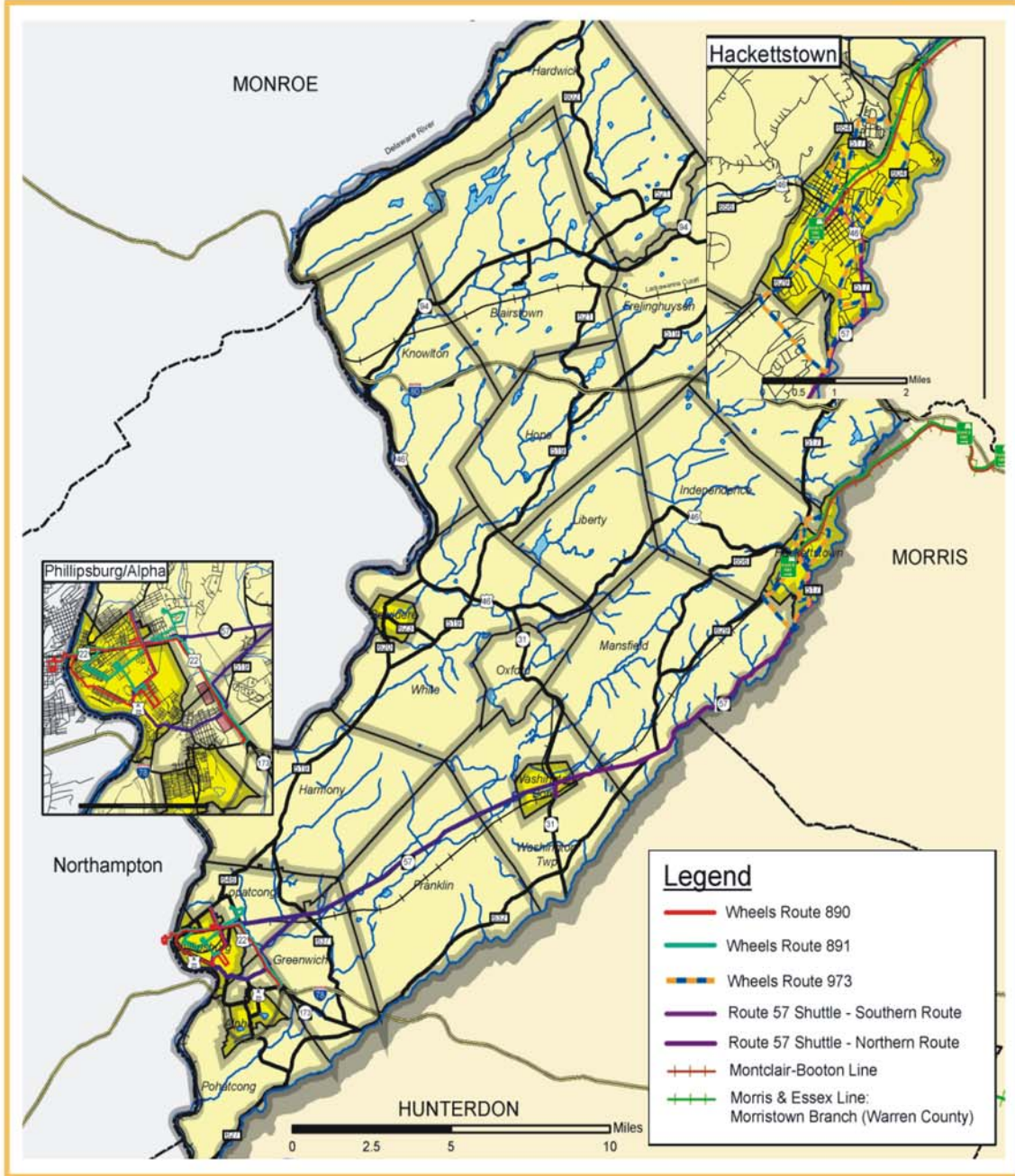
Rail – NJ TRANSIT currently operates the only passenger rail line in Warren County. The Morris and Essex Line serves Hackettstown, Dover, Morristown, Gladstone, Summit, The Oranges, Montclair, Newark, Hoboken and various intermediate points. These lines also provide midtown direct service to Penn Station, New York. Hackettstown is the only local station located within Warren County. The station is located on the edge of the business district.

In addition, residents of Warren County have access to rail transit operated by NJ TRANSIT at High Bridge and Annandale on the Raritan Valley Line. These stations can be accessed by Route 31 and Interstate 78.

