

Transportation System Profile

Transportation planning in Lebanon County has historically been conducted as one of the functional elements of the county comprehensive plan and this relationship to the comprehensive plan continues. However, as a result of the county's continued growth and new status as an urbanized area, additional transportation planning objectives require a more formalized planning process specifically focused on transportation. These new requirements are administered by the Federal Highway Administration (FHWA), Federal Transit Administration (FTA) and the Pennsylvania Department of Transportation (PennDOT).

The development of a Long Range Transportation Plan is an important opportunity to establish the direction of transportation system services for the benefit of all county residents and users of the network.

The Lebanon County Long Range Transportation Plan is a long range plan developed to provide and maintain an efficient transportation system amid the challenges of ongoing community development and growth over a 25-year time frame. The plan is a compilation of short term projects and mid to long range strategies to advance steady progress toward long range system goals.

The Long Range Transportation Planning process comprises three main steps:

- **A transportation system profile** – an inventory of transportation facilities and an assessment of its capacity to serve its users; this includes historic and forecasted user demand of the transportation facilities and a discussion of the need and opportunities for transportation planning to sustain Lebanon County's quality of life.
- **Goals and policy statements** – a description of the transportation system that Lebanon County strives to provide and policy statements to aid in local decision-making.
- **A transportation plan** – a prioritized list of projects to be funded and programmed through local, state, and federal agencies.

The Lebanon County Metropolitan Planning Organization (LEBCO MPO) was established in 2003 as the local agency responsible for transportation planning and programming and includes representatives from county and local government (elected officials, planning department, emergency management), the local transit authority, aviation, rail or trail organizations, business and industry (including agriculture and tourism), as well as state and federal transportation agencies. The MPO is comprised of an MPO Policy Board and an MPO Technical Planning Committee, which meet bimonthly at advertised meetings. Both groups utilize Lebanon County Planning Department staff for administrative activities.

The MPO territory includes the City of Lebanon and all but three municipalities of Lebanon County. Regional transportation planning for all of Palmyra Borough and portions of North Londonderry Township and South Londonderry Township is conducted by the Harrisburg Area Transportation Study, the MPO for the Harrisburg area. It is the intention of the LEBCO MPO to eventually conduct federally-funded long range transportation planning activities for these communities and bring them into the LEBCO MPO.

OBJECTIVES

This document, the transportation profile, has been developed to achieve three primary objectives:

1. Establish an inventory of the countywide transportation system.
2. Identify trends that impact, or will impact, the system.
3. Identify emerging issues and opportunities for further study in the Long Range Transportation Plan.

Transportation System Profile

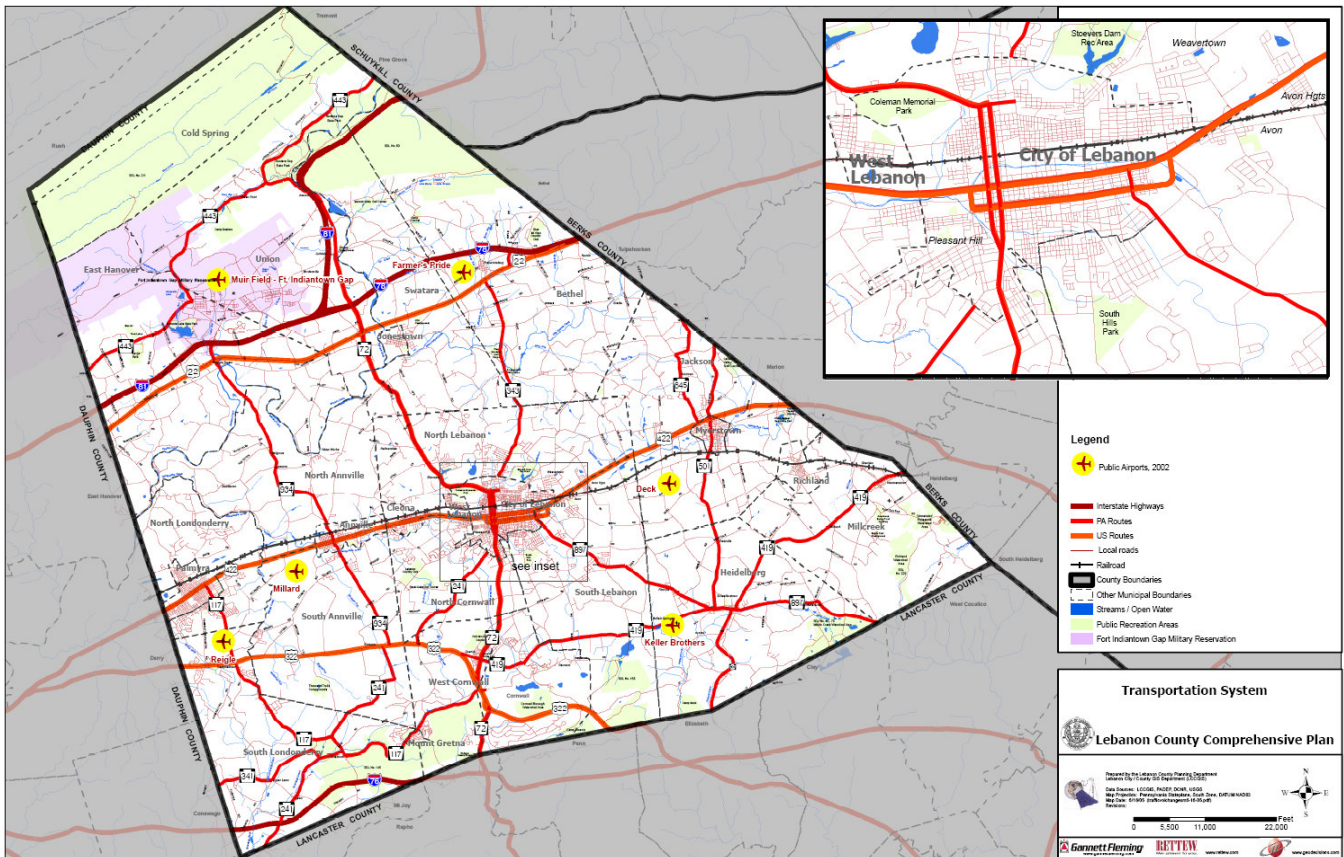
Overview

The profile is organized in the three sections:

1. **System Characteristics and Operations** describe the countywide transportation facilities, how they are being used, and how they are performing.
2. **Trends and Forecasts** describe observable trends in the use of the countywide facilities, and projected future use, from demands both internal and external to the County.
3. **Issues** identify any current or projected system deficiencies and contain some preliminary recommendations to be advanced to the long range transportation plan for further consideration.

Lebanon County's transportation system is highlighted in Figure 8-1. The system map shows the interstates, roadways, airports and freight rail line that comprise the transportation system.

FIGURE 8-1 LEBANON COUNTY TRANSPORTATION FACILITIES



SYSTEM CHARACTERISTICS AND OPERATIONS

The Lebanon County transportation system consists of roads, bridges, public transit, rail freight line, airports and bicycle and pedestrian facilities.

Roadways, Highways and Local Roads

The Pennsylvania Department of Transportation (PennDOT) has traditionally classified highways according to their function and the character of traffic that they serve. This functional classification system serves as a guide for both planning and funding purposes and is summarized below.

Interstates are limited access highways designed for traffic between major regional areas or larger urban communities of 50,000 or more. Three interstates serve Lebanon County: I-81, I-78 and I-76 (PA Turnpike).

Principal Arterials are roads that provide land access while retaining a high degree of through traffic mobility as well as serving major centers of urban activity and traffic generation. PA 72, US 322, US 422 are all principal arterials.

Minor Arterials are roads that provide land access with a lower level of through traffic mobility than principal arterials and serve larger schools, industries, institutions, and small commercial areas not incidentally served by principal arterials. US 22 and PA 501 are minor arterials.

Major and Minor Collectors are roads that collect traffic between local roads and arterial streets and that provide access to abutting properties. Examples of roadways in Lebanon County that meet these criteria include PA 241, PA 343 and PA 934.

Local roads and bridges are those that serve the immediate local area, providing access to farms, residences, businesses and neighborhoods. Some roads classified “Local” by PennDOT are actually owned by the Commonwealth but are functionally classified Local due to the nature of the traffic they serve.

Table 8-1 Transportation System Overview

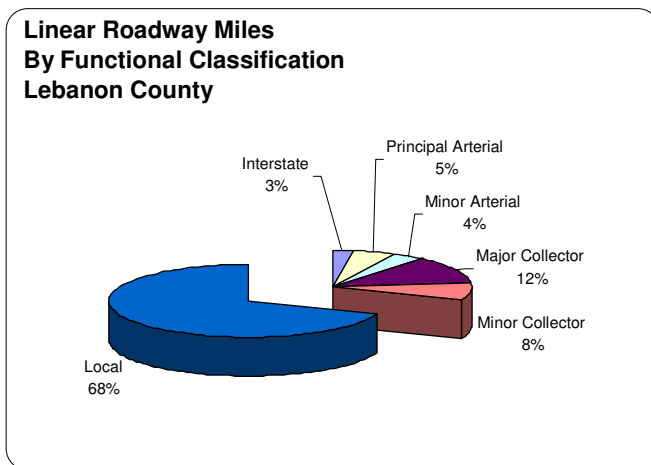
Mode	Highlights
Highways	<ul style="list-style-type: none"> • 3 US Interstates (I-81, I-78, I-76 PA Turnpike) • 3 US Highways (US 22, US 322, US 422) • 422 miles of state-owned roads • 743 miles of locally-owned roads
Bridges	<ul style="list-style-type: none"> • 225 state-owned bridges greater than eight feet in length • 81 municipal bridges greater than 20 feet in length
Transit	<ul style="list-style-type: none"> • County of Lebanon Transit (COLT) operates local fixed route and demand-responsive service • Capitol Trailways operates fixed route intercity service
Freight Rail	<ul style="list-style-type: none"> • Norfolk Southern’s Harrisburg Line parallel to US 422
Aviation	<ul style="list-style-type: none"> • 5 privately-owned public use airports (Deck, Farmer’s Pride, Keller Brothers, Millard and Reigle) • Muir Field at Fort Indiantown Gap
Non-Motorized	<ul style="list-style-type: none"> • Bicycle-Pedestrian Rail Trail from Lebanon-Lancaster border to Cornwall to South Lebanon • Sidewalk systems within existing downtown and residential neighborhoods

