

## **CHAPTER FOUR**

### **EXISTING TRANSPORTATION SYSTEM INVENTORY WITH NEEDS ASSESSMENT ANALYSIS**

This Chapter of the WATS Long Range Transportation Plan provides a description of the existing multi-modal transportation system in Lycoming County encompassing highways and bridges, public transportation, airports, railroads and bike / pedestrian facilities. There are no waterway or inland ports located in the County. An inventory of current transportation assets by transportation mode will be provided, including a current physical condition and operational performance needs assessment. This data driven inventory and assessment is important to properly address transportation asset management needs and to improve operational performance of the overall system in terms of public safety, security, efficiency and cost effective movement of people and goods.

#### **HIGHWAY SYSTEM**

##### ***Highway Designations / Classification System***

According to the PennDOT Bureau of Planning and Research, there are 1,995.18 linear miles of publicly owned roadways throughout Lycoming County. PennDOT owns 716.59 linear miles, (35%) of public roadways in Lycoming County. In addition, there are 1,258.86 miles, (63%) of locally-owned roadways owned by 52 different local municipalities included on the PennDOT Liquid Fuels System. Other agencies own the remainder of roads in the County. Lycoming County government only owns two roads which are County Farm Road at the Lysock View county complex housing the Department of Public Safety (911 center), Pre-Release and county farm and an entrance road to the White Deer Recreation Complex. There are federal designations and classifications established for highway systems in the nation as noted in the following sections.

##### **Road Functional Classification System**

The Federal Highway Administration, PennDOT and Metropolitan & Rural Planning Organizations cooperatively establish and update maps that delineate various road classifications which group roadways into a hierarchy based on the type of highway service provided. Streets and highways generally perform two basic types of service; traffic mobility or land access. In general terms basic roadway functional classifications consist of:

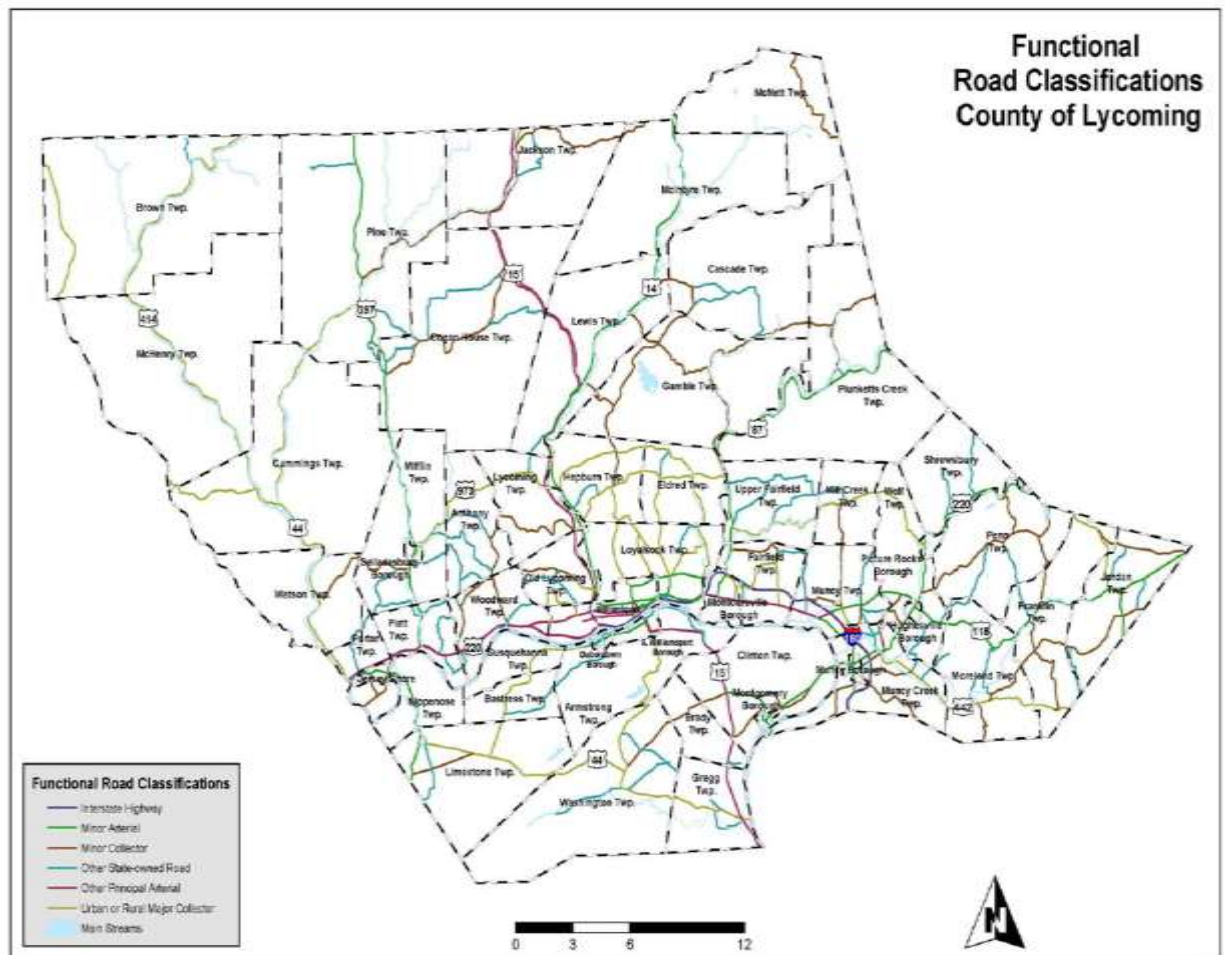
*Interstate System:* The Interstate System consists of all presently designated freeway routes meeting the Interstate geometric and construction standards. The Interstate System is the highest classification of arterial roads and streets and provides the highest level of mobility, at the highest speed, for a long uninterrupted distance.

*Other Arterials:* These consist of limited access freeways, multi-lane highways, and other important highways supplementing the Interstate System that connect, as directly as practicable, the Nation's principal urbanized areas, cities, and industrial centers, serve the national defense; and connect at suitable border points with routes of continental importance.

*Collectors:* The collectors provide both land access service and traffic circulation within residential neighborhoods, commercial and industrial areas, and downtown city centers. Collectors connect local roads and streets with arterials and provide less mobility than arterials at lower speeds and for a shorter distance.

*Local Roads:* The local roads and streets provide a high level of access to abutting land but limited mobility.

The map below depicts the roadway functional classification system within Lycoming County.



The table below illustrates road linear mileage by functional class in Lycoming County based upon PennDOT 2011 Highway Statistics data.

Interstate	Other Freeways	Other Principal Arterials	Minor Arterials	Major Collectors	Minor Collectors	Local Roads	Total Linear Miles
19.5	26.1	32.0	172.4	249.1	177.5	1,318.6	1,995.2

The only federally designated Interstate highway in Lycoming County is Interstate 180 which is 19.5 miles long between US 15 in the City of Williamsport and the Lycoming/Northumberland County line. I-180 continues through Northumberland County terminating with Interstate 80, the longest coast to coast east-west Interstate highway in the nation connecting the Atlantic and Pacific Oceans.

Other freeways and principal arterials consist of US 220 between the Clinton County line and the Halls/ Pennsdales Interchange US 15 throughout the County and portions of State Route 2014. Examples of minor arterials include, PA 287, PA 14, PA 87, PA 118, PA 405, PA 54 and US 220 north of I-180. As noted in the previous table, the vast majority of road mileage in Lycoming County (88%) is classified as either local roads or major / minor collectors. The remaining 12% of road mileage is classified as arterial or interstate/freeways underscoring the vast rural nature of the county-wide road system. Approximately 499 linear miles of roadway (25%) are on the approved federal-aid system. Of these linear miles, 446.8 miles (89%) are State-owned roads while only 52.2 miles (11%) are locally-owned roads. Consequently, approximately 1,496 linear miles of roadway (75%) do not qualify for federal aid and most of those linear road miles are owned by local municipalities.

In terms of 2011 traffic volumes on functionally classified roadways, the Daily Vehicle Miles of Travel, (DVMT) is the measure used for determining total travel by all vehicles. Although most road mileage in the county is classified as either local roads or collectors and does not qualify for federal-aid, in terms of travel patterns, the Interstate and arterial system clearly carries the majority of traffic flows as shown in the chart noted below:

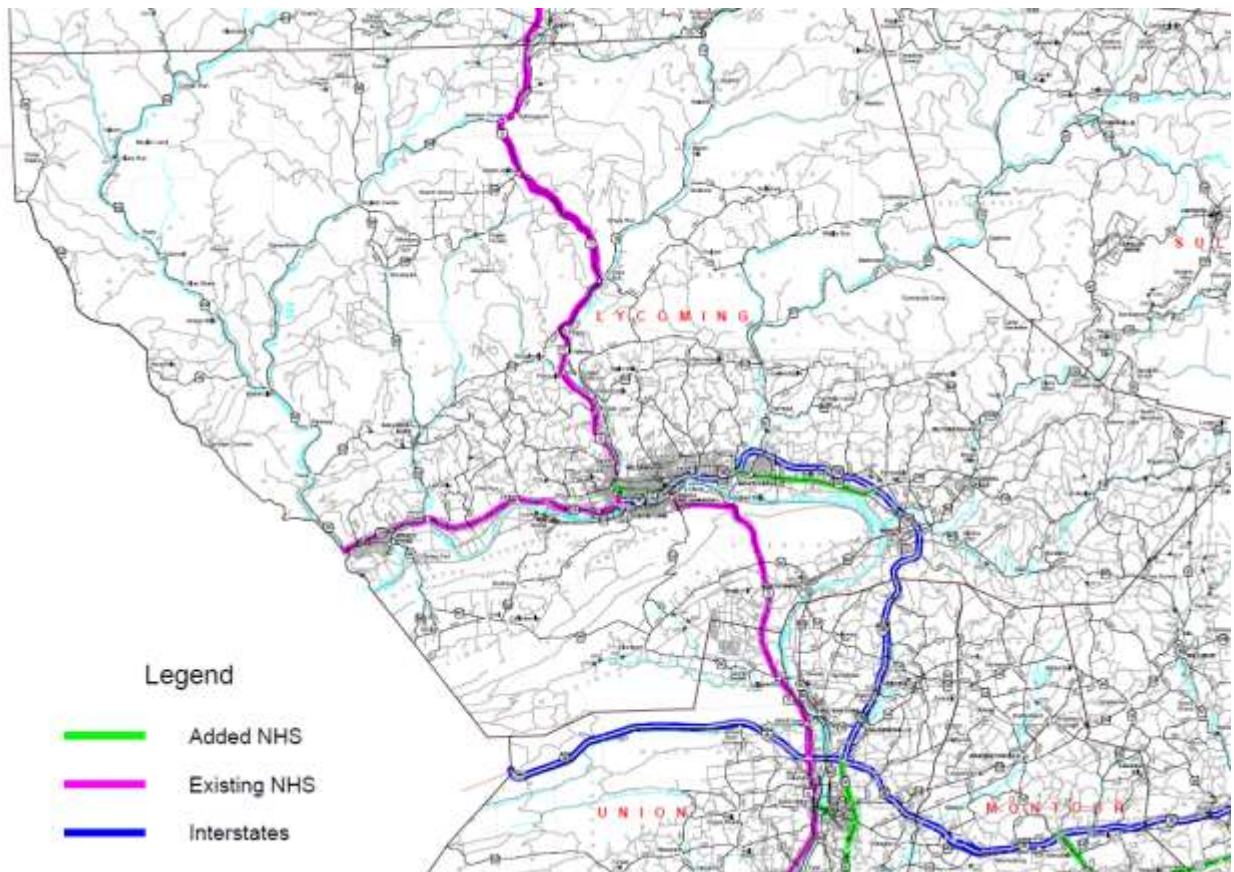
Interstate DVMT	Other Freeways DVMT	Other Principal Arterials DVMT	Minor Arterials DVMT	Major Collectors DVMT	Minor Collectors DVMT	Local Roads DVMT	Total DVMT
590,403	301,377	516,882	740,444	311,088	73,072	331,696	2,864,961

The arterial highway system throughout the County accounts for approximately 75% of all daily traffic flows with just Interstate 180 comprising 20% of total flow. The federal aid roads carry about 85% of all daily traffic flows in the County. Only 15% of the traffic flows are along non-federal aid roads. Functional road classifications are important in determining federal aid funding for certain routes along with establishing urban and rural design criteria for road improvements.

## **National Highway System**

The National Highway System, (NHS) consists of roadways important to the nation's economy, defense and mobility including the Interstate Highway System as well as other roads important to National defense. The NHS is developed by the US Department of Transportation in cooperation with States, local officials and metropolitan planning organizations, such as WATS. Originally, I-180, US 15 and a portion of US 220 were identified as NHS routes. MAP-21 created an Enhanced NHS where a portion of SR 2014 was added to the system. The map below illustrates the Enhanced National Highway System routes within Lycoming County.

### **ENHANCED NATIONAL HIGHWAY SYSTEM – LYCOMING COUNTY**



A portion of federal funding authorized under MAP-21 is dedicated to the maintenance, preservation and upgrade of the Enhanced National Highway System referred to as the National Highway Performance Program, (NHPP). NHPP funding levels for Lycoming County will be more fully discussed in Chapter 7 of this plan.



### ***Future I-99 Corridor***

It should be acknowledged and emphasized that considerable resources have already been devoted to the maintenance, preservation and improvement of the National Highway System in Lycoming County and the surrounding region, especially in regard to I-180 preservation and the upgrade of US Route 15 between Williamsport and Corning, New York as a four lane limited access highway over the last several decades. In fact, the National Highway System Designation Act of 1995 further establishes the Interstate 99 Corridor along US 220 and US 15 between Bedford, PA and Corning, NY. Although, future I-99 signage has been installed along US 15 north of Williamsport, several major projects in Lycoming, Clinton and Centre Counties must first be completed in order to fully upgrade this highway corridor to meet Interstate design standards.

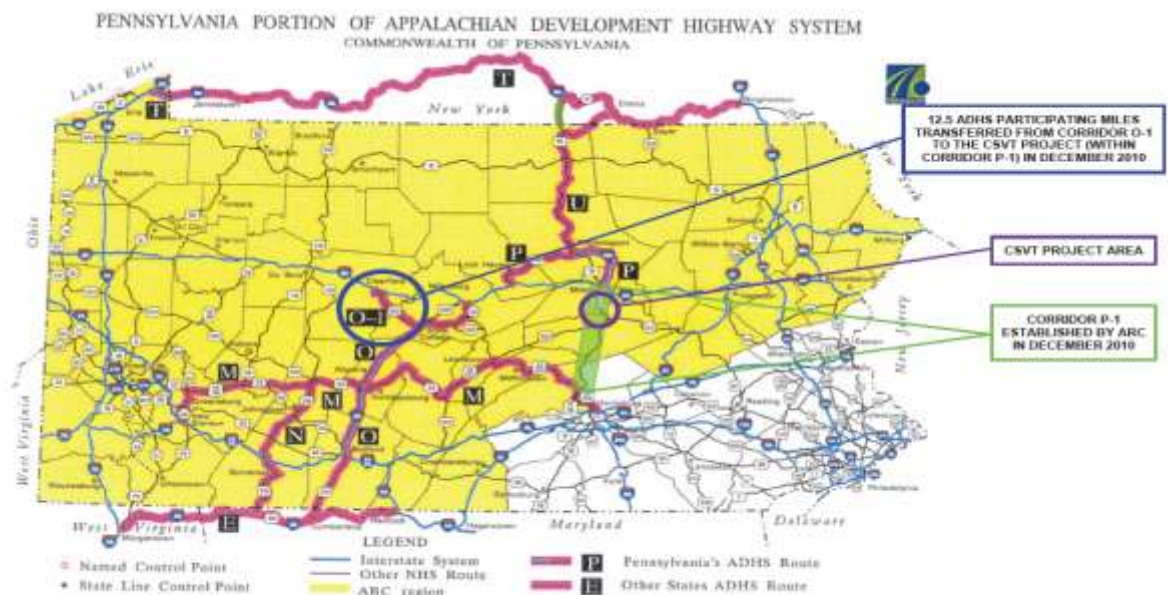
### **Dedication of the US 220/Future I-99 corridor in Lycoming County**



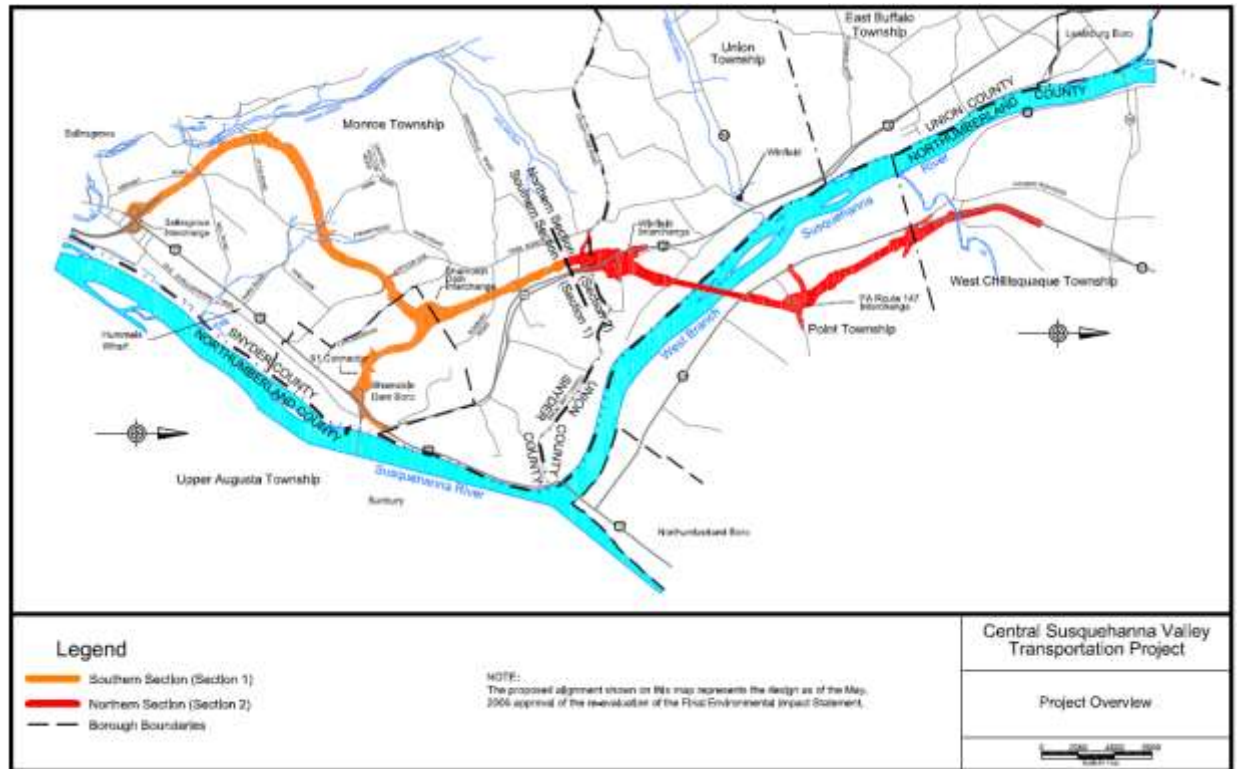
I-99 has been officially designated along US 220 between I-76 PA Turnpike at Bedford and I-80 in Centre County, however several major corridor improvements still need addressed to further extend I-99 in PA as authorized by Congress such as completion of the US 220/I-80 Bellefonte Interchange upgrades, Centre County, I-80/Lock Haven Interchange upgrades with US 220 improvements from two lane to four lane limited access highway between I-80 and Salona interchange, Clinton County, US 220 upgrade to four lane limited access highway between Jersey Shore and Williamsport, Lycoming County and US 15 Four Mile Road relocation to eliminate existing at grade highway access point north of Trout Run. PennDOT Engineering District 3-0 has requested US 15 design exceptions for other various existing partial directional interchange locations and the US 220/US 15/I-180 interchange north of Williamsport in Lycoming County, however Federal Highway Administration has not ruled on the requested design exceptions, therefore final cost estimates to complete I-99 in PA are not yet available, however it is anticipated cost would be hundreds of millions dollars to undertake. This would be especially challenging to fund as Congress abolished the Appalachian Development Highway Program in the MAP-21 legislation removing a vital federal funding source to complete these Appalachia corridor segments P and U. Nevertheless, the Williamsport MPO continues to support completion of I-99 in PA and will show this project in the Chapter 7 plan section as an illustrative project lacking current federal funding availability.

### ***Central Susquehanna Valley Thruway, (CSVT)***

Although not directly located in Lycoming County or a direct part of future I-99, the Williamsport MPO also continues to strongly support the completion of the Central Susquehanna Valley Thruway Project in Union, Snyder and Northumberland Counties as part of completing the US 15 NHS north-south highway system in Central PA as a modern four lane highway shown as Appalachia Corridor P-1 below.



Specifically, the CSVT project entails phased construction of a new 12 mile long modern four lane limited access highway system connecting I-80 near Milton with US 11/15 just south of Selinsgrove with a bypass around congested Northumberland Borough and a major bridge crossing over the Susquehanna River near Winfield as shown on the PennDOT preferred alignment indicated below.



Even though much design work has been accomplished with environmental clearances, further advancement of this project depends upon additional state revenues which have not yet been approved by the PA General Assembly. PennDOT anticipates the project will still take about 10 years to complete once additional funds are secured. This \$ 600 million + project was the largest funding investment proposed by PennDOT in the Commonwealth as part of their Decade of Investment transportation funding plan.



### *Scenic Byways Program Designations*

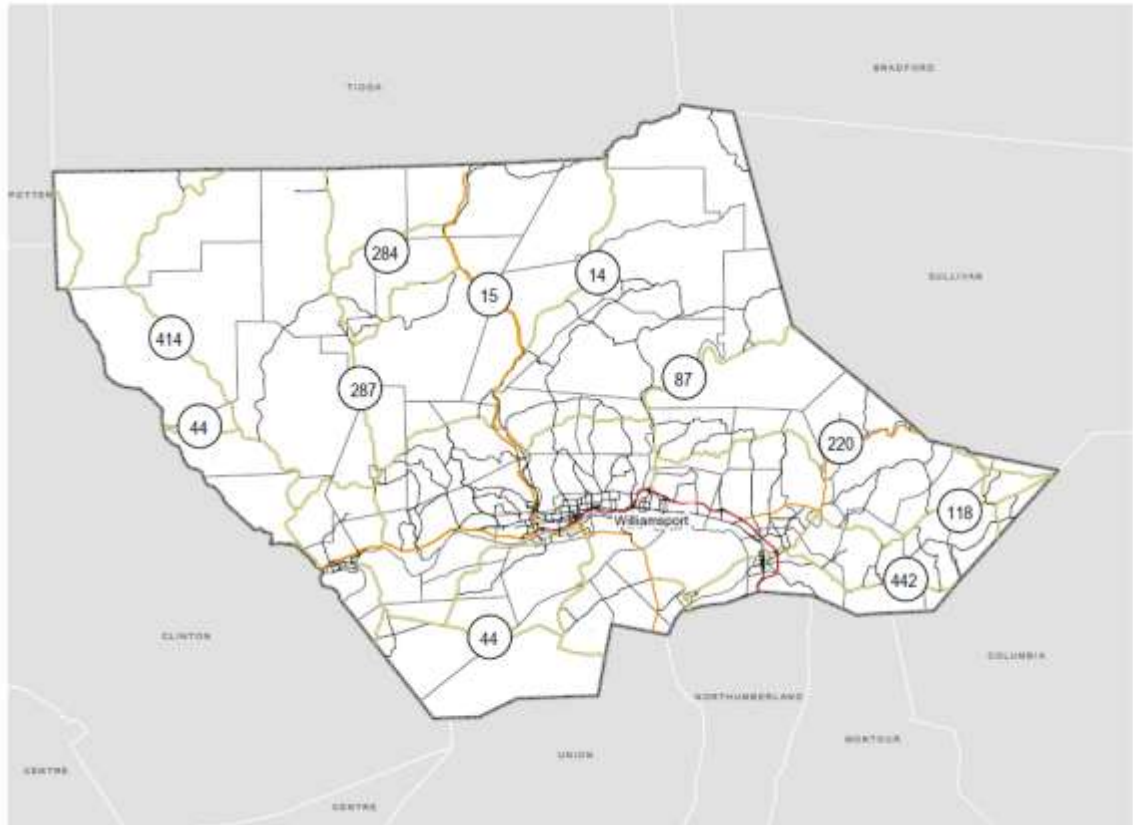


There are Federal and State Scenic Byway Programs that recognize roads having outstanding scenic, historic, cultural, natural, recreational, and archaeological intrinsic qualities. At the federal level, Title 23, Section 162 establishes a National Scenic Byways Program with 3 designations consisting of (1) National Scenic Byways, (2) All-American Roads or (3) America's Byways. Nominations for scenic byway candidates must come from states, Indian Tribes or a Federal land management agency and the road must already be designated as a state scenic byway. Corridor Management Plans are developed and proposed projects along the scenic byway must be consistent with these plans. Federal funding assistance is available for eligible improvements. Control of outdoor advertising (such as billboards) must also be exercised along scenic byway corridors. In terms of state byway designations, PennDOT designates the PA Byways at the request of local communities or through state legislation. Again, a nomination process must be followed largely paralleling the national scenic byways program. Appropriate signage is erected along roadways promoting these byways.

Currently, there are no National Scenic Byways or PA Byways officially designated along roadways in Lycoming County. The Lycoming County Comprehensive Plan recognizes and supports scenic byways and even supports a County Byways Program, however an evaluation of roads to be nominated as PA Byways or eventually National Scenic Byways would need to be conducted. The emergence of Marcellus Shale heavy hauling truck traffic on many roadways has affected some of the intrinsic qualities of these roads so the County has not aggressively pursued such designations. The WATS MPO supports an evaluation of PA Byway suitable candidates at the appropriate time when Marcellus traffic impacts and trends are more fully understood. The following map depicts County identified potential scenic byway corridors for further evaluation consistent with state byways program criteria as originally identified "A Scenic Byways Program for Lycoming County", approved by the WATS MPO in 2005.



### Selected Potential Scenic Byway Corridors for Further Evaluation



### ROADWAY PAVEMENT CONDITION ASSESSMENT

This section of the plan will address pavement conditions on PennDOT owned roadways. It should be noted, however, that comprehensive pavement condition data and assessments are not available on locally owned roadways as 52 different local municipalities own these roads and each has their own asset management data and approach to maintenance and preservation of roads under their ownership.

PennDOT has developed Performance Measures Annual Reports for State-owned Highways as a key tool to assist in proper asset planning and management. These reports are used by PennDOT and MPO/RPO planning partner agencies, including the WATS MPO to provide key measures to formulate investment decisions in meeting pavement asset management needs.

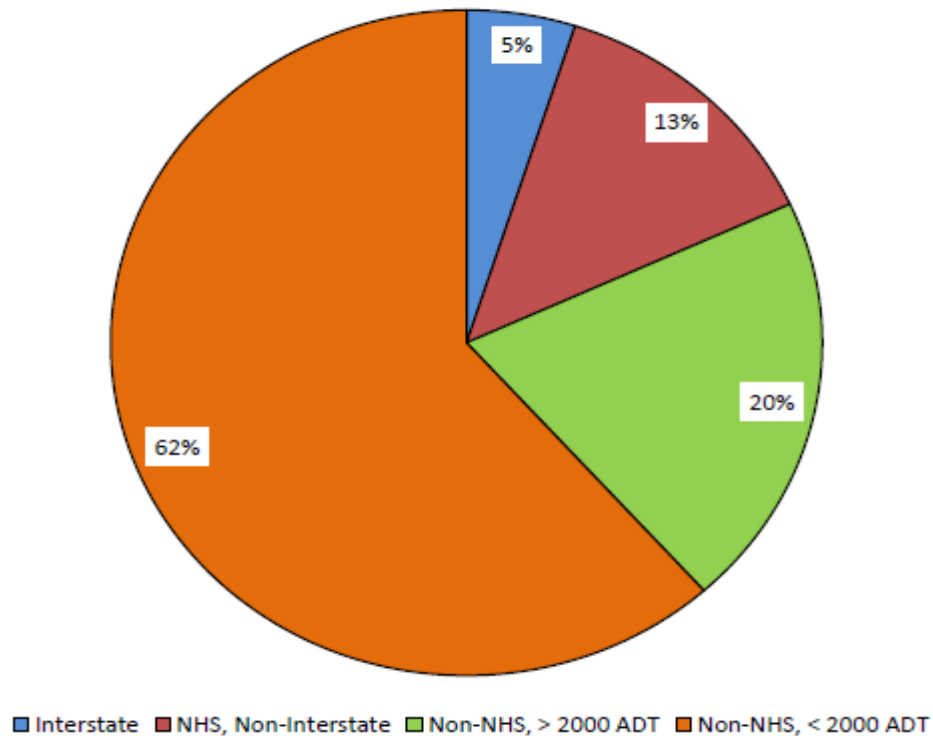
#### *Roadway Asset Definitions*

PennDOT defines its roadway assets by establishing four Business Plan Networks:

- ❖ Business Plan Network 1 – Interstate
- ❖ Business Plan Network 2 – National Highway System (NHS), Non-Interstate
- ❖ Business Plan Network 3 – Non-NHS with Average Daily Traffic, (ADT) greater than 2,000.
- ❖ Business Plan Network 4 – Non-NHS with Average Daily Traffic, (ADT) less than 2,000.

The pie chart below illustrates percent of state-owned segment miles by Business Plan Network within Lycoming County.

**Percent Segment Miles  
by Business Plan Network**



### *Pavement Performance Measures*

The primary performance measures to assess roadway pavement conditions consist of International Roughness Index, (IRI) data and the Overall Pavement Index, (OPI) data.

### International Roughness Index, (IRI)

IRI is a worldwide standard for measuring pavement smoothness. This index 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 across the roadway system. The lower the IRI number, the smoother the ride. IRI pavement conditions are then classified as excellent, good, fair or poor for each of the four Business Plan networks are depicted on the following table.

## PennDOT IRI Classification for each Business Plan Network

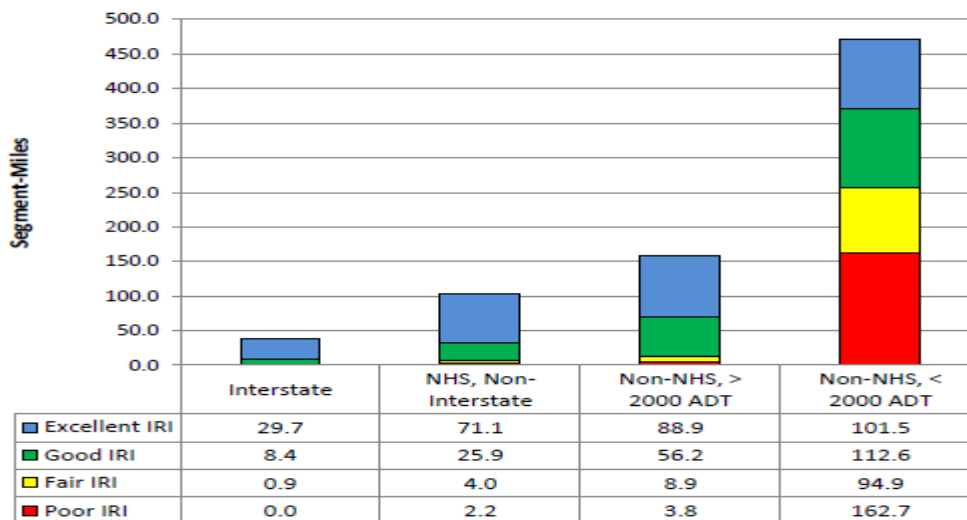
IRI Ranges (inches per mile)	National Highway System (NHS)		Non - National Highway System	
	Interstate	Non-Interstate	ADT $\geq$ 2000	ADT < 2000
$\leq 70$	Excellent	Excellent	Excellent	Excellent
71-75	Good	Good	Good	Good
76-100	Fair	Fair	Fair	Fair
101-120	Poor	Poor	Poor	Poor
121-150				
151-170				
171-195				
196-220				
> 220				

Below is current IRI summary results for all four Business Plan networks within Lycoming County based most recent 2012 data.

Current Pavement Smoothness Summary by Business Plan Network

Business Plan Network	Total Segment Miles	IRI						Low Level Network	
		Tested Segment Miles	Excellent Seg-Mi	Good Seg-Mi	Fair Seg-Mi	Poor Seg-Mi	Median IRI	Segment Miles	Seal Coat Out-of-Cycle Seg-Mi
Interstate	39.0	39.0	29.7	8.4	0.9	0.0	58		
NHS, Non-Interstate	104.3	103.2	71.1	25.9	4.0	2.2	62		
Non-NHS, $\geq$ 2000 ADT	159.6	157.7	88.9	56.2	8.9	3.8	99	0.9	0.0
Non-NHS, < 2000 ADT	486.3	471.7	101.5	112.6	94.9	162.7	180	341.6	11.9
Total - Roadway	789.1	771.6	291.2	203.1	108.6	168.7		342.5	11.9

### Segment Miles by Business Plan Network with IRI Ratings



The next two charts show Lycoming County Business Network pavement results in relation to meeting PennDOT IRI goals.

### Interstate and NHS, Non-Interstate Goals

Goal: Reduce Poor IRI

Business Plan Network	Long Range % IRI Seg-Mi	Target 2013 % IRI Seg-Mi	Actual 2012 % IRI Seg-Mi
Interstate	0.0%	0.0%	0.0%
NHS, Non-Interstate	0.2%	0.2%	2.1%

### Non-NHS Goals

Goal: Maintain Poor IRI

Business Plan Network	Long Range % IRI Seg-Mi	Target 2013 % IRI Seg-Mi	Actual 2012 % IRI Seg-Mi
Non-NHS, $\geq$ 2000 ADT	1.6%	1.6%	2.4%
Non-NHS, < 2000 ADT	30.7%	30.7%	34.5%

Of total tested mileage, there are no poor IRI miles along Interstate 180. There are only 2.2 miles of poor IRI along the remainder of the NHS system. Along non-NHS routes with greater than 2,000 ADT, there are only 3.8 miles of poor IRI pavement. However, non-NHS routes with less than 2,000 ADT shows 162.7 miles of poor IRI pavements. Most of this poor IRI is located on the secondary road system (Business Plan Network 4) carrying lower traffic volumes.

### Overall Pavement Index (OPI)

PennDOT also uses a calculation to determine a more comprehensive assessment of pavement condition called the Overall Pavement Index, or OPI, which is specific to Pennsylvania. The index calculates the existing performance of the pavement using inputs that include the IRI and the initial pavement distresses including cracking, edge deterioration, rutting, and other signs of deterioration that are collected as part of the videologging process, which is used for the Systematic Techniques to Analyze and Manage PA Pavements, (STAMPP) assessment. The more severe and/or extensive the distress (high, medium or low), the greater the deduct value, resulting in a lower pavement index value. It is important to note that the OPI only rates the pavement surface and cannot evaluate the base nor the state of the pavement cycle. The higher the OPI score, the better condition of the road. Like, IRI the OPI pavement conditions are then classified as excellent, good, fair or poor for each of the four Business Plan networks.



## PennDOT OPI Classification for each Business Plan Network

Category	National Highway System (NHS)		Non-National Highway System	
	Interstate	Non-Interstate	ADT ≥ 2000	ADT < 2000
> 95	Excellent	Excellent	Excellent	Excellent
91-95	Good	Good	Good	Excellent
86-90				
81-85	Fair	Fair	Fair	Good
76-80				
71-75	Poor	Poor	Poor	Fair
66-70				
60-65				Poor
< 60				

Below is current OPI summary results for all four Business Plan networks within Lycoming County based most recent 2012 data.

Current Overall Pavement Index Summary

Business Plan Network	Total Segment Miles	OPI						Surface Out-of-Cycle Seg-Mi	Pavement Age > 40 years Out-of-Cycle Seg-Mi
		Tested Segment Miles	Excellent Seg-Mi	Good Seg-Mi	Fair Seg-Mi	Poor Seg-Mi	Median OPI		
Interstate	39.0	38.5	10.4	28.0	0.0	0.0	94	0.0	0.0
NHS, Non-Interstate	104.3	102.5	11.0	84.0	6.1	1.5	92	6.2	6.2
Non-NHS, ≥ 2000 ADT	159.6	156.9	49.5	74.7	32.2	0.4	87	15.5	
Non-NHS, < 2000 ADT	486.3	471.1	141.9	212.2	98.8	18.3	79	55.7	
Total - Roadway	789.1	769.0	212.8	398.9	137.1	20.2		77.4	6.2

The next four charts show Lycoming County Business Network pavement results in relation to meeting PennDOT OPI goals.

