

Chapter 9 - Transportation



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TRANSPORTATION

A. Introduction

Berks County is a large county – at nearly 900 square miles, and as a result has an expansive and complex transportation system with nearly 3,400 miles of roads and 900 bridges. The highway network is the backbone of its transportation system. Although most households have at least one car for transportation, some people remain transit dependent. Local bus service, as well as a paratransit service for persons with disabilities and elderly residents, is provided in and around the Reading metro area. Intercity bus service links the region to adjacent counties, Philadelphia and New York City. Taxi service is available in the region. Although trucks handle most of the region’s freight shipments, rail service is available via Norfolk Southern and several local railroads. The county’s primary aviation facility, Reading Regional Airport, provides general aviation service as well as charter passenger service. Walkways, bikeways, greenways, and other transportation enhancements are growing alternatives to motorized transportation.



Transportation decision making and funding is spread among many partners in the county — legislators, PennDOT, local governments, this MPO, the Berks County Planning Commission, transit providers, privately owned rail freight operators, transportation stakeholders and many others. Each urbanized area in the United States with a population of 50,000 or more is required by Federal regulation to have a designated Metropolitan Planning Organization (MPO) to facilitate transportation on the local level. In Pennsylvania, there are 19 MPOs. The Reading Area Transportation Study (RATS) is the regional transportation planning organization for the Reading, Pennsylvania metropolitan area. The Reading MPO covers all of Berks County. RATS facilitates the regional, performance based planning process that serves as the basis for spending state and federal transportation funds for improvements to streets, highways, bridges, public transit, bicycle and pedestrian networks allocated to Berks County.

Created in 1964, RATS is comprised of two committees – the Technical Committee and the Coordinating Committee. The Technical Committee reviews items brought before the group and recommends actions to the Coordinating Committee. The Coordinating Committee is the policy body that formally adopts items reviewed by the Technical Committee. The eight-member RATS Technical Committee consists of representatives from PennDOT Central Office in Harrisburg (1), PennDOT District 5-0 Office in Allentown (1), the City of Reading (2), the Berks County Planning Commission (2), the South Central Transportation Authority (SCTA) (1), and the Reading Regional Airport Authority (RRAA) (1). The ten-member RATS Coordinating Committee consists of one representative each from the PennDOT Central Office, PennDOT District 5-0, Berks County Board of Commissioners, Berks County Planning Commission, City of Reading, Boroughs, 1st Class Townships, 2nd Class Townships, SCTA and the RRAA. RATS is responsible for prioritizing approximately \$80 million annually to advance transportation improvement projects throughout the county. PennDOT, SCTA and municipalities are responsible for project implementation. The transportation planning staff of the Berks County Planning Commission serves as the technical staff to RATS. The staff coordinates and administers these committees, their meetings and develops federally required MPO products including: the Long Range Transportation Plan (LRTP), the short-range Transportation Improvement Program (TIP), associated transportation conformity determinations (if required), the bi-annual Unified Planning Work Program (UPWP), and the Congestion Management Process (CMP).

Most of the modern Berks County transportation system was constructed between 1920 and 1970 with some bridges built before the 20th Century; the majority of the interstate highways in the county were constructed in the 1950s and 1960s. Most roads have been incrementally improved or repaired at one point or another; however, they are continuously subject to increased traffic and heavier loads than they were designed to handle.

The highest priority will continue to be to preserve and maintain the existing transportation system with a primary focus on improving roads in poor condition. In 2014, nearly 17 percent of state roads in the county, annually tested by PennDOT, were rated as “poor” and 28 percent were rated “fair.” We must continue efforts to maintain and improve our 881 bridges in the county, of which 194 were classified as structurally deficient. The county and its municipalities are committed to making investments to preserve, maintain, address safety issues on, and maximize the use of the existing transportation system before making investments to expand the capacity of the system.

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B. Roads and Bridges

The regional highway system functions as the primary means of distributing people and goods within and throughout Berks County. Fifty-two (52) miles of Interstate and 26 miles of expressways accommodate most of the highway traffic. These roads are shown on Figure 30.

Our experience and perception of the transportation system is largely based on the condition of the roads and bridges we drive on every day. As stated earlier, the primary focus of this plan is to develop and maintain the county's road and bridge network to be satisfactory and safe for existing and planned traffic.

Historically, Berks County has been served by a radial system of five major arterial highways. U.S. 222 is the principal link between Reading and both Allentown and Lancaster, as well as a connection to the Pennsylvania Turnpike. PA 61 is the principal highway connection between Schuylkill County and Reading.

U.S. 422 provides a direct link to the Delaware Valley market center to the east. To the west, U.S. 422 connects Reading to Lebanon, Harrisburg and the Capitol region. Berks County has no Interstate link that crosses through the core urban area; however, Interstate 78 to the north and the Pennsylvania Turnpike (I-76) to the south bound the county. PA 183 and PA 61 act as connectors to I-78, while I-176 and U.S. 222 South link the urban area with the Turnpike. In 2014, Berks County had 3,334 linear miles of roadway, largely owned by local government entities and PennDOT.

The county's roadways accommodate over nine million miles of travel daily, with the majority on PennDOT owned roads. Overall travel demand within the region has been declining, down 3 percent since 2009 due largely to socioeconomic factors. The growth rate of the county population has declined. The county has a growing population of people who drive less or not at all - the elderly, disabled and zero car households. The growth in E-commerce has reduced the necessity to visit malls and stores for goods. Berks County also has a large percentage of people not in the workforce, (not employed and not seeking employment) and a decreasing labor participation rate, which results in declining trips to work.

Change in DVMT between 2009 and 2014								
DVMT by Agency	2009	2010	2011	2012	2013	2014	# Change	% Change
PennDOT	7,441,843	7,313,146	7,314,556	7,140,188	7,049,039	7,082,578	-359,265	-4.8%
Local	1,620,623	1,659,960	1,625,253	1,600,701	1,569,955	1,634,448	13,825	0.9%
Turnpike	186,725	186,715	186,715	186,715	182,058	183,530	-3,195	-1.7%
Other State/Federal	60,072	138,321	138,321	138,321	134,020	134,020	73,948	123.1%
Total	9,309,263	9,298,142	9,264,845	9,065,925	8,935,072	9,034,576	-274,687	-3.0%

Source: PennDOT, Pennsylvania Highway Statistics, 2009-2014

As of 2014, there were 284,815 licensed drivers in Berks County. The rate of growth in licensed drivers has substantially declined since 2009. While people may be driving less, there are nearly 66,000 (21 percent) more vehicles on the roads today than in 2000, with significant increases in the number of passenger cars, motorcycles, and pickup trucks. Passenger cars have been the predominant vehicle on the road – with a steady 67 percent of all vehicles since 2000. With the addition of pick-up trucks, 82 percent of registered vehicles in the County are largely for passenger use.

Road and Bridge Conditions

Roadway surfaces in Berks County are mostly comprised of paved surface roadways. Of the paved surface roadways, pavements are either asphalt or concrete. PennDOT assesses pavement surface conditions using a variety of metrics that includes the International Roughness Index (IRI). It measures pavement roughness in terms of the number of inches per mile that a laser, mounted in a specialized van, jumps as it is driven along highway – the lower the IRI, the smoother the ride. PennDOT has allocated considerable resources to the Interstates and major highways on the National Highway System since 2010. Of the four categories of state roads, ones that carry the most vehicles, such as the Interstates, have seen the most improvement in condition and have the best 2014 rating.

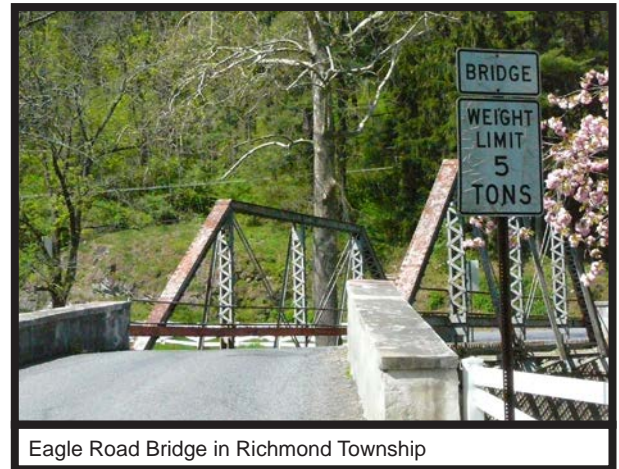
Conditions of State Roads in Berks County from 2010-2014		
Road Types	2014 Rating	Condition Improvement Since 2010
Interstates	Smooth	Yes
National Highway System, Non-Interstate	Smooth	Yes
Roads with more than 2,000 Trips Per Day	Fair	No Change
Roads with less than 2,000 Trips Per Day	Rough	Marginal

Source: PennDOT, Pennsylvania Highway Statistics, 2009-2014

Bridges

The Schuylkill River, two lakes and countless streams provide ample recreational activities and commercial activities, but create a transportation challenge to safely and efficiently move people and freight over them in Berks County. In 2014, there were 881 bridges in Berks County, with the majority owned by PennDOT. These bridges are those that require inspections – state bridges longer than eight feet and local bridges longer than 20 feet. Since 2010, the number of bridges increased 2.4 percent, with the majority being bridges owned and maintained by local municipalities. Berks County is responsible for 57 of the 244 local bridges.