Source: Lebanon County Planning Department & PennDOT

Roadway Miles and Use by Classification

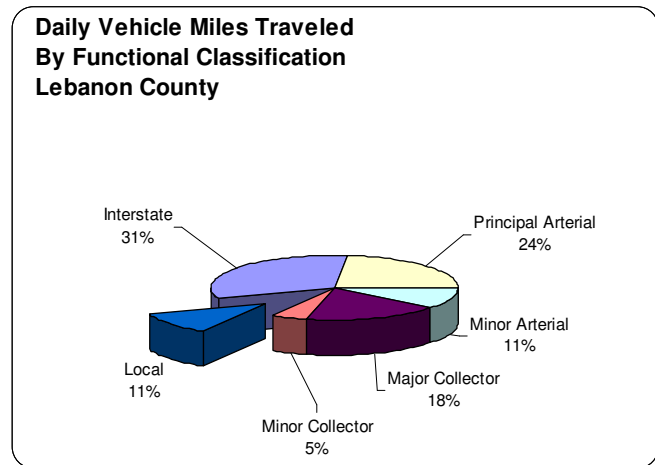
- The vast majority of the roadway miles in Lebanon County are local roads (802 miles or 68%); they carry 11% of the county's daily traffic.¹
- Minor collectors total 8% of the roadway miles and carry 5% of total traffic.
- Major collectors comprise the second highest percentage of county roadway miles (12%), but their share of overall county use stands at 18%.
- Minor arterials total 4% of county roadway miles and carry 11% of total traffic.
- Principal arterials total only 5% of total roadway miles but carry 24% of daily vehicles.
- Interstates (I-81, I-78, and I-76) comprise only 3% of the roadway miles within the county; they carry the largest percentage of the traffic in the county (31%).
- Generally, roadway mileage and use by classification are inversely proportional; many miles of local roads carry a small portion of total traffic, while few miles of interstates and arterials carry the majority of vehicles.

Figure 8-2 Linear Roadway Miles by Functional Classification



Source: PennDOT, 2003

Figure 8-3 Daily Vehicle Miles Traveled by Functional Classification






Source: PennDOT, 2003

¹ PennDOT, Bureau of Planning and Research, 2003

Significant Highways and Roadways

Table 8-2 below contains an inventory of the significant interstates, US highways and eleven two- and three-digit PA state routes that serve the county. Functional classification and notable operating and usage characteristics are identified. All data has been provided by the PennDOT Bureau of Planning and Research except where noted.

Table 8-2 HIGHWAY AND ROADWAY INVENTORY AND OPERATIONAL HIGHLIGHTS

Highway or Roadway	Limits/Location	Functional Classification(s)	Key Features
	Schuylkill County line to Dauphin County Line via Bethel Township, Swatara Township, Union Township, East Hanover Township	Interstate Highway	<ul style="list-style-type: none"> • 4 lanes; 24 ft. wide pavement in each direction • I-81 has two operating segments in Lebanon County, defined by the juncture with I-78. The southern segment is more heavily used than the northern segment. • Traffic has increased by over 40% since 1993 along the entire roadway within Lebanon County. • Trucks comprise a 40% vehicle share. • Daily traffic volume exceeded 63,000 vehicles per day in the southern section in 2003 and is projected to grow by 54% by 2020.² • Daily traffic volume exceeded 27,000 vehicles per day (VPD) in the northern section in 2003 and is also projected to grow almost 100% by 2030. • PennDOT recently reconstructed nine miles of I-81 from the junction with I-78 north to the Schuylkill County border.
	Berks County line to merge with I-81 via Bethel Township, Swatara Township, Union Township	Interstate Highway	<ul style="list-style-type: none"> • 4 lanes; 24 ft. wide pavement in each direction • Daily traffic volume on I-78 in Lebanon County exceeds 35,000 vehicles per day. • Traffic has increased over 100 % since 1993. • Trucks comprise a 45% vehicle share.³ • PennDOT is currently performing \$2.85 million for necessary overhead bridge preservation work along the Lebanon County portion of I-78.⁴
	Lancaster County line to Dauphin County line via South Londonderry Township	Interstate Highway	<ul style="list-style-type: none"> • 4 lanes; 24 ft. wide pavement in each direction • Daily traffic on I-76 (PA Turnpike) exceeded 28,000 vehicles per day in 2003. • Traffic volume on the PA Turnpike in Lebanon increased by 57% from 1993 to 2003. • The number of vehicles entering and exiting the PA Turnpike at the Lebanon-Lancaster Interchange (Exit 266) increased by 57.7% from 1994 to 2004.⁵ • Trucks comprise a 24% vehicle share. • The PA Turnpike Commission has authorized \$15.3 million for the rehabilitation and expansion of the Lebanon-Lancaster toll plaza. Construction began in 2006. The number of toll booths will be increased from five to seven. Work should be completed in 2009.




² PennDOT, 2005. I-81 Widening Study.






³ PennDOT, 2003, I-81/PA 72 Transportation and Land Use Study.

⁴ PennDOT, Twelve Year Transportation Program, May 2007.







⁵ Pennsylvania Turnpike Commission, 2005

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Highway or Roadway	Limits/Location	Functional Classification(s)	Key Features
	Berks County line to Dauphin County line via Jackson Township, Myerstown Borough, North Lebanon Township, South Lebanon Township, City of Lebanon, West Lebanon Township, North Cornwall Township, Cleona Borough, Annville Township, North Annville Township, South Annville Township, North Londonderry Township, Palmyra Borough	Principal Arterial	<ul style="list-style-type: none"> • Predominantly 2 lanes with sections of 3-lane and 4-lane; pavement width ranges from 34 ft. to 44 ft. • Daily traffic volume along US 422 has been stable during the last ten years on the portion of the roadway west of the City of Lebanon. • Recent increases in daily traffic are observed east in Jackson Township and Myerstown. • In 1970, US 422 was overwhelmingly the roadway in the County with the heaviest usage. Today, it ranks fourth behind the interstates by a wide margin. • The heaviest use of US 422 occurs in Palmyra, approximately 21,000 vehicles per day; in Myerstown daily use exceeds 14,000 VPD. • US 422 was frequently cited in stakeholder interviews, along with US 322 and PA 72, as the roadways within the County most in need of improvement. • A congested corridor improvement program (CCIP) study was completed in 2006. Environmental and engineering work is underway. A project to improve numerous intersections between Cleona and Palmyra should proceed to a bid letting in 2008.
	Lancaster County line to Dauphin County line via South Lebanon Township, Cornwall Borough, West Cornwall Township, South Annville Township, South Londonderry Township	Principal Arterial	<ul style="list-style-type: none"> • Predominantly 2 lanes with sections of 4-lane; pavement width ranges from 22 ft. to 48 ft. • Traffic is heaviest along US 322 in Campbelltown, which serves over 16,000 vehicles per day. • The eastern portion of the roadway, from Quentin to the Lancaster County line, has experienced the greatest percentage traffic increase recently with traffic volumes tripling since 1993. • The Campbelltown Connector project would divert some traffic away from Campbelltown and add additional through capacity for US Route 322. • The Harrisburg MPO has set aside the needed construction funds for the Campbelltown Connector. The project is proceeding toward a bid letting in early 2008.
	Lancaster County line to Union Township via Cornwall, West Cornwall Township, North Cornwall Township, City of Lebanon, North Lebanon Township, Swatara Township, and Union Township	Principal Arterial	<ul style="list-style-type: none"> • 2 lanes with a paved width of 22 ft. to 24 ft. • PA 72 is the county's major north-south roadway and is the most significant county roadway facility affected by the at-grade freight rail Norfolk Southern right-of-way on 9th and 10th Streets in the City of Lebanon. • The stretch of PA 72 with the heaviest use, outside of the City of Lebanon, is in North Cornwall Township, from the PA Turnpike interchange north to the intersection with US 322. (approx. 16,000 vehicles per day). • The heaviest traffic on PA 72 in the county is observed in the City of Lebanon, which serves over 20,000 vehicles per day. • Traffic has increased over 30% from 1993 to 2003 between Rocherty Road and the City of Lebanon in the vicinity of the Quentin Circle Shopping Center and Cedar Crest Shopping Center. • Bypasses have been proposed for key sections of the road over the years but to date there have been few changes to the right-of-way. • The City of Lebanon and PennDOT are now acquiring ROW for the 9th and 10th Streets Bridges project which will construct twin bridges on PA 72 over the Norfolk Southern's Harrisburg line. Construction on the project is expected to begin in 2009, with the first span open to traffic in 2011 and the second span open in 2012.

Highway or Roadway	Limits/Location	Functional Classification(s)	Key Features
	<p>Berks County line to Dauphin County line via Bethel Township, Swatara Township, Union Township, and East Hanover Township</p>	<p>Minor Arterial</p>	<ul style="list-style-type: none"> • 4 lanes; 24 ft. wide pavement in each direction • US 22 carries approximately 7,000 vehicles per day, an increase of 20% since 1993. • The heaviest use of US 22 in Lebanon County occurs in Bethel Township near Exit 8 of I-78, serving approximately 10,000 vehicles per day. • Because of its proximity to I-78 and I-81, US 22 primarily serves local traffic except when extreme congestion or an accident results in a diversion of interstate traffic. • In its 2007-2018 Twelve Year Transportation Program, PennDOT identified \$6.8 million to restore US 22 from its intersection with PA 934 to the Dauphin County line. Several bridges will be modified along with roadway and safety improvements. Funds are currently being secured to improve the eastern section of US 22 from PA Route 72 to the Lebanon/Berks County line.
	<p>City of Lebanon to Fredericksburg via North Lebanon Township, Bethel Township, and Swatara Township</p>	<p>Minor Arterial and Major Collector</p>	<ul style="list-style-type: none"> • 2 lanes with pavement width ranging from 20 ft. to 24 ft. • PA 343 operates as a parallel facility to PA 72, between the City of Lebanon and I-78 in Fredericksburg. • PA 343 is one of the heaviest used PA highways in the County. • The segment of the roadway with the greatest daily traffic is located between the City of Lebanon and North Lebanon (8,200 vehicles per day); traffic growth is greatest in the Fredericksburg vicinity (33% increase since 1993). • Growth in truck traffic serving the poultry industry has been observed. • PennDOT included \$1,125,000 for the reconstruction of the PA 343 roadway in North Lebanon Township in its 2005-2016 Twelve Year Program. Construction was completed in 2006.
	<p>Lancaster County line to Berks County line via Heidelberg Township, Jackson Township, and Myerstown Borough</p>	<p>Minor Arterial</p>	<ul style="list-style-type: none"> • 2 lanes with a 22 ft. pavement width • As the main street of both Myerstown and Schaefferstown, PA 501 is the primary north-south PA highway in the eastern portion of the County. • Most of the heaviest observed traffic along the corridor is in the centers of Myerstown and Schaefferstown with daily traffic exceeding 7,400 vehicles per day (in 2003 trucks comprised 11% of the daily vehicles). • The Schaefferstown Bypass is proposed to relocate PA 501 west of town to eliminate two 90-degree turns for through traffic, eliminating two turning movements difficult for trucks. • PennDOT and local officials are currently acquiring the needed ROW for the project, which is anticipated to go to construction in the summer of 2009.
	<p>Cornwall Borough to Palmyra via West Cornwall Township, Mt. Gretna Borough, South Londonderry Township, South Annville Township, and North Londonderry Township</p>	<p>Major Collector</p>	<ul style="list-style-type: none"> • 2 lanes with a 22 ft. pavement width • PA 117 runs north-south from Palmyra to the village of Colebrook then east-west to Cornwall, and serves as the main street of Mount Gretna. • Intersecting with US 422 at its north end and US 322 at its south end, the highway experiences its heaviest use (in vehicles per day) between US 422 in Palmyra and US 322 in Campbelltown. • Daily traffic in Palmyra exceeds 6,800 vehicles per day, a 24% increase from 1993.
	<p>Berks County line to West Cornwall via Millcreek Township, Heidelberg Township, South Lebanon Township, Cornwall Borough, and West Cornwall Township</p>	<p>Major Collector</p>	<ul style="list-style-type: none"> • 2 lanes with a 20 ft. pavement width • PA 419 operates in an east-west direction from downtown Newmanstown through Schaefferstown and Cornwall where it intersects with PA 72 and US 322 in Quentin. • It shares a trunk with PA 897 and PA 501 in the center of Schaefferstown. • PA 419 carries its heaviest volume of daily traffic (approximately 11,500 vehicles per day) in the Schaefferstown area. • The right-of-way will be impacted by construction of the Schaefferstown Bypass project.