Goal: Maintain % Good and Excellent OPI

Business Plan Network	Long Range % OPI	Target 2013 % OPI	Actual 2012 % OPI
	Seg-Mi	Seg-Mi	Seg-Mi
Interstate	100.0%	100.0%	100.0%
NHS, Non-Interstate	93.9%	93.9%	92.6%

Goal: Maintain % Good and Excellent OPI

Business Plan Network	Long Range % OPI	Target 2013 % OPI	Actual 2012 % OPI
	Seg-Mi	Seg-Mi	Seg-Mi
Non-NHS, ≥ 2000 ADT	80.6%	80.6%	79.2%
Non-NHS, < 2000 ADT	73.3%	73.3%	75.2%

Goal: Reduce Surface Out-of-Cycle (Fair and Poor OPI)

Business Plan Network	Long Range % OPI	Target 2013 % OPI	Actual 2012 % OPI
	Seg-Mi	Seg-Mi	Seg-Mi
Interstate	0.0%	0.0%	0.0%
NHS, Non-Interstate	0.0%	0.0%	2.9%

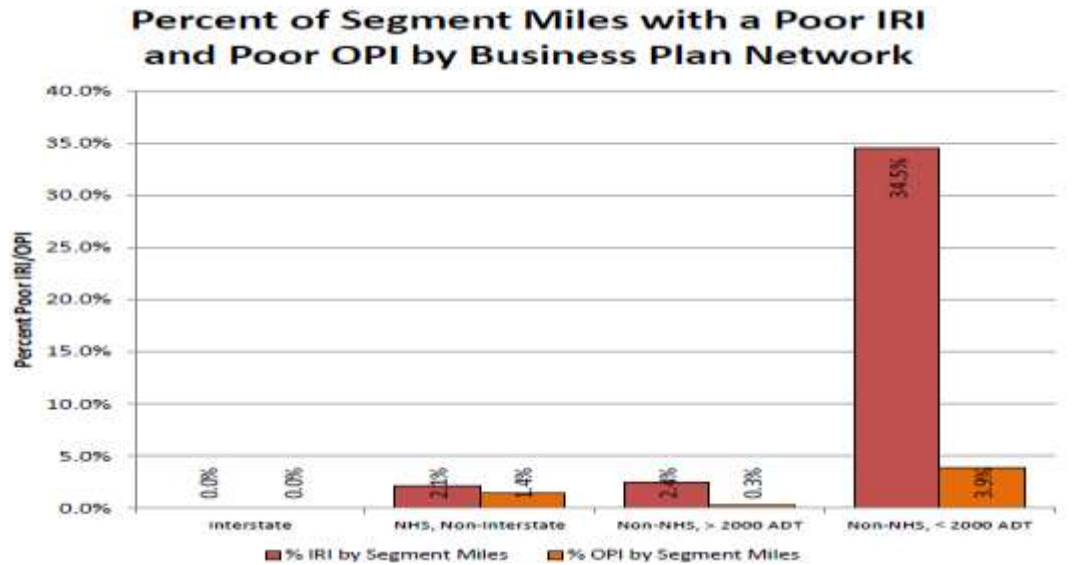
Goal: Maintain Surface Out-of-Cycle (Poor OPI)

Business Plan Network	Long Range % OPI	Target 2013 % OPI	Actual 2012 % OPI
	Seg-Mi	Seg-Mi	Seg-Mi
Non-NHS, ≥ 2000 ADT	0.2%	0.2%	0.0%
Non-NHS, < 2000 ADT	0.0%	0.0%	0.3%

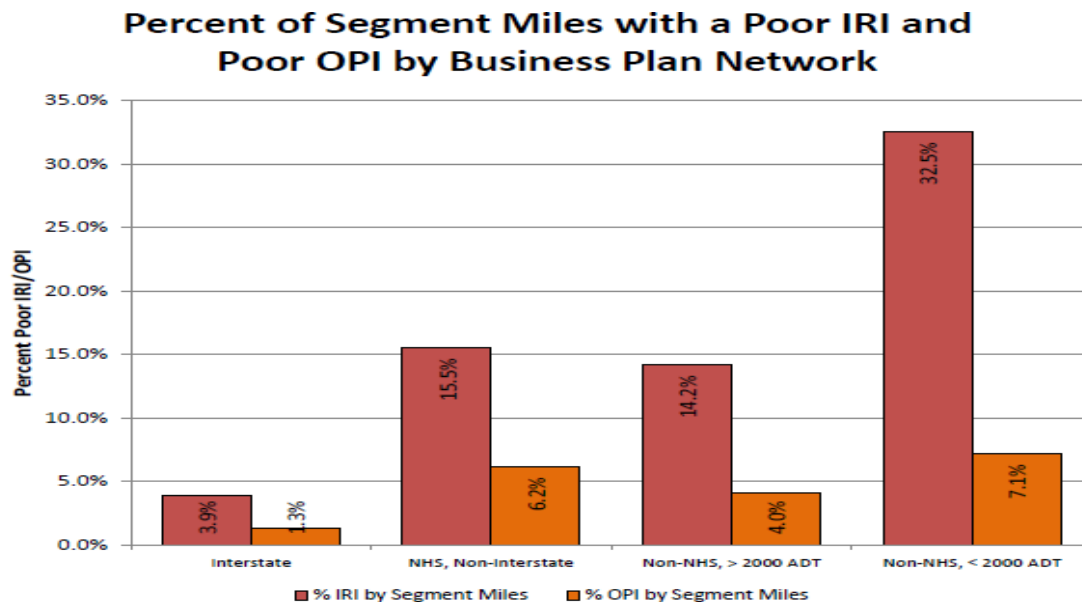
Of total tested mileage, there are no fair or poor OPI miles along Interstate 180. There are only 1.5 miles of poor OPI along the remainder of the NHS system. Along non-NHS routes with greater than 2,000 ADT, there are only .4 miles of poor OPI pavement. However, non-NHS routes with less than 2,000 ADT shows 18.3 miles of poor OPI pavements. Therefore, approximately 2.6% of Lycoming County state-owned roads tested mileage have poor OPI pavements.

The following graphs compare Lycoming County poor IRI and OPI roadway sections with state-wide figures.

### Lycoming County



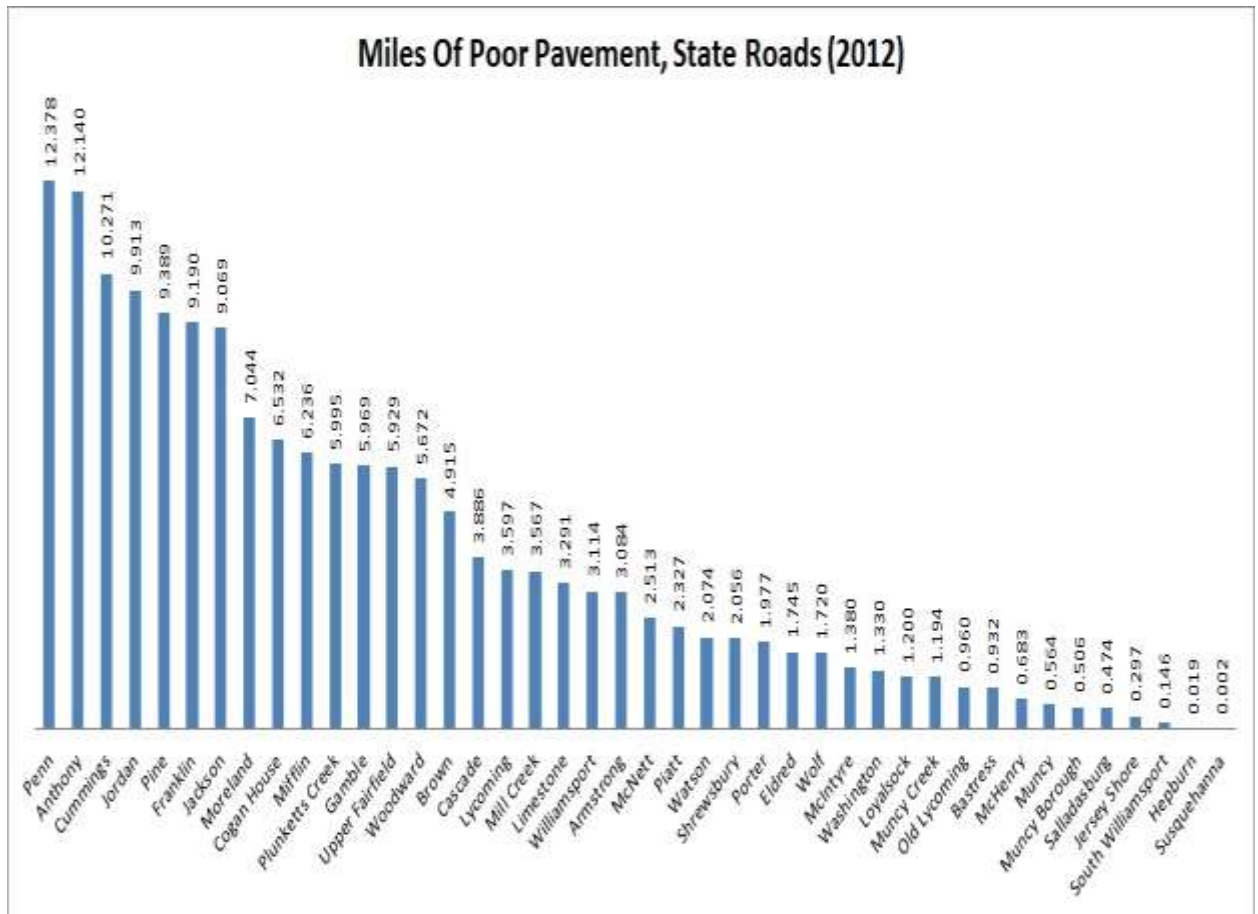
### State-wide



These graphics demonstrate that State-owned highway pavements within Lycoming County are in much better overall condition than statewide pavements located on the Interstate, National Highway System and higher non-NHS volume roadways in Pennsylvania. However, on the lesser traffic volume roadways carrying under 2,000 vehicles per day, state-owned roadways in Lycoming County are slightly worse in terms of percentage of poor IRI pavement than state-wide percentages but when using the OPI metric, Lycoming County roadways are still better than statewide figures.

In terms of specific locations within Lycoming County having poor IRI pavements, the following chart provides this information.

Poor Pavement, State Roads (2012)							
Municipality	State Route	Street Name	Miles of Poor Pavement	Municipality	State Route	Street Name	Miles of Poor Pavement
Anthony	3025	DAUGHERTY'S RUN RD	2.86	Mifflin	8024	JONES RUN RD	0.44
	3024	JOBS RUN RD	3.68		9095	NICHOLS RUN RD	0.95
	3022	KISS HILL RD	0.15		3007	PINE RUN RD	1.54
	3007	PINE RUN RD	2.97		3013	QUINESHUNKY RD	0.39
	3013	QUINESHUNKY RD	2.48		978	RT 978 HWY	2.39
Anthony Total			12.14	Mifflin Total			6.24
Armstrong	3004	JACKS HOLLOW RD	1.44	Mill Creek	2032	KEHRER HILL RD	1.94
	3012	SYLVAN DELL RD	1.64		064	RT 864 HWY	1.63
Armstrong Total			3.08	Mill Creek Total			3.57
Bathress	8054	JACKS HOLLOW RD	0.93	Moreland	2061	GREENVALLEY RD	1.46
Bathress Total			0.93		2019	MORELAND BAPTIST RD	0.88
Brown	434	RT 434 HWY	4.91		2065	MORELAND TWP RD	2.34
	Brown Total		4.91		2063	NEUFER HOLLOW RD	0.43
Cascade	1001	FLANAGAN HILL RD	0.97		2067	WALLIS RD	1.76
	1006	WALLIS RUN RD	1.02	Moreland Total			7.04
Cascade Total			1.99	Muncy	2033	RABBITTOWN RD	0.31
Cogan House	184	BEECH GROVE RD	1.42		Muncy Total		
	4010	COGAN HOUSE RD	2.93	Muncy Creek	2055	CHIPSWEA RD	1.18
	8008	FRENCHTOWN RD	1.87		Muncy Creek Total		
	2013	HUGHES RD	0.32	Muncy Twp	2046	LYCOMING MALL OR	0.06
	Cogan House Total		5.53		2033	RABBITTOWN RD	0.30
Cummings	44	COUDERSPOCK PK	2.35	Old Lycoming	3036	POY AV	0.27
	4001	LITTLE PINE CREEK RD	0.46		3019	SHOLDER RD	0.89
	434	RT 434 HWY	1.47		Old Lycoming Total		
Cummings Total			10.27	Penn	2081	BEAVER LAKE RD	0.47
Eldred	3029	NORTHWAY RD	1.24		2081	GREENVALLEY RD	2.91
	2022	PLEASANT VALLEY RD	0.50	Penn Total			12.38
Eldred Total			1.74	Piatt	3009	SPOCK HOLLOW RD	2.33
Franklin	2077	BEAVER RUN RD	1.48		Piatt Total		
	2035	FUNKTON RD	4.04	Pine	8009	HUGHES RD	0.17
	2019	MORELAND BAPTIST RD	2.29		4001	LITTLE PINE CREEK RD	2.00
	2017	PINE SUMMIT RD	0.74		4002	OREGON HILL RD	1.13
	239	RT 239 HWY	0.03		294	RT 294 HWY	5.72
Franklin Total			8.19	Pine Total			9.19
Gamble	1001	ROSE VALLEY RD	4.05	Plunketts Creek	1005	HOPPESTOWN RD	2.12
	1004	SOUTHAKE RD	0.50		1009	LOWER BARBOURS RD	0.37
	1002	TROUT RUN MTN RD	1.42		1055	PROCTOR RD	2.05
Gamble Total			5.97		1006	WALLIS RUN RD	1.26
Hepburn	1001	ROSE VALLEY RD	0.03	Plunketts Creek Total			6.00
	Hepburn Total		0.03	Porter	8005	NICHOLS RUN RD	1.90
Jackson	1009	BLOCKHOUSE RD	0.47		8027	THOMAS ST	0.07
	1070	BRICK CHURCH RD	0.95	Porter Total			1.96
	1010	ROARING BRANCH RD	0.17	Salladasburg	3007	PINE RUN RD	0.47
	234	RT 234 HWY	2.22		Salladasburg Total		
	1011	WILLIAMSON TRAIL RD	0.26	Shrewsbury	2083	DEER LAKE RD	0.82
Jackson Total			9.07		8001	EDWIN HILL RD	0.76
Jersey Shore	3028	BRIDGE ST	0.19		2081	HIGHLAND LAKE RD	0.48
	3003	MAIN ST	0.13		Shrewsbury Total		
Jersey Shore Total			0.30	South Williamsport	2012	SYLVAN DELL RD	0.15
Jordan	2021	LOG CABIN RD	0.83		South Williamsport Total		
	2079	ACORDAN HOLLOW RD	0.22	Susquehanna	8008	VILLAGE DR	0.00
	2019	MORELAND BAPTIST RD	1.00		Susquehanna Total		
	2017	PINE SUMMIT RD	1.09	Upper Fairfield	2030	BACK ST	2.26
	239	RT 239 HWY	2.98		2041	CAREY HILL RD	2.47
	2087	RT 2087 HWY	0.11		2032	KEHRER HILL RD	0.48
	2019	TALMAR RD	0.81		2030	SEELER RD	0.30
Jordan Total		6.91	064		RT 864 HWY	0.22	
Lewis	3029	ST MICHAELS RD	1.33	Upper Fairfield Total			5.95
	1002	TROUT RUN MTN RD	0.54	Washington	2004	SPRING CREEK RD	1.33
Lewis Total			1.87		Washington Total		
Limestone	8002	MIDDLE RD	0.89	Watson	3005	NICHOLS RUN RD	1.20
	8001	QUARRY RD	2.13		978	RT 978 HWY	0.86
	930	RT 930 HWY	0.07	Watson Total			2.07
Limestone Total			3.09	Williamsport	2042	BASIN ST	0.13
Loyalsock	2031	LUCK RUN RD	0.10		2034	CAMPBELL ST	0.54
	2027	POCO FARM RD	1.06		2018	FOURTH ST	0.96
	2054	SHIFFLER AV	0.04		2040	HOPBURN ST	0.14
Loyalsock Total			1.20		2010	HIGH ST	0.10
Lycoming	3026	BEAUTY'S RUN RD	1.93		2023	MARKET ST	0.85
	3015	DAUGHERTY'S RUN RD	0.91		3013	RIDGE AV	0.19
	3029	ST MICHAELS RD	0.76		2034	THIRD ST	0.38
Lycoming Total			3.60	Williamsport Total			5.11
McHenry	834	RT 834 HWY	0.66	Wolf	2073	BEAVER LAKE RD	0.77
	McHenry Total		0.66		2041	GREENVALLEY RD	0.46
McIntyre	1010	ROARING BRANCH RD	1.38		2053	RABBITTOWN RD	0.27
	McIntyre Total		1.38	Wolf Total			1.70
McNitt	8013	ELLENOR MOUNTAIN RD	2.18	Woodward	8010	BLICOW RD	0.51
	8003	RT 8003 HWY	0.33		8007	PINE RUN RD	0.98
McNitt Total			2.51		3010	W EMERY'S CHURCH RD	2.26
McNitt Total		2.51	3011		W LINE RD	1.92	
					Woodward Total		5.67
		Grand Total 164.40					



PennDOT Engineering District 3-0 typically addresses poor IRI routes by scheduling and prioritizing resurfacing for these routes based on IRI data and other appropriate information such as field verification by segment to identify why IRI is low such as problems with pipe trenches, base failure. Current funding limitations will likely increase poor IRI along Business Plan Network 4 roadways less than 2,000 ADT to ensure the higher class network roads, (Business Plan Networks 1-3) do not see increases in poor IRI miles. *It is anticipated that without additional funding resources, poor IRI on Business Plan Network 4 roads will rise from 34% to 46% by 2017.*

It should be noted that PennDOT Engineering District 3-0 Maintenance Forces also perform many general maintenance functions to ensure pavement system preservation such as routine shoulder cutting, pipe replacement and flushing, ditch cleaning and rock lining, under drain installation, skin patching to correct fatigue cracking, tree trimming to remove shade from roadways and brush cutting to maintain sight distance.



## ROADWAY OPERATIONAL CHARACTERISTICS

When assessing the adequacy of the roadway network, it is important to look beyond pavement conditions when identifying improvement needs. There also needs to be a focus on improving highway safety and promoting efficient traffic flows to manage congestion. Again, it is essential to utilize data driven methods to evaluate highway safety and efficiency and to determine appropriate strategies to enhance overall system performance. This section of the plan will address overall highway safety and operational efficiency of the highway network within Lycoming County.

### **HIGHWAY SAFETY**

The PennDOT Bureau of Maintenance and Operations Highway Safety Section has initiated the development of Highway Safety Guidance Reports for each Metropolitan Planning Organization in PA. These annual reports provide an excellent overview of accident data and trends for Lycoming County and identify specific high crash locations for further review and analysis by PennDOT in cooperation with the WATS MPO as part of the Long Range Planning Process. Potential countermeasures to mitigate each type of crash are offered to better define and deploy strategic highway safety improvements to ensure best possible use of available safety funds to reduce highway injuries and fatalities. ***PennDOT's goal shared by the Williamsport MPO is to reduce average fatalities and major injuries by 50% over the next two decades.***

MAP-21 federal legislation places a significance on highway safety mandating the development of State Strategic Highway Safety Plans and dedicated federal funding for a Highway Safety Improvement Program, (HSIP) to drive investment decisions by States in cooperation with MPO's /RPO's. The HSIP program purpose is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads through the implementation of infrastructure related highway safety improvements. Specific HSIP funding allocations will be more fully discussed in Chapter 7.

Depending on the type of accidents occurring at specific locations, various low cost countermeasures or other potential mitigation options are considered by PennDOT and WATS to develop the appropriate highway safety improvements strategies. These safety improvement options include but are not limited to guiderail protection, object removal or relocation, obstruction signage, reflective sheeting, shoulder and/or centerline rumble strips, shoulder drop-off mitigation, pavement line striping, establishment of roadside clear zones, advance warning signs, pavement markings and delineation, pavement friction treatments, traffic signal upgrades, intersection crosswalks / illumination, rail / highway crossing features, speed reduction, education and law enforcement.

The following graphs summarize Lycoming County accident data and future goals long range transportation planning purposes.

### Crashes by County—Five-Year Trends

The percentages compare the number to the statewide total at the bottom of the columns.

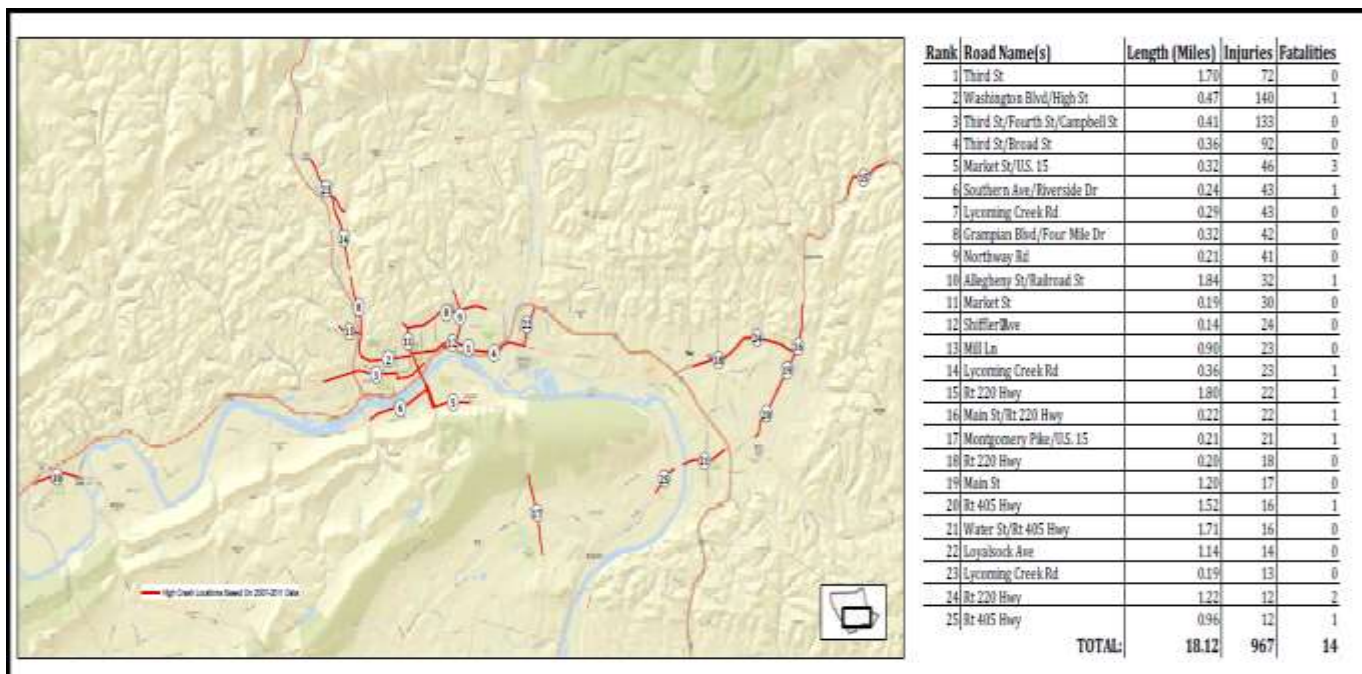
County	2007 Crashes	2008 Crashes	2009 Crashes	2010 Crashes	2011 Crashes
Adams	1,061 (0.8%)	1,034 (0.8%)	1,156 (1.0%)	1,007 (0.8%)	1,076 (0.9%)
Allegheny	12,086 (9.3%)	11,754 (9.4%)	11,816 (9.6%)	11,234 (9.3%)	12,115 (9.7%)
Armstrong	595 (0.5%)	547 (0.4%)	556 (0.5%)	577 (0.5%)	550 (0.4%)
Beaver	1,513 (1.2%)	1,584 (1.3%)	1,461 (1.2%)	1,524 (1.3%)	1,408 (1.1%)
Bedford	770 (0.6%)	770 (0.6%)	680 (0.6%)	653 (0.5%)	724 (0.6%)
Berks	5,130 (3.9%)	4,807 (3.8%)	4,563 (3.8%)	4,466 (3.7%)	4,690 (3.7%)
Blair	1,444 (1.1%)	1,488 (1.2%)	1,339 (1.1%)	1,319 (1.1%)	1,388 (1.1%)
Bradford	597 (0.5%)	631 (0.5%)	586 (0.5%)	770 (0.6%)	847 (0.7%)
Bucks	6,751 (5.2%)	6,246 (5.0%)	6,512 (5.4%)	6,094 (5.0%)	6,174 (4.9%)
Butler	1,936 (1.5%)	1,937 (1.6%)	1,742 (1.4%)	1,713 (1.4%)	1,833 (1.5%)
Cambria	1,435 (1.1%)	1,419 (1.1%)	1,370 (1.1%)	1,388 (1.1%)	1,352 (1.1%)
Cameron	60 (0.1%)	51 (0.0%)	44 (0.0%)	68 (0.1%)	70 (0.1%)
Carbon	731 (0.6%)	704 (0.6%)	660 (0.5%)	744 (0.6%)	712 (0.6%)
Centre	1,357 (1.0%)	1,360 (1.1%)	1,262 (1.0%)	1,208 (1.0%)	1,320 (1.1%)
Chester	4,611 (3.5%)	4,700 (3.8%)	4,484 (3.7%)	4,256 (3.5%)	4,541 (3.6%)
Clanton	540 (0.4%)	564 (0.5%)	484 (0.4%)	479 (0.4%)	458 (0.4%)
Clearfield	985 (0.8%)	1,032 (0.8%)	966 (0.8%)	956 (0.8%)	927 (0.7%)
Clinton	480 (0.4%)	464 (0.4%)	375 (0.3%)	417 (0.3%)	439 (0.4%)
Columbia	770 (0.6%)	721 (0.6%)	729 (0.6%)	755 (0.6%)	826 (0.7%)
Crawford	1,101 (0.8%)	1,085 (0.9%)	898 (0.7%)	874 (0.7%)	897 (0.7%)
Cumberland	2,604 (2.0%)	2,340 (1.9%)	2,310 (1.9%)	2,497 (2.1%)	2,450 (2.0%)
Dauphin	3,110 (2.4%)	2,928 (2.3%)	2,931 (2.4%)	2,867 (2.4%)	3,017 (2.4%)
Delaware	4,613 (3.5%)	4,532 (3.6%)	4,360 (3.6%)	4,379 (3.6%)	4,593 (3.7%)
Elk	359 (0.3%)	342 (0.3%)	286 (0.2%)	290 (0.2%)	299 (0.2%)
Erie	2,731 (2.1%)	2,817 (2.3%)	2,572 (2.1%)	2,668 (2.2%)	2,714 (2.2%)
Fayette	1,250 (1.0%)	1,302 (1.0%)	1,183 (1.0%)	1,185 (1.0%)	1,136 (0.9%)
Forest	74 (0.1%)	88 (0.1%)	65 (0.1%)	85 (0.1%)	70 (0.1%)
Franklin	1,608 (1.2%)	1,490 (1.2%)	1,415 (1.2%)	1,397 (1.2%)	1,469 (1.2%)
Fulton	337 (0.3%)	320 (0.3%)	329 (0.3%)	267 (0.2%)	279 (0.2%)
Greene	381 (0.3%)	435 (0.4%)	358 (0.3%)	387 (0.3%)	397 (0.3%)
Huntingdon	482 (0.4%)	507 (0.4%)	433 (0.4%)	373 (0.3%)	406 (0.3%)
Indiana	920 (0.7%)	893 (0.7%)	872 (0.7%)	845 (0.7%)	821 (0.7%)
Jefferson	471 (0.4%)	537 (0.4%)	408 (0.3%)	443 (0.4%)	452 (0.4%)
Juniata	242 (0.2%)	297 (0.2%)	249 (0.2%)	241 (0.2%)	249 (0.2%)
Lackawanna	2,408 (1.8%)	2,518 (2.0%)	2,443 (2.0%)	2,558 (2.1%)	2,586 (2.1%)
Lancaster	5,875 (4.5%)	5,727 (4.6%)	5,308 (4.4%)	5,057 (4.2%)	5,417 (4.3%)
Lawrence	829 (0.6%)	838 (0.7%)	777 (0.6%)	773 (0.6%)	782 (0.6%)
Lebanon	1,578 (1.2%)	1,440 (1.2%)	1,394 (1.2%)	1,296 (1.1%)	1,446 (1.2%)
Lehigh	4,964 (3.8%)	4,516 (3.6%)	4,439 (3.7%)	4,424 (3.7%)	4,479 (3.6%)
Luzerne	2,926 (2.2%)	2,668 (2.1%)	3,125 (2.6%)	3,395 (2.8%)	3,382 (2.7%)
Lycoming	1,313 (1.0%)	1,244 (1.0%)	1,162 (1.0%)	1,226 (1.0%)	1,324 (1.1%)
McKean	376 (0.3%)	399 (0.3%)	339 (0.3%)	318 (0.3%)	360 (0.3%)
Mercer	1,391 (1.1%)	1,298 (1.0%)	1,227 (1.0%)	1,259 (1.0%)	1,356 (1.1%)
Mifflin	429 (0.3%)	420 (0.3%)	394 (0.3%)	385 (0.3%)	386 (0.3%)
Monroe	2,241 (1.7%)	2,093 (1.7%)	2,113 (1.7%)	2,439 (2.0%)	2,375 (1.9%)
Montgomery	9,443 (7.2%)	8,373 (6.7%)	8,182 (6.8%)	8,284 (6.8%)	8,457 (6.7%)
Montour	202 (0.2%)	206 (0.2%)	202 (0.2%)	202 (0.2%)	227 (0.2%)
Northampton	3,042 (2.3%)	2,799 (2.2%)	2,883 (2.4%)	2,760 (2.3%)	2,843 (2.3%)
Northumberland	678 (0.5%)	722 (0.6%)	604 (0.5%)	630 (0.5%)	742 (0.6%)
Perry	587 (0.5%)	593 (0.5%)	474 (0.4%)	470 (0.4%)	508 (0.4%)
Philadelphia	11,436 (8.8%)	10,605 (8.5%)	10,668 (8.8%)	10,965 (9.0%)	10,876 (8.7%)
Pike	684 (0.5%)	735 (0.6%)	595 (0.5%)	687 (0.6%)	633 (0.5%)
Potter	160 (0.1%)	162 (0.1%)	127 (0.1%)	148 (0.1%)	136 (0.1%)
Schuylkill	1,563 (1.2%)	1,291 (1.0%)	1,352 (1.1%)	1,356 (1.1%)	1,421 (1.1%)
Snyder	412 (0.3%)	433 (0.4%)	387 (0.3%)	386 (0.3%)	408 (0.3%)
Somerset	931 (0.7%)	867 (0.7%)	834 (0.7%)	844 (0.7%)	851 (0.7%)
Sullivan	89 (0.1%)	80 (0.1%)	62 (0.1%)	105 (0.1%)	95 (0.1%)
Susquehanna	507 (0.4%)	515 (0.4%)	503 (0.4%)	471 (0.4%)	514 (0.4%)
Tioga	463 (0.4%)	487 (0.4%)	427 (0.4%)	552 (0.5%)	610 (0.5%)
Union	379 (0.3%)	367 (0.3%)	370 (0.3%)	345 (0.3%)	361 (0.3%)
Venango	642 (0.5%)	598 (0.5%)	560 (0.5%)	571 (0.5%)	582 (0.5%)
Warren	483 (0.4%)	449 (0.4%)	411 (0.3%)	372 (0.3%)	414 (0.3%)
Washington	1,962 (1.5%)	2,013 (1.6%)	1,898 (1.6%)	1,934 (1.6%)	2,036 (1.6%)
Wayne	502 (0.5%)	561 (0.5%)	480 (0.4%)	588 (0.5%)	538 (0.4%)
Westmoreland	3,623 (2.8%)	3,513 (2.8%)	3,104 (2.6%)	3,128 (2.6%)	3,405 (2.7%)
Wyoming	307 (0.2%)	325 (0.3%)	325 (0.3%)	346 (0.3%)	361 (0.3%)
York	4,916 (3.8%)	4,659 (3.7%)	4,661 (3.8%)	4,506 (3.7%)	4,627 (3.7%)
<b>TOTAL</b>	<b>130,675 (99.9%)</b>	<b>125,327 (99.9%)</b>	<b>121,242 (99.9%)</b>	<b>121,312 (99.9%)</b>	<b>125,395 (99.9%)</b>

During the 2007-2011 period, there were 6,269 reportable crashes in Lycoming County or 1% of total statewide crashes. Lycoming County also has about 1% of state-wide population. Overall crashes declined somewhat between 2007 and 2009 but then increased in 2010 and 2011. It should be noted that dramatic increases in traffic volumes on certain roadways attributable to Marcellus Shale natural gas drilling activity peaked in 2010 and 2011 which may explain for a slight reversal in the downward accident trend but 2011 total crashes were about the same as 2007 total crashes that were prior to Marcellus activity.



The map below highlights the top 25 PennDOT ranked high crash locations within Lycoming County.

### Lycoming County High Crash Locations (Based on 2007-2011 PennDOT Data)



From 2007-2011, there were 967 injuries and 14 fatalities at these top 25 locations. The first ranked location along the westbound lanes of SR 2014 (Third Street Golden Strip) between Northway Road and Country Club Drive is also identified on the State-wide High Crash Corridors List. None of the other 24 locations noted are included on the state-wide list.

### **High Crash Corridor**

The concept of high crash corridors was introduced in 2012 to allow Districts to implement systematic safety improvements over longer stretches of roadway. Cluster reports were generated using a 10-mile length and a varying number of crashes such that every District – Planning Organization combination was represented. Locations on the corridor lists are eligible for Highway Safety Improvement Program (HSIP) funds.

<b>Williamsport MPO 2012 High Crash Corridors (2007-2011 Data)</b>									
<b>MPO/RPO</b>	<b>County</b>	<b>Route</b>	<b>Beg Seg</b>	<b>Beg Off</b>	<b>End Seg</b>	<b>End Off</b>	<b>Length (miles)</b>	<b>Fatal/ Injury Crashes</b>	<b>Fatalities</b>
Williamsport	Lycoming	2014	0030	1639	0450	0066	15.8	338	4

PennDOT in conjunction with the WATS MPO is currently reviewing the above corridor along SR 2014 between High Street in the City of Williamsport to Halls Station, in Muncy Township as well as the previously noted Top 25 crash locations to identify low cost countermeasures to address accidents and incorporate improvements, especially when other projects are also being scoped at these same locations to ensure cost-effective solutions.

### **CURRENT MAJOR HIGHWAY SAFETY PROJECTS UNDERWAY**

The WATS MPO currently has two major highway safety improvement programs programmed. The most significant safety project is the US Route 15 median barrier project in Armstrong and Clinton Townships which is phased construction estimated to be completed in 2014. This corridor has a high accident history, especially involving head-on fatal accidents. Intersection turn lanes and jug handles are also incorporated into the scope of improvements. It should be noted a PennDOT US 220 Corridor Study now underway has safety improvement components and will be more fully discussed in the Congestion / Access Management section of the plan.



**US Route 15 Safety Median Barrier Project Under Construction**



The second project involves realignment and reconstruction of the PA 42/PA 118 intersection as an offset T type intersection improvement that will also involve a bridge replacement project scheduled for construction in 2014. This is a prime example of incorporating a safety improvement with other types of system improvements such as a bridge replacement.

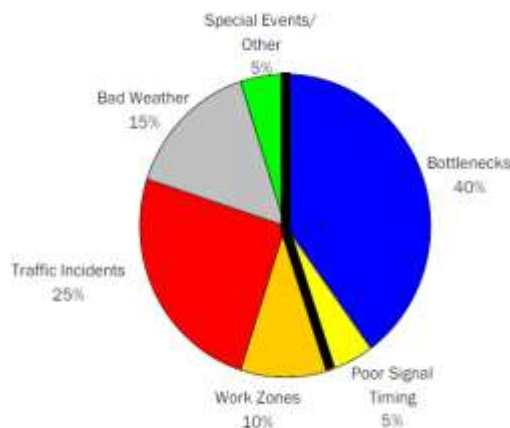
It should also be noted that Lycoming County participates in the Comprehensive Highway Safety Program which provides education and information on highway issues. Highway safety programs and training are available for preschool through senior high, colleges, business and industry, law enforcement, senior centers, community groups and public service organizations on the following topics:

- *Safety belts/ Child Passenger Safety*
- *Bicycle/Motorcycle Safety*
- *Pedestrian Safety/School Bus Safety*
- *Safe Driving/Safe Vehicle Characteristics*
- *Driving under the influence (DUI) with Lycoming County DUI Task Force Coordination*
- *Underage Drinking*
- *Rail/Highway Grade Crossing Safety*

## **CONGESTION & ACCESS MANAGEMENT**

Congestion management is the application of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods. A Congestion Management Process, (CMP) is a systematic and regionally-accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs. FHWA has identified the primary causes of traffic congestion as noted in the pie chart below.