The rise in the number of locally owned bridges is largely due to improved data collection and not new development. In recent years, PennDOT expended resources to field verify measurements of bridges, and that resulted in adding bridges to the inspection list.



Eagle Road Bridge in Richmond Township

As Berks County’s bridges continue to age and deteriorate, it is sometimes necessary to close bridges unexpectedly due to problems revealed during routine inspections. **Closed bridges** are deemed unsafe to carry any type of traffic. The number of bridges closed to traffic in the county increased 27 percent since 2010. As of 2014, 14 bridges are closed, with the majority being bridges owned by local municipalities.

Load posting a bridge is required by the National Bridge Inspection Standards when a bridge is not capable of safely carrying a legal load. If a bridge is deemed deficient, officials will post a maximum load for the bridge. Bridges may also be posted for other load-capacity restrictions including speed and number of vehicles permitted on the bridge. Almost 100 bridges are load-posted in Berks County. With the majority of those bridges owned by local municipalities, the number of weight-restricted bridges increased 14 percent since 2010.

Structurally deficient bridges are characterized by deteriorated conditions of the major components of a bridge. This may include cracked concrete, the bridge deck, the support structure, or the entire bridge itself. A “structurally deficient” (SD) designation does not imply that a bridge is unsafe. However, such bridges typically require significant maintenance to remain in service and would eventually require major rehabilitation or replacement to address the underlying deficiency. Berks County had 194 such bridges in 2014. The number of SD bridges has decreased 3.5 percent since 2010 with major improvement to bridges that are on the National Highway System. Similar to trends in other categories, the number of local SD bridges grew 10 percent since 2010. While many bridges have been repaired or replaced, the pace of deterioration of existing bridges has thus far outpaced these improvements.

A **functionally obsolete** bridge does not meet current design standards. Examples include bridges too narrow, have inadequate under-clearances, load-carrying capacity, poorly aligned with the roadway, or no longer adequately service today’s traffic. Functionally obsolete does not mean the bridge is unsafe or necessarily structurally deficient. It means that the bridge is showing its age and should be upgraded or replaced to improve its function. Berks County has 176 such bridges.

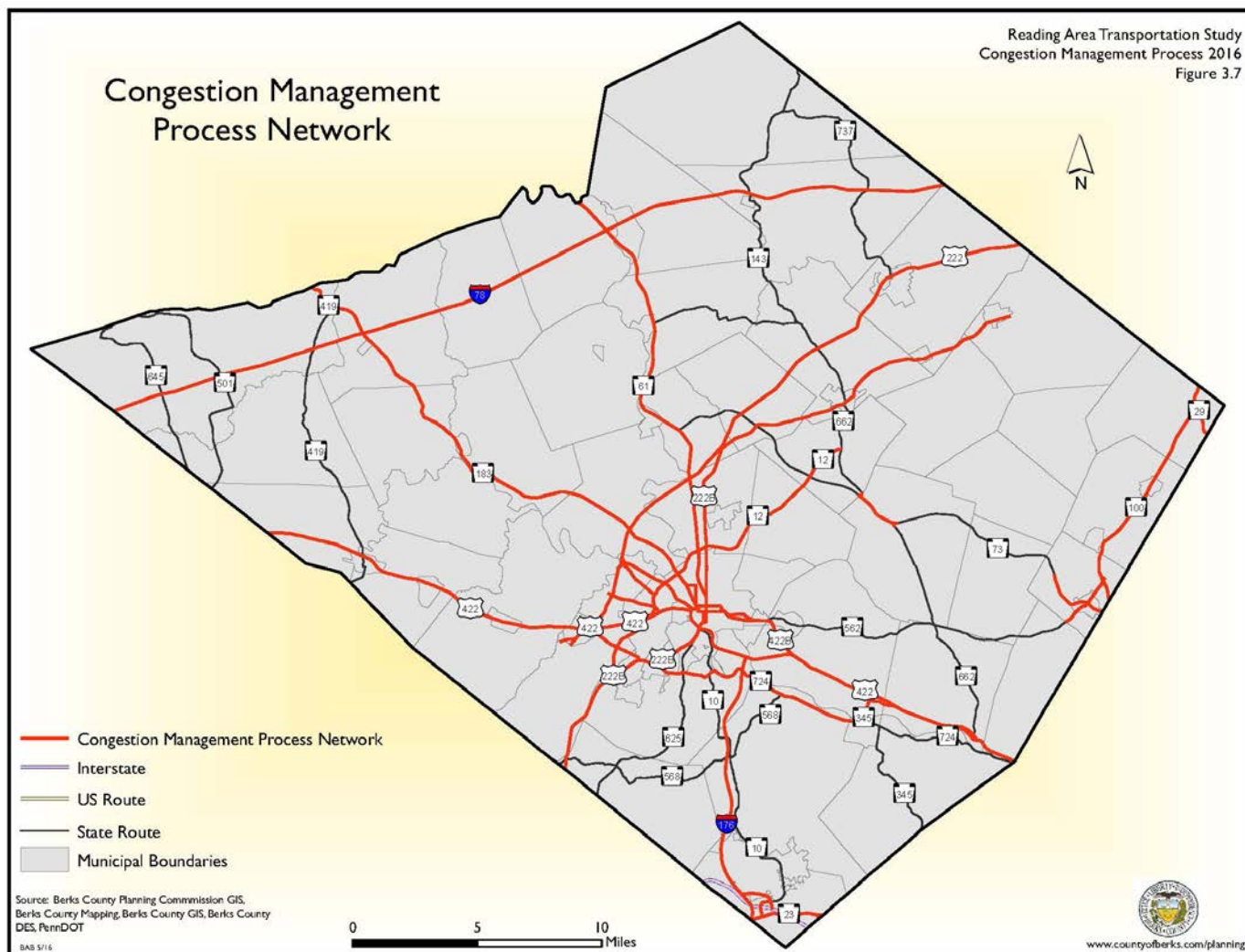
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C. Congestion Management

RATS developed a Congestion Management Process (CMP) in 2016. Development and maintenance of a CMP is a requirement for all MPOs in Transportation Management Areas (TMAs) under federal law. A CMP has great benefit - it provides a systematic and continuous method to pinpoint roadway congestion and to help identify improvements that alleviate it.

The CMP and the included CMP Network addresses the multimodal transportation network, consistent with federal guidelines. The CMP Network was defined by analyzing criteria outlined below which reflect traffic volumes and speed, and non-recurring factors (crashes), which are sources of congestion that can occur at any time.

The CMP Network is divided into a series of 33 highway corridors. Each corridor is assessed in detail within the CMP. The most congested corridors in Berks County are shown on the following table. These corridors were ranked using both the Travel Time Index (TTI) and the Average Annual Daily Trips (AADT) in that corridor. Please note that these rankings are not a definitive account of congestion along the network or a representation of prioritizing one corridor over another for improvements. Rather, it is an introduction to useful data and highlights the bottlenecks and most congested segments in Berks County.



Most Congested Corridors Ranked by Travel Time and Daily Traffic			
Rank	Corridor	Peak TTI	Max AADT
1	U.S. 222 (U.S. 222 Business Merge to Lehigh County)	4.74	59,199
2	U.S. 222 Business (U.S. 222 Merge to U.S. 422 West Shore Bypass)	4.42	22,310
3	U.S. 422 Business (U.S. 222 Merge to U.S. 422 Interchange)	3.61	23,473
4	U.S. 422 Business (Penn Street Bridge to U.S. 422 Merge)	3.36	21,904
5	SR 1010	3.00	15,238
6	PA 61 (PA 12 to U.S. 222)	2.38	16,455
7	PA 724 (Sinking Spring to U.S. 222 Business)	2.38	14,301
8	U.S. 422 (Lebanon County to U.S. 222 Merge)	2.27	21,347
9	U.S. 222 Business (PA 12 to U.S. 222 Merge)	2.19	24,705
10	U.S. 422 (West Shore Bypass to Montgomery County)	2.05	36,400
11	PA 61 (U.S. 222 to Schuylkill County)	2.03	28,743
12	PA 183 (U.S. 222 to Schuylkill County)	2.02	23,350
13	SR 3023 (State Hill Road)	1.96	20,801
14	PA 401	1.93	6,398
15	U.S. 222 (U.S. 422 Merge to U.S. 222 Business Merge)	1.92	74,847
16	U.S. 222 Business (U.S. 422 West Shore Bypass to PA 12)	1.90	15,347
17	PA 183 (Washington Street to U.S. 222)	1.89	16,938
18	PA 724 (U.S. 222 Business to Interstate 176)	1.78	12,196
19	PA 662 Eastern side at PA 73)	1.64	10,782
20	PA 12 (Pricetown Road)	1.60	18,218
21	PA 100 (Hereford Bally Area)	1.60	18,002
22	SR 3021 (Paper Mill Road)	1.60	18,002
23	PA 23	1.58	18,371
24	PA 345 (PA 724 to U.S. 422)	1.58	6,183
25	SR 3055 (Van Reed Road)	1.57	12,307
26	PA 724 (Interstate 176 to Birdsboro)	1.57	11,333
27	PA 73 (Boyertown Area)	1.51	11,165
28	PA 662 Western side at PA 73)	1.49	5,491
29	U.S. 422 (West Shore Bypass)	1.44	78,134
30	PA 12 (Warren Street Bypass)	1.44	59,132
31	PA 562 and SR 2067	1.44	11,591
32	PA 61 (U.S. 222 Business to PA 12)	1.40	12,388
33	Interstate 176/SR 2089	1.32	3,722
34	PA 10	1.29	7,845
35	PA 73 (Oley Area)	1.28	14,334
36	PA 29 (Hereford Township)	1.18	8,326
37	Interstate 78	1.10	21,746
38	U.S. 222 (Lancaster County to U.S. 422 Merge)	1.03	44,135

Source: Reading Area Transportation Study Congestion Management Process, May 19, 2016

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D. Air Quality

The Clean Air Act Amendments of 1990 (CAAA) mandate improvements in the nation's air quality. The CAAA directs the U.S. Environmental Protection Agency (EPA) to implement regulations that will provide for reductions in pollutant emissions. The Berks County area was originally designated under the CAAA as a moderate non-attainment area for ground level ozone. At present, Berks County is designated as a Marginal Non-Attainment Area for the 2008 standard denoting minimal violation and carrying the least demanding requirements. Berks County is designated as a Maintenance Area for the 1997 ozone standard. The area's maintenance plan, part of the State Implementation Plan (SIP), indicates that ozone concentrations will improve steadily until 2018.