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Highway or Roadway	Limits/Location	Functional Classification(s)	Key Features
	Schuylkill County line to Dauphin County line via Fort Indiantown Gap, Union Township, East Hanover Township, Bethel Township, and Swatara Township	Minor Collector and Major Collector	<ul style="list-style-type: none"> • 2 lanes with pavement width ranging from 22 ft. to 33 ft. • PA 443 is an east-west roadway in the northern section of the county. • The road operates in two distinct segments within the county; the western portion serves the Gap and the eastern portion shares a trunk with PA 72 and then heads east to the Swatara State Park. • Traffic is heaviest in the western portion of the corridor (Mountain Road, 2,112 vehicles per day).
	Lancaster County line to the City of Lebanon via Heidelberg Township, and South Lebanon Township	Minor Arterial and Major Collector	<ul style="list-style-type: none"> • 2 lanes with a 20 ft. pavement width • PA 897 operates between the City of Lebanon (5th Avenue south of Cumberland Street/US 422) and the Lancaster County border via Iona and Schaefferstown. It shares a trunk with PA 419 and PA 501 through the center of Schaefferstown. • PA 897 is most heavily used in the area immediately to the South of the City of Lebanon. Daily traffic in this area approaches 7,000 vehicles per day. • Funding for the pre-construction phases of the rehabilitation of the bridge over Middle Creek in Heidelberg Township has been secured.
	Lancaster County line to the City of Lebanon via South Londonderry Township, South Annville Township, West Cornwall Township and North Cornwall Township	Minor Collector and Major Collector	<ul style="list-style-type: none"> • 2 lanes with a 24 ft. pavement width • PA 241 operates in three distinct segments in the southwestern portion of Lebanon County. • The most heavily used segment connects the City of Lebanon at PA 72, to US 322 through North Cornwall. • The second segment connects US 322 with the village of Colebrook in South Londonderry. • The third segment operates between Colebrook and the Lancaster County border.
	South Annville Township to Fort Indiantown Gap via Annville Township, North Annville Township, and East Hanover Township	Major Collector and Minor Arterial	<ul style="list-style-type: none"> • 2 lanes with pavement width ranging from 20 ft. to 22 ft. • PA 934 is a north-south roadway that extends from US 322 in South Annville to I-81 in East Hanover. It is the main north-south route through North and South Annville and it crosses US 422 in the center of Annville. • The largest volume of daily traffic occurs just north of the PA 934 intersection with US 422 in Annville, where the number of daily vehicle trips exceeds 9,000.
	Dauphin County line to South Londonderry	Minor Collector	<ul style="list-style-type: none"> • 2 lanes with a 22 ft. pavement width • PA 341 is located in the southwestern corner of the county and operates from its intersection with PA 241 in South Londonderry to the county border with Dauphin County via Upper Lawn. • The roadway sees its heaviest use near the county line with daily traffic exceeding 1,500 vehicles per day.
	Berks County line to Myerstown Borough via Jackson Township	Minor Collector	<ul style="list-style-type: none"> • 2 lanes with a 20 ft. pavement width • PA 645 is located in the eastern portion of the county and operates between US 422/Lincoln Avenue in Myerstown and the county border with Berks County. • PA 645 experiences its heaviest use just north of Myerstown, where daily traffic exceeds 6,000 vehicles per day.

Bridges

Because bridges can aid any mode of travel in crossing waterways, railroad tracks, other travel routes, or other hazards, they are classified independently from other transportation facilities. Bridges are owned either by the Commonwealth or locally, either by the county at large or by municipalities.

- There are 225 state-owned, 13 county-owned and 68 municipally-owned bridges in Lebanon County.⁶
- Federal law requires that all bridges on public roads be inspected at least once every two years in accordance with the National Bridge Inspection Standards (NBIS). Lebanon County inspects each county- and municipally-owned bridge twice per year.
- PennDOT uses the Bridge Management System (BMS) to track bridge conditions and prioritize bridge projects in the Twelve Year Program. The BMS typically assigns higher priorities to bridges on the interstate and arterial roads than to those on collector or local roads.
- Approximately 69% of the state-owned bridges and 68% of the municipally-owned bridges are fully operational and compliant and should not need any capital improvements for at least the next ten years.
- 17.8% of state-owned bridges are functionally obsolete.
- There are 18 weight- or height- restricted bridges in the county; 14 are locally-owned and 4 are owned by the state. The county has one bridge that is closed to traffic.
- Bridges in need of repair are programmed on the Lebanon County MPO Transportation Improvement Program (TIP). The FFY 2007 TIP is included in the Reference Tables at the end of the profile.

PennDOT employs three primary bridge management classifications for the purpose of tracking bridge conditions to help identify the facilities most in need of improvement.

Compliant – Inspected bridges that are not expected to need significant capital modifications for at least 10 years. These facilities are regularly inspected to ensure continued compliance.

Functionally Obsolete – Bridges that cannot adequately handle current traffic due to too few or narrow lanes, poor alignment with the roadway, insufficient vertical clearance or inadequate load carrying

Structurally Deficient – Bridges with some level of deterioration or structural weaknesses or inadequate waterway clearance or capacity.

Table 8-3 Bridge Conditions in Lebanon County

	State owned > 8 feet	Percentage of state owned	County or Municipally Owned > 20 feet	Percentage of County or Municipally owned
Number of bridges	225		81	
Compliant	155	68.9%	55	67.9%
Functionally Obsolete	40	17.8%	9	11.1%
Structurally Deficient	30	13.3%	12	14.8%
Posted/Weight Restricted	4	1.8%	14	17.3%
Closed	0	0.0%	1	1.2%

Source: PennDOT District 8-0, 2007

⁶ PennDOT, District 8-0, 2007

Public Transportation

Lebanon County is served by two transit providers: the County of Lebanon Transit Authority (COLT) bus system and Capitol Trailways. COLT (www.coltbus.org) provides local services and offers connections to other comparable service providers in the region. Capitol Trailways (www.capitoltrailways.com) is a provider of intercity services to destinations such as Reading, Washington, DC and New York City.

- COLT operates sixteen fixed route bus routes that serve nineteen of the twenty-six Lebanon County municipalities. COLT's fleet comprises 10 vehicles for its fixed-route service and 16 vehicles for its demand response services. COLT's primary transfer facility is located at 7th and Willow Streets in downtown Lebanon. Opened in 2002, it provides a waiting area for passengers. COLT plans to open a manned ticket window in late 2005.

- COLT is managed by a 10-member Board of Directors and served by 44 full-time and 4 part-time staff.

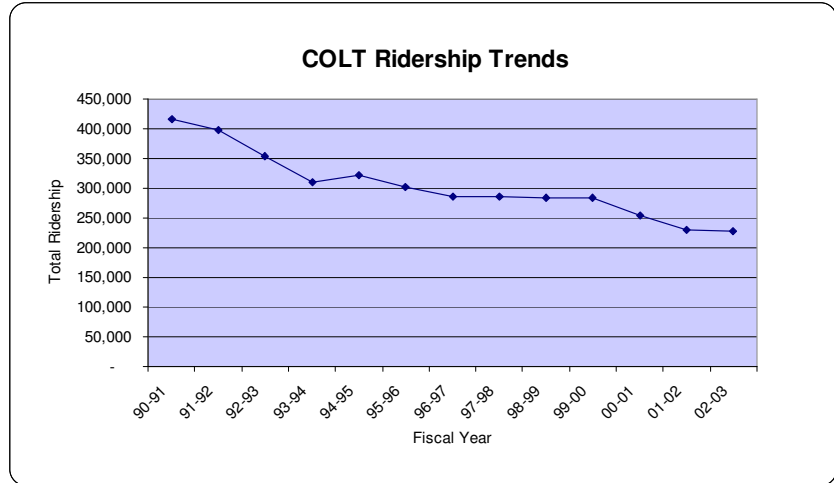
- Overall ridership on the COLT route system has decreased over the past decade. From 1990 to 2003, COLT experienced a 45% decrease in total passenger travel, a loss of over 187,000 passengers.⁷

- COLT also provides demand responsive service. Approximately 72,000 shared ride trips were provided by COLT in 2004.⁸ This represents a 17 % increase since 1996. Gains are attributed to rider shifts from the fixed route system to the shared ride system as a result of effective outreach to the county's seniors by COLT staff.

- Capitol Trailways is a private bus company that operates fixed route service between Harrisburg and Reading along the Route 422 corridor. Connections to COLT are available along US 422 though there are no signed transfer locations. From 1990-2003, Capitol Trailways experienced a 61% decrease in passenger travel.