### **NATIONAL BREAKDOWN OF TRAFFIC CONGESTION CAUSES**



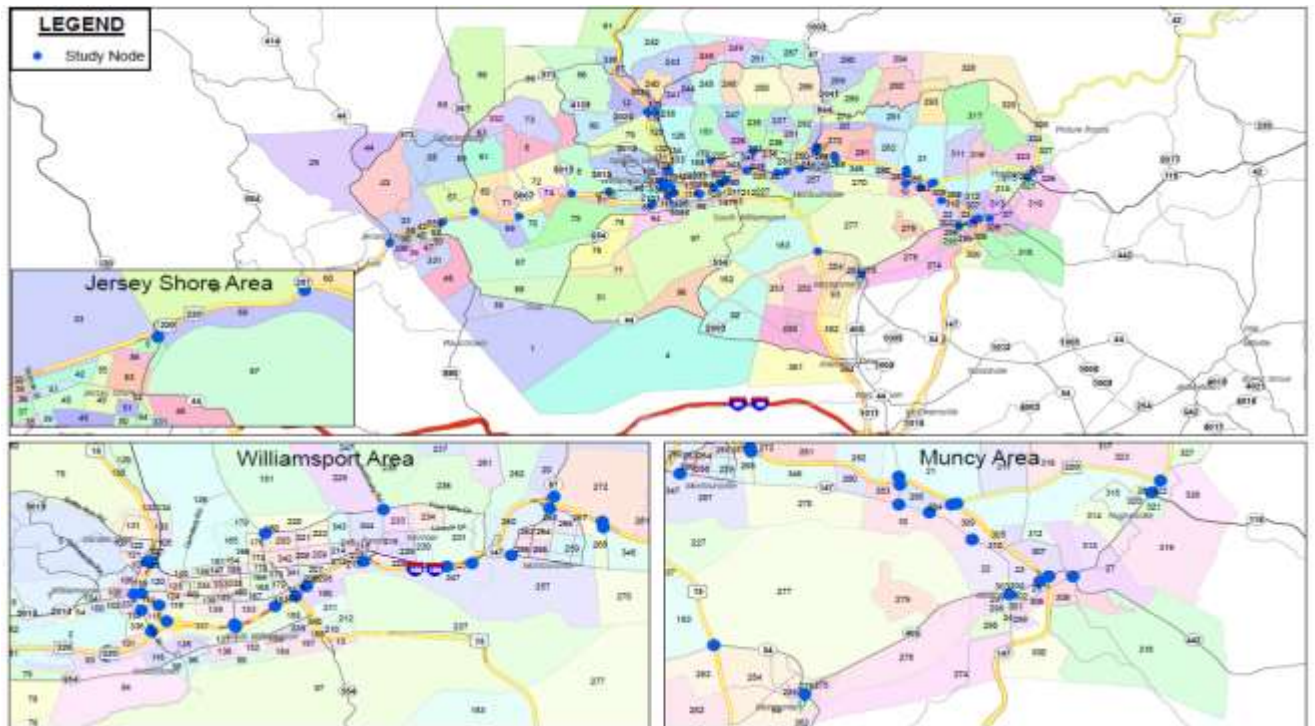
A CMP is federally required in metropolitan areas with population exceeding 200,000 known as Transportation Management Areas, (TMAs). Since Lycoming County has less than 200,000 population, the WATS MPO is not required to develop a CMP, however a CMP process tailored to local issues and needs is beneficial. Also, in TMAs designated as ozone or carbon monoxide air quality non-attainment areas, the CMP takes on greater significance as Federal law prohibits transportation projects that result in significant increases in carrying capacity for single occupant vehicles, (SOVs) from being programmed in these areas unless the project is addressed in the region's CMP. According to the US Environmental Protection Agency, (EPA), Lycoming County is currently in attainment for all national ambient air quality standards so air quality conformity analysis is currently not required for WATS MPO Long Range Plan and Transportation Improvement programmed projects.

Lycoming County in cooperation with PennDOT have already undertaken a number of recent planning efforts that address congestion and highway access management including development of a Lycoming County Growth Area Land-Use and Transportation Plan, US 220 Corridor Access Management Study and Regional Operations Plan in which the analysis and recommendations will be summarized in this plan.



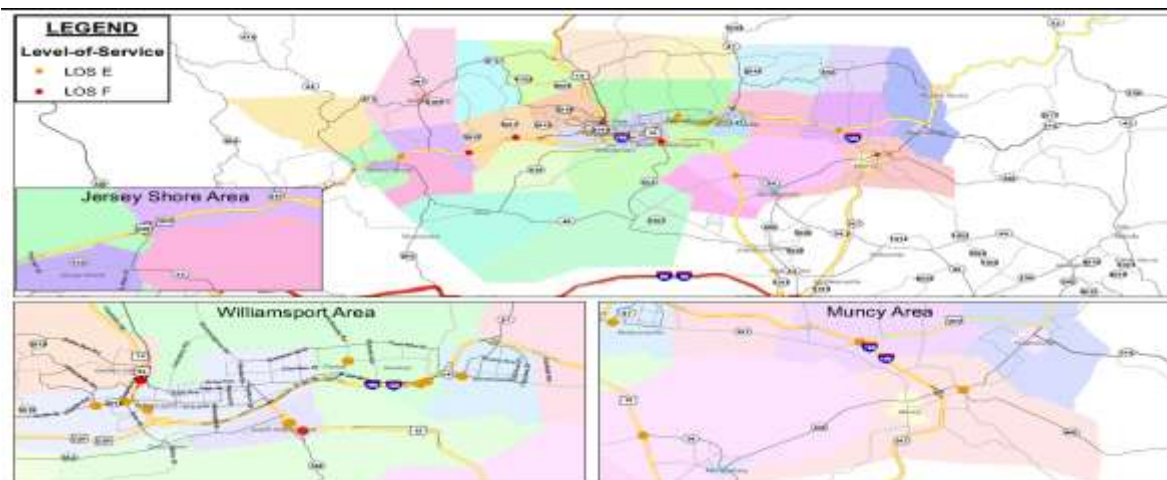
In June, 2012, the WATS MPO approved the Lycoming County Growth Area Land-Use and Transportation Plan. This plan analyzed the designated multi-municipal plan growth areas described in Chapter 3 consisting of a 480 square mile developing area in terms of present and future forecasted traffic based on future land-use forecasting build out ratios and current and anticipated Marcellus related traffic volume activity.

Since new traffic associated with future land-use development can cause undesirable impacts, such as congestion and safety issues, on the transportation system, this study identifies such impacts and strategically targets those areas where future transportation investments coordinated with sound land use planning should be undertaken. The study analysis methodology identified key intersections in the roadway network and examined the existing and future ability of these intersections to accommodate current and future traffic demand. The intersections were selected for detailed study because they represent key junctures in the roadway system that typically exhibit congestion. A travel demand forecasting model was developed for the study area using the VISUM 11-5 software package published by PTV America. This VISUM model is especially sensitive to determining intersection delay and to test a variety of intersection-based improvements to mitigate transportation deficiencies. The study area's 318 Traffic Analysis Zones, (TAZ) and intersection locations are shown on the following map.



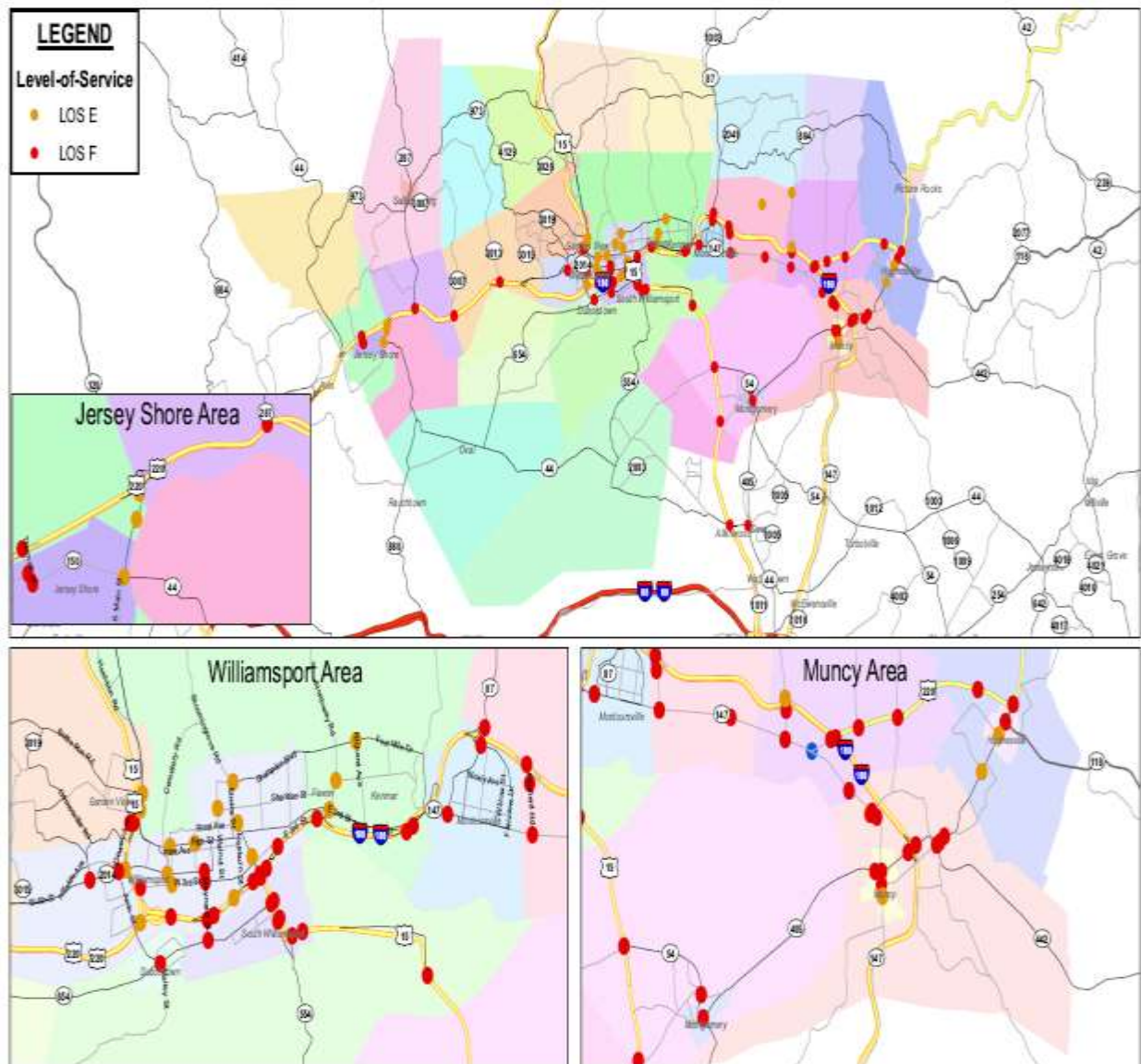
Year 2010 peak hour traffic counts were taken at all 51 intersection locations. Traffic count information was supplemented with other supporting data such as existing roadway conditions and physical features information on posted speed limits, intersection traffic control, lane-use controls, lane widths, shoulder widths, approach gradients, length of auxiliary lanes, etc. Where signalized intersections exist, traffic signal permit information and timing plans from PennDOT was utilized for the model. All available land use and demographic information was converted to vehicle trip generation. Trip production/attraction totals by trip type were developed for each TAZ using a gravity model based upon the free-flow travel time between TAZ zones. Finally, traffic was assigned to the study area network. The 2010 traffic counts show 17 study area intersection locations of traffic congestion where at least one turn-movement operates at congested Level of Service E or F conditions as identified on the study area maps below:

### CONGESTION MAP, YEAR 2010 CONDITIONS





Traffic conditions for Year 2030 were then forecasted and modeled for the same intersection locations. The number of congested intersections rose from 17 to 61 locations as noted on the study are maps below.



A Transportation Capital Improvements Program was developed to address study area congested areas for Year 2030 conditions. This \$ 65 million capital improvements program is shown in this Long Range Plan for illustrative purposes only as WATS recognizes that more detailed analysis needs to be performed at all existing and forecasted congestion locations to develop specific scopes of work and cost estimates that were beyond the capability of this study. As part of this analysis, WATS will strongly consider utilizing highway access management practices to better coordinate future land development and highway access in order to minimize the need for extensive capital improvement projects and better control the number of new access points to the highway system.

**YEAR 2030 WATS CONGESTED AREAS PRELIMINARY CAPITAL IMPROVEMENTS**

Project ID <sup>(3)</sup>	Name	Mitigation	Rounded Total
1	Us-220AtPaRoute287	2nd US-220 EB Thru Lane, 2nd Pa SB Left Turn Lane (includes replacement of RR bridge)	\$3,640,000
2	Us-220 At Pine Run Rd	J- Intersection with median U-Turn	\$0 <sup>(1)</sup>
3	Us-220 At Quenshukeny Rd	J- Intersection with median U-Turn	\$0 <sup>(1)</sup>
4	Market St At 1-180 West Ramp To Us-15 NB	2nd US-15 NB Left-Turn Lane (Feasibility Study)	\$200,000 <sup>(2)</sup>
5	Pa Route 87 At 1-180 West Ramp To/From N Loyalsock Ave	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
6	Rakestraw Rd At 1-180 West Ramp To Fairfield Rd	Roundabout (feasibility of a Traffic Signal should be considered)	\$1,350,000
7	Us-220 At 1-180 East Ramp To Us-220	Ramp Dual EB Left-Turn Lane, 2nd US-220 NB Through Lane, 2nd US-220 SB Through Lane	\$1,390,000
8	Us-220 At 1-180 West Ramp To Us-220	US-220 SB Right Turn Lane	\$380,000
9	Pa Route 405 At 1-180 West Ramp To/From Pa-405	Ramp - NB Right-Turn Lane, traffic signal	\$850,000
10	W3RdStAtUs-15 North Ramp To/From W. 3Rd St	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
11	Foy Ave At Us-15 North Ramp To Foy Ave	Roundabout (feasibility of a Traffic Signal should be considered)	\$1,350,000
12	John Brady Dr At Industrial Park Rd	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
13	Pa Route 405 At N Main St	Construct 0.7 mile Bypass Road between PA Route 405 and Industrial Parkway	\$6,020,000
14	Pa Route 405 At Pa Route 118	PA-118 WB right-turn lane and PA-405, NB right-turn lane	\$700,000
15	Pa Route 405 At Us-220	Intersection Realignment, Traffic Signal and Turning Lanes (as per PennDOT)	\$6,000,000
16	Pa Route 405 At Pa Route 54	Traffic Signal, PA 405 WB Left-Turn Lane, Pa 54 EB Right Turn Lane	\$1,200,000
17	Us-15 At Pa Route 54	Elmsport Rd EBR lanes	\$380,000
18	W4ThSt At Fox Hollow Rd	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
19	Riverside Dr At Jacks Hollow Rd	Riverside Drive WB Right Turn Lane	\$380,000
20	High St At Fifth Ave	Traffic Signal and High St WB Left-Turn Lane	\$860,000



Project ID <sup>(3)</sup>	Name	Mitigation	Rounded Total
21	W4ThStAtMaynardSt	Traffic Signal, 4th St WB Left-Turn Lane	\$860,000
22	Us-15 At 7Th Ave	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
23	Us-15At7ThAve	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
24	Us-15 At Pa Route 554	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
25	Us-15 At Fairmont Ave	Prohibit Fairmont SB Left	\$6,000
26	Northway Rd At Lincoln Dr	Northway NB Right Turn Lane	\$380,000
27	Us-15 At Old Montgomery Pike	Old Montgomery 1-way WB	\$25,000
28	Us-15 At Pa Route 44	PA-44-WB Right Turn Lane, Pa 44 EB right Turn Lane	\$710,000
29	Us-15AtPinchtownRd	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
30	Fairfield Rd At Brushy Ridge Rd	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
31	Lycoming Mall Dr At Cemetery Rd	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
32	Us-220 At Quaker Church Rd	US-220 -EB Left-Turn Lane, Quaker Church - SB Left-Turn Lane, Middle Rd - NB LT Lane and Traffic Signal	\$1,510,000
33	Industrial Pkwy At Industrial Park Rd	Industrial Parkway NB&SB Left-Turn Lane, east leg Industrial Park Rd 1-wayEB, west leg Industrial Park right turn only egress	\$700,000
34	Pa Route 405 At Sherman St	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
35	E Lime Bluff Rd At Middle Rd	Traffic Signal, EB Left Turn Lane	\$860,000
36	SMainStAtEPennSt	Construct Project 13	\$0
37	N Main St At Industrial Park Rd	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
38	Us-220 At RabbittownRd	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
39	Pa Route 405 At Chippewa Rd	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
40	Pa Route 405 At Lime Bluff Rd	Traffic Signal and PA-405, WB Left-Turn Lane	\$860,000
41	Us-220 At Lime Bluff Rd	US-220, EB Right Turn Lane	\$380,000

Project ID <sup>(3)</sup>	Name	Mitigation	Rounded Total
42	Thomas St At Us-220 West Exit Ramp To Thomas St	Roundabout (feasibility of a Traffic Signal should be considered)	\$1,350,000
43	E Lime Bluff Rd At E Lime Bluff Rd	Traffic Signal, EB, WB, NB, SB left-turn lanes, Industrial Parkway NB Right Turn Lane, 2nd SB Lime Bluff Thru Lane	\$2,460,000
44	Pa Route 405 At Pa Route 44	Traffic Signal (feasibility of a Roundabout should be considered)	\$550,000
45	Pa 405 at Industrial Park Connector	Construct intersection with Traffic Signal control and auxiliary eastbound left turn lane on PA Route 405	\$840,000
46	Industrial Parkway at Industrial Park Connector	Construct intersection with Traffic Signal Control , auxiliary WB left turn lane on Industrial Parkway, and second EB travel lane on Industrial Parkway	\$1,170,000
47	US 15 at I-180 East Ramp to US 15 SB	Construct 2nd Right Turn Lane (Feasibility Study)	\$200,000
48	US 220 EB at Spook Hollow Interchange	Construct new grade separated interchange approximately 1 mile west of Pine Run Road. Construct 1.5 mile connector roadway to Pine Run Road. Construct SB left Turn lane on interchange overpass.	\$18,000,000
49	US 220 EB at Spook Hollow Interchange	New Grade separated interchange (Project 48). Construct connector roadway (1000 ft) to Spook Hollow Road. Construct NB left turn lane on interchange overpass.	\$1,000,000
50 <sup>(4)</sup>	SR 2014 and I-180 WB Ramp	Traffic Signal/Turn Lane (feasibility of a roundabout should also be considered).	\$600,000
<b>TOTAL</b>			<b>\$64,861,000</b>

It should be noted that PennDOT has initiated a detailed study of the US 220 / PA 405 intersection to determine the need and scope of recommended improvements and Lycoming County is currently in the consultant selection process to initiate a Muncy Area Corridor Access Management Plan to be undertaken in 2014. This plan will carefully evaluate current and future land use development patterns and identify ways to limit or consolidate access points to the main highway system with primary focus on SR 2014 John Brady Drive, US 220 and PA 405 in Muncy, Wolf and Muncy Creek Townships and Muncy and Hughesville Boroughs. The PA 405/ SR 2014 (Main / Water Streets) intersection in Muncy Borough will also be a primary study focus due to congestion and safety issues especially from large scale Marcellus related business development and truck / employee traffic generators.

## HIGHWAY OCCUPANCY PERMITS

It should be noted that PennDOT regulates access onto State-owned road right of way in accordance with Title 67 PA Code Chapter 441. PennDOT has recently made significant efforts to enhance municipal coordination during the review and approval of driveway permit applications through their newly established e-permitting system affording municipalities to review and comment on permit applications, especially during their review of local land development plans to improve transportation and land use decision-making. The WATS MPO strongly supports such efforts in order to better manage highway access to preserve the operational integrity and capacity of the

existing roadway system as funding is very limited to undertake new capacity improvement projects. As part of the PennDOT HOP process, large scale higher traffic volume generators proposing access onto state-owned roads are required to prepare either a Transportation Impact Study, (TIS) or Transportation Impact Assessment (TIA) to document impacts from their development and identify transportation improvement needs. There are some local municipalities in Lycoming County that do issue driveway permits on roadways under local ownership. The most significant example of a PennDOT highway access management study now underway in Lycoming County is the US 220 Corridor Study.

### **US 220 CORRIDOR HIGHWAY ACCESS MANAGEMENT STUDY**



PennDOT has also initiated a US 220 Corridor Highway Access Management Study between the Jersey Shore and Williamsport Area. As noted earlier in this Chapter, this corridor is an integral part of the Enhanced National Highway System as a major north/south through route in Lycoming County and is identified in the National Highway System Act of 1995 as part of I-99.

This corridor is currently experiencing traffic congestion and public safety issues because the corridor serves as a principal arterial highway, however over 200 driveway accesses serving local development also exists in the six mile long segment thereby creating conflicts between faster and slower moving traffic making frequent turning movements. Therefore, the objectives of this study will be to identify and understand current and anticipated future traffic volumes, generators, travel patterns and traffic safety issues, develop and evaluate improvement alternatives to address unmet needs and recommend improvements for future consideration in this WATS Long Range Plan and Transportation Improvement Program. The study will also recommend measures that can be taken by local governments to improve traffic flow and safety along the corridor, especially in regard to reviewing and approving future land development as this is a high growth corridor largely under municipal land use controls.

The PennDOT study is currently underway and a community Focus Group has been activated. A Public Outreach meeting has also been held to secure initial input on study goals and objectives and review current traffic information.

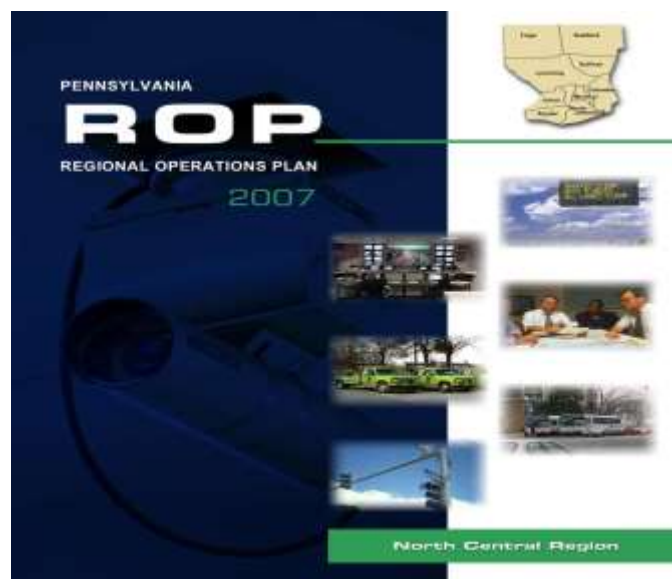
The PennDOT Study area is depicted on the map below.



It is expected that final study report will be issued in Summer 2014 so the Long Range Plan will be further amended to consider important recommendations that will be formulated as part of this study process given the significance of this NHS corridor.

### **REGIONAL OPERATIONS PLAN, (ROP)**

In 2007, PennDOT in cooperation with the WATS MPO, SEDA-COG MPO and Northern Tier RPO with input from other stakeholder organizations developed a Regional Operations Plan for the nine county PennDOT Engineering District 3-0 Northcentral PA region.





SAFETEA-LU federal legislation requires consideration of transportation systems operations and management strategies in long range transportation plans. The PennDOT District 3-0 ROP is part of a state-wide ROP where specific technologies are identified for future deployment to help reduce congestion, improve safety and overall operational performance of the transportation system custom tailored to address regional needs identified through a collaborative decision-making process. A PennDOT Task Force was formed to develop the ROP. The planning process included defining transportation systems operations as it relates to congestion and safety, defining operational improvement needs and defining projects in a prioritized fashion to address needs with emphasis on utilizing Intelligent Transportation System, (ITS) technologies to improve operational performance of the regional transportation system. Improving incident management was an integral part of the planning process.

Results of the ROP process included the definition of four "operations areas" that described the region's needs. These four operations areas are:

- **Traveler Information** – projects, systems and programs to convey information to the public and other stakeholder.
- **Incident (and Emergency) Management** – projects, systems and programs to more efficiently and safely manage incidents.
- **Interagency Communication** – projects, systems and programs that provide a mechanism for interagency communication and coordination and common situational awareness.
- **Operations Foundation** – the infrastructure and resources needed to plan, deploy, operate and maintain operational initiatives.



The Forum and other stakeholder agreed that while these were the four key "operations areas" that there may be other miscellaneous needs that should also be considered.

Projects for each operations area were identified through regional outreach with Forum members and other stakeholders. The final ROP projects fall into three types general categories:

1. Deployments (TMC, roadway, etc)
2. Systems (software, communication, etc)
3. Programs and Management (planning, coordination activities, performance, organizational etc)



Below is a summary of the Task Force recommended improvements contained in the PennDOT District 3-0 ROP which was also approved by the WATS MPO, SEDA-COG and Northern Tier planning organizations. 32 different ITS deployments were recommended in Lycoming County.

### ROP ITS Deployment Strategy

Deployment Breakdown		DMS	HAR	CCTV	DET SYS	RWIS	Total Deployment
<b>Total</b>		<b>32</b>	<b>17</b>	<b>36</b>	<b>20</b>	<b>13</b>	<b>118</b>
WATS	Lycoming	7	5	13	4	3	32
	Bradford	4	1	3	0	2	10
NTRPDC	Sullivan	0	0	0	0	0	0
	Tioga	4	3	3	0	2	12
	subtotal	8	4	6	0	4	22
	Columbia	4	1	4	5	1	15
SEDA-COG	Montour	2	1	1	2	1	7
	N'land	4	2	6	5	2	19
	Snyder	2	3	3	1	1	10
	Union	5	1	3	3	1	13
	subtotal	17	8	17	16	6	64

DMS- Dynamic Message Signs  
HAR- Highway Advisory Radio  
CCTV – Closed Circuit television  
DET SYS – Detection Systems  
RWIS – Roadway Weather Information Systems

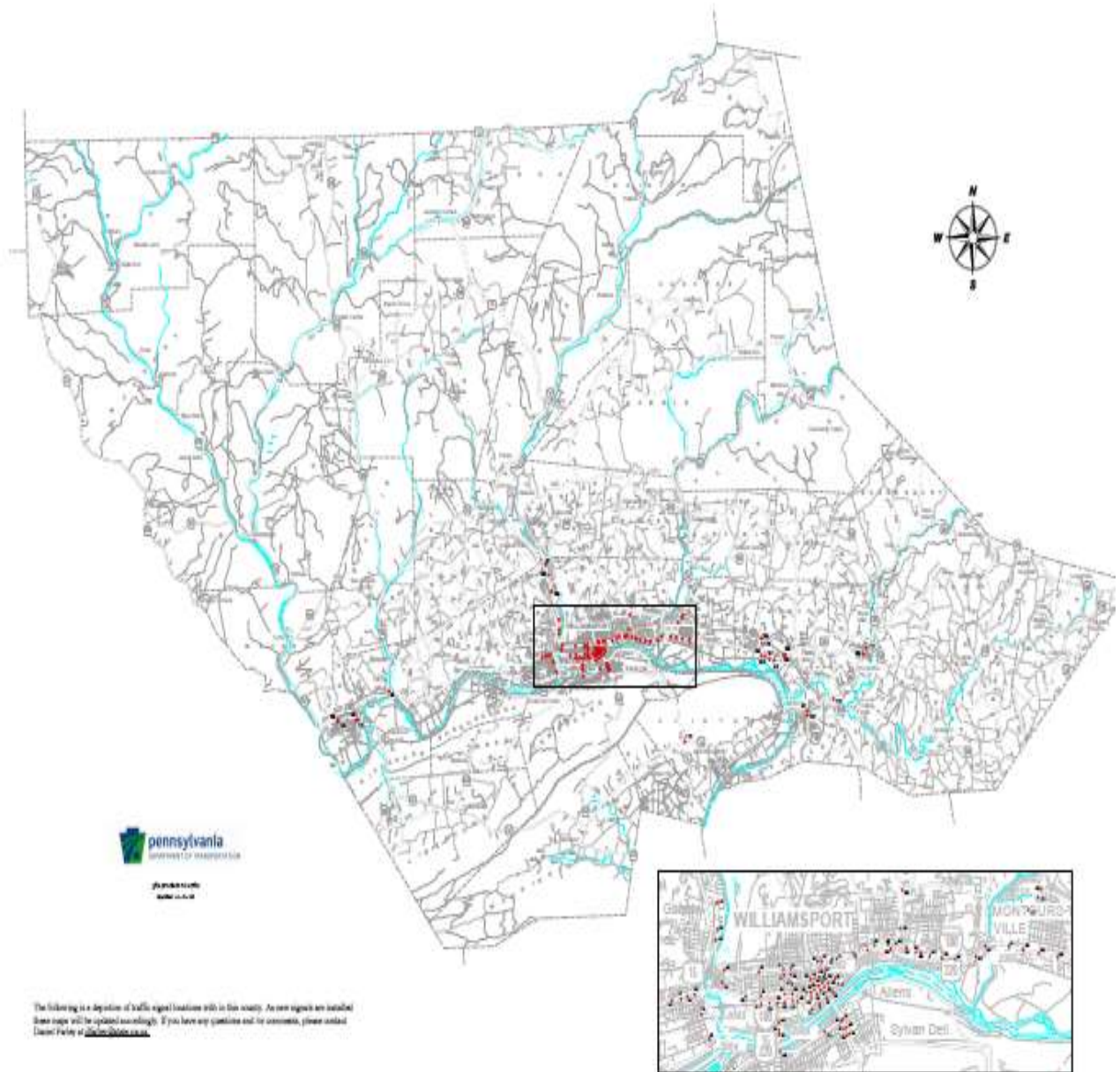
## Lycoming County 108 Traffic Signal Locations Inventory

Cty Code	County	Municipality	SR1	SR2	Major Street	Minor Street	Number
41	Lycoming	Williamsport	2014		W. Third Street	Pine Street	67
41	Lycoming	Williamsport	2014	2062	E. Third Street	Basin Street	68
41	Lycoming	Williamsport	2070		Via Bella Street	Mulberry Street	69
41	Lycoming	Williamsport	2016		Washington Boulevard	Grove Street	70
41	Lycoming	Williamsport	2016		Washington Boulevard	Sherman Street	71
41	Lycoming	Williamsport	2070	2062	Via Bella Street	Basin Street	72
41	Lycoming	Williamsport	2016		Washington Boulevard	Franklin Street	73
41	Lycoming	Williamsport	2016		Washington Boulevard	Penn Street	74
41	Lycoming	Williamsport	2016		Washington Boulevard	Mulberry Street	75
41	Lycoming	Williamsport	2070		Via Bella Street	Court Street	76
41	Lycoming	Williamsport	2070		Via Bella Street	William Street	77
41	Lycoming	Williamsport	2070	2060	Via Bella Street	Hepburn Street	78
41	Lycoming	Williamsport			Park Avenue	Campbell Street	79
41	Lycoming	Williamsport			Park Avenue	Walnut Street	80
41	Lycoming	Williamsport	2016		High Street	Campbell Street	81
41	Lycoming	Williamsport			Arch Street	Reach Road	82
41	Lycoming	Williamsport			Maynard Street	I-180 EB Ramp D-2	83
41	Lycoming	Williamsport			Maynard Street	I-180 WB Ramp D-3	84
41	Lycoming	Williamsport	2014		W. Fourth Street	Seventh Avenue	85
41	Lycoming	Williamsport	2016		High Street	Seventh Avenue	86
41	Lycoming	South Williamsport Borough	0015		Market Street	Central Avenue	87
41	Lycoming	South Williamsport Borough	0015		Hastings Street	Mountain Avenue	88
41	Lycoming	Williamsport	2016		Washington Boulevard	Packer Street	89
41	Lycoming	Williamsport	2014		W. Third Street	Hepburn Street	90
41	Lycoming	Williamsport	2016		High Street	Walnut Street	91
41	LYCOMING	MUNCY	2014	0405	S.R. 2014 (MAIN) & S.R. 405 (WATER)		92
41	Lycoming	Williamsport			W. Fourth Street	Elmira Street	93
41	LYCOMING	SOUTH WILLIAMSPORT	0015	2012	Hastings Street	Southern Avenue	94
41	LYCOMING	SOUTH WILLIAMSPORT	0015	0654	Market Street	Southern Avenue	95
41	LYCOMING	PIATT TWP.	0220	0287	S.R. 220 & 287		96
41	LYCOMING	OLD LYCOMING TWP.	1017	3026	S.R. 1017 & 3026 ( Lycoming Creek Rd. , Beautys Run Rd )		97
41	LYCOMING	OLD LYCOMING TWP.	1017	3014	S.R. 1017 & 3014 (LYCOMING CREEK RD. & MILL LN.)		98
41	LYCOMING	MUNCY TWP.	2014	2036	S.R. 2014 & 2036		99
41	LYCOMING	MUNCY TOWNSHIP	2014	2049	S.R. 2014(Lycoming Mall Dr) AND S.R. 2049(Lycoming Mall Rd)		100
41	LYCOMING	Williamsport	2014		Fourth Street	Campbell Street	101
41	LYCOMING	MUNCY BOROUGH	2014	2044	S.R. 2014 (MAIN ST.) & S.R. 2044 (PENN ST.)		102
41	LYCOMING	Williamsport			W. Fourth Street	William Street	103
41	LYCOMING	MONTOURVILLE	2014	2075	S.R. 2014 & 2075 (BROAD ST. & MONTOUR ST.)		104
41	LYCOMING	MONTOURVILLE	2075	2043	S.R. 2075 & 2043 (Loyalsock Av & Fairview Dr / Ramp J-2)		105
41	LYCOMING	LOYALSOCK TWP.	2029	2056	SR 2029 (Northway Rd), SR 2056 (Shiffer Av), & Ramp F		106
41	LYCOMING	LOYALSOCK TWP.	2014	2039	S.R. 2014 & 2039 (THIRD ST. & WARRENSVILLE RD.)		107
41	LYCOMING	LOYALSOCK TWP.	2018	2029	S.R. 2018&2029 (FOUR MILE DR. & NORTHWAY RD.)		108
41	LYCOMING	LOYALSOCK TWP.	2014	2029	S.R. 2014 & 2029 (EAST THIRD ST., NORTHWAY RD.,		109
41	LYCOMING	JERSEY SHORE	0044	3003	S.R. 44 & 3003 (MAIN ST. & ALLEGHENY ST.)		110
41	LYCOMING	HUGHESVILLE	0405	0118	S.R. 405 & 118 (MAIN ST. & WATER ST.)		111
41	LYCOMING	CLINTON TWP.	0015	0054	S.R. 15 & 54		112
41	LYCOMING	MUNCY CREEK TWP.	0405	0442	S.R. 405 & 442		113
41	Lycoming	Williamsport			Little League Boulevard	Pine Street	114
41	Lycoming	Williamsport			W. Third Street	Arch Street	115
41	Lycoming	Williamsport	2014		W. Fourth Street	Wayne Street	116
41	Lycoming	Williamsport	2014		W. Fourth Street	Poplar Street	117
41	Lycoming	Williamsport	2014		W. Fourth Street	Diamond Street	118
41	Lycoming	Williamsport	2014		W. Fourth Street	Arch Street	119
41	Lycoming	Williamsport	2014		W. Fourth Street	Rose Street	120

Cty Code	County	Municipality	SR1	SR2	Major Street	Minor Street	Number
41	Lycoming	Williamsport	2014		W. Third Street	Susquehanna Street	121
41	Lycoming	Williamsport	2014		W. Third Street	Campbell Street	122
41	LYCOMING	WILLIAMSPORT	2014	2023	S.R. 2014 (THIRD) & S.R. 2014 (MARKET)		123
41	Lycoming	Williamsport	2014		W. Third Street	Walnut Street	124
41	Lycoming	Williamsport	2014		W. Third Street	Locust Street	125
41	Lycoming	Williamsport			Little League Boulevard	Hepburn Street	126
41	Lycoming	Williamsport			Little League Boulevard	Walnut Street	127
41	Lycoming	Williamsport			W. Fourth Street	Walnut Street	128
41	Lycoming	South Williamsport Borough	0015		Market Street	Mountain Avenue	129
41	Lycoming	Williamsport			W. Fourth Street	Hepburn Street	130
41	Lycoming	Williamsport			Memorial Avenue	Clayton Street	131
41	Lycoming	Williamsport			E. Fourth Street	Mulberry Street	132
41	Lycoming	Williamsport			W. Third Street	Maynard Street	133
41	Lycoming	Williamsport	2014		W. Third Street	William Street	134
41	Lycoming	Williamsport			W. Third Street	Park Street	135
41	Lycoming	Loyalsock Township	2014		E. Third Street	Clayton Avenue	136
41	Lycoming	Williamsport	2023		Market Street	Fourth Street	137
41	Lycoming	Jersey Shore Borough	2028		Broad Street	Allegheny Street	138
41	Lycoming	Jersey Shore Borough	2028	2027	Railroad Street / Bridge Street	Thomas Street	139
41	Lycoming	Williamsport			Maynard Street	Bethlehem Steel Entrance / Sheetz Entrance	140
41	Lycoming	Montourville Borough	2014		Broad Street	Loyalsock Avenue	141
41	Lycoming	Williamsport	2016		High Street	Oliver Street	142
41	Lycoming	Old Lycoming Township	1017		Lycoming Creek Road	Mahaffey Lane	143
41	Lycoming	Loyalsock Township	2014		E. Third Street	I-180 WB Entrance (Exit 23)	144
41	Lycoming	Jersey Shore Borough	2028		Allegheny Street	Bridge Street	145
41	Lycoming	Montourville Borough	2014		Broad Street	Walnut Street	146
41	Lycoming	Williamsport	2014		W. Fourth Street	Pine Street	147
41	Lycoming	South Williamsport Borough	0015		Hastings Street	Central Avenue	148
41	Lycoming	Loyalsock Township	2014		E. Third Street	Westminster Drive	149
41	Lycoming	Loyalsock Township	2014		E. Third Street	Loyal Plaza Middle Entrance	150
41	Lycoming	Loyalsock Township	2014		E. Third Street	Loyal Plaza Western Entrance	151
41	Lycoming	Loyalsock Township	2014		E. Third Street	Country Club Drive	152
41	Lycoming	Loyalsock Township	2014		Old Montourville Road	I-180 Ramps (Exit 23)	153
41	Lycoming	Loyalsock Township	2029		Northway Road	Sheridan Street	154
41	Lycoming	Loyalsock Township	2014		Washington Boulevard	River Avenue	155
41	Lycoming	Loyalsock Township	1017		Lycoming Creek Road	Heshbon Road / Log Run Rd	156
41	Lycoming	Old Lycoming Township	1017	2016	Lycoming Creek Road	Rosawelt Avenue	157
41	Lycoming	Williamsport	2014		E. Third Street	Mulberry Street	158
41	Lycoming	Loyalsock Township	1017		Lycoming Creek Rd	Hayes Lane	159
41	Lycoming	Williamsport	2023		Market Street	Little League Boulevard	160
41	Lycoming	Muncy Township	2014		Lycoming Mall Dr	Eastern Mall Dr	161
41	Lycoming	Montourville Borough	2014		Broad Street	Winters Lane / Willow Street	162
41	Lycoming	Muncy Township	0220		Lycoming Mall Dr	I-180 WB Onramp	163
41	Lycoming	Muncy Township	2046		Lycoming Mall Rd	I-180 WB Onramp	164
41	Lycoming	Muncy Township	2014		Lycoming Mall Dr	Western Mall Dr	165
41	Lycoming	Muncy Township	2036		Lycoming Mall Dr	I-180 EB Onramp	166
41	LYCOMING	LOYALSOCK TWP	2014		S.R. 2014	SHIFFER AV	167
41	Lycoming	South Williamsport Borough	0015		Riverside Drive	Maynard Street	168
41	Lycoming	Hughesville Borough	0405		Main Street	Cemetery Street	169
41	Lycoming	South Williamsport Borough	0015		Southern Avenue	Sidney Street	170
41	Lycoming	Montourville Borough	2075		Loyalsock Avenue	Montour Street	171
41	Lycoming	Montourville Borough	2075		Loyalsock Avenue	Clair Road	172
41	Lycoming	Muncy Township	2046		Lycoming Mall Rd	I-180 EB Onramp / Mall Entrance	173



## Lycoming County Traffic Signal Locations



There are 108 traffic signals located along state and locally owned roadways throughout Lycoming County. PennDOT issues permits for all traffic signals regardless of location, and local municipalities maintain and operate these traffic signals as per the permit requirements and in virtually all cases pay the installation, maintenance and energization costs. Most traffic signals are situated within the Williamsport Urbanized Area where roadway intersections have higher traffic volumes or crash histories that meet traffic signal warrants.