Federal standards for both annual and 24-hour timeframes were established for airborne particles less than 2.5 microns in diameter (PM2.5) in 1997, 2006 and 2012. These fine particles have been shown to collect in the deepest part of the human lung, causing long-term respiratory concerns. Berks County was designated non-attainment for the 1997 annual standard. In 2015, the EPA approved the state's redesignation request and the associated maintenance plan for that standard. Berks County had been a maintenance area for the 1997 annual PM2.5 standard. Berks County is attaining the 24-hour 2006 standard. EPA has not yet designated areas for the more stringent annual 2012 PM2.5 standard. The state's monitoring network indicates that Berks County is attaining the 2012 PM2.5 standard. Effective on October 24, 2016, the EPA finalized rulemaking that revoked the 1997 primary annual PM2.5 standard in areas that have always been designated as attainment and in maintenance of that standard. As such, Berks County no longer has to address the 1997 PM2.5 standard.

Since vehicular emissions contribute to both PM2.5 pollution and ozone formation, the Act requires transportation planners in non-attainment and maintenance areas to consider the air quality impacts of their proposed plans, programs, and projects. These activities, if subject to federal involvement (i.e., funding), must be shown to conform to an applicable State Implementation Plan (SIP). Transportation conformity rules for both ozone and PM2.5 state that emissions analyses need to be performed for years within the period of both Transportation Improvement Programs (TIP) and Long Range Transportation Plans (LRTP).

E. Safety

Maintaining a safe transportation system is essential to sustaining and enhancing the quality of life for Berks County residents. Deaths and injuries resulting from traffic crashes are a public health concern and impact local communities with medical costs, lost wages, insurance costs, taxes, police, fire, and emergency medical services, legal and court costs, and property damage. Berks County has a significant amount of reportable crashes – ranking sixth in the state in the number of overall crashes and fifth in the number of fatal crashes between 2009 and 2014. Please note that data presented in this subsection discusses reportable crashes only.

Most Crashes in PA by County 2009-2014		Most Fatal Crashes in PA by County 2009-2014	
Allegheny	71,586	Philadelphia	521
Philadelphia	65,895	Allegheny	361
Montgomery	49,817	Bucks	308
Bucks	36,418	Lancaster	289
Lancaster	31,730	Berks	260
Berks	27,777	Westmoreland	231
Delaware	27,203	Montgomery	226
York	27,178	York	222
Lehigh	27,157	Luzerne	209
Chester	26,887	Chester	186

Source: PennDOT, Pennsylvania Crash Facts and Statistics, 2009-2014

Although significant progress has been made, lives are still being lost on Berks County roads. The chart below shows that fatalities have decreased 34% between 2009 and 2014. Crashes that involve injury are also down – 6.6% since 2009. Overall crashes are up 0.5%, with an increase in property damage only events. Nearly 68 percent of all crashes in the county occur on state roads.

Berks County Crashes by Type Between 2009 and 2014									
Type	2009	2010	2011	2012	2013	2014	Total	# Change	% Change
Fatal	50	39	46	50	42	33	260	-17	-34.0%
Injury	2,135	2,133	2,207	2,204	2,094	1,994	12,767	-141	-6.6%
Property Damage Only	2,415	2,320	2,476	2,489	2,458	2,592	14,750	177	7.3%
Total	4,600	4,492	4,729	4,743	4,594	4,619	27,777	19	0.4%

Source: PennDOT, Pennsylvania Crash Facts and Statistics, 2009-2014

The toll from those crashes in Berks County is significant. Nearly 63,000 people and 47,000 vehicles have been involved in crashes since 2009.

Persons and Vehicles Involved in Berks County Crashes Between 2009 and 2014									
Type	2009	2010	2011	2012	2013	2014	Total	# Change	% Change
Persons	10,429	10,392	10,644	10,869	10,176	10,481	62,991	52	0.5%
Vehicles	7,752	7,726	8,041	8,191	7,805	7,918	47,433	166	2.1%

Source: PennDOT, Pennsylvania Crash Facts and Statistics, 2009-2014

High Crash Corridors

PennDOT has identified, through data analysis and research, corridors within Berks County that have a high rate of crashes, fatalities, and injuries. The county’s #1 crash corridor (also ranked #82 in the state) is located in Maiden Creek Township on Route 222 between Dries Road and Schaeffer Road. Shown below, this corridor saw 9 fatal crashes and 274 injury crashes since 2007. This corridor is programmed for improvements beginning in 2019.



The Route 222 corridor between Dries and Schaeffer roads in Maiden Creek Township.

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Truck Safety

Berks County experiences a significant amount of truck traffic on its roadway system due to the geographic location and proximity to other major warehousing hubs. Interstate 78 carries a significant amount of truck traffic between regional industrial centers and industrial parks located in Berks County such as Berks Park 78. The data below looks at safety trends for large trucks (defined as a truck with gross vehicle weight rating (GVWR) greater than 10,000 pounds). The data also shows where Berks County ranks out of 67 counties in Pennsylvania for frequency of the crashes shown in the following chart.

Overall, Berks County sees many large truck crashes and has been ranked in the top ten for crash frequency for the last five years.

Large Truck Involvement in Crashes				
Year	Berks County	Pennsylvania	% of All State Crashes	County Ranking
2011	228	4,884	4.7%	6
2012	198	3,926	5.0%	5
2013	174	3,957	4.4%	8
2014	273	6,688	4.1%	6
2015	226	5,373	4.2%	5

Source: Federal Motor Carrier Safety Administration (FMCSA), Motor Carrier Management Information System (MCMIS)

Berks County has been ranked no lower than 14th in the last five years, and placing 1st in 2013, in fatal crashes involving large trucks.

Large Truck Involvement in Fatal Crashes				
Year	Berks County	Pennsylvania	% of All State Crashes	County Ranking
2011	5	153	3.3%	11
2012	8	187	4.3%	7
2013	9	167	5.4%	1
2014	4	166	2.4%	14
2015	4	126	3.2%	10

Source: Federal Motor Carrier Safety Administration (FMCSA), Motor Carrier Management Information System (MCMIS)

The county is also in the top ten for crashes that involve large trucks that result in injury.

Large Truck Involvement in Injury Crashes				
Year	Berks County	Pennsylvania	% of All State Crashes	County Ranking
2011	107	2,182	4.9%	5
2012	88	1,684	5.2%	5
2013	57	1,495	3.8%	9
2014	78	2,474	3.2%	9
2015	81	1,859	4.4%	4

Source: Federal Motor Carrier Safety Administration (FMCSA), Motor Carrier Management Information System (MCMIS)

F. Access Management

Access Management ties congestion management and safety together as an approach to deal with traffic problems generated by new development before they occur. Generally, they are elements of plan design that minimize/control the number of conflict points such as driveways, on a road or in a busy, heavily traveled corridor. Access Management recognizes that while the landowners have a right to reasonable access, the primary function of arterial roadways is to move traffic.

An effective access management policy/program used while projects are going through the municipal planning process will play an important role in preserving traffic carrying capacity, reducing congestion and crashes, minimizing costly remedial roadway improvements and establishing consistency for pedestrians and drivers.

In regards to access management, this Plan states:

1. Public roads and streets are to be planned, designed and managed to preserve their functional integrity.
2. Access management policies and programs support safe, secure and well-designed transportation infrastructure.
3. Access to land development along major arterial roads shall be preserved using site design opportunities such as parallel roads, side streets, shared driveways and cross access easements connecting adjacent developments.
4. Properties under the same ownership, consolidated for development, or part of phased development plans shall be considered one property for the purposes of access management. Access points to these developments shall be the minimum necessary to provide reasonable access, and not the maximum available, for that property frontage.
5. New residential subdivisions shall include an internal street layout that connects to the streets of surrounding developments to accommodate travel demand between adjacent neighborhoods, without the need to use the major thoroughfare system. Sidewalks should be installed on at least one side of the street in all residential subdivisions if the street is located within two (2) miles of a school, or 0.5 miles of a greenway, park, or shopping area, or if there is an existing sidewalk network adjacent to the proposed development.
6. Municipal zoning and subdivision ordinances and actions taken to rezone properties for commercial and industrial uses shall discourage shallow commercial/industrial strip development where most, or all, access is directed to the abutting major public road or street.
7. Municipalities are encouraged to adopt access management ordinances that limit or restrict driveways and intersections along arterial and regionally significant roads and corridors.