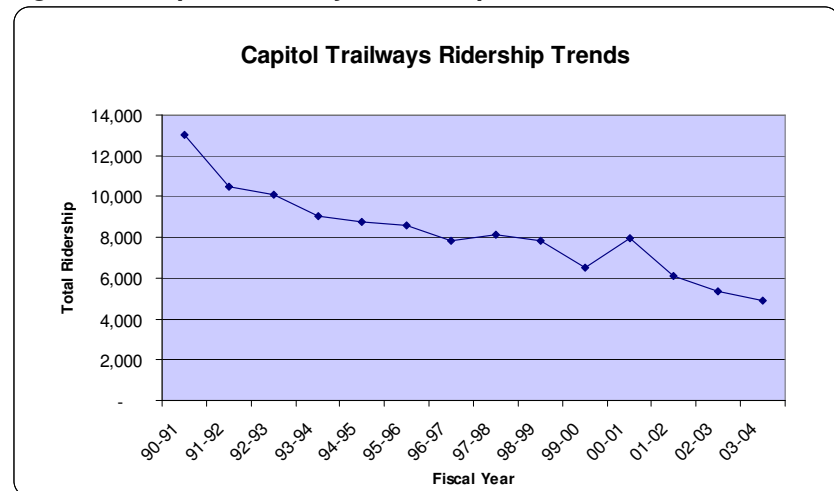
- As a whole, fixed-route transit in Lebanon County has decreased 36.9 % between 1993 and 2003.
- A COLT Business Plan is currently being developed. When completed in June of 2008, data and key recommendations from that study will be included in this profile and in the long range transportation plan.

Figure 8-4 COLT Ridership



Source: COLT

Figure 8-5 Capitol Trailways Ridership



Source: Capitol Trailways

⁷ PennDOT Bureau of Public Transportation, 1990-2004

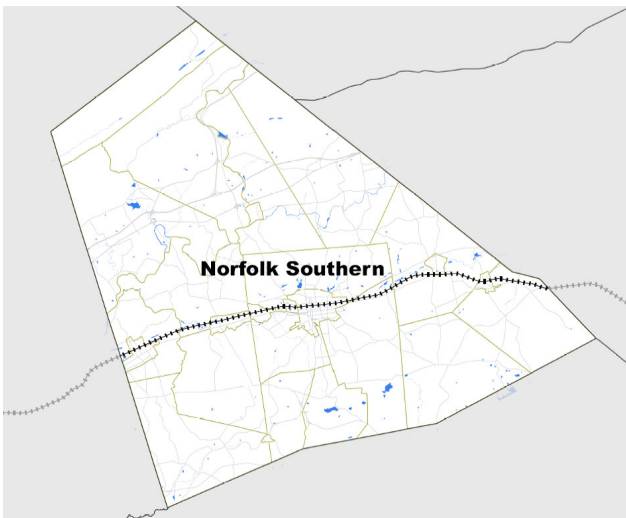
⁸ County of Lebanon Transit, 2005

- The CORRIDORtwo regional rail concept would bring commuter rail transit between the City of Lebanon and Harrisburg along Norfolk Southern's Harrisburg Line. There is no approved timetable for the project.
- The Susquehanna Regional Transportation Partnership is a joint effort of the metropolitan and rural transportation organizations, transit agencies, and regional chambers of commerce in its six-county region to increase the awareness of transit and ridesharing in South Central Pennsylvania. Lebanon County is a member of this non-profit corporation devoted to developing and promoting transportation options beyond the single occupancy vehicle.

Freight Rail

The Norfolk Southern Harrisburg line runs east-west between Harrisburg and Reading parallel to US 422 through the center of Lebanon County. The railroad operates daily freight service and passes through the City of Lebanon at grade approximately every 13 minutes during the peak period.

Figure 8-6 Norfolk Southern Harrisburg Line



- In 2003, 71.6 million gross tons traveled along the rail line through Lebanon County.⁹
 - Traffic is increasing along the line as a result of its ability to handle large and heavy loads. Norfolk Southern operates "double-stacked" service along the Harrisburg Line, meaning that two intermodal containers are stacked to roughly double the cargo-carrying capacity.
 - All of the bridges along the line have a vertical clearance of at least 20 feet, 6 inches to accommodate double-stacked freight cars.
 - Rail access is a significant benefit for business and industrial development.
 - The Harrisburg MPO recently completed the South Central Goods Movement Study which is providing very useful information about how goods are transported throughout their eight-county region. Data from that study will be included in the next update of the profile/plan.
- The Federal Railroad Administration finalized rulemaking that permits communities, in conjunction with railroads and state agencies, to enact measures to establish quiet zones at railroad grade crossings to minimize the impact of train horns.
 - The presence of an active, at-grade railroad line creates a safety hazard and a general inconvenience for the County at large and specifically for the City of Lebanon. Rail traffic on the right-of-way creates vehicular traffic back-ups and delays emergency service vehicles.
 - The Bridges over Norfolk Southern Project, initiated in 1999, is an ongoing project led by the City of Lebanon and PennDOT that has selected the construction of two bridges over the Norfolk Southern right-of-way as the preferred alternative.¹⁰ The two bridges, on 9th Street and 10th Street in the City of Lebanon, will overpass the rail line. These bridges will decrease delay caused by train traffic. The first bridge is scheduled to open in 2011 and the second is scheduled for 2012. Construction costs are estimated at \$35.4 million.

Aviation

- Lebanon County is served by five privately-owned public-use airports and one military-use airport at Fort Indiantown Gap. The five private public-use airports principally serve recreational and business travel for small capacity aircraft.

⁹ PennDOT, Pennsylvania State Transportation Advisory Committee, 2004

¹⁰ PennDOT, Center for Program Development and Management, September 11, 2007

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Muir Field at Fort Indiantown Gap serves the Pennsylvania Air National Guard and is dedicated primarily to military helicopter and fixed-wing operations.¹¹

- The Federal Aviation Administration (FAA) compiles the National Plan of Integrated Airport System (NPIAS), a listing of airports considered significant to the national air transportation system. None of the five Lebanon County privately-owned public-use airports appear on the NPIAS. The closest NPIAS airports are located in Lancaster, Reading and Harrisburg.
- Deck Airport in Jackson Township received a grant for \$80,000 in 2005 to expand its runway and remove wires that potentially serve as a hazard to aircraft. In 2007, Deck Airport received \$195,000 to improve its runways/approach areas and to install aircraft guidance equipment. And in 2007, Farmers Pride Airport in Bethel Township received \$86,625 for pavement work near its hangars.
- In 1990, the FAA financed a feasibility study to identify whether there was sufficient demand for a publicly-owned, general use airport in Lebanon County. General use airports are facilities that serve primarily unscheduled recreational and business flights, as opposed to commercial airports that primarily serve scheduled flights.¹² The study concluded that projected demand could potentially justify the development of such a facility.

Figure 8-7 Airport Locations in Lebanon County

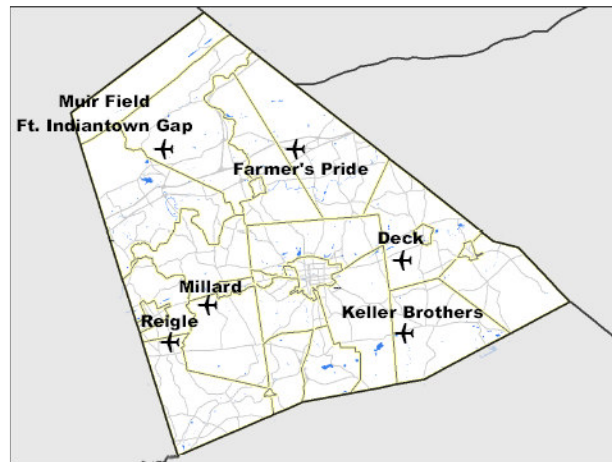


Table 8-4 Airport Facilities in Lebanon County

Airport	Location	2006 Operations	Runway Length (ft.)	Runway Surface
Deck	Jackson Township	12,850	3,800	Asphalt
Farmer's Pride	Fredericksburg/Bethel Township	7,325	3,410	Turf
Keller Brothers	Schaefferstown/Heidelberg Township	4,990	2,700	Turf
Millard	South Annville Township	N/A	2,870	Asphalt
Reigle	South Londonderry Township	30,000	1,950	Asphalt
Muir Field	Ft. Indiantown Gap/Union Township	N/A	3,967	Asphalt

Source: PennDOT BOA, 2006; Lebanon County Airport Feasibility Study, January 2002.

- In 2001, the Lebanon County Airport Feasibility Study and Master Plan was initiated to select a site for the general use airport identified in the 1990 study discussed above. The 2001 study revealed that 79 % of local airport users drive less than 30 minutes to the airport, 52 % live in the county and the majority of flights originating at the five general use airports is for personal or pleasure travel.¹³ However, the data also suggested that the existing airports currently served the demand for service and that the development of a new general use airport was not critical to either the county's economy or its aviation community. Muir Field was identified by the study as the best potential location for a general use airport pending a variety of airport modifications.¹⁴

¹¹ PennDOT Bureau of Aviation, 2006

¹² Federal Aviation Administration, 2007

¹³ Lebanon County Airport Feasibility Study and Master Plan, 2002

¹⁴ Ibid.

- In 1989, PennDOT developed a model Airport Hazard Zoning Ordinance to help municipalities limit development adjacent to airports to prevent obstructions. PennDOT is currently studying the effectiveness of this and other airport hazard ordinances. Only Palmyra, North Londonderry, South Annville, S. Londonderry and Heidelberg Township have adopted airport hazard zoning.
- The three closest major commercial use airports to Lebanon County are Harrisburg International Airport (33 miles), Philadelphia International Airport (92 miles) and Baltimore-Washington Airport (118 miles). There is no direct highway or transit connection between Lebanon County and any of these three facilities.
- The Lancaster Airport in Lititz, PA (20 miles) resumed limited passenger service in September 2004. US Airways operates six flights each weekday between Lancaster and Pittsburgh.



Non-Motorized Facilities

Safe, well-marked transportation facilities contribute to the mobility and quality of life throughout the county. They provide linkages between neighborhoods, schools, parks and shopping centers to those who walk or bike. They provide opportunities for fitness and healthy living. And they integrate people with their communities.