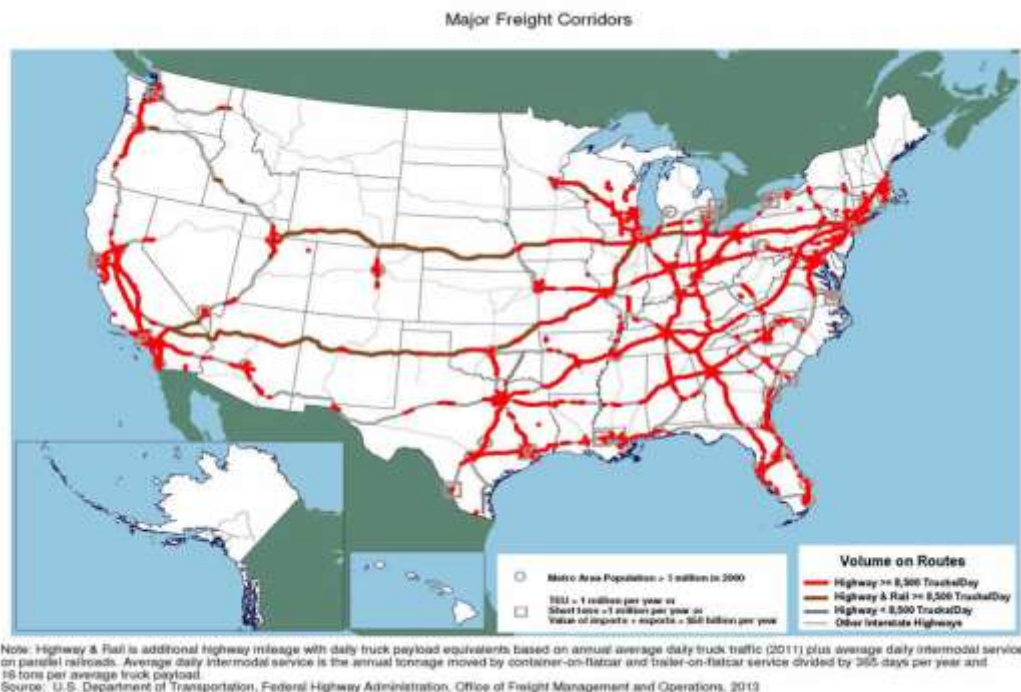


## FREIGHT MOVEMENT

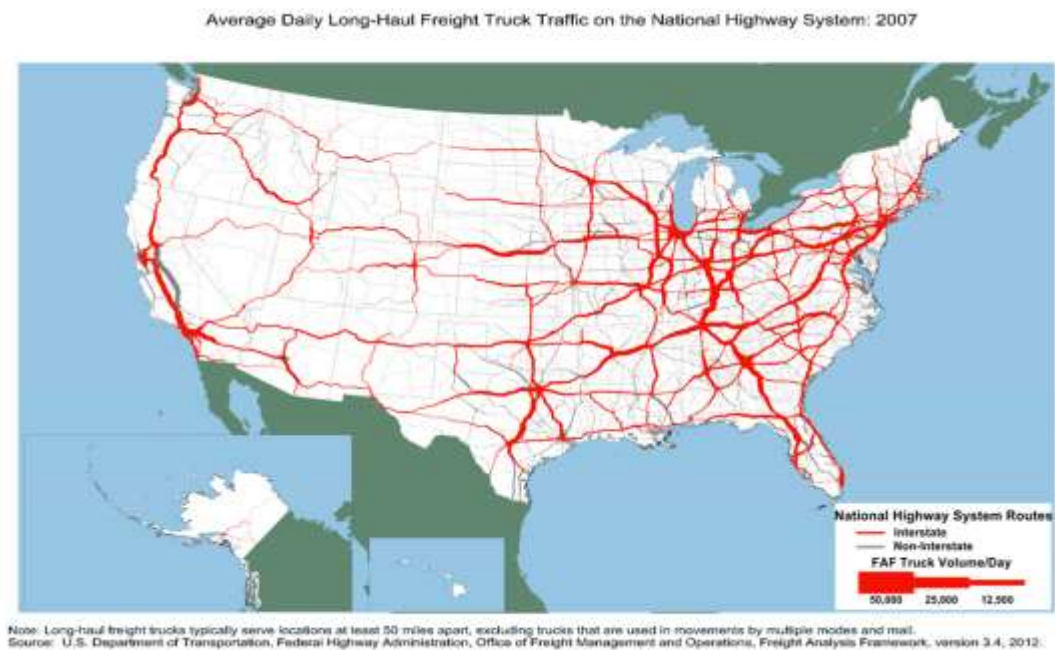
Freight planning is an important component of statewide and metropolitan transportation planning processes. In Lycoming County, freight is moved among several modal systems consisting of highways, freight railroads and air freight service. Securing accurate and reliable freight data is essential to good planning, however challenging to compile as there is no single source of freight related data and distribution. The advent of Marcellus Shale gas exploration has only underscored the importance of understanding freight movement so that bottlenecks and gaps affecting the efficient movement of freight can be properly addressed to support the regional economy.

At the federal level, freight data is available from the Federal Highway Administration Freight Analysis Framework database. This data shows national freight movement patterns and provides future forecasts to the Year 2040. It is useful in examining long haul freight movements nationally and by state but does not supply detailed freight data specific to planning regions. Although MAP-21 federal legislation does not mandate the development of state freight plans, PennDOT has decided to undertake a Comprehensive Freight Movement Plan, (CFMP), as part of the overall State Long Range Plan Update referred to as PA On Track. Freight specific market analysis will be presented and freight trends will be identified as part of the CFMP. The WATS MPO looks forward to reviewing Lycoming County freight data and strengthening its overall freight planning process.

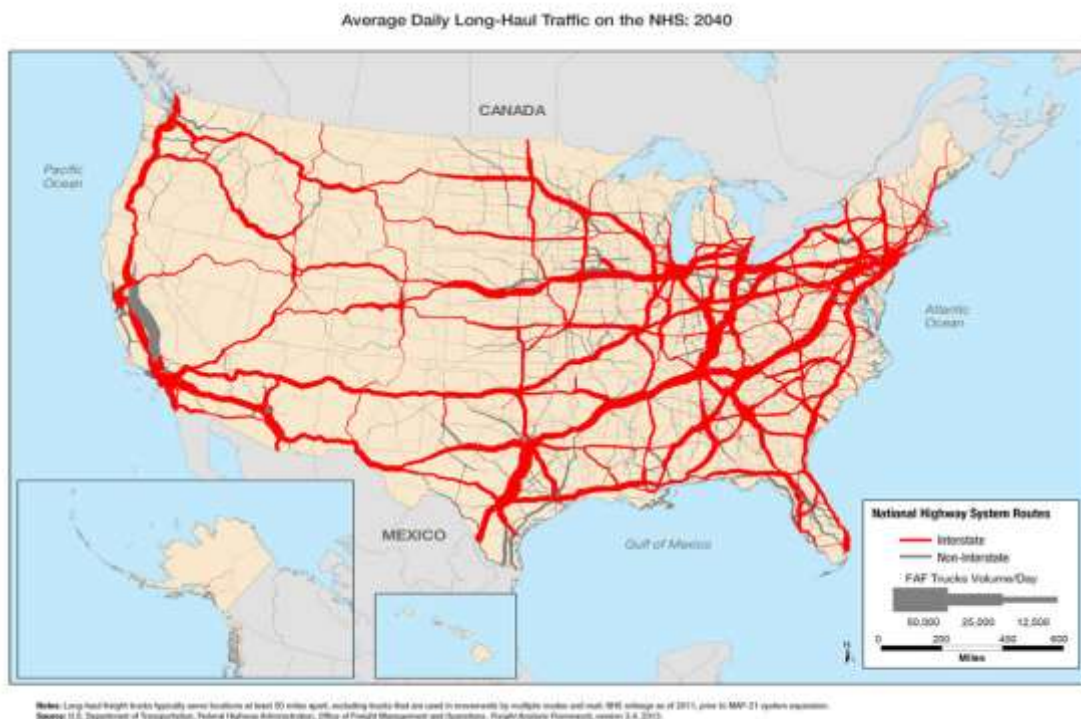
In terms of the national picture, the map below shows the major freight corridors. As you will note the closest major freight corridors near Lycoming County are I-80 and I-81.



The latest long-haul freight truck traffic data on the National Highway System is 2007 as shown below.



The FHWA forecasts freight movement to dramatically increase on the National Highway System by Year 2040 as shown below.



In fact, the PennDOT Mobility Plan estimates that freight shipments (by ton) through and within Pennsylvania are expected to increase 24% just by Year 2020 and over two-thirds of these movements are predicted to be made on the highway system. As the maps show, Pennsylvania is truly a keystone state in terms of freight movement as much of freight traveling through the Northeast US Corridor usually must travel through the Commonwealth. Therefore, freight congestion is likely to substantially grow thereby stressing the importance of a balanced freight network that also fully utilizes rail and air service with good modal connectivity. Lycoming County's close proximity to I-80 will play a more important role in the future in terms of freight movement, especially with Williamsport serving as the regional service center for the Marcellus Shale play. The US 15 Corridor is also expected to grow in importance as well, especially with the possible completion of the Central Susquehanna Valley Thruway.



It should be also noted that there are Federally mandated maximum weights on the National Highway System of 80,000 pounds gross vehicle weights, 20,000 pound single axle weight or 34,000 pound tandem axle weight, however the federal government does not issue permits for oversize or overweight vehicles. Issuance of such permits is a state option and the PA Motor Vehicle Code, Chapter 179 authorizes PennDOT to oversize / overweight load permits for state-owned roadways.

#### *Multi-Modal Freight Transfer Center Feasibility Study*

The only major local effort to compile and analyze freight movement data was undertaken by the Lycoming County Planning Commission, in cooperation with PennDOT, SEDA-COG and other agencies was part of a Multi-Modal Freight Transfer Center Feasibility Study process completed in June, 2006. The study focus was a 12 county area of Northcentral PA including Lycoming, Bradford, Centre, Clinton, Columbia, Mifflin, Montour, Northumberland, Sullivan, Snyder, Tioga



and Union Counties where a market analysis was conducted based on a telephone survey of 111 companies involved in manufacturing and wholesale trade to determine the overall feasibility of developing a regional transfer center where freight traffic moving to or from companies within this study area could be transferred between railroad cars and trucks. The market analysis found a substantial interest in and traffic base for intermodal transportation service and identified more than 80,000 units (truckloads and container-loads) on an annual basis, that could comprise a market base for a transfer facility in the region. The two types of intermodal transfer considered were trailer on flat car (TOFC) and container on flat car (COFC) and transfer of liquid and dry bulk commodities, termed bulk intermodal.

The analysis found that, despite a strong interest and substantial volume of traffic suitable for box intermodal service, the concept of a satellite box intermodal terminal in the region was not feasible because such a facility would not be competitive with current intermodal service through the Harrisburg terminals. A regional intermodal facility would not likely attract intermodal traffic due to longer transit times and uncompetitive costs with truck drayage between this area and Harrisburg terminals. However, the study did conclude that bulk commodities transported to and from the area directly by truck over intermediate and long distances could benefit from a lower cost alternative of a rail / truck routing through a bulk transfer facility at the Newberry Rail Yard.

### **Newberry Yard Bulk Transfer Facility**



This bulk transfer facility was completed at the Newberry Rail Yard in 2008. Again, this study was conducted during the Pre-Marcellus era so freight movement data contained in the study does not accurately reflect current Marcellus freight patterns making the anticipated PA On Track state freight data essential toward understanding current freight activity in our region.



## BRIDGES

The bridge system is of extreme importance to the transportation system serving Lycoming County. As stated in Chapter 1, Lycoming County is the largest county in Pennsylvania in terms of geographic square miles and also has over 2,200 miles of river, creeks and tributaries where the highway system must cross which creates the need for many bridges. There are 723 bridges either owned by PennDOT, Lycoming County or local municipalities that are 8 feet in length or greater. A total of 516 bridges (71%) are PennDOT-owned structures. Local municipalities own 192 bridges and Lycoming County government owns the remaining 15 bridges. It should be noted that other bridges exist and are owned either by other government agencies, such as PA DCNR Bureau of Forestry or are privately owned but those bridges are not addressed in this plan as funding sources for those bridges are outside the jurisdiction of the WATS transportation planning process.

### **New DuBoistown River Bridge Dedication Ceremony**



In terms of the overall state of repair regarding the bridges in Lycoming County, the situation is better than the Commonwealth as a whole. With the recent replacement of the DuBoistown Bridge, all of the major bridges over the Susquehanna River have been recently replaced or rehabilitated, which is also largely the case for bridges on the remainder of the Enhanced National Highway System. The bridge condition problem is more evident on the lower volume state and local road system. This is still a concern because many of these bridges are in rural areas involving long detour routes and can adversely impact goods movement and emergency response times. This section of Chapter 4 will provide an inventory and conditional assessment of the 723 bridges based upon bridge inspection data.

### *Bridge Inspection Process*

During the bridge construction boom of the 1950's and 1960's little emphasis was placed on safety inspection and maintenance of bridges. Then in December 1967 the 2,235 foot long Silver Bridge located in Point Pleasant West Virginia collapsed into the Ohio River killing 46 people prompting Congress to amend federal legislation requiring the establishment of a national bridge inspection standard. As a result, the National Bridge Inspection Standards, (NBIS) program was created federally requiring systematic inspection procedures, frequency of inspections, qualifications of personnel, bridge inspection reports and maintenance of a bridge inventory for all of the nation's publicly-owned bridge structures that are 20 feet or greater in length.



In Lycoming County, PennDOT inspects all state-owned bridges that are 8 feet or greater span length exceeding the NBIS requirements. Since 1995, the Lycoming County Commissioners have assumed the lead role to ensure federally required NBIS inspections of all 103 county and locally-owned bridges 20 feet or greater in length under a Reimbursement Agreement between Lycoming County and PennDOT which ensures 80% federal reimbursement to the County for the cost of these bridge inspections. The County fully covers the 20% local match using a portion of its Liquid Fuels Fund so local municipalities in Lycoming County pay no cost to have their bridges inspected. County Engineer, Larson Design Group is the consultant performing these bridge inspections.

In addition, Lycoming County served as a PennDOT pilot by conducting a first ever inventory of all smaller locally-owned bridges between 8 and 20 feet in length in 2010. Although other MPO/RPO planning partners are also conducting similar inventories of small local bridges in their regions, Lycoming County is the only County that has also decided to systematically inspect the condition of these 8-20 foot long small local bridges using NBIS standards even though Federal law does not require inspection of these structures. The County uses its Liquid Fuels funding to perform these inspections with no federal or municipal reimbursement of bridge inspection costs. Alternate County Engineer, Bassett Engineering, Inc. is the consultant that performs these bridge inspections. All inspection data for locally-owned bridges in Lycoming County 8 feet in length or greater is entered into the PennDOT Bridge Management System 2, (BMS2) database. Therefore, the quality and comprehensiveness of bridge inspection data available regarding bridges in Lycoming County is the best in PA since no other planning region has NBIS quality data for locally owned bridges between

8-20 foot span lengths. Quality and complete bridge inspection data is essential to accurate assessments of bridge conditions.

### *Condition Assessment of Bridges in Lycoming County*

The following PennDOT data provides a comprehensive summary of bridge conditions for all State-owned bridges 8 feet or greater in length and all locally-owned bridges 20 feet or greater in length. Since PennDOT reports do not currently provide condition summaries for locally owned bridges 8-20 feet in length because a state-wide database does not exist, this information will be provided separately in the next section of this Plan based on the Lycoming County Small Bridge Inventory and Inspection latest findings.

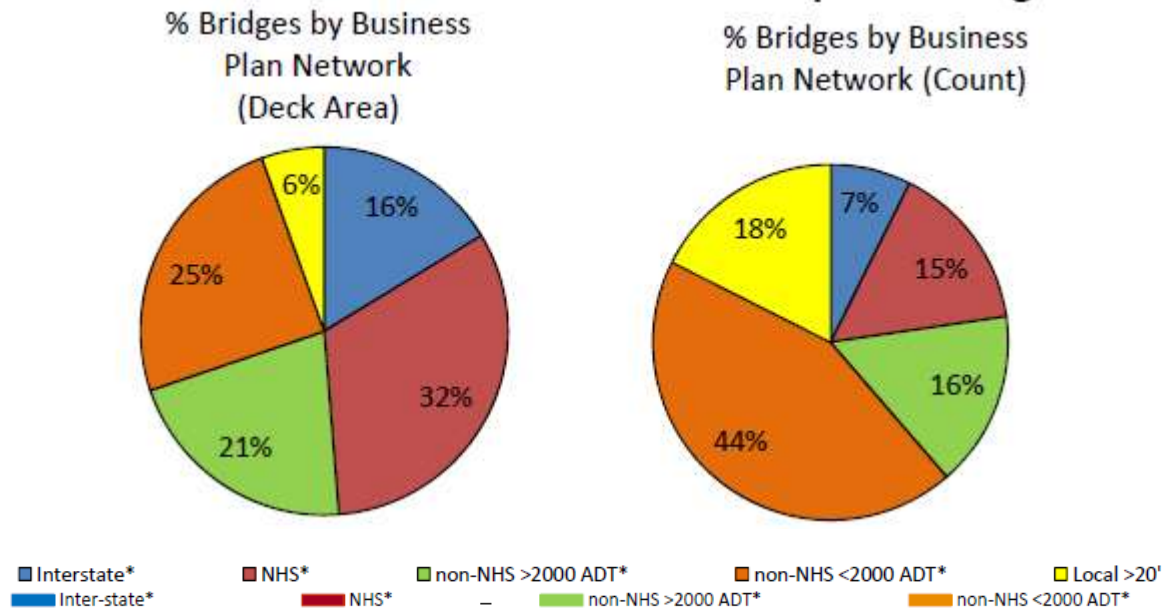
Current Status of Bridges in Region:

Network	Total Bridge Count	Total Deck Area (Msf)	Aver. Bridge DA (sf)	Closed Bridges	Posted Bridges	Struct. Deficient Count	% SD by Count	SD-Deck Area (Msf)	% SD by Deck Area	Non-SD Bridges with a "5" Condition Rating
State >8'; Interstate/Ramps	46	0.3807	8,276	0	0	0	0.00%	0.0000	0.00%	4
State >8'; NHS (non Interstate)	96	0.7568	7,883	0	0	1	1.04%	0.0025	0.33%	18
State >8'; non-NHS >2000 ADT*	100	0.4908	4,908	0	0	11	11.00%	0.0113	2.29%	34
State >8'; non-NHS <2000 ADT	274	0.5764	2,104	1	3	31	11.31%	0.0593	10.29%	61
<b>Total - State Bridges (&gt;8')</b>	<b>516</b>	<b>2.2047</b>	<b>4,273</b>	<b>1</b>	<b>3</b>	<b>43</b>	<b>8.33%</b>	<b>0.0731</b>	<b>3.32%</b>	<b>117</b>
Local >20'	110	0.1290	1,173	2	33	32	29.09%	0.0244	18.88%	20

Note: Data includes adjustments for MAP-21 Enhanced NHS. Local Bridges on Enhanced NHS are reported with Locally Owned Bridges.

Please note, posted bridges refer to those bridges that cannot carry a 40 Ton legal load based on engineering analysis and are therefore posted with signs showing the weight the bridge can safely accommodate. Structurally deficient bridges are those bridges that have significant load carrying elements that are found to be in poor condition due to deterioration and / or damage, or where the adequacy of the waterway opening provided by the bridge is determined to be extremely insufficient to the point of causing overtopping with intolerable traffic interruptions. Major bridge components such as the deck, superstructure, substructure are evaluated using a 0-9 condition ratings scale where a 9 rating is excellent condition and 0 means deterioration is so severe the bridge must be closed to traffic. A condition rating of 4 or less for a major bridge component will classify the bridge as structurally deficient, (SD) and condition rating of 2 or less for waterway opening also triggers the SD designation according to federal criteria.

It should be noted that a structurally deficient bridge designation does not mean that the bridge is unsafe to accommodate traffic. It means that deterioration is to a point where significant rehabilitation or replacement is typically the course of action to address the poor bridge condition.



When examining the PennDOT 2012 Bridge Performance Measures Annual Report data for State-owned bridges in Lycoming County the following major findings are presented:

- ❖ Approximately 22% of bridges are located on the Enhanced National Highway System.
- ❖ Of these 142 bridges on the Enhanced NHS, only 1 bridge is structurally deficient. (US 15 over Black Hole Creek, Clinton Township.)
- ❖ No bridges are currently posted for weight limits or closed on the Enhanced NHS.
- ❖ Approximately 48% of total deck area of all bridges are located just on the Enhanced NHS.
- ❖ There are 43 state-owned bridges that are structurally deficient which represents approximately **8.3%** of all state-owned bridges in Lycoming County. About 72% of the structurally deficient bridges are on the lower volume Business Plan network state roads.
- ❖ 4 state-owned bridges have a posted weight limit restriction.

In terms of statewide comparisons, Lycoming County is significantly better than the state-wide averages where **17.65 %** of state-owned bridges in PA are structurally deficient. Also, nearly 10% of Enhanced National Highway System state-owned bridges in PA are structurally deficient.

The story regarding the condition of locally-owned bridges 20 feet or greater in length in Lycoming County is much different than the condition of state-owned bridges.

- ❖ Approximately **29%** of these local bridges are structurally deficient. (32 bridges.)
- ❖ Two of these local bridges are closed to traffic and 33 bridges are posted for weight limits.

Despite this grim statistic, state-wide, **35%** of locally-owned bridges 20 feet or greater are structurally deficient which is again worse than found in Lycoming County.



## LYCOMING CO. STATE-OWNED STRUCTURALLY DEFICIENT BRIDGES

Bridge Location	Municipality	Weight Limit	Improvement Type	Status
PA 14 over Grays Run	Lewis	None	Repair	Inactive
US 15 over Black Hole Ck	Clinton	None	Replace	Inactive
PA 42 over Little Muncy Ck	Jordan	None	Replace	Design
PA 44 over Antes Creek	Limestone	None	Replace	Design
PA 44 over Lawshe Run	Jersey Shore	None	Repair	Inactive
PA 87 over Tr-Loyalsock Ck	Up. Fairfield	None	Replace	Inactive
PA 118 over Big Run	Franklin	None	Repair	Inactive
PA 287 over Funston Run	Cummings	None	Replace	Design
PA 287 over Lawshe Run	Cogan House	None	Replace	Design
PA 405 over Turkey Run	Clinton	None	Replace	Design
PA 414 over Upper Pine Run	Cummings	None	Replace	Inactive
PA 414 over Callahan Run	McHenry	32 Ton	Repair	Design
PA 414 over Bluestone Run	McHenry	None	Repair	Inactive
PA 414 over Pine Creek	Brown	None	Repair	Inactive
PA 554 over Hagermans Run	Armstrong	None	Replace	Design
PA 654 over Benders Run	Bastress	None	Replace	Design
PA 654 over Mosquito Creek	DuBoistown	None	Replace	Design
PA 973 over First Fork	Mifflin	35 Ton	Replace	Construction
SR 1003 over Jack. Hollow	Gamble	None	Repair	Inactive
SR 1003 over Wallis Run	Gamble	None	Repair	Construction
SR 1006 over Wallis Run	Cascade	None	Replace	Construction
SR 1013 over Pleasant Str.	McNett	None	Replace	Construction
SR 1017 over Lycoming Ck	Hepburn	None	Replace	Design
SR 2001 over Spring Creek2	Washington	None	Replace	Design
SR 2001 over Spring Creek	Brady	None	Replace	Design
SR 2001 over Black Hole Ck	Clinton	None	Replace	Design
SR 2002 over White Dr H Ck	Washington	None	Replace	Design
SR 2004 over Trib Spring Ck	Washington	None	Replace	Inactive
SR 2005 over Black Hole Ck	Clinton	None	Replace	Design
SR 2015 over Big Run	Franklin	None	Replace	Inactive
SR 2019 over German Run	Franklin	None	Replace	Design
SR 2022 over Calebs Run	Eldred	None	Replace	Design
SR 2039 over Mill Creek	Loyalsock	None	Replace	Construction
SR 2039 over Trib Mill Ck	Eldred	None	Replace	Design
SR 2050 over L. Muncy Ck	Jordan	None	Replace	Design
SR 2061 over Sugar Run	Moreland	None	Replace	Inactive
SR 2067 over Broad Run	Moreland	None	Repair	Inactive
SR 2069 over L. Muncy Ck	Moreland	5 Tons	Repair	Design
SR 3018 over First Fork	Mifflin	None	Repair	Inactive
SR 4001 over Love Run	Cummings	None	Replace	Inactive
SR 4001 over L. Pine Ck 2	Pine	None	Repair	Inactive
SR 4001 L. Pine Ck Susp.	Pine	3 Tons	Repair	Inactive
SR 4005 over Wolf Run	Cogan House	None	Repair	Inactive

Of the 43 state-owned structurally deficient bridges in Lycoming County, 5 are currently under construction and 20 others are in various stages of design. However, the 18 remaining bridges are unfunded and inactive. The next table shows all locally-owned structurally deficient bridges that are 20 feet or greater in span length.

**LYCOMING CO. LOCALLY-OWNED STRUCTURALLY DEFICIENT BRIDGES  
(20 FEET OR LONGER)**

<b>Bridge Location</b>	<b>Bridge Owner</b>	<b>Weight Limit</b>	<b>Improvement Type</b>	<b>Status</b>
T-709 over Beaver Dam Run	Franklin	Closed	Replace	Inactive
T-629 over Slacks Run	Lewis	15 Tons	Replace	Inactive
T-688 over Sugar Run	Moreland	3 Tons	Replace	Inactive
T-625 over WB Murray Run	Gamble	18/32 Tons	Replace	Inactive
T-510 over Mill Creek	Hepburn	None	Replace	Inactive
T-319 over Pleasant Stream	Lewis	15 Tons	Replace	Inactive
Sheridan St. over Millers Run	Loyalsock	None	Replace	Construct
T-706 over Beaver Run	Penn	20/25 Tons	Replace	Inactive
T-375 over Quenshukeny Rn	Woodward	15/23 Tons	Replace	Inactive
T-434 over Mosquito Ck	Armstrong	None	Replace/embankment	Inactive
T-530 over WB L.Muncy Ck	Jordan	13/23 Tons	Replace	Inactive
T-836 over Trout Run	Lewis	15 Tons	Replace	Inactive
T-665 over Pleasant Stream	County (Bridge 106)	27/37 Tons	Replace	Inactive
T-665 over Pleasant Stream	McIntyre	32 Tons	Replace	Inactive
T-665 over Pleasant Stream	McIntyre	14/24 Tons	Replace	Inactive
T-562 over Mill Creek	Mill Creek	10 Tons	Replace	Inactive
T-447 over Laurel Run	Moreland	34/40 Tons	Replace	Inactive
T-557 over Gregs Run	Penn	19/29 Tons	Replace	Inactive
T-776 over English Run	Pine	None	Replace	Inactive
T-384 over W. Deer Hole Ck	Washington	14/26 Tons	Replace	Inactive
T-398 over W. Deer Hole Ck	Washington	28/39 Tons	Replace	Inactive
T-250 over Gregs Run	Wolf	None	Replace	Inactive
T-369 over Quenshukeny Rn	Woodward	14/21 Tons	Replace	Inactive
T-846 over West Mill Creek	Eldred	None	Replace	Inactive
T-638 over Laurel Run	Moreland	31/40 Tons	Replace	Inactive
T-816 over Blockhouse Ck	Co. Covered Br.111	3 Tons	Repair	Inactive
T-782 over Larrys Creek	Co. Covered Br. 112	3 Tons	Repair	Inactive

Of the 27 locally-owned structurally deficient bridges in Lycoming County (20 ft or greater in length), only 1 is currently under construction and all 26 other remaining bridges are unfunded and inactive. Lycoming County is currently conducting an outreach effort with these municipal bridge owners to determine the functional importance of each bridge and the appropriate scope of work (repair vs. replacement) if the bridge is deemed essential for public use.

**LYCOMING CO. LOCALLY-OWNED STRUCTURALLY DEFICIENT BRIDGES  
(8 – 20 FEET LONG)**

<b>Bridge Location</b>	<b>Bridge Owner</b>	<b>Weight Limit</b>	<b>Improvement Type</b>	<b>Status</b>
T-520 over Black Hole Creek	Clinton	Closed	Replace	Construct
Southview Ave. over Grafius	Williamsport	Closed	Replace	Inactive
T-463 over Laurel Run	Franklin	None	Replace	Inactive
T-688 over Little Gap Run	Lycoming	5 Tons	Replace	Inactive
T-571 over Beaver Run	Penn	None	Replace	Inactive
T-665 over Potash Run	Cascade	14/24 Tons	Replace	Inactive
T-543 over Bennetts Run	Fairfield	None	Replace	Inactive
T-463 over Laurel Run	Franklin	None	Replace	Inactive
T-738 over Little Indian Run	Jordan	None	Replace	Inactive
T-506 over Daughertys Run	Lewis	15 Tons	Replace	Inactive
T-673 over Jakes Run	Penn	None	Replace	Inactive
T-768 over Hughes Run	Pine	None	Replace	Inactive
T-776 over Shingle Mill Br.	Pine	4 Tons	Replace	Inactive
T-635 over WB Wallis Run	Cascade	None	Repair	Inactive
T-531 over Adams Creek	Clinton	None	Repair	Inactive
T-790 over Sandy Run	Cogan House	None	Replace	Construct
T-465 over Trib. German Run	Franklin	None	Repair	Inactive
T-691 over Mill Creek	Gamble	None	Repair	Inactive
T-782 over Joe Gray Run	Gamble	12 Tons	Repair	Inactive
Wilson St. over Pfouts Run	Jersey Shore Boro	None	Repair	Inactive
Hazel Alley over Pfouts Run	Jersey Shore Boro	None	Repair	Inactive
T-746 over Muncy Creek	Jordan	None	Repair	Inactive
T-857 over Slacks Run	Lewis	15 Tons	Repair	Inactive
T-305 over Trib. Adams Ck	Limestone	None	Repair	Inactive
T-447 over Grafius Run	Loyalsock	None	Repair	Inactive
T-508 over Mill Creek	Loyalsock	None	Repair	Inactive
T-538 over Trib. Larrys Ck	Mifflin	None	Repair	Inactive
T-576 over Mill Creek	Mill Creek	None	Repair	Inactive
T-586 over WB Glade Run	Muncy Creek	None	Repair	Inactive
T-516 over Oak Run	Muncy	None	Repair	Inactive
T-547 over Carpenters Run	Muncy	27 Tons	Repair	Inactive
T-698 over Beaver Run	Penn	None	Repair	Inactive
T-656 over Roaring Run	Shrewsbury	17 Tons	Repair	Inactive
T-392 over Bender Run	Susquehanna	None	Repair	Inactive
T-392 over WB Bender Run	Susquehanna	None	Repair	Inactive
T-397 over W. Deer Hole Ck	Washington	None	Repair	Inactive
T-145 over Laurel Run	Wolf	None	Repair	Inactive

Of the 104 locally-owned small bridges (8-20 feet long), 37 bridges (35%) are structurally deficient. Only 2 of these bridges are currently under construction. The remaining 35 bridges are unfunded and inactive in terms of a project status. Lycoming County is currently conducting an outreach effort

with these municipal bridge owners to determine the functional importance of each bridge and the appropriate scope of work (repair vs. replacement) if the bridge is deemed essential for public use.

### *Fracture Critical Bridges*

A fracture critical bridge is defined by FHWA as a steel member in tension, or with a tension element, where failure would probably cause a portion of or the entire bridge to collapse. These bridges lack redundancy, which means that in the event of a steel member's failure there is no path for the transfer of the weight being supported by that member to hold up the bridge. Therefore, failure occurs quickly as in the case of the I-35 Minnesota bridge collapse.

There are about 18,000 fracture critical bridges in the nation and 20 such bridges in Lycoming County. It should be noted that all of these bridges are routinely inspected for safety and retrofits have been performed on some bridges to offer redundancy and additional safeguards. The fracture critical bridges in Lycoming County are shown below.