For more information on this subject, PennDOT published the Access Management Model Ordinances for Pennsylvania Municipalities Handbook in 2006. The guidebook discusses access management “best practices” from across the state and includes model ordinance language.

G. Transit

Public transportation forms a key component of the Berks County transportation system. While most travel in the county is by automobile, there is a growing segment of the population that relies on public transportation to meet their needs. Public transportation is provided by both non-profit and profit organizations, supplying fixed route, and demand response services.

The principal provider of public transportation services in Berks County is the South Central Transit Authority (SCTA). This authority oversees two divisions: the Berks Area Regional Transportation Authority (BARTA) that serves Berks County and the Red Rose Transit Authority (RRTA) that serves Lancaster County.

Headquartered in Lancaster County, the SCTA Board is comprised of five members appointed by Lancaster County Commissioners and five members appointed by Berks County Commissioners. BARTA operates a traditional fixed route bus system operating in the urban area surrounding the City of Reading and a Special Services division that provides demand-response services to elderly and handicapped citizens throughout the county. BARTA buses continue to be identified with the BARTA colors, name and logo and all schedule and service information are provided under the BARTA name.

BARTA provides fixed route services, as shown in Figure 31, in 32 Berks County municipalities and carries approximately 3 million passengers annually. Operating seven days a week, with a fleet of 54 buses, it services 30 bus shelters and more than 1,000 bus stops on 21 routes with over 1.6 million route miles per year. BARTA's main vehicle servicing and administration facility is located on North 11th Street in the City of Reading. The main transfer point is the BARTA Transportation Center located on 8th Street. BARTA also provides service between five (5) Park and Ride lots in the county. According to BARTA, 42 percent of those trips are work related, followed by 23 percent for shopping and 14 percent for personal business.

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The majority of riders (64 percent) are between 18-44 years of age, female (58 percent), and do not have a valid driver's license (68 percent). The most heavily traveled route is Route 1-Temple, which services 5th Street between Reading and Muhlenberg Township.

While the number of fare paying passengers increased 8.4 percent since 2010, BARTA saw the largest ridership loss in passengers using the service to get to and from medical appointments.

BARTA Fixed Route Service								
Customer Type	2010	2011	2012	2013	2014	2015	# Change	% Change
Farepaying	2,259,607	2,425,463	2,496,962	2,507,398	2,562,745	2,449,131	189,524	8.4%
Senior Citizens	462,628	452,387	469,391	465,485	455,012	413,238	-49,390	-10.7%
Transfer	122,270	125,743	133,886	132,375	135,101	128,859	6,589	5.4%
Other-MATP (Medical Assistance)	64,258	64,258	52,577	40,641	44,763	43,724	-20,534	-32.0%
Total Passengers	2,908,763	3,067,851	3,152,816	3,145,899	3,197,621	3,064,952	156,189	5.4%

Source: BARTA

BARTA's Special Services Division is responsible for operating and administering most human service transportation in Berks County and limited service in Montgomery County. These services include the Shared Ride, ADA, and Medical Assistance Transportation Program (MATP). They are specialized, demand-responsive paratransit services and provide public transportation to persons with disabilities who are unable to use fixed route transit.

BARTA provided nearly 245,000 trips in 2015 between their fleet of 42 paratransit vehicles and a contract with Easton Coach. The majority of trips (41 percent) were for medical appointments, followed by work (18 percent) and accessing senior centers (11 percent).

BARTA Special Services								
Customer Type	2010	2011	2012	2013	2014	2015	# Change	% Change
Senior Citizens	45,905	47,204	48,087	45,872	47,764	49,171	3,266	7.1%
DPW-MATP (Medical Assistance)	69,303	77,714	81,629	85,848	85,130	93,621	24,318	35.1%
MH/MR	9,835	9,766	11,634	11,041	11,269	13,108	3,273	33.3%
ADA Services	64,417	64,114	68,850	72,506	67,194	60,946	-3,471	-5.4%
PWD	2,583	3,282	3,435	374	3,057	2,997	414	16.0%
Area Agency on Aging	48,166	42,483	37,543	38,322	30,896	21,761	-26,405	-54.8%
Other Agencies	695	614	1,596	2,048	2,601	2,985	2,290	329.5%
Total Passengers	240,904	245,177	252,774	256,011	247,911	244,589	3,685	1.5%

Source: BARTA

Inter-City Bus Service

Carl R. Bieber, Inc. headquartered in Kutztown, services customers throughout the United States, but primarily in central and eastern Pennsylvania, New York City, and New Jersey. With a fleet of 66 buses, it maintains a scheduled line of daily runs to various locations, between Berks, surrounding counties, Philadelphia, and New York City.

The company operates two terminals. The Reading Intercity Bus Terminal is located on 3rd Street in the city. This facility has a ticket counter and an enclosed waiting area. The Kutztown terminal is located on Fair Street in Kutztown and has a ticket counter and enclosed waiting area.

Commuter Services

Berks County joined Commuter Services of Pennsylvania, a program of the nonprofit Susquehanna Regional Transportation Partnership in 2009. The program covers 13 counties. It is locally sponsored by RATS, BARTA, and Greater Reading Chamber of Commerce and Industry and offers transportation demand management strategies and assistance to employers and individuals for finding options other than driving alone to work. The program goal is to reduce the number of vehicle miles traveled and to increase the efficiency of the highway system by reducing congestion and improving air quality. Participation in the program is free. Participation in the program has been successful – increasing involvement and reducing VMT since 2009. The program is funded with federal Congestion Mitigation & Air Quality (CMAQ) funds through participating MPO’s.

Taxi Service

There are four taxicab operators in Berks County as of 2015. All provide 24 hour/7 day service. The importance of the role played by taxi service, for all riders, is likely to grow in the future. Taxicabs operating within Pennsylvania are licensed by the Public Utility Commission, but generally are for-profit enterprises.

Ride Sharing Services

Ride sharing services in Berks County began in 2015. Current service statistics are unknown.

Passenger Rail

Berks County is not currently served by passenger rail service. Originally served by both the Reading and Pennsylvania railroads, service was gradually reduced due to the loss of ridership to passenger vehicles and changing land uses along the line along with growing operating costs. The Southeastern Pennsylvania Transportation Authority (SEPTA) provided the last passenger rail service in the county between Reading and Philadelphia. It ended in 1982. Since that time, multiple studies have been undertaken investigating the feasibility of restoring this service. To date no viable approaches have been found. We will continue to work with regional partners to evaluate options as conditions change.

H. Freight

The effectiveness and efficiency of freight transportation in Berks County is a major factor in manufacturing costs and in retail costs. Manufacturers look for reliability, speed, and quality control in the carriers that deliver their raw materials and finished products. Since the mid-1990s, the retail and wholesale industries use ‘just-in-time’ logistics management, where retailers assume that the cost of transporting a product will be less than the cost of maintaining large inventories of the product on site. This has prompted the growth of the logistics and warehousing industries, which rely on a network of warehouses and trucks to distribute freight. This change in how retailers manage inventory has had profound transportation and land use impacts in surrounding counties - and is now expanding in Berks - and, as a result, impacts on Berks County roads.

By both weight and value, Berks County is primarily served by truck freight and supplemented by rail service. The county does not have a substantial air freight component as of 2017, as there are no scheduled air cargo carriers currently operating at the Reading Regional Airport.

As shown in the following table, the amount and value of freight coming to and leaving the county is expected to grow significantly in the next 25 years. Truck freight will remain the primary mode by which freight is moved. By tonnage, freight originating from Berks County increases 60% by 2040. Freight arriving to Berks County increases to 70% by 2040.



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2011				
Freight Originating From Berks County (Inf. Adj to 2015 \$)				
Mode	Tons	Value	% Tons by Mode	% Value by Mode
Truck	12,752,722	\$12,390,000,000	91.4%	99.3%
Rail	1,205,138	\$84,000,000	8.6%	0.7%
Total	13,957,860	\$12,474,000,000	100.0%	100.0%
Freight Arriving To Berks County (Inf. Adj. to 2015 \$)				
Mode	Tons	Value	% Tons by Mode	% Value by Mode
Truck	9,312,359	\$13,372,000,000	90.5%	96.6%
Rail	976,215	\$469,000,000	9.5%	3.4%
Total	10,288,574	\$13,841,000,000	100.0%	100.0%

Source: PennDOT Commodity Information Management System (2011), Berks County Planning Commission

2040				
Freight Originating From Berks County (Inf. Adj. at 4% for 25 yr.)				
Mode	Tons	Value	% Tons by Mode	% Value by Mode
Truck	20,419,324	\$50,241,460,461	91.1%	99.0%
Rail	1,986,785	\$487,848,049	8.9%	1.0%
Total	22,406,109	\$50,729,308,510	100.0%	100.0%
Freight Arriving To Berks County (Inf. Adj. at 4% for 25 yr.)				
Mode	Tons	Value	% Tons by Mode	% Value by Mode
Truck	16,448,798	\$68,240,000,000	93.9%	97.7%
Rail	1,070,002	\$1,589,000,000	6.1%	2.3%
Total	17,518,800	\$69,829,000,000	100.0%	100.0%

Source: PennDOT Commodity Information Management System (2011), Berks County Planning Commission

I. Berks County Freight Network

Trucks move a great majority of freight (in terms of both tonnage and value) within and through Berks County, illustrating the importance of the county's highway network. From Berks County, business can reach more than 35% of the United States population and 50% of Canadian customers within a one-day drive. The county has one of the largest manufacturing concentrations in the seven-county region and serves as a major conduit between warehousing hubs elsewhere in Pennsylvania.