A number of Lebanon County communities easily accommodate walking and cycling trips. Their sidewalks, crosswalks, trails, bicycle and pedestrian facilities, signs and signals and traffic calming techniques make bike/ped travel safer and more appealing. These facilities provide functional and recreational mobility and fitness options for residents of all ages. The communities include:

- City of Lebanon
- Annville
- Cleona
- Mt. Gretna
- Myerstown
- Jonestown
- Schaefferstown
- Richland
- Fredericksburg
- Palmyra

Lebanon County contains many off-road walking, hiking and biking trails to provide recreational opportunities to residents and visitors.

- The Appalachian Trail passes through Lebanon County in the State Game Lands and in Swatara State Park
- The Horseshoe Trail – along the southern edge of Lebanon County
- Quittapahilla Creek Park Nature Trail in Annville
- The Hazel Dyke/Quittapahilla Trail in the City of Lebanon

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- The Stoever's Dam Loop in the City of Lebanon
- The Lebanon Valley Rail-Trail follows the old Cornwall-Lebanon Railroad from Lancaster County line to North Cornwall with spur to Mount Gretna
- Numerous trails in Swatara State Park
- The Memorial Lake Park Trail in Fort Indiantown Gap
- Levitz Park in East Hanover Township
- Lions Lake in Northern Lebanon Township
- South Hills Park in South Lebanon Township
- The Swatara Water Trail in East Hanover Township, Union Township, Bethel Township, Swatara Township, Jonestown Borough, North Annville Township and North Londonderry Township
- The Union Canal Tunnel Park in the City of Lebanon and North Lebanon Township



Several bicycle and pedestrian facility improvements are currently underway:

- The proposed South Lebanon Trail Project would connect the Lebanon Valley Rail-Trail in South Lebanon to the Cedar Crest High School, Lebanon High School and South Lebanon Elementary School. This trail would not only serve recreational purposes but also provide an alternative route to school for students. This project and Phase 4 of the Lebanon Valley Rail-Trail are expected to go to a combined bid letting in the spring of 2008.
- County of Lebanon Transit (COLT) has installed bicycle racks on its fixed routes bus fleet to help accommodate users who wish to use a bicycle to help complete their trip. The installation was completed in 2006.
- Lebanon County Planning Department is presently undertaking a feasibility study to extend the Rail Trail system northward through the county.

Trends and Forecasts

Demographic conditions and trends for Lebanon County are presented in Background Study #1, the Demographic Profile. The following highlights are repeated and interpreted here for their direct implications to the demands on the transportation system.

Population

The population of Lebanon County has steadily grown since 1960. This trend is expected to continue through 2020. A review of US Census data, as well as population projections developed for the Lebanon County Comprehensive Plan and the PennDOT Statewide Long Range Plan (Mobility Plan), identify county growth and declining areas.

- Over the last twenty years, the population growth has primarily occurred in the municipalities that surround the City of Lebanon (North Cornwall, North Lebanon, South Lebanon) and those along the US 322 and US 422 corridors (North Londonderry, South Londonderry, West Cornwall, Jackson, and South Annville).
- Townships such as Jackson, North Cornwall, North Lebanon, South Annville and North Londonderry have seen their populations double, or in the case of North Londonderry quadruple, since 1960. Growth in Jackson Township has been fueled by new development serving retirees and commuters to Berks County. Growth in North Lebanon and North Cornwall Townships has occurred as employees of City-based businesses sought nearby residential neighborhoods in suburban and rural settings. North Londonderry Township has grown as a result of in-migration of new residents seeking proximity to employment and amenities in the Hershey and Harrisburg areas.

- The municipalities of Bethel, Cornwall, Heidelberg, North Cornwall, North Londonderry, South Annville and Swatara are projected to experience significant population gains by 2020, based on recent and anticipated subdivision and land development activity that will create new homes for new residents.
- The City of Lebanon has seen its population steadily decline from 1960 to 2000. However, the number of City residents is projected to stabilize, and slightly increase, between 2005 and 2020. This projected increase is partially attributable to anticipated developer interest in reuse of existing buildings and redevelopment of property.

Potential transportation impacts resulting from population growth are:

- **Additional traffic on roads not designed to accommodate the projected volumes.** More people mean more travelers moving throughout the county. When certain facilities, namely US 422, begin approaching maximum capacity, drivers seek alternative routes to avoid congestion and delays. The analysis shows that drivers are increasingly using secondary or “back” roads for at least some portion of their trips.
- **Compromised intersection functioning and pavement conditions.** When roads are used more frequently, they degrade quicker and need more regular maintenance and repair. With more vehicles traveling the roadways, there is also more traffic traveling through and turning at intersections. As a result of the slowing, stopping and turning movements of vehicles, there is increased opportunity for crashes. Evaluations of traffic signal functioning and pavement quality is an ongoing task of PennDOT District 8-0, local municipalities and the Lebanon County MPO. These tasks increase in importance when traffic volumes expand.
- **Increased conflicts between automobiles and bicycle and pedestrian users.** Increased vehicular traffic causes greater hazards for non-motorized travelers. Gaps in traffic that enable safe crossing of streets become shorter and less frequent. Bicycle and pedestrian facilities can help separate and protect non-motorized travelers from vehicles.
- **Degradation of transit service efficiency resulting from longer routes.** Mass transit loses service efficiencies when destinations and passengers are spread out.
- **Degradation in air quality resulting from more cars being driven more miles.** Population growth has brought with it increases in energy consumption and automobile use, both of which negatively impact air quality.

Table 8-5 identifies Lebanon County’s population trends and projections to 2020.

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Table 8-5 Countywide and Municipal Population Counts and Projections, 1960-2020

Location	1960	1970	1980	1990	2000	Percent Change 1960-2000	Percent Change 1990-2000	2010	Percent Change 2000-2010	2020	Percent Change 2000-2020
Lebanon County	90,853	99,665	108,582	113,811	120,327	32.4%	5.8%	130,682	8.61%	140,075	7.19%
Annville	4,264	4,704	4,493	4,294	4,518	6.0%	5.2%	4,638	2.66%	4,723	1.83%
Bethel	2,433	2,804	4,042	4,343	4,526	86.0%	4.2%	4,971	9.83%	5,399	8.61%
Cleona	1,988	2,040	2,003	2,322	2,148	8.0%	-7.5%	2,093	-2.56%	2,098	0.24%
Cold Spring	71	117	89	80	49	-63.0%	-31.0%	47	-4.08%	49	4.26%
Cornwall	1,934	2,111	2,653	3,231	3,486	80.2%	7.9%	4,122	18.24%	4,619	12.06%
East Hanover	2,140	2,127	2,952	3,058	2,858	33.6%	-6.5%	2,946	3.08%	3,057	3.77%
Heidelberg	2,597	2,833	3,583	3,797	3,832	47.6%	0.9%	3,911	2.06%	4,066	3.96%
Jackson	2,778	3,388	5,028	5,732	6,338	128.1%	10.6%	7,888	24.46%	8,974	13.77%
Jonestown	813	954	814	931	1,028	26.4%	10.4%	1,363	32.59%	1,405	3.08%
Lebanon	30,045	28,572	25,711	24,800	24,461	-18.6%	-1.4%	24,333	-0.52%	24,308	-0.10%
Millcreek	2,406	2,544	2,564	2,687	2,921	21.4%	8.7%	3,553	21.64%	4,074	14.66%
Mount Gretna	93	153	280	303	242	160.2%	-20.1%	234	-3.31%	234	0.00%
Myerstown	3,268	3,645	3,131	3,236	3,171	-3.0%	-2.0%	3,116	-1.73%	3,120	0.13%
North Annville	1,813	2,180	2,421	2,441	2,279	25.7%	-6.6%	2,311	1.40%	2,358	2.03%
North Cornwall	2,624	3,343	4,401	4,886	6,403	144.0%	31.0%	7,328	14.45%	8,023	9.48%
North Lebanon	4,713	6,146	8,343	9,741	10,629	125.5%	9.1%	11,537	8.54%	12,098	4.86%
North Londonderry	1,684	2,752	4,749	5,630	6,771	302.1%	20.3%	8,063	19.08%	9,588	18.91%
Palmyra	6,999	7,615	7,228	6,910	7,096	1.4%	2.7%	7,141	0.63%	7,186	0.63%
Richland	1,276	1,444	1,470	1,457	1,508	18.2%	3.5%	1,534	1.72%	1,579	2.93%
South Annville	1,214	1,403	2,792	3,008	2,946	142.7%	-2.1%	3,021	2.55%	3,646	20.69%
South Lebanon	6,584	7,706	7,431	7,491	8,383	27.3%	11.9%	9,355	11.59%	10,230	9.35%
South Londonderry	2,911	3,754	3,777	4,502	5,458	87.5%	21.2%	6,968	27.67%	8,089	16.09%
Swatara	2,164	2,407	3,443	3,318	3,941	82.1%	18.8%	4,556	15.61%	5,110	12.16%
Union	1,967	2,661	2,700	2,745	2,590	31.7%	-6.0%	2,845	9.85%	3,132	10.09%
West Cornwall	1,020	1,276	1,597	1,996	1,909	87.2%	-4.4%	1,939	1.57%	1,961	1.13%
West Lebanon	1,054	986	887	872	836	-20.7%	-4.1%	869	3.95%	949	9.21%

Source: US Census Bureau, Census 2000 Redistricting Data; Lebanon County Planning Department, 2007

Trends in Minority and Low Income Population

Individuals from minority or ethnic groups or low-income households often have greater difficulty getting to jobs, schools, recreation, and shopping than the population at large. Federal regulations require metropolitan planning organizations to “seek out and consider the needs of those traditionally underserved by existing transportation systems, including but not limited to low-income and minority households.”¹⁵ Awareness of the transportation needs of these groups can help the transportation planning process better serve members of these populations. Additional information about the County’s demographic trends is available in Background Study #1, the Demographic Profile.

- According to the Census Bureau, minorities represented 5.5% of Lebanon County’s population in 2000. This is more than double the percentage reported in 1990, when only 2.5% of population belonged to an ethnic or minority group.
- More than half of Lebanon County’s minority population (53.2%) lived in the City of Lebanon, according to 2000 Census Bureau data. This is slightly more than in 1990, when almost 51% lived in the City.
- Table 8-6 shows that the highest concentrations of minorities outside of the City of Lebanon are located in North Cornwall, North Lebanon and South Lebanon Townships.