BRIDGE_ID	OWNER	MUNICIPALITY	FEATINT	LOCATION	BUILT	RECON	LENGTH	SO/FO	STRTYPE	COMMENTS	
41-0014-0270-1507	State	41/222 - MCINTYRE	LYCOMING CREEK	1.5 MILES N OF RALSTON	1930	1994	140	FO	16218	ST TRUSS THRU	
41-0044-0244-0880	State	41/218 - LIMESTONE	ANTES CREEK	4.5 MI S OF JERSEY SHORE	1940	1968	88	SD	19114	ST GIRDER/FB, RIVETED	
41-0044-0420-1473	State	41/403 - JERSEY SHORE	WEST BR. SUSQUEHANNA RIVER	JERSEY SHORE TRUSS RVR BR	1933	2000	445	FO	16118	ST TRUSS THRU	
41-0287-0100-1251	State	41/408 - SALLADASBURG	LARRY'S CREEK	BORO OF SALLADASBURG	1941	1993	158	-	16118	ST TRUSS THRU	
41-0405-0100-0000	State	41/228 - MUNCY CREEK	LYCOMING VALLEY RAILROAD, W. BR. SUSQUEHANNA RIVER	MUNCY PIN/HANGER RIVER BR	1959	2003	2134	-	17713	ST GIRDER/FB, WELDED	Muncy river bridge Pin/Hanger Retrofitted in 1990
41-0414-0330-0000	State	41/205 - BROWN	PINE CREEK	1 MI N OF SLATE RUN	1890	2002	207	SD	19118	ST TRUSS THRU	Slate Run lattice truss
41-0973-0350-0000	State	41/220 - LYCOMING	LYCOMING CREEK	0.25 MI W OF COGAN STA.	1941	2012	211	FO	16218	ST TRUSS THRU	
41-2014-0240-0229	State	41/405 - MONTGOMERYVILLE	LOYALSOCK CREEK	MONTGOMERYVILLE BOROUGH	1931	1994	473	-	19218	ST TRUSS THRU	
41-2069-0020-0000	State	41/226 - MORELAND	LITTLE MUNCY CREEK	4 MI SW OF LAIRDVILLE	1904	1975	113	SD	18118	ST TRUSS THRU	
41-2085-0010-0309	State	41/236 - SHREWSBURY	MUNCY CREEK	2MI E.OF GLEN MAWR	1941		99	-	18214	ST GIRDER/FB, RIVETED	
41-3003-0010-0000	State	41/235 - PORTER	PINE CREEK	2M S, JERSEY SHORE, T. ELM	1889	2011	290	FO	19218	ST TRUSS THRU	Jersey Shore lenticular truss
41-3024-0020-0000	State	41/224 - MIFFLIN	LARRY'S CREEK	2MI E.OF SALLADASBURG	1940	2009	112	-	19214	ST GIRDER/FB, RIVETED	
41-4001-0270-0000	State	41/233 - PINE	LITTLE PINE CREEK	VILLAGE OF ENGLISH CENTER	1891		306	SD	18124	ST SUSPENSION TRUSS	English Center Suspension truss
41-7219-0219-0001	Township	41/219 - LOYALSOCK	LYCOMING CREEK	BIKEWAY BRIDGE	1991		229	SD	19118	ST TRUSS THRU	Bikeway bridge
41-7219-0219-0002	Township	41/219 - LOYALSOCK	MILLERS RUN	BIKEWAY BRIDGE #2	1948		60	-	16113	ST GIRDER/FB, RIVETED	Bikeway bridge
41-7220-0220-0004	Township	41/220 - LYCOMING	LYCOMING CREEK	BIKEWAY-HEPBURNVILLE	1901	2000	279	-	19114	ST GIRDER/FB, RIVETED	Bikeway bridge
41-7221-0673-0106	County	41/222 - MCINTYRE	LYCOMING CREEK	INTER. SR14 @ MARSH HILL	1937	1961	104	SD	16118	ST TRUSS THRU	
41-7223-0860-0107	County	41/223 - MCNETT	LYCOMING CREEK	VILLAGE OF ROARING BRANCH	1900	1954	70	-	16118	ST TRUSS THRU	
41-7230-0230-0003	Township	41/230 - OLD LYCOMING	LYCOMING CREEK	BIKEWAY-LOG RUN ROAD	1901	2000	177	-	19118	ST TRUSS THRU	Bikeway bridge
41-7239-0465-0374	Township	41/239 - WASHINGTON	SPRING CREEK	2.5 MI. EAST OF ELMSPORT	1985		60	-	17114	ST GIRDER/FB, WELDED	



### *Wooden Covered Bridges*

It should be noted that there are only three remaining covered bridges in Lycoming County and all are owned by the Lycoming County Commissioners and listed on the National Register of Historic Places. The Fraizer covered bridge near Lairdsville was recently reconstructed by the County in 2011 and this project received the state award by the County Commissioners Association of PA in partnership with the PA Highway Information Association and PennDOT as well as a PA Preservation Association Award. The other covered bridges located at the Village of Buttonwood and White Pine received major restoration in 1998, however additional minor repairs are now needed.



**Fraizer Wooden Covered Bridge Near Lairdsville**

### **Bridge Summary**

Of the 723 state and locally owned bridges (8 feet and longer) in Lycoming County, 107 (14%) are structurally deficient. It also should be noted that PennDOT has determined that 137 bridges have condition ratings of 5 so these additional bridges may become structurally deficient during this plan horizon if proper preventative maintenance and repairs are not made in a timely way. Recently, PennDOT has announced that approximately 1,000 additional state and local bridges will be posted for weight restrictions or have reduced weight restrictions to preserve the life of these structures given limited funding availability. One additional state bridge has been posted in Lycoming County located along PA 414 over Callahan Run in McHenry Township which means that 5 state-owned bridges now have weight limits less than 40 ton legal loads. Twelve additional locally owned bridge will have new or reduced posted weight limits as well.

Chapters 5 and 7 provide additional details regarding proposed bridge improvements in terms of environmental consideration and funding needs.

## PUBLIC TRANSPORTATION

Lycoming County is served by an excellent public transportation system consisting of fixed route bus service, community shared ride service, intercity bus service and taxi service. This section of the plan will provide an overview of each type of transit service that is provided.

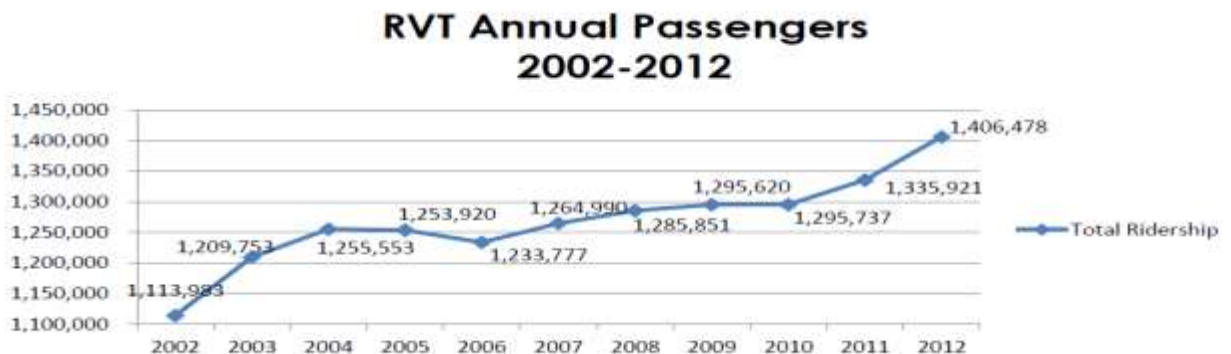
### FIXED ROUTE BUS SERVICE



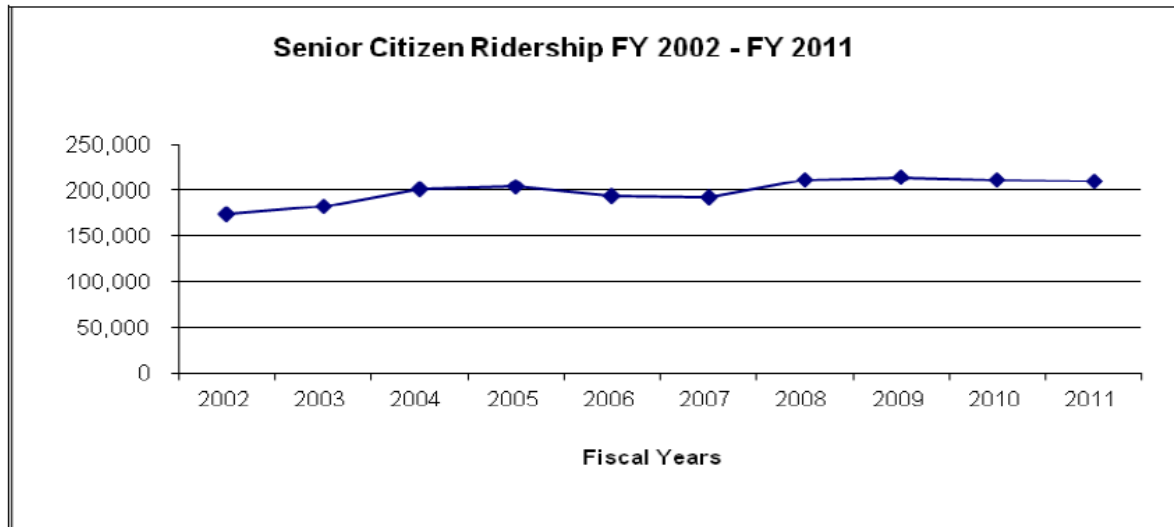
River Valley Transit (RVT) is the only fixed route bus service provider in Lycoming County. RVT manages a bus network of 20 fixed routes operated in-house by RVT employees. The system is comprised of a fully accessible fleet of 27 buses consisting of standard 35 and 40 foot long transit coaches, including 26 diesel-powered vehicles and one new Compressed Natural Gas, (CNG) bus. The RVT primary service area includes most of the growth areas of Lycoming County serving over 70,000 residents.

#### *RVT Ridership Characteristics and Trends*

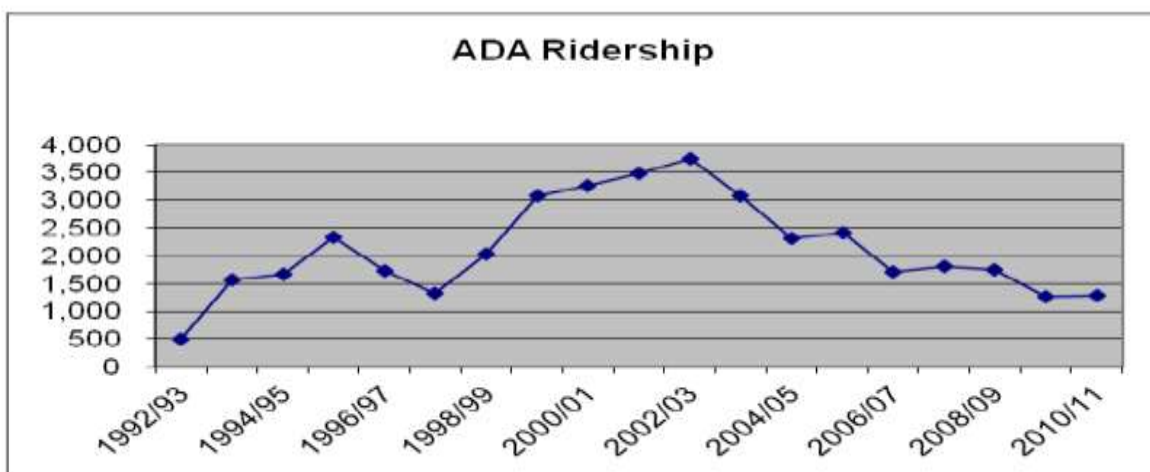
For the past six years, RVT has set new records on total ridership culminating in an all-time passenger record in 2012 of 1,406,478 passengers which is a 5.3 % increase over 2011. The chart below shows RVT total annual passengers over the past decade from 2002-2012.



Because of special RVT promotional programs such as “Senior Bonus Bucks” where senior citizen bus patrons aged 65 or older earn bonus bucks for every ride that can be redeemed for merchandise, RVT senior citizen ridership has held steady for the past four years at about 210,000 annual trips while most of PA’s other fixed route transit systems witnessed ridership declines.

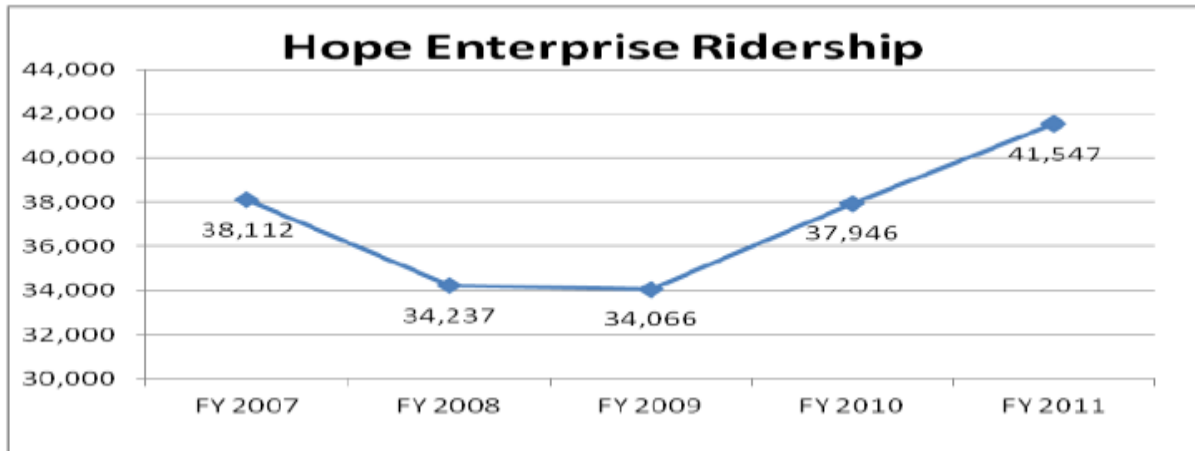


River Valley Transit Plus, under contract with STEP, Inc. provides complimentary demand responsive van service as required by the Americans with Disabilities Act of 1990, (ADA) since 1992. This service continues to meet the needs for individuals with disabilities in the RVT service area and has transported more than 40,000 passengers since its inception. However, ridership has been declining during the past decade as programs have been initiated by other agencies to transport persons with disabilities along with increased ADA eligible passenger use of RVT low-floor buses equipped with lift ramps.



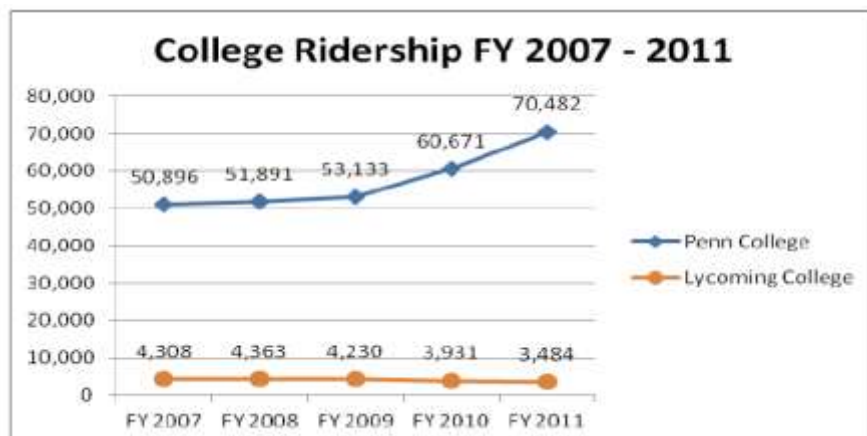
Due to funding issues, STEP suspended all night time service after 6:00 PM and weekend service. RVT now provides ADA complementary demand responsive paratransit service after 6:00 PM on weekdays and all day Saturdays as well as holidays when RVT provides regular fixed route service in compliance with ADA law. Trip reservations for ADA service are still coordinated between RVT and STEP.

RVT continues to provide deviated fixed route transit service to Hope Enterprise clients employed at the sheltered workshop at the Reach Road Industrial Park and Hope ridership is increasing as noted below:



Also, RVT continues to provide fixed route transit service for Williamsport Area High School participants in the life skills classes for job training at the Susquehanna Health's Williamsport Hospital Campus and free student rider services benefitting over 7,000 area college students.

RVT also provides special transit services to support a wide variety of activities and community events throughout their service area including Lycoming County Fair, Little League World Series, Williamsport Crosscutters minor league baseball games, Penn College Earth Science Center, Lycoming College Homecoming and other college functions along with charter services using a process that complies with new FTA regulations.





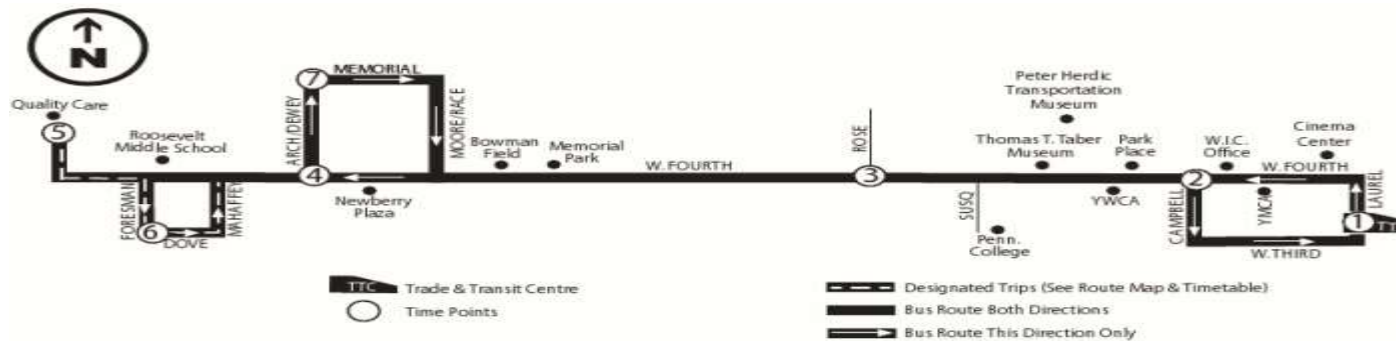
RVT ridership is heavily influenced by local unemployment levels and the price of gasoline representing the cost of the most likely alternative travel mode for many potential transit passengers, as well as vehicle miles operated and basic fare structures. For example, RVT regression analysis results over a 96 month period (2004-2011) show among other explanatory factors affecting ridership that an increase of 1% in the members of the workforce who are unemployed is associated with an increase of 475 RVT passenger trips per month and an increase of 1 cent in the price of a gallon of unleaded gasoline results in an increase of 41 additional RVT passenger trips per month. ***Because of growing ridership, RVT has met all six FTA targets with respect to its small transit intensive cities funding allocations for the past two years achieved only by two other transit systems in PA and eleven transit systems nationwide resulting in an additional \$ 800,000 from FTA in 2011.***

### RVT Fixed Route System

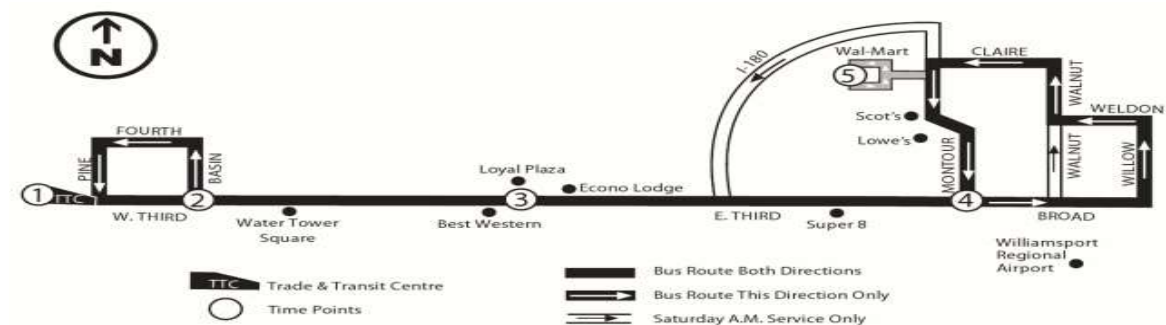
RVT operates a total of 12 daytime routes in the Williamsport Urbanized Area, 2 evening routes, 4 regional routes, a mix of “trippers” and the Downtown Connector consisting of 8 pairs of through-routed service. Each route is illustrated below:

### River Valley Transit Routes

#### Newberry Via West Fourth Street Route



#### Montoursville Route



**MAP 1**

**Legend:**

- TTC (Triangle with 'TTC' text)
- Time Points (Circle)
- Bus Route Both Directions (Thick line with arrows in both directions)
- Bus Route This Direction Only (Thick line with arrow in one direction)

**Map Details:**

- Start:** Princeton
- Route 1 (Loop):** Princeton → MAHAFFEY → MILL LANE → DORIS → MARYDALE → DEWEY → MEMORIAL → OLIVER → HIGH → PARK → CAMPBELL → RURAL → WILLIAMSPORT Medical Center (TTC) → MAPLE → CENTER → PARK → LYCO County Assistance Office → W. FOURTH → W. THIRD → LAUREL → WILLIAM → HEPPURN → CAMPBELL → HIGH → PARK → CAMPBELL → RURAL → WILLIAMSPORT Medical Center (TTC).
- Time Points (Circles):** 1, 2, 3, 4, 5.
- Other Locations:** Garden View Plaza, Memorial Park, Locoming Housing Authority.
- North Arrow:** Points North.

The map illustrates the 100 Series bus routes in Harrisburg, PA. It shows a network of routes starting from the TTC at Pine and W. Third. Key locations include Little League, Mulberry, Washington, Almond, Sheridan, Warren, Loyalsock, Faxon Commons, Penn Vale, Richards, Ritchey, Elwood, E. Hills, Waldman, Sycamore Manor, Lincoln, Tinsman, Loyal Plaza, Westminister, Best Western, Econo Lodge, and Hillside. The map includes a legend for TTC, Time Points, Bus Route Both Directions, Bus Route This Direction Only, Saturday A.M. Service Only, and Parking Lot. A north arrow is also present.

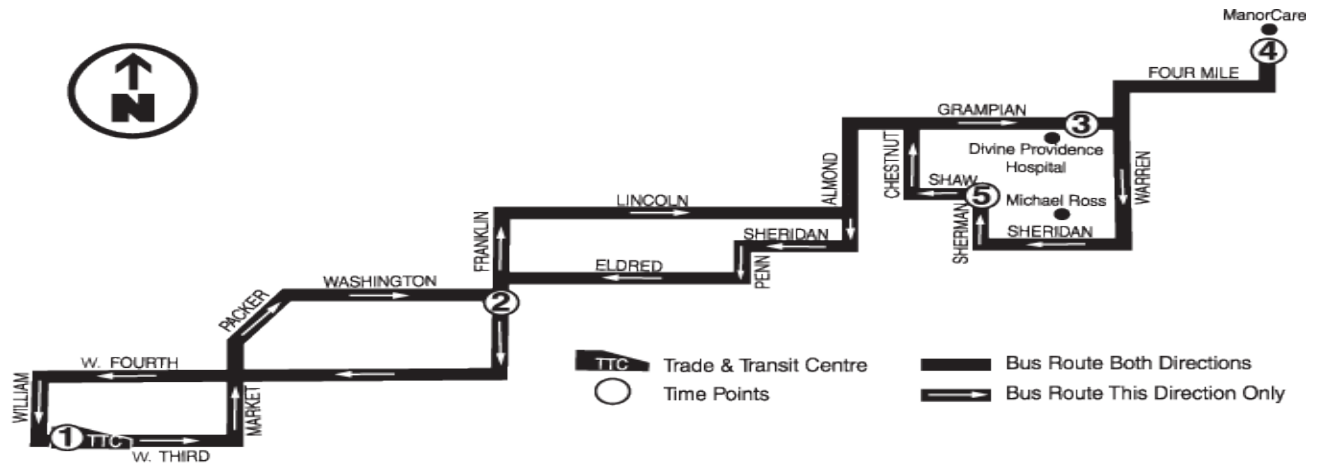
**Map I**

Legend:

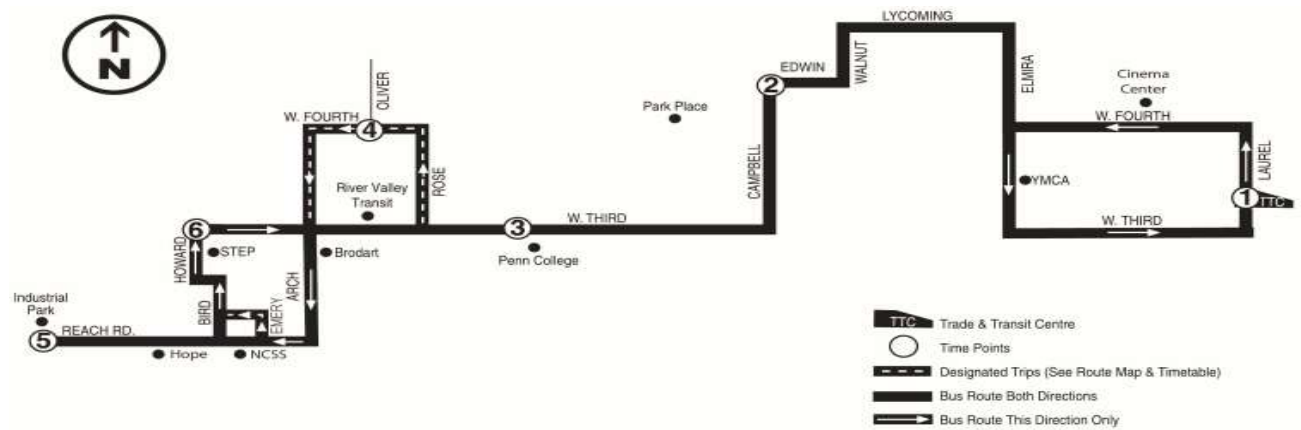
- TTC: Trade & Transit Centre
- : Time Points
- : Bus Route Both Directions
- : Bus Route This Direction Only

Map I shows a bus route starting at Valley, passing through Euclid, Riverside, Clark, W. Southern, W. Central, Hastings, Market, Church, W. Third, Via Bella, Hephurn, and ending at the TTC at 1. The route is marked with arrows indicating direction.

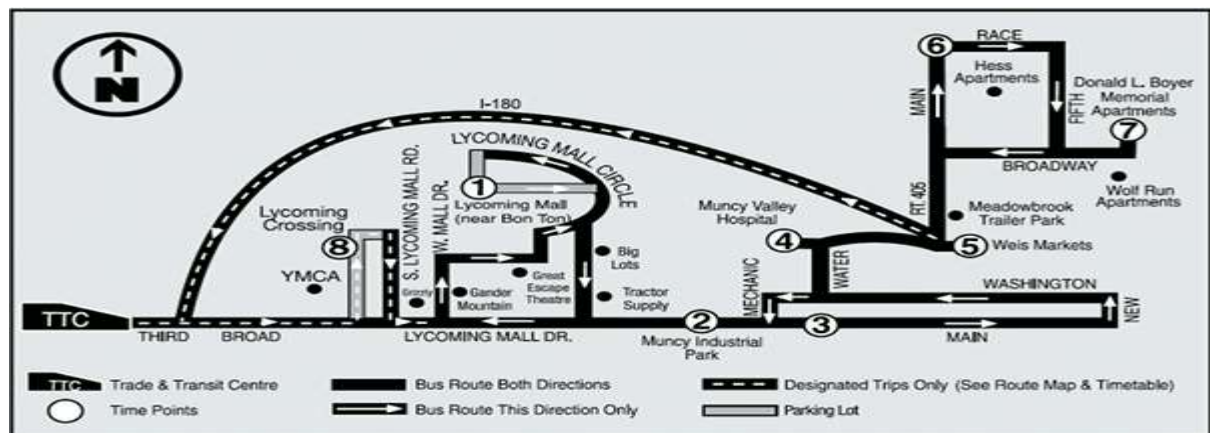
## East End Route



## West Third Street – Reach Road Industrial Park Route



## Tri Town Connector (Muncy – Hughesville Route)



The map illustrates the bus routes in the Lycoming Mall area. Key features include:

- Landmarks and Locations:** Lycoming Mall, Great Escape Mountain Theatre, Tractor Supply, Big Lots, Muncy Valley Hospital, Muncy High School, Montgomery Homes, and YMCA.
- Streets and Highways:** Lycoming Mall Drive, S. Lycoming Mall Rd., W. Mall Dr., Lycoming Mall Circle, I-180, Route 220, Route 405, Route 15, Route 54, Main, Broad, Water, Thomas, Bower, and Houston.
- Bus Routes:**
  - RT. 15:** Connects the Trade & Transit Centre (TTC) to the Surplus Outlet.
  - RT. 54:** Connects the TTC to the Lycoming Mall area.
  - RT. 405:** Connects the Lycoming Mall area to the Muncy Valley Hospital and Muncy High School.
  - RT. 220:** Connects the Lycoming Mall area to the I-180 interchange.
  - RT. 180:** Connects the I-180 interchange to the Muncy Valley Hospital and Muncy High School.
  - RT. 405 (Loop):** Connects the Muncy Valley Hospital and Muncy High School to the Montgomery Homes and Bower area.
  - RT. 54 (Loop):** Connects the Montgomery Homes and Bower area back to the TTC.
- Time Points:** Numbered 1 through 6, indicating specific stops along the routes.
- Legend:**
  - TTC:** Trade & Transit Centre
  - Circle:** Time Points
  - Thick Solid Line:** Bus Route Both Directions
  - Thick Dashed Line:** Designated Trips Only (See Route Map & Timetable)
  - Thin Solid Line:** Bus Route This Direction Only
  - Thin Dashed Line:** Designated Trips Only (See Route Map & Timetable)
  - Shaded Area:** Parking Lot

[illegible]

The map illustrates the Williamsport Transit Centre and its surrounding area. A north arrow is located in the top left corner. The transit centre is marked with a circle containing 'N'. The map shows several bus routes and time points:

- Williamsport Home** (Time Point 4) is located at the top left, near the **RAILROAD** and **WILSON** streets.
- BELMONT** (Time Point 5) is located near **Cochran Elementary**.
- Williamsport Medical Center** (Time Point 3) is located near **RAILROAD** and **WILSON** streets.
- Brandon Park** (Time Point 5) is located near **RAILROAD** and **WILSON** streets.
- Highburn Plaza** (Time Point 6) is located near **Highburn Plaza** and **Cinema Center**.
- Wegmans** (Time Point 2) is located near **WILSON** and **CHURCH** streets.
- CHURCH** (Time Point 1) is located near **WILSON** and **CHURCH** streets.

The map also shows the following streets and landmarks:

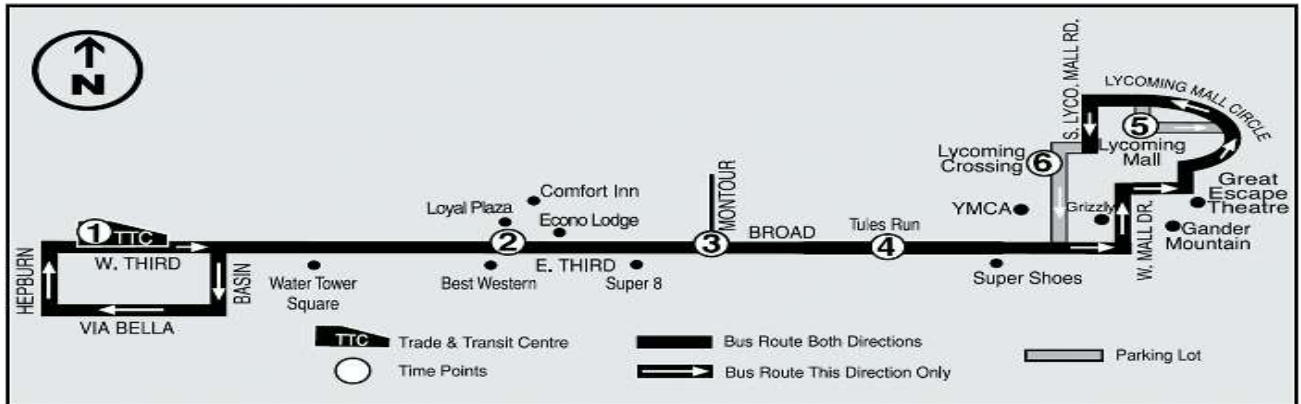
- RAILROAD** (Main Street)
- WILSON** (Main Street)
- CHURCH** (Main Street)
- Highburn Plaza**
- Cinema Center**
- Wegmans**
- Williamsport Medical Center**
- Cochran Elementary**
- Brandon Park**
- Williamsport Home**

The legend indicates the following symbols:

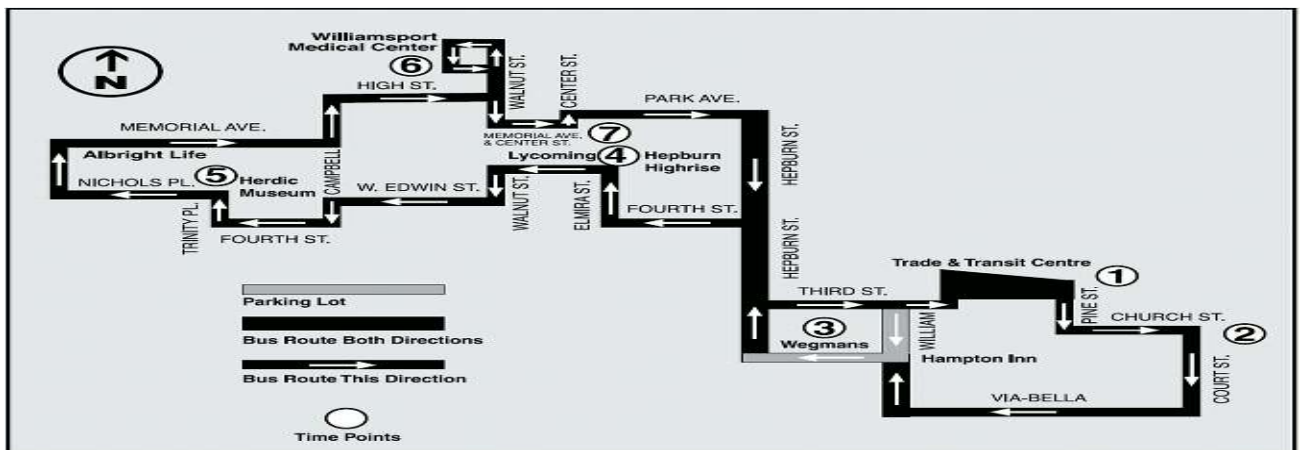
- Trade & Transit Centre** (Circle with 'N')
- Time Points** (Circle with number)
- Bus Route Both Directions** (Thick black line)
- Bus Route This Direction Only** (Thin black line)
- Parking Lot** (Hatched area)



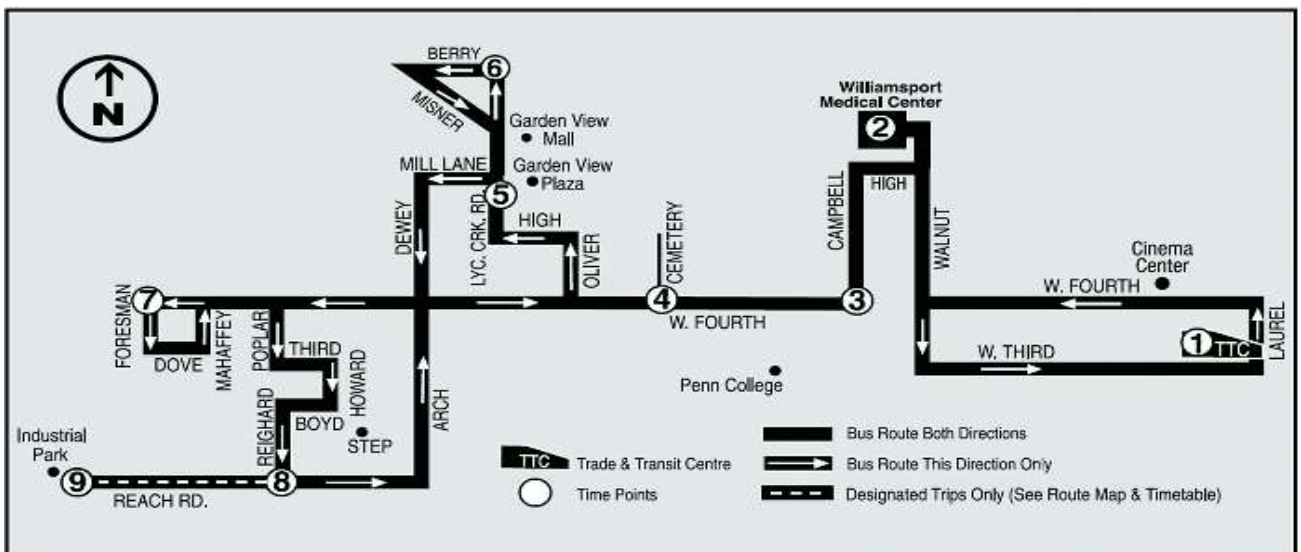
## Lycoming Mall Route



## Downtown Connector Route



## Super Nightline Service Route

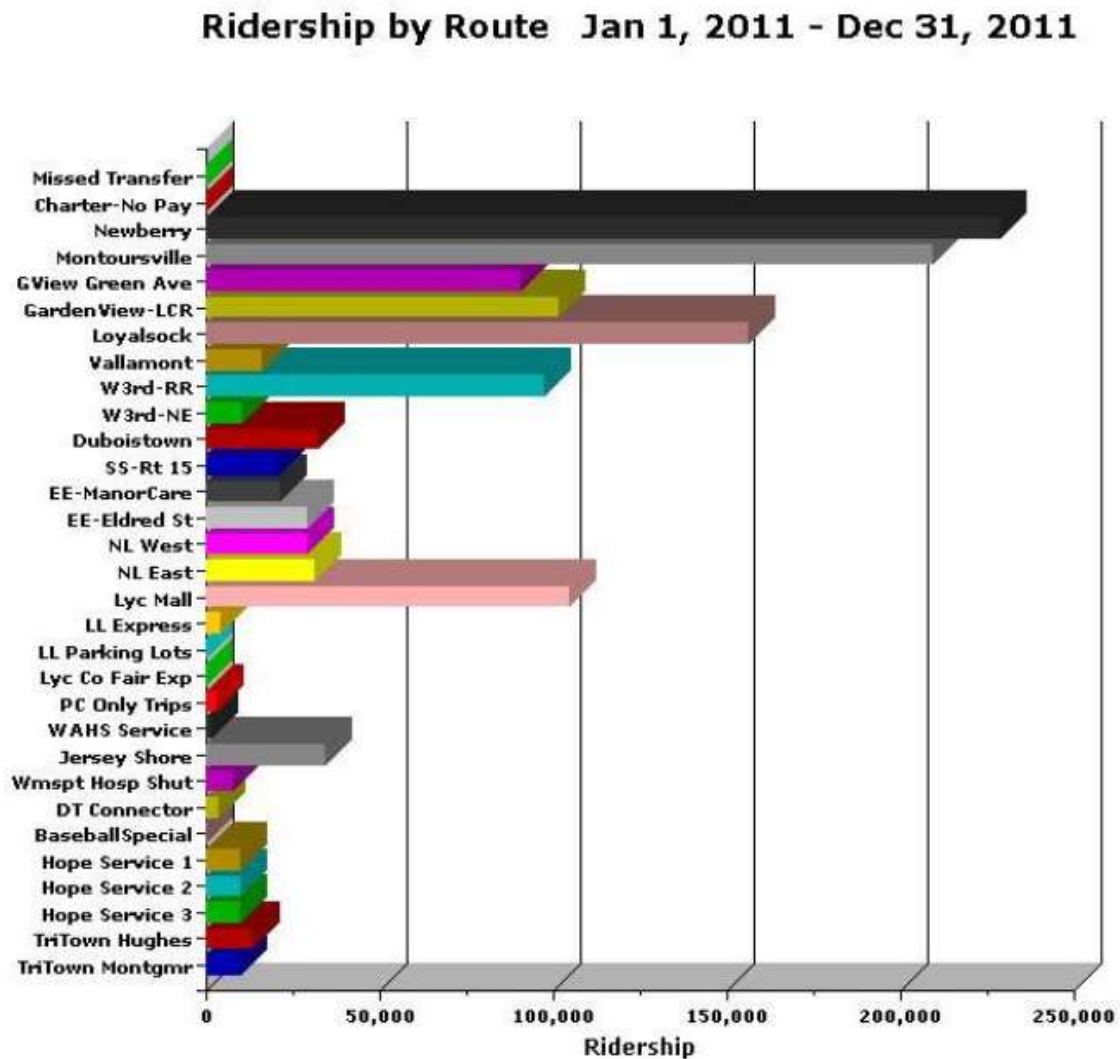


Due to varying service levels within the fixed route transportation system, there is considerable variation among these routes in terms of scheduling operations, ridership, revenue. System performance on these routes changes over time. As noted from the bar chart below, the number of total annual bus trips widely fluctuate per route from a high of 8,300 trips on the Newberry Route to 360 trips on the Downtown Connector. Therefore, it is helpful to monitor RVT's system performance on a more detailed basis by comparing a variety of indicators across individual routes. All RVT transit vehicles have electronic validating fareboxes which record passengers as the board and pay fares thus assisting RVT in providing more detailed analysis of performance of each route.