Bus - Warren County is served with three fixed-route bus routes and two commuter bus routes. In addition to this service the county through its program provides three additional services, through a private operator, shuttle service along the Route 57 corridor between Phillipsburg and Hackettstown, contracted service to agencies and special programs, and demand-response service throughout the county.

The three fixed-route routes are operated by New Jersey TRANSIT through private operators as part of its Suburban Transportation Service WHEELS program. Two of the three routes the No. 890 and No. 891 serve Phillipsburg and Lopatcong Township and Easton Pennsylvania. The other route the No. 973 serves Hackettstown and Mansfield Township. The No. 973 operates on weekdays only and consists of two routes – the blue and the orange - that run in opposite direction from Hackettstown.

Figure 4
Existing Transit Services



The Blue Route makes the following stops:

- Hackettstown Mall
- Hackettstown – Heath Village
- Mansfield Village Apartments
- Mansfield Commons Wal-Mart
- Hackettstown – ShopRite
- Hackettstown – Beatty St. and Grand Ave.
- Hackettstown – Liberty House
- Hackettstown Hospital
- Hackettstown – Main and High St. and
- Hackettstown Mall

The Orange Route makes the same stops in reverse order. Adult fares for the No. 973 are \$1.10 and \$0.50 for a transfer. Children and Senior Citizen fares are \$0.50 and \$0.25 for a transfer.

In addition to the No. 973, the Route 890 and Route 891 bus routes serve Pohatcong Township, Lopatcong Township, Phillipsburg and Easton, PA. The Route 890 and Route 891 routes operate weekdays and Saturdays. The Route 890 runs between the Pohatcong Mall and Center Square in Easton, PA. It makes the following stops:

- Pohatcong Mall
- Phillipsburg Mall
- Warren Hospital
- Phillipsburg Municipal Building
- Roseberry and Center Streets
- South Main and Center Streets
- Center Square Easton, PA

The Route 891 runs between Pohatcong Plaza and Center Square in Easton, PA. It makes the following stops:

- Pohatcong Plaza
- Phillipsburg Mall
- Brakeley Gardens
- Hillcrest Mall
- Warren Hospital
- Phillipsburg Municipal Buildings
- Phillipsburg Senior Center
- Heckman and Lewis
- Lewis and Summit
- Summit and Route 22
- Center Square, Easton, PA

Commuter service to New York City is provided by private bus companies, Martz and Trans Bridge. Martz originates in the Pocono's, travels I-80 and

stops at the Panther Valley Park and ride if space is available on the bus. Trans Bridge originates in the Lehigh Valley and travels Rt. 22 and I-78.

The shuttle services, Shuttle A and Shuttle B, are available Monday through Friday. Pickup and drop-offs can be made within two blocks of the route. Off-route pickup can be requested.

Shuttle A provides service between Washington and Phillipsburg along Route 57. Service to Washington is available hourly from 7:00am to 3:00pm. Service to Phillipsburg is available every hour between 8:00am and 4:00pm. Shuttle A has the following route:

- Warren Hospital
- Apgars Market
- S. Main and Sitgreaves
- Wal-Mart
- Warren County Community College
- Washington Shop Rite
- Route 57 and Lincoln
- Abilities

Shuttle B provides service between Hackettstown and Washington along Route 57. Service to Hackettstown is available hourly from 8:00am to 2:00pm. Service to Washington is available every hour beginning at 8:30am and ending at 2:30pm. Shuttle B travels the following route:

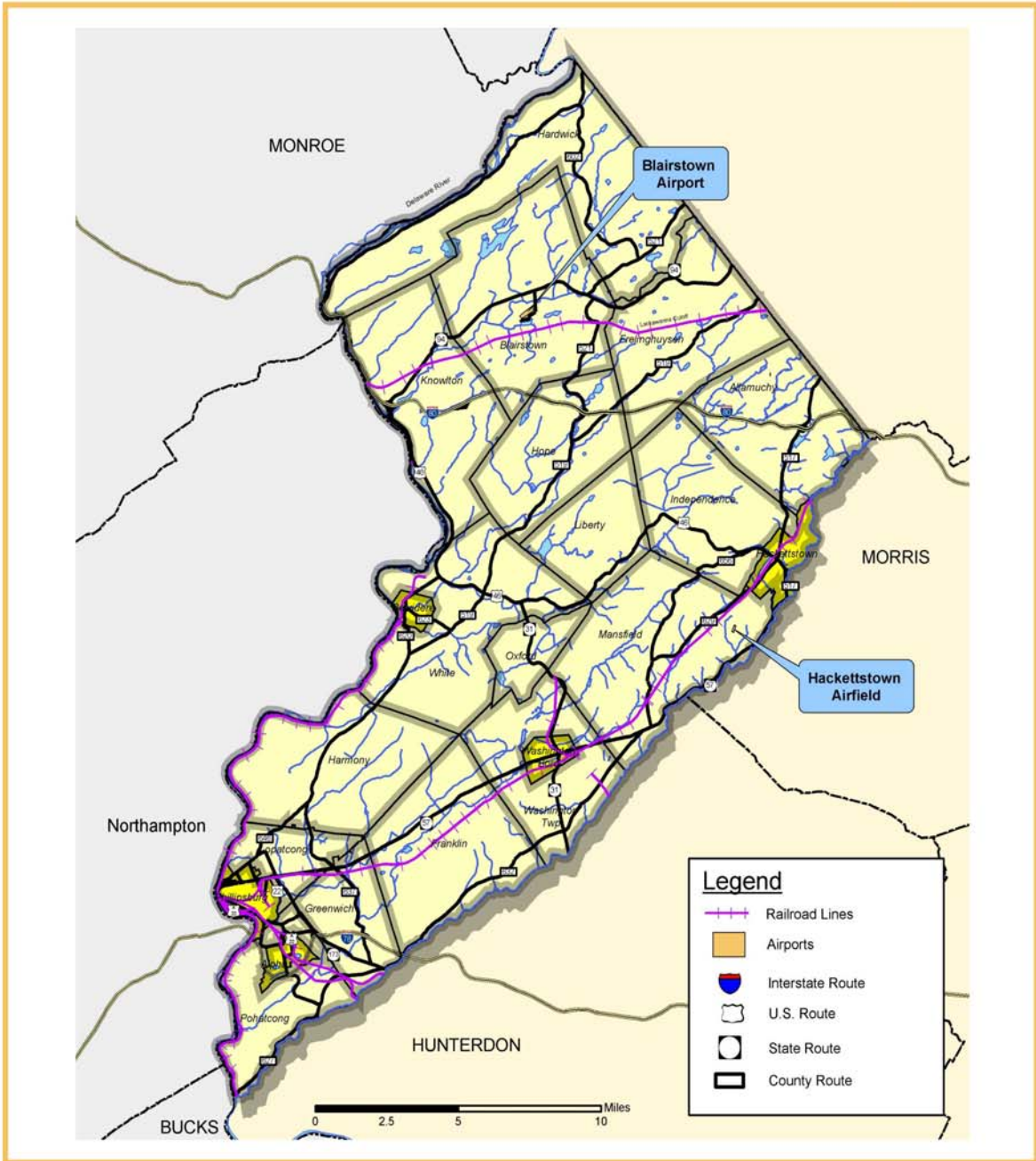
- Abilities
- Junction of Route 57 and Route 31
- Mansfield Shop Rite
- Hackettstown Mall

Air - There are five major airports within a 75 mile radius of Warren County. Located within the radius are the following major airports: Newark International Airport, Philadelphia International Airport, Lehigh Valley International Airport, JFK International Airport, and La Guardia Airport. In addition, the only two privately owned public use airports in Warren County are located in Mansfield and Blirstown, **Figure 5** (see next page).

The Blirstown airport is a general service airport supporting operations by small twin-engine corporate aircraft. This airport is intended to support a variety of uses, such as business, training, pleasure or gliders. Blirstown also has the capacity to accommodate small aircraft emergency landings. In addition, this level of service provides operational and storage capacity for the State.

The Hackettstown airport in Mansfield Township is a basic service airport. Basic service airports include facilities with paved or turf runways that are intended to support small single and twin-engine general aviation aircraft. There are limited services and facilities available at basic service airports.

Figure 5
Roads, Freight Rail and Airport



D. Freight Movement

Currently, there are two rail freight operators providing service on three rail freight lines in Warren County (see **Figure 5**). The rail lines are located in the middle and southern portion of the county and provide service between Hackettstown and the Phillipsburg/Alpha area. The two major railroads serving northern New Jersey area are CSX Transportation and Norfolk Southern Railway. In addition, the Belvidere and Delaware River RR is a short line railroad with 16 miles in Warren County. A more detailed description of the freight rail presence in Warren County today follows.