Table 8-6 Minority Percentage of Total Population for Lebanon County and Select Municipalities, 1990-2000

Lebanon County		City of Lebanon		North Cornwall Twp		North Lebanon Twp		South Lebanon Twp	
1990	2000	1990	2000	1990	2000	1990	2000	1990	2000
2.5	5.5	5.8	14.5	4.3	7.9	2.2	5.5	2.6	4.3

Source: US Census Bureau

According to the Housing Alliance of Pennsylvania, households that earn 80% of an area’s median income are considered to be low income. Statewide, the median household income is \$40,000; households earning less than \$32,000 are considered low income.¹⁶

- Only two municipalities in Lebanon County had median household incomes that would classify the municipality as low income in 2000: Cold Spring Township (\$26,563) and the City of Lebanon (\$27,259).
- At a closer level, there are several communities in the county that have approximately one third of households that earned less than \$30,000 in 2000: Jonestown Borough (33%), West Lebanon Township (29%), Heidelberg Township (29%) and Myerstown Borough (31%).
- Additional pockets of low income populations are located in Pleasant Hill, Avon, and Avon Heights.

¹⁵ Federal Highway Administration, 2001

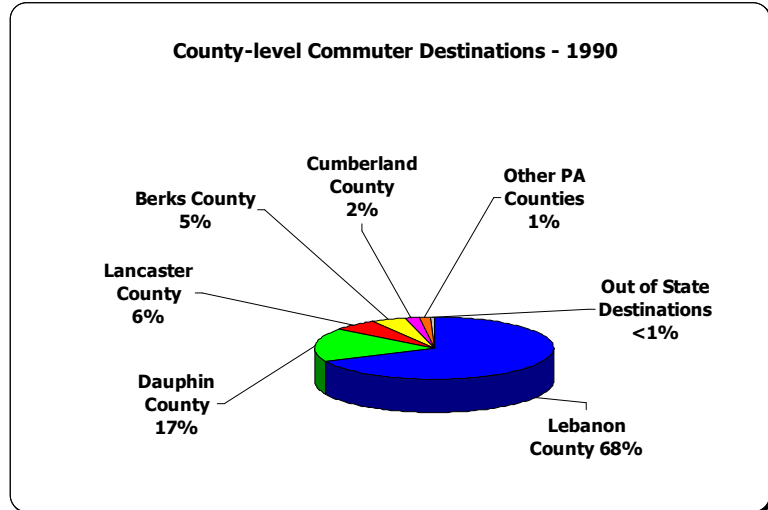
¹⁶ Housing Alliance of Pennsylvania, 2003

Employment and Commutation

Countywide job growth is expected to continue. Coupled with the anticipated population growth, more residents will be traveling to more jobs on the county roadways and via mass transit. Commutation data shows that during the past decade, the percentage of Lebanon workers employed at job locations within the county decreased from 68% to 63%. While virtually all employed Lebanon County residents remained in south central Pennsylvania, the percentage traveling to Dauphin County increased.

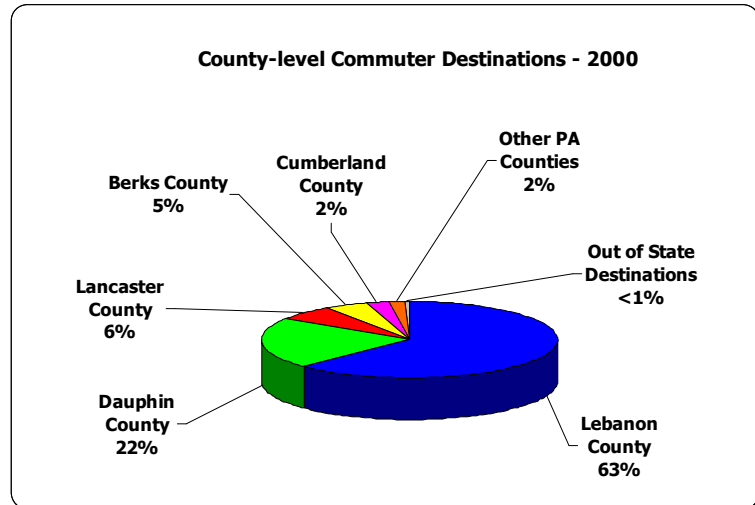
- Employment projections developed for the PennDOT Mobility Plan estimate that Lebanon County will experience a 25% growth in the number of jobs by 2030. Gains are projected to be highest in the City of Lebanon and its immediate vicinity.¹⁷
- An examination of 1990 and 2000 employment and commuter trend data shows that while Lebanon County residents primarily work within the county, the percentage of residents who live and work in the county is decreasing. The number of Lebanon County residents traveling outside the county for employment increased between 1990 and 2000 by 24.2%.¹⁸ The decreasing share of available jobs within the County as opposed to outside the county results in Lebanon County residents traveling to jobs outside the county at a higher percentage today than in 1990.
- The graphics to the right compare the top county-level destinations for Lebanon County's resident workforce in 1990 and 2000. As shown, Lebanon County had a lower percentage of residents working within their borders in 2000 than in 1990, with 63% traveling to destinations within the county in 2000 versus 68% in 1990. The percentage of residents traveling to Dauphin County increased from 17% in 1990 to 22% in 2000. There was no change in the percentage of residents traveling to Berks, Cumberland, and Lancaster Counties.

Figure 8-8 County-Level Commuter Destinations for the Lebanon County Workforce, 1990



Source: US Census Bureau

Figure 8-9 County-Level Commuter Destinations for the Lebanon County Workforce, 2000



Source: US Census Bureau

¹⁷ PennDOT Mobility Plan, 2005

¹⁸ US Census Bureau, 2001

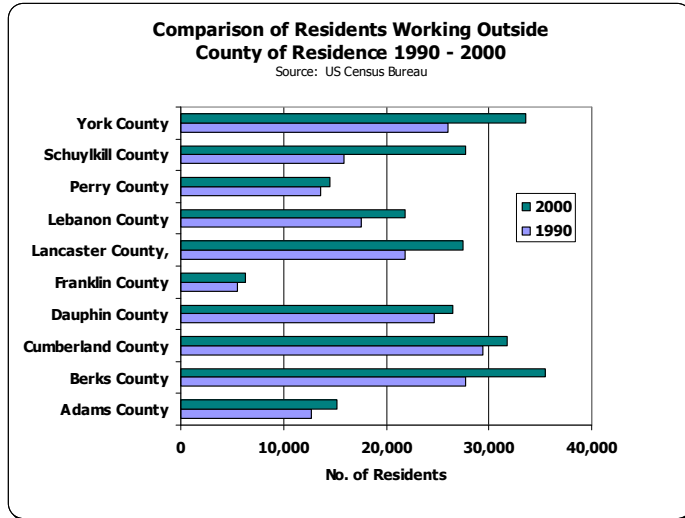
Travel Time to Work

Travel time to work can indicate distance to work and may be an indicator of congestion. The data primarily shows that while a significant percentage of Lebanon County workers travel less than thirty minutes to work, the trend is for longer commutes overall. Employed Lebanon County residents traveled longer and farther to jobs in 2000 than they did in 1990.¹⁹

The following illustrates the trends in travel time for Lebanon County residents from 1990 to 2000.

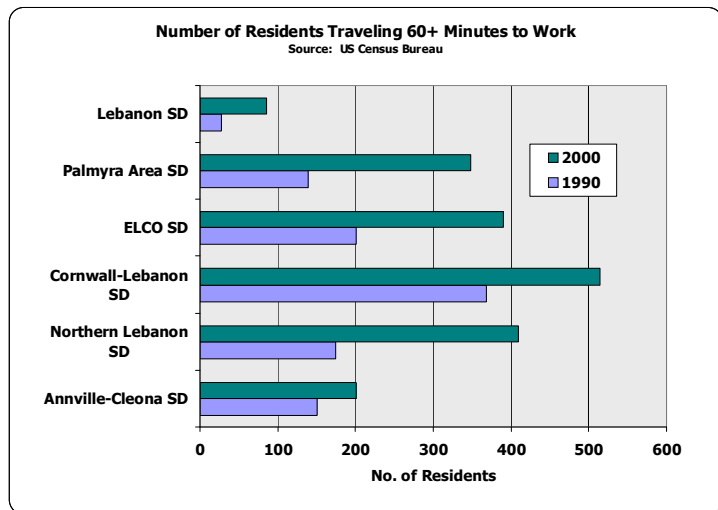
- Over 72% of Lebanon County’s workforce traveled less than thirty minutes to their place of employment in 2000; approximately 5% less than in 1990.
- This is comparable to other counties in the region where between 65% and 76% of the resident workforce traveled less than 30 minutes. These regional figures also represent a decrease relative to 1990 figures.
- The number of residents traveling more than 60 minutes to work has increased in Lebanon County and surrounding counties. This is consistent with the commuter destination data which shows that between 1990 and 2000 more residents were willing to live farther from their places of work.
- The increase in long distance commuting is observed throughout the county. All of the school districts have seen the number of employed residents with commute times in excess of 60 minutes increase from 1990 to 2000.
- Employed residents in all school districts are commuting longer to work in 2000 than they were in 1990.
- The combination of increased commute times and greater work-related travel outside of Lebanon County is a situation that warrants additional evaluation in the long range transportation plan.