### Passenger Statistics by Route – Calendar 2011

Route	Cash Fare Passengers	Senior Citizen Passengers	EZ Fare Passengers	Revenue Passengers	Total Passenger Trips	Percent Senior Citizens	Total Bus Trips	Total Passengers Per Bus Trip
Newberry	3,219	29,006	110,297	179,369	194,461	14.9%	8,311	23.9
Montoursville	1,800	29,136	107,597	159,012	166,552	17.5%	7,826	21.3
Garden View	2,020	30,692	90,540	147,760	164,176	18.7%	7,571	21.7
Loyalsock	1,492	27,031	70,989	120,276	131,173	20.6%	7,519	17.4
Vallamont	84	5,055	5,109	11,702	12,578	40.2%	1,535	8.2
West Third Street	1,078	16,851	57,444	93,318	99,578	16.9%	6,999	14.2
South Side	559	12,939	26,754	46,099	48,886	26.5%	7,264	6.7
East End	330	12,765	21,489	41,572	46,013	27.7%	6,744	6.8
Super Nightline East	685	1,284	10,270	18,564	26,959	4.8%	921	29.3
Super Nightline West	476	1,019	16,426	21,935	16,943	6.0%	1,228	13.8
Lycoming Mall	1,208	10,465	63,086	91,862	99,595	10.5%	3,694	27.0
Downtown Connector	4	2,373	812	3,413	3,485	68.1%	364	9.6
Tri-Town Connector	655	3,340	14,245	20,276	21,341	15.7%	2,966	7.2
ADA Fixed Route	0	26	30,243	30,424	30,431	0.1%	1,530	19.9
Jersey Shore Connector	747	4,939	16,874	27,064	28,983	17.0%	2,300	12.6
Wmspt Hospital Shuttle	0	0	3	2,233	8,157	0.0%	4,080	2.0
Trippers	96	484	1,890	10,087	10,488	4.6%	768	13.7
<b>TOTALS</b>	<b>14,453</b>	<b>187,405</b>	<b>644,068</b>	<b>1,024,966</b>	<b>1,109,799</b>	<b>16.9%</b>	<b>71,442</b>	<b>15.5</b>

The next bar chart shows 2011 ridership by individual fixed route bus route and the special service routes.



In terms of overall ridership, the Newberry Route continues to be the most heavily used route carrying more than 194,000 passengers followed by the Montoursville Route with 167,000 passengers both accounting for about 1/3 of all RVT passenger trips system-wide. The Garden View-Park Avenue and Loyalsock through-routes account for another 27% of passenger trips with these four routes accounting of nearly 60% of all system-wide trips in 2011.

### *RVT Fares*

Below is the RVT fixed route fare structure. RVT traditionally has one of the lowest transit fare structures in Pennsylvania in order to ensure accessible and affordable public transit service to those that need it. However, it must also be recognized that fare increases will be necessary in order to keep pace with increasing operating costs. The RVT goal is to raise fares when needed with only minimal disruption of ridership, and thus RVT has moved to a policy of more frequent, incremental increases in selected categories rather than more dramatic across-the board fare hikes which have tended to drive more patrons away from the system. Most recently, for example, RVT implemented small increases in its EZ Fares in the Summer of 2011, and other similar selective fare increases will be instituted in the future.

EZ Fares		Standard Fares	
One Day EZ Pass from the T&TC	\$2.00	Cash	\$2.00
One Day EZ Pass from a Driver	\$2.50	Tokens (4 for \$5.00)	One
2-Ride EZ Pass from the T&TC	\$2.00	Senior 65+ (with I.D.)	Free
2-Ride EZ Pass from a Driver	\$2.50	Youth (17 and under)	\$1.00
7-Day EZ Pass	\$11.00	Disabled (with I.D.)	\$1.00
10-Ride EZ Pass	\$11.00	Child (age 5 and under)	Free
20-Ride EZ Pass	\$20.00	Transfers	Free
31-Day EZ Pass	\$38.00		

RVT's EZ Fares magnetic pass cards represent nearly 63% of all revenue paying passengers utilizing these cards. Less than 2% of these passengers paid cash fares or used tokens.





## ***RVT Facilities***

### Garage & Office Facility

In 2011, RVT completed a \$ 12 million project to renovate and double the size of its garage and office facility located at 1500 West Third Street in the City of Williamsport. The new facility will meet RVT's operational, administrative, and fleet maintenance needs for the foreseeable future. Numerous "green" technology features were incorporated as part of the project such as geo-thermal heating and cooling, time controlled lighting, rapidly rising and dropping garage doors to reduce heating and cooling costs, etc...

In 2011, RVT was awarded \$ 3.5 million through FTA's Clean Fuels Program further retrofit this maintenance facility to create a fast-fill CNG fueling station that will accommodate CNG fueled vehicles that will accommodate RVT's strategy to eventually replace all of its diesel buses with CNG buses to significantly lower its operating costs and reduce carbon emissions while capitalizing on the Marcellus Shale natural gas resources abundant in the County. This CNG fueling facility will be completed in September, 2013 which can be open for business to other municipalities, private companies and the general public.

### **RIVER VALLEY TRANSIT (RVT) COMPRESSED NATURAL GAS (CNG) PROJECT**



### Church Street Transportation Center

Opened in April 2012 the Church Street Transportation Center is the City of Williamsport's third parking deck facility. The four level building provides 350 parking spaces and houses Susquehanna Trailways, an intercity motorcoach company. The facility offers state-of-the-art, self-service ticketing and payment options, elevators and a security system. Park and ride facilities supporting RVT's Downtown Connector and bus bays are included along with public art depicting the heritage of Lycoming County.



### Trade and Transit Centre

The Williamsport Trade and Transit Centre was dedicated in 1999 as an intermodal transportation facility in the heart of the Williamsport Central Business District. This facility accommodates about 4,100 RVT riders daily and includes bus bays, a restaurant, community meeting room, community theater, and houses the Williamsport-Lycoming Chamber of Commerce offices. The completion of this project led to a 16% increase in transit ridership of the RVT system so planning began in 2001 to further expand this facility as part of Trade and Transit Center II. This expansion will comprise the demolition of the existing 300 vehicle Mid-Town Parking Deck which is presently in a deteriorated condition with construction of a new building that will greatly enhance the utility and function of the existing Trade and Transit Centre by including a drivers lounge, second passenger waiting area, community room, two additional commercial areas to be rented out for small retail outlets, three additional bus bays and parking for 229 parking spaces for park-and-ride usage and related parking to support the overall complex.





RVT has submitted a TIGER V Discretionary Grant Application to complete the funding package for this \$ 25 million project which also includes expanding the existing Third Street Parking Garage by building an annex to the garage and a one level “bump-up” to increase the capacity of the facility by additional 150 parking spaces since the deck is currently operating at nearly 100% of capacity during weekdays. The TIGER V application also would fund the purchase of 3 CNG buses to replace diesel-powered buses and provide pedestrian connections to the proposed Destination 2014 redevelopment project furthering the six livability principles developed by US DOT, HUD and EPA by increasing access to affordable, convenient transportation choices for City residents and the surrounding region.

### Destination 2014 Conceptual Vision Rendering



RVT capital and operating financing will be addressed in Chapter 7 of this plan.

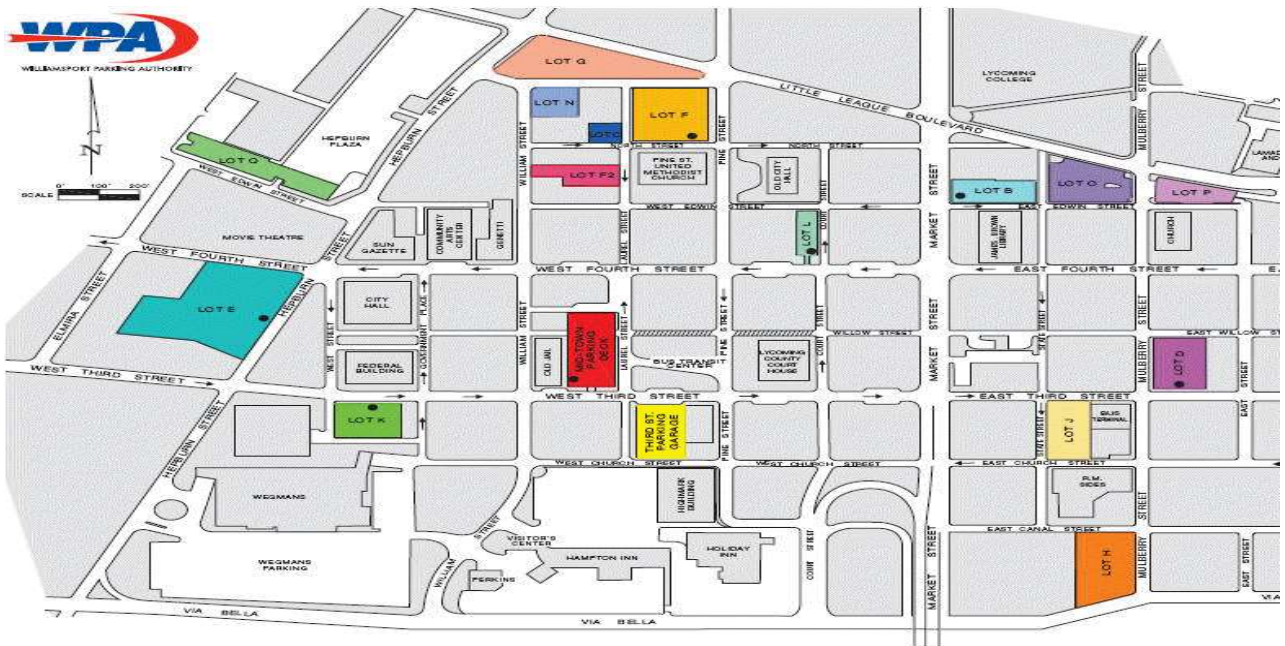


## *Williamsport Parking Authority*



For the past 13 years, River Valley Transit has also managed the Williamsport Parking Authority, (WPA) under an agreement designed to share administrative capacity and operate more efficiently. The WPA currently operates and maintains 15 municipal lots and the two aforementioned parking garages and also maintains over 200 street meters and other related street traffic zones. At a time when both office space and parking capacity in downtown Williamsport is in critical demand as a result of tremendous growth of the natural gas and related industries in the region, WPA is an active partner in the revitalization of Downtown Williamsport and contributes positively to economic development in the Central Business District.

## *WPA Parking Facilities*



## Taxi Service

The Billtown Cab Company, located at 3575 West Fourth Street is the PA PUC licensed taxi provider in Lycoming County providing 24 hour per day service.



## COMMUNITY SHARED RIDE PROGRAM

### Lycoming-Clinton Counties Commission for Community Action, (STEP, Inc.)



Incorporated in 1966, the Lycoming-Clinton Counties Commission for Community Action (STEP), Inc. is a private, non-profit community action agency. Success Through Engagement and Partnership is achieved in two ways. First, STEP's Programs engage individuals, families and communities in their own strategies for success - the customers become involved directly, and truly own that which they achieve. Secondly, because no single organization can "do it all", success is achieved through partnerships with the complementary groups and entities that can also assist these individuals, families and communities.

One of the many social services STEP, Inc. provides is shared ride demand responsive transportation services to the residents and visitors of Lycoming and Clinton Counties. According to STEP, their vision is "to provide safe, dependable and timely transportation services".

#### *Service Description*

STEP Transportation provides door-to-door, shared ride service from 6:00 AM – 6:00 PM Monday through Friday except STEP observed holidays. Formerly until 2012, service was provided 24 hours daily/ 7 days per week, however due to limited funding resources and overall system ridership declines, service cut-backs were deemed essential to preserve the overall future financial viability of the system. Transportation is provided for trips within Lycoming and Clinton Counties covering 2,126 square miles and serving a population base of 155,349 with 16.4% of the population comprising senior citizens aged 65 and older. Once per day service to Geisinger Medical Center is available and also to the Eye Center of Central PA in Allenwood, Union County. Through the

Medical Assistance Program, (MAP), transportation is provided on an as-needed basis to serve medical appointments throughout the Commonwealth. Cross-country transportation is also provided with the coordination of other neighboring transportation providers. Consumers must reserve their ride with STEP before noon on the preceding business day. Although all residents and visitors within Lycoming and Clinton Counties are eligible for transport by STEP, some consumers may be eligible in transportation sponsoring programs, such as Persons with Disabilities, Medical Assistance Program, Area Agency on Aging, Shared Ride and Welfare to Work Programs making fares more reasonable.

According to the PennDOT Bureau of Public Transportation, STEP operates a 31 vehicle fleet that was used to provide over 111,705 total shared ride passenger trips between July 2011-June 2012. Of these total trips, 46,688 were senior citizen (aged 65+) or 41% of total trips which have been steadily declining over the past five years. Another 11,788 trips or 10% of total trips were attributed to the Persons with Disabilities Program which has also declined.

### Fare Structure

#### **STEP Transportation Fare Structure**

**As of June 1, 2012**

<b>Sponsorship and/or type of trip (one-way)</b>	<b>Current Fare</b>	<b>New Fare</b>
Medical Assistance Transportation trip	No Charge	No Charge
Age 60 and older AAA sponsored trip	\$0.85	\$1.00
Age 65 and older non-sponsored trip	\$2.50	\$3.00
Persons with Disabilities (PwD)	\$4.00	\$4.00
Americans with Disabilities (ADA) trip	\$4.00	\$4.00
General Public and Third Party Sponsored trip	\$16.60	\$20.00

#### **Geisinger Medical Center trips (one-way)**

Age 65 and older/PwD/ADA		\$7.50
General Public	\$61.00	\$50.00

#### **Welfare-to-Work**

75% covered	\$4.15	\$5.00
50% covered	\$8.30	\$10.00
25% covered	\$12.45	\$15.00

The impact STEP has on the communities it serves is tremendous as there are thousands of consumers who maintain their independence by using shared ride services. STEP Operating and capital assistance program financial information will be provided in Chapter 7.

## INTERCITY BUS

There is one privately-owned company that has an intercity bus passenger terminal in Lycoming County.

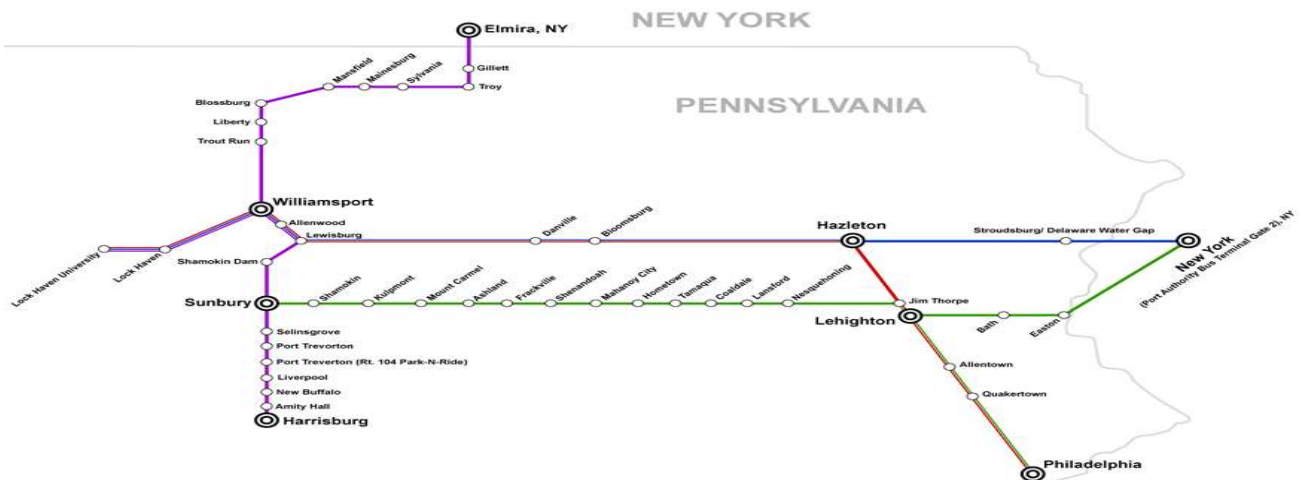
### Susquehanna Transit Company



This private motorcoach company based in Avis, PA has been in business for nearly 60 years. Susquehanna Trailways operates a fleet of 27 MCI and Prevost motorcoaches seating either 47 or 55 passengers. Some motorcoaches are ADA accessible. Drivers are trained professionals qualified under all current state and federal DOT rules and regulations. Motorcoaches are maintained and serviced by in-house mechanics and technicians at one of three maintenance facility locations. Ridership has been fairly steady over the past five years with nearly 100,000 passenger trips per year. Fares vary by trip and the average fare is \$ 15.45.

As noted earlier in the plan, Susquehanna relocated their Williamsport passenger terminal from the intersection of Third / Mulberry Streets to the Church Street Transportation Center in 2012.

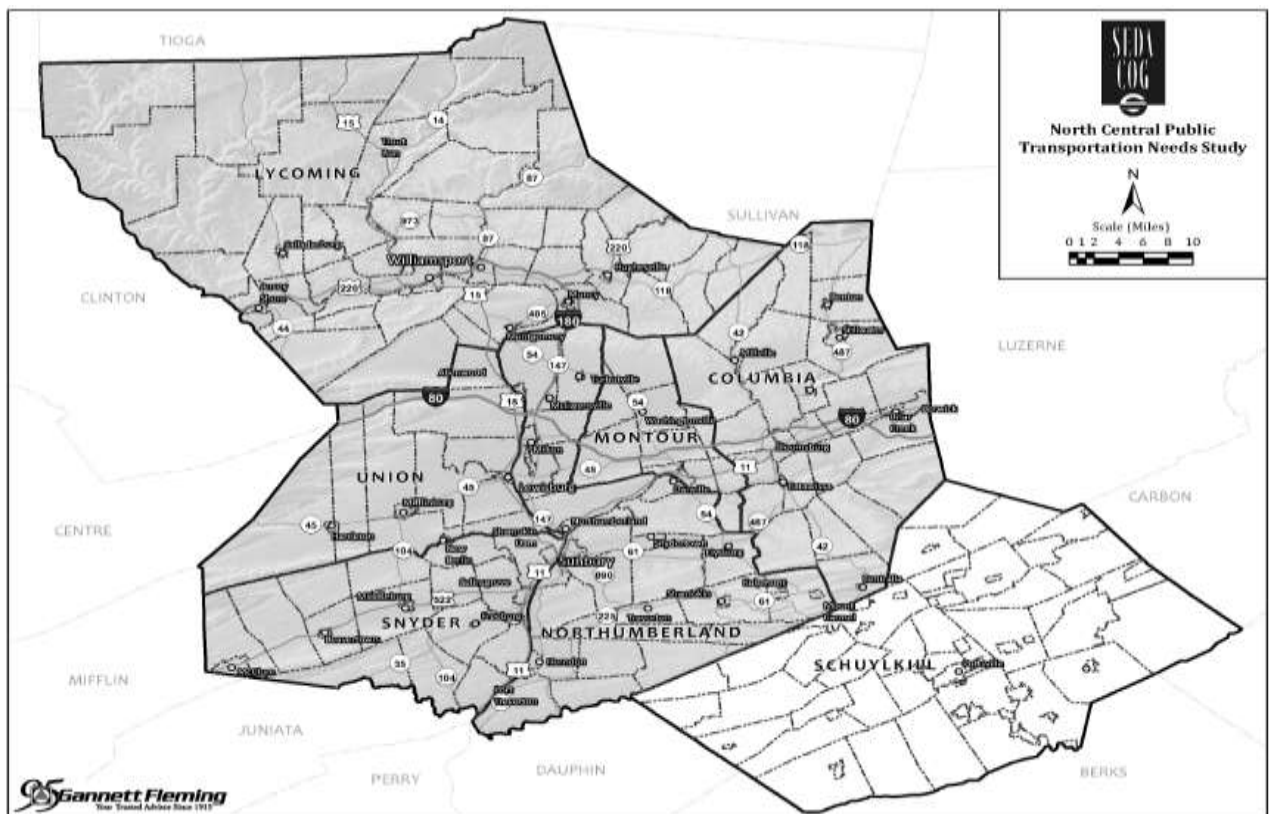
Susquehanna Trailways provides scheduled route, charters, groups and party and school bus services in Pennsylvania and New York. The scheduled routes are shown below.



## REGIONAL TRANSIT COORDINATION

### Northcentral PA Public Transportation Task Force

For the past five years, the Lycoming County Transportation Planner has chaired this Task Force consisting of numerous public and private sector human service and transportation related organizations in the Northcentral PA region whose mission is to establish a mechanism to meet the regional needs for public transportation so that area residents have alternative, accessible, efficient and affordable means of travel. River Valley Transit, STEP and Susquehanna Health Staff also participate on the Task Force from Lycoming County. The Task Force recognizes that a more regional approach not limited by county boundaries should be considered when conducting strategic planning for delivery of public transportation services and full cooperation is essential among providers and stakeholders to achieve success. The SEDAC-Council of Governments undertook a comprehensive needs assessment which was finalized in 2011 that reviewed current transportation services in a six county region consisting of Lycoming, Union, Snyder, Northumberland, Montour and Columbia Counties with funding assistance primarily from PennDOT. Gannett Fleming was the study consultant. The study area is shown on the map depicted below:



The study provided an inventory and analysis of existing transportation services, documented community characteristics, assessed current transit needs and potential new demand, developed



alternative strategies to address present and future needs and prioritized strategies for future plan implementation.

A regional transit summit was held in November of 2011 in Danville, PA to publicly present the study recommendations. Over 100 individuals representing a large cross-section of public transportation providers, social service organizations and transit consumers were in attendance.

The plan recommended six primary alternatives out of 20 alternatives as the highest priorities for future implementation consisting of:

**Alternative #1 Regional Public Transportation System**

**Alternative # 2 Regional Coordination Council**

**Alternative # 5 Evening and Weekend Service Expansion**

**Alternative # 6 Centralized Resources Directory**

**Alternative # 16 Local Community Routes with Deviation**

**Alternative # 18 PennDOT Coordination Pilot Project**

Currently the Task Force is focused on working with the PennDOT Bureau of Public Transportation that intends to begin a study examining the potential for consolidation of fixed route and shared ride services in the study area with expanded focus including Clinton and Centre Counties as part of the study. Similar PennDOT studies have already been completed in other parts of the Commonwealth such as the Lackawanna – Luzerne County area where service consolidation occurred in 2012 as part of PennDOT's Next Generation initiative. Transit consolidation has the potential to generate real savings, streamline management, drive a regional approach to service and generally improve performance.



Also, WATS has been partnering with SEDA-COG to develop a joint Human Services Coordinated Transportation Plan that is underway. This joint approach will be helpful during the implementation of the Task Force Study recommendations. RVT has also proposed FTA Job Access Reverse Commute Program funding to initiate regional transit service extension to Clinton County.

## AIR SERVICE



The Williamsport Regional Airport is the only scheduled commercial air carrier service airport in Lycoming County. There are 15 scheduled commercial air service airports in the Commonwealth. This section of the plan provides a detailed overview of airport facilities and services.

### Overview

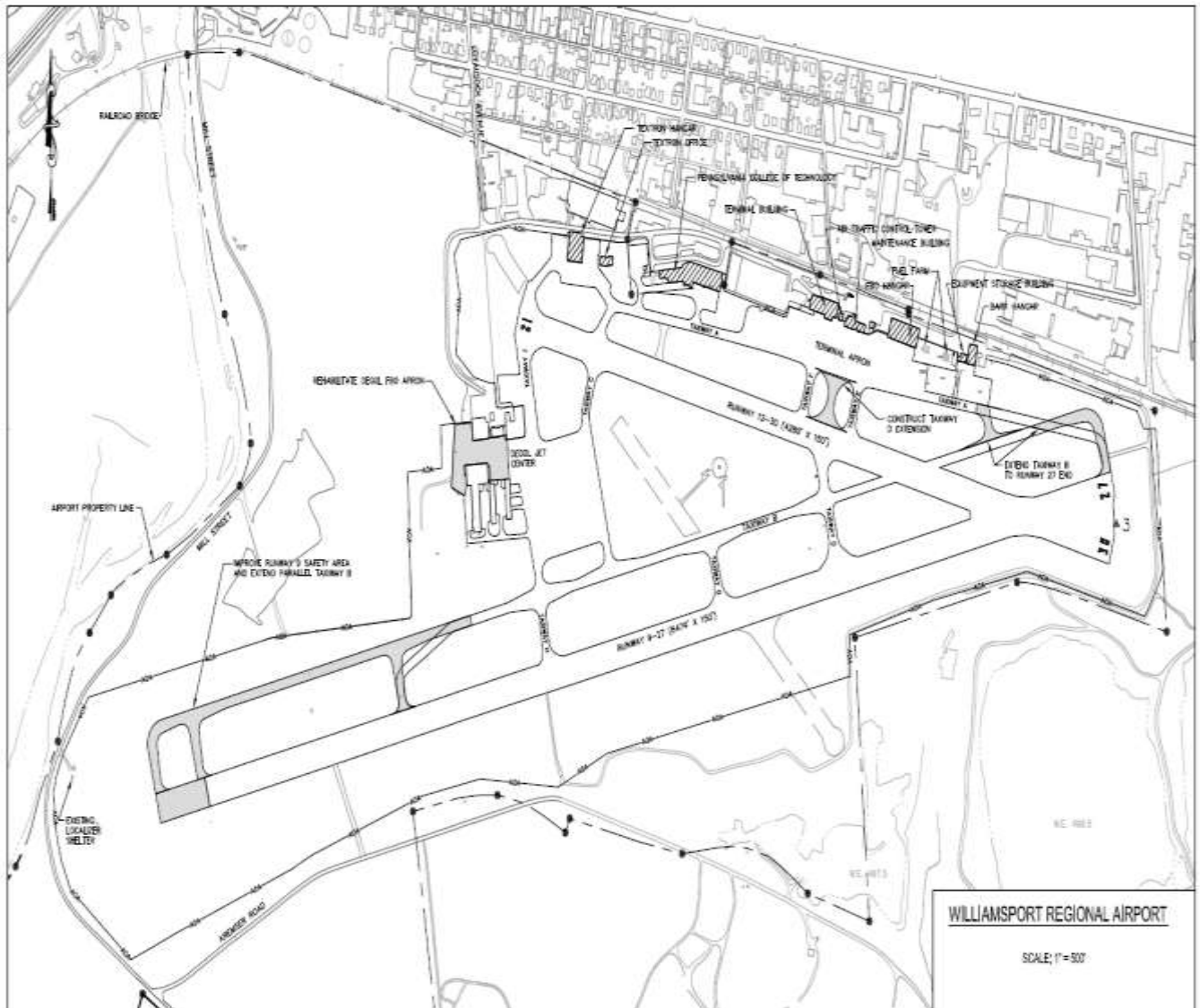
The Williamsport Regional Airport is located in the Borough of Montoursville approximately 5 miles east of the City of Williamsport. The airport was originally developed in 1929. On January 27, 1947 a joint resolution was adopted by the City of Williamsport and Lycoming County Commissioners creating the Williamsport Municipal Airport Authority incorporated under the 1945 PA Municipal Authorities Act. . The Airport Authority Board of Directors consist of seven members appointed by the Lycoming County Commissioners who are responsible for determining airport policy and directing the overall airport operations employing full and part-time staff. On July 21, 1947 the airport land and improvements were deeded by the City of Williamsport to the newly created Airport Authority.



## Major Airport Facilities Inventory

There is a large land area (735 acres) and numerous physical facilities that are under Airport Authority ownership and control. This area is depicted on the official Airport Layout Plan, (ALP) approved by the Federal Aviation Administration as noted below:

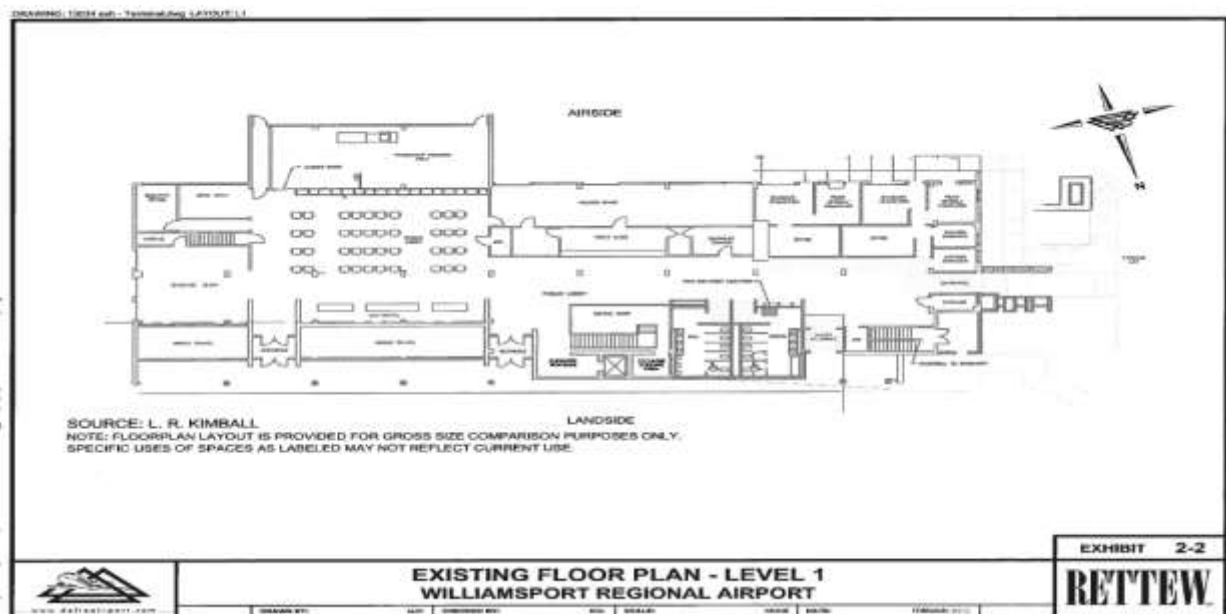
### Existing Airport Layout Plan, (ALP)



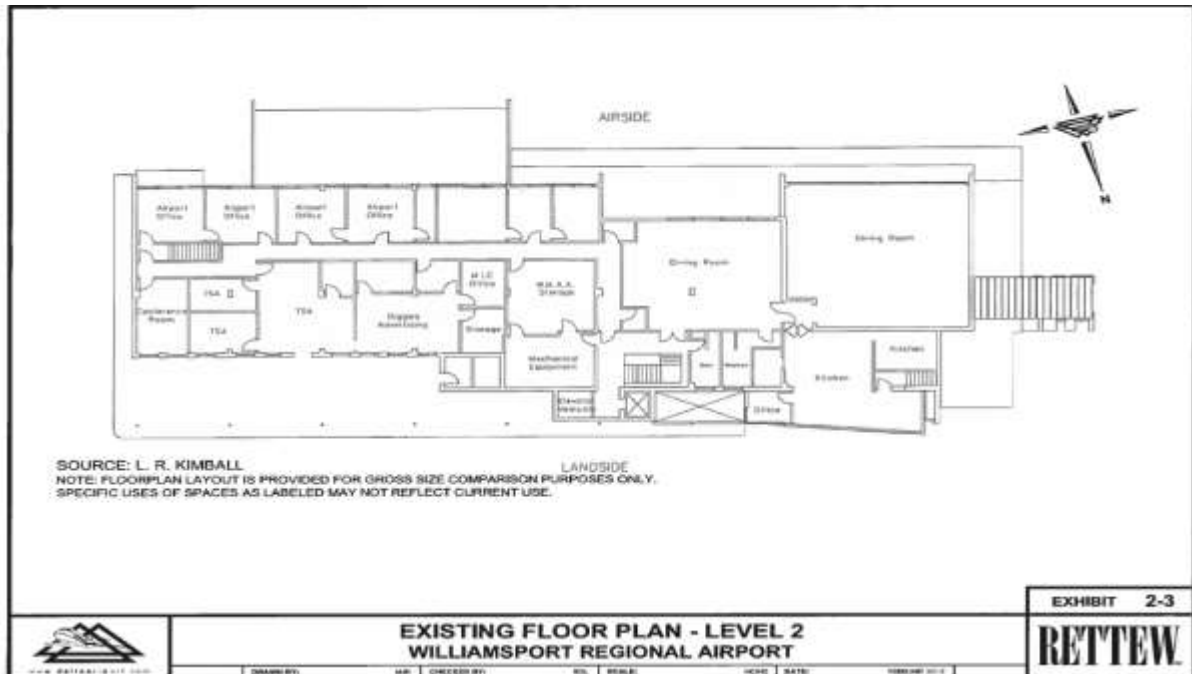
## *Terminal Building*

The Airport Terminal Building, originally constructed in 1947, is a two-story facility consisting of approximately 27,000 square feet of space. There are restrooms, airline ticket counters and offices, baggage screening, and a beverage concessionaire located to the west of the central vestibule on the first floor while public seating, passenger security checkpoint, and secure passenger hold room occupy the middle of the building. Car rental, baggage claim and a travel agency are located to the east of the central entryway. The second floor is occupied by a restaurant (Cloud 9), Airport Authority administrative offices, Transportation Security Administration, (TSA) offices, storage, a mechanical and electrical room and another concessionaire.