This warehousing and industrial development is generally located along major freight corridors in eastern Pennsylvania, namely the Interstate system. As of 2015, Berks County ranks 9th in overall square feet in large industrial buildings with over 18 million square feet of space inside the county. In addition, Berks is centrally located between industrial centers on Interstate 78. In the majority of counties, vacancy rates are low which indicates high demand for space. The median vacancy rate for all counties shown in the chart is 6.5%, the lowest since 2010. Warehouse and distribution center development along the Interstate 78 corridor is expected to continue to grow, particularly as properties become less available to the east of Berks County in the Lehigh Valley region and New Jersey.

2014 and 2015 Annual Stats: Industrial Buildings Greater than 100,000 sq.ft.				
County	Existing Inventory 2014	Existing Inventory 2015	Percent/Total Inventory 2015	2015 Vacancy Rate
Cumberland	46,048,536	47,997,136	12.3%	6.9%
York	44,514,110	45,762,005	11.7%	8.2%
Lehigh	34,268,039	35,582,119	9.1%	4.9%
Lancaster	32,482,577	34,914,577	9.0%	1.3%
Philadelphia	31,028,988	31,228,988	8.0%	10.4%
Montgomery	30,522,188	30,081,350	7.7%	6.0%
Luzerne	22,113,742	28,176,385	7.2%	5.7%
Bucks	27,534,184	27,491,195	7.1%	5.9%
Berks	17,254,590	18,004,590	4.6%	3.8%
Northampton	11,237,584	14,396,747	3.7%	12.7%
Dauphin	13,700,215	14,240,054	3.7%	9.3%
Lackawanna	7,810,559	12,369,047	3.2%	15.7%
Chester	12,209,553	12,209,553	3.1%	1.3%
Franklin	11,831,160	11,831,160	3.0%	4.9%
Delaware	10,411,735	10,605,300	2.7%	7.7%
Schuylkill	4,044,220	6,734,876	1.7%	8.6%
Lebanon	4,177,193	4,677,193	1.2%	13.8%
Monroe	1,589,217	3,539,901	0.9%	0.4%
TOTAL	362,778,390	389,842,176	100.0%	

Vacancy Rate: The amount of vacant space divided by the total amount of industrial space in the region. Space that is under construction is not included in vacancy calculations.

Source: CBRE Research, Q4 2014 and Q1 2016, Berks County Planning Commission

Truck freight is the region's most utilized method of transporting goods. Of note, the sections of Interstates 176 (12 percent truck traffic) and 78 (34-43 percent truck traffic) in Berks County are on the Federal Highway Administration's (FHWA's) suggested Primary Freight Network (PFN). In the county, the Interstates are the primary routes transporting goods statewide. Routes 422, 222 and 61 are primary inter-county truck freight corridors. Route 422 links the Reading metropolitan area with Lebanon and Montgomery counties while Route 222 North (21 percent truck traffic) links Reading to the western end of Lehigh County. The Fogelsville area has seen explosive growth in warehousing in the last decade. Route 61 provides a north-south route into Schuylkill County. The majority of freight generating businesses are located along these routes.

The rail network in Berks County consists of Class I and short line railroads. Class I railroads are freight railroads with an operating revenue of \$475 million or more. Short line railroads are freight railroads with operating revenues of less than \$475 million. Since 1981, this network has only served freight in the county. Presently, four railroad companies conduct business on 125 linear miles of operational railroad lines inside Berks County. The majority (approximately 101 miles or 81 percent) of the rail line mileage in the county is owned and operated by Norfolk Southern Corporation (NSC). The principal activity center for rail in the county is the Spring Street yard, located in the City of Reading at the junction of the Lebanon Valley Branch Line and the Reading Line. The Reading Line functions as a bridge between the Lehigh Line in Allentown/Bethlehem and the Harrisburg Line in the Dauphin County area. The Reading Line is the most heavily used track in Pennsylvania in terms of both carloads and ton-miles of traffic moved. It is part of the corridor that carries Norfolk Southern rail traffic from the metropolitan New York City area to points west and south. At Reading, rail traffic can continue to Philadelphia, South New Jersey, and Harrisburg. This line is also part of the Strategic Rail Corridor Network (STRACNET).

Several short line railroads provide service in the county. Reading Blue Mountain and Northern Railroad (RBM&N) currently provides service on the line previously owned by Conrail along the west side of the Schuylkill River, north of Reading into northeastern Pennsylvania. The RBM&N also controls the Schuylkill Secondary Line that runs between Temple and

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Hamburg on the east side of the Schuylkill River. Service on this line is currently suspended. The railroad handled 28,940 carloads in 2015, up 19% from 2014.

East Penn Railroad owns and operates the Lancaster Line that runs from Sinking Spring to Ephrata, Lancaster County, and the Perkiomen Branch that runs from Allentown through Hereford Township to Pennsburg. East Penn also provides service on the Kutztown Transportation Authority-owned Kutztown Branch Line that runs between Topton and Kutztown.

The Eastern Berks Gateway Railroad provides freight service on the Berks County owned Colebrookdale Branch Line that runs from the Norfolk Southern Line in Pottstown to Boyertown. The Colebrookdale Railroad, headquartered in Boyertown, is a tourist carrier that also operates on this line between Boyertown and Pottstown.

The Wanamaker, Kempton and Southern Railroad is a tourist carrier which operates between Wanamaker in Lehigh County and Kempton in Berks County, over tracks formerly part of the Reading Railroad's Schuylkill and Lehigh branch. The Wanamaker, Kempton and Southern is rail isolated. It does not connect to other rail lines or haul freight.

The Allentown and Auburn Railroad is a tourist carrier that operates between Topton and Kutztown on tracks owned by the Kutztown Transportation Authority. The railroad is not isolated as it shares an interchange with the Norfolk Southern Reading line in Topton.

Non-Motorized Transportation

Walking and biking are important parts of the county's overall transportation system as they are two of the most basic and affordable forms of transportation available. The mix of rural roads, city streets, and trails across the county provide bicyclists with varied and challenging routes. Most pedestrian trips are short; therefore, municipalities have the greatest influence on creating viable pedestrian transportation networks. Continuous sidewalks are recognized as the basic network for urban pedestrian transportation.

Berks County has a unique group of non-motorized travelers – the estimated 150 Mennonite households in the Fleetwood/Kutztown area. They do not use cars, relying instead on horse and buggy, bicycle and walking for all of their transportation. Driving in this area of Berks County is different from driving on other roads. In and around Fleetwood, you will see horse-drawn buggies or equipment on rural, sometimes narrow roads with cars and trucks as they travel to town or the fields. Fortunately, in Berks County, the number of crashes involving horse and buggies is low.

Crashes Involving Horse and Buggy in Berks County						
Type	2011	2012	2013	2014	2015	Total
Crashes	0	1	1	0	1	3
Injuries	0	1	2	0	2	5
Fatalities	0	1	0	0	0	1

Source: PennDOT Crash Statistics, 2011-2015

Bikes

There are active groups and organizations that support and organize biking in Berks County. The Berks County Bicycle Club was founded in 1973 and as of 2015 had 190 members. This club has created an online ride map database available to all looking for biking opportunities in Berks County.

The Schuylkill River Greenways (SRG), a non-profit organization, manages and builds the Schuylkill River Trail in Berks County. SRG promotes bicycle riding for recreation and commuting including a free bike share program and other bicycling events.

Reading has attained national designation from two bicycling organizations. The League of American Bicyclists named the City of Reading a "Bicycle Friendly Community" in November 2015. Reading is one of only five cities in the state of Pennsylvania to be awarded this designation. Additionally, two local employers within the City were named "Bicycle Friendly Businesses" that same year. The county also attained "Bronze Level Riding Center" designation by the International Mountain Bicycling Association in 2015 for its 125 miles of mountain biking trails.

Sidewalks

The Berks County GIS shows the 1,266 miles of sidewalks in Berks County are limited principally to the boroughs, the City of Reading, and some more urbanized townships. Sidewalks offer a mode of transportation to segments of the population who are less likely to own a vehicle and rely on walking or public transit as their primary mode of transportation. By encouraging the addition of safe and well-placed sidewalks, the county hopes to add more non-motorized users to this critical part of transportation infrastructure.

A majority of existing subdivisions and others that have been under development over the last 15 to 20 years in Berks County have had sidewalks incorporated with infrastructure construction. However, these sidewalks seldom connect to anything outside of the neighborhood. In addition to residential areas, a number of commercial developments in the region have sidewalks in place within the development but there is little to no connectivity to adjacent neighborhoods.