Figure 8-10 Residents Traveling 60+ Minutes to Work by County, 1990-2000



Source: US Census Bureau

Figure 8-11 Residents Traveling 60+ Minutes to Work by School District, 1990-2000



Source: US Census Bureau

¹⁹ US Census Bureau, 2001

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Table 8-7 Changes in Travel Time to Work By School District, 1990-2000

School District	Less than 15 minutes					15 to 29 minutes				
	1990		2000		1990-2000	1990		2000		1990-2000
	#	% of total	#	% of total	% change	#	% of total	#	% of total	% change
Lebanon County	21,525	39.7	19,864	33.8	-7.7	20,689	36.8	20,857	35.5	0.8
Annville-Cleona SD	2,144	34.7	2,123	34.3	-1.0	2,512	40.7	2,335	37.7	-7.0
Cornwall-Lebanon SD	5,344	40.5	5,021	33.7	-6.0	4,593	34.8	5,237	35.2	14.0
ELCO SD	3,269	39.3	2,795	32.7	-14.5	2,744	33	2,835	33.1	3.3
Lebanon SD	5,440	45.4	4,822	42.9	-11.4	3,778	31.5	3,556	31.7	-5.9
Northern Lebanon SD	2,192	28.9	1,953	24.5	-10.9	3,196	42.2	3,140	39.4	-1.8
Palmyra Area SD	3,136	34.7	3,150	31.6	0.4	3,866	42.8	3,754	37.7	-2.9
School District	30 to 59 minutes					60 to 89 minutes				
	1990		2000		1990-2000	1990		2000		1990-2000
	#	% of total	#	% of total	% change	#	% of total	#	% of total	% change
Lebanon County	10,558	19.5	13,465	22.9	27.5	1,209	2.2	1,446	2.5	19.6
Annville-Cleona SD	1,146	18.6	1,243	20.1	8.5	101	1.6	133	2.1	31.7
Cornwall-Lebanon SD	2,518	19.1	3,607	24.2	43.2	315	2.4	294	2.0	-6.7
ELCO SD	1,493	18	1,839	21.5	23.2	187	2.3	267	3.1	42.8
Lebanon SD	2,149	17.9	2,228	19.8	3.7	336	2.8	299	2.7	-11.0
Northern Lebanon SD	1,609	21.2	2,112	26.5	31.3	156	2.1	242	3.0	55.1
Palmyra Area SD	1,643	18.2	2,436	24.4	48.3	114	1.3	211	2.1	85.1
School District	90 or more minutes									
	1990		2000		1990-2000					
	#	% of total	#	% of total	% change					
Lebanon County	207	0.4	813	1.4	292.8					
Annville-Cleona SD	49	0.8	68	1.1	38.8					
Cornwall-Lebanon SD	53	0.4	220	1.5	315.1					
ELCO SD	14	0.2	123	1.4	778.6					
Lebanon SD	48	0.4	97	0.9	102.1					
Northern Lebanon SD	18	0.2	168	2.1	833.3					
Palmyra Area SD	25	0.3	137	1.4	448					

Note: 1990 Total = 54,188
2000 Total = 58,810

Source: U.S. Census Bureau, 2001

SYSTEM LOCATIONS FOR FURTHER EVALUATION

Many county roadway segments have experienced significant traffic volume increases over the past decade. Locations where traffic has increased and where accidents occur with regularity are candidates for further evaluation in the Long Range Transportation Plan and elsewhere. Table 8-8 summarizes these locations that warrant additional evaluation. The purpose of Table 8-8 is not to assert a correlation between traffic increases and high occurrence crash locations but rather to identify segments where one or both have been identified for further evaluation. This list is preliminary and is likely to change over time as conditions warrant. HOCL stands for High Occurrence Crash Location. Figure 8-12 shows segments where the average daily traffic has increased by 25% or more from 1993 to 2003, and, where feasible, notes potential correlations between traffic increase and high accident locations. Figure 8-13 shows high occurrence crash locations identified by PennDOT.

Table 8-8 Roadway Segments, Intersections and Bridge Locations of Note

Roadway	Municipality or Community	Location/Intersection	HOCL	Increased Traffic	Bridge Condition	Supporting Information/Data
US 22	Bethel Twp	Between PA 343 and Hamlin Rd.	X	X		43% traffic increase since 1993
US 422	Jackson Twp	Between Martin Rd. & Millardsville Rd.	X	X		HOCL, 115% traffic increase since 1993
US 422	North Lebanon Twp.	15 th Ave.	X			HOCL
US 422	Annville Twp/Cleona Borough	Between Mt. Pleasant Rd. & Chestnut St.	X	X		HOCL, 67% traffic increase since 1993
US 422	Palmyra Borough	Between Congress Ave. & Lingle Ave.	X			HOCL
US 322	West Cornwall Twp	Butler Rd./PA 241	X	X		HOCL, 32% traffic increase since 1993
US 322	South Londonderry Twp	Between Locust St. & Gentry Dr./PA 117	X			HOCL
PA 72	North Cornwall Twp	Between Rocherty Rd. & PA 241	X			HOCL
PA 72	North Lebanon Twp	Horst Dr.	X			HOCL
PA 343	North Lebanon Twp	Kochenderfer Rd.	X			HOCL
PA 343	Bethel Twp	Shirksville Rd.	X			HOCL
PA 501	Heidelberg Twp	Between Spruce St. & Prospect Hill Dr.	X	X		HOCL, 37% traffic increase since 1993
PA 117	S. Londonderry Twp	Patrick Rd. & Beech St.	X	X		HOCL, 78% traffic increase since 1993
PA 117	South Annville Twp	Leon Ave.	X	X		HOCL, 78% traffic increase since 1993
PA 419	Village of Quentin/West Cornwall Township	PA 72	X	X		HOCL, 40% traffic increase since 1993
PA 443	East Hanover Twp	Between Pleasant View Rd. & Harrison School Rd.		X		106% traffic increase since 1993
PA 241	South Annville Twp	Lake Dr.	X			HOCL
PA 241	North Cornwall Twp	Between Meadow Lane & Royal Rd.	X			HOCL
PA 241	S. Londonderry Twp	Between Lawn Rd. & Lancaster County		X		67% traffic increase since 1993
PA 897	Heidelberg Twp	Millbach Rd. & Lancaster County		X		45% traffic increase since 1993

Table continued

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Table 8-8 Roadway Segments, Intersections and Bridge Locations of Note (continued)

Roadway	Municipality or Community	Location/Intersection	HOCL	Increased Traffic	Bridge Condition	Supporting Information/Data
PA 897	South Lebanon Twp	Between Iona Rd. & Flintville Rd.		X		55% traffic increase since 1993
PA 897	South Lebanon Twp	Fonderwhite Rd.	X	X		HOCL, 36% traffic increase since 1993
PA 897	South Lebanon Twp	Klein Ave. and Walnut St.	X	X		HOCL, 59% traffic increase since 1993
PA 934	North Annville Twp	Old Hill Church Rd.	X	X		HOCL, 46% traffic increase since 1993
PA 934	North Annville Twp	Hostetter Rd.	X	X		HOCL, 46% traffic increase since 1993
PA 934	East Hanover Twp	Jonestown Rd.	X			HOCL
Mt. Zion Rd.	Bethel Twp	Union Rd.	X			HOCL
Bunker Hill Rd.	Swatara Twp	Between Grace Ave. & Quarry Rd.	X			HOCL
Hill Church Rd.	North Annville Twp/Cleona Boro	Between Weaber St. & Tunnel Hill Rd.	X			HOCL
Hill Church Rd.	North Annville Twp	Thompson Ave.	X			HOCL
Old Forge Rd.	N. Londonderry Twp	Between Ridge Rd. & Valley Dr.	X			HOCL
Legion Rd.	S. Londonderry Twp	Between Campbelltown Rd. & Yorkshire Rd.	X			HOCL
Butler Rd.	W. Cornwall Twp	Between Mine Rd. & Starner Rd.	X			HOCL
East Evergreen Rd.	South Lebanon Twp	Lincoln Ave.	X			HOCL
Weavertown Rd.	North Lebanon Twp	Between 15 th Ave. & 8 th Ave.	X			HOCL
Weavertown Rd.	Jackson Twp	Elco Rd.	X			HOCL
Reilly Rd.	Jackson Twp	Over the Tulpehocken Creek			X	39' stone arch bridge recommended for rehabilitation, over 100 years old
Yordy's Bridge Rd.	Swatara Twp	Between 934 and Jonestown Rd. over the Swatara Creek			X	220' girder bridge recommended for replacement, built 1924
Golf Rd.	Bethel Twp	Over the Little Swatara Creek in Freeport Mills			X	235' girder bridge recommended for replacement, built 1933
Greenpoint School Rd.	Union Twp	Over Trout Run north of Swatara State Park			X	'38 steel stringer bridge recommended for replacement, weight restricted
Shirksville Rd.	Bethel Twp	Over Earlakill Run			X	34' steel stringer bridge recommended for replacement, weight restricted
Clear Spring Rd.	North Annville Twp	Over the Quittapahilla Creek			X	64' box bridge recommended for replacement; beams need updating, alignment is poor, & bridge is narrow.
Coon Creek Rd.	East Hanover Twp	Over the Raccoon Creek			X	31' steel stringer bridge recommended for replacement; narrow, poor alignment
North Lincoln Ave.	City of Lebanon	Over the Quittapahilla Creek			X	23' Reinforced concrete slab bridge recommended for replacement; bridge is >75 years old

Source: PennDOT; Lebanon County Planning Department

Figure 8-12 Highway and Roadway Segments with Daily Traffic Increases Over 25 Percent (1993-2003)