### **Existing Airport Terminal Building**







In June, 2012, the Airport Authority publicly announced a major project to replace the existing terminal building given its poor physical condition and limited space for current operations and future anticipated growth. This project will be more fully discussed under the Proposed Airport Improvements section of this plan.

#### *Air Traffic Control Tower, (ATCT)*



The Airport has an air traffic control tower, originally constructed in 1959, to promote the safe, orderly, and expeditious flow of air traffic. The tower is operated through a contract operator, Air Midwest and federally subsidized under the FAA Air Traffic Control Tower Cost Sharing Program with a county match. The hours of operation are from 6:30 a.m. to 10:30 p.m. daily. Under federal sequestration measures, the FAA had planned to discontinue the federal subsidy for the Airport (ATCT), however it is now likely the subsidy will continue in FFY 2014.

### *Runways and Taxiways*

**Runway 09-27** is the primary runway at the Airport. This grooved bituminous paved runway is 6,824 feet long by 150 feet wide and is in good condition. The runway pavement strength is single wheel 65,000 lbs., dual wheel, 100,000 lbs and double dual tandem wheel, 190,000 lbs. The runway length was recently extended by 350 lineal feet at the western end in 2009 to enhance aircraft operational safety. A full parallel taxiway system was also recently completed for this runway leading to the main aprons and other aircraft parking facilities so it is in excellent condition. This runway is served by high intensity runway lights. All runway pavement markings are in accordance with FAA standards for Airport Markings. All signage is in compliance with Part 139 requirements.



**Runway 12-30** is the secondary runway at the Airport. This bituminous over concrete runway was rehabilitated in 2002 and is in good condition. A parallel taxiway is available for this runway leading to the main aprons and other aircraft parking facilities. All lighting, signs and pavement markings are in compliance with FAA requirements.

Other runway related aviation navigational aids at the airport include a rotating beacon, lighted wind indicator, Medium Intensity Approach Lighting System, (MALSR), Visual Approach Slope Indicators, (VASI), and Precision Approach Indicators (PAPIs).

### *Fixed Base Operator, (FBO)*

There is one full service fixed base operator at the airport, Energy Aviation. This private entity purchased the former DeGOL Jet Center in late 2012 and provides a full range of general aviation services which include aviation fuel sales, aircraft ground handling, aircraft parking (ramp or tiedown), hangars, passenger terminal and lounge, flight training, aircraft rental and other services. 100 Low Lead and Jet A fuel is available.

### *Based Aircraft*

As of March 2013, there are 37 based aircraft at the airport consisting of 22 single engine, 11 multi-engine, 2 jets, 2 helicopters.

### *Hangers*

There are 10 hangers at the airport; 1 ten unit hanger, 2 six unit hangers, 3 unit hangers and one combination hanger / office. All hangers are currently occupied but additional space is available.

### *Other Airport Facilities*

There are Aircraft Rescue and Firefighting, (ARFF) and Equipment Storage buildings that house fire and rescue and maintenance vehicles. There is a fuel farm and aircraft de-icing pad. The main parking area is located west of the terminal building providing 268 parking stalls. An additional 73 parking spaces are reserved for rental cars. An additional 33 parking spaces are provided for airport tenants, employees and restaurant patrons. The PA College of Technology owns and operates the Kathryn Lumley Aviation Center which provides college student instruction on aviation and avionics related programming.



**Lumley Aviation Center**

Currently, the Airport Authority leases building space or land to 23 different tenants operating at the airport.

### **Current Airport Tenants**

Piedmont Airlines  
Hertz Rent-a-Car  
Avis/ Budget Rent-a-Car  
Cloud 9 Restaurant  
Consolidated Graphics  
World Travel International  
Lycoming Engines  
FAA  
Energy Aviation, IPT  
Barr Motors  
McClure-Johnson Company  
AIRMEN HVAC Services

Civil Air Patrol  
Diggins Advertising  
Duraclean Restoration  
General Services Administration  
Michael D. Mertes, Inc.  
Timberland Coffee Company  
Geisinger Medical Center Life Flight  
Tom Drewett & Tom Brown  
Sooner Pipe  
EXCO Resources  
Exsentry Data Solutions

### *Airport Hazard Zoning*

Pennsylvania's Airport Hazard Zoning Law, Act 164 of 1984, requires those local municipalities that fall within an airport hazard area to adopt, administer and enforce airport zoning regulations (ordinances) to ensure a safe and reliable network of public use airports as a key mechanism to preserve and protect these key transportation assets.

Twelve Lycoming County municipalities are required to enact an airport hazard zoning either as an amendment to their overall zoning ordinance or as a free standing ordinance. According to the PennDOT Bureau of Aviation, only three of these municipalities are in compliance with Act 164 as illustrated below:

**Airport Hazard Zoning Compliance Status**

AIRPORT	MUNICIPALITY	COUNTY	Ownership	Airport Use	AIRPORT CLASS	ACT 164 Ord.?	Ord On file?
WILLIAMSPORT REGIONAL AIRPORT	WOLF TOWNSHIP	LYCOMING	PUB	PUB	Commercial Service	No	<input type="checkbox"/>
WILLIAMSPORT REGIONAL AIRPORT	CITY OF WILLIAMSPORT	LYCOMING	PUB	PUB	Commercial Service	No	<input type="checkbox"/>
WILLIAMSPORT REGIONAL AIRPORT	UPPER FAIRFIELD TOWNSHIP	LYCOMING	PUB	PUB	Commercial Service	Yes	<input type="checkbox"/>
WILLIAMSPORT REGIONAL AIRPORT	SOUTH WILLIAMSPORT BOROUGH	LYCOMING	PUB	PUB	Commercial Service	No	<input type="checkbox"/>
WILLIAMSPORT REGIONAL AIRPORT	MUNCY TOWNSHIP	LYCOMING	PUB	PUB	Commercial Service	Yes	<input type="checkbox"/>
WILLIAMSPORT REGIONAL AIRPORT	MONTOURSVILLE BOROUGH	LYCOMING	PUB	PUB	Commercial Service	Yes	<input type="checkbox"/>
WILLIAMSPORT REGIONAL AIRPORT	MILL CREEK TOWNSHIP	LYCOMING	PUB	PUB	Commercial Service	No	<input type="checkbox"/>
WILLIAMSPORT REGIONAL AIRPORT	LOYALSOCK TOWNSHIP	LYCOMING	PUB	PUB	Commercial Service	No	<input type="checkbox"/>
WILLIAMSPORT REGIONAL AIRPORT	HUGHESVILLE BOROUGH	LYCOMING	PUB	PUB	Commercial Service	No	<input type="checkbox"/>
WILLIAMSPORT REGIONAL AIRPORT	FAIRFIELD TOWNSHIP	LYCOMING	PUB	PUB	Commercial Service	No	<input type="checkbox"/>
WILLIAMSPORT REGIONAL AIRPORT	CLINTON TOWNSHIP	LYCOMING	PUB	PUB	Commercial Service	No	<input type="checkbox"/>
WILLIAMSPORT REGIONAL AIRPORT	ARMSTRONG TOWNSHIP	LYCOMING	PUB	PUB	Commercial Service	No	<input type="checkbox"/>

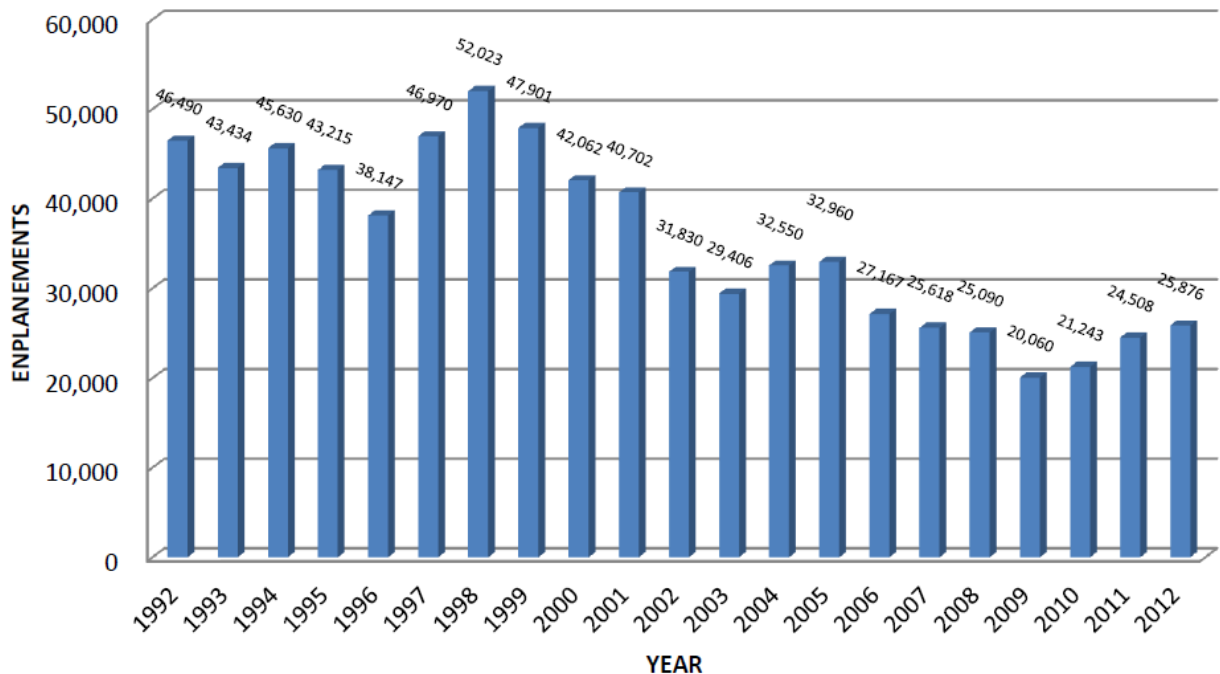
From a statewide perspective, only about 40% of PA municipalities required to enact airport hazard zoning are in compliance according to PennDOT BOA. The PennDOT, MPO/RPO and airport operators are now conducting additional municipal outreach to strengthen the compliance rate, including the WATS MPO and Airport Authority.



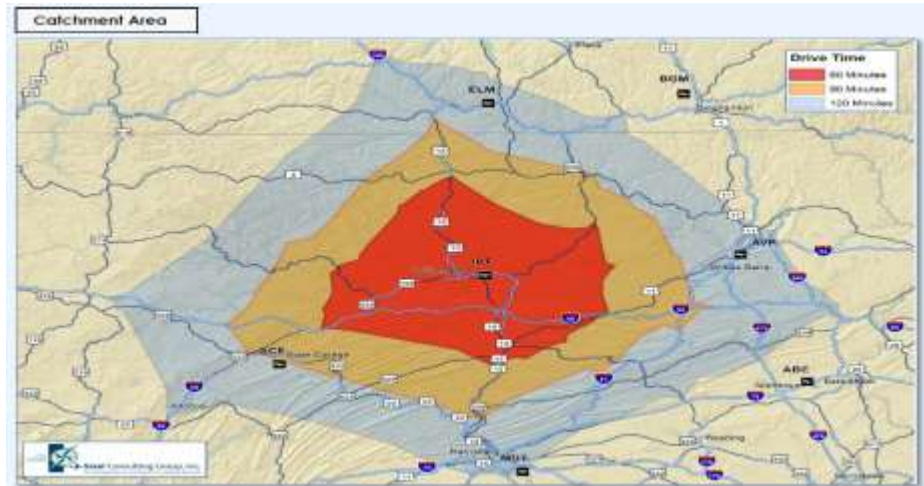
## Commercial Air Service Description and Trends

The Williamsport Regional Airport has had continuous scheduled airline service for 64 years. During that time, the nature and type of service has varied considerably. For example, in the 1970s, airline service was provided by Allegheny Airlines and Pocono Airlines with service to Pittsburgh, Philadelphia, Newark and Wilkes/Barre/Scranton providing as many as 15 arriving and 15 departing flights per day. However, since airline deregulation, numerous airline organizational restructurings, reduced aviation demand stemming from 2001 terror attacks and other factors, commercial service availability at the airport has been significantly reduced culminating in the loss of Pittsburgh service in 2004 as part of US Airways downgrading the Pittsburgh International Airport from a hub to a “focus city”. Therefore, since 2004, the airport commercial service is limited to three daily round trip flights provided by US Airways Express to US Airway’s hub at the Philadelphia International Airport using DeHavilland Dash-8 aircraft configured in a 37 seat arrangement. It should be noted that the Philadelphia airport connects to over 160 additional cities worldwide. Due to airline operational considerations, only 33 seats are available to passengers on each flight. This limited seating capacity coupled with the dramatic increase in Marcellus gas exploration related air traffic demand has resulted in Year 2012 flights being operated at an 86% load factor, indicating little to no seat capacity currently exists in the market since this available seat capacity has not grown while airport enplanements grew 29% since 2009. The following chart illustrates historical passenger enplanement activity at the airport during the past 20 years. Enplanements were strong until the 9/11/01 terror attacks occurred which negatively affected national air travel and caused a steep passenger decline at the airport. Enplanements have been steadily rebounding since the Marcellus gas boom emerged in a substantial way in 2009. Last year, annual enplanements exceeded 25,000.

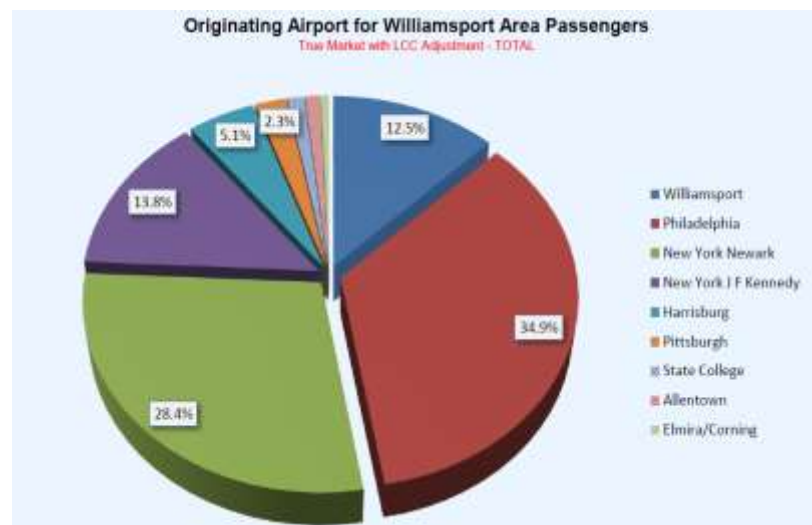
**Williamsport Regional Airport  
Historical Enplanements**



To better understand the potential air service market opportunities, the Airport Authority and Williamsport-Lycoming Chamber of Commerce engaged Sixel Consulting Group, Inc. to conduct a True Market Study for the Airport which was completed in January, 2013. This study better defined the airport catchment area as shown below:

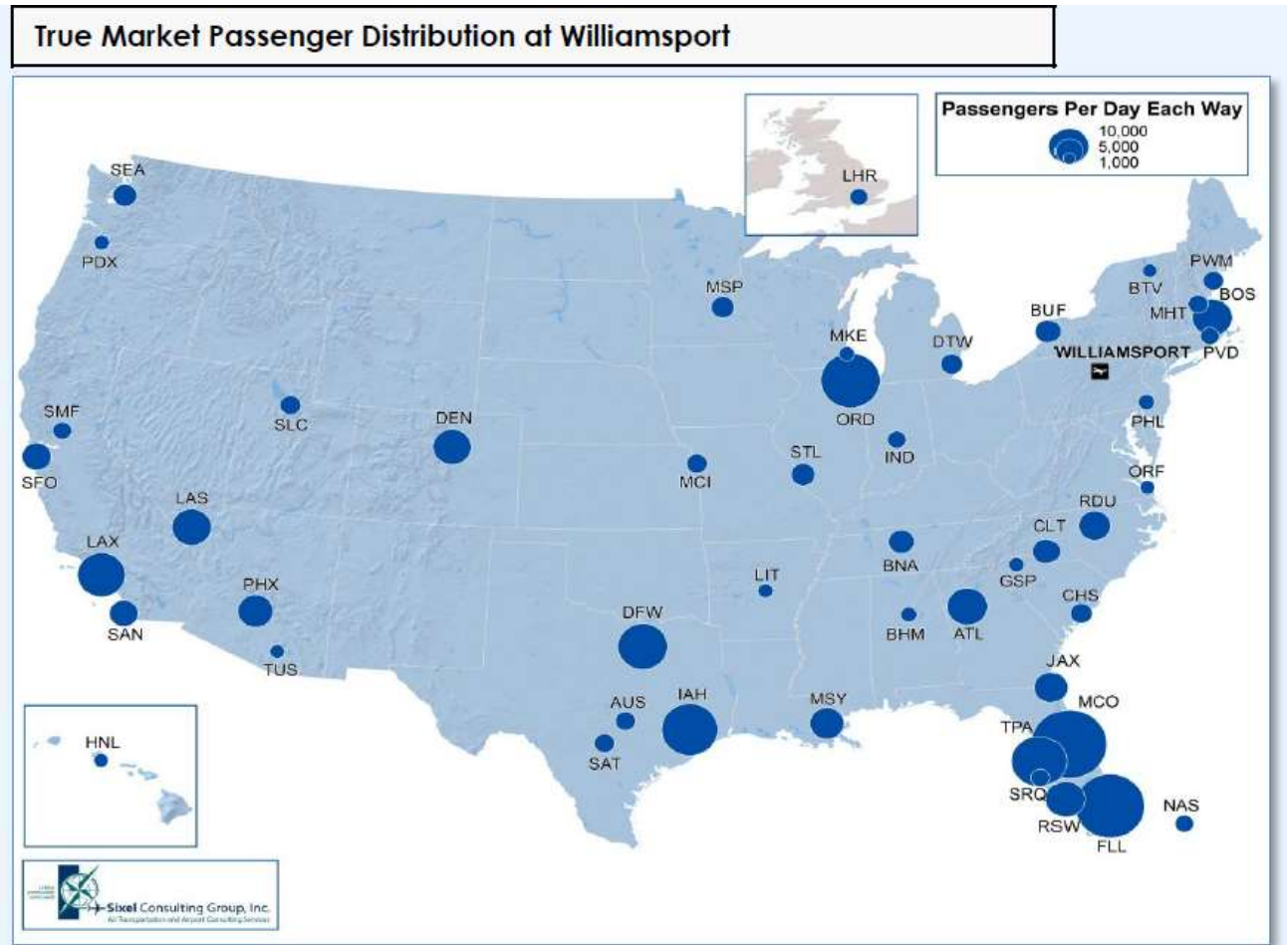


Using a variety of data sources such as air passenger ticket information, demographic and socioeconomic data in the catchment area, Sixel was able to determine the estimated air service demand within the catchment area and determine how much of this demand was actually captured by the Airport. The study concluded that only 12.5% of 414,772 total air travelers within the catchment choose the Airport as their originating airport. The originating airport for Williamsport Catchment Area passengers are noted below:



About 35% of Williamsport catchment area passengers originate their flight at the Philadelphia International Airport while most of the remaining passengers use Newark and JFK Airports in the New York City / NJ Areas.

The top five passenger markets for the Williamsport Area are Orlando/Sanford FL, South Florida, Chicago Ill, Houston, Tx and Tampa / St. Petersburg, FL. The national map provided below highlights the true market passenger distribution at Williamsport.



The study concluded that the Airport's air passenger market is large enough to support additional service and the Airport Authority is currently recruiting additional air carriers to capture a greater share of passenger leakage with priority emphasis on direct air service to Washington / Dulles, Charlotte, Chicago and Orlando. This initiative will introduce airline competition, more customer choices and reasonable fares.

### Air Freight Service

There are three types of scheduled air cargo operations at the airport which use aircraft: airline passenger related baggage and cargo, integrated express carriers, (Fed Ex and UPS) and business and industry generated cargo. In 2012, a total of 789,265 lbs. of outbound air freight was generated and 270,755 lbs. of inbound air freight was received at the airport. This is a substantial increase over 2011 air freight activity where only 465,387 lbs. of outbound air freight was generated and 172,106 lbs of inbound freight was received.

## **MAJOR AIRPORT FACILITY PLANNED IMPROVEMENTS**

The Williamsport Municipal Airport Authority has taken an aggressive approach toward modernizing airport facilities to ensure continued availability of safe convenient affordable and reliable air services for airport customers and tenants. Toward this end, the Airport Authority has adopted an Airport Master Plan and a supplemental Long Range Plan which defines and prioritizes proposed improvements. Major planned improvements are highlighted in this section.

### **Terminal Building Replacement Project**

To address numerous structural and operational space deficiencies associated with the aging airport terminal building outlined earlier in this chapter, the Airport Authority has retained Rettew as its consultant to undertake the FAA required feasibility studies, environmental assessment and design of a replacement airport terminal building that will better meet the growing needs of the airport during the coming decades. The proposed two story new terminal building will expand available space from 27,000 to nearly 35,000 gross square feet incorporating the following major features amenities based on extensive input from community leaders, airport customers and tenants.

#### **New Terminal Building Highlights**

- *Provides space for two additional airlines*
- *Provides passenger screening lanes and a secure hold room sized to accommodate boarding of larger aircraft for approximately 150 passengers.*
- *Provides for a modern baggage claim facility*
- *Provides sufficient space to adequately accommodate all current and future office layout space needs of existing tenants and airport administration*
- *Incorporates energy efficient green technology building features*
- *Offers modern aesthetic look using glass and steel indicative of an airport terminal, thus enhancing the gateway to the community.*
- *Utilizes timber-frame structure showcasing area's lumbering history*
- *Provides displays of area's Little League Baseball, abundant natural gas resources and other legacy industries, including public art.*
- *Enhances views of airfield and mountains for terminal users*
- *Improves vehicular and pedestrian ground access at terminal entrance with enhanced lighting and more efficient traffic flow configuration*

A new two lane access road was programmed by the WATS MPO to connect the airport with Interstate 180, but the County discontinued the project due to weak needs justification and limited funding availability. The original needs study is currently being re-evaluated by the County to examine lower cost alternatives toward improving airport ground access to serve the new terminal building location with primary focus along Montour Street.



### Conceptual Rendering of New Airport Terminal



**RETTEW**

The Airport Authority prefers the new terminal building to be sited east of the existing building with the current terminal remaining operational until the new facility is constructed to avoid disruption to airport customers and tenants. The existing terminal building would then be demolished and additional parking supply would be provided. The Authority expects to have the feasibility study completed in early 2014 and the environmental assessment and design phase completed in Summer, 2015 with construction completion in Fall of 2016. Additional project financing information for this \$ 13.6 million project will be included in Chapter 7. Governor Corbett visited the airport in March, 2013 to review the plans for this exciting new project and to showcase Lycoming County's use of Act 13 funds for aviation purposes.



**Governor Tom Corbett visits Airport Terminal**

## **Airport Runway Approach Improvements**

While the Williamsport Regional Airport has the facilities and capacity to provide service to nearly any type or size of aircraft, the major problem with the Airport is the runway approach minimums. Up until 2010, there was a single published approach to the Airport – the Instrument Landing System (ILS) approach to Runway 27. Additionally, this approach has the highest minimums of any scheduled-service Airport in Pennsylvania. The minimums are 500' Height Above Terrain (HAT) and 1-1/4 mile Visibility (Note that the Visibility Minimum is normally 1-mile, but, since the Runway Alignment Indicator Lights (RAILs) are currently out of service, there is an additional 1/4-mile penalty). For reference, most scheduled service airports have at least Category 1 Approaches with minimums of 200' HAT and 1/2-mile Visibility. This is a particular issue at Williamsport due to the Airport's location at the confluence of the West Branch of the Susquehanna River and Loyalsock Creek. Dense fog is typical at Williamsport, forcing the cancellation of multiple flights because of the high minimums.



In the 2006 Airport Master Plan, the primary goals for the development of the Williamsport Regional Airport were to lengthen Runway 9-27 to its maximum possible length, given the terrain and other physical constraints, to develop published approaches to all runway ends, to develop a second ILS approach to Runway 9, and to achieve a Category 1 Approach for Runway 27. Since the completion of the 2006 Master Plan, Runway 9-27 has been lengthened from 6,474' to 6,824' and, in addition to the ILS approach to Runway 27, there are RNAV GPS approaches to Runways 9, 12 and 30. The Approach to Runway 9 is an LPV Approach with minimums of 600' HAT and 1-1/2 miles Visibility, again very high for this type of an Airport.

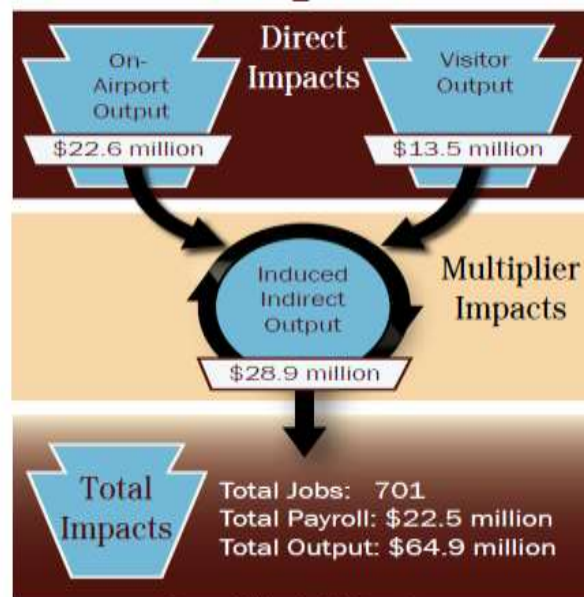
The Airport Authority is currently completing the initial phases of a project to attempt to improve the Approach Minimums for Runway 9-27. This project will include removing tree obstructions located within the Runway 9 approach, and displacing the Runway 27 threshold to eliminate the Lycoming Valley Railroad as a controlling obstruction. At this time, it appears that it may be possible to reduce the Runway 27 minimums to 340' HAT and 3/4-mile Visibility by completing this work. It does not appear that Category I Approach Minimums are attainable due to the location of the mountain to the south side of the Airport. The current schedule is to complete the obstruction removal for both runway ends and to complete the threshold displacement for Runway 27 by November 2014, and to finalize the project by November 2016.

The remaining planned airport capital improvements will be further detailed in Chapter 7.

### *Economic Impact of Airport*

The PennDOT Bureau of Aviation has completed a study of the economic impact of airport facilities in the Commonwealth. The economic impact findings for the Williamsport Regional Airport are summarized below underscoring the importance of the airport to serve the regional economy.

## **Economic Impact of Williamsport Regional Airport**



Source: Wilbur Smith Associates

### **Jersey Shore Airport**

There is a privately-owned, public use airport situated approximately two miles east of Jersey Shore in Nippenose Township. This airport has a 3,059 foot long by 130 foot wide unpaved sod runway with no published instrument approaches and no air traffic control tower. There are low intensity runway edge lights and runway edge markings. Air traffic activity is limited to general aviation use. Privately owned aircraft are based at the airport.





## RAIL SERVICE



Lycoming County is served by two freight railroads, Norfolk Southern Railways and the Lycoming Valley Railroad. This section of the plan will further discuss both of these railroads which are a critical component of the region's multi-modal transportation system.

### Norfolk Southern Railway

Norfolk Southern Railway is a Class I railroad in the United States, owned by the Norfolk Southern Corporation with headquarters in Norfolk, Virginia. Since 1982, this company owns and operates over 20,000 route miles in 22 eastern states, the District of Columbia and the province of Ontario, Canada. In 1999, the system grew substantially with the acquisition of over half of Conrail. The most common commodity hauled on the railroad is coal from mines in PA and other surrounding states in their service area which is shown below:



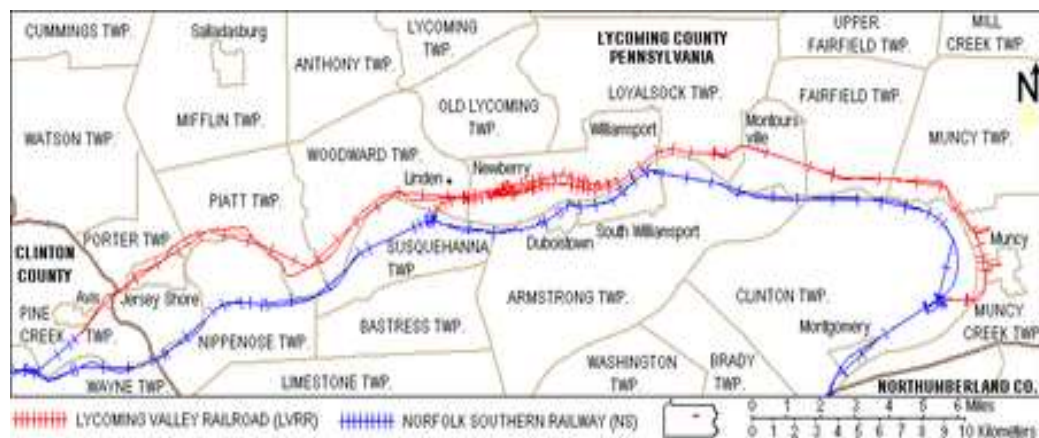


There are three other Class I railroads operating in the Commonwealth, (CSX Transportation, Soo Line Railroad Company, Grand Trunk Corporation), however Norfolk Southern is clearly the largest in terms of route miles operated and ton miles of freight hauled annually. There are seven different main lines operated by Norfolk Southern in Pennsylvania. The only line traversing Lycoming County is the Harrisburg-Buffalo, New York Mainline connecting at the southern end to the Harrisburg (Rutherford) large intermodal rail yard serving Central PA. Service from this facility includes seven-day-per week trains to/from Chicago, Elizabeth (NJ), Kansas City, Los Angeles, Norfolk, San Bernardino, and St. Louis. This facility handles Trailer-On-Flat-Car, (TOFC) and Container-On-Flat-Car, (COFC). In addition, 48 and 53 foot EMP containers are handled at the facility. The Harrisburg-Buffalo mainline can accommodate double stack freight cars and 286,000 pound car loadings.



**NS Rutherford Yard**

The next map depicts the 37 mile long Norfolk Southern rail system map within Lycoming County in blue and the Lycoming Valley shoreline rail line (red) to be discussed next.





### **Lycoming Valley Railroad**

The Lycoming Valley Railroad, (LVRR) is one of numerous Class III shortline railroads serving the Commonwealth and is the only shortline railroad located in Lycoming County. This 38 mile long shoreline runs generally west between Avis (Clinton County) and Muncy, PA. The LVRR is part of the North Shore Railroad system with headquarters in Northumberland, PA.

The system has trackage rights via the Norfolk Southern line allowing LVRR to connect to the west with the Nittany and Bald Eagle Railroad at Lock Haven and to the south with the Union County Industrial railroad at Milton, the North Shore Railroad at Northumberland and the Shamokin Valley Railroad at Sunbury.



The SEDA-COG Joint Rail Authority, (JRA) owns the Lycoming Valley trackage as part of an overall regional shortline rail system encompassing five rail lines with nearly 200 miles of track, land, rights-of way, engine houses and various bridges and other railroad related structures traversing through a nine county area consisting of Lycoming, Union, Northumberland, Montour, Mifflin, Columbia, Clinton, Centre and Blair Counties. The JRA provides rail freight service to approximately 100 shippers supporting over 10,000 good paying industrial jobs.

The JRA was created in 1983, under the PA Municipal Authorities Act of 1945 with each member County Board of Commissioners appointing two representatives to serve on the 16 member JRA Board. It should be noted that most of the rail-served companies are dependent on quality rail service offered by JRA and if such service were unavailable it is likely that many firms would close their doors or relocate to other areas having a substantial negative impact on the regional economy. In fact, the JRA and North Shore Railroad contract owner / operator arrangement has become widely recognized as a model for successful public-private rail partnerships on both the state-wide and national levels. The current operating agreement expires on June 30, 2017. Under this agreement, the JRA provides the North Shore Railroad with the exclusive right to use the railroad facilities owned by JRA in exchange for an operating fee based on 10% of gross freight revenue, 15% of Norfolk Southern track usage rights and 25% of car storage paid to JRA by North Shore Railroad. The operator is responsible for all equipment and facilities necessary to provide safe and adequate rail service.

## JRA Public- Private Partnership Model



In 2012, the JRA completed a Five Year Strategic Plan which provides an excellent asset management tool and working strategy for future delivery of rail freight services to address the growing rail service needs of companies within their large geographic service area. The summary of the JRA strategic plan is illustrated below.

**Table 1 – SEDA-COG JRA Strategic Plan Summary**

<b>Vision:</b> To provide Central Pennsylvania with a world-class railroad enterprise that affords its customers and partners with the most reliable, efficient, and safest short line system.		
<b>Mission:</b> To preserve and foster rail service in Central Pennsylvania and to further economic development through the retention, improvement, and expansion of the infrastructure and the rail service it supports.		
<b>Core Values:</b> <ul style="list-style-type: none"> <li>• Excellence</li> <li>• Stewardship</li> <li>• Safety</li> <li>• Integrity</li> <li>• Leadership</li> </ul>	<b>Core Functions:</b> <ul style="list-style-type: none"> <li>• Rail System Preservation and Improvement</li> <li>• Economic Development</li> <li>• Collaboration</li> </ul>	<b>Guiding Principles:</b> <ul style="list-style-type: none"> <li>• Plan and implement regional rail system projects with member county needs, private shipper needs, Rail Service Operator and other stakeholder interests in balance</li> <li>• Conduct open public JRA Board meetings with a public forum agenda item at every meeting</li> <li>• Adhere to state Right-to-Know Laws</li> <li>• Exercise ethical procurement standards and procedures that go beyond that required by the Commonwealth</li> <li>• Commit to a professional Code of Conduct and Ethics Policy for Board Members, Staff and Operator</li> <li>• Maintain a culture of cooperative problem-solving and partnership with our local governments, utilities, shippers, economic development agencies and property owners</li> </ul>

### *Railcar Traffic Trends*

Since 2006, the SEDA-COG shortline rail system had an overall 19% increase in carload traffic with the Lycoming Valley Railroad experiencing the largest numerical carload increase at 3,325 carloads. As of 2011, LVRR handled 17,569 carloads accounting for 58% of total traffic among the five shortline railroads. Much of these increases are due to Marcellus shale gas drilling activity associated with shipments of bituminous stone, sand, pipe and other commodities. The chart below shows carload trends among the five railroads from 2006-2011. Clearly, the LVRR is the backbone of the regional shortline system.

#### **SEDA-COG JRA System-wide Carload Trends 2006-2011**

Railroad Company	Year						Change	
	2006	2007	2008	2009	2010	2011	#	%
JVRR	2,021	2,282	3,022	2,606	3,018	3,104	1,083	35%
LVRR	14,244	11,715	11,048	12,042	16,986	17,569	3,325	19%
NBER	5,855	5,019	6,609	9,130	10,614	7,751	1,896	24%
NSHR	1,439	1,030	1,334	1,354	1,226	1,301	(138)	-11%
SVRR	868	885	617	203	206	370	(498)	-135%
<b>Totals</b>	<b>24,427</b>	<b>20,931</b>	<b>22,630</b>	<b>25,335</b>	<b>32,050</b>	<b>30,095</b>	<b>5,668</b>	<b>19%</b>

*Source: SEDA-GOG JRA Strategic Plan*

As of 2012, there were 31 rail freight customers in Lycoming County utilizing LVRR services supporting 1,600 well paying industrial jobs which is the largest number among the nine counties served by the JRA rail system.