Norfolk Southern (NS) is a major railroad presence in the County. The NS operates the former Lehigh Valley/Conrail main line known as the "Lehigh Line." This line operates between Newark Oak Island, Allentown and Harrisburg/Enola Yards. The Lehigh Line typically has a high volume of trains. This track was recently altered to double stack clearance (20'6").

Belvidere Delaware Railroad is a short line that runs between Hudson Yard in Phillipsburg to Milford, NJ along the Delaware River. This is a former through line of the Pennsylvania RR that ran from Trenton to Belvidere. The Bel-Del, as it is locally known, serves the Jersey Central Power Plant in Milford, lumber yards in Phillipsburg, a quarry in Carpentersville and paper mills in Hunterdon County.

The NS also operates the upper portion of the former Belvidere Delaware Railroad out of Allentown Yard. Local service is provided to industries along the line and to two coal powered generating plants in Martins Creek and Portland Pennsylvania. In addition, NS operates the former Delaware Lackawanna & Western Line (later Erie Lackawanna) between Phillipsburg, Washington, Hackettstown, Port Morris and Dover (NJ).

Historically, Phillipsburg was a crossroads for five different railroads. Each railroad had its own freight yard and maintenance facility located in the town.

E. Roadways

Transportation has historically played an important role in the development of the county. The first European Settlers to the county built the Old Mine Road, believed to be the first commercial highway in the United States. This highway is still in existence and traverses the Delaware Water Gap National Recreation Area.

Two Interstate Highways, I-78 and I-80 provide east-west access through the County. I-80 is located in the northern part of the County, while I-78 crosses the southern portion of the County south of Phillipsburg. These transportation routes are illustrated in **Figure 5**.

Primary state highways include US Routes 22 and 46, NJ Routes 31, 57 and 94. US Route 22, a Principal Arterial Highway, passes through the southern portion of the County through Phillipsburg into Pennsylvania between I-78

provides east-west access to central and eastern New Jersey and the Lehigh Valley in Pennsylvania. US Route 46, a Principal/Minor Arterial, passes through the central and northern part of the County between Hackettstown and I-80, provides east-west access to northern New Jersey and the Pocono Mountain region in Pennsylvania.

NJ Route 31, a Principal Arterial, in conjunction with US Route 46, provides primary north-south access through the County. The Highways connect Columbia in the northern part of the County, in Knowlton Township, with I-78 to south in Hunterdon County and the southern portion of Route 31 provides access to Flemington and Trenton the State Capital to the south. NJ Route 57, a Principal Arterial, provides east-west access through the southern and east-central portion of the county between US Route 22, in Lopatcong Township and NJ Route 24 at the Warren County/ Hunterdon border in Hackettstown, connecting the County's three largest Town Centers – Phillipsburg, Washington and Hackettstown. In addition, Route 57 provides access to I-78 via County Route 519/US Route 22, I-80 via NJ Route 182/US Route 46 via Mount Olive.

NJ Route 94, a Minor Arterial, provides east-west access through the northern portion of the County and Sussex County between Columbia and I-80 in Knowlton Township, in Warren County, Newton in Sussex County and north to US Route 6 and I-84 in New York State.

Primary county roadways include Route 517, 519, 521, 632 and 646. County Route 517, a Minor Arterial, begins just north of I-78 at County Route 523 in Hunterdon County and travels through Hackettstown where it is conterminous with NJ 182 and US Route 46. It then travels north past Allamuchy Mountain State Park, into Sussex County and to the New York State border. County Route 519, a Minor Arterial/Major Collector, provides the primary north-south access throughout the entire length of the county extending north from Sussex County and the New York State border and south into Hunterdon County to New Jersey Route 29 in Stockton. County Route 521, a Major Collector, begins in Hope at County Route 519 and continues north through Blirstown and Hardwick Townships and Sussex County to the New York border just south of I-84.

County Route 632, a Minor Arterial/Major Collector, beginning at NJ Route 173 and I-78 in Franklin Township, paralleling the Musconetcong River, provides an alternate route to NJ Route 57 for motorist traveling from the southern portion of Warren County and Hunterdon County to Washington and Hackettstown. County Route 646, in conjunction with County Route 519 is the primary access route for motorist from the Phillipsburg area to the northern part of the County.

The interstate highways, combined with an extensive state and county highway network, provide easy access to major markets and employment centers in the region. However, while there are many east-west routes, few north-south routes exist in Warren County.