Trails and Greenways

Berks County has 420 miles of extensive trail system ranging from paved multipurpose trails to more rugged trails suitable for hiking or mountain biking. These trails are often connected to greenways - corridors of open space that can be a small park in a borough or the city to large areas of forest in the townships. The Schuylkill River Trail follows the Schuylkill River and is the backbone of Berks County's interconnected trail system. Both trails and greenways are again discussed in Chapter 10, Community Facilities and more in depth in the Berks County Greenways, Parks and Recreation Plan.

J. Aviation

The Berks County aviation network is a vital transportation link consisting of 12 airports and 9 heliports. They vary in size and function from small general aviation airports to larger facilities with corporate/commercial air service.

Of the three public airports, the largest is the Reading Regional Airport. This is the county's primary air connection to national markets. Grimes Airport and Morgantown Airport are two smaller, privately owned, public use airports within Berks County.

The Morgantown Airport is a privately owned, public-use airport with 10,250 annual aircraft operations in 2014. The airport has one turf runway, Runway 10/28, which is 2,500 feet long and equipped with low intensity runway lighting (LIRL). Services are provided by the airport, and include fueling and tie-down aircraft parking. The majority of the airport's activity is recreational flying.

The Grimes Airport is a privately owned, public-use airport with 1,550 annual aircraft operations in 2014. The airport has one turf runway, Runway 11/29, which is 2,720 feet long. Services are provided by the airport. The majority of the airport's activity is recreational flying.

The region also has nine private airports in addition to those listed above including Dimascio Field Airport, Cuatros Vientos Airport, The Old Commonwealth Airport, Skyline Airstrip, Don's Place Airpark, Blue Mountain Academy Private Airport, Krill Personal Use Airport, Bert's Airport, and Area 52 Airport.

Reading Regional Airport

The Reading Regional Airport (RDG) is a Class IV facility located in Bern Township and operated by the Reading Regional Airport Authority. The airport is equipped with a control tower, a passenger terminal building, hangers, maintenance facilities, and crash-fire-rescue facilities. It has two ILS equipped asphalt runways: Runway 13/31 with a length of 6,350 feet and Runway 18/36 with a length of 5,151 feet. The airport had 81,839 aircraft operations in 2014.

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Reading Regional Airport Aircraft Inventory - 2014	
Type	#
Single Engine (SE):	79
Multi Engine (ME):	28
Jet (J):	18
Total Fixed Wing Aircraft	125
Helicopters:	5
Gliders:	1
Military:	0
Ultra-Light:	0
Total Aircraft	131

Source: Federal Aviation Administration

Regular passenger service ended in 2004. In its current role, the airport concentrates primarily on serving general aviation and corporate aircraft. In the future, the airport sees itself serving more flight training activity, along with more recreational, business, and air taxi operations and continues to build and increase its reputation as a recreational and corporate general aviation facility.

In 2013, the Reading Regional Airport Authority conducted a Master Plan Study to determine the needs of the airport for the next 5, 10, and 20 years. This Airport Master Plan Update included a number of changes based on FAA requirements and priorities as well as improvements that will allow the airport to meet forecasted demands. Future projects include upgrades to surface sensor systems and perimeter security fencing.

Despite a difficult operating environment in recent years, the airport has rebounded due to growth in corporate, general aircraft, and charter operations. In 2014, there were 1,703 enplanements at the Reading Regional Airport, an increase of 27 percent since 2010. Based aircraft and total operations are projected to remain steady. The Federal Aviation Administration expects increased interest in the airport due to businesses having concerns about safety and flight delays at other larger airports.

Reading Regional Airport Historic and Forecast Data								
Type	1990	2000	2010	2014	2010 to 2014 % Change	2020 FCST	2030 FCST	2040 FCST
Total Enplanements	65,373	40,268	1,342	1,703	26.90%	1,529	1,529	1,529
Total Operations	84,443	146,074	96,719	81,839	-15.38%	88,489	91,928	95,539
Based Aircraft	170	126	116	131	12.93%	126	145	165

Source: Federal Aviation Administration, APO Terminal Area Forecast Detail Report; January 2015

The airport is part of Foreign Trade Zone #147 and has become a tourist destination as it is home to the Mid-Atlantic Air Museum. The Museum is home to dozens of rare aircraft and hosts a World War II Weekend since 1990 that draws more than 20,000 visitors annually.

The following tables and Figure 32 show the 12 airports and 9 heliports in Berks County and where available, the number of based aircraft.

Berks County Airports			
Name	Municipality	Based Aircraft	Use
Reading Regional Airport	Bern	131	Public
Grimes Airport	Bethel	32	Public
Morgantown Airport	Caernarvon	31	Public
Dimascio Field Airport	Douglass	1	Private
Cuatro Vientos Airport	Albany	n/a	Private
The Old Commonwealth Aerodome	Upper Bern	1	Private
Skyline Airstrip	Perry	1	Private
Don's Place Airpark	Perry	5	Private
Blue Mountain Academy Private Airport	Tilden	1	Private
Krill Personal Use Airport	Bethel	1	Private
Bert's Airport	Amity	n/a	Private
Area 52 Airport	Hereford	2	Private

Source: Federal Aviation Administration

Helicopters serve the Vertical Flight (VF) needs in Berks County. Helicopters operate within a radius of approximately 100 to 150 miles. Since helicopters operate at lower airspeeds and different flight profiles than fixed-wing aircraft, they are assigned to routes away from fixed-wing arrival and departure flows, preventing slow-flying helicopters from delaying faster fixed-wing aircraft. While the county's heliports are largely privately owned, there are four hospital heliports. State and Federal agencies require hospitals to have helipads in order to obtain certification as trauma facilities. These helipads, located in proximity to the respective hospital's emergency room, are a mix of both rooftop and ground level operations.

Berks County Heliports			
Name	Municipality	Based Aircraft	Use
King Air Heliport	Albany	n/a	Private
Lehigh Valley Health Network Kutztown Heliport	Maxatawny	1	Private
Reading Hospital Heliport	West Reading	n/a	Private
Car Tech Heliport	Muhlenberg	n/a	Private
Green Hills Corp Heliport	Cumru	1	Private
Metropolitan Edison Heliport	Muhlenberg	n/a	Private
Reading Hospital & Medical Center Heliport	West Reading	n/a	Private
St Joseph Regional Health Network Heliport	Bern	n/a	Private
GED Heliport	Exeter	1	Private

Source: Federal Aviation Administration

K. Transportation Policies

One of the biggest challenges for Berks County will be to maintain the flexibility required to meet changing conditions. One area of focus for the planning process has been to identify emerging trends that affect the transportation system, which help to define future needs. Long-range plans are undeniably skewed to meeting the needs of today, given that future projections are notoriously difficult to make and accept. Future needs known or unknown, take a backseat to the most pressing of today's problems. Therefore, we must manage effectively to meet challenges as they arise, rather than becoming locked in to specific policies that attempt to allocate resources precisely over a long period.

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Please note that the 2016 Long Range Transportation Plan (LRTP), of which this section is derived from, is a plan constructed around performance measures. Using performance measures for the first time in an LRTP, RATS used data to establish the basis for measuring progress in plan implementation, facilitate communications on priorities and accomplishments, and provide a means for greater accountability. RATS performs ongoing monitoring and reporting of accomplishments, particularly progress towards the goals listed below - to support implementation of RATS' vision in projects and plans. Certain performance measures and related targets are required by federal transportation planning legislation. **These are identified below in BOLD.** At this time only one has formally been adopted by the State and RATS. As additional measures and targets are adopted, they will be incorporated into the LRTP and this plan.

Transportation Policies

Transportation Goal: The Reading Area Transportation Study will provide and maintain a balanced, multimodal transportation system that will safely and efficiently move people and goods.

a. Maintenance

Goal: Maintain and improve the transportation system and services we enjoy today where financially feasible.

Policies:

- (1) Improve and maintain pavement quality from the 2014 baseline report with positive progress towards the regional long-range goals for all networks specified by PennDOT.
- (2) Reduce the number of structurally deficient bridges from the 2014 baseline report with positive progress towards the regional long-range goals for all networks specified by PennDOT.
- (3) Improve LOS on congested corridors and intersections from the 2016 Berks County CMP report with positive progress towards removing congested corridors with intersection and corridor specific programming and projects.

Data Sources: PennDOT Annual Performance Measures Reports, RATS CMP reports

b. Safety:

Goal: Keep travelers safe and secure, no matter the mode of transportation.

Policies:

- (1) **Continue the positive reduction in the annual 5-Year Rolling Average of: 1) Number of Fatalities; 2) Rate of Fatalities; 3) Number of Serious Injuries; 4) Rate of Serious Injuries; and 5) Number of Non-Motorized Fatalities and Serious Injuries with a goal of a 2 percent decrease in each category.**
- (2) Work towards a 50 percent reduction in both fatal and major injury crashes in Berks County by 2034 concurrent with the goals of the 2014 Pennsylvania Strategic Highway Safety Plan to reduce such crashes 50 percent over a twenty-year period.
- (3) Address the safety needs in the top five (5) high crash corridors and have them removed from the list by 2021.
- (4) Improve the safety of work zones by collaborating with PennDOT and local and state police to reduce work zone crashes by 5% between 2014 and 2021.
- (5) Implement at least two projects to add to or improve the ITS infrastructure by 2021.
- (6) Better publicize evacuation and emergency routes in the event of a man-made or natural disaster by 2021.
- (7) Collaborate with PennDOT and the Berks County Department of Emergency Services to plan corridor redundancy around major roads (e.g. Interstate 78, Route 222) in times of inclement weather or emergencies.
- (8) Improve safety where trails and multi-use paths cross roads by installing appropriate safety measures.