#### **JRA Rail System Economic Development Activity By County**

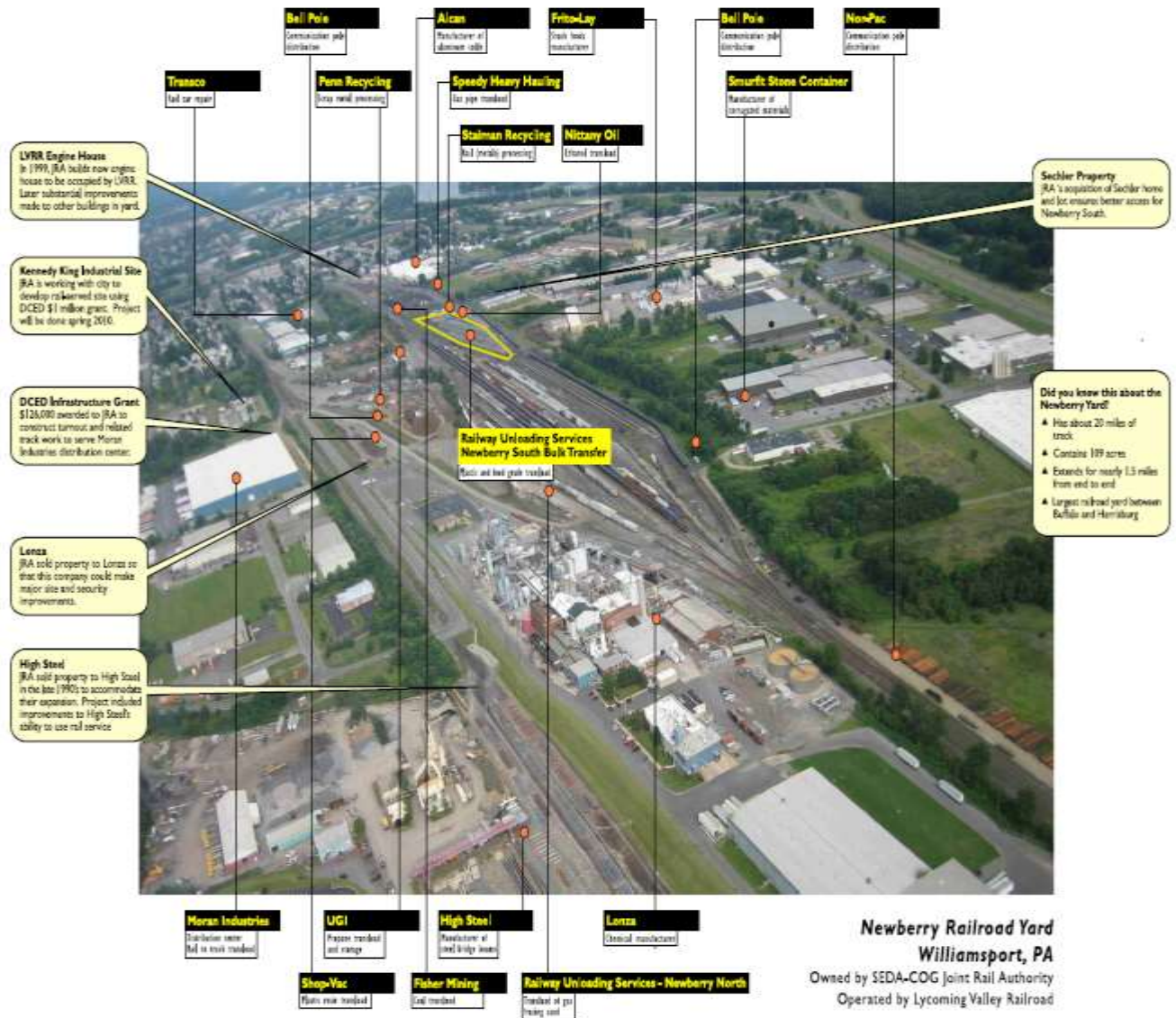
County	JRA Mileage Owned/Leased	No. of Rail Freight Customers	Estimated No. of Customer Jobs	Rail Traffic			
				2008	2009	2010	2011
Blair	9.5	4	410	235	325	440	461
Centre	55	7	650	4,918	7,231	8,542	5,662
Clinton	13	12	1,010	3,230	3,275	4,168	4,816
Columbia	20	10	1,455	1,298	1,346	1,226	1,301
Lycoming	35	31	1,600	9,274	10,340	14,450	14,381
Mifflin	13	10	1,147	3,022	2,606	3,018	3,104
Montour	8.5	0	0	0	0	0	0
Northumberland	36	5	275	653	212	206	370
Union	4	0	0	0	0	0	0
<b>Totals</b>	<b>194</b>	<b>79</b>	<b>6,547</b>	<b>22,630</b>	<b>25,335</b>	<b>32,050</b>	<b>30,095</b>

*Source: SEDA-COG JRA Strategic Plan*



## Newberry Rail Yard

Rail yards are essential to all railroad operations and are comprised of a series of parallel railroad tracks for storing, sorting, loading/unloading, and maintaining railroad cars and / or locomotives. The JRA owns and maintains six rail freight classification yards. The Newberry Rail Yard is the only JRA yard in Lycoming County, however it is the largest among all six yards in terms of acreage (109 acres) and rail traffic. In fact, the Newberry Yard accommodates up to 1,200 railcars making it the largest yard between the Norfolk Southern Harrisburg and Buffalo Mainline System. Again, largely due to Marcellus related gas activity, this yard is now operating at full capacity. The aerial photo shows the vast scale of activity occurring at the Newberry Rail Yard



### *Track and Bridge Condition*

The JRA and its contract operator North Shore Railroad have excelled at its capital improvements program and maintenance-of-way program resulting in JRA owned trackage that is primarily in good to excellent condition. The JRA retains a qualified railroad engineering consultant (Paul A. Jannotti) to conduct track inspections and prepare reports detailing existing conditions and recommending improvements on an annual basis to be performed by the contract operator. It should be noted that JRA maintenance-of-way standards exceed applicable Federal Railroad Administration standards. Similarly, the JRA uses engineer John Conrad to conduct routine JRA owned bridge inspections and overall these bridges are in a good state of repair with several currently in final design or under construction along the entire system. The major LVRR bridge in Lycoming County currently under construction is located over Loyalsock Creek which was destroyed in the 2011 Tropical Storm Lee flood event. This project will be discussed in further detail in the Hazard Mitigation Section of this plan.



**North Shore Crews Performing Maintenance-of-Way Track Work**

Beyond maintenance-of-way track maintenance and rehabilitation, bridge repairs and replacement projects, the SEDA-COG JRA has also aggressively pursued adding additional rail capacity through construction of numerous track sidings to serve industrial customer needs. The most significant recent example of capital rail freight infrastructure improvements was the \$ 11 million invested from the US DOT TIGER 2 federal grant program to undertake 15 capital projects system-wide. Four of these projects were in Lycoming County consisting of the Marcellus Energy Park siding, G.O. Hawbaker rail spur upgrades, Newberry Yard Track construction to Reach Road Terminal and Palmer Industrial Track and the afore-mentioned Loyalsock Creek railroad bridge replacement. Total JRA capital investments exceed \$ 43 million, (including TIGER 2) since 2004.

### *Rail/ Highway Grade Crossings*

The PA Public Utility Commission, (PUC) is the regulatory body to approve any proposed alterations to railroad / highway grade crossings. The JRA and their operator have collectively upgraded over 53 rail-highway grade crossings system-wide since 1995. The JRA has also participated in Operation Lifesaver, which is a nationwide, nonprofit public information program dedicated to eliminating collisions, injuries and fatalities at rail / highway grade crossings and on railroad rights-of-way. In fact the JRA was selected as one of only three nationwide demonstrations for the FRA's Pilot Emergency Notification System, (ENS) Rail-Highway Grade Crossings. Rail safety crash data is illustrated below.



### *Rail Passenger Excursions*

Although there are no scheduled commuter rail passenger services available in Lycoming County, the SEDA-COG JRA does successfully offer special rail excursions to the general public in cooperation with sponsoring area tourist promotion agencies, such as the Williamsport- Lycoming County Visitors Bureau. The JRA establishes a set of operational guidelines governing the sponsor's advertising materials, print content on tickets and control of ticket sales in relation to seating capacity in cooperation with the sponsor and the rail operator. In 2012, there were 14 passenger excursion trips made in Lycoming County which represented 25% of all JRA excursions system-wide and the most offered within any county in the JRA service area. These excursions have proven very popular and have good public attendance. Additional information on rail safety will be provided later in chapter 4 Hazard Mitigation – Transportation Security Section.





## BICYCLE AND PEDESTRIAN FACILITIES



### Overview

Lycoming County has an outstanding system of bicycle and pedestrian trails that are both regionally connected and provide access to key local recreational resources with significant plans underway to further expand upon this network. In addition, pedestrian facility enhancements have also been accomplished within many communities throughout the county to improve safety and accessibility with more initiatives in the planning stages. This section of the plan describes existing major bicycle and pedestrian facilities and details efforts to expand the network in an effort to promote public safety, accessibility, healthy lifestyles, tourism and overall quality of life.



### Bicycle PA Routes

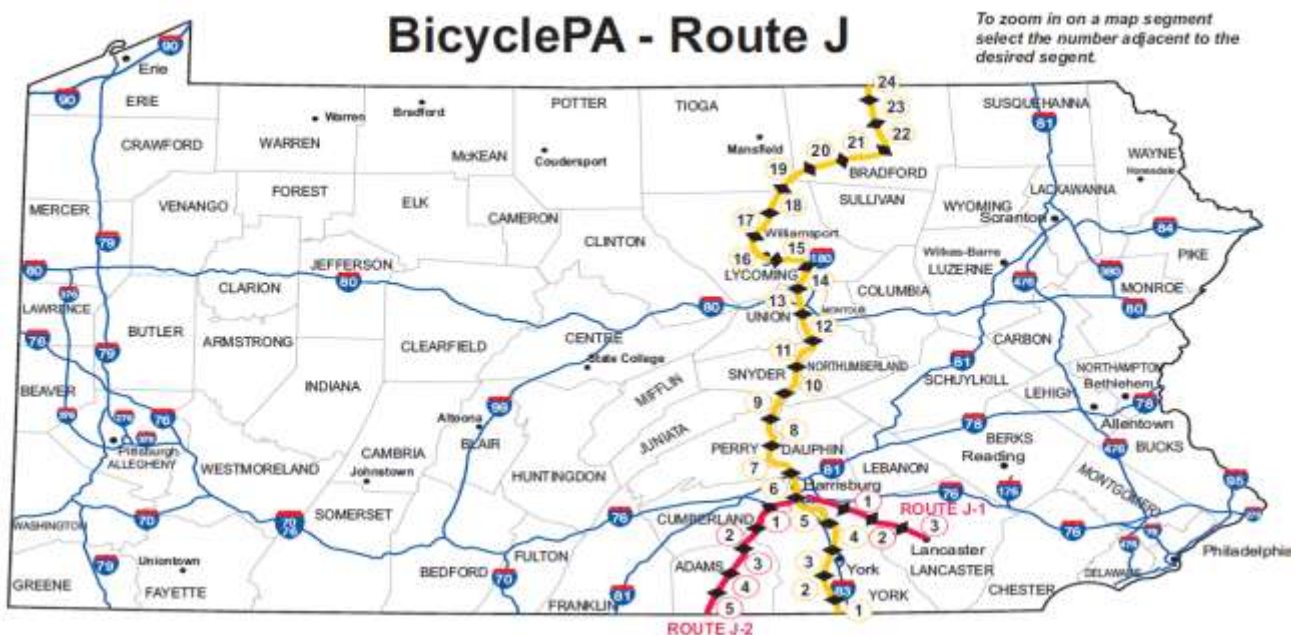
PennDOT in consultation with a Bike/Ped Advisory Committee has signed nine Bicycle PA Routes throughout the Commonwealth. These routes were designed by experienced bicyclists to provide the public with information who wish to traverse the state with a guide to some of the Commonwealth's highways and rail trails. Few of these routes contain bike lanes or other facilities designed for bicyclists.



There are two of these routes traversing Lycoming County which are Route G and Route J.



This 244 mile long north-south route traversing seven PA counties between Maryland and New York follows PA 44 and PA 414 in Lycoming County and also utilizes the Pine Creek Rail Trail off-road facility which will be described later in this section.



This 232 mile long north-south route passes through 10 PA counties again between Maryland and New York follows PA 54, PA 405, SR 2014, Lycoming Creek Bikeway described later in this section, SR 1017 (old US 15-Lycoming Creek Road and PA 14 in Lycoming County.



### **Pine Creek Rail Trail – Jersey Shore Connector**

In 2012, the Borough of Jersey Shore completed construction of a 1.5 mile extension of the Pine Creek Rail Trail which connected the main Pine Creek Trail southern trail head along Railroad Street with the Jersey Shore Town Center and residential areas to provide a safer connection. This paved rail with trail parallels the Lycoming Valley Railroad with protected fencing and ties into Seminary Street in the Borough. PennDOT, PA DCNR and First Communities Foundation of PA provided funding for this approximately \$ 800,000 project which recently won a 10,000 Friends of PA Transportation Excellence Award. Jersey Shore Borough is designated by the Susquehanna Greenway Partnership as a “River Town” and the trail improvement is a key component.



**Pine Creek Trail Connector**



**Trail Dedication Ceremony**

### **Lycoming Creek Bikeway**

Another significant trail facility is the Lycoming Creek Bikeway constructed in 1991. This 5 mile long paved bikeway is owned and maintained by five different municipalities that the trail system traverses between Williamsport and Hepburnville. These municipalities are Hepburn Township, Lycoming Township, Loyalsock Township, Old Lycoming Township and the City of Williamsport. The bikeway connects to numerous public recreation facilities and attractions such as the Old Lycoming Township Recreation Park, Heshbon Park and historic Bowman Field Minor League Baseball Park. Portions of the bikeway are shared road facilities with the remaining sections built as separate use trail.



## **Susquehanna Riverwalk**

The Susquehanna Riverwalk is a 6 mile paved bikeway and walkway situated on top of the Williamsport Area Levee System located in the City of Williamsport, Borough of South Williamsport and Loyalsock Township. This project was a key component of the Downtown Williamsport Revitalization Vision developed by the Lead Partners involving Lycoming County, City of Williamsport, Williamsport-Lycoming Chamber of Commerce, Our Towns 2010 and other organizations with initial planning begun in 2000 in conjunction with PennDOT's Market Street Bridge Replacement Project. Public outreach surveys at the time demonstrated strong support for the project as 97% of respondents wanted a reconnection between the downtown and the river. The County constructed 4.5 miles of the Riverwalk that opened for public use in 2010 while South Williamsport Borough completed the remaining 1.5 miles between the South Williamsport Recreation Complex and Market Street Bridge in 2011 which is under Borough ownership and maintenance responsibility. The \$ 3 million project was financed using Federal transportation earmark appropriations, Transportation Enhancement Funds and PA DCNR funding with a small County match. The county has entered into a Maintenance Agreement with the City and South Williamsport Borough to provide basic Riverwalk maintenance on the County-owned portion. The Riverwalk is also a venue for public art displays and educational kiosks depicting the region's heritage associated with lumbering has been financed and installed through the Lumber Heritage Region. Currently, the Riverwalk receives heavy public use in non-winter months as winter maintenance is not provided. The Riverwalk connects to the Loyalsock and Montoursville Bikeways providing a continuous trail link between Maynard Street Bridge and PA 87 park-n-ride near Walmart.



**Public Art – Woodhick Sculpture**



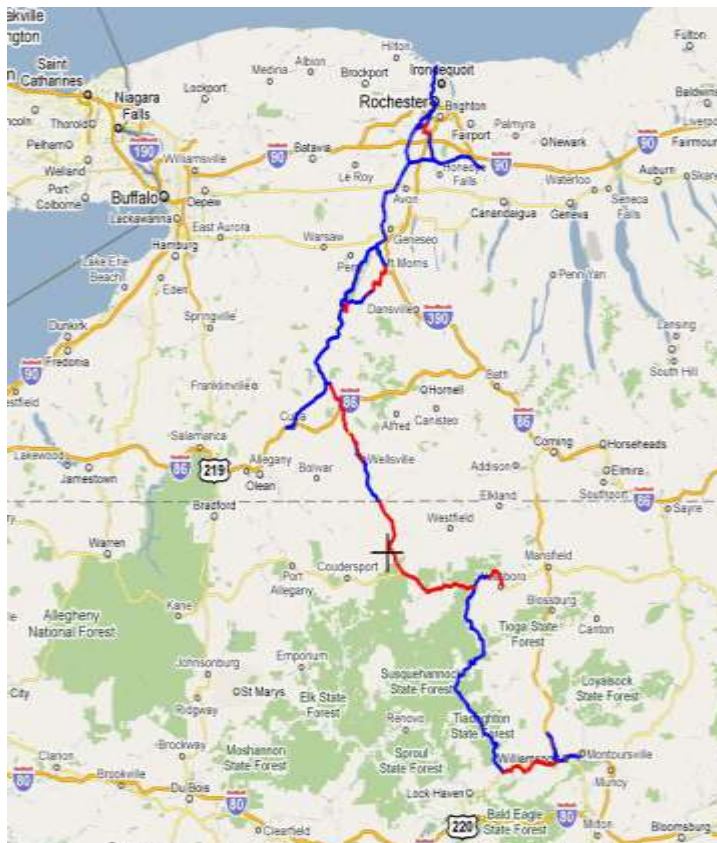
**Lycoming County Commissioners (and County dog)  
Check out Riverwalk at Dedication Ceremony**



## Future Trail Connections

Lycoming County is working closely with the Genesee River Wilds organization, the Susquehanna Greenway Partnership and other organizations to advance a major trail system linking Rochester NY with the Chesapeake Bay in Maryland. The northern portion of this system has been labeled by the Genesee River Wilds organization as the “Triple Divide” Trail System which would eventually connect Rochester NY with the Susquehanna Riverwalk at Williamsport PA, a 230 mile long distance. As the map below shows, about 2/3rds of this system is already completed as shown in blue. This would include the 64 mile long Pine Creek Rail Trail and Jersey Shore extension discussed earlier. The sections in red are incomplete.

### Triple Divide Trail Location and Status Map



In 2009, the Lycoming County Planning Commission used consultant Larson Design Group to undertake a feasibility study of providing the trail connections between Jersey Shore and Williamsport to connect the Pine Creek Trail with the Riverwalk as part of the overall Triple Divide Trail System and to further connect the Riverwalk to communities east of Williamsport including Muncy and Montgomery as part of the Susquehanna Greenway Partnerships vision to extend the trail system throughout the remainder of the Susquehanna River Corridor to the Chesapeake Bay in Maryland. The feasibility study showed that the trail is feasible to construct as a combination shared

road and separate use trail system considering different potential alignments and could have multiple phases given the \$ 23 million estimated cost to complete the remaining trail sections in Lycoming County.

### **Jersey Shore to Williamsport Trail Connection Study Area**

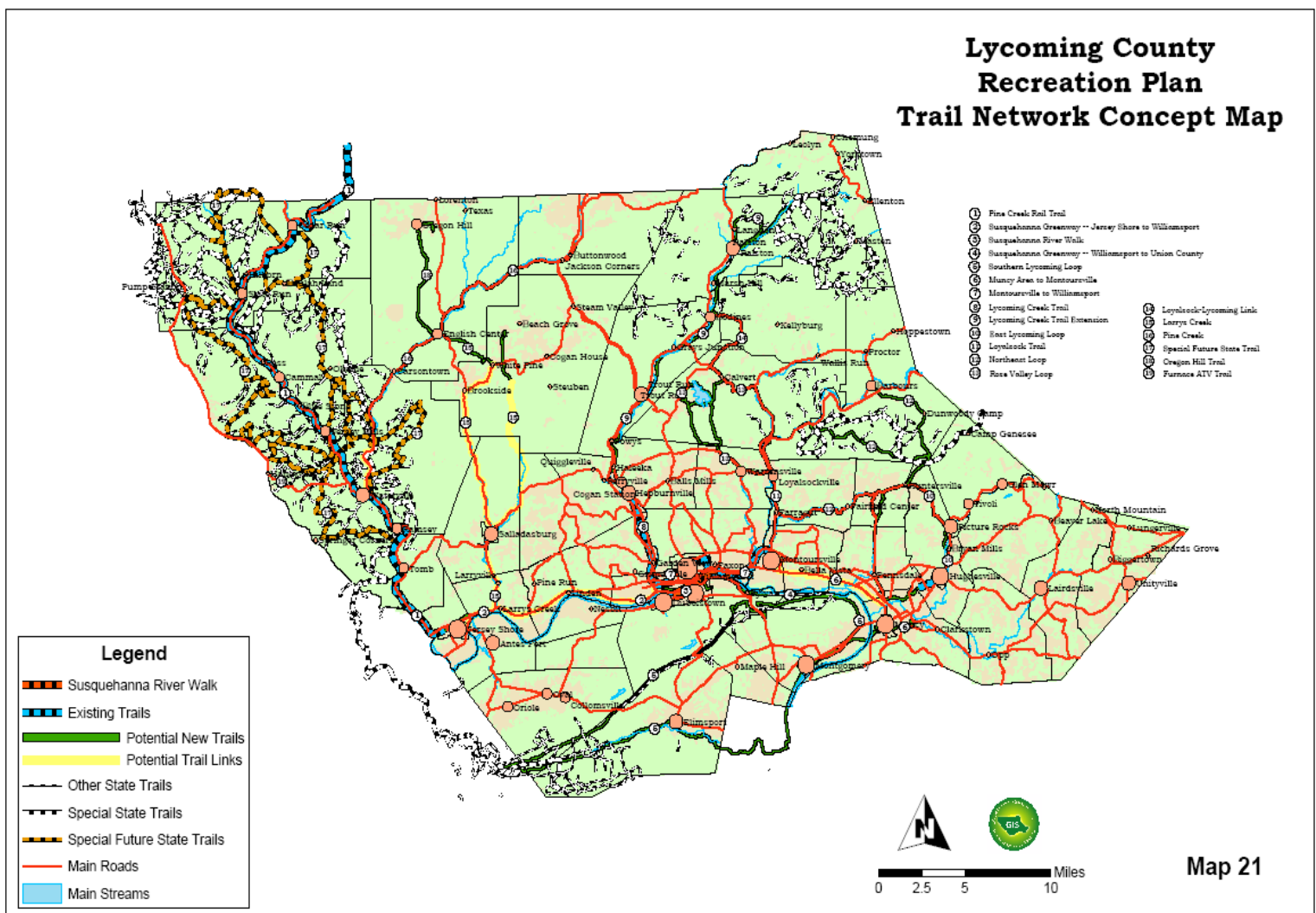


### **Montoursville to Muncy Area Trail Connection Study Area**



The LCPC is working with the Susquehanna Greenway Partnership to advance these trail projects and is exploring the possibility of formation of a regional trail authority to facilitate the development of regional trail projects and ensure proper maintenance and operations once constructed. SEDACOG and Armstrong Township are also exploring development of a Master Plan to further develop this regional trail network that would include connection to a planned major recreation area in the Township at the eastern end of the Riverwalk, Skyline Drive, Nippenose Valley and Rauchtown State Park in Clinton County.

The Lycoming County Open Space, Greenways and Recreation Plan also recognizes that there are many more trail connections that can be made to serve additional communities beyond river towns throughout the county and that the five major watersheds that drain to the Susquehanna River offer outstanding potential for consideration and evaluation as additional trail corridors. This Plan provides a comprehensive trail development concept plan that illustrates this network and connectivity to the Susquehanna Greenway System situated along the river. It is further recognized that there are challenges associated with full development of the trail concept plan such as limited funding for trail projects and lack of publicly held rights-of-way, especially former railroad corridor such as the Penn Central Railroad situated along the Lycoming Creek Corridor that were not railbanked where tracts of land were sold to private interests and would need re-assembled under public ownership to facilitate trail development. The Lycoming County Trail Concept Plan is illustrated below:





## Major Pedestrian Facilities

.

In 2000, the Lycoming County Planning Commission arranged for a Walkable Communities Audit conducted by Dan Burden, consultant for all Lycoming County Boroughs and the City of Williamsport. This audit revealed a number of pedestrian facility deficiencies in each community recommended for improvement as part of the audit process. From this effort, the WAT MPO began working with these communities to undertake priority improvements which are highlighted below.

### *Hughesville Streetscape*

A several block area of downtown Hughesville along PA 405 (Main Street) was the focus of a streetscape project involving new sidewalk installation, curbing, street trees and lighting.



### *Montoursville Streetscape*

A several block area of downtown Montoursville along Broad Street also received major streetscape improvements involving new sidewalks, curbing, street trees, lighting and pedestrian crossing enhancements including “Yield to Pedestrians” signage.





*Broad Street in Montourville*

### *City of Williamsport*

As part of a comprehensive streetscape improvement program tied to the downtown revitalization vision, the City of Williamsport completed a multi-block area in the core of the Central Business District including new sidewalks, curbing, decorative historic period lighting, street trees and brick cross-walks. Streetscape improvement were recently completed connecting the new Church Street Transportation Center area with the William Street Development Area (Wegmans / Kohl's / Susquehanna Bank with landscaping, brick pavers, lighting, hardscaping, sidewalk improvements and other site amenities. Also incorporated were informational kiosk's and related signage.



### *Pathway to Health*

In support of the \$ 250 million expansion of the Susquehanna Health Regional Medical Center, two phases of a three phase streetscape and traffic improvement project have been completed along Walnut Street to accommodate the new gateway to the hospital. Streetscape again included new sidewalks, street trees, curbing, lighting and crosswalks with traffic signal upgrades to enhance vehicular and pedestrian flows and reduce emergency response times between the hospital and Interstate 180. Additional streetscape improvement are planned along Campbell, Third and Maynard Streets which will eventually connect to the Susquehanna Riverwalk and Penn College of Technology Campus existing streetscape improvements along Maynard Street. The Pathway to Health project also recently won a 10,000 Friends of PA Transportation Excellence Award.





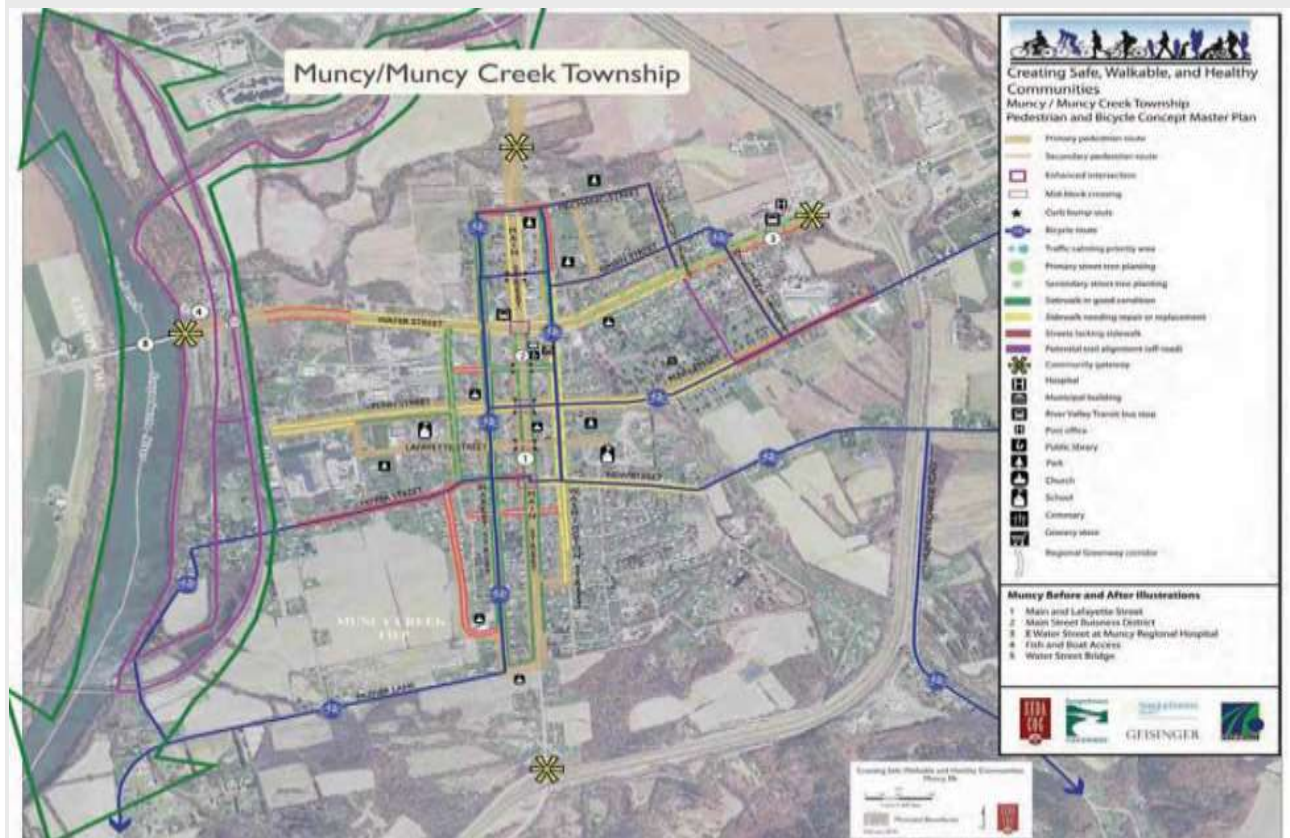
## Walkable Communities Plans

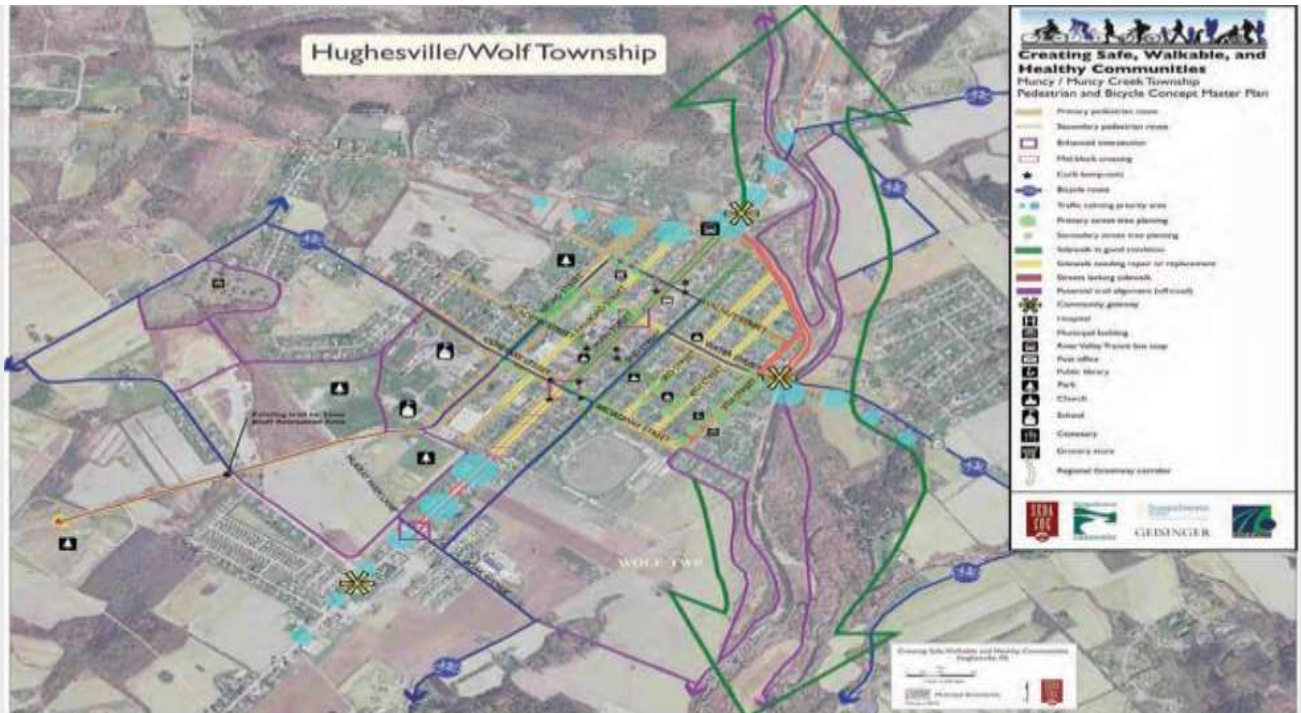
In 2010, the Lycoming County Planning Commission participated in the development of a SEDA-COG Walkable Communities Plan for the communities of Hughesville and Muncy Boroughs. A Master Plan concept with recommended bicycle and pedestrian enhancements was formulated with extensive community involvement.



*This section of Muncy's Main Street represents an excellent example of a quality streetscape with lawn strip, street trees, landscaping and architecture that relates to the street.*

The Master Plan Concepts for Muncy and Hughesville Areas are illustrated below:





### *Safe Routes to School*

The Lycoming County Planning Commission has also worked with area school districts to identify projects and programs for funding under the Federal Safe Routes to School Program designed to improve school safety and promote healthy living among school aged youth. The most significant example is the Williamsport Area School District project improving pedestrian facilities serving Stevens, Cochran and Jackson Elementary Schools in the City of Williamsport.

Chapter 7 will provide a listing of proposed bicycle and pedestrian facility improvements.



## TRANSPORTATION HAZARD MITIGATION – SECURITY

In 2005, Lycoming County was the first county in the Commonwealth to work with the Federal Emergency Management Agency and PA Emergency Management Agency to prepare and adopt a comprehensive Hazard Mitigation Plan. The Plan was updated in 2010.



This plan identifies and prioritizes hazards that may affect the County and its municipalities, assesses vulnerability to these hazards, identifies mitigation actions that can reduce that vulnerability and develops strategies for implementing needed actions, including parties responsible for plan implementation.

Although, strong storms producing snow and wind can cause short-term disruptions in the transportation system, the more common hazard occurrence that causes longer term and costly response to address major damage to transportation facilities is attributed to major floods. There have been three 100 year or greater floods that have happened in the County since 1996 including the January, 1996 flood, the September, 2004 Tropical Storm Ivan flood and the most recent September, 2011 Tropical Storm Lee flood. This last flood cause nearly \$ 50 million in public transportation infrastructure damages of which the County is still in the process of recovery. In addition, the development of Marcellus Shale gas exploration requiring drilling and use of water containing hazardous constituents, construction and maintenance of gas lines, and the movement of heavy equipment and materials has created a suite of new hazards to be accounted for in emergency operations planning, especially related to transportation.

### *Lycoming County Emergency Management Approach*

Emergency management is a comprehensive, integrated program of mitigation, preparedness, response, and recovery for emergencies / disasters of any kind. No public or private entity is immune to disasters and no single segment of society can meet the complex needs of a major emergency or

disaster on its own. The PA Emergency Management Services Code, Title 35, requires all political jurisdictions in the Commonwealth to have an emergency operations plan, (EOP), an emergency management coordinator, (EMC), and an emergency operations center (EOC). Lycoming County has met all these basic requirements and the EOC is located at the County Department of Public Safety headquarters at the Lysock View Complex north of Montoursville. The County EOP is an all-hazards plan that complies with the National Incident Management System, (NIMS) and is the basis for a coordinated and effective response to any disaster that may occur in the County. The Lycoming County Transportation Planner serves as the EOC Transportation Officer as the chief point of contact with all transportation agencies and emergency providers to ensure issues and unmet needs pertaining to transportation facilities and services, including evacuation during emergencies are addressed and properly coordinated.

The WATS MPO has long recognized the importance of integrating emergency operations planning into the transportation planning and project development processes. Considerable effort has been made to targeting improvements where needed to ensure major evacuation routes and emergency response highway routes are upgraded and kept in a good state of repair. ITS technologies discussed earlier in this Chapter are deployed to enhance emergency response. Bridge replacement projects carefully consider flooding conditions and new bridges are designed to improve hydraulic waterway capacity where appropriate. Bridge projects are never designed to worsen flood conditions.



**PA 973 Slabtown Bridge Destruction from Tropical Storm Lee**

The Williamsport Regional Airport plays a vital role as a primary emergency staging area for response and recovery efforts such as deployment of Civil Air Patrol, Military and Geisinger Medical Center Life Flight Operations which are now fully housed at the former State Police Hanger at the Airport. (Loss of the PA State Police helicopter due to state budget issues was strongly opposed by the Lycoming County Commissioners, our state legislators, Airport Authority, emergency responders and the community at large.) Despite its proximity to Loyalsock Creek and the Susquehanna River which caused airport runway flooding in all three recent major floods, the airport remained open to accommodate emergency operations. In terms of transportation security, the Williamsport Regional Airport currently meets or exceeds all Transportation Security Administration, TSA developed following the September 11, 2011 terrorist attacks.



Tropical Storm Lee completely destroyed the LVRR Loyalsock Creek Railroad Bridge. The SEDA-COG Joint Rail Authority quickly mobilized and re-established rail freight service using Norfolk Southern lines in an arrangement where no disruption occurred to rail served industries along the LVRR. The JRA has also ensured that design of the new railroad bridge will have improved hydraulic capacity and will tie into the planned Montoursville Levee System being undertaken by PA DEP. The new railroad bridge is currently under construction and will be completed by June, 2014.

#### **LVRR Loyalsock Creek Railroad Bridge Destroyed in Lee Flood**