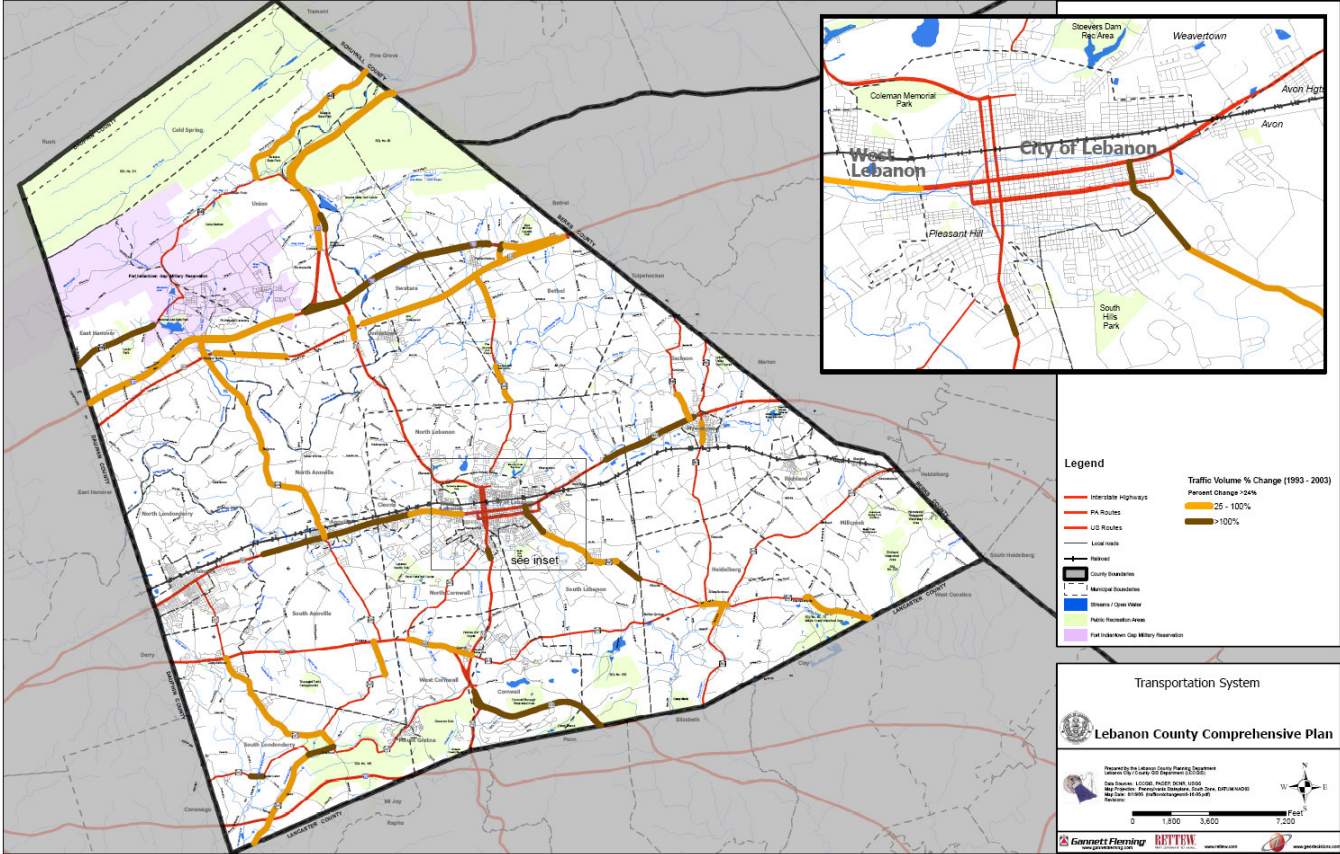
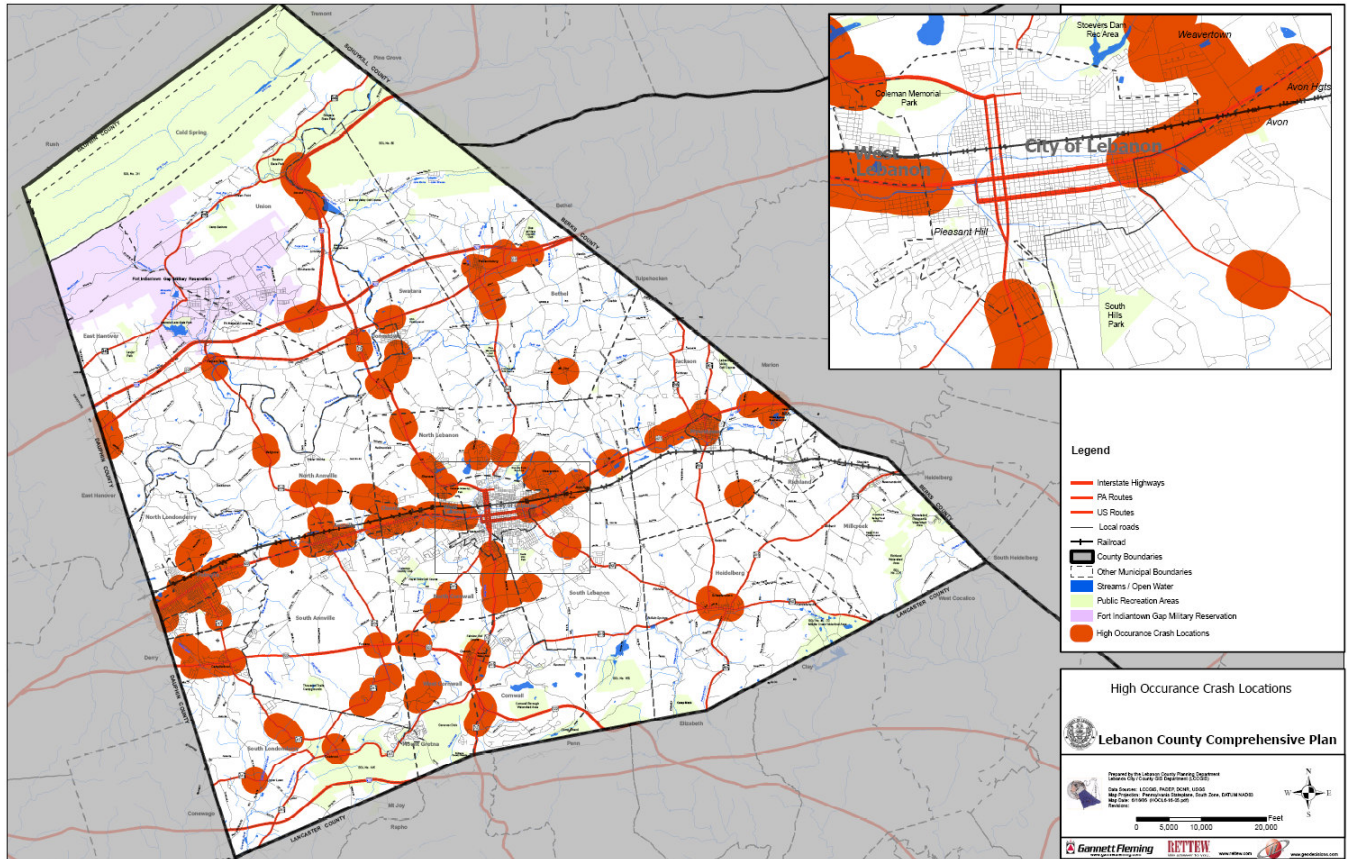


Figure 8-13 High Occurrence Crash Locations



TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The TIP is a prioritized listing of projects that the Metropolitan Planning Organization (MPO) expects will be advanced over a four-year time frame. The adoption of the TIP is required by the Federal Highway Administration and the Federal Transit Administration for all MPOs, and it is a subset of the Long Range Transportation Plan (LRTP). The TIP is financially constrained, meaning that all identified sources of funding must be available, and covers the most immediate implementation priorities for transportation projects and strategies. It is the MPO's way of allocating its limited transportation resources among the various capital, operating and maintenance needs of the area.

For Lebanon County, the TIP was developed and approved before the Long Range Transportation Plan (LRTP) due to the short term nature of the TIP document. The initial Long Range Transportation Plan will include existing TIP projects. Once the Long Range Transportation Plan is completed, the TIP and the LRTP will be managed by the MPO as companion documents, and the TIP will need to be consistent with the LRTP.

The latest version of the FFY 2007-2010 TIP is included in the Reference Tables at the end of the profile of this document.

ISSUES

The profile has identified the county's key transportation facilities, roadway and transit usage trends, and specific locations where problems may exist. In addition, it has revealed how the transportation system currently operates, what trends are changing the way that the system is being used, and how future demand will require enhancements to address new residential and employment growth.

An examination of current trends for this profile shows:

- The number of residents and jobs within Lebanon County are expected to grow until at least 2020.
- Residents are currently traveling longer and farther to work than they did ten years ago.
- Traffic pressure from increasing demand for residential and business development will continue to impact the county's roadway infrastructure.
- Traffic on the county's main roads is expected to continue to increase, creating additional delay and the potential for trip diversions onto secondary roads.

Over time, the challenge of the Long Range Transportation Plan will be to dig deeper into these trends and identify specific strategies to improve the overall functioning of the transportation network.

- Regularly evaluate traffic signal performance and pavement conditions for safety and efficiency.
- Repair or replace bridges in poor condition.
- Examine the county's high occurrence crash locations to identify unsafe conditions and potential solutions/improvements.
- Identify ways to decrease conflicts between automobiles, pedestrians and cyclists resulting from development.
- Address transit's decreasing market share as employment and residential locations scatter.
- Work with municipalities to better share information and develop project priorities.
- Make system maintenance and low-cost operational improvements a priority.
- Deliver projects and improvements in a timely manner.
- Anticipate system deficiencies and be proactive rather than reactive.
- Influence land use trends for the benefit of transportation system components.

Table 8-9 Key Trends by Mode

Mode or Facility	Key Trends and Indicators to Advance to Long Range Transportation Plan for Additional Evaluation
Highway, Roadway and Bridges	<ul style="list-style-type: none"> • Traffic growth on the interstates could bring additional goods movement-related and residential development to areas near interchanges, specifically along I-81 and I-78. • Traffic growth on critical PA state roads, specifically US 322 in Cornwall, US 422 in Myerstown and PA 241 in South Londonderry reveal significant increases. These locations, and others throughout the county, need to be examined to determine whether capacity enhancements or other traffic control measures are necessary. • Congestion management will dictate evaluation of highway corridors instead of individual highway segment projects. • Countywide population and employment growth will increase traffic throughout the system. Capacity, traffic congestion, pavement and bridge conditions and traffic signal operations will need to be examined to both ensure safety, efficiency and consistency with community character. • High Occurrence Crash Locations must be evaluated to identify the reason for the high number of traffic incidents as well as any trends or conditions that will continue to compromise system safety. • Bridge conditions in the county must continue to improve.
Transit	<ul style="list-style-type: none"> • Both local and intercity transit is losing market share. Information is needed to clarify why this is occurring and what steps can reverse this trend. • The majority of minority and low-income residents are located in and around the City of Lebanon, where transit opportunities currently exist and may be more effectively enhanced. • The CORRIDORtwo Regional Rail would provide commuter rail transit service connecting the City of Lebanon and Harrisburg via the Norfolk Southern Harrisburg Line. There is no approved schedule for design and construction of the project. • Work with the Susquehanna Regional Transportation Partnership to help develop and promote transportation options beyond the single occupancy vehicle.
Freight Rail	<ul style="list-style-type: none"> • Traffic on Norfolk Southern's Harrisburg Line is expected to continue to grow. • The 9th & 10th Street Bridges over Norfolk Southern project will remove two at-grade crossings within the City of Lebanon. These bridges will improve traffic flow and access for emergency vehicles. • The safety of grade crossings countywide would be enhanced by the installation of gates. • Automated horns and other options should be investigated to address noise complaints while preserving safety at rail crossings.
Aviation	<ul style="list-style-type: none"> • Lebanon County has five privately-owned public use airports. The 2002 Lebanon County Airport Feasibility Study and Master Plan concluded that while there is local interest in a public general use airport, airport users are generally satisfied that the county's current capacity meets their needs. • The closest major commercial airport is in Harrisburg (33 miles away). Further examinations are necessary to determine whether improved airport access should be a priority.
Non-Motorized	<ul style="list-style-type: none"> • Annville, Cleona, Lebanon, Palmyra, Myerstown and Jonestown are good examples of communities that have walkable and bikeable downtowns. Continued maintenance and expansion of these bike/ped networks should be pursued to ensure mobility options for all travelers.

Source: Lebanon County Planning Department

REFERENCE TABLES

LEBCO MPO FFY Transportation Improvement Plan (Highways and Bridges)

LEBCO MPO FFY 2007 Transportation Improvement Plan (Interstate Maintenance)

LEBCO MPO FFY 2007 Transportation Improvement Plan (Transit)

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