Data Sources: PennDOT Highway/Safety Guidance report, PA Crash Stats report

c. Economic Development:

Goal: Invest in projects that strengthen the ability of Berks County commerce to access national and international trade markets, and support regional economic development and tourism opportunities.

Policies:

- (1) Reduce the number of high crash corridors that are located on the freight network identified by PennDOT.
- (2) Improve LOS on congested corridors and intersections from 2016 Berks County CMP report that are on the freight network.

Data Sources: PennDOT Commodity Information Management System (CIMS), PennDOT Highway/Safety Guidance report, RATS CMP report

d. Improved Connections and Choices:

Goal: Give travelers a variety of well-designed transportation choices that are in good condition.

Policies:

- (1) Conduct a public opinion survey to gauge overall public satisfaction with the existing transportation system with a follow-up comparison survey.
- (2) Expand regional trails, the county trail network and sidewalk network.
- (3) Increase the miles of dedicated bicycle facilities and signed bike routes in the county.
- (4) Increase BARTA's fixed route fare-paying ridership and the special services ridership.
- (5) Continue to work with local and regional partners to evaluate passenger rail options as conditions change.

Data Sources: RATS and SCTA Public Opinion Surveys, Berks County GIS, BARTA

e. Environmental Sustainability:

Goal: Enhance the performance of the county transportation system in environmentally sustainable ways that increase resiliency to both climate change and vulnerability to natural disaster.

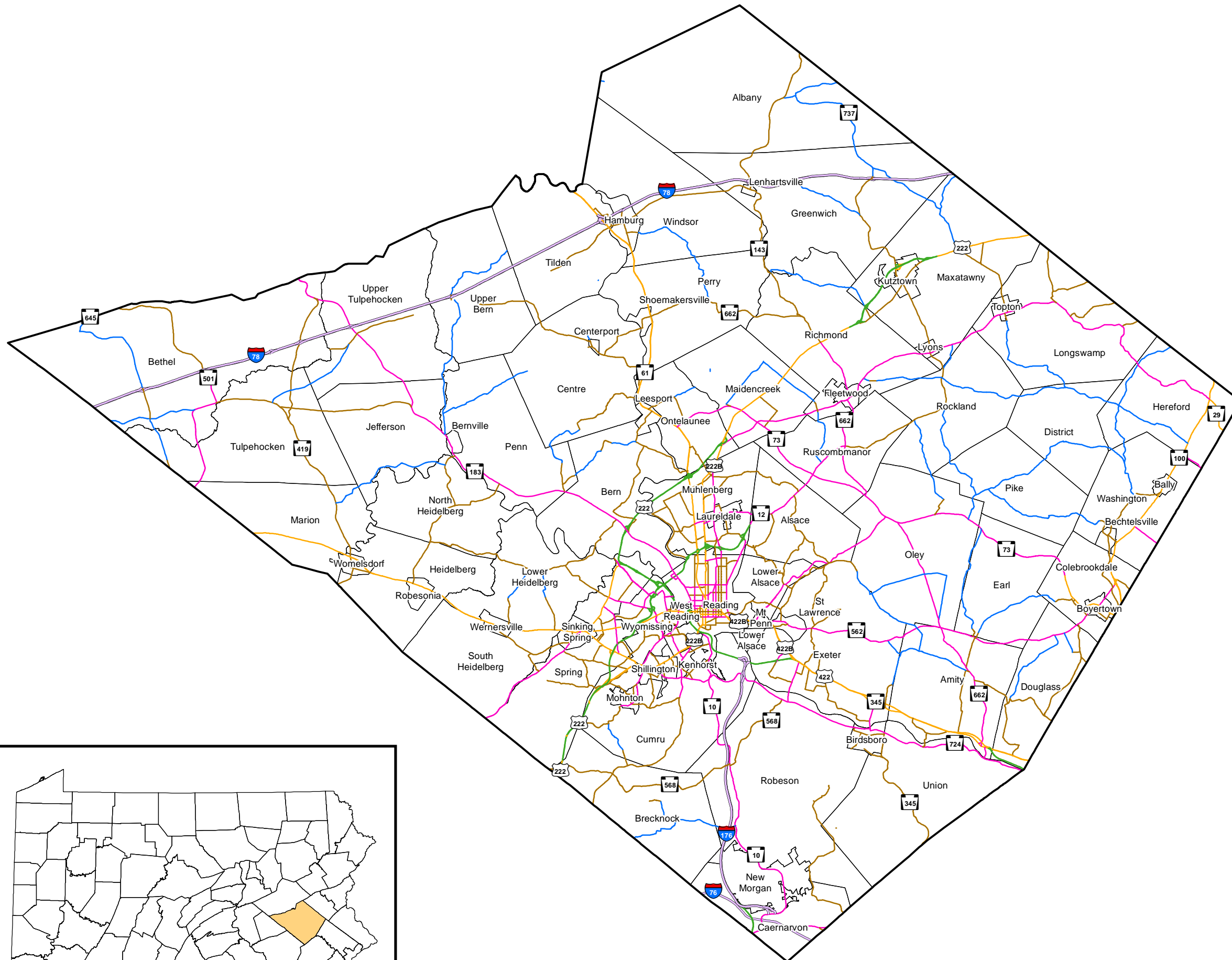
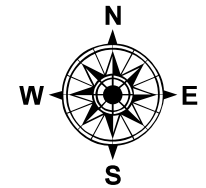
Policies:

- (1) Maintain the county's attainment status for both ozone and fine particulates (PM 2.5).
- (2) Work with all local, regional, state, and federal organizations and agencies to avoid, minimize, or mitigate impacts from TIP and LRTP projects using the LPN system.
- (3) Assist in identification of potential environmental mitigation issues by acquiring, creating, and updating, as needed, geographic information system data layers for use by the implementing agencies and disseminating them in a readily accessible format to municipalities.
- (4) Work with PennDOT to implement best management practices and mitigation strategies on transportation projects.
- (5) Continue coordination with appropriate agencies to protect the critical transportation infrastructure against disaster by identifying vulnerable assets and prevention strategies through an updated, current hazard mitigation plan.

Data Source: US EPA, PA DCNR, BCPC GIS

Berks County Comprehensive Plan Update
Adopted: January 23, 2020

Major Roads by Functional Class Berks County, Pennsylvania



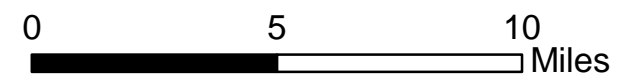
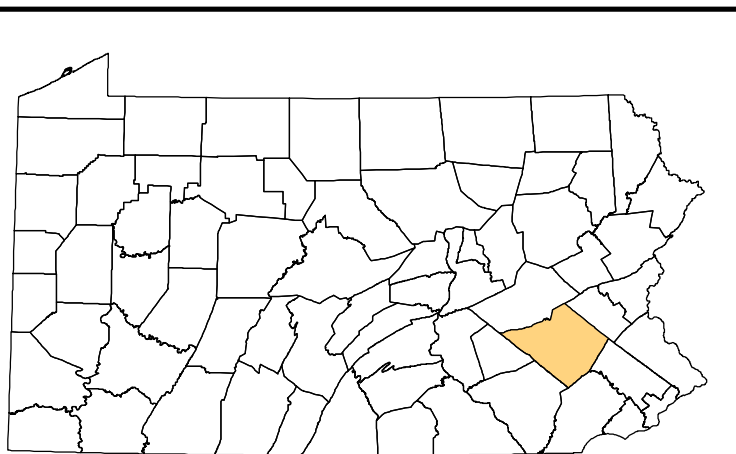
Legend

- Interstate
- Principal Arterial- Freeways and Expressways
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Berks County Boundary
- Municipal Boundaries

Source: Berks County Planning Commission, Berks County GIS, Berks County Mapping, Berks County Department of Emergency Services, PennDOT

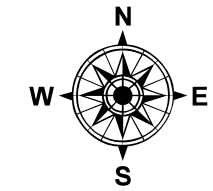
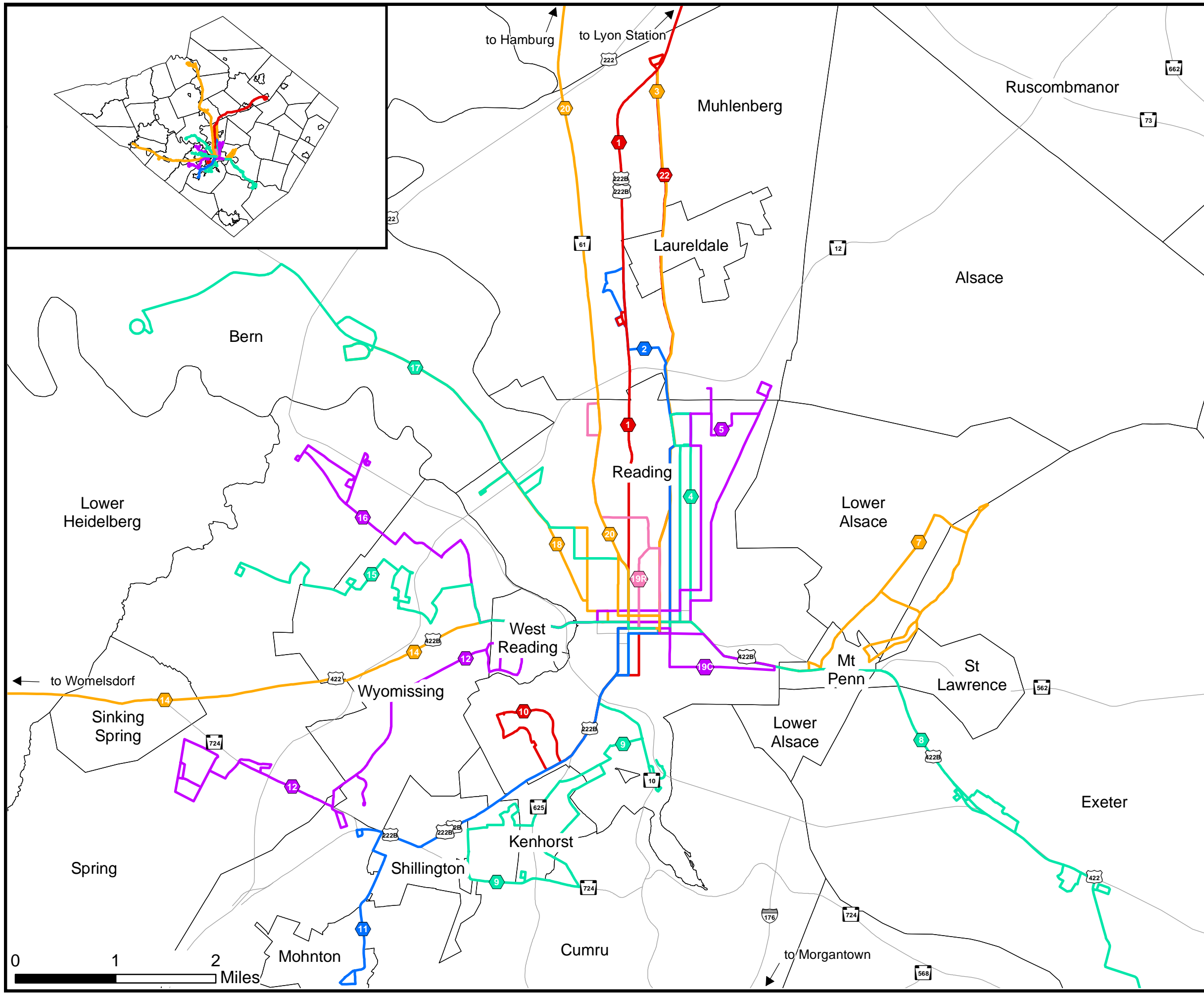
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Adopted: January 23, 2020

BARTA Route Service Berks County, Pennsylvania



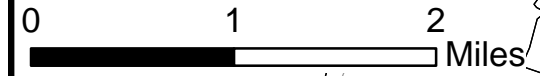
Legend

-  BARTA Route Number
-  Municipal Boundaries
-  Major Roads

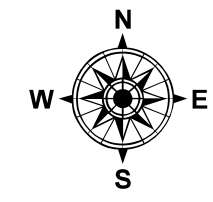
Source: Berks County Planning Commission, Berks County GIS, Berks County Mapping, Berks County Department of Emergency Services, BARTA

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BAB 1/20

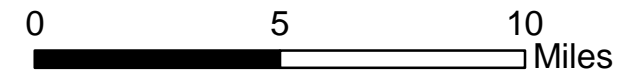
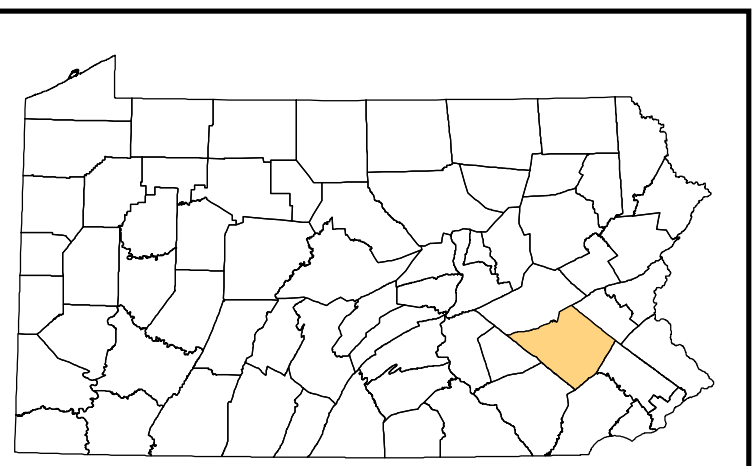
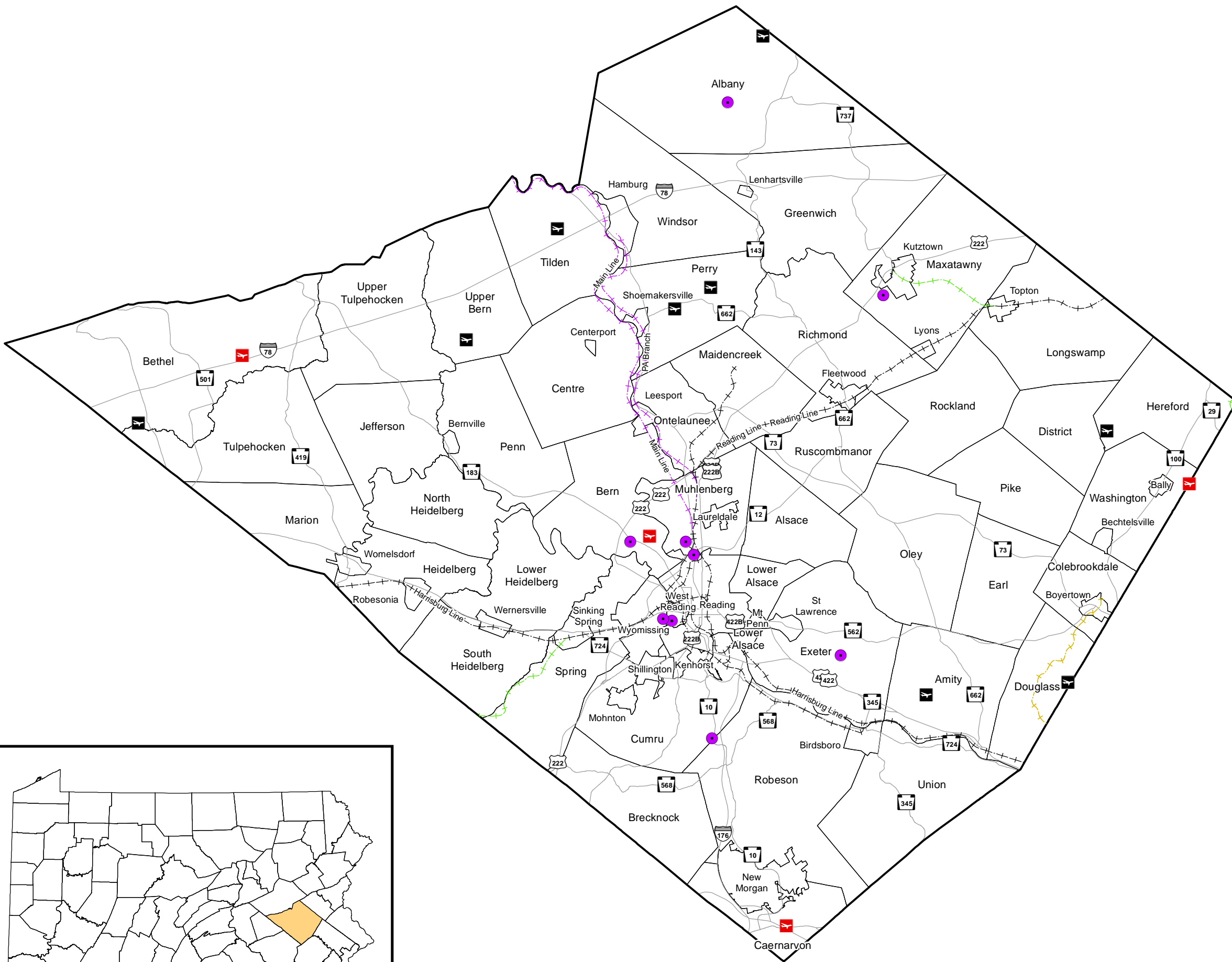


Railroads and FAA Licensed Aviation Facilities Berks County, Pennsylvania



Legend

-  Public Airports
-  Private Airports
-  Private Heliports
-  Short Line Railroad (Eastern Berks Gateway Railroad)
-  Class I Railroad (Norfolk Southern)
-  Regional Railroad (Reading Blue Mountain and Northern)
-  Short Line Railroad (East Penn Railroad)
-  Berks County Boundary
-  Municipal Boundaries
-  Major Roads



Source: Berks County Planning Commission, Berks County GIS, Berks County Mapping, Berks County Department of Emergency Services

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